



# **STATE ROUTE 53 CORRIDOR LOCAL CIRCULATION STUDY**

**Lake Area Planning Council**

March 2022





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## EXECUTIVE SUMMARY

The Lake Area Planning Council initiated the State Route (SR) 53 Corridor Local Circulation Study with an objective to update recommendations for projects identified in a 2011 study.

This report presents an overview of goals and objectives for State Route 53. It describes existing traffic conditions, results of a traffic analysis for short-term, near-term, and long-term conditions, and recommendations. Recommended projects are intended to encourage the use of the Principal Arterial Corridor through the City as well as alleviate congestion and other potential conflicts within the local street system.

### Existing Roadway Network

The SR 53 corridor is a two- to four-lane expressway that features stop-controlled and signalized at-grade intersections within the City of Clearlake. The study segment is the entire 7.5-mile length of SR 53, between SR 20 and SR 29. SR 53 traverses near the center of the City in northbound and southbound directions. The corridor does not feature any sidewalks. Pedestrian crosswalks are present at some intersections, and some sidewalks exist in the immediate vicinity but not on SR 53. There are paved shoulders on both sides of SR 53 that vary in width but have a minimum width of six feet. On the shoulder of SR 53, walking and bicycling are allowed.

### Active Transportation Modes

Pedestrian, bicycle and transit modes were evaluated for existing, near-term and long-term conditions. Based on the analysis, recommendations were developed to enhance safety and connectivity for active transportation modes.

### Existing Traffic Operations

Under existing conditions, all but two study intersections operate at unacceptable vehicular traffic operations. The two intersections on SR 53 that have long delays are Anderson Ranch Parkway and Kugelman Street. Level of Service (LOS) D or better is considered acceptable by the City of Clearlake while LOS E and F are considered unacceptable.

### Safety Analysis

An analysis of five years (2015-2019) of collision data at the study intersections and roadway segments shows that the majority of total collisions were vehicle-to-vehicle collisions. There were three pedestrian-involved collisions reported at intersections, and no bicycle-involved collisions were reported in the five-year period. Two pedestrians were hit by vehicles at the intersection of SR 53 / SR 29 and one pedestrian was hit at the intersection of SR 53 / Dam Road-Old Highway 53. Nine of the 13 study intersections exceed the statewide average Total Intersection Collision Rate for similar types of intersections. Data that is averaged over five years can vary widely, so intersection total collision rates are likely below the statewide average on some days and within periods within a typical day, but over the five year analysis period the average was above the statewide average for similar facility types. Based on the analysis, it was determined that the roadway segment on SR 53 between Jessie Street and SR 29 had a Total Segment Collision Rate higher than the statewide average for similar type highways. Most of the intersections had Intersection Collision Rates above the statewide average for similar facility types while most of the roadway segments had Collision Rates below the statewide

average for similar facility types. It is not unusual for collisions to occur more frequently at intersections than between intersections.

### **Intersection Control Options Considered**

This study summarizes existing and future conditions at key study intersections with existing intersection controls along with options for different controls that include signalization, roundabouts and grade-separated interchanges.

### **Findings and Recommendations**

Based on an evaluation of the transportation infrastructure under existing, near-term and long-term conditions, deficiencies were identified for all modes of transportation. Recommendations to overcome the deficiencies are summarized in this study report. It is recommended that the identified improvements should be added to the City of Clearlake Capital Improvement Program (CIP) in the next update so that the recommendations can be implemented. Consideration should also be given to including the recommendations in the Regional Transportation Improvement Program prepared by Lake APC and the State Transportation Improvement Program presented to the California Transportation Commission.

Near-term recommendations are proposed to be studied in detail with feasibility studies and preliminary design work, along with expanded public and stakeholder input.

The programming of funds and implementation of recommendations under long-term conditions will depend on key support at the local, regional and state levels; and that feasibility studies support implementation and the individual project proposals score well in subsequent prioritization processes.

## 1.0 INTRODUCTION

The Lake Area Planning Council (APC) initiated development of the SR 53 Corridor Local Circulation Study with an objective to update recommendations for projects identified in an earlier study that will both encourage the use of the Principal Arterial Corridor through the City as well as alleviate congestion and other potential conflicts within the local street system. In 2011, the Lake APC adopted the SR 53 Corridor Study. The 2011 study evaluated ways to realize the vision which is to facilitate improvements on SR 53 through the City to encourage interregional traffic to use the Principal Arterial Corridor route including SR 53 and SR 29 and to discourage interregional traffic on SR 20 along the North Shore of Clear Lake. This report summarizes the findings of an updated traffic operational analysis conducted for the corridor based on the vision for the SR 53 corridor.

The study corridor, SR 53, extends in a north-south orientation through the City of Clearlake as shown in **Figure 1**. The corridor supports local and regional traffic between SR 20 in the north and SR 29 to the south. The corridor is two- to four-lanes wide. The functional classification is an expressway.

There is an important distinction is how Caltrans defines freeways and expressways. This is important because SR 53 currently meets the definition of an expressway but not a freeway. Caltrans' vision is to convert SR 53 into a freeway. Caltrans defines a "freeway" as a divided arterial highway with full control of access and with grade separations at intersections. SR 53 does not currently fit this description. It does fit Caltrans' definition of an expressway that is "an arterial highway for through traffic with at least partial control of access, which may or may not be divided or have grade separations at intersections."

Caltrans and the City entered into a "Freeway Agreement" in 1955 that was updated in November 1998 to establish a cooperative agreement specifying the respective roles and responsibilities of Caltrans and the City of Clearlake in regards to SR 53. The November 1998 document covers a 2.3-mile section of SR 53 from Cache Creek to one-half mile north of 40<sup>th</sup> Avenue. SR 53 crosses Cache Creek approximately 0.40 miles south of its intersection with Dam Road. A key part of the Agreement states that, "It is understood between the parties that the right-of-way may be acquired in sections or units, and that both as to the acquisition of right-of-way and the construction of the freeway projects, the obligations of STATE hereunder shall be carried out at such time and for such unit or units of the project as funds are budgeted and made lawfully available for such expenditures." Recommendations from the Freeway Agreement summarizing the improvements include the following:

- Interchange at SR 53 / 18<sup>th</sup> Avenue, replacing the existing signalized intersection.
- Interchange at SR 53 / 40<sup>th</sup> Avenue "to be constructed when justified and programmed", replacing the existing signalized intersection.
- Access to SR 53 at Dam Road to be closed and terminated on both sides of SR 53, eliminating that signalized intersection, when 18<sup>th</sup> Avenue interchange is constructed.

## 1.1 SR 53 Goals and Objectives

The SR 53 Corridor Local Circulation Study (2021) identifies recommendations for projects that will encourage the use of the Principal Arterial Corridor through the City. The designation of SR 53 as an expressway provides no right or easement of access to or from the adjacent land to the roadway. The SR 53 goals and objectives endorsed by the Transportation Advisory Group are as follows:

Goal 1: Interregional travel will be primarily on SR 53 and sections of SR 29 between SR 53 in Lower Lake and SR 20 in Lakeport.

*Objective 1:* SR 53 geometric design and traffic control will be improved consistent with the expressway designation.

Goal 2: Interregional travel will be discouraged from using SR 20 along the North Shore of Clear Lake.

*Objective 2:* Traffic calming measures will be used to discourage interregional traffic along the North Shore on SR 20.

Goal 3: Access to SR 53 will be consistent with the City of Clearlake General Plan.

*Objective 3:* Intersection and interchange improvements along SR 53 will be compatible with planned development adjacent to the corridor.

The overarching goal of this study is to identify improvements along SR 53 to alleviate congestion and traffic conflicts on the nearby local street system by diverting higher-speed and longer-distance trips to SR 53. The use of SR 53 by interregional traffic travelling between the US 101 corridor to the west and I-5 to the east is projected to increase along with increases in local commercial development planned in Clearlake adjacent to the SR 53 corridor. Another important factor to consider is the projected increase in travel delay due to congestion on SR 20 as it approaches capacity during peak periods. Through traffic, including trucks, would increasingly affect the quality of life in neighborhoods along the North Shore of Clear Lake. Decision-makers have determined that interregional travel on SR 20 along the North Shore is incompatible with local goals and objectives. The strategy relies on interregional travel using SR 53 and that corridor improvements be consistent with expressway standards, which would help to achieve local goals and objectives. Recommendations for improvements on SR 53 made in this study support Study Objectives 1 and 3.

To reduce travel time through the SR 53 / SR 29 corridor, strategies include better traffic signal efficiency, increases in roadway capacity and the construction of one or more grade-separated interchanges to replace at-grade signalized intersections. All potential improvements should be based on context-sensitive design principles and be consistent with complete streets design guidelines; that is, to safely facilitate travel for all users regardless of their mode of travel and regardless of their age or disability.

The following are the SR 53 study objectives:

- Identify potential impacts to travel on SR 53 and adjacent local routes from anticipated short- and long-range growth scenarios in the City of Clearlake;
- Develop a list of recommended capital improvements on and around the corridor that can meet the stated goals and objectives of alleviating congestion and improving safety for local and interregional travelers;
- Help facilitate current or anticipated proposals for commercial development on and around the corridor, helping to realize overall economic goals of the City; and
- Prepare a feasible framework to implement identified capital improvement projects, furthering the long-term vision of the Principal Arterial Corridor.

### **Caltrans Framework for a Corridor Study**

Caltrans provides a framework for corridor planning. Their project development philosophy is to create balanced transportation projects to provide the people of California with a degree of mobility that is in balance with other values. The Department strives to ensure that economic, social and environmental effects are fully considered along with technical engineering issues, so that the best interests of the public good are served. Emphasis is given to a variety of issues including all of the following:

- Safe and efficient transportation;
- Attainment of community goals and objectives;
- Transportation needs of low mobility and minority groups;
- Support of the State's economic development goals;
- Eliminating or minimizing adverse effects on the environment, natural resources, public services, aesthetic features and the community;
- Reflecting realistic financial estimates;
- Cost effectiveness of individual projects that are selected for construction on the basis of overall system benefits as well as community goals, plans and values; and
- Decisions place emphasis on making different transportation modes work together effectively.

There are various perspectives to consider. Proper consideration of these issues requires that a facility be viewed from the perspectives of the different users, the nearby community, and larger regional and statewide interests. For the user, efficient travel and safety are paramount concerns. At the same time, the community often is more concerned about local aesthetic, social and economic impacts. The general population, however, tends to be interested in how successfully a project functions as part of the overall transportation system, while regional and State agencies consider all of these factors and how large a share of available capital resources it would consume.

## 1.2 Study Intersections and Scenarios

TJKM evaluated operational conditions at 13 study intersections during the a.m. and p.m. peak hours for a typical weekday. This study considers three scenarios: existing 2020, near-term 2030 and future 2040. The study considers conditions during peak periods that are from 7:00 to 9:00 a.m. and 3:00 to 5:00 p.m. Peak period turning movement counts (TMC) were collected on Tuesday, November 17, 2020 which was nine days prior to the Thanksgiving holiday, at the following study intersections (ordered from north to south):

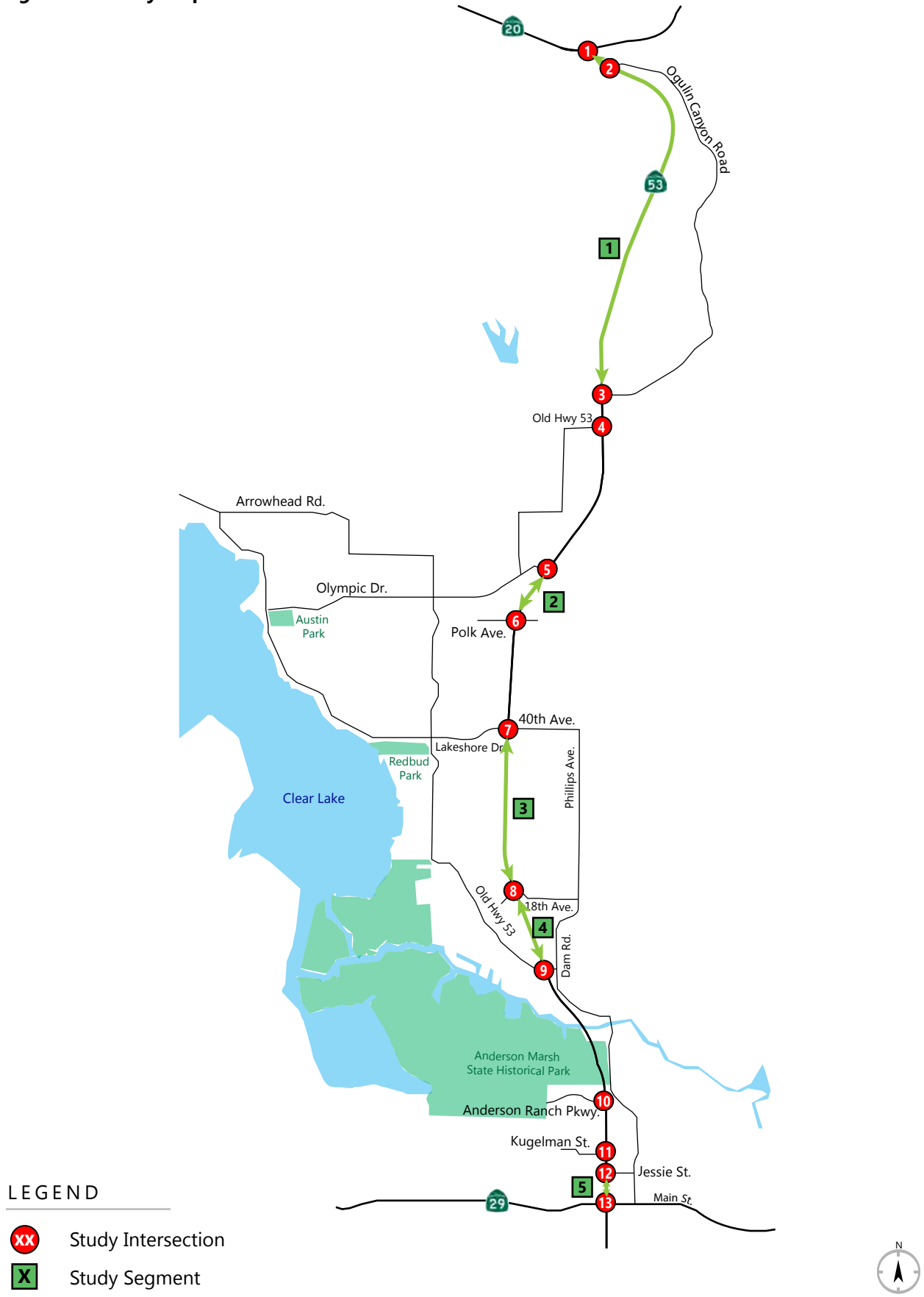
1. SR 53 / SR 20
2. SR 53 / Ogulin Canyon Road North
3. SR 53 / Ogulin Canyon Road South
4. SR 53 / Old Highway 53
5. SR 53 / Olympic Drive
6. SR 53 / Polk Avenue
7. SR 53 / 40<sup>th</sup> Avenue / Lakeshore Drive
8. SR 53 / 18<sup>th</sup> Avenue
9. SR 53 / Dam Road / Old Highway 53
10. SR 53 / Anderson Ranch Parkway
11. SR 53 / Kugelman Street
12. SR 53 / Jessie Street
13. SR 53 / SR 29 / Main Street

TJKM also collected 24-hour average daily traffic counts (ADT) at five locations within the study corridor for seven consecutive days from Tuesday, November 17, 2020 to Monday, November 23, 2020.

**Figure 1** illustrates the study area. 24-hour ADT counts were collected at the following locations.

1. SR 53 between SR 20 and Ogulin Canyon Road South
2. SR 53 between Olympic Drive and Polk Avenue
3. SR 53 between 40<sup>th</sup> Avenue / Lakeshore Drive and 18<sup>th</sup> Avenue
4. SR 53 between 18<sup>th</sup> Avenue and Dam Road / Old Highway 53
5. SR 53 between 2<sup>nd</sup> Street and Main Street / SR 29

Figure 1: Vicinity Map



## 2.0 STUDY METHODOLOGY

### 2.1 Operational Analysis Methodology

The operational analysis for vehicular traffic conditions in this study relied on LOS, which is a qualitative index of performance. The LOS is a rating scale from A to F, with A indicating no congestion or delay of any kind and F indicating intolerable congestion and delay.

The *Highway Capacity Manual, 6<sup>th</sup> Edition (HCM)* is the standard reference published by the Transportation Research Board. It contains the specific criteria and methods for assessment of LOS. Several software packages exist to implement HCM. In this study, TJKM used Synchro 10 software to calculate LOS at the study intersections.

#### Signalized Intersections

Analysis of the signalized study intersections complies with the HCM 6<sup>th</sup> Edition Operations Methodology for signalized intersections. This methodology determines LOS based on average control delay per vehicle for the overall intersection during peak hour intersection operating conditions. Control delay includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. **Table 1** summarizes the relationship between average delay per vehicle and LOS for signalized intersections.

**Table 1: Signalized Intersection Delay and LOS Definitions**

Level of Service	Description	Average Control Delay (Sec/Veh)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	< 10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths and high V/C ratios. Individual cycle failures are frequent occurrences. This is the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	> 80.0

Source: Highway Capacity Manual 6<sup>th</sup> Edition, Chapter 19 (Transportation Research Board, 2016)



## Unsignalized Intersections

Analysis of the stop-controlled (that is unsignalized) study intersections complies with the Highway Capacity Manual 6<sup>th</sup> Edition Operations Methodology for stop-controlled intersections. LOS ratings for stop-controlled intersections are determined based on the average control delay expressed in seconds per vehicle. The average control delay for stop-controlled intersections is determined using Synchro analysis software and correlated to a LOS designation. At stop-controlled intersections on SR 53, there is no delay to through traffic on SR 53 and, therefore, through traffic has acceptable conditions. The major street left-turn movements and the minor street movements are all susceptible to delay of varying degrees. The results reflect delay incurred by left-turning traffic from SR 53 and side street traffic turning on to or traveling across SR 53. Generally, the higher the major street traffic volume, the higher the delay for the minor movements. **Table 2** presents the HCM definitions for delay and LOS at stop-controlled intersections. The metric is the weighted average control delay for all vehicles using the intersection.

**Table 2: Unsignalized Intersection Delay and LOS Definitions**

Control Delay (Seconds / Vehicle)	Volume / Capacity $\leq$ 1.0	Volume / Capacity $>$ 1.0
$\leq$ 10	A	F
$>$ 10 – 15	B	F
$>$ 15 – 25	C	F
$>$ 25 – 35	D	F
$>$ 35 – 50	E	F
$>$ 50	F	F

Source: Highway Capacity Manual 6<sup>th</sup> Edition, Chapter 19 (Transportation Research Board, 2016)

## 2.2 Standards of Significance

### City of Clearlake

The City of Clearlake established an LOS standard of LOS D for all intersections and roadways. This is contained in Policy CI 1.3.4 of the City of Clearlake 2040 General Plan Update, City of Clearlake, 2017. "Exceptions to this may be considered by the City Council when an unacceptable LOS (E or F) would result in clear public benefit. Such circumstances may include when improvements to achieve the LOS standard would result in impacts to unique historic resources or highly sensitive environmental areas; if right-of way acquisition is infeasible; and / or if there are overriding economic or social circumstances."

### Caltrans

Caltrans takes a broad view of a transportation corridor. The Department relies less on LOS and more on the reliability for all modes of transportation. Reliability is determined not just on consistent travel times but also on safety, maintenance, community acceptance, environmental stewardship, and good fiscal management.

## 2.3 Signal Warrants

Stop-controlled study intersections with LOS E or F were evaluated to see if conditions meet the peak hour traffic signal warrant for installing a traffic signal. Traffic signal warrants are guidelines for informing decisions about installing traffic signals. Signal warrant analyses assess intersections of uncontrolled major streets and stop sign-controlled minor streets. Installation of signals would increase delay on the previously uncontrolled major street, SR 53, and may increase the occurrence of particular types of crashes such as rear-end collisions.

## 2.4 Intersection Control Evaluation and Design Consideration

According to the Caltrans website (<https://dot.ca.gov/programs/traffic-operations/ice>), "Intersection Control Evaluation (ICE) refers to the evolved decision-making process and framework to provide a more balanced or holistic approach to the consideration and selection of access strategies and concepts during transportation planning, project identification and initiation processes that contemplate the addition, expansion or full control of intersections." Caltrans issued Traffic Operations Policy Directive 13-02 in August 2013 that "established the ICE Technical Assistance Program to guide and support investment proposals and decisions affecting access to and from State highways." The Directive supplements the California Manual on Uniform Traffic Control Devices (MUTCD) warrant and engineering study requirements pertaining to the use of traffic signals and multi-way stop control, and adds yield control to the menu of intersection control options. The Directive clarifies guidance and provides direction to all who plan, sponsor and develop State highway system access proposals. The purpose is to ensure that a context and performance-based evaluation process and new analytical tools and innovative engineering strategies are systematically used to identify viable and practical access alternatives; produce engineering recommendations on intersection control strategies and geometric configurations for location-specific needs and conditions." The process by which Caltrans considers roundabout intersection proposals as well as single point interchanges was streamlined by the Directive so as to facilitate a less cumbersome approval process for these types of designs.

## 2.5 Future Traffic Growth Methodology

A regional travel demand model was not available at the time traffic forecasts were prepared for this study. Another method used in Clearlake for traffic impact analyses of new development projects is the estimation of traffic for specific sites by estimating trip generation, distribution and assignment to the road network. This is referred to as the "build up method", however it does not account for background increases in traffic that is not attributed to new development.

For the purpose of this study, a "factor-up" method was used to project future traffic demand. The factor-up method applies an annual growth rate over the 10 and 20-year horizons to factor-up existing traffic counts. This is a time-tested approach and allows the technical team to discuss and reach consensus on the annual growth rates. This method was used in prior studies as described below.

## Documents Reviewed

TJKM reviewed seven documents published by the City, County, Caltrans, and traffic engineers, conducting traffic impact analyses for new development along or near SR. 53. The reviewed reports are listed below followed by a summary in **Table 3** of key data and then a description of salient aspects of each study report.

- SR 53 Corridor Study (2011)
- 2040 Clearlake General Plan Update (2017)
- Clearlake Walmart Center Expansion EIR (2017)
- Dam Road Retail Project Traffic Impact Study (2020)
- Maha Resort at Guenoc Valley Transportation Impact Analysis (2020)
- Caltrans District 1 Growth Factor (2014)

**Table 3: Summary Table**

Report	Horizon Year	Annual Growth Rate (% per year)
SR 53 Corridor Study (2011)	2030	2.5 - through movements on SR 53 1.5 - for turn movements
2040 Clearlake General Plan (2017)	2040	1.4 - population growth in Clearlake 1.1 - job growth in Clearlake
Clearlake Walmart EIR (2017)	2040	1.6 – all movements, study intersections
Dam Road Retail (2020)	2040	2.0 – all movements, study intersections
Maha Resort – Guenoc Valley (2020)	2022	0.67 - background growth + build-up
Caltrans District 1 Growth Factor (2014)	2034	2.75 – on SR 53
<b>Range for the studies listed above</b>		<b>0.67 to 2.75</b>
TJKM assumptions for SR 53 Corridor Study Update. The Transportation Advisory Group accepted TJKM’s assumptions.	2030 2040	1.5 - through movements on SR 53 1.5 - for turn movements 2.5 - through movements on SR 53 1.5 - for turn movements

## Summary of Relevant Studies and Plans

TJKM prepared the SR 53 Corridor Study in 2011 to propose improvements to SR 53. TJKM used the growth method to forecast year 2030 traffic.

Adopted in 2017, the 2040 Clearlake General Plan Update assists the City in day-to-day decision-making and in long-term advanced planning through the year 2040. The study concluded that the potential average annual growth rate for the City’s population would be 1.4 percent per year between 2015 and 2040. During the same period, the non-residential and job growth was expected to increase at a rate of 1.1 percent per year.

Caltrans District 1 developed traffic growth factors in 2014 for major roads based on projected travel trends and historical growth from two data sources—the “California Motor Vehicle Stock Travel and Fuel Forecast” (CMVSTAFF) and historical Average Vehicle Miles Traveled (AVMT) comparisons from “Traffic Volumes on the California State Highway System.” Since CMVSTAFF was not available for the 2014 growth factor update, growth factors were developed based on Caltrans historic traffic growth data. With reference to the Caltrans growth factor map published in 2014, a 20-year straight-line growth factor of 1.55 was derived for the SR 53 corridor in Clearlake, which equates to an annual growth rate of 2.75 percent. At the time, this was one of the highest growth rates assumed for any major road in Caltrans District 1.

## **Traffic Growth**

Based on the Transportation Advisory Group’s (TAG) review of traffic data and documents reviewed and summarized, a consensus was built and TAG endorsed the application of an average growth of 1.5 percent per year to existing 2020 counts to project 2030 volumes for all the study intersections. An annual growth rate of 2.5 percent per year for through traffic on SR 53 and 1.5 percent per year for side street traffic was applied to 2030 traffic to forecast 2040 traffic volume. The forecast was balanced to smooth out any anomalies and best represent a road system between intersections, as appropriate.

## **2.6 Pedestrian Quality of Service**

A Pedestrian Quality of Service (PQOS) analysis is used to assess needed improvements based on a variety of factors that contribute to comfort and convenience for people walking across SR 53. The PQOS combines four distinct surrogate indicators to reflect the quality of service for pedestrians. These indicators are listed in random order:

- Walk Score (which incorporates factors like intersection density, block length and proximity to a variety of typical destinations favored by pedestrians, such as parks, schools, retail, etc.)
- Gaps in the sidewalk network
- Speed of motor vehicle traffic
- Number of motor vehicle travel lanes

Results are reported in terms of a numeric score between 1 and 5, reflecting relative quality of service from the pedestrian point of view. A PQOS score of 1 indicates a high quality of service for pedestrians while a QOS score of 5 indicates the worst possible quality of service for pedestrians.

**Indicator: Walk Score**

Walk Score accounts for (a) walking distance to destinations that are typically popular places to walk to, (b) network-based factor such as density of intersections and (c) block length. Higher scores indicate the presence of pedestrian-friendly development: a multitude of nearby amenities, a high density of intersections and short block lengths. A lower Walk Score indicates a lack of nearby amenities and / or sprawling roadway networks characterized by longer block lengths, fewer pedestrian connections and a lower density of intersections.

The basic index ranges between 0 and 100 with 100 being the best and 0 being the worst. The relationship between Walk Score and an initial PQOS rating is shown in **Table 4**.

**Table 4: Initial PQOS**

Walk Score	Initial PQOS
90 – 100	QOS 1
70 – 89	QOS 2
50 – 69	QOS 3
25 – 49	QOS 4
0 – 24	QOS 5

**Indicator: Gaps in Sidewalk Network**

Adjustments to the web-based Walk Score are needed to account for other important factors. The PQOS is increased by 1 for any street without sidewalks on both sides, indicating a worse quality of service for pedestrians.

**Indicator: Speed of Traffic**

Speed limit data is used to adjust the PQOS rating further, modeling the detrimental impact that high-speed traffic has on the quality of the pedestrian experience. This adjustment is shown in **Table 5**.

**Table 5: PQOS Speed Limit Adjustments**

Posted Speed Limit	Impact on QOS
< 30 MPH	No impact on QOS
30 – 34 MPH	QOS + 1
>= 35 MPH	QOS + 2

**Indicator: Number of Traffic Lanes**

The final built-environment adjustment relates to roadway width: divided roads with more than four motor vehicle travel lanes increases the PQOS rating by 1. Undivided roadways with more than three motor vehicle travel lanes also increases the PQOS rating by 1.

**Table 6: Roadway Width Adjustment**

Road Type	Lanes	Impact on PQOS
Median-divided	4 or less	No adjustment
Median-divided	More than 4	PQOS + 1
Undivided	3 or less	No adjustment
Undivided	More than 3	PQOS + 1

## 2.7 Bicycle Level of Traffic Stress

A Bicycle Quality of Service (BQOS) analysis is used to assess needed improvements based on a variety of factors that contribute to safety, comfort and convenience for people bicycling. The BQOS combines two distinct surrogate indicators to reflect the quality of service for cyclists. These indicators are listed in random order:

- Bicycle Level of Traffic Stress
- Bikeway Type
- Access to Low Stress Streets

### **Indicator: Level of Traffic Stress**

Bicycle Level of Traffic Stress (LTS) is an evaluation that quantifies the safety, comfort and convenience that people feel when bicycling in the study corridor. LTS is measured on a scale of 1 to 4. A score of 1 is the best as it represents the least stressful conditions for bicyclists. A score of 4 is the worst as it represents high stress and the lowest degree of safety, comfort and convenience. The LTS scale is a tool used to evaluate bicycle infrastructure improvements. **Table 6** summarizes the four bicycle LTS ratings:

- LTS 1: Low traffic stress. Many children feel comfortable bicycling.
- LTS 2: Low to Moderate traffic stress. Many adults who consider themselves “interested but concerned” for their safety feel comfortable bicycling.
- LTS 3: Moderate traffic stress. Bicyclists who are considered “enthused and confident” feel comfortable while bicycling.
- LTS 4: High traffic stress. Only “strong and fearless” bicyclists feel comfortable while bicycling. These routes have higher vehicular speeds, multiple travel lanes, limited or non-existent bicycle lanes and signage and large distances to cross at intersections.

**Figure 2: Bicycle Level of Traffic Stress Definition**



**Table 7** describes the criteria for evaluating the Bicycle LTS score based on:

- Number of traffic lanes
- Posted (or prevailing) motor vehicle speed limit
- Existing bikeway facilities
- ADT volume
- Roadway (functional) classification

**Table 7: LTS Criteria**

Number of Lanes	ADT (vpd)	Functional Class	Posted or Prevailing Speed (mph)				
			25	30	35	40	>45
1 through lane per direction	≤750	Local	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3
	750 - ≤1,500	Local/ Collector	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4
	1,500 - ≤3,000	Collector	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4
	>3,000	Arterial	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4
2 through lane per direction	≤8,000	Arterial	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4
	>8,000	Arterial	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4
3+ through lanes per direction	Any ADT	Arterial	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4

Source: Oregon Department of Transportation. (2020). Analysis Procedures Manual. Chapter 14 Multimodal Analysis

### 3.0 DOCUMENTS REVIEWED

To frame this study with a local contextual perspective, TJKM reviewed nine documents previously approved by the City of Clearlake, Lake Area Planning Council and Caltrans. The following is a summary of key findings of the document review:

- SR 53 Corridor Study (TJKM, 2011) – The report describes the vision for SR 53 and is the technical work that is being updated. The study report documents analyses performed in 2011 of traffic conditions along SR 53 and the surrounding area for existing (2011) and future (2030) traffic conditions. The study made recommendations for major and minor improvements on roadways and at intersections along and surrounding SR 53 that are consistent with a freeway classification for SR 53. That would be the conversion of at-grade intersections to grade-separations and interchanges. The 2011 recommendations were presented as options, so the implication was to do one or two (but not all) of the following construction projects:
  - A tight diamond interchange at SR 53 / Yuba College Access Road or at Center Drive.
  - A roundabout at SR 53 / SR 20. The roundabout is complete and open to traffic.
  - Lane configuration changes at SR 53 / SR 29.
  - SR 53 overpass at 18<sup>th</sup> Avenue.
  - SR 53 overpass at Dam Road / Old Highway 53.
  - SR 53 split diamond interchange between Dam Road and 18<sup>th</sup> Avenue with one-way frontage roads.
  - Phillips Avenue extension between 18<sup>th</sup> Avenue and Dam Road Extension. The Phillips Avenue extension is now complete.
- SR 53 Transportation Concept Report (Caltrans, 2014) – The report serves as a long-range planning guide for improvements on SR 53. The purpose of the report is to protect the State’s investment in SR 53 and maintain the integrity of the corridor to provide safe operations. The Transportation Concept Report identifies constraints along the corridor. The intent of strategies outlined in the report is to achieve and maintain the ultimate facility concept, which is to convert SR 53 into a four-lane freeway with grade-separated interchanges between the SR 29 / SR 53 junction and 40<sup>th</sup> Avenue / Lakeshore Drive, and into a four-lane freeway or expressway between 40<sup>th</sup> Avenue and the SR 53 / SR 20 junction.
- City of Clearlake Speed Zone Study (Lake County/City Area Planning Council, 2019) – The study analyzes 40 street segments within the City. Some of the segments in this study consist of local roadways near the SR 53 Corridor. The studied roadways include 18<sup>th</sup> Avenue, 40<sup>th</sup> Avenue, Dam Road, Davis Avenue, Old Highway 53, Olympic Drive and Phillips Avenue, which are relevant to the SR 53 Corridor Circulation Study (2021). The study recommends increasing the posted speed limit at three locations and maintaining the existing speed limit at 37 locations. The data serves as a source of traffic related information such as speed, volume and collision data for the SR 53 Corridor Circulation Study (2021).



- *City of Clearlake General Plan Update (City of Clearlake, 2017)* – The General Plan Update is used by the City in the day-to-day decision-making process and in long-term advanced planning through the year 2040. The Circulation Element of the General Plan is a framework that helps develop the City’s transportation network and serves as a foundation for the City’s CIP, Developer Fee Program and Street Master Plan. Circulation improvements identified in the General Plan include a roundabout at Dam Road / Dam Road Extension, an extension of Airport Road to 18<sup>th</sup> Avenue, extension of Spruce Avenue, extension of Dam Road Extension and lane configuration changes at SR 53 / 18<sup>th</sup> Avenue and SR 53 / Old Highway 53 / Dam Road intersections. The SR 53 Corridor Local Circulation Study (2021) reflects policies and goals outlined in the General Plan.
- *Lake County Regional Transportation Plan (Lake Area Planning Council, 2017)* – The Regional Transportation Plan (RTP) is a long-range planning document with a 20-year horizon which establishes regional transportation goals, addresses future needs, deficiencies and constraints, and estimates the amount and possible allocation of future funding. The plan identifies that the major issue with state highways in Lake County is the limited funding for highway capacity expansion, maintenance and rehabilitation. It also identifies issues with SR 20 as it functions as a Main Street and major connector for local and interregional traffic, but only provides one to two lanes in each direction. Consistent with the SR 53 Corridor Study (2011) the RTP proposes segment and intersection improvements along SR 53 and traffic calming projects on SR 20 through the North Shore to move interregional traffic to the South Shore.
- *Interregional Transportation Strategic Plan (Caltrans, 2015)* – The Interregional Transportation Strategic Plan (ITSP) identifies priority interregional facilities within the State and proposes concepts for transportation improvements on each corridor. The purpose of the ITSP is to develop a vision for the State’s interregional transportation system, improve the interregional movement of people and goods and guide agencies in developing local and RTP and programs. The ITSP identifies 11 Strategic Interregional Corridors, of which one includes portions of SR 29, SR 20 and SR 53 within Lake County.
- *Active Transportation Plan for Lake County (2016)* – The Lake County Active Transportation Plan (ATP) was a collaborative effort between the County of Lake, City of Lakeport, City of Clearlake and Lake Transit Authority (LTA). The Plan identifies a future network of active transportation facilities to serve as a basis for making grant applications under the State’s ATP in the region. The ATP identifies pedestrian and bicycle projects including implementation of Class II bikeways on 18<sup>th</sup> Avenue and Phillips Avenue, sidewalks at Civic Center, Highlands Park and at Austin Park.
- *Lake County Pedestrian Facility Needs Study (Lake Area Planning Council, 2019)* – The study report identifies 10 important and practical pedestrian infrastructure improvement projects in each of the four study areas. The four study areas consist of the City of Clearlake, City of Lakeport, unincorporated communities and the state highways within Lake County. The plan identifies priority projects along SR 53 including multi-use paths on both sides of SR 53 between Lakeshore Drive and Dam Road, crosswalk realignment at 40<sup>th</sup> Avenue / Lakeshore Drive and intersections along SR 53 and SR 29, and crosswalk restriping across SR 53 at Anderson Ranch Parkway.

- Wild Diamond Vineyards Final EIR (2016) – The Final Environmental Impact Report (EIR) for the Wild Diamond Vineyards development is an informational document revealing the environmental consequences that may occur at build-out of the development. The EIR identifies eight impacts on air quality, biological resources and cultural resources all of which are less-than-significant after implementation of proposed mitigations. Although the Transportation and Traffic section of the EIR does not provide mitigation measures, the project may produce traffic to and from the City via SR 53 and SR 29. The consideration of developments south of the City will inform traffic needs on SR 53 and SR 29 in addition to supporting congestion relief on the north side of the lake.

## 4.0 EXISTING CONDITIONS

This section describes existing conditions in the immediate vicinity of SR 53 including roadway facilities, bicycle and pedestrian facilities and transit service. In addition, this section presents existing traffic volume and operations at the study intersections.

### 4.1 Existing Setting and Roadway System

There is some interconnectivity in the secondary roadway network supporting SR 53. A brief description of important roadways in the network follows:

**SR 53** in the study area is a major arterial that extends approximately 7.5 miles from SR 20 at the north to SR 29 at the south. SR 53 is a four-lane (two-lanes per direction) roadway with a posted speed limit of 45 to 55 mph between SR 29 to approximately 400 feet north of 40<sup>th</sup> Avenue; and two to three lanes (one through lane in each direction) roadway with a posted speed limit of 55 mph from north of 40<sup>th</sup> Avenue to SR 20.

**SR 29** is a two- to three-lane highway with posted speed limits of 35- 45 mph in the area near SR 53. SR 29 south of Lower Lake extends through Middletown near Mt. Saint Helena into Napa County where it is the major north-south roadway. From its intersection with SR 53 in Lower Lake, it heads in a northwesterly direction to the west of Clear Lake and ends at SR 20 in the Upper Lake area. The distance on SR 29 from SR 53 to SR 20 is approximately 30 miles. Some segments are at expressway and freeway standards (some with four lanes).

**SR 20** is generally a two-lane highway west of SR 53 and a three-lane highway immediately east of SR 53. The posted speed limit is 55 mph to the east of SR 53 and posted speed limit varies from 35 mph to 55 mph to the west of SR 53. SR 20 runs along the North Shore of Clear Lake bordering many neighborhoods. It has limited capacity and generally low speeds within built-up areas along the North Shore of Clear Lake. The distance on SR 20 from SR 53 to SR 29 is approximately 23 miles.

Interregional travel is a concern given some motorists choose to use SR 20. The alternate route is SR 29 and SR 53. A comparison of travel times around Clear Lake underscores the challenge in meeting Goals 1 and 2 (summarized under section 1.1) of this study, which are to facilitate interregional travel along the South Shore rather than the North Shore such that interregional traffic will use SR 29 instead of SR 20. For example, for a trip from Calpella located at the junction of SR 20 and US 101 to Williams which is located at the junction of SR 20 and I-5, here are the comparative travel times and distances during non-peak hours:

- Via the North Shore on SR 20: 60 miles in 94 minutes – average speed 38 mph
- Via the South Shore on SR 29 and SR 53: 96 miles in 108 minutes – average speed 53 mph

Although the average speed along the South Shore is much higher than on the North Shore, it is a considerably longer route and thus the overall travel time is faster along the North Shore. To reach some equivalence in travel time, the average speed on the southerly route would need to increase to shave 14 minutes (the difference between 108 minutes and 94 minutes) off the trip. The resulting average speed on the 96 miles along the South Shore via SR 29 and SR 53 would need to be 61 mph instead of the current 53 mph. This study addresses only 7.5 miles of the 96-mile route along the South Shore. Other transportation projects along the North Shore (to slow traffic) and South Shore (to increase speed) may ultimately help the region meet Goals 1 and 2. Other important roadways in the study area are as follows:

**40<sup>th</sup> Avenue** is a two-lane arterial with a posted speed limit of 35 mph east of SR 53. 40<sup>th</sup> Avenue provides access to residential neighborhoods. West of SR 53, West 40<sup>th</sup> Street is a one-way westbound street that branches off Lakeshore Drive, also providing access to residential land uses. The intersection of SR 53 at 40<sup>th</sup> Avenue / Lakeshore Drive is the busiest of all the locations evaluated in this study.

**Lakeshore Drive** is a two-lane minor arterial that connects the downtown core area of Clearlake with SR 53. It provides access to the Veterans Administration Outpatient Clinic. Numerous businesses, hotels and restaurants are located on Lakeshore Drive as is Austin Park, City Hall, City Hall Plaza and Clearlake Police Department. Lakeshore Drive has a posted speed limit of 30 mph for the segment between SR 53 and Old Highway 53.

**Dam Road** is the east leg of the intersection at SR 53 / Dam Road / Old Highway 53. Approximately 300 feet to the east of the signalized intersection is an all-way stop controlled intersection of Dam Road / Dam Road Extension. This intersection provides access to a retail center anchored by Walmart and supported with fast food restaurants. The Dam Road Extension was recently completed north to 18<sup>th</sup> Avenue, relieving some of the Walmart traffic from SR 53. Dam Road Extension aligns with Phillips Avenue at 18<sup>th</sup> Avenue providing a parallel route to SR 53 for approximately 1.5 miles. The posted speed limit along Dam Road is 25 mph.

**18<sup>th</sup> Avenue** is a two-lane collector street with a posted speed limit of 30 mph and intermittent dirt shoulders, significant vertical curves and a series of horizontal “S” curves. 18<sup>th</sup> Avenue and SR 53 provide critical access to Adventist Health Clearlake, which is a Level III Trauma Center. The highest level of trauma care is provided at Level I centers. The next closest trauma centers that provide a higher-level of trauma treatment are in Sacramento, two hours away (UC Davis Medical Center – Trauma Level I), Vacaville two hours away (Kaiser Foundation Hospital – Trauma Level II), Santa Rosa 90 minutes away (Santa Rosa Memorial Hospital – Trauma Level II) and Chico 105 minutes away (Enloe Medical Center – Trauma Level II). Adventist Health Clearlake provides essential medical service in the greater Clearlake community. 18<sup>th</sup> Avenue also serves residential neighborhoods and has a posted speed limit of 30 mph.

**Olympic Drive** is a two-lane road that extends west of SR 53 to Lakeshore Drive. The intersection of Olympic Drive / SR 53 is controlled by traffic signal. Olympic Drive has a posted speed limit of 35 mph.

**Old Highway 53** is a two-lane minor arterial that traverses in the north-south direction from Olympic Drive to SR 53. Old Highway 53 has a posted speed limit of 40 mph for the segment between SR 53 and Olympic Drive. There is a posted speed limit of 30 mph for the segment between Olympic Drive and Lakeshore Drive, and 35 mph for the segment between Lakeshore Drive and SR 53.

**Main Street** is a two-lane major collector street that traverses in the west-east direction from SR 53 to Mill Street. Main Street has a posted speed limit of 25 mph and serves the downtown core of the Lower Lake community.

## 4.2 Existing Pedestrian Facilities

Walkability is the ability to travel on foot safely and comfortably between origin and destination without having to rely on automobiles. The ideal walkable community includes wide sidewalks; a mix of land uses such as residential, recreational, employment and shopping opportunities; a limited number of conflict points with vehicular traffic; and easy access to transit facilities and services.

Pedestrian facilities include crosswalks, ramps, sidewalks, pedestrian signals and off-street paths that provide safe, continuous and convenient routes for pedestrians to access their destination.

There are no suitable corridors parallel to SR 53 to serve as a continuous pedestrian facility. Sidewalks are not present along SR 53; however, pedestrians are allowed to walk on the SR 53 shoulders and crosswalks exist at the intersections of SR 53 / 40<sup>th</sup> Avenue-Lakeshore Drive, SR 53 / 18<sup>th</sup> Avenue, SR 53 / Dam Road-Old Highway 53 and SR 53 / SR 29-Main Street. Walking along SR 53, although legal, should be encouraged at intersections for the safety of all road users especially pedestrians. Anecdotally there are reports of people cutting holes in the fencing along SR 53. Currently, intermittent sidewalks exist on Lakeshore Drive, Dam Road, Old Highway 53 and Main Street.

The current ATP for Lake County (2016), prepared by the Lake Area Planning Council, proposes sidewalks along 18<sup>th</sup> Avenue east of SR 53. The ATP identifies future sidewalks on Phillips Avenue between 40<sup>th</sup> Avenue and Dam Road Extension in the financially constrained program, meaning it is a relatively high priority. The ATP does not include sidewalks on SR 53. Existing and Proposed pedestrian facilities are shown in **Figure 3**.

Figure 3: Existing and Proposed Pedestrian Facilities



LEGEND

- XX Study Intersection
- X Study Segment
- Crosswalk
- Proposed Sidewalk



## 4.3 Existing Bicycle Facilities and Destinations

Bicycle facilities include the following classifications from the ATP for Lake County (2016):

- Class I Bikeways, also referred to as “bike paths” or “shared use paths”, provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with crossflows by motorists minimized.
- Class II Bikeways, also referred to as “bike lanes”, provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.
- Class III Bikeways, also referred to as “bike routes”, which provide a right-of-way on- street or off-street, designated by signs or permanent markings and shared with pedestrians and motorists.
- Class IV Bikeways, also referred to as “cycle tracks” or “separated bikeways”, promote active transportation and provide a right-of-way designated exclusively for bicycle travel adjacent to a roadway and which are protected from vehicular traffic. Types of separation include, but are not limited to grade separation, flexible posts, inflexible physical barriers or on-street parking.

Bicycling in both directions on SR 53 is legal under State law. There are paved shoulders on each side that vary in width but are at least six feet wide. Currently there are no other types of bicycle facilities along the SR 53 segment between SR 20 and SR 29.

Class II Bikeways exist in the surrounding area within the City at the following locations:

- Olympic Drive west of SR 53
- Old Highway 53 west of SR 53
- Lakeshore Drive west of Old Highway 53
- Dam Road between Lake Street and 18<sup>th</sup> Avenue

The ATP for Lake County shows future Class II Bikeways on Davis Avenue east of SR 53 and Lakeshore Drive between SR 53 and Old Highway 53, and a Class III Bikeway on 40<sup>th</sup> Avenue east of SR 53 and Main Street east of SR 53. The ATP does not show future bikeways on SR 53. Existing and Proposed bicycle facilities are shown in **Figure 4**.

According to the City of Clearlake General Plan, the “biking modal split” is well above the national, state and county averages. Biking in Clearlake has the potential to become a more utilized form of transportation it is a small city with many amenities and destinations located within city limits and within biking distance. There are many hurdles to overcome, one of which is SR 53 is not conducive for bicycle crossing. Figure 5.16 in the General Plan depicts streets where a bikeway implementation program could result in bike lane construction within five years. The roadway segments that are relevant to this SR 53 Corridor Study are the following arterial and collector streets crossing SR 53: Olympic, Lakeshore, Old Highway 53 / Dam Road. The following roads are north-south and each one parallels SR 53 to some extent: Old Highway 53 and Phillips Avenue.

## **Bicycle Destinations**

- Austin Park is a 20-acre park on Olympic Drive along the lakefront, in the heart of the City. The City General Plan Open Space Element defines a park-shed as the area near a park that is likely to generate people who might walk there; it sets a 1.5-mile distance from parks for potential users who walk. A distance of 1.5 miles is a short distance by bicycle; many people would bike this distance if the roads or paths are safe.
- Highlands Park, at one acre in size, is a mini-park. It is adjacent to the lake on Lakeshore Drive.
- Redbud Park is a 15-acre park on Lakefront Drive with a view of iconic Mount Konocti.
- Anderson Marsh Historic State Park is a regional destination that is over 1,000 acres in size. It is accessible from SR 53 at Anderson Ranch Parkway on the west side of SR 53.
- Cache Creek Wilderness Area – combines over 25,000 acres of federal Bureau of Land Management lands and 4,700 acres of State and County lands. The native oaks, grassland and shrub land vegetation provide wildlife habitat. Designated trailheads are at several locations on SR 20 and SR 29 east of Clearlake. Davis Avenue in Clearlake extends east to the edge of Cache Creek Wilderness Area but there appear to be no trailheads on Davis Avenue.



Figure 4: Existing and Proposed Bicycle Facilities



## 4.4 Existing Transit Facilities

The main transit system in Clearlake is the public bus system operated by LTA. LTA provides dial-a-ride service that delivers curb-to-curb service. LTA also offers “Flex Stop” service for passengers eligible for American Disabilities Act (ADA) paratransit service who reside in areas not served by dial-a-ride. Flex-stop services accommodate these travelers by traveling up to one mile off the regular bus route.

A new transit hub will be built on Center Drive at Dam Road Extension. The existing LTA transfer point is located on the north side of the former Ray’s Food Place building at the eastern dead-end of Dam Road. This site provides three bus shelters and three bus pullouts. Six LTA fixed routes serve this location (three regional routes and three City of Clearlake routes). Many common destinations for public transit users are within walking distance of the transfer point including: Walmart, Lake County Campus of Woodland Community College, County Courts and Adventist Health – a Level III Trauma Center. As such, the existing transfer point in Clearlake represents a key location within the overall transit network. The location of the new transit hub will be even closer to some of these key destinations.

LTA buses cross SR 53 at the following study intersections:

- 40<sup>th</sup> Avenue / Lakeshore Drive
- 18<sup>th</sup> Avenue
- Dam Road

The following is a description of LTA fixed route bus service that uses SR 53 or nearby streets.

### ***Route 1 – North Shore, Clearlake to Lakeport***

Route 1 travels along the North Shore of Clear Lake between Clearlake and Lakeport. Transfers are available at the existing transfer point and Sutter Lakeside Hospital. The westbound route travels every one or two hours, on the hour, between 6:00 a.m. and 7:00 p.m. The eastbound route travels every hour (except for a two-hour break at midday) at 30 or 35 minutes past the hour between 6:00 a.m. and 8:00 p.m., while the westbound runs operated on similar frequency between 6:00 a.m. and 7:00 p.m. Route 1 travels along SR 53 corridor and there are no bus stops located along the corridor. Bus stop is located at Woodland College. The route originates at Woodland College in Clearlake, and includes additional stops in Clearlake Oaks, Glenhaven, Lucerne, Nice and Upper Lake.

### ***Route 3 – Highway 29, Clearlake to Deer Park***

Route 3 operates between the Clearlake transfer point at Dam Road and Deer Park (St. Helena Hospital). Other areas served include Lower Lake, Hidden Valley Lake, Middletown and Calistoga. The southbound route includes five daily runs between the hours of 6:10 a.m. and 4:50 p.m. The northbound route runs five times per day between Middletown and Clearlake, with two-four runs stopping in Deer Park and Calistoga. Transfers are available at the existing transfer point in Clearlake and Highway 29 and Young Street (Middletown). Route 3 travels along SR 53 corridor between SR 29 and Dam Road with bus stops located at Wilson Street, Kugelman Street and near Anderson Ranch Parkway along the corridor.

#### ***Route 4 – South Shore, Clearlake to Lakeport***

Route 4 travels between Clearlake and Lakeport, serving Lower Lake, Rivas, Kelseyville and several areas within Lakeport. Service is relatively infrequent (every one to three hours) between 6:00 a.m. and 8:30 p.m. Transfers are available at Third and Main Street in Lakeport, which connects with Route 7 to Ukiah. Other transfers take place at Kit's Corner (Rivas) and the existing transfer point in Clearlake. Route 4 travels along SR 53 corridor between SR 29 and Dam Road with bus stops located at Wilson Street, Kugelman Street and near Anderson Ranch Parkway along the SR 53 corridor.

#### ***Route 10 – Clearlake/Clearlake Park - North Loop***

Route 10 provide local service in the Clearlake / Lower Lake area. Route 10 provides hourly service from 5:19 a.m. to 8:45 p.m. along a route connecting SR 49 in Lower Lake to Bush Street in northwest Clearlake. In the study area, Route 10 serves the existing transfer point in the northbound direction. Routes 10, 11 and 12 travel along SR 53 corridor between Dam Road and Olympic Drive with bus stops located at 18<sup>th</sup> Avenue, Boyles Avenue, 40<sup>th</sup> Avenue, Lakeshore Drive and Olympic Drive along the SR 53 corridor.

#### ***Route 11 – The Avenues Loop***

Route 11 provide local service in the Clearlake / Lower Lake area. This route operates hourly from 5:40 a.m. to 8:47 p.m. It serves Woodland Community College and the existing transfer point, and then operates in both directions along the same route through The Avenues area north of the study area, before serving a loop consisting of Lakeshore Drive, Olympic Drive and Old Highway 53.

#### ***Route 12 – Clearlake/Lower Lake – South Loop***

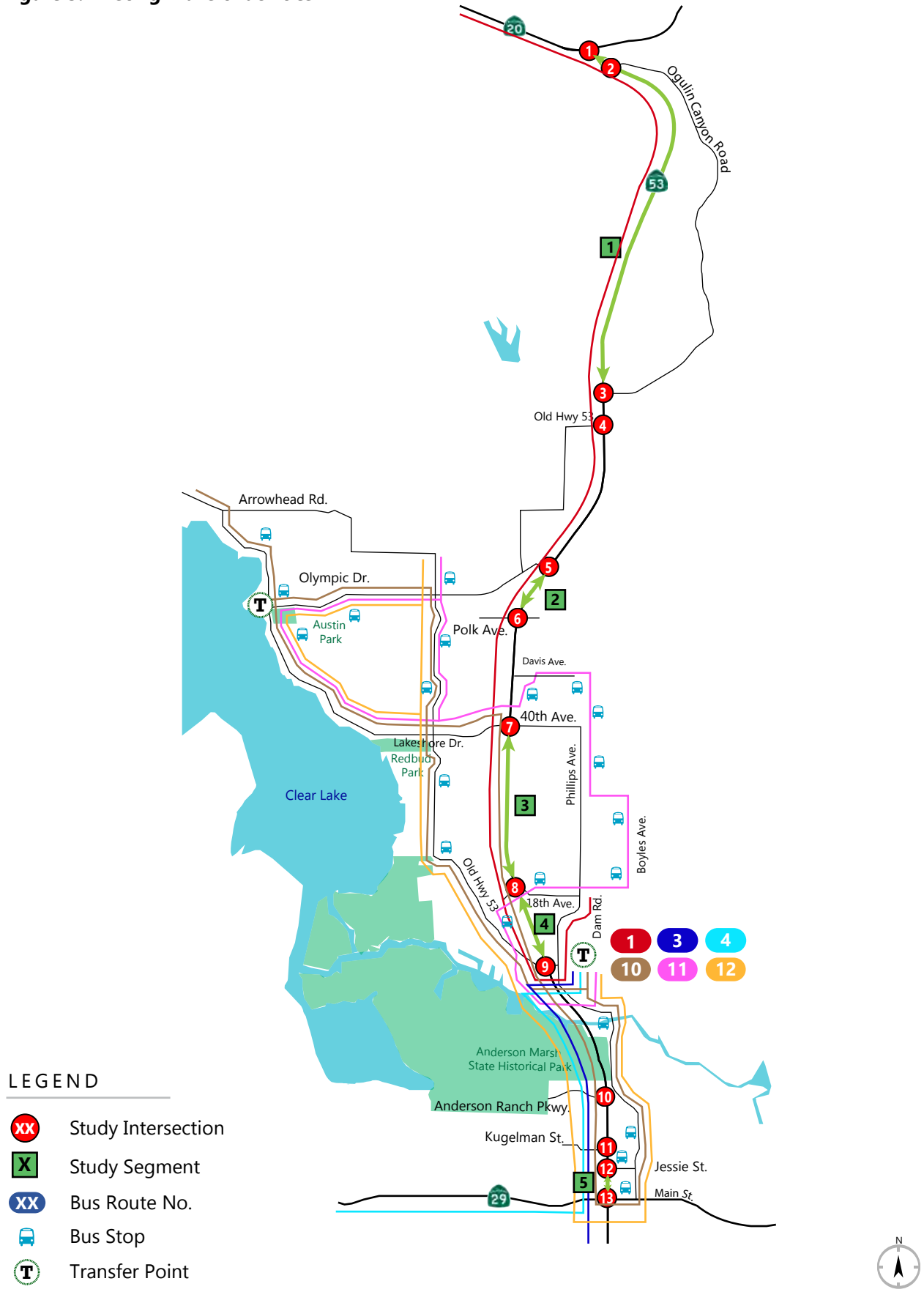
Route 12 provide local service in the Clearlake / Lower Lake area. This route operates hourly between 6:27 a.m. and 6:49 p.m., this route serves Lower Lake (using the same streets as Route 10), as well as central and northeast Clearlake (similar to Route 11). Unlike the other routes, it serves the existing transfer point twice per hour.

**Dial-A-Ride (DAR)** Lake Transit offers Clearlake and Lower Lake DAR service during the same days and hours as the local bus routes serve the community. DAR is curb-to-curb service for everyone, with priority given to seniors and people with disabilities. DAR is an on-demand service.

**Flex Stop** Flex Stop is available for passengers eligible for ADA paratransit in areas not covered by DAR. The bus will travel up to one mile off its regular route to provide flex-stop service at the curb.

**Figure 5** shows existing transit facilities.

Figure 5: Existing Transit Facilities



## 4.5 Truck Routes

SR 53 is a designated truck route. Using Caltrans 2018 Annual Average Daily Truck Traffic (AADTT) data, TJKM assumed that trucks comprise seven percent of the vehicular traffic volume on SR 53. The assumed truck percentage is included in the operational analysis of traffic flow on SR 53. Trucks serve an important role in the movement of goods and delivery of services. It is essential to ensure adequate truck access to all commercial and industrial locations. Many communities have established truck routes as a means of reducing conflicts between incompatible uses, such as residential neighborhoods and truck traffic. Prohibiting or restricting some truck use on local residential streets may avoid or reduce some of the negative effects of trucks such as noise and pavement deterioration. The California Vehicle Code, Section 35701, grants local agencies the authority by ordinance to establish truck routes.

## 4.6 Data Collection

TJKM collected the following data in the field:

- Seven days of 24-hour vehicular ADT counts at five locations within the study corridor.
- Video showing pedestrian, bicycle and vehicle counts for each study intersection for the weekday a.m. and p.m. peak periods for 13 intersections along the study corridor.

### ADT and Turning Movement Counts (TMC)

TJKM collected 24-hour bi-directional vehicular traffic counts for seven days from Tuesday, November 17, 2020 to Monday, November 23, 2020 at the following five locations:

- SR 53 between SR 20 and Ogulin Canyon Road South
- SR 53 between Olympic Drive and Polk Avenue
- SR 53 between 40<sup>th</sup> Avenue and 18<sup>th</sup> Avenue
- SR 53 between 18<sup>th</sup> Avenue and Dam Road-Old Highway 53
- SR 53 between North of Main Street (SR 29)

**Table 8** summarizes the 24-hour traffic volumes collected.

**Table 8: Average Daily Traffic Volume Summary**

#	Location	Period	Northbound Average Volume (vehicles/day)	Southbound Average Volume (vehicles/day)	Total 2-way ADT
1	SR 53 between SR 20 and Ogulin Canyon Road South	Weekday (M-F)	4,300	4,300	8,600
		Weekend (S-S)	3,800	3,900	7,700
2	SR 53 between Olympic Drive and Polk Avenue	Weekday (M-F)	6,400	6,200	12,600
		Weekend (S-S)	5,300	5,200	10,500
3	SR 53 between 40 <sup>th</sup> Avenue and 18 <sup>th</sup> Avenue	Weekday (M-F)	9,000	8,100	17,100
		Weekend (S-S)	7,100	6,600	13,700
4	SR 53 between 18 <sup>th</sup> Avenue and Dam Road-Old Highway 53	Weekday (M-F)	8,900	8,600	17,500
		Weekend (S-S)	7,200	7,000	14,200
5	SR 53 between North of Main Street and SR 29	Weekday (M-F)	8,600	8,800	17,400
		Weekend (S-S)	7,000	7,200	14,200

TJKM collected peak period multimodal counts on Tuesday, November 17, 2020 at 13 study intersections using video cameras installed on the side streets. TJKM analyzed the counts in 15-minute intervals during the weekday a.m. peak period (7:00 to 9:00 a.m.) and p.m. peak period (3:00 to 5:00 p.m.). Data collection at each study intersection consists of three primary components: vehicles, bicycles and pedestrians. The intersections selected for study are listed below and shown in **Figure 1**.

- SR 53 / SR 20
- SR 53 / Ogulin Canyon Road North
- SR 53 / Ogulin Canyon Road South
- SR 53 / Old Highway 53
- SR 53 / Olympic Drive
- SR 53 / Polk Avenue
- SR 53 / 40<sup>th</sup> Avenue-Lakeshore Drive
- SR 53 / 18<sup>th</sup> Avenue
- SR 53 / Dam Road-Old Highway 53
- SR 53 / Anderson Ranch Parkway
- SR 53 / Kugelman Street
- SR 53 / Jessie Street
- SR 53 / SR 29-Main Street

### **Historical Counts Comparison**

The City of Clearlake and Caltrans provided historical counts and traffic study documents. Historical counts were available at some of the study intersections along SR 53. TJKM reviewed the following documents / counts to understand the traffic volume trends at the study intersections.

- SR 53 Corridor Study (2011) prepared by TJKM (traffic counts collected in 2009)
- Clearlake Walmart Center Expansion, March 2017 Project prepared by Raney Planning & Management (traffic counts collected in 2015)
- 2018 traffic counts from Caltrans District 1 System Planning
- Transportation Impact Analysis for Maha Resort at Guenoc Valley prepared by Abrams Associates, 2020 (traffic counts collected in 2019)
- Traffic Impact Study for the Dam Road Retail Project, 2020 prepared by W-Trans (traffic counts collected in February 2020)

**Table 9** summarizes the historical peak hour vehicular traffic volume during the a.m. and p.m. peak hours at six study intersections where counts were available. **Table 9** shows the total volume of traffic entering each intersection from all approaches.

**Table 9: Historical Peak Hour Volumes**

#	Intersection	Peak Hour	Number of Vehicles Entering Intersection				
			2009	2015	2018	2019	2020
1	SR 53 / SR 20	AM	890	-	762	-	-
		PM	1,033	-	982	-	-
2	SR 53 / Olympic Drive	AM	995	-	-	-	-
		PM	1,375	-	-	-	-
3	SR 53 / 40 <sup>th</sup> Avenue-Lakeshore Drive	AM	1,935	1,978	-	-	-
		PM	2,530	2,149	-	-	-
4	SR 53 / 18 <sup>th</sup> Avenue	AM	1,847	1,949	-	-	-
		PM	2,205	1,900	-	-	-
5	SR 53 / Dam Road-Old Highway 53	AM	2,430	2,555	-	-	2,494
		PM	2,945	2,589	-	-	2,619
6	SR 53 / SR 29-Main Street	AM	1,930	1,851	-	1,493	-
		PM	2,210	2,090	-	1,832	-

Based on the historical peak hour volumes at the study intersections as shown in **Table 4**, the annual vehicular volume growth was minimal during the a.m. peak hour and there is a reduction in traffic along SR 53 corridor during the p.m. peak hour. Factors that may be contributing to the stable traffic volume pattern include the relocation of hundreds of people after the wildfires in 2015, 2019 and 2020 and travel restrictions enacted during the COVID-19 pandemic.

**Proposed Methodology for Existing 2020 Conditions**

During the COVID-19 pandemic, traffic count data were likely subject to undercounting. During the pandemic, the number of vehicle miles traveled along California’s highways and local arterials significantly decreased. There were various restrictions including shelter-in-place and business shutdowns. To reasonably reflect existing 2020 conditions, TJKM compared the traffic counts at six study intersections before the pandemic for the year 2009 to the traffic counts collected on November 17, 2020 during the pandemic. Historical counts were only available at some of the intersections for the years 2015, 2018 and 2019 so a time adjustment factor was determined by comparing 2009 and 2020 data since these are the most complete data sets. The percentage of traffic change at six study intersections along the SR 53 corridor was calculated. **Table 10** summarizes the intersection volume and the percentages applied to 2020 traffic counts at the study intersections. Figures in **Table 10** include the total volume of traffic entering each intersection from all approaches. A unique adjustment factor was derived for six intersections. The percentages represent adjustment factors to create a reasonable set of existing 2020 conditions that account for COVID-19 travel restrictions. For example in **Table 10**, at Intersection 13, in the a.m. peak hour, the 2020 count was 1,379 and the 2009 count was 1,930 which shows a 40 percent decrease over 11 years. Based on the methodology described above and the data presented, TJKM developed a location-specific increase as shown in **Table 10** applied to the November 2020 count.

**Table 10: Intersection Peak Hour Volumes comparison**

#	Study Intersection	Peak Hour	Intersection Volumes		Percentage increase to be applied to 2020 (during COVID) counts for Existing 2020 Conditions
			2009	2020 (during COVID)	
1	SR 53 / SR 20	AM	890	704	<b>26%</b>
		PM	1,033	902	<b>15%</b>
2	SR 53 / Ogulin Canyon Road North	AM	-	558	13%
		PM	-	676	21%
3	SR 53 / Ogulin Canyon Road South	AM	-	599	13%
		PM	-	709	21%
4	SR 53 / Old Highway 53	AM	-	626	13%
		PM	-	709	21%
5	SR 53 / Olympic Drive	AM	995	880	<b>13%</b>
		PM	1,375	1,139	<b>21%</b>
6	SR 53 / Polk Avenue	AM	-	740	28%
		PM	-	952	24%
7	SR 53 / 40 <sup>th</sup> Avenue-Lakeshore Drive	AM	1,935	1,510	<b>28%</b>
		PM	2,530	2,038	<b>24%</b>
8	SR 53 / 18 <sup>th</sup> Avenue	AM	1,847	1,167	<b>58%</b>
		PM	2,205	1,564	<b>41%</b>
9	SR 53 / Dam Road-Old Highway 53	AM	2,430	1,533	<b>59%</b>
		PM	2,945	2,165	<b>36%</b>
10	SR 53 / Anderson Ranch Parkway	AM	-	1,133	59%
		PM	-	1,595	36%
11	SR 53 / Kugelman Street	AM	-	1,105	40%
		PM	-	1,597	17%
12	SR 53 / Jessie Street	AM	-	1,101	40%
		PM	-	1,610	17%
13	SR 53 / SR 29 - Main Street	AM	1,930	1,379	<b>40%</b>
		PM	2,210	1,881	<b>17%</b>

Time-based adjustment factors from 2009 to 2020 data comparisons are shown in bold in shaded boxes in Table 10. For those intersections without 2009 data, TJKM used highlighted percentages (blue color or not shaded if printing in black and white) that were based on derived adjustment factors at the closest intersection.

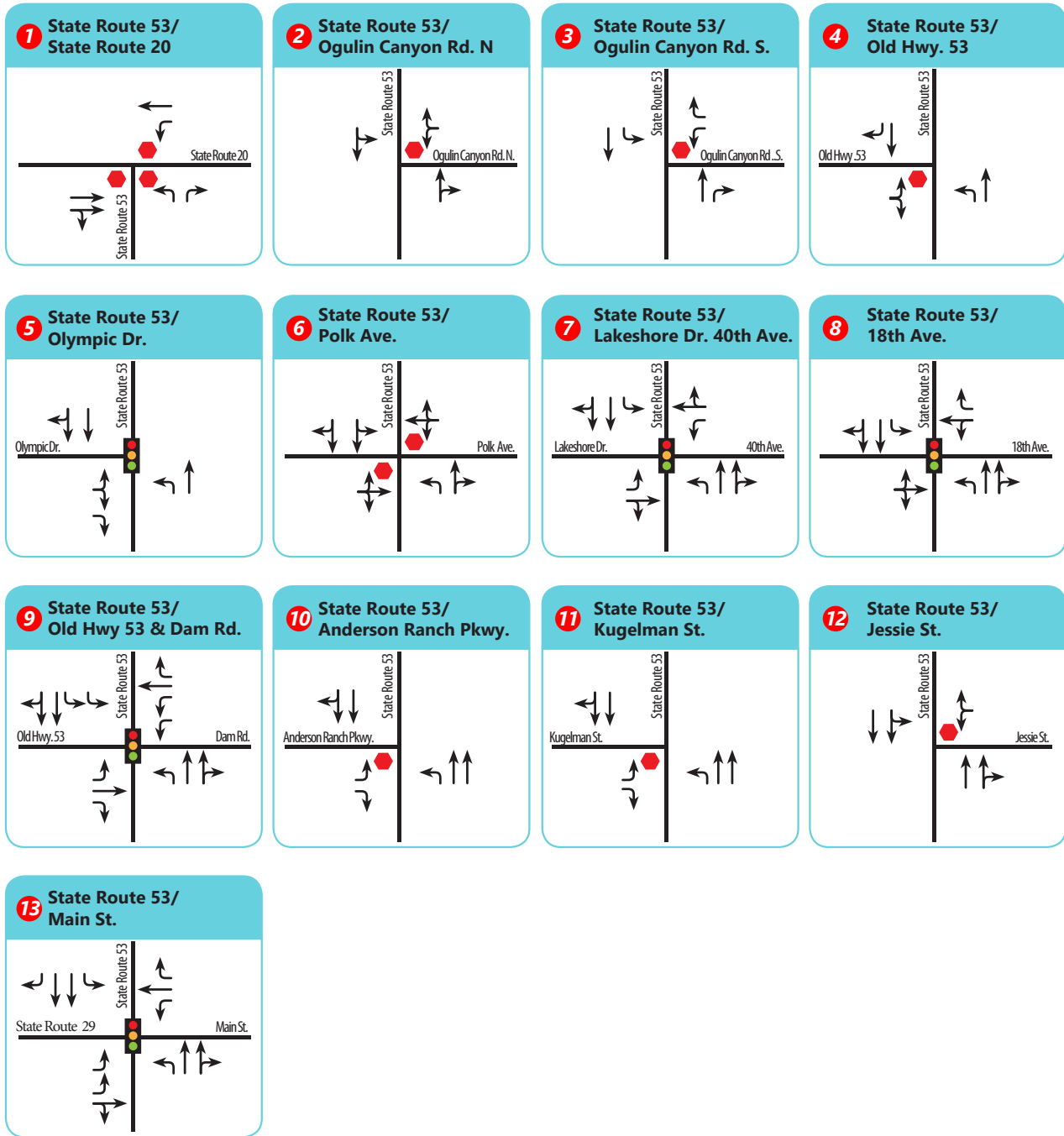


## 4.7 Intersection Operational Analysis – Existing Conditions

In consultation with Caltrans and the Technical Advisory Group (TAG), TJKM selected 13 intersections to analyze. Caltrans provided signal timing and truck percentage data. Based on Caltrans data, trucks represent seven percent for all traffic on SR 53, SR 20 and SR 29.

The peak hour factor is a measure of the intensity of traffic volume during the busiest 15 minutes of the peak hour. The peak hour factor used in the analysis was derived from traffic counts. Signals on SR 53 were not coordinated during a.m. and p.m. peak hours based on signal timing sheets provided by Caltrans. **Figure 6** shows the lane geometry and traffic controls at the study intersections. **Figure 7** illustrates the peak hour traffic volume at the study intersections for Existing Conditions.

Figure 6: Existing Lane Geometry & Traffic Controls



LEGEND




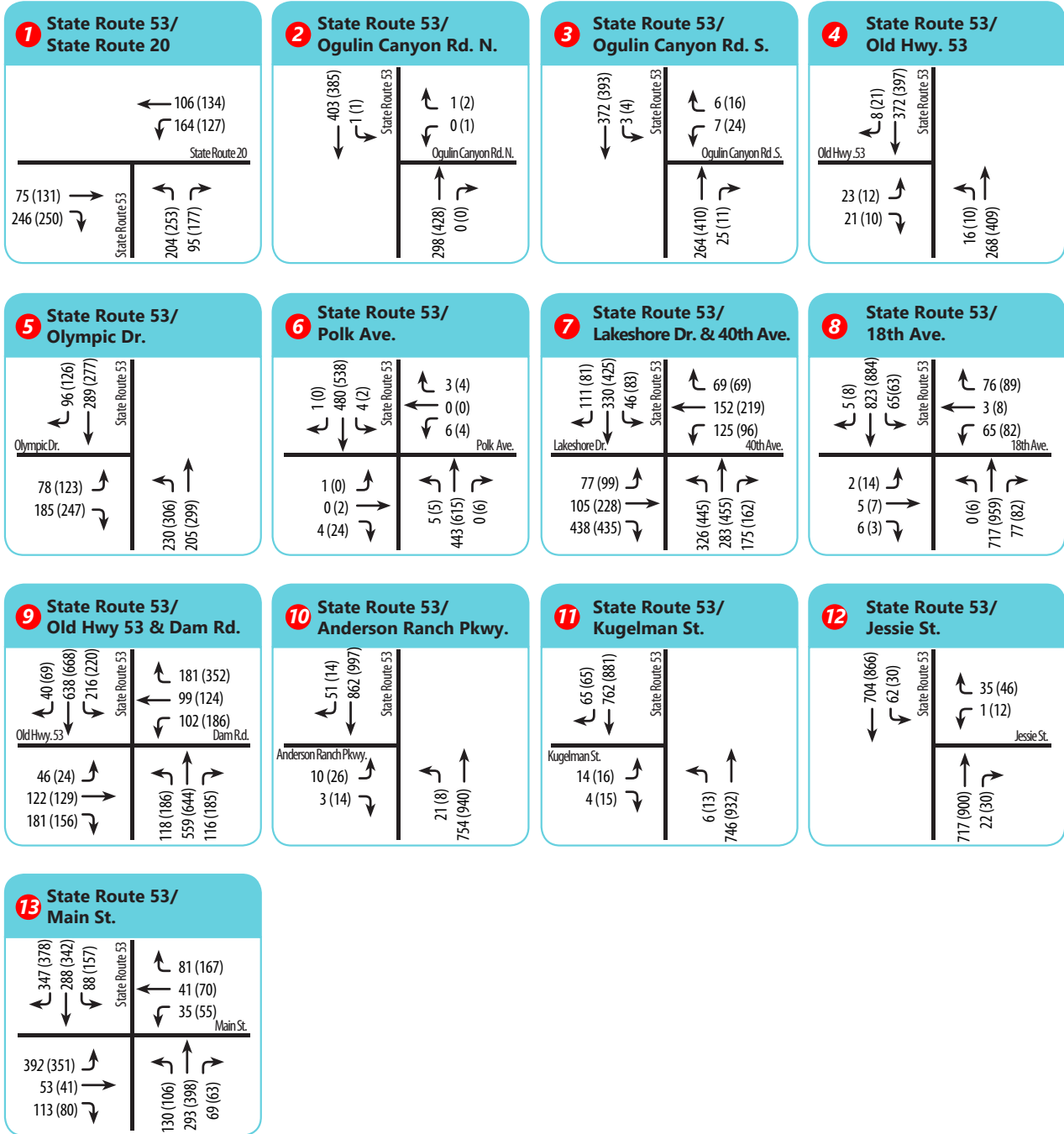
-  Study Intersection
-  Stop Sign
-  Traffic Signal



Figure 7: Existing Conditions Peak Hour Traffic Volumes



LEGEND



Study Intersection

XX AM Peak Hour Volumes

(XX) PM Peak Hour Volumes



**Table 11** summarizes the results of the intersection operational analysis. Under existing conditions, all study intersections operate at acceptable conditions except the following intersections:

- SR 53 / 40<sup>th</sup> Avenue-Lakeshore Drive (Intersection #7): This intersection operates at LOS D during the p.m. peak hour. This is mainly due to delays at the westbound left-turn and northbound left-turn approaches. Additionally, the westbound approach likely experiences delays due to the proximity of the SR 53 / 40<sup>th</sup> Avenue-Lakeshore Drive (Intersection #7) and 40<sup>th</sup> Avenue / Moss Avenue intersections. The two intersections are approximately 185 feet apart, thus causing delays from merging traffic and lane changes.
- SR 53 / Anderson Ranch Parkway (Intersection #10): This stop-controlled intersection operates unacceptably during both peak hours primarily due to delay at the eastbound approach, where eastbound left-turning vehicles must yield to the heavy traffic volume (1,700 to 1,900 vehicles per hour) traveling northbound and southbound on SR 53 during both peaks.
- SR 53 / Kugelman Street (Intersection #11): This stop-controlled intersection operates unacceptably during both peak hours primarily due to delay at the eastbound approach. Heavy traffic traveling northbound and southbound on SR 53 during both peaks contribute to the side street delay. Detailed LOS calculation sheets are contained in **Appendix A**.

**Table 11: Intersection Operational Analysis – Existing Conditions**

#	Intersection	Control	Existing Conditions			
			A.M. Peak Hour		P.M. Peak Hour	
			Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>
1	SR 53 / SR 20	All-Way Stop	12.6	B	14.0	B
2	SR 53 / Ogulin Canyon Road North	One-Way Stop	10.2	B	13.3	B
3	SR 53 / Ogulin Canyon Road South	One-Way Stop	15.4	C	18.0	C
4	SR 53 / Old Highway 53	One-Way Stop	14.1	B	14.5	B
5	SR 53 / Olympic Drive	Signal	14.8	B	15.3	B
6	SR 53 / Polk Avenue	Two-Way Stop	15.6	C	18.4	C
7	SR 53 / 40 <sup>th</sup> Avenue -Lakeshore Drive	Signal	26.3	C	<b>47.4</b>	<b>D</b>
8	SR 53 / 18 <sup>th</sup> Avenue	Signal	12.0	B	14.4	B
9	SR 53 / Dam Road - Old Highway 53	Signal	28.3	C	31.4	C
10	SR 53 / Anderson Ranch Parkway	One-Way Stop	<b>33.8</b>	<b>D</b>	<b>78.4</b>	<b>F</b>
11	SR 53 / Kugelman Street	One-Way Stop	<b>39.5</b>	<b>E</b>	<b>30.3</b>	<b>D</b>
12	SR 53 / Jessie Street	One-Way Stop	12.4	B	15.2	C
13	SR 53 / SR 29- Main Street	Signal	25.4	C	25.8	C

Notes:

<sup>1</sup>Average intersection delay reported in seconds per vehicle for signalized and all-way stop controlled intersections; worst movement delay reported in seconds per vehicle for side-street stop controlled intersections.

<sup>2</sup>LOS = Level of Service

**Bold** font in shaded boxes indicated unacceptable intersection operations.

## 4.8 Signal Warrant Analysis – Existing Conditions

TJKM evaluated the peak hour signal warrant (California MUTCD Warrant #3) for all stop-controlled study intersections under existing traffic conditions. The peak hour traffic signal warrant is not met at any study intersection in the a.m. or p.m. peak hour.

Although a.m. and p.m. peak hour delay on the side streets at Intersection 10 (SR 53 / Anderson Ranch Parkway) and Intersection 11 (SR 53 / Kugelman Street) exceed what the City has set as an acceptable LOS threshold, the most logical improvement would be the installation of traffic signals; however, neither intersection meets the peak hour signal warrant. This indicates that delay is not so excessive that it warrants a signal that would add significant delay to motorists on SR 53. **Appendix B** contains the signal warrant worksheets.

## 4.9 Queuing Analysis

TJKM conducted a vehicle queuing and storage analysis for all exclusive left and right turn pockets at signalized study intersections under Existing Conditions. TJKM estimated the 95<sup>th</sup> percentile queue lengths using the HCM 2000 Queue methodology contained in the Synchro 10 software. Detailed LOS calculations are included in the appendices corresponding to each analysis scenario. **Table 12** summarizes the 95<sup>th</sup> percentile queue lengths at selected study intersections under the Existing Conditions Scenario. Queue lengths at some locations exceed capacity, creating a deficient condition where queued vehicles waiting to turn may block a through lane. As shown in **Table 12**, where these situations occur they are on side streets rather than on the SR 53 mainline.

**Table 12: 95<sup>th</sup> Percentile Queues at Turn Pockets – Existing Conditions**

#	Study Intersections	Lane Group	Storage Length	Existing Conditions	
				AM	PM
5	SR 53 / Olympic Drive	EBL	215	100	150
		NBL	625	160	230
7	SR 53 / 40 <sup>th</sup> Avenue-Lakeshore Drive	EBL	65	65	<b>85</b>
		WBL	70	<b>105</b>	<b>80</b>
		NBL	830	485	695
		SBL	135	75	115
8	SR 53 / 18 <sup>th</sup> Avenue	WBR	150	25	35
		SBL	720	65	75
9	SR 53 / Dam Road-Old Highway 53	EBL	150	70	50
		EBR	90	55	60
		WBL	135	65	115
		NBL	575	145	240
		SBL	760	120	130
13	SR 53 / SR 29- Main Street	EBL	60	<b>155</b>	<b>150</b>
		WBL	125	50	70
		WBR	70	30	45
		NBL	230	120	110
		SBL	165	90	155
		SBR	500	45	45

Notes:

Storage length and 95<sup>th</sup> percentile queue expressed in feet per lane

AM – morning peak hour, PM – evening peak hour

**Bold** font in shaded boxes indicates queue lengths exceeding existing storage capacity

## 4.10 Safety Analysis

Analysis of five years of collision data can highlight inherent flaws or safety issues at study intersections and the connecting segments of roadway. It is important to understand the existing collision patterns so that future designs can incorporate countermeasures to correct existing safety problems.

Collisions reported at the study intersections as well as roadway segments along the 7.5 mile long SR 53 corridor between SR 20 and SR 29 were obtained from Caltrans (Traffic Accident Surveillance and Analysis System (TSAS), the City of Clearlake and the California Highway Patrols' Statewide Integrated Traffic Records System (SWITRS). The data represent a period of five years from January 2015 through December 2019. Collisions that occurred within 150 feet on the approach to an intersection are counted as intersection collisions. Collisions that occurred at a distance greater than 150 feet are counted as non-intersection or roadway segment collisions. A total of 141 intersection collisions were reported and 52 non-intersection collisions were reported over the five-year period. The number of collisions according to the facility type, which have occurred every year, are in **Table 13**.

**Table 13: Intersection and Roadway Segment Collisions per Year**

Facility Type	2015	2016	2017	2018	2019	Total
Intersection Collisions	26	31	32	23	29	141
Roadway Segment Collisions	9	8	8	7	20	52
<b>Total Collisions</b>	35	39	40	30	49	193

### Total Collision Rate Analysis

A total collision rate was calculated for each intersection and roadway segment in the study area. The total intersection collision rate is reported as the number of total collisions per million vehicles entering the intersection. The total roadway collision rate is reported as the number of total collisions per million vehicle-miles traveled.

### Intersection Total Collision Rate Analysis

**Table 14** summarizes the total number of collisions reported at the study intersections during the five-year analysis period and the calculated intersection total collision rate for each intersection. The total collision rate at each study intersection is compared with the Caltrans statewide mean total collision rates for intersections with similar characteristics. Locations that exceed twice the statewide average total collision rate are noted in bold in **Table 14** with a Yes in the right column. The current backlog of safety improvements statewide led to a TAG decision to compare SR 53 intersection total collision rates with twice the statewide average. It should be noted that traffic signals were installed at the intersection of SR 53 / Olympic Drive in 2013, which is prior to the data used in this study. Also of note is that a roundabout was constructed at the intersection of SR 53 / SR 20, which was after the data period used in this safety analysis. **Appendix C** contains the complete dataset used to conduct the collision analysis, including collision reports received from the data source.

**Table 14: Intersection Total Collision Rate Summary**

#	Study Intersections	Total # of Collisions (2015-2019)	Caltrans Statewide Average Total Collision Rate <sup>1</sup>	Intersection Total Collision Rate (ICR)	Intersection Total Collision Rate > Twice the Statewide Average Total Collision Rate
1	SR 53 / SR 20	25	0.19	1.40	<b>Yes</b>
2	SR 53 / Ogulin Canyon Road North	2	0.19	0.14	No
3	SR 53 / Ogulin Canyon Road South	0	0.09	0.00	No
4	SR 53 / Old Highway 53	5	0.19	0.35	No
5	SR 53 / Olympic Drive	7	0.20	0.31	No
6	SR 53 / Polk Avenue	1	0.14	0.05	No
7	SR 53 / 40 <sup>th</sup> Avenue -Lakeshore Drive	22	0.24	0.50	<b>Yes</b>
8	SR 53 / 18 <sup>th</sup> Avenue	11	0.24	0.30	No
9	SR 53 / Dam Road - Old Highway 53	16	0.24	0.31	No
10	SR 53 / Anderson Ranch Parkway	2	0.09	0.06	No
11	SR 53 / Kugelman Street	0	0.14	0.00	No
12	SR 53 / Jessie Street	11	0.14	0.35	<b>Yes</b>
13	SR 53 / SR 29- Main Street	39	0.24	1.03	<b>Yes</b>

Notes:

ICR =  $1000000 * A / (365 * T * ADT)$

ICR= Observed total collision rate; Number of accidents / million vehicles entering the intersection

A = Number of collisions over study period (2015-2019)

T = Total number of years over which intersection accidents were collected; January 2015 to December 2019 = 5.0 years

ADT = Average Daily Traffic

<sup>1</sup>Obtained from "2018 Crash Data on California State Highways", page 86, "Basic Average Crash Rate Table for Intersections". Crash rates are expressed in terms of total collisions per million vehicles entering the intersection.

**Yes** in bold font in shaded box has a collision rate that exceeds twice the statewide average for similar types of intersections

The majority of collisions reported during the five-year analysis period are vehicle-to-vehicle collisions, with three pedestrian-involved collisions and no bicycle-involved collisions reported at the intersections. Two pedestrian-involved collisions were reported at the signalized intersection of SR 53 / Dam Road-Old Highway 53 (Intersection 9) and one at the SR 53 / SR 29-Main Street (Intersection 13). The primary collision factor for the pedestrian collisions were due to motorist's failure to yield to pedestrians.

Five of the 13 study intersections show intersection total collision rates that exceed twice the statewide average, one of which is stop-controlled and four are signalized intersections. All the collisions occurring at the study intersections were reviewed to determine collision type and primary collision factor as shown in **Table 15**.

**Table 15: Intersection Collision Analysis**

#	Study Intersections	Total # of Collisions (2015-2019)	Type of Collision
1	SR 53 / SR 20	25	Predominantly broadside and rear-end collisions, with 32% due to failure to yield, 28% improper turn, 20% unsafe speeds and 20% other violations. This activity occurred prior to the recent construction of a roundabout.
2	SR 53 / Ogulin Canyon Road North	2	Predominantly sideswipe and rear-end collisions, with improper turn, and unsafe speed.
3	SR 53 / Ogulin Canyon Road South	0	-
4	SR 53 / Old Highway 53	5	Predominantly rear-end collisions, with unsafe speed and red signal violations.
5	SR 53 / Olympic Drive	7	Predominantly sideswipe, head on collisions, with unsafe speed and red signal violations.
6	SR 53 / Polk Avenue	1	Predominantly rear-end collisions, with entering or crossing the highway.
7	SR 53 / 40 <sup>th</sup> Avenue - Lakeshore Drive	22	Predominantly rear-end and broadside collisions, with 35% unsafe speed, 26% unsafe turn, 13% drugs and 24% other violations.
8	SR 53 / 18 <sup>th</sup> Avenue	11	Predominantly due to unsafe speed, unsafe turn, drugs and right hand lane violations.
9	SR 53 / Dam Road - Old Highway 53	16	Predominantly broadside, rear-end, and sideswipe collisions with 33% due to unsafe speed, 27% red signal, 7% unsafe turn and 33% other violations.
10	SR 53 / Anderson Ranch Parkway	2	Predominantly head on collisions.
11	SR 53 / Kugelman Street	0	-
12	SR 53 / Jessie Street	11	Predominantly broadside, rear-end, and sideswipe collisions with 37% due to unsafe turn / fail to signal, 27% improper turn, 9% unsafe speed and 27% other violations.
13	SR 53 / SR 29- Main Street	39	Predominantly broadside, rear-end, and sideswipe collisions with 23% failure to yield, 21% unsafe speed, 18% improper turn, 18% failure to yield auto right of way and 20% other violations.

### Segment Safety Analysis

**Table 16** summarizes the number of total collisions reported at roadway segments during the five-year analysis period and the total collision rate for each segment in the study area. Total collision rates for each roadway segment are compared to twice the Caltrans statewide mean total collision rates for roadways with similar characteristics. Based on the analysis, none of the roadway segments on SR 53 between north of Main Street / SR 29 and SR 20 had a total collision rate more than twice the state average. All of the study segments on SR 53 have total collision rates that are less than twice the statewide average total collision rate.



**Table 16: Roadway Segment Total Collision Rate Summary**

#	Roadway Segment	Total # of Collisions (2015-2019)	Length (in miles)	ADT	MVM	Roadway Segment Total Collision Rate (RSCR)	Caltrans Statewide Average Total Collision Rate <sup>1</sup>	Roadway Segment Total Collision Rate > Twice the Statewide Average Total Collision Rate
1	SR 53, between SR 20 and Ogulin Canyon Road South	17	2.38	7,465	32.42	0.52	1.12	No
2	SR 53, between Olympic Drive and Polk Avenue	0	0.33	10,190	6.14	0.00	1.12	No
3	SR 53, between 40 <sup>th</sup> Avenue and 18 <sup>th</sup> Avenue	4	0.96	18,475	32.37	0.12	0.91	No
4	SR 53, between 18 <sup>th</sup> Avenue and Dam Road-Old Highway 53	7	0.50	18,285	16.69	0.42	0.91	No
5	SR 53, between North of Main Street and SR 29	24	0.23	16,410	6.89	3.48	3.02	No

Notes:

$RSCR = 1000000 * A / (L * 365 * T * ADT)$

RSCR = Observed total collision rate

A = Number of total collisions over study period

L = Length of the study segment in miles

T = Total number of years over which roadway segment collisions were collected; January 2015 to December 2019 = 5.0 years

ADT = Average Daily Traffic

MVM = Million Vehicle Miles

<sup>1</sup>Obtained from "2018 Crash Data on California State Highways", pages 83-84, "Basic Average Crash Rate Table for Highways". Crash rates are expressed in terms of total collisions per million vehicle-miles traveled.

**Yes** would indicate a roadway segment with a total collision rate that exceeds twice the statewide average for similar types of roadways

The majority of collisions reported during the five-year analysis period are vehicle-to-vehicle collisions, with two pedestrian-involved collisions and no bicycle-involved collisions reported at the non-intersection (roadway segment) locations. All the collisions occurring on the roadway segments were analyzed to determine collision type and primary collision factor and as shown in **Table 17**.

**Table 17: Roadway Segment Collision Analysis**

#	Study Intersections	Total # of Collisions (2015-2019)	Type of Collision
1	SR 53, between SR 20 and Ogulin Canyon Road South	17	Predominantly broadside, sideswipe and rear-end collisions, with 59% due to improper turn, 17% other violations, 12% unsafe speeds and 12% drugs.
2	SR 53, between Olympic Drive and Polk Avenue	0	-
3	SR 53, between 40 <sup>th</sup> Avenue and 18 <sup>th</sup> Avenue	4	Predominantly sideswipe and pedestrian collisions, with improper turn and other violations.
4	SR 53, between 18 <sup>th</sup> Avenue and Dam Road-Old Highway 53	7	Predominantly hit object collisions, with unsafe speed and improper turn violations.
5	SR 53, between North of Main Street and SR 29	24	Predominantly broadside, rear-end, sideswipe, head on collisions, with 42% failure to yield, 25% unsafe speed, 13% other violations, 12% improper turn and 8% drugs.

## 4.11 Pedestrian Quality of Service

### Pedestrian Conditions

TJKM evaluated existing facility conditions for pedestrians as follows: compliance of existing and proposed facilities relative to the U.S. Department of Justice Americans with Disabilities (ADA) requirements, consistency with City of Clearlake standards and plans, and the quality of service.

### Existing Conditions

All references in this section are based on a cursory review using online mapping and photography and only relate to conditions, as they exist within the study corridor.

### Land Uses

The land use west of SR 53 is a vibrant mix of commercial, institutional and residential. East of SR 53 and north of 18<sup>th</sup> Avenue, the predominant land use is residential. East of SR 53 and south of 18<sup>th</sup> Avenue, there is a vibrant mix of medical, government, retail, college and a transit hub. The existing pedestrian facilities in the project vicinity are illustrated in **Figure 3**.

### Pedestrian Network Facilities

There are no sidewalks along SR 53; however, there are paved shoulders that provide a minimum of six feet in width. There does not appear to be adequate street lighting based on the frequency of street light poles and their positioning relative to the sidewalk and street.

Sidewalk does not exist on either side of 40<sup>th</sup> Avenue-Lakeshore Drive, 18<sup>th</sup> Avenue and Dam Road-Old Highway 53 near SR 53.

**Indicator: Walk Score**

The PQOS analysis assesses a variety of factors that contribute to comfort and convenience for people walking along and across SR 53. The PQOS combines four distinct surrogate indicators to reflect the quality of service for pedestrians. These indicators are listed in random order:

- Walk Score (which incorporates factors like intersection density, block length and proximity to a variety of typical destinations favored by pedestrians, such as parks, schools, retail, etc.)
- Gaps in the sidewalk network
- Speed of motor vehicle traffic
- Number of motor vehicle travel lanes

Results are reported in terms of a numeric score between 1 and 5, reflecting the relative quality of service from a pedestrian’s point of view. A PQOS score of 1 indicates high quality of service for pedestrians while a PQOS score of 5 indicates the worst possible quality of service for pedestrians.

Indicator: Walk Score

**Walk Score** accounts for (a) walking distance to destinations that are typically popular places to walk to, (b) network-based factors such as density of intersections, and (c) block length. Higher scores indicate the presence of pedestrian-friendly development such as: a multitude of nearby amenities, a high density of intersections, and short block lengths. A lower Walk Scores indicate a lack of nearby amenities and / or sprawling roadway networks characterized by longer block lengths, fewer pedestrian connections, and a lower density of intersections.

To evaluate PQOS on SR 53 cross streets, the basic Walk Score index is collected from the Walk Score website ([www.walkscore.com](http://www.walkscore.com)). The basic walk score index ranges between 0 and 100 with 100 being the best and 0 being the worst. The range of walk score is 30 to 55.

**Table 18 - Initial PQOS**

Walk Score	Initial QOS
90 - 100	QOS 1
70 - 89	QOS 2
50 - 69	QOS 3
25 - 49	QOS 4
0 - 24	QOS 5

The initial PQOS is based on the Walk Score distribution shown in **Table 18**. The initial PQOS is QOS 3 at all three locations that were evaluated, which are on 40<sup>th</sup> Avenue-Lakeshore Drive, 18<sup>th</sup> Avenue and on Dam Road. Specific locations that were evaluated are at:

- 15433 Lakeshore Drive in Clearlake, CA – **55** Somewhat Walkable. There are restaurants and retail stores within one-half mile. Redbud Park is about one mile away.
- 15630 18<sup>th</sup> Avenue in Clearlake, CA – **30** Car-dependent. Nearby parks, include Anderson Marsh State Historical Park and Anderson Marsh Natural Preserve, which are at least three miles away and require a pedestrian to cross-busy SR 53 at Jessie Street or walk another half-mile to use the signalized intersection at SR 53 / Main Street / SR 29.

- 15945 Dam Road in Clearlake, CA – **43** Car-dependent. Nearby parks, include Anderson Marsh State Historical Park and Anderson Marsh Natural Preserve, which are at least two miles away and require a pedestrian to cross-busy SR 53 at Jessie Street. There are restaurants and retail stores including Walmart in walking distance. A public bus hub is nearby. Konocti Education Center is nearby.

**Indicator: Gaps in Sidewalk Network**

A continuous sidewalk does not exist on any of the study street segments, however the frontage of several new developments along Dam Road have sidewalks. Therefore, an adjustment of PQOS +1 is applied to 40<sup>th</sup> Avenue-Lakeshore Drive and 18<sup>th</sup> Avenue, but not to Dam Road. The additional score on 40<sup>th</sup> Avenue-Lakeshore Drive and on 18<sup>th</sup> Avenue reflect the negative effect of a lack of sidewalks.

**Indicator: Speed of Traffic**

The study corridor has different speed limits on different study segments. 40<sup>th</sup> Avenue-Lakeshore Drive has a 30 mph posted speed limit, 18<sup>th</sup> Avenue has a 30 mph speed limit, Dam Road has a 25 mph limit and Old Highway 53 has a 40 mph speed limit. The following adjustments were applied: QOS +1 is applied to 40<sup>th</sup> Avenue-Lakeshore Drive and 18<sup>th</sup> Avenue. No adjustment is applied to Dam Road.

**Indicator: Number of Traffic Lanes**

The 40<sup>th</sup> Avenue-Lakeshore Drive, 18<sup>th</sup> Avenue and Dam Road-Old Highway 53 corridors do not have medians in the vicinity of SR 53. These roadways have two lanes (one lane in each direction), except Dam Road which has four lanes (two in each direction). Hence, QOS + 1 is applied to Dam Road while the other study street segments have no adjustments to the PQOS for roadway width.

The summary and final PQOS of the study corridor are shown in **Table 19**. Note that any final QOS values greater than 5 were adjusted back to 5.

**Table 19: Final PQOS**

Roadway Segment	Initial QOS	Sidewalk Adjustment	Speed Adjustment	Roadway Width Adjustment	Final PQOS
40 <sup>th</sup> Avenue-Lakeshore Drive	QOS 3	+1	+1	0	<b>PQOS 5</b>
18 <sup>th</sup> Avenue	QOS 4	+1	+1	0	<b>PQOS 5</b>
Dam Road-Old Highway 53	QOS 4	0	0	+1	<b>PQOS 5</b>

Recommended pedestrian improvements that may improve the PQOS in and across the SR 53 corridor are presented in Chapter 8.

## 4.12 Bicycle Level of Traffic Stress

### Bicycle Conditions

#### Existing Conditions

All references in this section are based on a cursory review using online mapping and photography and only relate to conditions, as they exist in the study area on 40<sup>th</sup> Avenue-Lakeshore Drive, 18<sup>th</sup> Avenue and Dam Road-Old Highway 53. Existing bicycle facilities are shown on **Figure 4**. Existing conditions in the study corridor are as follows:

- Number of traffic lanes: Four on SR 53; four on Dam Road; two each on Old Highway 53, 18<sup>th</sup> Avenue and 40<sup>th</sup> Avenue-Lakeshore Drive.
- Traffic volume: SR 53 - Approximately 18,000 vehicles per day.
- Functional classification: SR 53 - Arterial Street; and 40<sup>th</sup> Avenue, 18<sup>th</sup> Avenue, Dam Road and Old Highway 53 – collector streets.
- Speed limit: 45 to 55 mph on SR 53 south of 40<sup>th</sup> Avenue; 25 mph on Dam Road; 40 mph on Old Highway 53; 30 mph on 18<sup>th</sup> Avenue; and 30 mph on 40<sup>th</sup> Avenue.

Based on the LTS criteria, the following are the LTS scores along the study segments. The LTS scores of the study corridor are shown in **Table 20**.

**Table 20: BLTS Scores**

Roadway Segment	No. of Lanes	Posted Speed Limit (mph)	Classification of Roadway	ADT	LTS Score
SR 53 from just north of 40 <sup>th</sup> Avenue to just south of Dam Road	4	45	Arterial	18,000	<b>LTS-4</b>
Dam Road east of SR 53	4	25	Collector	10,000	<b>LTS-3</b>
Old Highway 53	2	40	Collector	7,000	<b>LTS-4</b>
18 <sup>th</sup> Avenue east of SR 53	2	30	Collector	3,000	<b>LTS-2</b>
40 <sup>th</sup> Avenue-Lakeshore Drive	2	30	Collector	13,000	<b>LTS-3</b>

#### **Indicator: Bikeway Type**

There are no bikeways on the facilities listed above so no adjustments to the LTS score are applicable.

#### **Indicator: Access to Low Stress Streets**

Low stress streets are streets with LTS 1 or 2. In the existing setting, low stress bicycle routes are available to connect bicyclists on Phillips Avenue from Central Drive to 18<sup>th</sup> Avenue. No adjustment to LTS scores is applicable due to the lack of connectivity, for bicyclists, between Phillips Avenue and Dam Road.

## 5.0 NEAR TERM 2030 CONDITIONS

Near Term 2030 turning movement volumes were projected by applying an annual growth rate of 1.5 percent for through and turning traffic to Existing Conditions (2020) traffic volumes at the study intersections. Compounding the growth rate annually for ten years results in a growth factor of 1.16. Thus, a year 2020 ADT volume of 17,500 vehicles per day is forecasted to increase to 20,300 in the year 2030.

In general, traffic control at intersections range from yield to stop, traffic signal and grade-separated interchanges. All of these control and configuration types were considered for key intersections in the SR 53 corridor. Study intersections were evaluated for Near Term Year 2030 conditions.

### 5.1 Intersection Operational Analysis – Near Term 2030 Conditions

**Figure 8** shows the proposed lane geometry for the near term 2030 conditions. **Figure 9** shows projected peak hour turning movement demands at all of the study intersections for near term 2030 conditions.

**Table 21** summarizes the results of the intersection operational analysis in this scenario. The operational analysis is based on Sidra software for the roundabout at SR 53 / SR 20. Detailed calculations are shown in **Appendix D**.

**Table 21: Intersection Operational Analysis – Near Term 2030 Conditions**

#	Intersection	Control	Near Term 2030 Conditions			
			A.M. Peak Hour		P.M. Peak Hour	
			Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>
1	SR 53 / SR 20	Roundabout	6.1	A	7.8	A
2	SR 53 / Ogulin Canyon Road North	One-Way Stop	10.5	B	14.7	B
3	SR 53 / Ogulin Canyon Road South	One-Way Stop	17.5	C	21.6	C
4	SR 53 / Old Highway 53	One-Way Stop	16.1	C	16.5	C
5	SR 53 / Olympic Drive	Signal	15.6	B	16.5	B
6	SR 53 / Polk Avenue	Two-Way Stop	18.3	C	22.3	C
7	SR 53 / 40 <sup>th</sup> Avenue -Lakeshore Drive	Signal	32.0	C	<b>75.2</b>	<b>E</b>
	<b>Potential Improvements<sup>3</sup></b>	Signal with turn lane added	24.0	C	33.0	C
	<b>Potential Improvements</b>	Roundabout	18.8	B	<b>51.1</b>	<b>D</b>
8	SR 53 / 18 <sup>th</sup> Avenue	Signal	12.5	B	15.0	B
	<b>Potential Improvements<sup>4</sup></b>	Signal with turn lane added	12.1	B	14.5	B
	<b>Potential Improvements</b>	Roundabout	8.0	A	10.1	B
9	SR 53 / Dam Road - Old Highway 53	Signal	31.4	C	<b>38.5</b>	<b>D</b>
	<b>Potential Improvements<sup>5</sup></b>	Signal	30.3	C	<b>36.4</b>	<b>D</b>
10	SR 53 / Anderson Ranch Parkway	One-Way Stop	<b>50.8</b>	<b>F</b>	<b>218.7</b>	<b>F</b>
11	SR 53 / Kugelman Street	One-Way Stop	<b>64.9</b>	<b>F</b>	<b>48.2</b>	<b>E</b>
12	SR 53 / Jessie Street	One-Way Stop	13.6	B	17.9	C

#	Intersection	Control	Near Term 2030 Conditions			
			A.M. Peak Hour		P.M. Peak Hour	
			Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>
13	SR 53 / SR 29- Main Street	Signal	29.0	C	30.6	C

Notes:

<sup>1</sup>Average intersection delay reported in seconds per vehicle for signalized and all-way stop controlled intersections; worst movement delay reported in seconds per vehicle for side-street stop controlled intersections.

<sup>2</sup>LOS = Level of Service

**Bold** font in shaded boxes indicates unacceptable intersection operations.

<sup>3</sup>=northbound left-turn lane added

<sup>4</sup>=eastbound, westbound left-turn lane, eastbound right turn lane and northbound right-turn lane added

<sup>5</sup>= northbound right-turn lane added

With the potential improvements, all the signalized intersections will operate at acceptable conditions.

## 5.2 Signal Warrant Analysis – Near Term 2030 Conditions

TJKM evaluated the stop-controlled study intersections to consider installing traffic signals. The peak hour signal warrant (CA MUTCD Warrant #3) was used for all unsignalized study intersections under near term 2030 traffic conditions. None of the following intersections met the peak hour signal warrants for the a.m. or p.m. peak periods.

- SR 53 / Ogulin Canyon Road North (Intersection #2)
- SR 53 / Ogulin Canyon Road South (Intersection #3)
- SR 53 / Old Highway 53 (Intersection #4)
- SR 53 / Polk Avenue (Intersection #6)
- SR 53 / Anderson Ranch Parkway (Intersection #10)
- SR 53 / Kugelman Street (Intersection #11)
- SR 53 / Jessie Street (Intersection #12)

**Appendix B** contains the signal warrant worksheets.

## 5.3 Queuing Analysis at Signalized Intersections

TJKM conducted a vehicle queuing and storage analysis for all exclusive left and right turn pockets at signalized study intersections under Near Term 2030 Conditions. The 95<sup>th</sup> percentile (maximum) queues were analyzed using the HCM 2000 Queue methodology contained in Synchro 10 software. Detailed LOS calculations are included in the appendices corresponding to each analysis scenario. **Table 22** summarizes the 95<sup>th</sup> percentile queue lengths at selected study intersections under the Near Term 2030 Conditions Scenario.

**Table 22: 95<sup>th</sup> Percentile Queues at Turn Pockets – Near Term 2030 Conditions**

#	Study Intersections	Lane Group	Storage Length	Near Term 2030 Conditions	
				AM	PM
5	SR 53 / Olympic Drive	EBL	215	125	185
		NBL	625	205	345
7	SR 53 / 40 <sup>th</sup> Avenue-Lakeshore Drive	EBL	65	<b>80</b>	<b>105</b>
		WBL	70	<b>130</b>	<b>100</b>
		NBL	830	210	345
		SBL	135	85	135
8	SR 53 / 18 <sup>th</sup> Avenue	EBL	50	25	25
		WBL	150	70	110
		NBL	675	0	25
		NBR	675	25	25
		SBL	720	75	90
9	SR 53 / Dam Road-Old Highway 53	EBL	150	85	60
		EBR	90	85	90
		WBL	135	80	<b>145</b>
		NBL	575	185	350
		NBR	575	40	55
		SBL	760	150	160
13	SR 53 / SR 29 - Main Street	EBL	60	<b>240</b>	<b>200</b>
		WBL	125	55	80
		WBR	70	30	80
		NBL	230	155	130
		SBL	165	110	<b>210</b>
		SBR	500	50	55

Notes:

Storage length and 95<sup>th</sup> percentile queue lengths are expressed in terms of feet per lane

AM – morning peak hour, PM – evening peak hour

**Bold** font in shaded boxes indicate queue lengths exceeding existing storage capacity

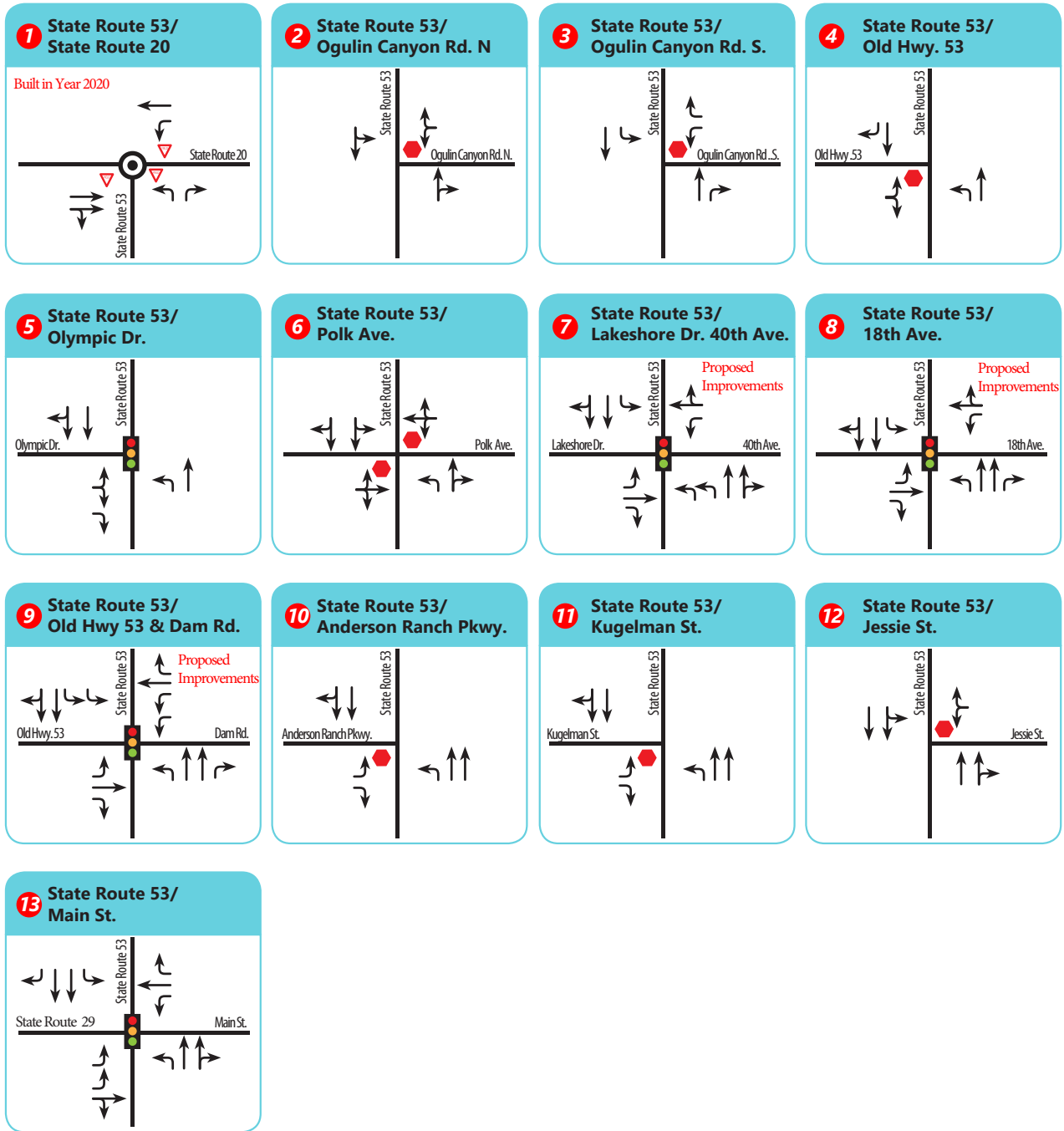
## Roundabout Analysis

TJKM conducted a traffic analysis assuming a roundabout that would provide two approach lanes and two exiting lanes for the northbound and southbound SR 53 approaches and one approach lane and one exiting lane for the eastbound and westbound approaches on 40<sup>th</sup> Avenue and 18<sup>th</sup> Avenue. The SIDRA version 8 (March 2019 release) software package was used. Results of the roundabout analysis in 2030 are shown in **Table 21**. SR 53 / 40<sup>th</sup> Avenue-Lakeshore Drive showed morning and evening peak hour operations of LOS B and D, respectively.

Single-lane roundabouts were analyzed at SR 53 / 40<sup>th</sup> Avenue-Lakeshore Drive and at 18<sup>th</sup> Avenue. The results for SR 53 / 40<sup>th</sup> Avenue-Lakeshore Drive in 2030 show LOS F in the morning and evening peak hours. Results for 2030 at 18<sup>th</sup> Avenue show LOS E in the morning and LOS F in the evening. This is due to unbalanced flow on 18<sup>th</sup> Avenue when compared to volumes on SR 53, which could be one of the reasons for unacceptable levels of service with a single lane roundabout. That is, the approach volume in both directions on SR 53 are much higher than the approach volume on 18<sup>th</sup> Avenue.



Figure 8: Near Term 2030 Conditions Lane Geometry & Traffic Controls

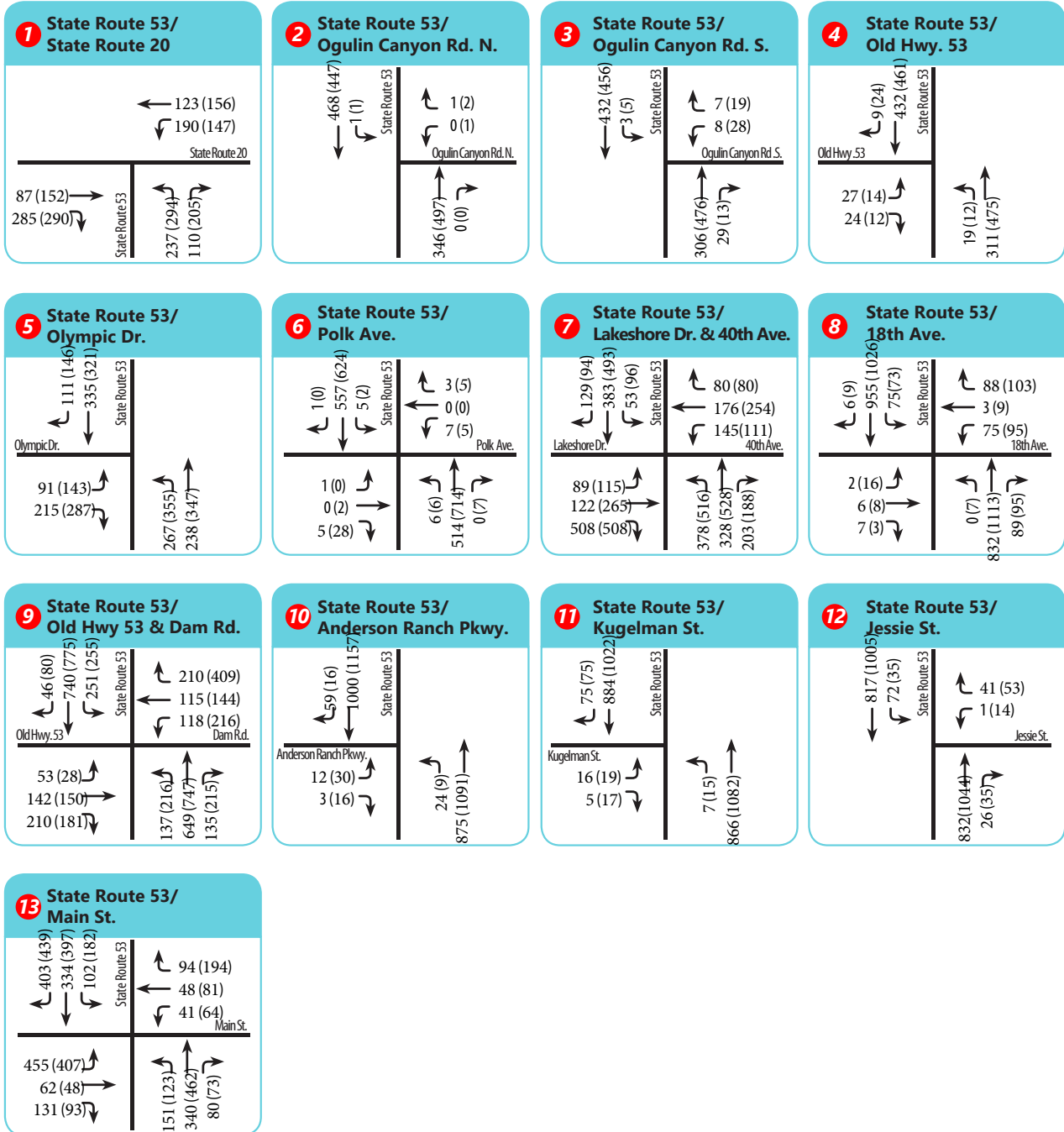


LEGEND

- Study Intersection
- Stop Sign
- Roundabout
- Traffic Signal



Figure 9: Near Term 2030 Conditions Peak Hour Traffic Volumes



LEGEND



Study Intersection

XX AM Peak Hour Volumes

(XX) PM Peak Hour Volumes



## 6.0 FUTURE 2040 CONDITIONS

Future 2040 vehicular traffic volumes were projected by applying an annual growth rate of 2.5 percent per year and 1.5 percent per year respectively for through and turning movements on SR 53. These percentages were applied to 2030 volume to forecast 2040 volume.

In general, traffic control at intersections range from yield to stop, traffic signal and grade-separated interchanges. All of these control and configuration types were considered for key intersections in the SR 53 corridor. Study intersections were evaluated for Future Year 2040 conditions.

### 6.1 Intersection Operational Analysis – Future 2040 Conditions

**Figure 10** shows projected peak hour turning movement demands at all of the study intersections for future 2040 conditions.

**Table 23** summarizes the results of the intersection operational analysis in this scenario. The operational analysis based on Sidra was performed for the roundabouts. Detailed calculations are shown in **Appendix E**.

**Table 23: Intersection Operational Analysis – Future 2040 Conditions**

#	Intersection	Control	Future 2040 Conditions			
			A.M. Peak Hour		P.M. Peak Hour	
			Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>
1	SR 53 / SR 20	Roundabout	6.9	A	9.7	A
2	SR 53 / Ogulin Canyon Road North	One-Way Stop	11.4	B	17.5	C
3	SR 53 / Ogulin Canyon Road South	One-Way Stop	23.4	C	<b>33.1</b>	<b>D</b>
4	SR 53 / Old Highway 53	One-Way Stop	21.8	C	22.5	C
5	SR 53 / Olympic Drive	Signal	17.0	B	22.1	C
6	SR 53 / Polk Avenue	Two-Way Stop	24.8	C	<b>35.1</b>	<b>E</b>
7	SR 53 / 40 <sup>th</sup> Avenue -Lakeshore Drive	Signal	<b>50.6</b>	<b>D</b>	<b>121.3</b>	<b>F</b>
	<b>Potential Improvements<sup>3</sup></b>	Signal with turn-lane added	<b>27.8</b>	<b>C</b>	<b>49.1</b>	<b>D</b>
	<b>Potential Improvements</b>	Roundabout	<b>92.3</b>	<b>F</b>	<b>216.6</b>	<b>F</b>
8	SR 53 / 18 <sup>th</sup> Avenue	Signal	13.3	B	21.1	C
	<b>Potential Improvements<sup>4</sup></b>	Signal with turn lanes added	12.8	B	16.7	B
	<b>Potential Improvements</b>	Roundabout	10.6	B	15.8	B
9	SR 53 / Dam Road - Old Highway 53	Signal	<b>42.7</b>	<b>D</b>	<b>58.1</b>	<b>E</b>
	<b>Potential Improvements<sup>5</sup></b>	Signal with turn lane added	<b>40.1</b>	<b>D</b>	<b>53.3</b>	<b>D</b>
10	SR 53 / Anderson Ranch Parkway	One-Way Stop	<b>120.9</b>	<b>F</b>	<b>885.0</b>	<b>F</b>
11	SR 53 / Kugelman Street	One-Way Stop	<b>281.3</b>	<b>F</b>	<b>171.9</b>	<b>F</b>
12	SR 53 / Jessie Street	One-Way Stop	18.2	C	<b>27.8</b>	<b>D</b>
13	SR 53 / SR 29- Main Street	Signal	<b>41.9</b>	<b>D</b>	<b>44.9</b>	<b>D</b>

Notes:

<sup>1</sup>Average intersection delay reported in seconds per vehicle for signalized and all-way stop controlled intersections; worst movement delay reported in seconds per vehicle for side-street stop controlled intersections.

<sup>2</sup>LOS = Level of Service

(Notes Continued)

**Bold** font in shaded boxes indicates unacceptable intersection operations.

<sup>3</sup>=northbound left-turn lane added

<sup>4</sup>=eastbound, westbound left-turn lane, eastbound right turn lane and northbound right-turn lane added

<sup>5</sup>= northbound right-turn lane added

With the potential improvements, all the signalized intersections will operate acceptably.

## 6.2 Signal Warrant Analysis – Future 2040 Conditions

TJKM evaluated the stop-controlled study intersections to consider installing traffic signals. The peak hour signal warrant (CA MUTCD Warrant #3) was used for all unsignalized study intersections under future 2040 traffic conditions. None of the following intersections met the peak hour signal warrants for the a.m. or p.m. peak periods.

- SR 53 / Ogulin Canyon Road North (Intersection #2)
- SR 53 / Ogulin Canyon Road South (Intersection #3)
- SR 53 / Old Highway 53 (Intersection #4)
- SR 53 / Polk Avenue (Intersection #6)
- SR 53 / Anderson Ranch Parkway (Intersection #10)
- SR 53 / Kugelman Street (Intersection #11)
- SR 53 / Jessie Street (Intersection #12)

**Appendix B** contains the signal warrant worksheets.

## 6.3 Queuing Analysis at Signalized Intersections

TJKM conducted a vehicle queuing and storage analysis for all exclusive left and right turn pockets at signalized study intersections under Future 2040 Conditions. The 95<sup>th</sup> percentile (maximum) queues are analyzed using the HCM 2000 Queue methodology contained in Synchro 10 software. Detailed LOS calculations are included in the appendices corresponding to each analysis scenario. **Table 24** summarizes the 95<sup>th</sup> percentile queue lengths at selected study intersections under the Future 2040 Conditions Scenario.

**Table 24: 95<sup>th</sup> Percentile Queues at Turn Pockets – Future 2040 Conditions**

#	Study Intersections	Lane Group	Storage Length	Future 2040 Conditions	
				AM	PM
5	SR 53 / Olympic Drive	EBL	215	160	<b>235</b>
		NBL	625	300	490
7	SR 53 / 40 <sup>th</sup> Avenue-Lakeshore Drive	EBL	65	<b>95</b>	<b>125</b>
		WBL	70	<b>165</b>	<b>120</b>
		NBL	830	300	440
		SBL	135	105	<b>155</b>
8	SR 53 / 18 <sup>th</sup> Avenue	EBL	50	25	30
		WBL	150	95	125
		NBL	675	0	25
		NBR	675	30	30
		SBL	720	105	105
9	SR 53 / Dam Road-Old Highway 53	EBL	150	105	70
		EBR	90	<b>130</b>	<b>130</b>
		WBL	135	95	<b>170</b>
		NBL	575	230	450
		NBR	575	50	60
		SBL	760	185	190
13	SR 53 / SR 29 - Main Street	EBL	60	<b>340</b>	<b>310</b>
		WBL	125	70	100
		WBR	70	30	<b>145</b>
		NBL	230	230	180
		SBL	165	140	<b>315</b>
		SBR	500	75	145

Notes:

Storage length and 95<sup>th</sup> percentile queue lengths are expressed in terms of feet per lane

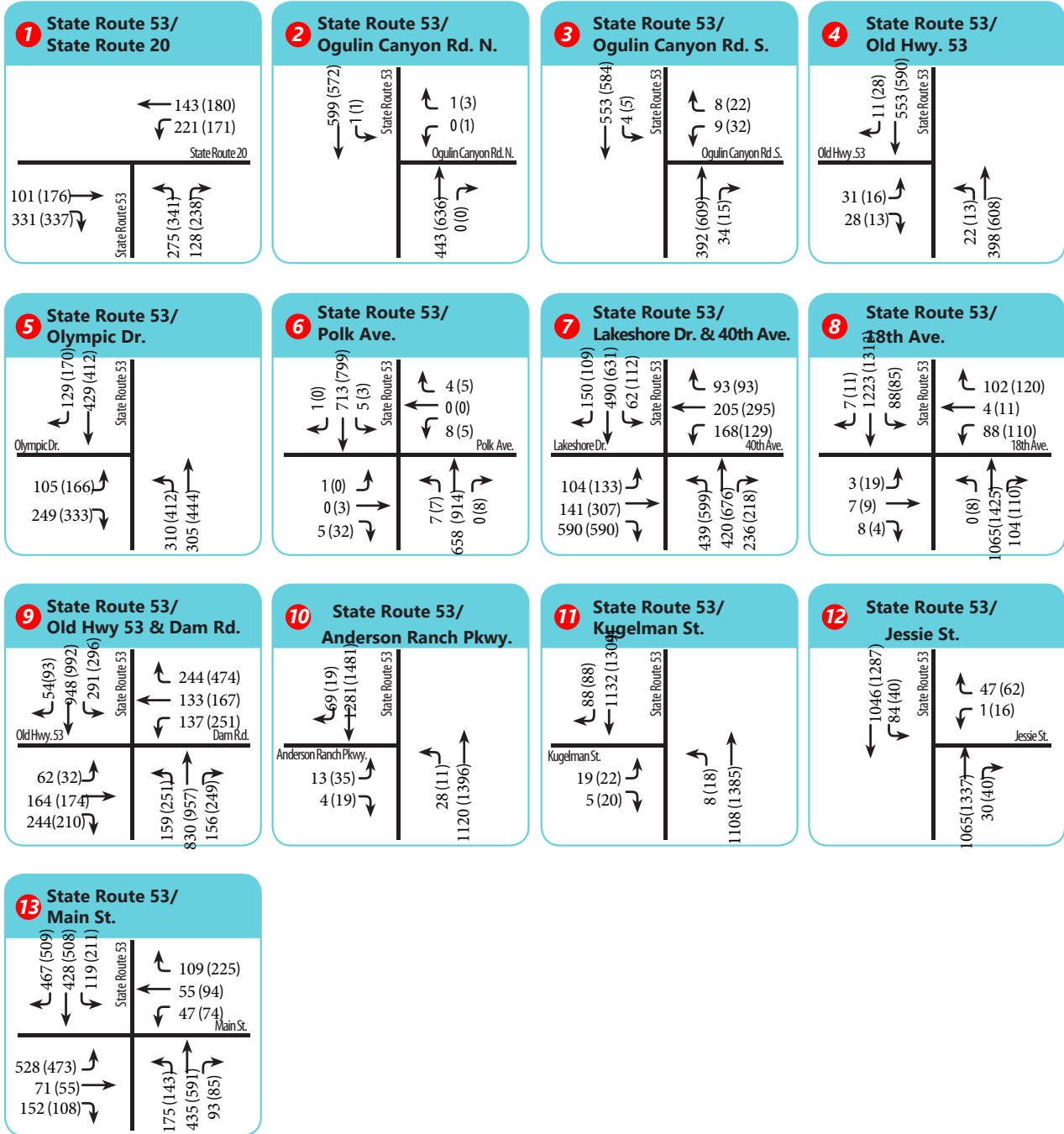
AM – morning peak hour, PM – evening peak hour

Bold font in shaded boxes indicate queue lengths exceeding existing storage capacity

### Roundabout Analysis

TJKM conducted a traffic analysis assuming a roundabout that would provide two approach lanes and two exiting lanes for the northbound and southbound SR 53 approaches and one approach lane and one exiting lane for the eastbound and westbound approaches on 40<sup>th</sup> Avenue and 18<sup>th</sup> Avenue. Software published as SIDRA was used. Results are shown in **Table 23** for 2040 Conditions. Results of the roundabout analysis in 2040 at SR 53 / 40<sup>th</sup> Avenue-Lakeshore Drive show morning and evening peak hour operations of LOS F respectively. Results of the roundabout analysis in 2040 at SR 53 / 18<sup>th</sup> Avenue projects the intersection to operate at LOS B in the morning and evening peak hours.

Figure 10: Future 2040 Conditions Peak Hour Traffic Volumes



LEGEND



Study Intersection

XX AM Peak Hour Volumes

(XX) PM Peak Hour Volumes



## 7.0 RECOMMENDATIONS – NON-MOTORIZED AND MOTORIZED MODES

Recommendations based on the study findings along SR 53 for short-term (two to five years), near-term (Year 2030) and long-term (Year 2040) conditions for non-motorized and motorized modes are presented in this section. The recommendations identified in this section are consistent with the policies, goals and vision for the study area. It should also be noted that the recommendations listed in this section are in addition to the ones already identified in previous studies, plans and policies.

### 7.1 Active Transportation Recommendations

#### Pedestrian Improvements

Extensions and sidewalk gap closures in the pedestrian facility network are recommended in order to provide a safe, efficient and interconnected system that will maximize opportunities for people to walk across SR 53. Gaps are highlighted in bold font and shaded boxes in **Table 25**. These recommendations should be included in all appropriate systems plans including the Lake County ATP and in future updates of the CIP. These are categorized as:

- Marked crosswalks
- Sidewalks on side streets
- Curb ramps
- Pedestrian signal heads

**Table 25: Pedestrian Recommendations**

Intersection	Control	Marked Crosswalks	Sidewalks on side streets	Curb Ramps	Ped Signal Heads
SR 53 / Olympic Drive	Signal	<b>Add</b>	<b>Add</b>	<b>Add</b>	<b>Add</b>
SR 53 / 40 <sup>th</sup> Avenue-Lakeshore Drive	Signal	<b>Add</b>	<b>Add</b>	<b>Add</b>	<b>Add</b>
SR 53 / 18 <sup>th</sup> Avenue	Signal	Present on all approaches	<b>Add</b>	Present on all approaches	Present on all approaches
SR 53 / Dam Road-Old Highway 53	Signal	Present on all approaches	<b>Add</b>	Present on all approaches	Present on all approaches
SR 53 / SR 29	Signal	Present on all approaches	<b>Add</b>	Present on all approaches	Present on all approaches

Sidewalk and trail construction recommendations on study area roadways are presented below.

40<sup>th</sup> Avenue-Lakeshore Drive - The short-term recommendation of this study is to build sidewalk on the north side of West 40<sup>th</sup> Avenue from the split at Lakeshore Drive to SR 53 including the pork-chop island in the intersection at SR 53. Implementation of the recommendation would provide a continuous pedestrian connection to some of the restaurants and retail stores along Lakeshore Drive, as there is an existing sidewalk on the north side of Lakeshore Drive. It is a recommendation of this study that new sidewalk be constructed on the south side of East 40<sup>th</sup> Avenue from SR 53 to Cedar Avenue. The total linear length of new sidewalk recommended on West and East 40<sup>th</sup> Avenue is approximately 1,000 feet.

18<sup>th</sup> Avenue – The short-term recommendation of this study is to construct 425 linear feet of sidewalk on the south side of 18<sup>th</sup> Avenue west of SR 53 to connect with the nearest entrance to Adventis Health Clearlake site, which does not appear to have walkways to connect to at this entrance. A logical project limit can be determined at a later date. Recommendation of this study also includes new sidewalk to be built on both sides of 18<sup>th</sup> Avenue west of SR 53 to connect likely sidewalks that will be required by the City of Clearlake if and when new development is built on the former airport property. The new sidewalk would connect to the SR 53 intersection.

Dam Road-Old Highway 53 – The short-term recommendation of this study is to construct sidewalk on both sides of Dam Road to connect the planned roundabout project with its sidewalks to SR 53 and to build sidewalk on both sides of Old Highway 53 between SR 53 and Cache Creek Way, a distance of approximately 100 feet. If the City approves new development on the former airport property, it is likely that new sidewalk will be required to be constructed by the developer that will connect with the recommendation to provide sidewalk on the west side of SR 53 as connectivity is essential.

Dam Road - Construct approximately 250 linear feet of six-foot wide concrete sidewalk on the north side of Dam Road between Dam Road Extension and SR 53.

Dam Road Extension and Old Highway 53 (between Dam Road and 18<sup>th</sup> Avenue) - Construct sidewalk on the east side of these roads. Steep slopes on the west side of Dam Road Extension would likely make a sidewalk cost-prohibitive; there is currently sidewalk on the east side on the frontage of Walmart so extending the sidewalk to Phillips Avenue on the east side should be sufficient for the anticipated volume of pedestrian traffic (approximate length of 1,300 lineal feet). Neither Phillips Avenue nor 18<sup>th</sup> Avenue have sidewalk near their intersection. Sidewalk on the east side of Old Highway 53 between SR 53 and 18<sup>th</sup> Avenue (approximately 3,300 lineal feet) could be constructed in conjunction with redevelopment of the adjacent land that was formerly used as an airport. The sites are zoned C4- heavy service commercial or light industrial. Sidewalk on the west side of Old Highway 53 should be considered for construction from SR 53 to the entrance to Lakeview Apartments (an approximate distance of 1,500 feet).

Main Street – East of the SR 53 / SR 29 intersection, sidewalk exists on both sides of Main Street for about one-third of a mile from SR 53 to the east. There is a gap of approximately 250 feet in the sidewalk on the south side of Main Street immediately east of SR 53. It is recommended in the short term to construct the missing sidewalk to provide continuity in the pedestrian network.



Lighting - It is recommended that an inventory and assessment of the adequacy of lighting / visibility should be conducted. Based on the assessment, additional streetlights may be needed to enhance visibility and safety for pedestrians at SR 53 intersections.

Trails - Consider implementation of recommendations identified in the General Plan 2040 – The Konocti Regional Trails Plan (KRTP) adopted by Lake County in 2010.

Pedestrian – Bicycle Overcrossing at Central Drive / SR 53 – A long-term recommendation of this study is to construct an overcrossing over SR 53 at Central Drive for pedestrians, bicyclists and other human-powered transportation. Motor vehicles should be prohibited on the overcrossing. The overcrossing would connect the Dam Road-Central Drive-18<sup>th</sup> Avenue area including a new bus hub with planned new development on the former airport property and downtown Clearlake. See conceptual illustrations in **Appendix F**.

The proposed project recommendations are expected to enhance pedestrian infrastructure and street crossings such that the quality of service may improve. While not part of this evaluation, there may be some changes in land use such that more destinations for pedestrian trips may be attracted to the transformed area, such that the Pedestrian Quality of Service score may improve.

### **Bicycle Improvements**

Phillips Avenue - It is a short term recommendation of this study that the existing Class II bike facility be extended to Dam Road from south of Center Drive.

18<sup>th</sup> Avenue - If and when 18<sup>th</sup> Avenue is widened, a Class I bike facility is recommended. West of SR 53 this study also recommends that the City construct a Class I bike facility.

Bicycle Detection at Signalized Intersections on SR 53 - Crossing SR 53 at signalized intersections may be difficult for cyclists unless bicycle detection is provided. This study recommends installation of appropriate types of bicycle detection on each cross street that has a signalized intersection with SR 53.

### **Transit Improvements**

Bus Stops - LTA buses cross SR 53 at 40<sup>th</sup>Avenue / Lakeshore Drive, 18<sup>th</sup> Avenue and on Dam Road. Sidewalks should be constructed to connect each bus stop near these intersections to the overall sidewalk network in Clearlake.

## **7.2 Traffic and Roadway Recommendations**

### **Short-Term (Two – Five Years)**

The following are the recommendations of this study to enhance operations of motorized vehicles. Conceptual illustrations are presented in **Appendix F**.

SR 53 / 40<sup>th</sup> Avenue-Lakeshore Drive - Additional lanes on SR 53 and 40<sup>th</sup> Avenue are recommended as illustrated in the conceptual layouts. These lanes work in conjunction with the traffic analysis conducted and summarized in this report. This includes adding another exclusive northbound left-turn lane on SR 53 to create dual lefts.

SR 53 / 18<sup>th</sup> Avenue - A proposed land development project west of this intersection is under review by the City. If approved, the developer and/or City would build a portion of 18<sup>th</sup> Avenue through or adjacent to the development site. A connection would be made at the existing intersection of 18<sup>th</sup> Avenue / SR 53. Additional lanes at the SR 53 intersection are recommended as part of this study to improve traffic operations and reduce peak hour delay. Exclusive eastbound and westbound left-turn lanes along with an eastbound and northbound right-turn lane are recommended.

SR 53 / Dam Road - Old Highway 53 - The illustration in Appendix F shows no changes to the signalized intersection of SR 53 / Dam Road / Old Highway 53 except the addition of an exclusive northbound right-turn lane on SR 53. The illustration shows a significant change at the intersection that is about 300 feet to the east, at Dam Road / Dam Road Extension, where a multi-lane roundabout is already under planning and design and will be constructed. Between the two intersections there would be four westbound lanes and three eastbound lanes.

SR 53 / SR 29 – install a median to restrict westbound left-turn movements into driveways on the south side of SR 29 immediately west of the intersection. Restripe the eastbound approach to dedicate two left-turn lanes with at least 175 feet of vehicle storage length in each lane.

### **Near-Term (Year 2030)**

The following are the recommendations of this study to enhance operations of motorized vehicles under Near Term (Year 2030 Conditions).

#### **SR 53 / 40<sup>th</sup> Avenue-Lakeshore Drive**

##### ***Roundabout***

A modern roundabout as illustrated in the conceptual layout is proposed at this intersection. A roundabout that provides two approach and departing lanes in both directions on SR 53 but only one approach and departing lane on 40<sup>th</sup> Avenue is recommended. A more detailed 2030 traffic analysis of a roundabout would be required by Caltrans before moving forward with design and construction.

#### **SR 53 / 18<sup>th</sup> Avenue**

##### ***Roundabout***

A modern roundabout is illustrated in the conceptual layout. It shows two approach and departing lanes in both directions on SR 53 but only one approach and departing lane on 18<sup>th</sup> Avenue. Caltrans would require a more detailed 2030 traffic analysis of a roundabout before moving forward with design and construction.

### **Long-Term (Future Year 2040)**

The following are the recommendations of this study to enhance operations of motorized vehicles under Future Year 2040 Conditions.

#### **SR 53 / Ogulin Canyon Road North**

To further the local, regional and state vision for the SR 53 corridor, this study recommends widening SR 53 to a consistent four-lane section with appropriate left-turn lanes at key intersections.

## SR 53 / Ogulin Canyon Road South

In keeping with the corridor vision, this study recommends widening SR 53 to a consistent four-lane section.

The ultimate long-term improvement alternative to enhance the SR 53 corridor is a grade separated interchange split between 18<sup>th</sup> Avenue (ramps to and from the north) and Dam Road (ramps to and from the south). These alternatives are more costly, have more impact on the right of way but will also provide higher travel speeds on SR 53. This will shorten the travel times on SR 53 and make it a more attractive alternate route for vehicles traveling from SR 20 / SR 29 to US 101 than for those using SR 20 on the North Shore. Several conference calls and meetings were conducted to discuss the merits, land use and operational impacts and constraints of the alternative. Based on the suggestions, the conceptual plans presented in Appendix F were prepared. Following a review of draft design layouts of SR 53 Interchanges and / or intersection improvements with the TAG, based on the analysis conducted, the project team prepared conceptual layouts for the improvements at the intersections of SR 53 / 40<sup>th</sup> Avenue, SR 53 / 18<sup>th</sup> Avenue and SR 53 / Dam Road-Old Highway 53. The layouts are in **Appendix F**.

## SR 53 / 40<sup>th</sup> Avenue

### ***Interchange***

A diamond-shaped ramp configuration as illustrated in the conceptual layout is proposed. Traffic on 40<sup>th</sup> Avenue would be controlled by two signalized intersections located very close to each other. Left-turn lanes would be relatively short due to the proximity of the intersections to each other. This tight-diamond configuration is illustrated as such in order to minimize the amount of right-of-way acquired from adjacent landowners. Nevertheless approximately 50 parcels would be directly affected by the interchange as illustrated. The interchange would allow SR 53 traffic to move through without stopping. Caltrans would require a comprehensive year 2040 traffic analysis of an interchange before moving forward with design and construction.

## SR 53 / 18<sup>th</sup> Avenue

### ***Interchange***

Grade separations are illustrated in the conceptual layout for Old Highway 53 / Dam Road over SR 53 and for 18<sup>th</sup> Avenue over SR 53. It is uncertain whether the grade separation at Dam Road is feasible or not. The purpose of the illustration is for discussion only. Some future roadway improvements are shown on the old airport property; they are white lines that show several intersecting streets that indirectly connect 18<sup>th</sup> Avenue with Old Highway 53. The illustration also shows a new road on the east side of SR 53 that would serve as an off-ramp for northbound SR 53 traffic destined for Dam Road (via Central Drive) and 18<sup>th</sup> Avenue. The ramp would be one-way northbound from SR 53 to Central Drive and from Central Drive to 18<sup>th</sup> Avenue. An existing two-way local road would be acquired and re-used as a one-way ramp for the purposes of this interchange configuration. Additional effort would be necessary to identify a suitable route to relocate the two-way local road that serves the hospital. Caltrans would require a comprehensive 2040 traffic analysis of an interchange before moving forward with design and construction.

One advantage of this interchange configuration is the access allowed to Walmart and other stores in its vicinity. A southbound off-ramp at Dam Road and a northbound off-ramp at Central Drive would be relatively close to serving Walmart traffic.

### **SR 53 / Dam Road – Old Highway 53**

#### ***Partial Interchange***

Although inconsistent with the Freeway Agreement between Caltrans and the City, a conceptual layout for a grade separation at Old Highway 53 / Dam Road over SR 53 was prepared. One ramp is provided; a loop off-ramp for southbound SR 53 traffic. As illustrated, exiting traffic would be able to turn right or left on Dam Road / Old Highway 53. A cursory level of design work was performed and without vertical control data so the slopes and feasibility of an overcrossing so close to the forthcoming roundabout is uncertain at this time. The design works in conjunction with ramps proposed at 18<sup>th</sup> Avenue / SR 53 that includes access to Center Drive mid-way between Dam Road and 18<sup>th</sup> Avenue. Caltrans would require a comprehensive 2040 traffic analysis of a partial interchange before moving forward with design and construction.

## 8.0 ACCESS MANAGEMENT POLICIES

Caltrans and the City entered into a Freeway Agreement for that portion of SR 53 between Cache Creek and one-half mile north of 40<sup>th</sup> Avenue – Lakeshore Drive. Among other stipulations, the Freeway Agreement has been honored by both parties such that no new access has been authorized from abutting lands directly to SR 53.

Several times in recent decades, the City has approached Caltrans about updating the Freeway Agreement. The discussion centered around future plans, per the Freeway Agreement, to close access to SR 53 at Dam Road / Old State Highway 53. Based on a thorough review of such documents, direct access from an abutting property to SR 53 is not envisioned by the City or Caltrans. Therefore, the ensuing discussion of access management is relevant only to existing and future proposals to access other major streets near SR 53. In particular, the portions of 40<sup>th</sup> Avenue, 18<sup>th</sup> Avenue, and Dam Road that are within 500 feet of SR 53 should be considered for an access management policy. It is recommended that the City initiate the policy review.

Access management involves the coordination and spacing of access along a roadway. Typically access management limits the number of locations where vehicles can enter, exit or cross the roadway and includes techniques such as spacing intersections at adequate distances, consolidating multiple driveways, controlling the number of traffic signals, providing auxiliary lanes for turning vehicles and ensuring an integrated street network that supports the corridor. The appropriate use of access management techniques has been shown to improve the safety and traffic operations of a corridor.

Generally, some of the benefits of access management include:

- Reduced traffic congestion and impacts to the LOS of roadways, leading to reduced fuel consumption, and air pollution.
- Enhanced public safety by decreasing traffic crash rates.
- Reducing the need for new highways and road widening.
- Preserving the public investment in roadways by maximizing their performance.

Extensive studies have shown that speed and travel time will improve if access is managed. According to a Transportation Research Board (TRB) report, substandard driveway spacing reduces average travel speeds by 5 to 10 mph, and each additional traffic signal per mile reduces speeds by 2 to 3 mph.

For many suburban cities, the proper spacing and coordination of traffic signals is one of the most important factors in ensuring that a roadway will operate efficiently. At a spacing of one quarter of a mile, progression speeds can be 26 to 30 mph if traffic is spread out among many streets, cycle lengths are approximately one minute, and two-phase operations dominate. For traffic on suburban highways where progression speeds of 45 mph are desired, one-half mile traffic signal spacing is required. For traffic to progress through multiple signals without stopping, proper spacing of access and signals is essential.

Concerning safety, the density of signalized intersections is a major contributor to the crash rate. When the number of signals per mile increases, crashes will increase. Having adequate turning lanes at signalized intersections is also an important factor in ensuring the safety of intersections.

Median openings can take many forms, as illustrated in the graphic on the right. The safety of the median opening depends on its form. Accident rates at mid-block median openings are typically “substantially lower” than at intersections. It was also noted for urban arterial facilities that crash rates for median openings are lower at midblock locations than in situations where the median opening is located at an intersection.

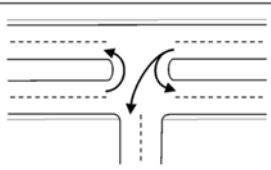
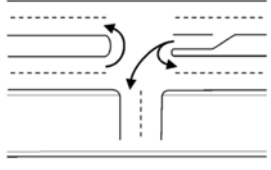
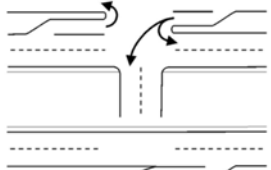
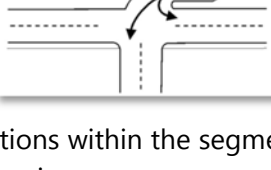
### 8.1 Existing Unsignalized Intersections on SR 53

Currently, the distance between the intersections of SR 20 / SR 53 in the north to SR 53 / Olympic Drive in the south of approximately three miles. There are several unsignalized intersections within the segment. These are all minor unsignalized or T-intersections that serve small businesses or sparsely populated communities. They are:

- Ogulin Canyon Road (two access points)
- Access to Villa La Brenta Winery
- Access to a farm road
- Old Highway 53 / Pond Road

Since these are all minor unsignalized intersections spread out over quite a long distance, continued access to these locations should not affect the traffic operations on the SR 53 corridor. However, adding a left-turn pocket on SR 53 may improve safety. In the long run, perhaps some of the full access intersections could be consolidated while allowing some for only left-in and right-in and right-out only operations.

Due to the physical constraints at Olympic Drive, the 2011 SR 53 Study evaluated alternative locations for a SR 53 connection that will relieve the traffic at the intersection. One alternative evaluated was an extension of Denton Lane. Another alternative evaluated was an improvement to Pond Road. Both alternatives would require local street improvements to facilitate traffic flow to travel west into town.

Median Opening Design	Crashes per Million Turning Movements
	4.04
	2.46
	8.35
	1.44

The unsignalized intersections on SR 53 at Anderson Ranch Parkway, Kugelman Street and Jessie Street were evaluated based on peak hour traffic signal warrants. None of these intersections met the warrant. There are eight private driveways and six public street intersections on SR 53 in the quarter-mile between Kugelman Street and Main Street / SR 29. Some safety improvements would be expected for traffic on SR 53 if the private driveways were closed and / or relocated to the side (public) streets. Some safety improvements may also be realized if Jessie Drive were realigned to intersect SR 53 at Kugelman Street, with private driveway closures near the intersection. The Total Intersection Collision Rate at SR 53 / Jessie Street is more than twice the statewide average total intersection collision rate for similar facilities. Jessie Street serves Lower Lake High School.

## 9.0 POLICY RECOMMENDATIONS

This section of the report summarizes recommendations for policy-related items that would relate not just to the SR 53 corridor and environs but may be useful to the City in meeting various goals and objectives related to transportation. The recommendations are presented in the following order:

- General Plan
- Sidewalks
- Posted Speed Limits
- Street Design Standards

### General Plan

The “Preferred Growth Scenario for 2040” as documented in the Clearlake General Plan lists the following areas as “key growth areas”, indicating their relative importance for infill and redevelopment activity with a goal for clustering growth. The areas that have some relevance to the SR 53 Corridor Study are:

- Olympic Drive Corridor from Austin Park to SR 53
- Gateway at SR 53 intersection with Lakeshore Drive
- Regional Shopping Center at Walmart / former Airport Area
- Ogulin Canyon Industrial Center
- Southeast Clearlake Specific Plan

General Plan recommendation – in the next update of the Clearlake General Plan, it is recommended that the City clearly identify its desire for maintaining the status quo or, if applicable, making changes to the arterials and collector streets that cross and intersect with SR 53. Any major changes to streets should be incorporated into city policies, plans and projects such that new development approved after adoption must adhere to the new vision for streets and, if applicable, interchanges and grade separations.

### Sidewalks

Additional changes to sidewalk policies recommended by TJKM are presented in Section F – Street Design Standards.

Background - the City of Clearlake conducted extensive public input efforts during the preparation of the 2015 General Plan Update. Citizens requested a pedestrian and bicycle friendly environment. This will be challenging given that the City of Clearlake General Plan included a facility inventory of sidewalks and stated “99 percent of the parcels do not have sidewalks.” The Clearlake Municipal Code 18-5.601 (b) states: “Curbs, gutters, street paving and in areas of heavy pedestrian traffic, sidewalks shall be constructed as a condition of all development, except single family, second residential unit, granny residential unit, duplex unit small family day care home and small family care home on a legal lot of record.”

Sidewalk recommendation: modify Subsection 18-5.601 (b) to include sidewalk construction along the frontage of all new development regardless of zoning, but leave in place the exception currently granted to the Planning Commission upon recommendation of the City Engineer.



## Posted Speed Limits

To facilitate the City's stated goal of improving the safety of pedestrians and bicyclists, following are the recommendations for changing posted speed limits.

Section 8-3.4 – Forty Mile per Hour Streets Designated, this study recommends that the City review the June 2013 Speed Zone Engineering and Traffic Survey for the following streets to consider these recommendations based on the data collected at that time, or collect new data for these streets and update the findings and recommendations:

- Recommend changing Dam Road from Dam Road Ext. to Lake Street from 40 mph to 35 mph.
- Recommend changing Old Highway 53 from Olympic Road to SR 53 from 40 mph to 35 mph.

## Street Design Standards

The City established street design standards with the 2012 adoption of "Design and Construction Standards" available on the City website at:

<https://clearlake.ca.us/DocumentCenter/View/121/Design-and-Construction-Standards-2012?bidId=>

Recommendations: Modify Section IIIA. Street Design – Geometric Standard Cross Sections as follows:

- Bike lane – modify current requirement for "6 feet against curb" to "4 feet exclusive of gutter pan".
- Bike lane – modify current requirement for "4 feet against parking" to "6 feet against parking" to give cyclists three feet outside of the normal three-foot wide 'door zone' when a motorist opens their car door.
- Sidewalk minimum – modify current requirement for 4.5 feet to require 6 feet in all new construction.
- Sidewalk meandering – modify current requirement for 5 feet to discourage meandering sidewalks unless necessary to avoid utility poles and other expensive (to move) obstructions.
- Travel lane – modify minimum width requirement on arterials and collectors from current 12 feet to allow 11-foot lanes.

Consideration should be given to adopting an ordinance requiring new development to assess the bicycle level of traffic stress and PQOS for all future land development and transportation improvement projects. The City of Clearlake may want to consider setting a threshold of acceptable levels for bicyclists and pedestrians so that when the assessments are reviewed by staff and presented to City Council there is a basis for understanding the level of potential effect on active modes of transportation.

## 10.0 CONCEPTUAL ALTERNATIVES COST ESTIMATES

Construction cost estimates were prepared that identify the range of probable costs based upon unit cost estimates and Quincy's experience from similar projects. Quincy Engineering, Inc. prepared estimates of proposed right-of-way take, and Lake County staff provided the right of way unit cost. A cost estimate summary was prepared for some of the potential improvement projects. Cost estimate details are contained in **Appendix G**.

## 11.0 SUMMARY

This study updates the SR 53 Corridor Study completed in 2011. As part of this study, existing, near-term and future conditions are updated. This study is based on goals and objectives established by the Technical Advisory Group, which are:

Goal 1: Interregional travel will be primarily on SR 53 and the section of SR 29 between SR 53 in Lower Lake and SR 20 in Lakeport.

*Objective 1:* SR 53 geometric design and traffic control will be improved consistent with the expressway designation.

Goal 2: Interregional travel will be discouraged from using SR 20 along the North Shore of Clear Lake.

*Objective 2:* Traffic calming measures along the North Shore on SR 20 will be used to discourage interregional traffic.

Goal 3: Access to SR 53 will be consistent with the City of Clearlake General Plan.

*Objective 3:* Intersection and interchange improvements along SR 53 will be compatible with planned development adjacent to the corridor.

Based on an evaluation of the transportation infrastructure under short-term, near-term and long-term it is determined that deficiencies in the infrastructure for all modes of transportation exist. Recommendations to overcome the deficiencies are summarized as part of this study. It is a recommendation of this study that the identified recommendations should be added to the City of Clearlake Capital Improvement Program in the next update of the CIP so that the recommendations can be implemented. It is also recommended that Lake APC consider the recommendations during the development of the next Regional TIP and that Caltrans does the same for the State TIP.

Near-term recommendations are proposed to be studied in detail with feasibility studies and preliminary design work, along with expanded public / stakeholder engagement opportunities. Also, the recommended projects necessitate more focused study of the local circulation due to the planned commercial and civic developments within the study area.

The programming of funds and implementation of recommendations under Long-Term Conditions will depend on key support at the local, regional and state levels; and that feasibility studies support implementation and the individual project proposals score well in subsequent prioritization processes.

In addition, based on the findings of this study, it is recommended that the City of Clearlake, Lake APC and Caltrans continue working together to ensure that future updates of key planning documents and ordinances address the shared vision for SR 53. Based on this study, the vision shared by the agencies is that:

- SR 53 will be a consistent four-lane expressway through Clearlake between SR 29 and SR 20, with paved shoulders and multimodal intersections.
- Arterial and collector streets that intersect with SR 53 at traffic signals will provide facilities for safe, convenient crossings by pedestrians, bicyclists, and buses.

- New traffic signals on SR 53 between SR 29 and SR 20 are to be discouraged. Consideration can be given to installing signals as interim intersection modifications but only after thorough analysis and consideration of multiple factors, warrants and ICE.

It is also recommended that as the City of Clearlake updates the General Plan and the Municipal Code that the vision listed above and the specific CIP and policy recommendations in this report be incorporated.

It is recommended that the City and Lake APC conduct project prioritization evaluations for the recommendations in this report. Furthermore, when Lake APC updates the RTP the vision for SR 53 is reflected in the new Plan.

Caltrans has prioritized SR 53 for a new Web-based Corridor Management Plan (CMP), which will consider the current and future situation of the route, including the findings of this current study. It is anticipated that the new CMP will be available for review by local partners and the public in late 2022.

# Appendix A – Existing Conditions Intersection LOS Analysis Worksheets

HCM 6th AWSC  
1: State Route 53 & State Route 20

Baseline Conditions  
Timing Plan: A.M. Peak

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑	↙	↗
Traffic Vol, veh/h	75	246	164	106	204	95
Future Vol, veh/h	75	246	164	106	204	95
Peak Hour Factor	0.86	0.86	0.94	0.94	0.89	0.89
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	87	286	174	113	229	107
Number of Lanes	2	0	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	12.7	11.8	13.2
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	9%	0%	100%
Vol Right, %	0%	100%	0%	91%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	204	95	50	271	164	106
LT Vol	204	0	0	0	164	0
Through Vol	0	0	50	25	0	106
RT Vol	0	95	0	246	0	0
Lane Flow Rate	229	107	58	315	174	113
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.439	0.168	0.099	0.481	0.325	0.194
Departure Headway (Hd)	6.889	5.676	6.144	5.499	6.707	6.199
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	523	632	583	655	536	578
Service Time	4.627	3.414	3.883	3.238	4.448	3.94
HCM Lane V/C Ratio	0.438	0.169	0.099	0.481	0.325	0.196
HCM Control Delay	14.9	9.6	9.6	13.3	12.7	10.4
HCM Lane LOS	B	A	A	B	B	B
HCM 95th-tile Q	2.2	0.6	0.3	2.6	1.4	0.7

HCM 6th TWSC  
2: State Route 53 & Ogulin Canyon Rd North

Baseline Conditions  
Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	0	1	298	0	1	403
Future Vol, veh/h	0	1	298	0	1	403
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	25	88	88	88	88
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	0	4	339	0	1	458

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	799	339	0	0	339
Stage 1	339	-	-	-	-
Stage 2	460	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263
Pot Cap-1 Maneuver	355	703	-	-	1193
Stage 1	722	-	-	-	-
Stage 2	636	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	355	703	-	-	1193
Mov Cap-2 Maneuver	355	-	-	-	-
Stage 1	722	-	-	-	-
Stage 2	635	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	703	1193
HCM Lane V/C Ratio	-	-	0.006	0.001
HCM Control Delay (s)	-	-	10.2	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC  
3: State Route 53 & Ogulin Canyon Rd South

Baseline Conditions  
Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	7	6	264	25	3	372
Future Vol, veh/h	7	6	264	25	3	372
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	50	-	350	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	55	55	76	76	86	86
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	13	11	347	33	3	433

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	786	-	0	0	380
Stage 1	347	-	-	-	-
Stage 2	439	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.263
Pot Cap-1 Maneuver	361	0	-	-	1152
Stage 1	716	0	-	-	-
Stage 2	650	0	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	360	-	-	-	1152
Mov Cap-2 Maneuver	360	-	-	-	-
Stage 1	716	-	-	-	-
Stage 2	648	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	360	1152
HCM Lane V/C Ratio	-	-	0.035	0.003
HCM Control Delay (s)	-	-	15.4	0
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.1	0



HCM 6th TWSC  
4: State Route 53 & Old Hwy 53

Baseline Conditions  
Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗	↖
Traffic Vol, veh/h	23	21	16	268	372	8
Future Vol, veh/h	23	21	16	268	372	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	50	395	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	81	81	86	86
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	40	37	20	331	433	9

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	804	433	442	0	-	0
Stage 1	433	-	-	-	-	-
Stage 2	371	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	352	623	1092	-	-	-
Stage 1	654	-	-	-	-	-
Stage 2	698	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	346	623	1092	-	-	-
Mov Cap-2 Maneuver	346	-	-	-	-	-
Stage 1	642	-	-	-	-	-
Stage 2	698	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1092	-	346	623	-	-
HCM Lane V/C Ratio	0.018	-	0.117	0.059	-	-
HCM Control Delay (s)	8.4	-	16.8	11.1	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	0.2	-	-

# HCM 6th Signalized Intersection Summary

## 5: State Route 53 & Olympic Dr

Baseline Conditions

Timing Plan: A.M. Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	78	185	230	205	289	96
Future Volume (veh/h)	78	185	230	205	289	96
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1796	1796	1796	1796
Adj Flow Rate, veh/h	143	146	253	225	344	114
Peak Hour Factor	0.90	0.90	0.91	0.91	0.84	0.84
Percent Heavy Veh, %	2	2	7	7	7	7
Cap, veh/h	340	601	322	948	551	180
Arrive On Green	0.19	0.19	0.19	0.53	0.22	0.22
Sat Flow, veh/h	1781	1585	1711	1796	2619	825
Grp Volume(v), veh/h	143	146	253	225	230	228
Grp Sat Flow(s),veh/h/ln	1781	1585	1711	1796	1706	1648
Q Serve(g_s), s	3.2	2.9	6.5	3.1	5.6	5.8
Cycle Q Clear(g_c), s	3.2	2.9	6.5	3.1	5.6	5.8
Prop In Lane	1.00	1.00	1.00			0.50
Lane Grp Cap(c), veh/h	340	601	322	948	372	359
V/C Ratio(X)	0.42	0.24	0.79	0.24	0.62	0.63
Avail Cap(c_a), veh/h	970	1161	931	1565	1487	1435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.3	9.7	17.8	5.8	16.2	16.3
Incr Delay (d2), s/veh	0.3	0.1	1.6	0.1	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.0	0.5	1.7	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.6	9.8	19.4	5.9	17.5	17.7
LnGrp LOS	B	A	B	A	B	B
Approach Vol, veh/h				478	458	
Approach Delay, s/veh				13.0	17.6	
Approach LOS				B	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		31.5		14.4	14.2	17.3
Change Period (Y+Rc), s		* 7.3		5.6	5.6	* 7.3
Max Green Setting (Gmax), s		* 40		25.0	25.0	* 40
Max Q Clear Time (g_c+I1), s		5.1		5.2	8.5	7.8
Green Ext Time (p_c), s		0.9		0.3	0.2	1.9

### Intersection Summary

HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
6: State Route 53 & Polk Ave

Baseline Conditions  
Timing Plan: A.M. Peak

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	1	0	4	6	0	3	5	443	0	4	480	1
Future Vol, veh/h	1	0	4	6	0	3	5	443	0	4	480	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	550	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	58	58	58	93	93	93	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	2	0	8	10	0	5	5	476	0	5	552	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1052	1049	277	772	1049	476	553	0	0	476	0	0
Stage 1	563	563	-	486	486	-	-	-	-	-	-	-
Stage 2	489	486	-	286	563	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.205	-	-	4.205	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.2665	-	-	2.2665	-	-
Pot Cap-1 Maneuver	192	227	721	303	227	588	986	-	-	1054	-	-
Stage 1	479	508	-	562	550	-	-	-	-	-	-	-
Stage 2	560	550	-	698	508	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	189	224	721	297	224	588	986	-	-	1054	-	-
Mov Cap-2 Maneuver	189	224	-	297	224	-	-	-	-	-	-	-
Stage 1	477	504	-	559	547	-	-	-	-	-	-	-
Stage 2	552	547	-	685	504	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13		15.6		0.1		0.1	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	986	-	-	461	356	1054	-	-
HCM Lane V/C Ratio	0.005	-	-	0.022	0.044	0.004	-	-
HCM Control Delay (s)	8.7	-	-	13	15.6	8.4	0	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

HCM 6th Signalized Intersection Summary  
7: State Route 53 & Lakeshore Dr/40th Ave

Baseline Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	77	105	438	125	152	69	326	283	175	46	330	111
Future Volume (veh/h)	77	105	438	125	152	69	326	283	175	46	330	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	85	115	0	142	173	78	351	304	188	51	367	0
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.93	0.93	0.93	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	169	305		197	218	98	396	629	379	125	509	
Arrive On Green	0.09	0.16	0.00	0.11	0.18	0.18	0.23	0.31	0.31	0.07	0.15	0.00
Sat Flow, veh/h	1781	1870	0	1781	1220	550	1711	2047	1234	1711	3503	0
Grp Volume(v), veh/h	85	115	0	142	0	251	351	252	240	51	367	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1770	1711	1706	1574	1711	1706	0
Q Serve(g_s), s	3.0	3.7	0.0	5.2	0.0	9.1	13.3	8.1	8.4	1.9	6.9	0.0
Cycle Q Clear(g_c), s	3.0	3.7	0.0	5.2	0.0	9.1	13.3	8.1	8.4	1.9	6.9	0.0
Prop In Lane	1.00		0.00	1.00		0.31	1.00		0.78	1.00		0.00
Lane Grp Cap(c), veh/h	169	305		197	0	317	396	524	484	125	509	
V/C Ratio(X)	0.50	0.38		0.72	0.00	0.79	0.89	0.48	0.50	0.41	0.72	
Avail Cap(c_a), veh/h	531	836		531	0	792	510	890	821	510	1780	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.9	25.0	0.0	28.8	0.0	26.4	24.9	18.9	19.0	29.7	27.2	0.0
Incr Delay (d2), s/veh	0.9	0.3	0.0	1.9	0.0	1.7	12.2	0.3	0.3	0.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.6	0.0	2.2	0.0	3.7	5.9	2.7	2.6	0.7	2.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	25.3	0.0	30.7	0.0	28.1	37.2	19.1	19.3	30.5	27.9	0.0
LnGrp LOS	C	C		C	A	C	D	B	B	C	C	
Approach Vol, veh/h		200	A		393			843			418	A
Approach Delay, s/veh		27.2			29.0			26.7			28.3	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	27.1	12.8	16.6	21.1	16.5	11.8	17.7				
Change Period (Y+Rc), s	5.6	6.5	5.4	* 5.7	5.6	6.5	5.4	* 5.7				
Max Green Setting (Gmax), s	20.0	35.0	20.0	* 30	20.0	35.0	20.0	* 30				
Max Q Clear Time (g_c+I1), s	3.9	10.4	7.2	5.7	15.3	8.9	5.0	11.1				
Green Ext Time (p_c), s	0.0	1.3	0.1	0.4	0.2	1.1	0.1	0.8				

Intersection Summary

HCM 6th Ctrl Delay	27.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
8: State Route 53 & 18th Ave

Baseline Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↕		↕	↕↕	
Traffic Volume (veh/h)	2	5	6	65	3	76	0	717	77	65	823	5
Future Volume (veh/h)	2	5	6	65	3	76	0	717	77	65	823	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	3	7	9	89	4	104	0	755	81	74	935	6
Peak Hour Factor	0.67	0.67	0.67	0.73	0.73	0.73	0.95	0.95	0.95	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	104	152	153	406	15	305	4	986	106	201	1902	12
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.00	0.32	0.32	0.12	0.55	0.55
Sat Flow, veh/h	94	792	798	1352	79	1585	1711	3101	333	1711	3476	22
Grp Volume(v), veh/h	19	0	0	93	0	104	0	415	421	74	459	482
Grp Sat Flow(s),veh/h/ln	1684	0	0	1431	0	1585	1711	1706	1727	1711	1706	1792
Q Serve(g_s), s	0.0	0.0	0.0	2.2	0.0	2.7	0.0	10.6	10.6	1.9	8.1	8.1
Cycle Q Clear(g_c), s	0.4	0.0	0.0	2.6	0.0	2.7	0.0	10.6	10.6	1.9	8.1	8.1
Prop In Lane	0.16		0.47	0.96		1.00	1.00		0.19	1.00		0.01
Lane Grp Cap(c), veh/h	410	0	0	421	0	305	4	543	549	201	934	980
V/C Ratio(X)	0.05	0.00	0.00	0.22	0.00	0.34	0.00	0.77	0.77	0.37	0.49	0.49
Avail Cap(c_a), veh/h	768	0	0	734	0	656	708	1766	1787	708	1766	1854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	0.0	0.0	16.8	0.0	16.9	0.0	14.9	14.9	19.7	6.8	6.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.9	0.9	0.4	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.8	0.0	0.9	0.0	2.9	3.0	0.6	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	0.0	16.9	0.0	17.1	0.0	15.7	15.7	20.1	6.9	6.9
LnGrp LOS	B	A	A	B	A	B	A	B	B	C	A	A
Approach Vol, veh/h		19			197			836			1015	
Approach Delay, s/veh		16.0			17.0			15.7			7.9	
Approach LOS		B			B			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	22.4		14.9	0.0	33.4		14.9				
Change Period (Y+Rc), s	5.4	7.0		5.6	5.4	7.0		5.6				
Max Green Setting (Gmax), s	20.0	50.0		20.0	20.0	50.0		20.0				
Max Q Clear Time (g_c+1), s	13.9	12.6		2.4	0.0	10.1		4.7				
Green Ext Time (p_c), s	0.0	2.6		0.0	0.0	3.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

# HCM 6th Signalized Intersection Summary

## 9: State Route 53 & Old Hwy 53/Dam Rd

Baseline Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	122	181	102	99	181	118	559	116	216	638	40
Future Volume (veh/h)	46	122	181	102	99	181	118	559	116	216	638	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	54	144	213	136	132	241	130	614	127	245	725	45
Peak Hour Factor	0.85	0.85	0.85	0.75	0.75	0.75	0.91	0.91	0.91	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	159	310	262	428	375	524	210	768	158	434	917	57
Arrive On Green	0.09	0.17	0.17	0.12	0.20	0.20	0.12	0.27	0.27	0.13	0.28	0.28
Sat Flow, veh/h	1781	1870	1579	3456	1870	1580	1711	2810	580	3319	3264	202
Grp Volume(v), veh/h	54	144	213	136	132	241	130	372	369	245	379	391
Grp Sat Flow(s),veh/h/ln	1781	1870	1579	1728	1870	1580	1711	1706	1683	1659	1706	1760
Q Serve(g_s), s	2.2	5.3	9.9	2.7	4.6	9.2	5.5	15.4	15.5	5.3	15.6	15.6
Cycle Q Clear(g_c), s	2.2	5.3	9.9	2.7	4.6	9.2	5.5	15.4	15.5	5.3	15.6	15.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		0.12
Lane Grp Cap(c), veh/h	159	310	262	428	375	524	210	466	460	434	479	494
V/C Ratio(X)	0.34	0.46	0.81	0.32	0.35	0.46	0.62	0.80	0.80	0.56	0.79	0.79
Avail Cap(c_a), veh/h	468	590	498	908	590	706	450	1121	1106	872	1121	1156
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	28.7	30.6	30.4	26.2	20.1	31.7	25.7	25.7	31.0	25.3	25.3
Incr Delay (d2), s/veh	0.5	0.4	2.3	0.2	0.2	0.2	1.1	2.4	2.5	0.4	2.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.3	3.8	1.1	2.0	3.3	2.1	5.7	5.7	1.9	5.8	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	29.1	32.9	30.6	26.4	20.3	32.8	28.1	28.2	31.5	27.5	27.5
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		411			509			871			1015	
Approach Delay, s/veh		31.6			24.6			28.8			28.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.3	27.7	14.8	18.2	14.8	28.3	12.2	20.9				
Change Period (Y+Rc), s	5.4	* 6.9	5.4	5.6	5.4	* 6.9	5.4	5.6				
Max Green Setting (Gmax), s	20.0	* 50	20.0	24.0	20.0	* 50	20.0	24.0				
Max Q Clear Time (g_c+1), s	17.5	17.5	4.7	11.9	7.5	17.6	4.2	11.2				
Green Ext Time (p_c), s	0.2	3.3	0.1	0.5	0.1	3.4	0.0	0.6				

### Intersection Summary

HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

### Notes

User approved pedestrian interval to be less than phase max green.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
 10: State Route 53 & Anderson Ranch Pkwy

Baseline Conditions  
 Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	3	21	754	862	51
Future Vol, veh/h	10	3	21	754	862	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	365	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	87	87	89	89
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	10	3	24	867	969	57

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1480	513	1026	0	-	0
Stage 1	998	-	-	-	-	-
Stage 2	482	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	-	-
Pot Cap-1 Maneuver	116	506	643	-	-	-
Stage 1	317	-	-	-	-	-
Stage 2	587	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	112	506	643	-	-	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	587	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33.8	0.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	643	-	112	506	-	-
HCM Lane V/C Ratio	0.038	-	0.089	0.006	-	-
HCM Control Delay (s)	10.8	-	40.3	12.2	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	0	-	-

HCM 6th TWSC  
 11: State Route 53 & Kugelma St

Baseline Conditions  
 Timing Plan: A.M. Peak

Intersection							
Int Delay, s/veh	0.8						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	14	4	6	746	0	762	65
Future Vol, veh/h	14	4	6	746	0	762	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	50	0	80	-	190	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	46	46	83	83	78	78	78
Heavy Vehicles, %	2	2	7	7	7	7	7
Mvmt Flow	30	9	7	899	0	977	83

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	1483	530	1060	0	899	-	0
Stage 1	1019	-	-	-	-	-	-
Stage 2	464	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	6.54	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	2.57	-	-
Pot Cap-1 Maneuver	116	493	624	-	371	-	-
Stage 1	309	-	-	-	-	-	-
Stage 2	599	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	115	493	624	-	371	-	-
Mov Cap-2 Maneuver	115	-	-	-	-	-	-
Stage 1	306	-	-	-	-	-	-
Stage 2	599	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	39.5	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	624	-	115	493	371	-	-
HCM Lane V/C Ratio	0.012	-	0.265	0.018	-	-	-
HCM Control Delay (s)	10.8	-	47.2	12.4	0	-	-
HCM Lane LOS	B	-	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	1	0.1	0	-	-



HCM 6th TWSC  
12: State Route 53 & Jessie St

Baseline Conditions  
Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	1	35	717	22	62	704
Future Vol, veh/h	1	35	717	22	62	704
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	83	83	78	78
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	1	49	864	27	79	903


























Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1489	447	0	0	892	0
Stage 1	879	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.24	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.27	-
Pot Cap-1 Maneuver	115	559	-	-	725	-
Stage 1	366	-	-	-	-	-
Stage 2	505	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	90	558	-	-	724	-
Mov Cap-2 Maneuver	214	-	-	-	-	-
Stage 1	366	-	-	-	-	-
Stage 2	394	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	534	724
HCM Lane V/C Ratio	-	-	0.094	0.11
HCM Control Delay (s)	-	-	12.4	10.6
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q(veh)	-	-	0.3	0.4

HCM 6th Signalized Intersection Summary  
 13: State Route 29 & Main St & State Route 53

Baseline Conditions  
 Timing Plan: A.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 							 			 	
Traffic Volume (veh/h)	392	53	113	35	41	81	130	293	69	88	288	347
Future Volume (veh/h)	392	53	113	35	41	81	130	293	69	88	288	347
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	445	60	128	40	47	92	144	326	77	98	320	386
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	540	111	237	118	224	353	203	707	165	185	841	623
Arrive On Green	0.16	0.22	0.22	0.07	0.12	0.12	0.12	0.26	0.26	0.11	0.25	0.25
Sat Flow, veh/h	3319	510	1087	1711	1796	1511	1711	2747	640	1711	3413	1522
Grp Volume(v), veh/h	445	0	188	40	47	92	144	201	202	98	320	386
Grp Sat Flow(s),veh/h/ln	1659	0	1597	1711	1796	1511	1711	1706	1681	1711	1706	1522
Q Serve(g_s), s	9.3	0.0	7.4	1.6	1.7	3.6	5.8	7.1	7.3	3.9	5.6	14.3
Cycle Q Clear(g_c), s	9.3	0.0	7.4	1.6	1.7	3.6	5.8	7.1	7.3	3.9	5.6	14.3
Prop In Lane	1.00		0.68	1.00		1.00	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	540	0	349	118	224	353	203	439	433	185	841	623
V/C Ratio(X)	0.82	0.00	0.54	0.34	0.21	0.26	0.71	0.46	0.47	0.53	0.38	0.62
Avail Cap(c_a), veh/h	697	0	537	359	604	672	359	1076	1059	359	2151	1207
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	0.0	24.7	31.7	28.1	22.4	30.3	22.3	22.4	30.1	22.4	16.7
Incr Delay (d2), s/veh	4.9	0.0	0.5	0.6	0.2	0.1	1.7	0.3	0.3	0.9	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	2.6	0.6	0.7	1.2	2.3	2.6	2.6	1.5	2.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	0.0	25.2	32.3	28.3	22.5	32.0	22.6	22.7	31.0	22.5	17.1
LnGrp LOS	C	A	C	C	C	C	C	C	C	C	C	B
Approach Vol, veh/h		633			179			547			804	
Approach Delay, s/veh		31.3			26.2			25.1			20.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	25.2	10.5	22.4	14.1	24.4	17.2	15.7				
Change Period (Y+Rc), s	5.6	6.8	5.6	6.8	5.6	6.8	5.6	* 6.8				
Max Green Setting (Gmax), s	15.0	45.0	15.0	24.0	15.0	45.0	15.0	* 24				
Max Q Clear Time (g_c+I1), s	5.9	9.3	3.6	9.4	7.8	16.3	11.3	5.6				
Green Ext Time (p_c), s	0.1	1.0	0.0	0.5	0.1	1.3	0.4	0.2				

Intersection Summary

HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues  
5: State Route 53 & Olympic Dr

Baseline Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	151	142	253	225	458
v/c Ratio	0.45	0.17	0.64	0.22	0.57
Control Delay	22.6	2.1	27.6	6.1	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	2.1	27.6	6.1	20.3
Queue Length 50th (ft)	33	0	70	29	57
Queue Length 95th (ft)	97	22	160	64	112
Internal Link Dist (ft)	735			1679	3149
Turn Bay Length (ft)	215		625		
Base Capacity (vph)	803	1165	782	1776	2422
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.12	0.32	0.13	0.19
Intersection Summary					

Queues  
7: State Route 53 & Lakeshore Dr/40th Ave

Baseline Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	85	596	142	251	351	492	51	490
v/c Ratio	0.50	1.03	0.66	0.41	1.09	0.46	0.36	0.80
Control Delay	57.6	75.8	59.7	29.9	119.4	25.5	55.7	49.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	75.8	59.7	29.9	119.4	25.5	55.7	49.1
Queue Length 50th (ft)	56	~352	92	124	~267	112	33	155
Queue Length 95th (ft)	113	#663	163	221	#522	182	78	227
Internal Link Dist (ft)		525		345		237		721
Turn Bay Length (ft)	65		70		830		135	
Base Capacity (vph)	336	576	336	614	321	1152	321	1105
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	1.03	0.42	0.41	1.09	0.43	0.16	0.44

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
8: State Route 53 & 18th Ave

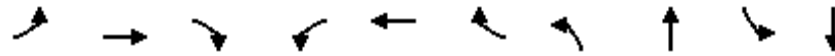
Baseline Conditions  
Timing Plan: A.M. Peak



Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	19	93	104	836	74	941
v/c Ratio	0.06	0.34	0.26	0.61	0.25	0.50
Control Delay	17.2	25.8	7.9	16.1	25.3	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	25.8	7.9	16.1	25.3	8.0
Queue Length 50th (ft)	3	28	0	124	22	78
Queue Length 95th (ft)	14	60	22	198	63	125
Internal Link Dist (ft)	292	411		2599		679
Turn Bay Length (ft)			150		720	
Base Capacity (vph)	643	516	673	2967	648	3014
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.18	0.15	0.28	0.11	0.31
Intersection Summary						

Queues  
9: State Route 53 & Old Hwy 53/Dam Rd

Baseline Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	144	213	136	132	241	130	741	245	770
v/c Ratio	0.25	0.53	0.52	0.32	0.37	0.35	0.53	0.72	0.54	0.76
Control Delay	41.4	43.4	10.5	39.3	38.2	4.6	44.2	29.7	40.2	32.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	43.4	10.5	39.3	38.2	4.6	44.2	29.7	40.2	32.0
Queue Length 50th (ft)	25	68	0	32	62	0	62	165	59	177
Queue Length 95th (ft)	70	144	53	63	116	23	143	274	118	290
Internal Link Dist (ft)		478			407			1595		2599
Turn Bay Length (ft)	150		90	135			575		760	
Base Capacity (vph)	430	543	606	835	551	821	410	2001	795	2034
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.27	0.35	0.16	0.24	0.29	0.32	0.37	0.31	0.38

Intersection Summary

## Queues

## 13: State Route 29 &amp; Main St &amp; State Route 53

Baseline Conditions

Timing Plan: A.M. Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	445	188	40	47	92	144	403	98	320	386
v/c Ratio	0.58	0.45	0.17	0.18	0.22	0.49	0.47	0.38	0.52	0.40
Control Delay	28.4	19.7	31.6	31.0	5.7	33.5	24.7	33.0	29.6	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	19.7	31.6	31.0	5.7	33.5	24.7	33.0	29.6	2.9
Queue Length 50th (ft)	90	41	16	18	0	58	80	40	68	0
Queue Length 95th (ft)	155	107	47	51	27	120	133	89	115	45
Internal Link Dist (ft)		479		714			1302		940	
Turn Bay Length (ft)	60		125		70	230		165		500
Base Capacity (vph)	772	644	398	684	540	398	2327	398	2388	974
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.29	0.10	0.07	0.17	0.36	0.17	0.25	0.13	0.40

## Intersection Summary

HCM 6th AWSC  
1: State Route 53 & State Route 20

Baseline Conditions  
Timing Plan: P.M. Peak

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↗
Traffic Vol, veh/h	131	250	127	134	253	177
Future Vol, veh/h	131	250	127	134	253	177
Peak Hour Factor	0.91	0.91	0.97	0.97	0.93	0.93
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	144	275	131	138	272	190
Number of Lanes	2	0	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	14.1	12.1	14.9
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	15%	0%	100%
Vol Right, %	0%	100%	0%	85%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	253	177	87	294	127	134
LT Vol	253	0	0	0	127	0
Through Vol	0	0	87	44	0	134
RT Vol	0	177	0	250	0	0
Lane Flow Rate	272	190	96	323	131	138
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.531	0.307	0.173	0.528	0.261	0.256
Departure Headway (Hd)	7.022	5.808	6.5	5.893	7.173	6.662
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	514	619	551	610	500	537
Service Time	4.771	3.556	4.254	3.647	4.933	4.422
HCM Lane V/C Ratio	0.529	0.307	0.174	0.53	0.262	0.257
HCM Control Delay	17.5	11.1	10.6	15.1	12.5	11.7
HCM Lane LOS	C	B	B	C	B	B
HCM 95th-tile Q	3.1	1.3	0.6	3.1	1	1



HCM 6th TWSC  
2: State Route 53 & Ogulin Canyon Rd North

Baseline Conditions  
Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Traffic Vol, veh/h	1	2	428	0	1	385
Future Vol, veh/h	1	2	428	0	1	385
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	25	89	89	88	88
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	4	8	481	0	1	438

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	921	481	0	0	481	0
Stage 1	481	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263	-
Pot Cap-1 Maneuver	300	585	-	-	1056	-
Stage 1	622	-	-	-	-	-
Stage 2	649	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	300	585	-	-	1056	-
Mov Cap-2 Maneuver	300	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	648	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	444	1056
HCM Lane V/C Ratio	-	-	0.027	0.001
HCM Control Delay (s)	-	-	13.3	8.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC  
3: State Route 53 & Ogulin Canyon Rd South

Baseline Conditions  
Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	24	16	410	11	4	393
Future Vol, veh/h	24	16	410	11	4	393
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	50	-	350	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	87	87	92	92
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	29	19	471	13	4	427

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	906	-	0	0	484
Stage 1	471	-	-	-	-
Stage 2	435	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.263
Pot Cap-1 Maneuver	307	0	-	-	1053
Stage 1	628	0	-	-	-
Stage 2	653	0	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	306	-	-	-	1053
Mov Cap-2 Maneuver	306	-	-	-	-
Stage 1	628	-	-	-	-
Stage 2	650	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	306	1053
HCM Lane V/C Ratio	-	-	0.094	0.004
HCM Control Delay (s)	-	-	18	8.4
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.3	0

HCM 6th TWSC  
4: State Route 53 & Old Hwy 53

Baseline Conditions  
Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗	↖
Traffic Vol, veh/h	12	10	10	409	397	21
Future Vol, veh/h	12	10	10	409	397	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	50	395	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	91	91	91	91
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	16	13	11	449	436	23

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	907	436	459	0	-	0
Stage 1	436	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	306	620	1076	-	-	-
Stage 1	652	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	303	620	1076	-	-	-
Mov Cap-2 Maneuver	303	-	-	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	628	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.5	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1076	-	303	620	-	-
HCM Lane V/C Ratio	0.01	-	0.053	0.022	-	-
HCM Control Delay (s)	8.4	-	17.5	10.9	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.1	-	-

# HCM 6th Signalized Intersection Summary

## 5: State Route 53 & Olympic Dr

Baseline Conditions

Timing Plan: P.M. Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	123	247	306	299	277	126
Future Volume (veh/h)	123	247	306	299	277	126
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1796	1796	1796	1796
Adj Flow Rate, veh/h	203	208	333	325	308	140
Peak Hour Factor	0.89	0.89	0.92	0.92	0.90	0.90
Percent Heavy Veh, %	2	2	7	7	7	7
Cap, veh/h	328	656	392	988	473	210
Arrive On Green	0.18	0.18	0.23	0.55	0.21	0.21
Sat Flow, veh/h	1781	1585	1711	1796	2387	1021
Grp Volume(v), veh/h	203	208	333	325	227	221
Grp Sat Flow(s),veh/h/ln	1781	1585	1711	1796	1706	1612
Q Serve(g_s), s	5.1	4.3	9.1	4.8	5.9	6.1
Cycle Q Clear(g_c), s	5.1	4.3	9.1	4.8	5.9	6.1
Prop In Lane	1.00	1.00	1.00			0.63
Lane Grp Cap(c), veh/h	328	656	392	988	351	332
V/C Ratio(X)	0.62	0.32	0.85	0.33	0.65	0.67
Avail Cap(c_a), veh/h	916	1179	880	1478	1404	1327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	9.6	17.9	6.0	17.7	17.8
Incr Delay (d2), s/veh	0.7	0.1	2.0	0.1	1.5	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	2.9	0.9	1.9	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.0	9.7	19.9	6.1	19.2	19.5
LnGrp LOS	B	A	B	A	B	B
Approach Vol, veh/h	411			658	448	
Approach Delay, s/veh	14.3			13.1	19.3	
Approach LOS	B			B	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		34.1		14.6	16.8	17.3
Change Period (Y+Rc), s		* 7.3		5.6	5.6	* 7.3
Max Green Setting (Gmax), s		* 40		25.0	25.0	* 40
Max Q Clear Time (g_c+I1), s		6.8		7.1	11.1	8.1
Green Ext Time (p_c), s		1.3		0.4	0.2	1.9

### Intersection Summary

HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
6: State Route 53 & Polk Ave

Baseline Conditions  
Timing Plan: P.M. Peak

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	0	2	24	4	0	4	5	615	6	2	538	0
Future Vol, veh/h	0	2	24	4	0	4	5	615	6	2	538	0
Conflicting Peds, #/hr	0	0	1	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	550	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	75	75	75	94	94	94	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	0	3	38	5	0	5	5	654	6	2	604	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1279	1278	303	976	1275	658	604	0	0	660	0	0
Stage 1	608	608	-	667	667	-	-	-	-	-	-	-
Stage 2	671	670	-	309	608	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.205	-	-	4.205	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.2665	-	-	2.2665	-	-
Pot Cap-1 Maneuver	133	166	694	218	166	463	943	-	-	898	-	-
Stage 1	450	485	-	447	456	-	-	-	-	-	-	-
Stage 2	445	455	-	677	485	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	130	165	693	201	165	463	943	-	-	898	-	-
Mov Cap-2 Maneuver	130	165	-	201	165	-	-	-	-	-	-	-
Stage 1	448	484	-	445	454	-	-	-	-	-	-	-
Stage 2	437	453	-	633	484	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	12		18.4		0.1			0		
HCM LOS	B		C							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	943	-	-	556	280	898	-	-
HCM Lane V/C Ratio	0.006	-	-	0.074	0.038	0.003	-	-
HCM Control Delay (s)	8.8	-	-	12	18.4	9	0	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

HCM 6th Signalized Intersection Summary  
7: State Route 53 & Lakeshore Dr/40th Ave

Baseline Conditions

Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	99	228	435	96	219	69	445	455	162	83	425	81
Future Volume (veh/h)	99	228	435	96	219	69	445	455	162	83	425	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	108	248	0	114	261	82	473	484	172	90	462	0
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.94	0.94	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	157	416		159	305	96	410	806	285	144	580	
Arrive On Green	0.09	0.22	0.00	0.09	0.22	0.22	0.24	0.33	0.33	0.08	0.17	0.00
Sat Flow, veh/h	1781	1870	0	1781	1364	428	1711	2473	873	1711	3503	0
Grp Volume(v), veh/h	108	248	0	114	0	343	473	333	323	90	462	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1792	1711	1706	1639	1711	1706	0
Q Serve(g_s), s	4.9	9.9	0.0	5.2	0.0	15.3	20.0	13.6	13.8	4.2	10.8	0.0
Cycle Q Clear(g_c), s	4.9	9.9	0.0	5.2	0.0	15.3	20.0	13.6	13.8	4.2	10.8	0.0
Prop In Lane	1.00		0.00	1.00		0.24	1.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	157	416		159	0	401	410	556	534	144	580	
V/C Ratio(X)	0.69	0.60		0.72	0.00	0.86	1.15	0.60	0.60	0.63	0.80	
Avail Cap(c_a), veh/h	427	673		427	0	645	410	716	688	410	1433	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.9	29.0	0.0	36.9	0.0	31.1	31.7	23.5	23.6	36.9	33.2	0.0
Incr Delay (d2), s/veh	2.0	0.5	0.0	2.3	0.0	3.5	93.1	0.4	0.4	1.7	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.4	0.0	2.3	0.0	6.7	17.9	4.9	4.7	1.7	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	29.6	0.0	39.2	0.0	34.6	124.7	23.9	24.0	38.6	34.2	0.0
LnGrp LOS	D	C		D	A	C	F	C	C	D	C	
Approach Vol, veh/h		356	A		457			1129			552	A
Approach Delay, s/veh		32.4			35.7			66.2			34.9	
Approach LOS		C			D			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	33.7	12.8	24.3	25.6	20.7	12.7	24.3				
Change Period (Y+Rc), s	5.6	6.5	5.4	* 5.7	5.6	6.5	5.4	* 5.7				
Max Green Setting (Gmax), s	20.0	35.0	20.0	* 30	20.0	35.0	20.0	* 30				
Max Q Clear Time (g_c+I1), s	6.2	15.8	7.2	11.9	22.0	12.8	6.9	17.3				
Green Ext Time (p_c), s	0.1	1.7	0.1	0.8	0.0	1.3	0.1	1.1				

Intersection Summary

HCM 6th Ctrl Delay	48.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

# HCM 6th Signalized Intersection Summary

## 8: State Route 53 & 18th Ave

Baseline Conditions  
Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↕		↕	↕↕	
Traffic Volume (veh/h)	14	7	3	82	8	89	6	959	82	63	884	8
Future Volume (veh/h)	14	7	3	82	8	89	6	959	82	63	884	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	20	10	4	98	10	106	7	1054	90	66	921	8
Peak Hour Factor	0.71	0.71	0.71	0.84	0.84	0.84	0.91	0.91	0.91	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	204	91	26	359	31	273	28	1279	109	177	1694	15
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.02	0.40	0.40	0.10	0.49	0.49
Sat Flow, veh/h	589	526	149	1367	179	1585	1711	3182	272	1711	3467	30
Grp Volume(v), veh/h	34	0	0	108	0	106	7	565	579	66	453	476
Grp Sat Flow(s),veh/h/ln	1263	0	0	1546	0	1585	1711	1706	1747	1711	1706	1791
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	3.3	0.2	16.5	16.6	2.0	10.3	10.3
Cycle Q Clear(g_c), s	3.0	0.0	0.0	3.0	0.0	3.3	0.2	16.5	16.6	2.0	10.3	10.3
Prop In Lane	0.59		0.12	0.91		1.00	1.00		0.16	1.00		0.02
Lane Grp Cap(c), veh/h	320	0	0	390	0	273	28	686	703	177	834	875
V/C Ratio(X)	0.11	0.00	0.00	0.28	0.00	0.39	0.25	0.82	0.82	0.37	0.54	0.54
Avail Cap(c_a), veh/h	588	0	0	655	0	567	612	1527	1564	612	1527	1603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	0.0	20.3	0.0	20.5	27.1	14.9	14.9	23.4	9.9	9.9
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.3	1.7	1.0	0.9	0.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.2	0.0	1.2	0.1	4.6	4.8	0.7	2.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.6	0.0	0.0	20.5	0.0	20.8	28.8	15.9	15.9	23.9	10.1	10.1
LnGrp LOS	B	A	A	C	A	C	C	B	B	C	B	B
Approach Vol, veh/h		34			214			1151			995	
Approach Delay, s/veh		19.6			20.7			16.0			11.1	
Approach LOS		B			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	29.5		15.2	6.3	34.3		15.2				
Change Period (Y+Rc), s	5.4	7.0		5.6	5.4	7.0		5.6				
Max Green Setting (Gmax), s	20.0	50.0		20.0	20.0	50.0		20.0				
Max Q Clear Time (g_c+1), s	14.0	18.6		5.0	2.2	12.3		5.3				
Green Ext Time (p_c), s	0.0	3.9		0.0	0.0	2.9		0.3				

### Intersection Summary

HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

### Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary  
 9: State Route 53 & Old Hwy 53/Dam Rd

Baseline Conditions  
 Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	129	156	186	124	352	186	644	185	220	668	69
Future Volume (veh/h)	24	129	156	186	124	352	186	644	185	220	668	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	27	145	175	211	141	400	198	685	197	237	718	74
Peak Hour Factor	0.89	0.89	0.89	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	98	352	297	396	463	572	233	820	236	382	913	94
Arrive On Green	0.06	0.19	0.19	0.11	0.25	0.25	0.14	0.31	0.31	0.11	0.29	0.29
Sat Flow, veh/h	1781	1870	1580	3456	1870	1572	1711	2615	752	3319	3123	322
Grp Volume(v), veh/h	27	145	175	211	141	400	198	447	435	237	392	400
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1728	1870	1572	1711	1706	1661	1659	1706	1738
Q Serve(g_s), s	1.3	5.9	8.8	5.0	5.3	18.9	9.8	21.1	21.1	5.9	18.3	18.3
Cycle Q Clear(g_c), s	1.3	5.9	8.8	5.0	5.3	18.9	9.8	21.1	21.1	5.9	18.3	18.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.45	1.00		0.19
Lane Grp Cap(c), veh/h	98	352	297	396	463	572	233	535	521	382	499	508
V/C Ratio(X)	0.27	0.41	0.59	0.53	0.30	0.70	0.85	0.84	0.84	0.62	0.79	0.79
Avail Cap(c_a), veh/h	411	518	437	797	518	617	395	984	958	766	984	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	31.0	32.1	36.2	26.5	23.6	36.6	27.7	27.7	36.6	28.2	28.2
Incr Delay (d2), s/veh	0.6	0.3	0.7	0.4	0.1	2.5	3.5	2.6	2.7	0.6	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.6	3.4	2.1	2.4	7.2	4.0	8.0	7.8	2.2	6.9	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	31.3	32.8	36.6	26.7	26.2	40.1	30.3	30.4	37.2	30.3	30.2
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		347			752			1080			1029	
Approach Delay, s/veh		32.7			29.2			32.1			31.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	34.1	15.3	21.9	17.2	32.2	10.2	27.1				
Change Period (Y+Rc), s	5.4	* 6.9	5.4	5.6	5.4	* 6.9	5.4	5.6				
Max Green Setting (Gmax), s	20.0	* 50	20.0	24.0	20.0	* 50	20.0	24.0				
Max Q Clear Time (g_c+1), s	17.9	23.1	7.0	10.8	11.8	20.3	3.3	20.9				
Green Ext Time (p_c), s	0.2	4.0	0.2	0.5	0.1	3.5	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th TWSC  
 10: State Route 53 & Anderson Ranch Pkwy

Baseline Conditions  
 Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	14	8	940	997	14
Future Vol, veh/h	26	14	8	940	997	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	365	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	33	33	98	98	94	94
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	79	42	8	959	1061	15

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1565	538	1076	0	-	0
Stage 1	1069	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	-	-
Pot Cap-1 Maneuver	102	488	615	-	-	-
Stage 1	291	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	101	488	615	-	-	-
Mov Cap-2 Maneuver	101	-	-	-	-	-
Stage 1	287	-	-	-	-	-
Stage 2	577	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	78.4	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	615	-	101	488	-	-
HCM Lane V/C Ratio	0.013	-	0.78	0.087	-	-
HCM Control Delay (s)	10.9	-	113.5	13.1	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	0	-	4.2	0.3	-	-

HCM 6th TWSC  
 11: State Route 53 & Kugelman St

Baseline Conditions  
 Timing Plan: P.M. Peak

Intersection							
Int Delay, s/veh	0.7						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	16	15	13	932	0	881	65
Future Vol, veh/h	16	15	13	932	0	881	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	50	0	80	-	190	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	68	68	97	97	91	91	91
Heavy Vehicles, %	2	2	7	7	7	7	7
Mvmt Flow	24	22	13	961	0	968	71

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	1511	520	1039	0	961	-	0
Stage 1	1004	-	-	-	-	-	-
Stage 2	507	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	6.54	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	2.57	-	-
Pot Cap-1 Maneuver	111	501	636	-	338	-	-
Stage 1	315	-	-	-	-	-	-
Stage 2	570	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	109	501	636	-	338	-	-
Mov Cap-2 Maneuver	109	-	-	-	-	-	-
Stage 1	309	-	-	-	-	-	-
Stage 2	570	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.3	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	636	-	109	501	338	-	-
HCM Lane V/C Ratio	0.021	-	0.216	0.044	-	-	-
HCM Control Delay (s)	10.8	-	46.9	12.5	0	-	-
HCM Lane LOS	B	-	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	0.1	0	-	-

HCM 6th TWSC  
12: State Route 53 & Jessie St

Baseline Conditions  
Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	46	900	30	30	866
Future Vol, veh/h	12	46	900	30	30	866
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	97	97	91	91
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	14	52	928	31	33	952

































Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1486	480	0	0	959
Stage 1	944	-	-	-	-
Stage 2	542	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.24
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.27
Pot Cap-1 Maneuver	115	532	-	-	683
Stage 1	339	-	-	-	-
Stage 2	547	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	103	532	-	-	683
Mov Cap-2 Maneuver	228	-	-	-	-
Stage 1	339	-	-	-	-
Stage 2	491	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.2	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	417	683
HCM Lane V/C Ratio	-	-	0.158	0.048
HCM Control Delay (s)	-	-	15.2	10.5
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.6	0.2

HCM 6th Signalized Intersection Summary  
 13: State Route 29 & Main St & State Route 53

Baseline Conditions  
 Timing Plan: P.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 		 	 	 	 	 	 	 
Traffic Volume (veh/h)	351	41	80	55	70	167	106	398	63	157	342	378
Future Volume (veh/h)	351	41	80	55	70	167	106	398	63	157	342	378
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	399	47	91	60	76	182	116	437	69	174	380	420
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	513	112	216	153	250	407	189	765	120	212	930	639
Arrive On Green	0.15	0.20	0.20	0.09	0.13	0.13	0.11	0.26	0.26	0.12	0.27	0.27
Sat Flow, veh/h	3456	569	1102	1781	1870	1574	1711	2955	464	1711	3413	1517
Grp Volume(v), veh/h	399	0	138	60	76	182	116	251	255	174	380	420
Grp Sat Flow(s),veh/h/ln	1728	0	1672	1781	1870	1574	1711	1706	1713	1711	1706	1517
Q Serve(g_s), s	8.2	0.0	5.4	2.4	2.7	7.2	4.8	9.5	9.6	7.3	6.8	16.4
Cycle Q Clear(g_c), s	8.2	0.0	5.4	2.4	2.7	7.2	4.8	9.5	9.6	7.3	6.8	16.4
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	513	0	328	153	250	407	189	442	443	212	930	639
V/C Ratio(X)	0.78	0.00	0.42	0.39	0.30	0.45	0.61	0.57	0.58	0.82	0.41	0.66
Avail Cap(c_a), veh/h	700	0	542	361	606	707	347	1037	1041	347	2074	1148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	0.0	26.1	32.0	29.0	23.1	31.4	23.9	23.9	31.6	22.1	17.2
Incr Delay (d2), s/veh	2.5	0.0	0.3	0.6	0.3	0.3	1.2	0.4	0.4	3.1	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	2.0	1.0	1.2	2.5	1.9	3.5	3.5	3.0	2.4	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	0.0	26.4	32.6	29.2	23.3	32.6	24.3	24.3	34.8	22.2	17.6
LnGrp LOS	C	A	C	C	C	C	C	C	C	C	C	B
Approach Vol, veh/h		537			318			622			974	
Approach Delay, s/veh		31.2			26.5			25.9			22.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	26.0	12.0	21.3	13.8	27.0	16.6	16.7				
Change Period (Y+Rc), s	5.6	6.8	5.6	6.8	5.6	6.8	5.6	* 6.8				
Max Green Setting (Gmax), s	15.0	45.0	15.0	24.0	15.0	45.0	15.0	* 24				
Max Q Clear Time (g_c+I1), s	9.3	11.6	4.4	7.4	6.8	18.4	10.2	9.2				
Green Ext Time (p_c), s	0.1	1.2	0.0	0.4	0.1	1.5	0.4	0.3				

Intersection Summary

HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues  
5: State Route 53 & Olympic Dr

Baseline Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	216	200	333	325	448
v/c Ratio	0.61	0.21	0.69	0.31	0.60
Control Delay	30.3	1.7	29.1	7.4	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.3	1.7	29.1	7.4	23.1
Queue Length 50th (ft)	66	0	108	52	65
Queue Length 95th (ft)	151	24	231	112	132
Internal Link Dist (ft)	735			1679	3149
Turn Bay Length (ft)	215		625		
Base Capacity (vph)	714	1108	691	1732	2135
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.30	0.18	0.48	0.19	0.21
<b>Intersection Summary</b>					

Queues  
7: State Route 53 & Lakeshore Dr/40th Ave

Baseline Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	108	721	114	343	473	656	90	550
v/c Ratio	0.58	1.37	0.59	0.66	1.49	0.62	0.54	0.82
Control Delay	58.9	208.7	59.2	40.9	268.2	33.8	59.0	50.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	208.7	59.2	40.9	268.2	33.8	59.0	50.3
Queue Length 50th (ft)	71	-614	75	197	-442	193	59	182
Queue Length 95th (ft)	136	#978	131	314	#740	292	119	259
Internal Link Dist (ft)		525		345		237		721
Turn Bay Length (ft)	65		70		830		135	
Base Capacity (vph)	334	525	334	520	318	1133	318	1099
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	1.37	0.34	0.66	1.49	0.58	0.28	0.50

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
8: State Route 53 & 18th Ave

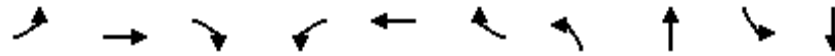
Baseline Conditions  
Timing Plan: P.M. Peak



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	34	108	106	7	1144	66	929
v/c Ratio	0.13	0.46	0.29	0.03	0.74	0.28	0.46
Control Delay	26.2	35.3	9.1	32.3	19.2	33.6	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	35.3	9.1	32.3	19.2	33.6	9.3
Queue Length 50th (ft)	10	40	0	2	195	24	77
Queue Length 95th (ft)	30	97	36	17	328	74	233
Internal Link Dist (ft)	292	411			2599		679
Turn Bay Length (ft)			150	675		720	
Base Capacity (vph)	447	410	557	515	2551	515	2577
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.26	0.19	0.01	0.45	0.13	0.36
Intersection Summary							

Queues  
9: State Route 53 & Old Hwy 53/Dam Rd

Baseline Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	145	175	211	141	400	198	882	237	792
v/c Ratio	0.14	0.56	0.48	0.50	0.33	0.52	0.69	0.76	0.55	0.76
Control Delay	46.0	49.3	11.3	45.2	38.1	8.9	52.0	30.9	45.5	34.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	49.3	11.3	45.2	38.1	8.9	52.0	30.9	45.5	34.5
Queue Length 50th (ft)	14	78	0	59	76	37	105	213	66	207
Queue Length 95th (ft)	49	168	61	115	153	119	#241	365	129	338
Internal Link Dist (ft)		478			407			1595		2599
Turn Bay Length (ft)	150		90	135			575		760	
Base Capacity (vph)	392	496	544	762	510	882	374	1822	726	1851
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.29	0.32	0.28	0.28	0.45	0.53	0.48	0.33	0.43

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



Queues

Baseline Conditions

13: State Route 29 & Main St & State Route 53

Timing Plan: P.M. Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	399	138	60	76	182	116	506	174	380	420
v/c Ratio	0.59	0.37	0.26	0.31	0.32	0.46	0.71	0.58	0.37	0.43
Control Delay	33.1	19.7	36.3	37.0	5.3	38.7	33.5	38.7	25.2	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	19.7	36.3	37.0	5.3	38.7	33.5	38.7	25.2	2.8
Queue Length 50th (ft)	92	28	27	35	3	54	118	78	81	0
Queue Length 95th (ft)	147	81	67	80	43	107	175	153	133	44
Internal Link Dist (ft)		479		714			1302		940	
Turn Bay Length (ft)	60		125		70	230		165		500
Base Capacity (vph)	733	619	377	649	613	360	2124	360	2162	988
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.22	0.16	0.12	0.30	0.32	0.24	0.48	0.18	0.43

Intersection Summary

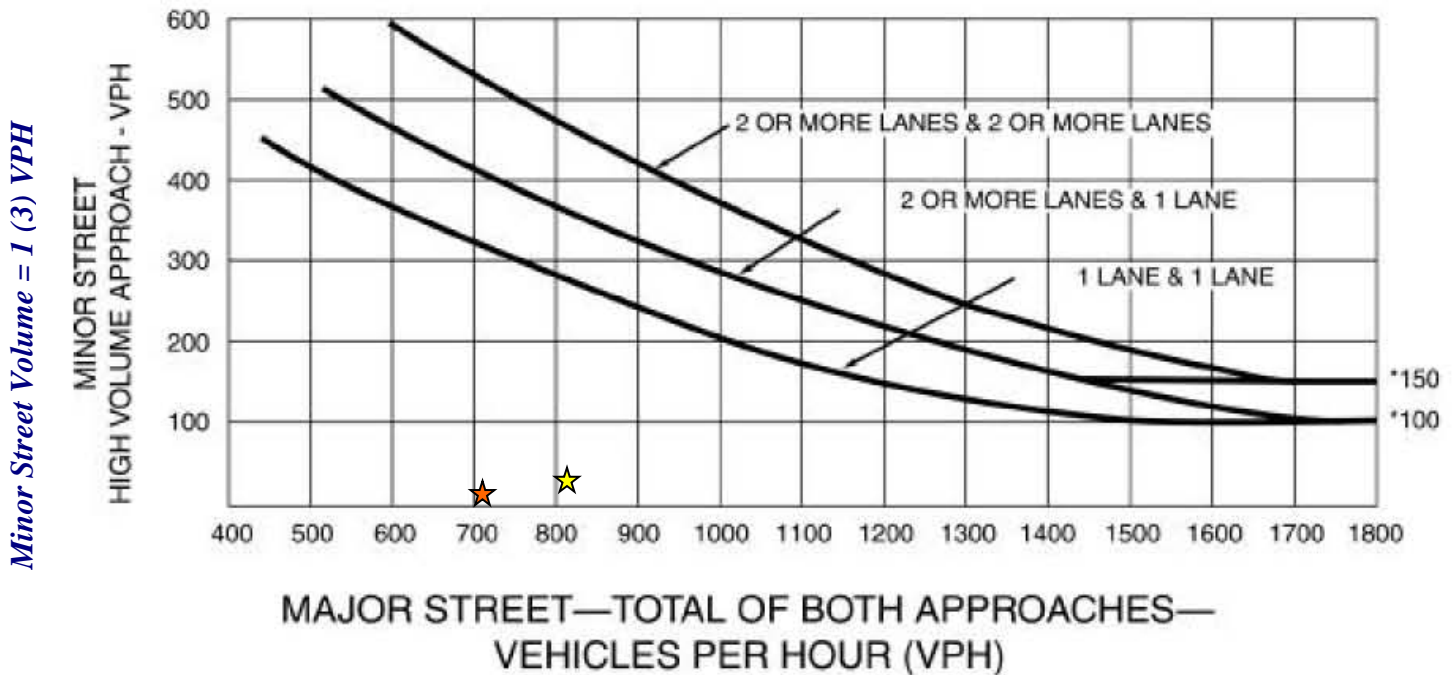
# Appendix B – Signal Warrant Analysis Worksheets



## Peak Hour Warrant (Urban Areas)

Intersection #2: SR 53/Ogulin Canyon Road North, Lake County, CA  
Scenario: Baseline Conditions

**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.

*Major Street Volume = 702 (814) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

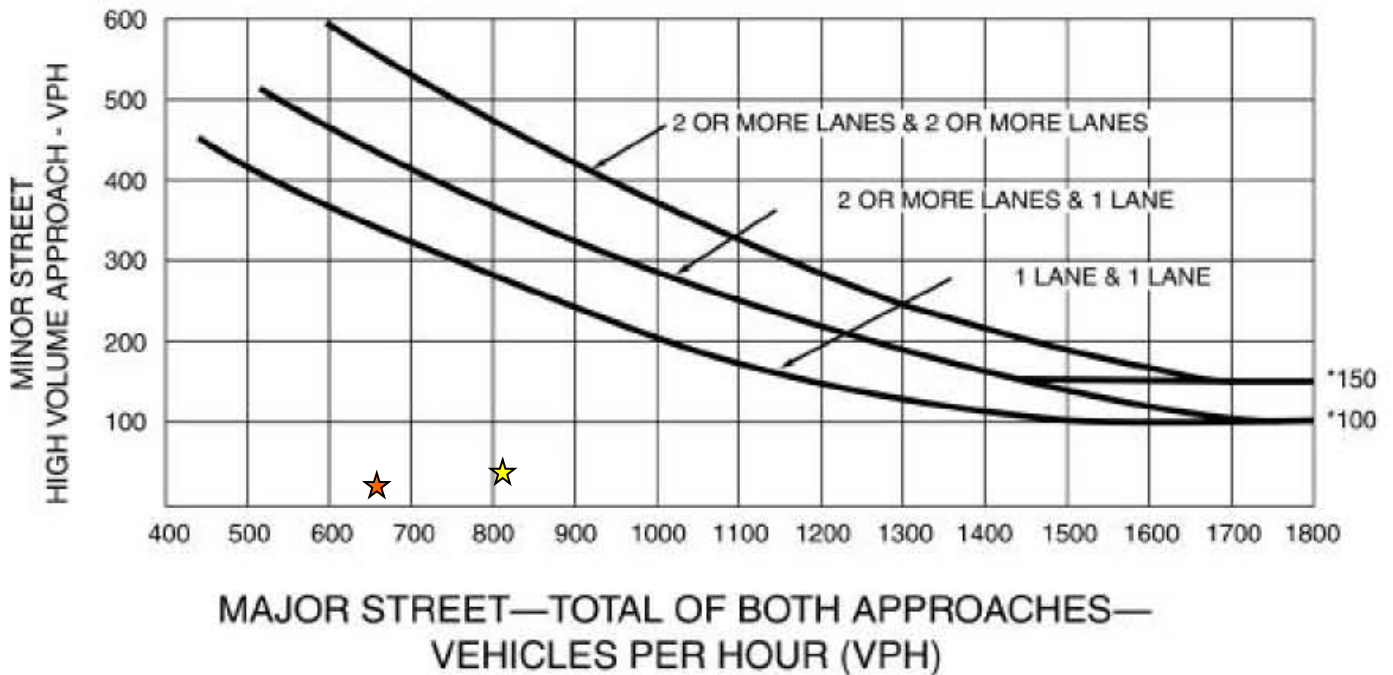
***A signal is NOT WARRANTED in the a.m. Peak Hour***  
***A signal is NOT WARRANTED in the p.m. Peak Hour***

## Peak Hour Warrant (Urban Areas)

Intersection #3: SR 53/Ogulin Canyon Road South, Lake County, CA  
Scenario: Baseline Conditions

**Figure 4C-3. Warrant 3, Peak Hour**

*Minor Street Volume = 13 (40) VPH*



\*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.

*Major Street Volume = 664 (818) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

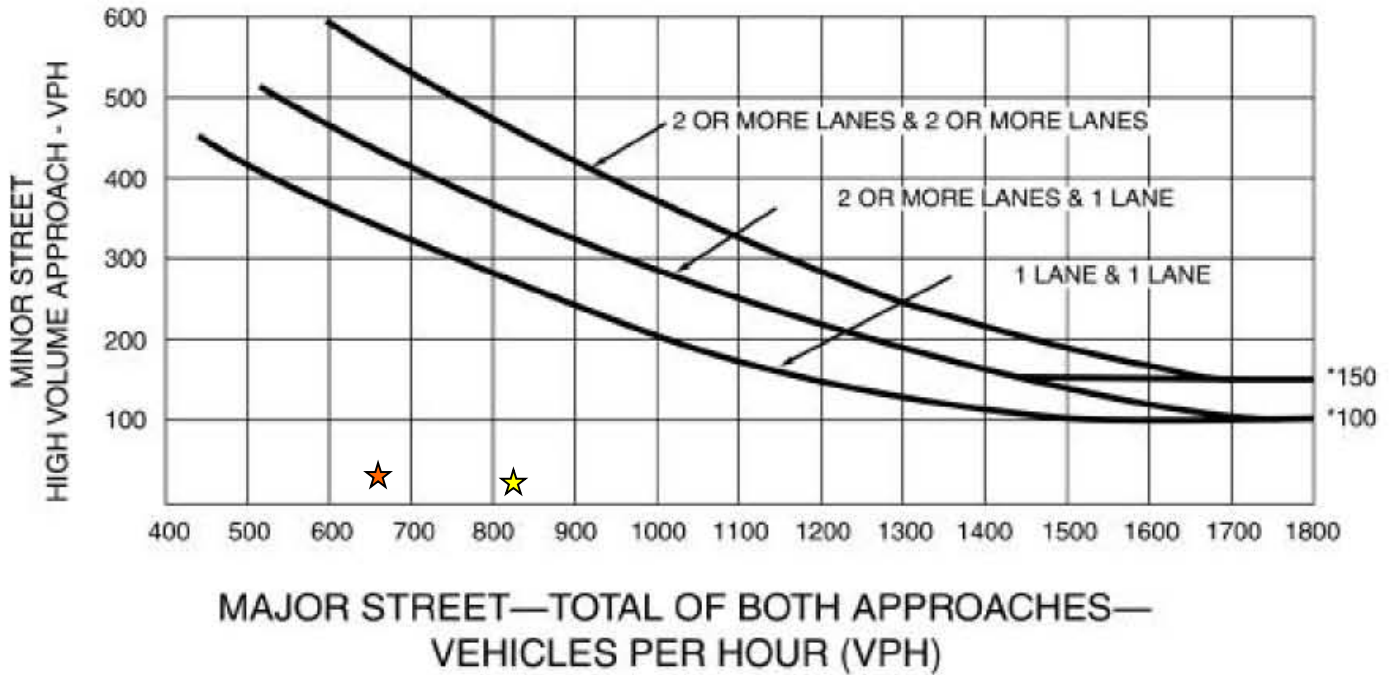
***A signal is NOT WARRANTED in the a.m. Peak Hour***  
***A signal is NOT WARRANTED in the p.m. Peak Hour***

## Peak Hour Warrant (Urban Areas)

Intersection #4: SR 53/Old Highway 53, Lake County, CA  
Scenario: Baseline Conditions

**Figure 4C-3. Warrant 3, Peak Hour**

*Minor Street Volume = 44 (22) VPH*



\*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.

*Major Street Volume = 664 (837) VPH*

*★ AM Peak Hour*

*★ PM Peak Hour*

*A signal is NOT WARRANTED in the a.m. Peak Hour*  
*A signal is NOT WARRANTED in the p.m. Peak Hour*

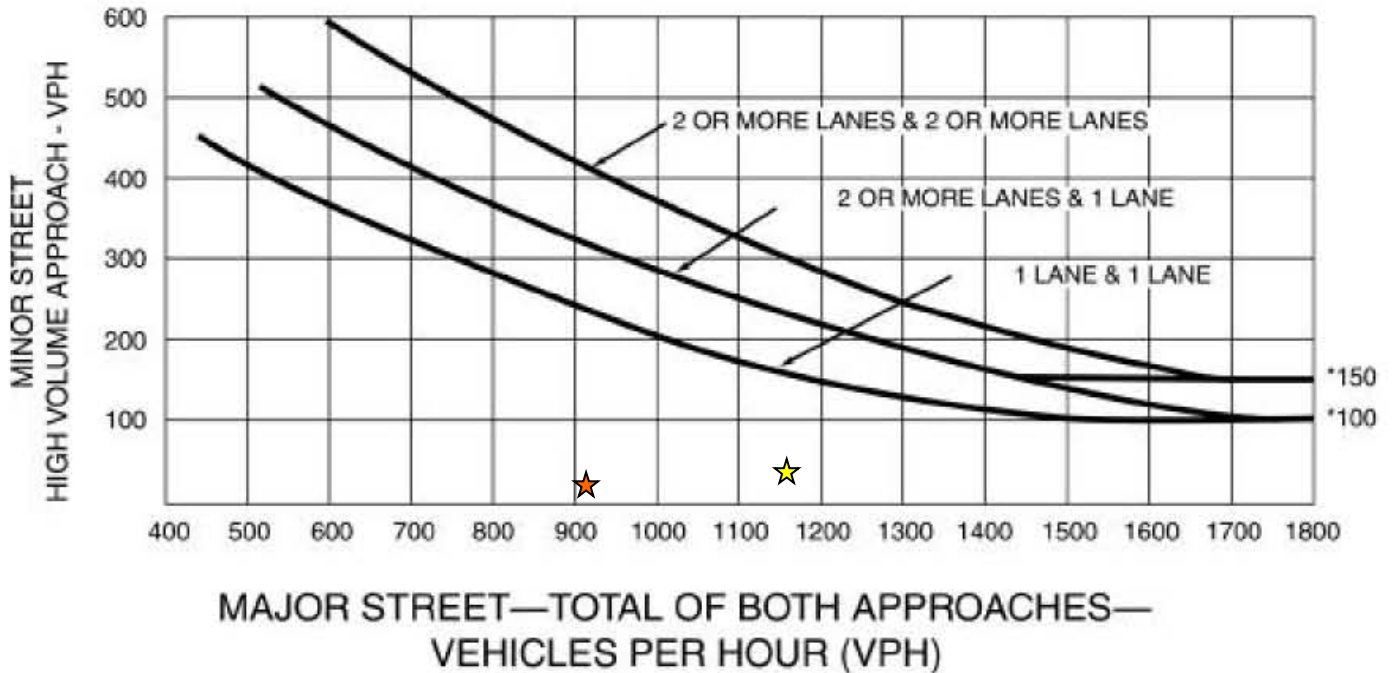
## Peak Hour Warrant (Urban Areas)

Intersection #6: SR 53/Polk Avenue, Lake County, CA

Scenario: Baseline Conditions

**Figure 4C-3. Warrant 3, Peak Hour**

*Minor Street Volume = 9 (26) VPH*



\*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.

*Major Street Volume = 933 (1166) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

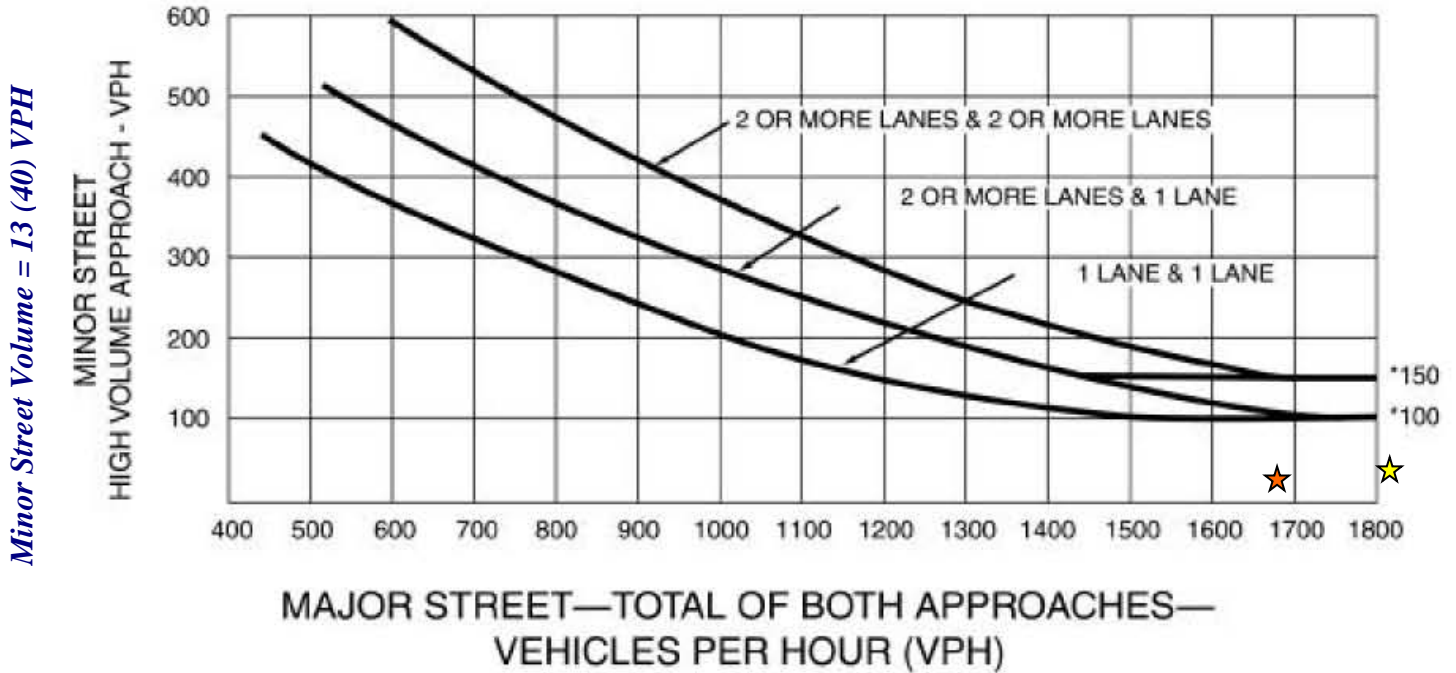
*A signal is NOT WARRANTED in the a.m. Peak Hour*

*A signal is NOT WARRANTED in the p.m. Peak Hour*

## Peak Hour Warrant (Urban Areas)

Intersection #10: SR 53/Anderson Ranch Parkway, Lake County, CA  
Scenario: Baseline Conditions

**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.

*Major Street Volume = 1688 (1959) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

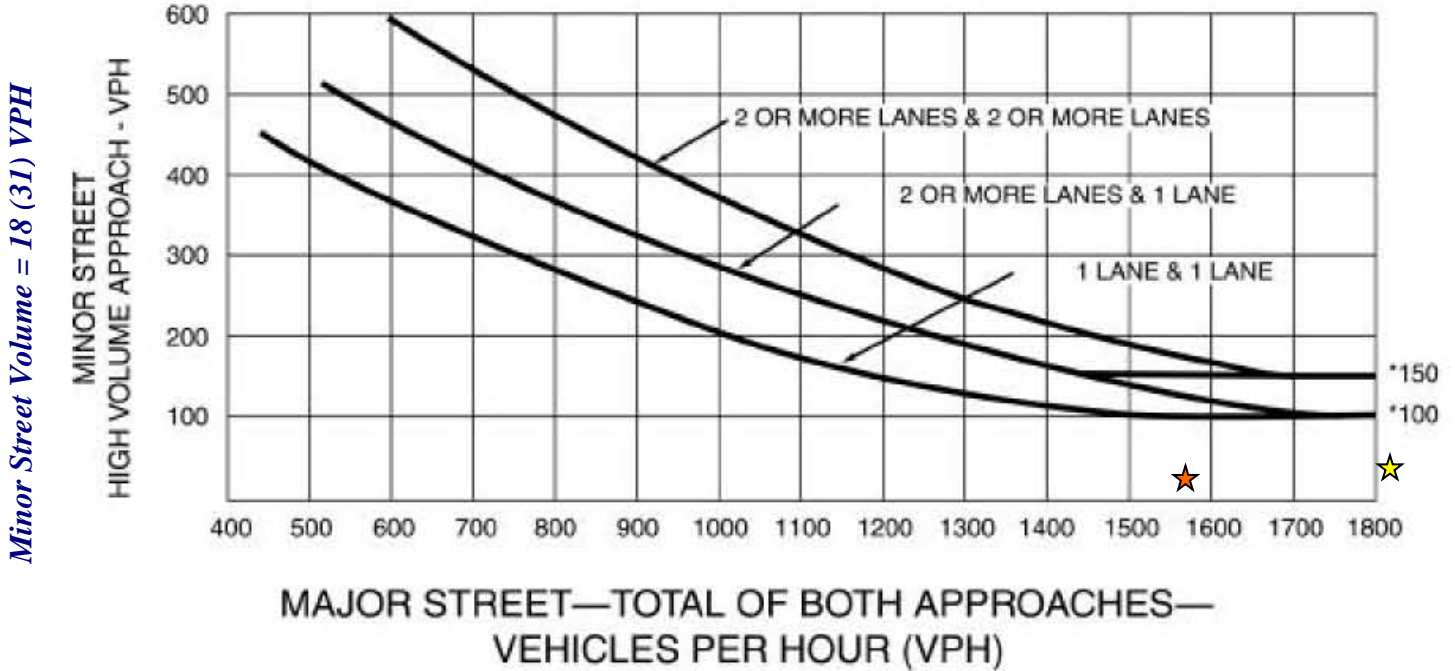
*A signal is NOT WARRANTED in the a.m. Peak Hour*  
*A signal is NOT WARRANTED in the p.m. Peak Hour*

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs  
Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

## Peak Hour Warrant (Urban Areas)

Intersection #11: SR 53/Kugelman Street, Lake County, CA  
Scenario: Baseline Conditions

**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.

*Major Street Volume = 1579 (1891) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

*A signal is NOT WARRANTED in the a.m. Peak Hour*  
*A signal is NOT WARRANTED in the p.m. Peak Hour*

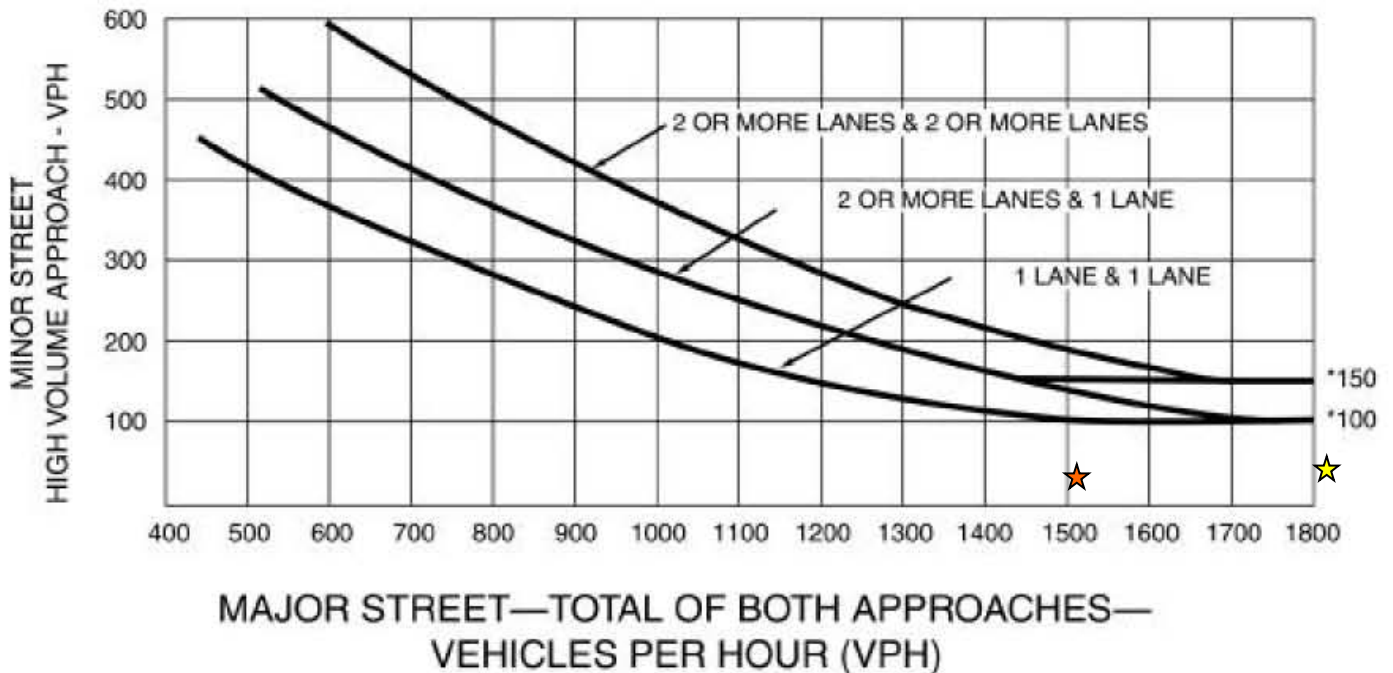


## Peak Hour Warrant (Urban Areas)

Intersection #12: SR 53/Jessie Street, Lake County, CA  
Scenario: Baseline Conditions

**Figure 4C-3. Warrant 3, Peak Hour**

*Minor Street Volume = 36 (58) VPH*



\*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.

*Major Street Volume = 1505 (1826) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

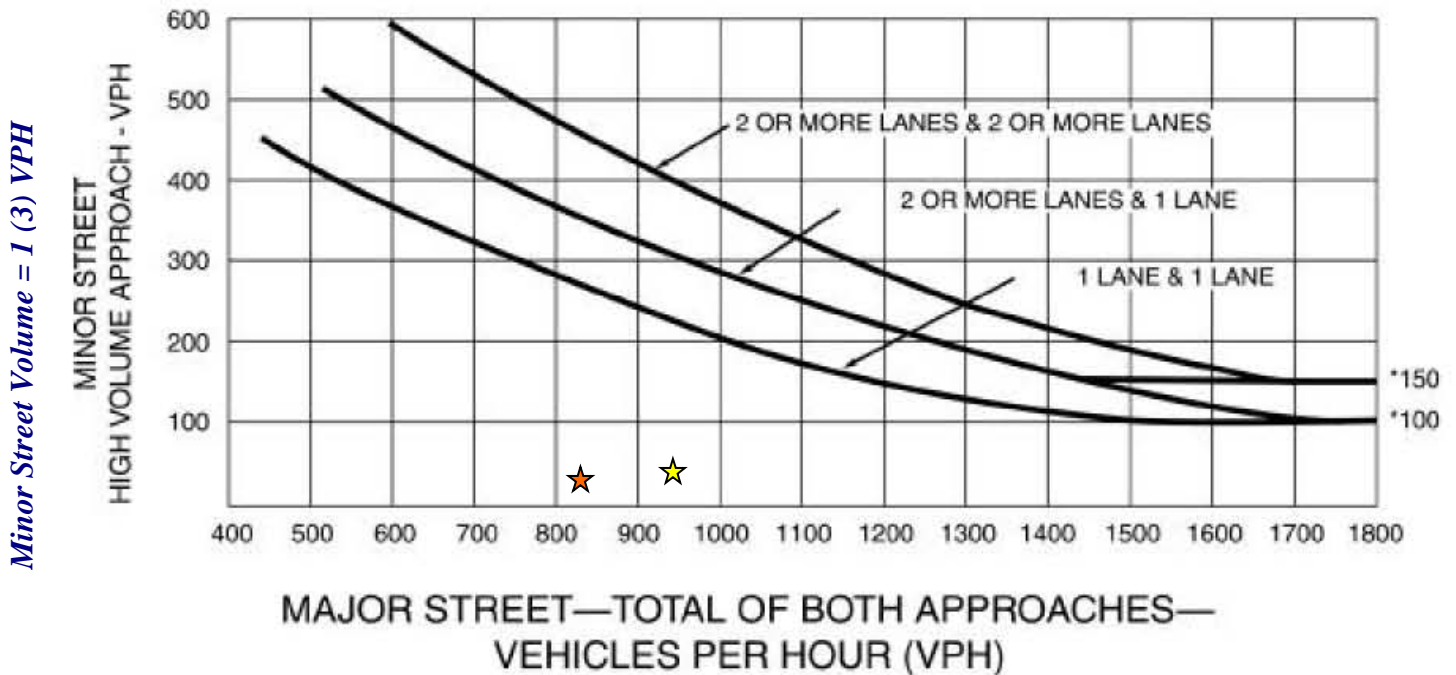
***A signal is NOT WARRANTED in the a.m. Peak Hour***  
***A signal is NOT WARRANTED in the p.m. Peak Hour***

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

## Peak Hour Warrant (Urban Areas)

Intersection #2: SR 53/Ogulin Canyon Road North, Lake County, CA  
Scenario: 2030 Conditions

**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.

*Major Street Volume = 815 (945) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

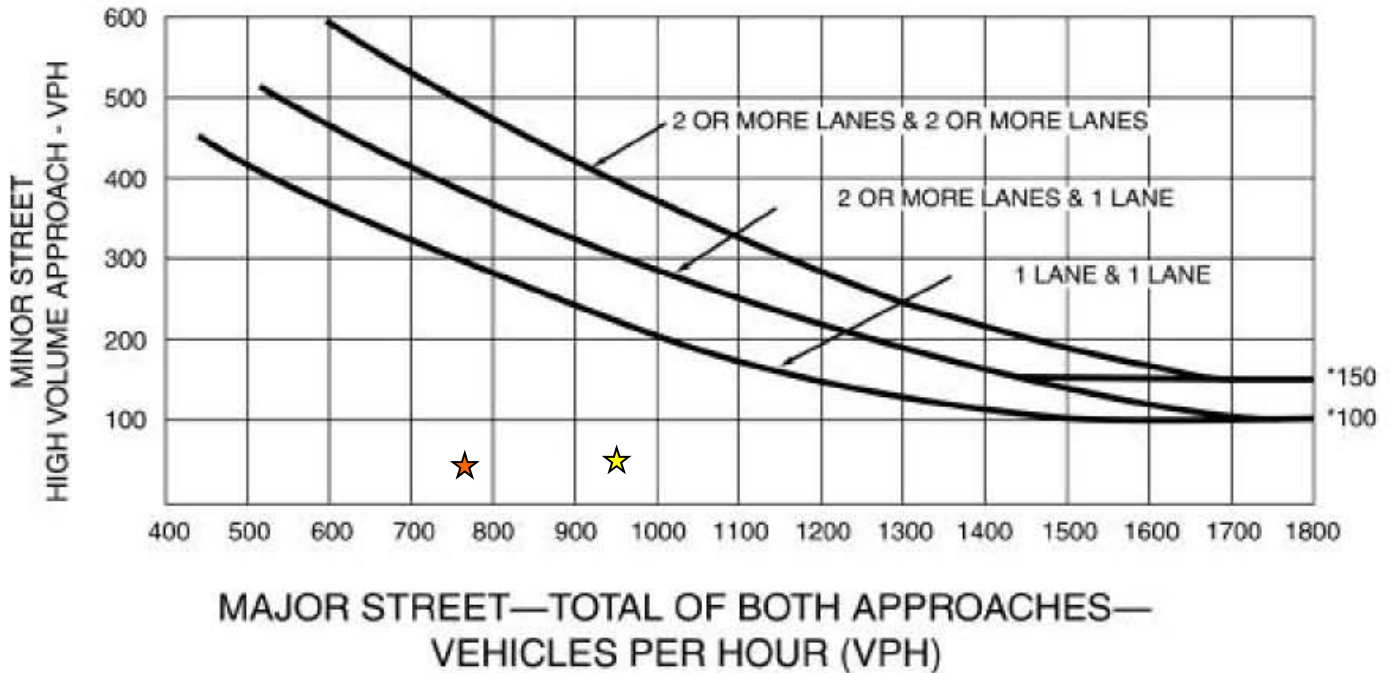
***A signal is NOT WARRANTED in the a.m. Peak Hour***  
***A signal is NOT WARRANTED in the p.m. Peak Hour***

## Peak Hour Warrant (Urban Areas)

Intersection #3: SR 53/Ogulin Canyon Road South, Lake County, CA  
Scenario: 2030 Conditions

**Figure 4C-3. Warrant 3, Peak Hour**

*Minor Street Volume = 15 (47) VPH*



\*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.

*Major Street Volume = 770 (950) VPH*

★ *AM Peak Hour*

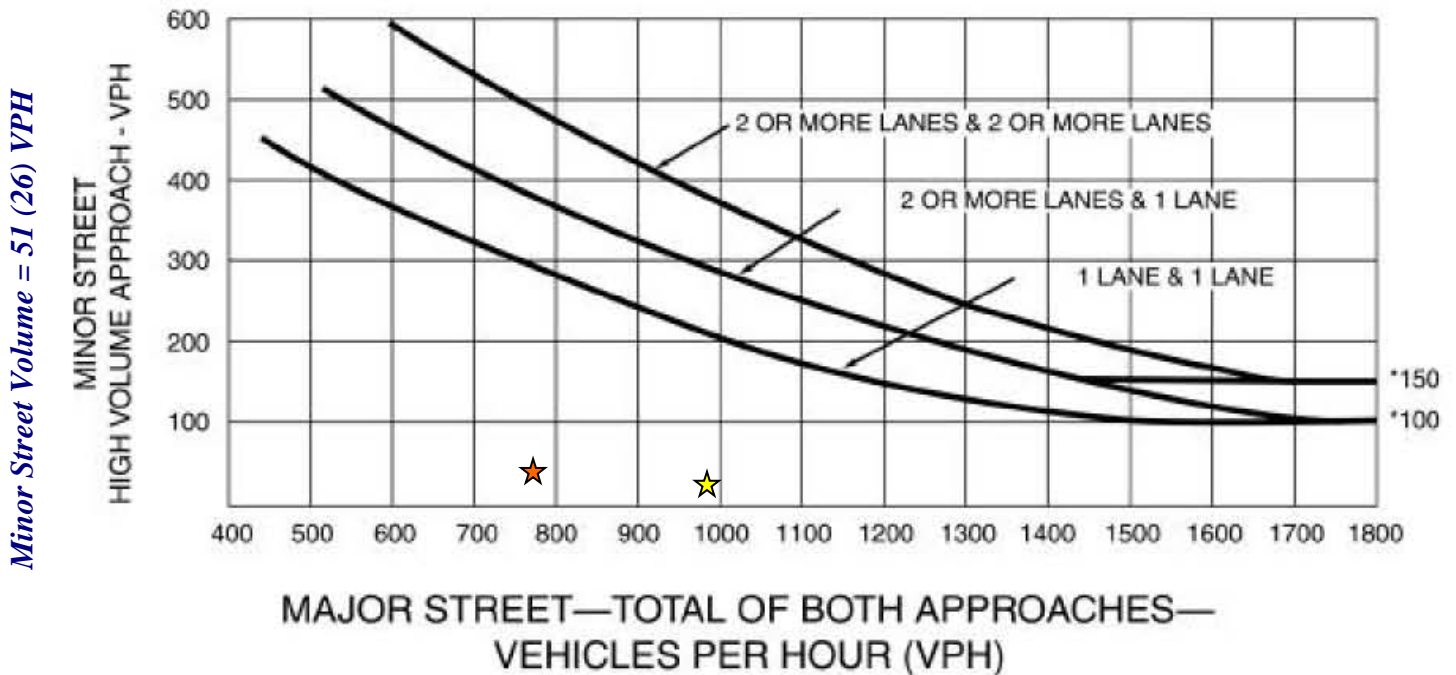
★ *PM Peak Hour*

***A signal is NOT WARRANTED in the a.m. Peak Hour***  
***A signal is NOT WARRANTED in the p.m. Peak Hour***

## Peak Hour Warrant (Urban Areas)

Intersection #4: SR 53/Old Highway 53, Lake County, CA  
Scenario: 2030 Conditions

**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.

*Major Street Volume = 771 (972) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

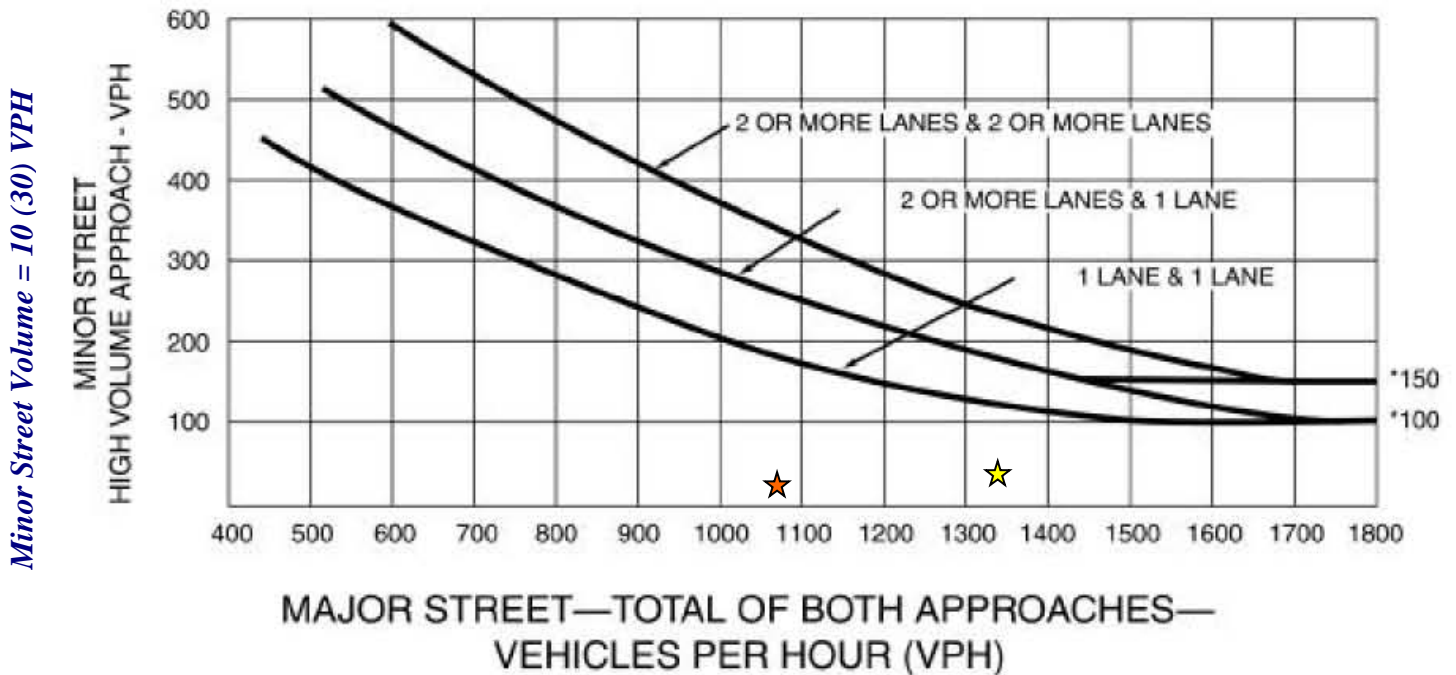
*A signal is NOT WARRANTED in the a.m. Peak Hour*  
*A signal is NOT WARRANTED in the p.m. Peak Hour*

## Peak Hour Warrant (Urban Areas)

Intersection #6: SR 53/Polk Avenue, Lake County, CA

Scenario: 2030 Conditions

**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.

*Major Street Volume = 1083 (1353) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

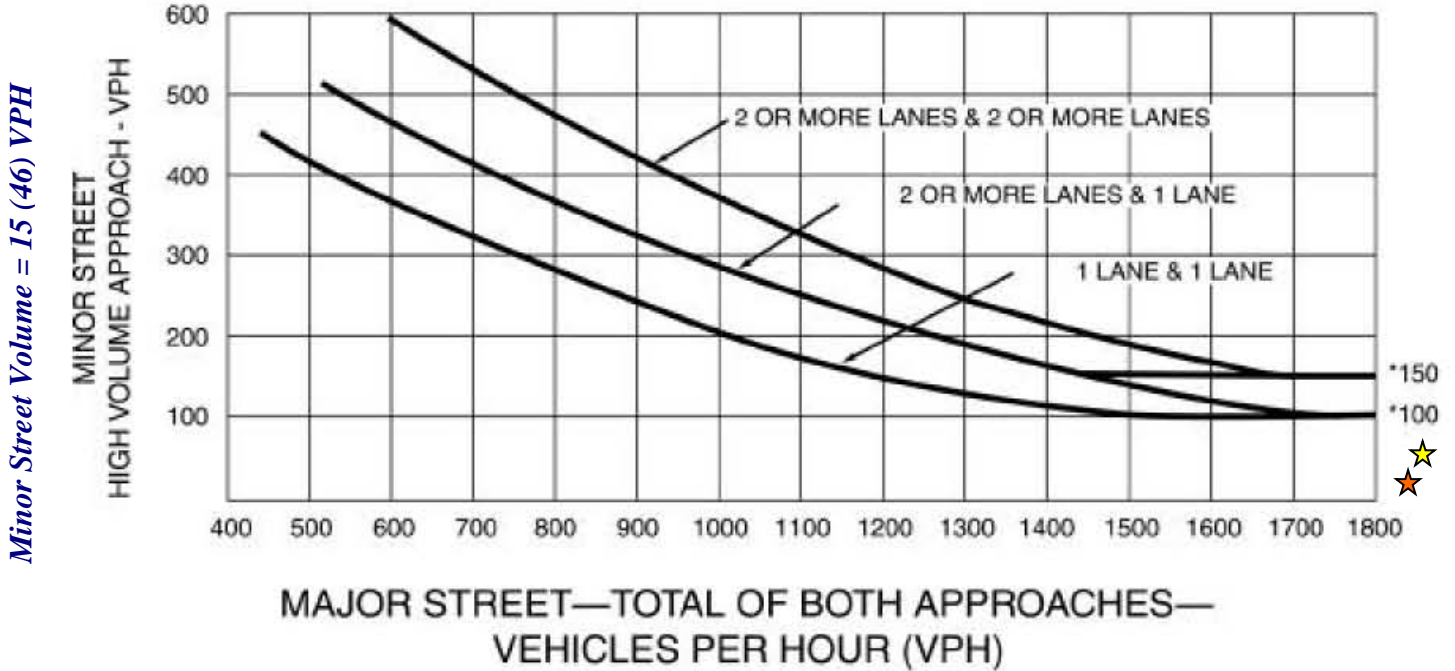
*A signal is NOT WARRANTED in the a.m. Peak Hour*

*A signal is NOT WARRANTED in the p.m. Peak Hour*

## Peak Hour Warrant (Urban Areas)

Intersection #10: SR 53/Anderson Ranch Parkway, Lake County, CA  
Scenario: 2030 Conditions

**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.

*Major Street Volume = 1958 (2273) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

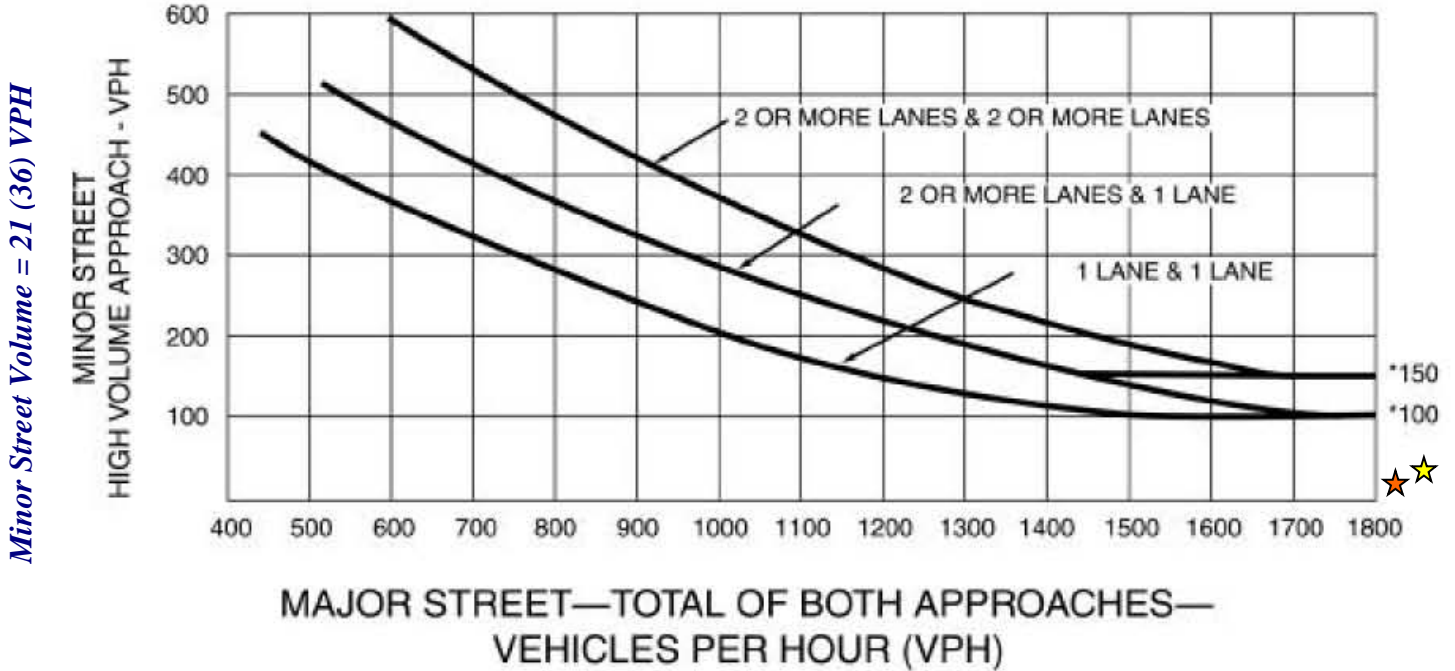
*A signal is NOT WARRANTED in the a.m. Peak Hour*  
*A signal is NOT WARRANTED in the p.m. Peak Hour*

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs  
Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

## Peak Hour Warrant (Urban Areas)

Intersection #11: SR 53/Kugelman Street, Lake County, CA  
Scenario: 2030 Conditions

**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.

*Major Street Volume = 1832 (2194) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

*A signal is NOT WARRANTED in the a.m. Peak Hour*  
*A signal is NOT WARRANTED in the p.m. Peak Hour*

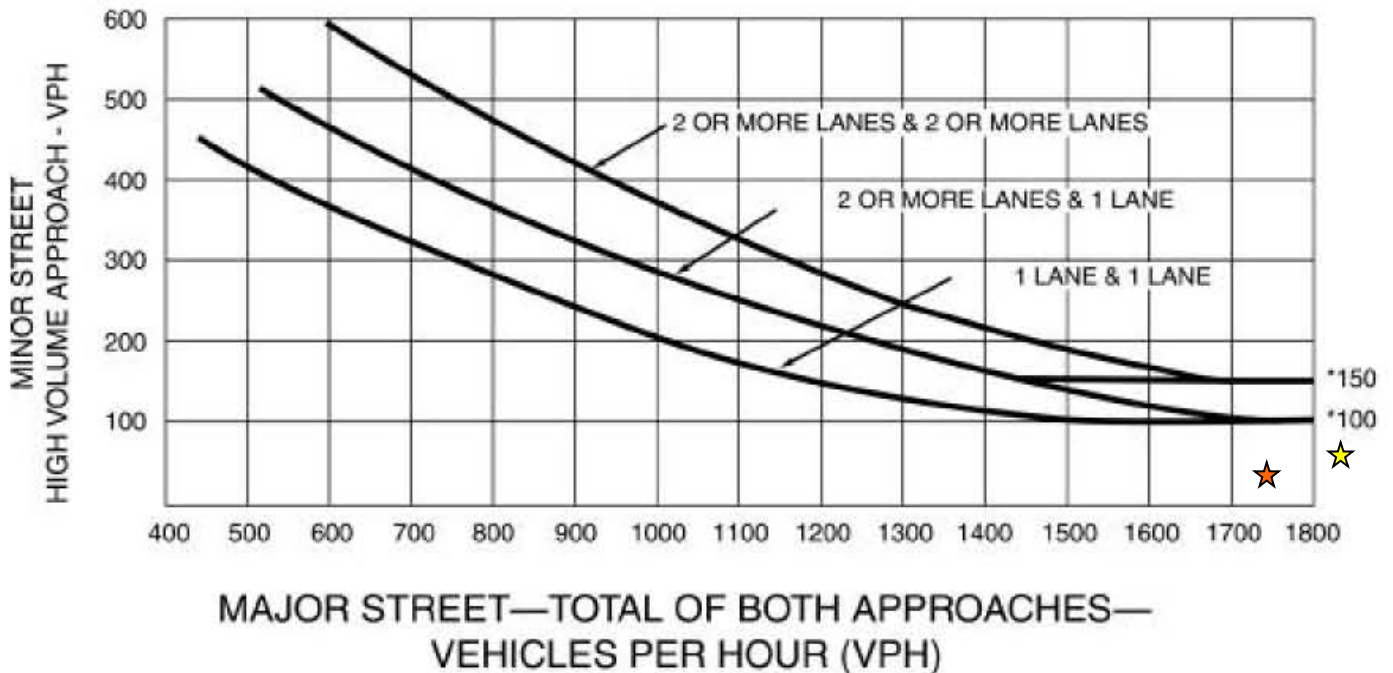
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs  
Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

## Peak Hour Warrant (Urban Areas)

Intersection #12: SR 53/Jessie Street, Lake County, CA  
Scenario: 2030 Conditions

**Figure 4C-3. Warrant 3, Peak Hour**

*Minor Street Volume = 42 (67) VPH*



\*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.

*Major Street Volume = 1747 (2119) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

***A signal is NOT WARRANTED in the a.m. Peak Hour***

***A signal is NOT WARRANTED in the p.m. Peak Hour***

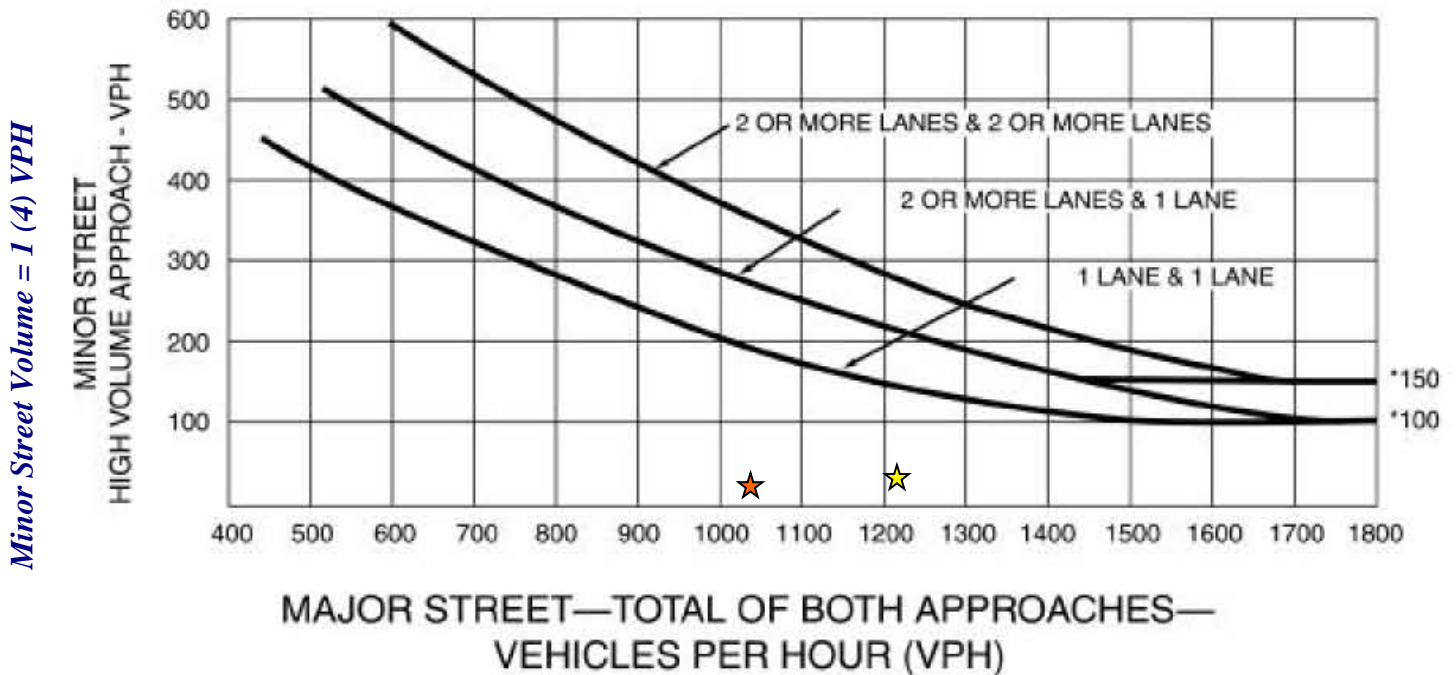
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3



## Peak Hour Warrant (Urban Areas)

Intersection #2: SR 53/Ogulin Canyon Road North, Lake County, CA  
Scenario: 2040 Conditions

**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.

*Major Street Volume = 1043 (1209) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

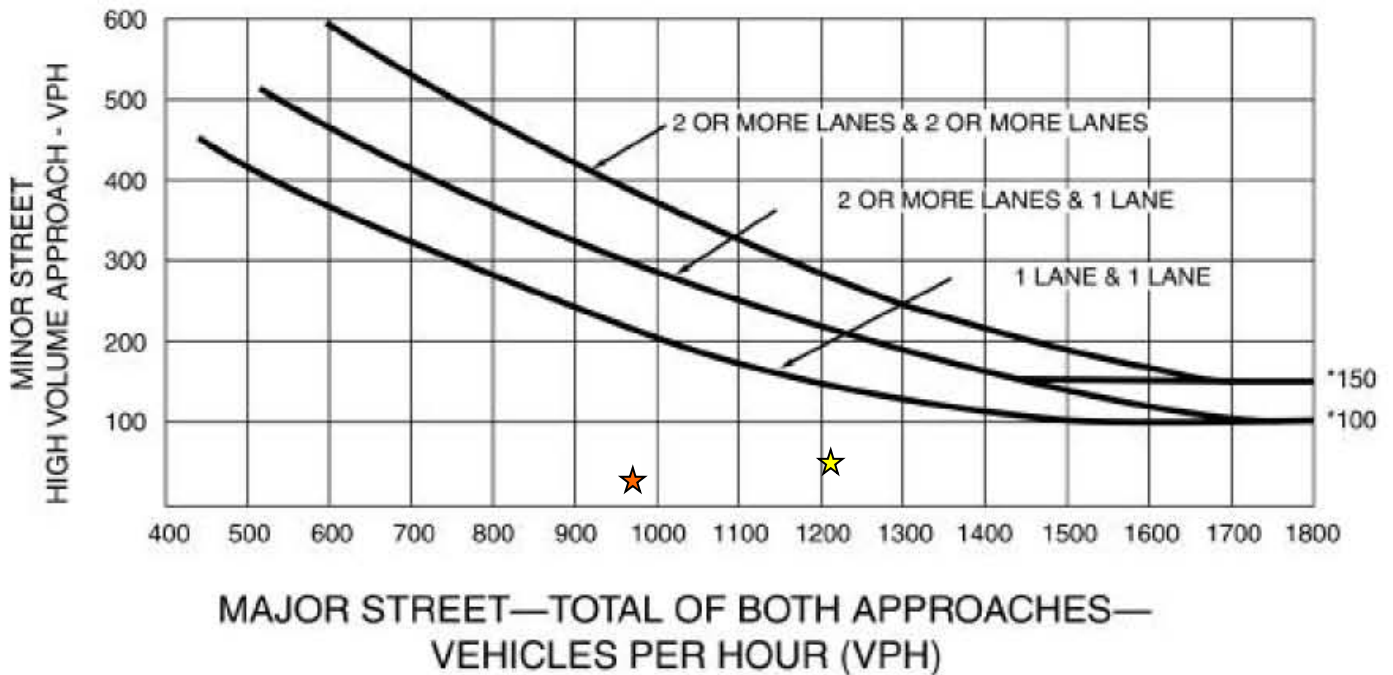
***A signal is NOT WARRANTED in the a.m. Peak Hour***  
***A signal is NOT WARRANTED in the p.m. Peak Hour***

## Peak Hour Warrant (Urban Areas)

Intersection #3: SR 53/Ogulin Canyon Road South, Lake County, CA  
Scenario: 2040 Conditions

**Figure 4C-3. Warrant 3, Peak Hour**

*Minor Street Volume = 17 (54) VPH*



\*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.

*Major Street Volume = 983 (1213) VPH*

★ *AM Peak Hour*

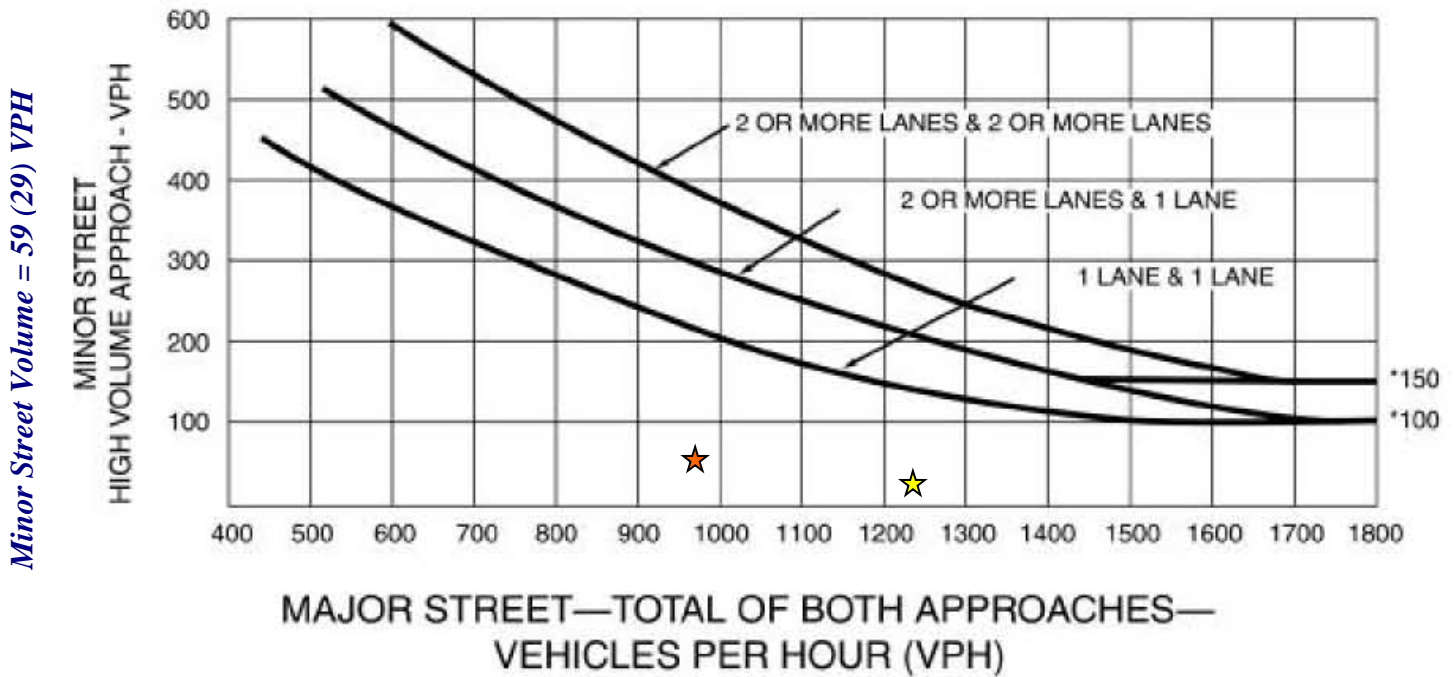
★ *PM Peak Hour*

***A signal is NOT WARRANTED in the a.m. Peak Hour***  
***A signal is NOT WARRANTED in the p.m. Peak Hour***

## Peak Hour Warrant (Urban Areas)

Intersection #4: SR 53/Old Highway 53, Lake County, CA  
Scenario: 2040 Conditions

**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.

*Major Street Volume = 984 (1239) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

*A signal is NOT WARRANTED in the a.m. Peak Hour*  
*A signal is NOT WARRANTED in the p.m. Peak Hour*

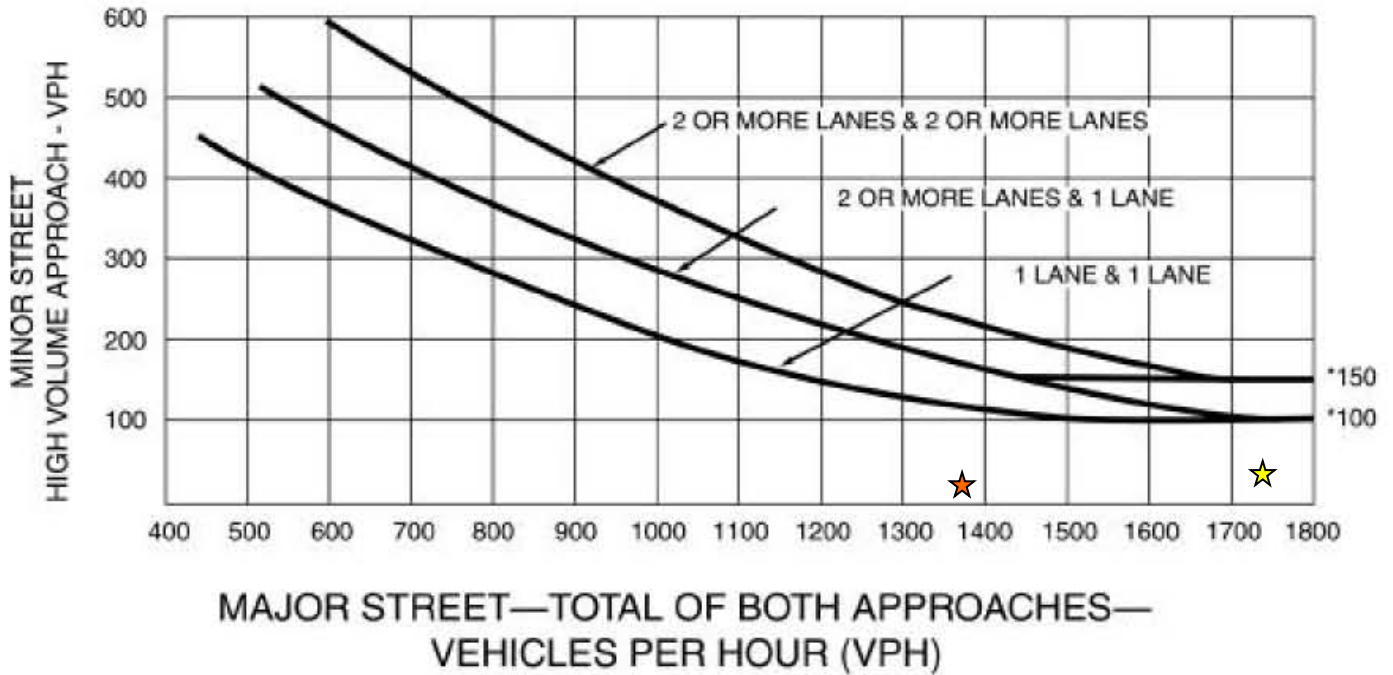
## Peak Hour Warrant (Urban Areas)

Intersection #6: SR 53/Polk Avenue, Lake County, CA

Scenario: 2040 Conditions

**Figure 4C-3. Warrant 3, Peak Hour**

*Minor Street Volume = 12 (35) VPH*



\*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.

*Major Street Volume = 1384 (1731) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

*A signal is NOT WARRANTED in the a.m. Peak Hour*

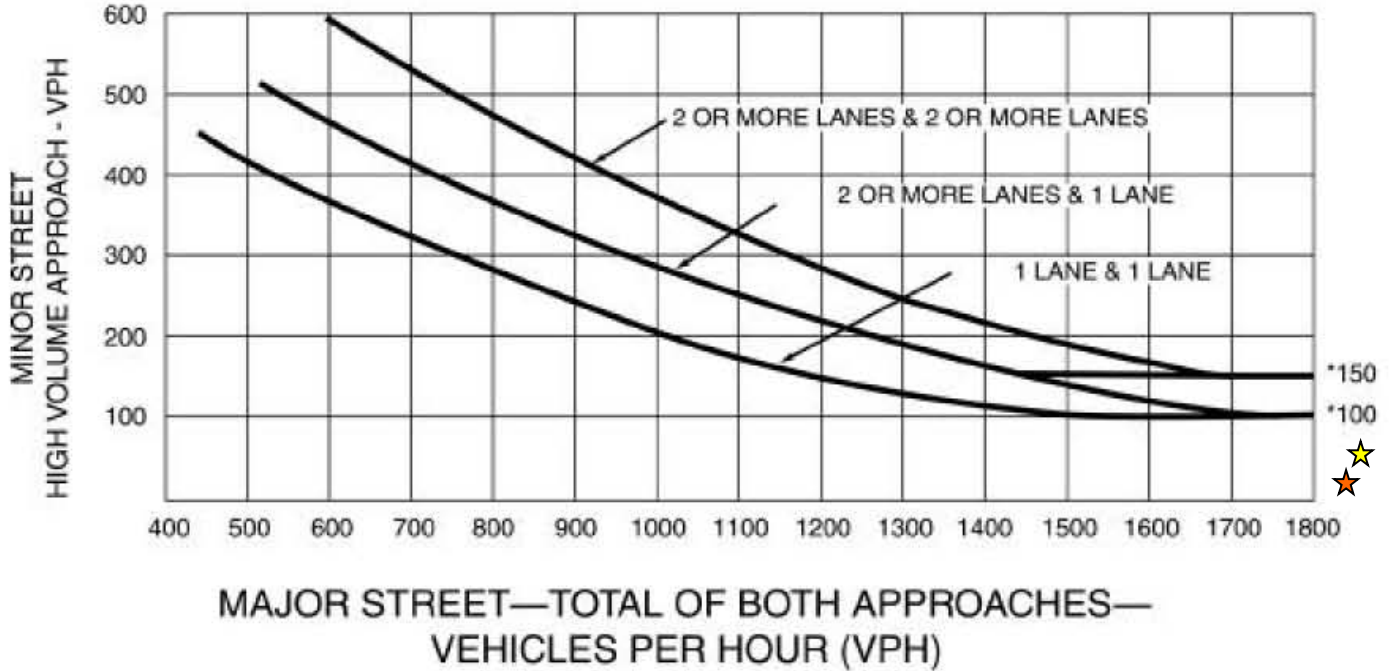
*A signal is NOT WARRANTED in the p.m. Peak Hour*

## Peak Hour Warrant (Urban Areas)

Intersection #10: SR 53/Anderson Ranch Parkway, Lake County, CA  
Scenario: 2040 Conditions

**Figure 4C-3. Warrant 3, Peak Hour**

**Minor Street Volume = 17 (54) VPH**



\*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.

**Major Street Volume = 2498 (2907) VPH**

★ **AM Peak Hour**

★ **PM Peak Hour**

***A signal is NOT WARRANTED in the a.m. Peak Hour***  
***A signal is NOT WARRANTED in the p.m. Peak Hour***

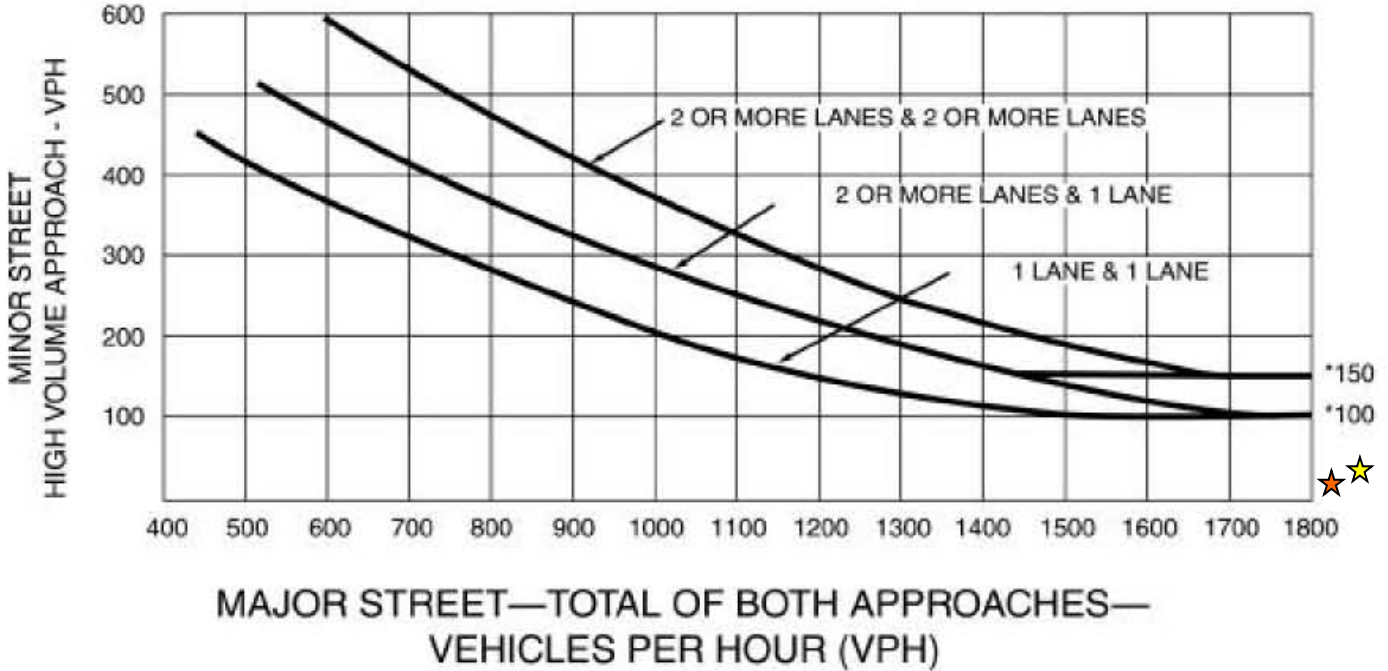
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

# Peak Hour Warrant (Urban Areas)

Intersection #11: SR 53/Kugelman Street, Lake County, CA  
Scenario: 2040 Conditions

**Figure 4C-3. Warrant 3, Peak Hour**

*Minor Street Volume = 24 (42) VPH*



\*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.

*Major Street Volume = 2336 (2800) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

***A signal is NOT WARRANTED in the a.m. Peak Hour***  
***A signal is NOT WARRANTED in the p.m. Peak Hour***

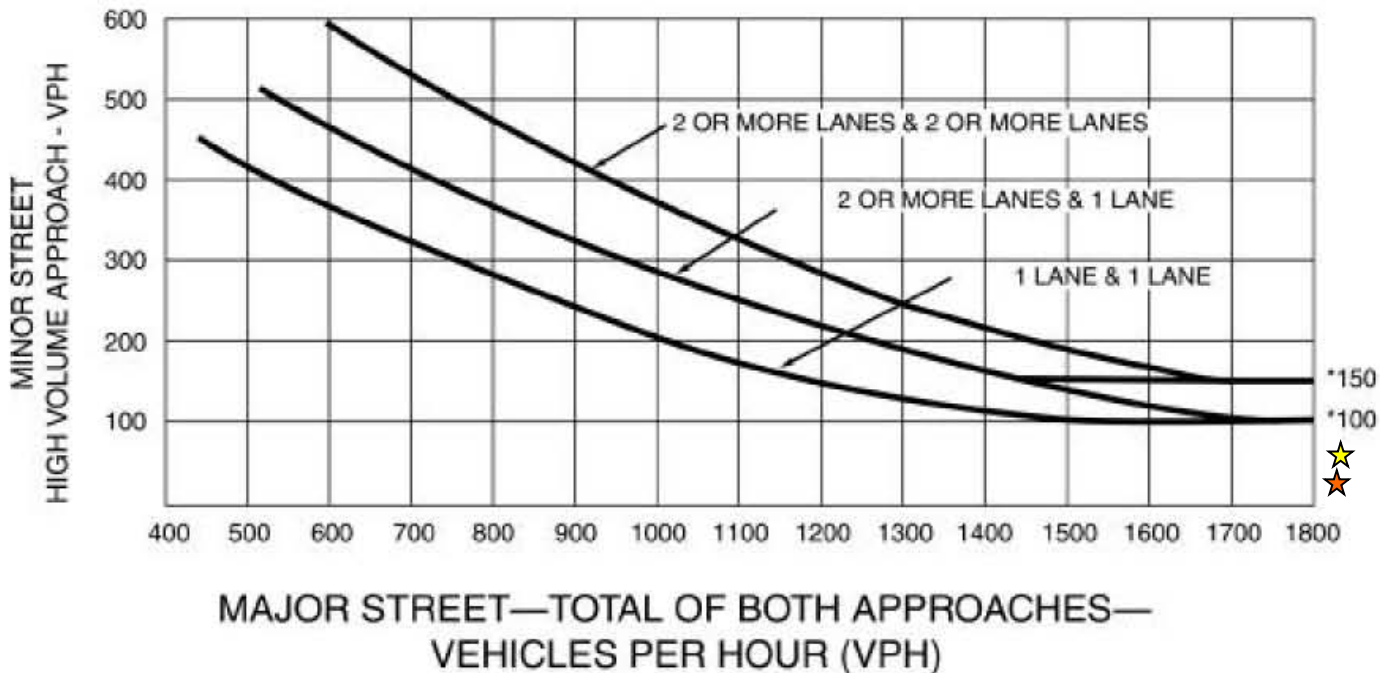
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

## Peak Hour Warrant (Urban Areas)

Intersection #12: SR 53/Jessie Street, Lake County, CA  
Scenario: 2040 Conditions

**Figure 4C-3. Warrant 3, Peak Hour**

*Minor Street Volume = 48 (78) VPH*



\*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.

*Major Street Volume = 2225 (2704) VPH*

★ *AM Peak Hour*

★ *PM Peak Hour*

***A signal is NOT WARRANTED in the a.m. Peak Hour***  
***A signal is NOT WARRANTED in the p.m. Peak Hour***

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

# Appendix C – Collision Analysis





**Lake County - SR 53 Corridor  
Collision Analysis**

**INTERSECTION COLLISION ANALYSIS**

Study Intersections	Year 2015				Year 2016				Year 2017				Year 2018				Year 2019				Total				AM vol	PM vol	Daily Vol (ADT)	Intersection Collision Rate (RSE)	Statewide Average Collision Rate	Intersection Rate > Statewide Average Collision Rate?
	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All (A)						
SR 53 / SR 20	6	0	0	6	10	0	0	10	1	0	0	1	3	0	0	3	5	0	0	5	25	0	0	25	890	1,072	9,810	1.40	0.04	Yes
SR 53 / Ogulin Canyon Road North	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	703	817	7,600	0.14	0.08	Yes
SR 53 / Ogulin Canyon Road South	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	677	858	7,675	0.00	0.08	No
SR 53 / Old Highway 53	2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	1	5	0	0	5	708	859	7,835	0.35	0.08	Yes
SR 53 / Olympic Drive	0	0	0	0	0	0	0	0	3	0	0	3	1	0	0	1	3	0	0	3	7	0	0	7	1,083	1,378	12,305	0.31	0.19	Yes
SR 53 / Polk Avenue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	947	1,200	10,735	0.05	0.13	No
SR 53 / 40th Avenue-Lakeshore Drive	2	0	0	2	3	0	0	3	7	0	0	7	2	0	0	2	8	0	0	8	22	0	0	22	2,237	2,800	25,185	0.48	0.24	Yes
SR 53 / 18th Avenue	2	0	0	2	2	0	0	2	4	0	0	4	1	0	0	1	2	0	0	2	11	0	0	11	1,844	2,205	20,245	0.30	0.24	Yes
SR 53 / Dam Road-Old Highway 53	1	0	0	1	5	1	0	6	4	0	0	4	4	0	0	4	1	0	0	1	15	1	0	16	2,418	2,943	26,805	0.33	0.24	Yes
SR 53 / Anderson Ranch Parkway	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1,701	1,999	18,500	0.06	0.08	No
SR 53 / Kugelman Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,597	1,922	17,595	0.00	0.08	No
SR 53 / Jessie Street	4	0	0	4	0	0	0	0	2	0	0	2	1	0	0	1	4	0	0	4	11	0	0	11	1,541	1,884	17,125	0.35	0.08	Yes
SR 53 / SR 29	6	1	0	7	7	0	0	7	11	1	0	12	9	0	0	9	4	0	0	4	37	2	0	39	1,930	2,208	20,690	1.03	0.24	Yes
<b>Totals</b>	<b>25</b>	<b>1</b>	<b>0</b>	<b>26</b>	<b>29</b>	<b>1</b>	<b>0</b>	<b>30</b>	<b>32</b>	<b>1</b>	<b>0</b>	<b>33</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>29</b>	<b>138</b>	<b>3</b>	<b>0</b>	<b>141</b>						

Where  
 $R_{SE} = 1000000 * A / (365 * T * ADT)$   
 $R_{SE}$  = Observed collision rate; # of acc./mil. vehicle  
A = Number of collisions over study period  
T = Total number of years over which intersection accidents were collected; January 2015 to December 2019 = 5.00 years  
ADT = Average Daily Intersection Traffic

**Lake County - SR 53 Corridor  
Collision Analysis**

**SEGMENT COLLISIONS**

Roadway Segment	Year 2015				Year 2016				Year 2017				Year 2018				Year 2019				Total			
	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All (A)
State Route 53, between State Route 20 and Ogulin Canyon Road South	5	0	0	5	3	0	0	3	2	0	0	2	1	0	0	1	6	0	0	6	17	0	0	17
State Route 53, between Olympic Drive and Polk Avenue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Route 53, between 40th Avenue and 18th Avenue	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	1	0	2	2	2	0	4
State Route 53, between 18th Avenue and Dam Road-Old Highway 53	0	0	0	0	2	0	0	2	3	0	0	3	2	0	0	2	0	0	0	0	7	0	0	7
State Route 53, between North of Main Street and State Route 29	4	0	0	4	3	0	0	3	3	0	0	3	2	0	0	2	12	0	0	12	24	0	0	24
<b>Totals</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>7</b>	<b>19</b>	<b>1</b>	<b>0</b>	<b>20</b>	<b>50</b>	<b>2</b>	<b>0</b>	<b>52</b>

## Lake County - SR 53 Corridor

### Collision Analysis

#### SEGMENT COLLISIONS

Roadway Segment	Total # of Collisions (2015-2019)	Length (in miles)	ADT	MVM	Caltrans Statewide Average Collision Rate	Roadway Segment Collision Rate (RSCR)	Roadway Segment Collision Rate > Statewide Average Collision Rate
State Route 53, between State Route 20 and Ogulin Canyon Road South	17	2.38	7,465	32.42	0.52	1.11	No
State Route 53, between Olympic Drive and Polk Avenue	0	0.33	10,190	6.14	0.00	1.41	No
State Route 53, between 40th Avenue and 18th Avenue	4	0.96	18,475	32.37	0.12	1.41	No
State Route 53, between 18th Avenue and Dam Road-Old Highway 53	7	0.50	18,285	16.69	0.42	1.41	No
State Route 53, between North of Main Street and State Route 29	24	0.23	16,410	6.89	3.48	1.68	Yes

## *California Department of Transportation*

*OTM22215*

### *TSAR - ACCIDENT SUMMARY*

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.
2. Reports from TSN are to be used and interpreted by the California Department of Transportation (Caltrans) officials or authorized representative.
3. Electronic versions of these reports may be emailed between Caltrans' employees only using the State computer system.
4. The contents of these reports shall be considered confidential and may be privileged pursuant to 23 U.S.C. Section 409, and are for the sole use of the intended recipient(s). Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message. Do not print, copy or forward.

*California Department of Transportation*

*OTM22215*

***TSAR - ACCIDENT SUMMARY***

**REPORT PARAMETERS:**

REPORT DATE : 02/26/2021  
REFERENCE DATE : 02/25/2021  
SUBMITTOR : T1LPELLE  
REPORT TITLE : ' SR-53 Entire Run '  
EVENT ID : 4298188

**LOCATION CRITERIA:**

FROM: 01-LAK-053 000.000 TO: 01-LAK-053 007.445  
FROM: 01-LAK-020 031.571 TO: 01-LAK-020 031.665  
FROM: 01-LAK-029 020.260 TO: 01-LAK-029 020.354

**SELECTION CRITERIA:**

**Accidents Date Range:**

From -- 01/01/2015 To -- 12/31/2019

TASAS SELECTIVE RECORD RETRIEVAL
TSAR - ACCIDENT SUMMARY
'SR-53 Entire Run '

Table with columns: TOTAL ACCIDENTS, FATAL, INJURY, PDO, PERSONS KILLED, INJURED, MOTOR VEHICLES INVOLVED NUMBER, PCT, CODE, <---LINES CODED---> NUMBER, PCT, CODE.

Table with columns: <--- HOUR OF DAY ---> NUMBER, PCT, CODE, <--- ACCESS CONTROL ---> NUMBER, PCT, CODE, <--- SIDE OF HIGHWAY ---> NUMBER, PCT, CODE.

Table with columns: <--- YEAR ---> NUMBER, PCT, CODE, <--- MONTH ---> NUMBER, PCT, CODE, <--- DAY OF WEEK ---> NUMBER, PCT, CODE.

TASAS SELECTIVE RECORD RETRIEVAL
TSAR - ACCIDENT SUMMARY
'SR-53 Entire Run '

Table with 3 columns: NUMBER, PCT, CODE. Title: <-- PRIMARY COLLISION FACTOR -->. Rows include 1-INFLUENCE ALCOHOL, 2-FOLLOW TOO CLOSE, 3-FAILURE TO YIELD, etc.

Table with 3 columns: NUMBER, PCT, CODE. Title: <--- TYPE OF COLLISION --->. Rows include A-HEAD-ON, B-SIDESWIPE, C-REAR END, etc.

Table with 3 columns: NUMBER, PCT, CODE. Title: <--- ROADWAY CONDITION --->. Rows include A-HOLES, RUTS, B-LOOSE MATERIAL, C-OBSTRUCTION ON ROAD, etc.

Table with 3 columns: NUMBER, PCT, CODE. Title: <----- WEATHER ----->. Rows include A-CLEAR, B-CLOUDY, C-RAINING, D-SNOWING, etc.

Table with 3 columns: NUMBER, PCT, CODE. Title: <----- LIGHTING ----->. Rows include A-DAY LIGHT, B-DUSK/DAWN, C-DARK-STREET LIGHT, etc.

Table with 3 columns: NUMBER, PCT, CODE. Title: <----- ROAD SURFACE ----->. Rows include A-DRY, B-WET, C-SNOWY, ICY, D-SLIPPERY, etc.

Table with 3 columns: NUMBER, PCT, CODE. Title: <----- RIGHT OF WAY CONTROL ----->. Rows include A-CONTROL FUNCTIONING, B-CONTROL NOT FUNCTIONING, etc.

Table with 3 columns: NUMBER, PCT, CODE. Title: <----- HIGHWAY GROUP ----->. Rows include R-IND. ALIGN RIGHT, L-IND. ALIGN LEFT, D-DIVIDED, etc.

Table with 3 columns: NUMBER, PCT, CODE. Title: <- INTERSECTION/RAMP ACCIDENT LOCATION ->. Rows include 1-RAMP INTERSECTION (EXIT), 2-RAMP, 3-RAMP ENTRY, etc.

TASAS SELECTIVE RECORD RETRIEVAL
TSAR - PARTY SUMMARY
'SR-53 Entire Run '

Table with columns: PARTY TYPE, MOVEMENT PRECEDING COLLISION, OTHER ASSOCIATED FACTORS. Includes sub-columns for NUMBER, PCT, CODE and #1, #2. Lists various vehicle types and collision codes with their respective percentages.

<---- DIRECTION OF TRAVEL ---->

Table with columns: NUMBER, PCT, CODE. Lists direction of travel for various vehicles, such as N-N, NE, NW BOUND, S-S, SE, SW BOUND, etc.

<---- SPECIAL INFORMATION ---->

Table with columns: NUMBER, PCT, CODE. Lists special information codes, such as A-HAZARDOUS MATERIALS, B-CELL PHONE IN USE\*, etc.

\* INATTENTION CODES EFF. 01-01-01

\*\* INCLUDES EQUIPMENT ENGAGED IN CONST/MAINT ACTIVITIES AS OF 00-02-22

\* SPECIAL INFORMATION CODES EFF. 04-01-01



TASAS SELECTIVE RECORD RETRIEVAL
TSAR - PARTY SUMMARY
'SR-53 Entire Run '

<----- OBJECT STRUCK ----->

Table with columns: PRIMARY NUMBER, PRIMARY PCT, OTHERS NUMBER, OTHERS PCT, CODE. Lists various object types like bridge railings, poles, and vehicles.

<----- LOCATION OF COLLISION ----->

Table with columns: PRIMARY NUMBER, PRIMARY PCT, OTHERS NUMBER, OTHERS PCT, CODE. Lists collision locations like 'A-BEYOND MEDIAN OR STRIPE-LEFT'.

<----- DRUG/PHYSICAL ----->

Table with columns: PRIMARY NUMBER, PRIMARY PCT, OTHERS NUMBER, OTHERS PCT, CODE. Lists drug/physical impairment codes like 'A-HAD NOT BEEN DRINKING'.

## *California Department of Transportation*

*OTM22200*

### *TSAR - ACCIDENT DETAIL*

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.
2. Reports from TSN are to be used and interpreted by the California Department of Transportation (Caltrans) officials or authorized representative.
3. Electronic versions of these reports may be emailed between Caltrans' employees only using the State computer system.
4. The contents of the e reports shall be considered confidential and may be privileged pursuant to 23 U.S.C. Section 409, and are for the sole use of the intended recipient(s). Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message. Do not print, copy or forward.

*California Department of Transportation*

*OTM22200*

*TSAR - ACCIDENT DETAIL*

**REPORT PARAMETERS:**

REPORT DATE : 02/26/2021  
REFERENCE DATE : 02/26/2021  
SUBMITTOR : T1LPELLE  
REPORT TITLE : ' SR-53 Entire Run '  
EVENT ID : 4298222

**Total Accidents Retrieved:**

134

**LOCATION CRITERIA:**

FROM: 01-LAK-053 000.000 TO: 01-LAK-053 007.445  
FROM: 01-LAK-020 031.571 TO: 01-LAK-020 031.665  
FROM: 01-LAK-029 020.260 TO: 01-LAK-029 020.354

**SELECTION CRITERIA:**

**Accidents Date Range:**

From -- 01/01/2015 To -- 12/31/2019

TASAS SELECTIVE RECORD RETRIEVAL  
TSAR - ACCIDENT DETAIL  
'SR-53 Entire Run '

DI	RTE S NO U F CO	P R POST E MILE	-----HIGHWAY-----				I S D R F R O A T A LT RT U T L H Y	ACCIDENT DATE MM-DD-YY	TIME HHMM	COMMON ACCIDENT NUMBER	P ENVIR C COND R W O MTR F W L S C C C VEH	R T NO R W O MTR C C C VEH	D V S P I H I K I T R I	PERSON K I S O S O S O S O S O	O L O L O L O L O L O A M SD P C O C O C O C O C 12 V 12			
			H A M B	LANES	R F	R O A												
01	020	LAK	031.600	U C B Z	01 02	R H	E 6	01-08-16	1540	915118337	6 A A A	H D H 02	D E 1 C 00 00	V2 F	----	----	----	F < G A <
													A E 1 C 00 00	V1 F	----	----	----	N < A A <
01	020	LAK	031.600	U C B Z	01 02	R H	E 1	02-18-18	1540	915120848	C B A A	H A C 03	A E 1 C 00 01	V2 D	V3 D	----	----	N < B A F
													A E 1 C 00 02	V1 D	----	----	----	N < A A <
													D E 1 C 00 00	----	V1 F	----	----	N < A A <
01	020	LAK	031.610	U C B Z	01 02	R H	W 2	10-03-16	1605	915121172	4 B A B	H A D 02	A W 3 C 00 00	V2 B	----	----	----	5 < E A <
													A E 1 C 00 01	V1 D	----	----	----	N < A A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 3	02-17-15	2150	915117300	4 A A A	H A E 01	A E 1 C 00 00	24 H	26 H	27 H	----	N < C A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 5	03-12-15	1355	915119076	3 A A A	H D D 02	A E 1 C 00 00	V2 A	----	----	----	N < B A <
													D W 1 C 00 00	V1 F	----	----	----	N < E A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 4	05-20-15	1151	915118337	5 B A A	H A C 02	A N 1 C 00 00	V2 F	----	----	----	N < H A <
													D N 1 C 00 00	V1 F	----	----	----	N < H G <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 7	10-03-15	2210	915120520	5 A C A	H A C 02	A N 1 C 00 00	V2 F	----	----	----	N < B A <
													A N 1 C 00 00	V1 F	----	----	----	N < H A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 3	10-13-15	1240	915119430	4 A A A	D D B 02	F E 1 C 00 00	V2 J	----	----	----	N < F A <
													A E 1 C 00 00	V1 J	----	----	----	N < B A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 5	04-28-16	1908	915121152	2 A A A	H A C 02	A E 1 C 00 00	V2 J	----	----	----	N < P A <
													A E 1 C 00 00	V1 J	----	----	----	N < P A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 1	06-12-16	1430	915117141	3 A A A	H D D 02	A N 3 C 00 00	V2 D	----	----	----	N < E A <
													A W 1 C 00 00	V1 A	----	----	----	N < E A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 1	09-18-16	1820	915117128	3 A A A	H A D 02	A E 1 C 00 00	V2 D	----	----	----	N < B A <
													A N 3 C 00 00	V1 F	----	----	----	N < E A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 2	10-03-16	1609	915121172	5 B A B	H D C 02	A E 1 C 00 00	V2 D	----	----	----	N < B A <
													D E 1 C 00 00	V1 D	----	----	----	N < H A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 3	10-04-16	1525	915115435	3 A A A	H A D 02	A N 3 C 00 00	V2 F	----	----	----	N < E A <
													A W 1 C 00 01	V1 J	----	----	----	N < E A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 5	10-13-16	1550	915119533	3 A A A	H A A 02	A E 1 C 00 00	V2 D	----	----	----	N < B A <
													A W 1 C 00 02	V1 A	----	----	----	N < E A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 3	11-08-16	1530	915119811	5 A A A	H A C 02	A N 1 C 00 00	V2 F	----	----	----	N < B A <
													A N 1 C 00 00	V1 F	----	----	----	N < A A <
01	020	LAK	031.618	U C B Z	01 02	R I 5	E 3	07-03-18	1632	915121014	3 A A A	H A D 02	4 E 1 C 00 00	V2 F	----	----	----	N < B A <
													D N 2 C 00 01	V1 F	----	----	----	N < E A <

TASAS SELECTIVE RECORD RETRIEVAL  
TSAR - ACCIDENT DETAIL  
'SR-53 Entire Run '

DI	RTE S NO U F CO	P R POST E MILE	-----HIGHWAY----- H A M B L A N E S G C T A LT RT U T L H Y	I S D R O A M M - D D - Y Y	ACCIDENT DATE M M - D D - Y Y	TIME H H M M	COMMON ACCIDENT NUMBER	P ENVIR C COND F W L S	R T NO R W O M T R C C C V E H	D V S P I H I T R I	PERSON K I S O S O S O S O S O P C O C O C O C O C	O L O L O L O L O L O A M S D P C O C O C O C O C 1 2 V 1 2		
01	020	LAK	031.618	U C B Z 01 02	R I 5 E 4 09-19-18	0820	915119076	3 A A A H A D 02	E E 1 < 00 00	V2 F	----	----	----	E < B A <
									E N 3 < 00 00	V1 D	----	----	----	N < E A <
01	020	LAK	031.618	U C B Z 01 02	R I 5 E 4 01-16-19	1345	915119533	3 B A B H A A 02	A E 1 < 00 01	V2 F	----	----	----	N < B A <
									A W 1 < 00 01	V1 A	19 J	10 J	13 J	N < E A <
01	020	LAK	031.618	U C B Z 01 02	R I 5 E 4 09-25-19	1646	915117904	4 A A A D D E 01	M S 1 < 00 00	13 B	----	----	----	N < M G <
01	020	LAK	031.630	U C B Z 01 02	R H W 3 01-22-19	1440	915120522	6 A A A H D A 02	D W 1 < 00 00	V2 A	----	----	----	N < N A <
									D E 1 < 00 00	V1 D	----	----	----	N < B A <
01	029	LAK	020.270	U E B Z 02 02	R H N 2 12-28-15	1500	915119533	4 A A A H A B 02	A N 1 C 00 00	V2 D	----	----	----	N < J A <
									A N 1 C 00 00	V1 J	----	----	----	N < B A <
01	029	LAK	020.270	U E B Z 02 02	R H S 3 01-05-16	0841	915117904	6 B A B H D B 02	A S 1 C 00 00	V2 F	----	----	----	N < J A <
									A S 1 C 00 00	V1 D	----	----	----	5 < B A <
01	029	LAK	020.280	U E B Z 02 02	R H S 5 04-26-18	1330	915119811	4 A A A H D E 02	A N 1 C 00 00	V2 J	----	----	----	N < L A <
									D S 1 C 00 00	V1 J	----	----	----	N < B A <
01	029	LAK	020.290	U E B Z 02 02	R H S 2 09-10-18	0800	915117141	6 A A A H D B 02	A S 1 < 00 00	V2 F	----	----	----	N < J A <
									J S 1 < 00 00	V1 D	----	----	----	N < B A <
01	029	LAK	020.300	U E B Z 02 02	R H S 4 12-16-15	1345	915115435	6 A A A H D B 02	A S 1 C 00 00	V2 F	----	----	----	N < J A <
									A S 1 C 00 00	V1 D	----	----	----	N < B A <
01	029	LAK	020.307	U C B Z 02 01	R I 6 N 5 11-05-15	1530	915120520	3 A A A H A G 01	A W 2 C 00 00	V2 J	----	----	----	N < D A <
									U < - C 00 01	----	----	----	----	N < 2 A <
01	029	LAK	020.307	U C B Z 02 01	R I 5 S 2 01-16-17	1005	915117904	4 A A B H A B 02	A S 1 C 00 00	V2 D	----	----	----	N < E G <
									D S 1 C 00 00	V1 D	----	----	----	N < E A <
01	029	LAK	020.307	U C B Z 02 01	R I 5 S 5 03-30-17	1512	915119714	5 A A A H A D 02	A S 3 C 00 00	V2 F	----	----	----	3 < B A <
									J S 1 C 00 01	V1 J	----	----	----	N < E A <
01	029	LAK	020.307	U C B Z 02 01	R I 5 N 6 04-28-17	0743	915117904	3 A A A H A D 02	D W 2 C 00 00	V2 F	----	----	----	N < B A <
									A E 2 C 00 00	V1 D	----	----	----	N < E A <
01	029	LAK	020.307	U C B Z 02 01	R I 5 S 4 05-17-17	1030	915120848	3 A A A H A D 02	A S 3 C 00 01	V2 J	----	----	----	T < B A <
									G S 1 C 00 00	V1 J	----	----	----	N < E A <
01	029	LAK	020.307	U C B Z 02 01	R I 5 N 6 11-17-17	1510	915119076	3 A A A H A G 01	A S 3 C 00 00	V2 J	----	----	----	N < D A <
									U E - C 00 01	V1 <	----	----	----	3 < 4 C <
01	029	LAK	020.307	U C B Z 02 01	R I 5 S 6 12-28-18	1945	915120810	3 A C A H A D 02	A N 1 < 00 00	V2 D	----	----	----	N < B A <
									A S 1 < 00 00	V1 A	----	----	----	N < E A <

TASAS SELECTIVE RECORD RETRIEVAL  
TSAR - ACCIDENT DETAIL  
'SR-53 Entire Run '

DI	RTE S NO U F CO	P R POST E MILE	-----HIGHWAY-----				I S D R O A L H Y	ACCIDENT DATE MM-DD-YY	TIME HHMM	COMMON ACCIDENT NUMBER	P ENVIR			R T NO			D V S PERSON			O L O L O L O L O A M SD												
			H A M B G C T A	LANES LT RT	R F U T						C COND	R W O F W L S	C C C C C C	MTR	P I H I T R I	K I	I S O S O S O S O S O	P C O C O C O C O C	1 2	V 1 2	1 2											
01	029	LAK	020.307	U C B Z	02 01	R I 5	S 3	10-01-19	0845	915120955	4	A A A	H D B	02	A S 1	< 00	00	V2 J	----	----	----	N<	E A<	A S 1	< 00	00	V1 J	----	----	----	N<	E A<
01	029	LAK	020.320	U C B Z	02 01	R H	S 5	06-25-15	2125	915117937	1	A C A	H A C	02	A S 1	C 00	00	V2 J	----	----	----	N<	B B<	A S 1	C 00	00	V1 J	----	----	----	N<	H A<
01	029	LAK	020.320	U C B Z	02 01	R H	S 2	06-13-16	1030	915117141	5	A A A	H D C	02	C S 1	C 00	00	V2 J	----	----	----	N<	B A<	F S 1	C 00	00	V1 J	----	----	----	N<	A A<
01	029	LAK	020.320	U C B Z	02 01	R H	S 3	08-30-16	1730	915119076	6	A A A	H A B	02	C S 1	C 00	00	V2 J	----	----	----	N<	I G<	A S 1	C 00	00	V1 J	----	----	----	N<	A G<
01	029	LAK	020.320	U C B Z	02 01	R H	S 1	10-23-16	1129	915117904	5	A A A	H D C	02	D S 1	C 00	00	V2 F	----	----	----	N<	B A<	D S 1	C 00	01	V1 F	----	----	----	N<	A A<
01	029	LAK	020.320	U C B Z	02 01	R H	S 3	05-07-19	1750	915120354	5	A A A	H A C	02	A S 1	< 00	00	V2 D	----	----	----	T<	H A<	A S 1	< 00	00	V1 D	----	----	----	N<	A A<
01	029	LAK	020.330	U C B Z	02 01	R H	S 3	11-22-16	1334	915121172	3	A A A	H D D	02	A N 2	C 00	00	V2 F	----	----	----	N<	L A<	A S 1	C 00	00	V1 J	----	----	----	N<	B A<
01	029	LAK	020.330	U C B Z	02 01	R H	S 5	08-31-17	1545	915120955	6	A A A	H D C	02	A S 1	C 00	00	V2 F	----	----	----	N<	B A<	A S 1	C 00	00	V1 F	----	----	----	N<	A A<
01	029	LAK	020.330	U C B Z	02 01	R H	S 5	05-03-18	1410	915119811	3	A A A	H D D	02	A N 2	C 00	00	V2 F	----	----	----	E<	E A<	A S 1	C 00	00	V1 J	----	----	----	N<	B A<
01	029	LAK	020.330	U C B Z	02 01	R H	S 4	09-26-18	1040	915117904	5	A A A	H A C	02	A S 1	< 00	00	V2 F	----	----	----	N<	B A<	A S 1	< 00	00	V1 F	----	----	----	N<	A A<
01	029	LAK	020.340	U C B Z	02 01	R H	S 3	09-26-17	1305	915120927	3	A A A	H D D	02	A E 2	C 00	00	V2 F	----	----	----	N<	L A<	D S 1	C 00	00	V1 J	----	----	----	N<	B A<
01	053	LAK	000.010	U C B Z	02 02	B H	S 3	06-02-15	1230	915119533	3	A A A	H A D	02	D S 2	C 00	00	V2 F	----	----	----	N<	D A<	A S 1	C 00	00	V1 J	----	----	----	N<	B A<
01	053	LAK	000.010	U C B Z	02 02	B H	N 3	07-12-16	2040	915119076	4	A B A	H A E	01	A N 1	C 00	01	18 B	03 B	----	----	N<	E D<									
01	053	LAK	000.010	U C B Z	02 02	B H	S 5	12-29-16	1445	915121228	6	A A A	H A B	02	A S 1	C 00	00	V2 F	----	----	----	N<	J A<	A S 1	C 00	00	V1 J	----	----	----	N<	B A<
01	053	LAK	000.010	U C B Z	02 02	B H	S 6	12-15-17	1450	915120848	5	A A A	H A C	02	A S 1	C 00	00	V2 E	----	----	----	F<	B A<	A S 1	C 00	00	V1 E	----	----	----	N<	A A<
01	053	LAK	000.020	D C F Z	02 02	B H	S 7	07-21-18	1237	915117904	5	A A A	H A C	02	D S 1	C 00	00	V2 J	----	----	----	N<	B A<	A S 1	C 00	00	V1 J	----	----	----	N<	A A<

TASAS SELECTIVE RECORD RETRIEVAL  
TSAR - ACCIDENT DETAIL  
'SR-53 Entire Run '

DI	RTE	S	P	-----HIGHWAY-----				I	S	D	ACCIDENT	TIME	COMMON	P ENVIR			R	T	NO	D V S			PERSON	O	L	O	L	O	L	O	L	O	A	M	S							
				U	R	POST	H							A	M	B				LANES	R	F														R	O	A	DATE	MM-DD-YY	HHMM	ACCIDENT
01	053	LAK	000.030	D	C	F	Z	02	02	B	H	S	7	12-19-15	1449	915116093	4	B	A	A	H	A	D	02	D	S	1	C	00	01	V2	J	44	G	18	H	----	N	<	D	A	<
																								A	S	1	C	00	01	V1	J	----	----	----	N	<	B	A	<			
01	053	LAK	000.030	D	C	F	Z	02	02	B	H	S	2	12-10-18	1320	915121014	5	A	A	A	H	A	C	02	A	S	1	<	00	00	V2	J	----	----	----	FG	B	A	<			
																								A	S	1	<	00	00	V1	J	----	----	----	G	<	A	A	<			
01	053	LAK	000.050	D	C	F	Z	02	02	B	H	S	3	11-10-15	1705	915115435	5	A	B	A	H	D	C	02	A	S	1	C	00	00	V2	J	----	----	----	N	<	B	A	<		
																								A	S	1	C	00	00	V1	J	----	----	----	N	<	H	A	<			
01	053	LAK	000.050	D	C	F	Z	02	02	B	H	S	5	12-13-18	1032	915120848	5	A	A	A	H	D	C	02	D	S	1	<	00	00	V2	J	----	----	----	N	<	D	A	<		
																								G	S	1	<	00	00	V1	J	----	----	----	N	<	B	A	<			
01	053	LAK	000.060	D	C	F	Z	02	02	B	H	N	1	09-01-19	0939	915117904	5	A	A	A	H	D	C	02	M	N	1	<	00	00	V2	D	----	----	----	N	<	B	G	<		
																								A	N	1	<	00	00	V1	D	----	----	----	N	<	H	A	<			
01	053	LAK	000.090	D	C	F	Z	02	02	B	H	S	7	02-14-15	1315	915119718	1	A	A	A	H	D	D	02	A	S	1	C	00	00	V2	A	----	----	----	3	<	E	<	E		
																								A	N	1	C	00	01	V1	D	----	----	----	N	<	B	A	<			
01	053	LAK	000.090	D	C	F	Z	02	02	B	I	5	S	4	08-05-15	0825	915114431	3	A	A	A	H	D	D	02	A	E	2	C	00	00	V2	F	----	----	----	N	<	E	A	<	
																								A	S	1	C	00	00	V1	F	----	----	----	N	<	B	A	<			
01	053	LAK	000.090	D	C	F	Z	02	02	B	I	5	N	7	06-04-16	1740	915119076	3	A	A	A	H	D	D	02	A	E	2	B	00	00	V2	F	----	----	----	N	<	E	A	<	
																								D	N	1	B	00	00	V1	D	----	----	----	N	<	B	A	<			
01	053	LAK	000.090	D	C	F	Z	02	02	B	H	N	4	08-09-17	0753	915114642	3	A	A	A	H	D	D	02	D	N	1	C	00	00	V2	A	----	----	----	N	<	E	A	<		
																								A	S	1	C	00	00	V1	J	----	----	----	N	<	B	A	<			
01	053	LAK	000.090	D	C	F	Z	02	02	B	I	5	S	2	10-28-19	1445	915119811	3	A	A	A	H	D	A	02	A	N	1	<	00	00	V2	A	----	----	----	N	<	E	A	<	
																								A	S	1	<	00	00	V1	F	----	----	----	N	<	B	A	<			
01	053	LAK	000.090	D	C	F	Z	02	02	B	H	S	3	12-10-19	1300	915116093	5	B	A	A	H	D	C	02	D	S	1	<	00	00	V2	J	----	----	----	F	<	B	A	<		
																								A	S	1	<	00	01	V1	J	----	----	----	N	<	D	A	<			
01	053	LAK	000.100	D	C	F	Z	02	02	B	H	N	3	08-23-16	0805	915117141	6	A	A	A	H	D	C	02	C	N	1	C	00	01	V2	D	----	----	----	N	<	J	A	<		
																								A	N	1	C	00	00	V1	D	----	----	----	N	<	B	A	<			
01	053	LAK	000.100	D	C	F	Z	02	02	B	H	S	4	11-29-17	1655	915120949	3	A	B	A	H	D	D	02	A	E	2	C	00	00	V2	F	----	----	----	N	<	L	A	<		
																								D	N	1	C	00	00	V1	A	----	----	----	N	<	E	A	<			
01	053	LAK	000.110	D	C	F	Z	02	02	B	H	N	3	09-03-19	0801	915116093	3	A	A	A	H	D	D	03	D	N	2	<	00	00	V2	F	V3	D	----	----	----	N	<	E	A	<
																								A	N	1	<	00	02	V1	D	44	H	13	H	44	H	N	<	B	A	<
																								A	S	1	<	00	00	----	V1	J	----	----	----	N	<	H	A	<		
01	053	LAK	000.120	D	C	F	Z	02	02	B	H	N	7	10-28-17	1905	915120949	3	A	C	A	H	D	D	02	M	W	1	C	00	00	V2	A	----	----	----	N	<	E	G	<		
																								A	S	1	C	00	00	V1	F	----	----	----	N	<	B	A	<			
01	053	LAK	000.150	D	C	F	Z	02	02	B	H	N	4	10-16-19	1335	915117141	6	A	A	A	H	D	B	02	M	N	1	<	00	00	V2	G	----	----	----	N	<	L	A	<		
																								A	N	1	<	00	00	V1	F	----	----	----	N	<	B	A	<			

TASAS SELECTIVE RECORD RETRIEVAL  
TSAR - ACCIDENT DETAIL  
'SR-53 Entire Run '

DI	RTE S NO U F CO	P R POST E MILE	-----HIGHWAY-----										I S D R O A L H Y MM-DD-YY	ACCIDENT DATE MM-DD-YY	TIME HHMM	COMMON ACCIDENT NUMBER	P ENVIR				R T NO				D V S PERSON				O L O L O L O L O A M SD																
			H A M B	LANES	R F	R O	A	L H	Y	MM	DD	YY					C COND	R W	O MTR	P I H I	K I	S O S O	S O S O	S O S O	S O S O	O L	O A	M	SD																
01	053	LAK	000.160	D	C	F	Z	02	02	B	I	5	N	3	12-24-19	1815	915120326	3	B	C	B	H	D	D	02	A	S	1	<	00	02	V2	A	----	----	----	N	<	E	A	<				
																										A	N	1	<	00	01	V1	F	13	H	----	----	----	N	<	B	A	<		
01	053	LAK	000.230	D	C	F	Z	02	02	B	H		N	2	07-13-15	1312	915117141	4	A	A	A	H	D	B	01	M	N	1	C	00	00	V2	F	----	----	----	N	<	D	G	<				
																										L	N	1	C	00	01	V1	G	----	----	----	N	<	B	A	<				
01	053	LAK	000.230	D	C	F	Z	02	02	B	H		S	2	11-02-15	1225	915115435	4	B	A	A	H	D	B	02	D	S	1	C	00	00	V2	F	----	----	----	N	<	E	A	<				
																										D	S	1	C	00	00	V1	D	----	----	----	N	<	B	A	<				
01	053	LAK	000.230	D	C	F	Z	02	02	B	H		N	4	11-27-19	2305	915121255	1	A	C	A	G	D	C	02	A	N	1	<	00	01	V2	D	----	----	----	5	<	B	B	<				
																										A	N	1	<	00	00	V1	D	----	----	----	N	<	A	H	<				
01	053	LAK	000.240	D	C	F	Z	02	02	B	I	5	N	3	01-13-15	0755	915116148	3	A	A	A	H	D	D	02	A	S	1	C	00	01	V2	A	----	----	----	N	<	E	A	<				
																										A	N	1	C	00	01	V1	F	10	H	44	H	----	----	----	N	<	B	A	<
01	053	LAK	000.240	D	C	F	Z	02	02	B	I	6	N	6	10-23-15	1710	915121152	4	A	A	A	H	D	D	02	D	N	1	C	00	00	V2	G	----	----	----	5	<	B	G	<				
																										A	S	1	C	00	01	V1	C	27	H	----	----	----	N	<	E	A	<		
01	053	LAK	000.240	D	C	F	Z	02	02	B	I	5	N	2	07-17-17	1335	915121255	3	A	A	A	H	A	D	02	A	S	2	C	00	00	V2	F	----	----	----	N	<	E	A	<				
																										A	S	1	C	00	01	V1	J	----	----	----	N	<	E	A	<				
01	053	LAK	000.240	D	C	F	Z	02	02	B	I	6	N	4	10-31-18	0800	915121014	5	A	A	A	H	A	C	02	A	W	2	<	00	00	V2	F	----	----	----	F	<	B	A	<				
																										A	W	2	<	00	00	V1	F	----	----	----	N	<	A	A	<				
01	053	LAK	000.240	D	C	F	Z	02	02	B	I	5	N	4	05-08-19	0746	915116093	3	A	A	A	H	D	D	02	A	S	1	<	00	01	V2	D	----	----	----	4	<	E	A	<				
																										A	N	1	<	00	00	V1	F	----	----	----	N	<	B	A	<				
01	053	LAK	000.250	D	C	F	Z	02	02	B	H		N	4	11-27-19	2107	915122397	6	B	C	B	H	D	B	02	D	N	2	<	00	01	V2	H	----	----	----	N	<	J	A	<				
																										D	N	1	<	00	01	V1	D	----	----	----	N	<	B	A	<				
01	053	LAK	000.340	D	C	F	Z	02	02	B	H		N	5	10-10-19	1140	915119533	3	A	A	A	H	D	D	02	D	N	1	<	00	00	V2	A	----	----	----	G	<	E	A	<				
																										B	S	1	<	00	00	V1	F	V3	F	----	----	----	N	<	B	A	<		
																										P	S	1	<	00	00	----	V2	F	----	----	----	<	<	R	<	<			
01	053	LAK	000.380	D	C	F	Z	02	02	B	H		N	1	11-11-18	0959	915117904	1	A	A	A	H	D	B	02	A	N	1	<	00	00	V2	D	----	----	----	6	<	J	E	<				
																										A	N	1	<	00	00	V1	F	----	----	----	N	<	B	A	<				
01	053	LAK	000.460	D	C	F	Z	02	02	B	H		S	1	09-15-19	0400	915117904	4	A	C	A	H	D	E	01	D	S	1	<	00	00	27	B	11	B	27	B	----	----	----	N	<	M	G	<
01	053	LAK	000.470	D	C	F	Z	02	02	B	H		S	6	11-10-17	0844	915116093	3	B	A	B	H	A	D	02	A	E	2	C	00	01	V2	F	----	----	----	N	<	E	A	<				
																										A	S	1	C	00	01	V1	F	----	----	----	N	<	B	A	<				
01	053	LAK	000.470	D	C	F	Z	02	02	B	H		N	6	02-08-19	1800	915120810	3	B	C	B	H	A	D	02	D	E	1	<	00	00	V2	F	----	----	----	N	<	L	A	<				
																										A	N	1	<	00	04	V1	J	----	----	----	N	<	A	A	<				



TASAS SELECTIVE RECORD RETRIEVAL  
TSAR - ACCIDENT DETAIL  
'SR-53 Entire Run '

DI	RTE S NO U F CO	P R POST E MILE	-----HIGHWAY-----					I S D R O A L H Y	ACCIDENT DATE MM-DD-YY	TIME HHMM	COMMON ACCIDENT NUMBER	P ENVIR			R T NO			D V S			PERSON			O L O L O L O L O A M SD		
			H A M B	LANES	R F	U T	L H					C COND	R W O	C C C	MTR	P I H I	K I	S O S O S O S O S O	P C O C O C O C O C	1 2	V 1 2					
01	053	LAK	000.500	D C F Z	02 02	B H	N 5	01-03-19	1253	915116093	6	A A A	H D C	04	A N 1	< 00	01	----	V3 D	----	----	N<	A A<			
																		V3 D	V5 J	----	----	N<	H A<			
																		V2 D	V1 D	V4 D	----	5<	H A<			
																		----	V3 D	----	----	5<	H A<			
																		U<	-<	00 00	----	V2<	99<	----	<<	5<<
01	053	LAK	000.520	D C F Z	02 02	B H	N 4	11-04-15	1515	915115435	4	A A A	H D B	02	A N 1	C 00	00	V2 D	----	----	----	N<	M A I			
																		V1 J	----	----	----	N<	B A<			
01	053	LAK	000.620	D C G Z	02 02	B I 5	S 3	10-11-16	0800	915117141	3	A A A	H D A	02	A E 2	C 00	00	V2 D	----	----	----	E<	E A<			
																		V1 A	----	----	----	N<	E A<			
01	053	LAK	000.630	D C G Z	02 02	B H	N 1	05-24-15	1229	915117904	6	A A A	H D H	01	L W 1	C 00	01	V2 J	----	----	----	N<	B A<			
																		V1 J	----	----	----	N<	B A<			
01	053	LAK	000.660	D E F Z	02 02	B H	N 1	03-03-19	0130	915121759	4	B D B	H D E	01	D N 1	< 00	00	24 H	27 H	----	----	N<	C G<			
01	053	LAK	000.670	D E F Z	02 02	B H	N 6	05-27-16	1137	915118337	4	A A A	H D B	02	A N 1	B 00	00	V2 D	24 H	44 H	----	5<	M A<			
																		V1 F	15 H	----	----	N<	B A<			
01	053	LAK	000.680	D E F Z	02 02	B H	S 3	02-26-19	2320	915121759	5	B C B	H D E	01	A S 1	< 00	00	24 H	27 H	----	----	N<	C A<			
01	053	LAK	000.730	D E F Z	02 02	B H	N 3	10-24-17	1533	915120522		D A A	A H D B	02	A N 1	C 01	00	V2 E	44 H	28 H	----	4<	B A<			
																		V1 D	----	----	----	N<	B A<			
01	053	LAK	000.790	D E F Z	02 02	B H	S 7	10-07-17	0902	915119533	4	A A A	H D E	01	A S 1	C 00	01	30 H	44 H	----	----	N<	C A<			
01	053	LAK	000.950	D E J Z	02 02	B H	S 7	05-05-18	1520	915120927		C A A	A H D E	01	D S 1	C 00	00	27 H	----	----	----	M<	C A<			
01	053	LAK	000.960	D E J Z	02 02	B H	N 5	08-04-16	1235	915119811		C A A	A H D E	01	A N 1	C 00	02	24 H	28 H	----	----	K<	C A<			
01	053	LAK	000.970	D E J Z	02 02	B H	N 3	03-12-19	1529	915120354	4	A A A	H D E	01	D N 1	< 00	01	07 H	01 B	----	----	N<	B A<			
01	053	LAK	001.330	D E J Z	02 02	B H	N 5	01-25-18	1148	170200155	4	C A B	H D F	01	D N 1	C 00	02	18 H	23 H	44 F	----	N<	C A<			
01	053	LAK	001.450	D E J Z	02 02	B H	N 2	08-20-18	0830	170200217	5	A A A	H A B	03	C N 1	C 00	01	V2 D	V3 J	44 J	----	5<	R G<			
																		V1 J	----	----	----	N<	H G<			
																		----	V1 D	----	----	N<	B G<			
01	053	LAK	001.460	D E J Z	02 02	B H	N 3	08-08-17	1151	170200193	5	A A A	H A C	02	D N 1	C 00	01	V2 F	----	----	----	N<	B A<			
																		V1 F	----	----	----	N<	A A<			
01	053	LAK	001.470	D E J Z	02 02	B I 5	N 5	06-02-16	1257	170200196	6	A A A	H A D	02	A N 1	C 00	00	V2 D	----	----	----	N<	B A<			
																		V1 A	----	----	----	N<	E A<			
01	053	LAK	001.470	D E J Z	02 02	B I 5	S 4	05-24-17	1822	170200196	6	A A A	H A A	02	A S 1	C 00	01	V2 D	----	----	----	N<	B A<			
																		V1 A	----	----	----	N<	E A<			

TASAS SELECTIVE RECORD RETRIEVAL  
TSAR - ACCIDENT DETAIL  
'SR-53 Entire Run '

DI	RTE S NO U F CO	P R POST E MILE	-----HIGHWAY-----				I R O A L H Y	S R O A H Y	D A T E	ACCIDENT MM-DD-YY	TIME HHMM	COMMON ACCIDENT NUMBER	P ENVIR			R T NO C C C V E H	D V S PERSON			O L O L O L O L O A M SD				
			C COND	R W O	MTR	P I H I							K I	S O S O S O S O S O	P C O C O C O C O C		1 2	V 1 2						
01	053	LAK	001.470	D E J Z	02 02	B I 5	N 4	07-18-18	1751	170200182	6 A A A	H A D	02	D N 1 C	00 00	V2 D	----	----	----	N<	B A<			
														A W 2 C	00 01	V1 A	----	----	----	N<	E A<			
01	053	LAK	001.980	D E J Z	02 02	B H	N 6	03-06-15	1540	915116093	6 A A A	H A B	02	H N 1 C	00 00	V2 G	----	----	----	N<	D A<			
														D N 1 C	00 00	V1 F	----	----	----	N<	A A<			
01	053	LAK	002.190	D E J Z	02 02	B H	N 6	05-06-16	1603	170200195	5 A A A	H D C	02	A N 1 C	00 01	V2 F	----	----	----	N<	B A<			
														D N 1 C	00 02	V1 F	----	----	----	N<	H A<			
01	053	LAK	002.440	D E J Z	02 02	B H	N 5	10-25-18	1340	915121255	4 A A A	H D B	02	H N 1 <	00 00	V2 F	----	----	----	L<	B A<			
														M N 1 <	00 00	V1 G	----	----	----	N<	O A<			
01	053	LAK	002.590	D E J Z	02 02	B H	S 2	12-10-18	1953	170200132	6 B D A	H D G	02	A S 1 C	00 00	V2 F	----	----	----	N<	B A<			
														M S 1 C	00 00	----	V3 F	----	----	N<	< H<			
														U W - C	01 00	V1 -	V2 -	----	----	N<	4 H<			
01	053	LAK	002.770	D E J Z	02 02	B H	S 6	11-15-19	1746	170200196	6 A D A	H D G	01	U N - C	01 00	V2 -	----	----	----	N<	4 D<			
														A S 1 C	00 00	V1 F	----	----	----	N<	B A<			
01	053	LAK	002.950	D E G Z	02 02	B H	N 6	12-13-19	2121	170200229	5 C D B	H A C	02	A N 1 C	00 00	V2 F	----	----	----	M<	A H<			
														M N 1 C	00 00	V1 F	----	----	----	N<	< H<			
01	053	LAK	002.960	D E G Z	02 02	B I 5	N 3	05-31-16	1415	170200196	6 A A A	H A D	02	D N 1 C	00 00	V2 D	----	----	----	F<	B A<			
														D S 1 C	00 01	V1 A	----	----	----	N<	E A<			
01	053	LAK	002.960	D E G Z	02 02	B I 6	S 1	11-20-16	1441	170200184	5 A A A	H A C	03	A W 2 C	00 00	V2 F	----	----	----	GM	B G<			
														A W 2 C	00 00	V1 F	----	----	----	M<	H A<			
														A E 2 C	00 00	----	----	----	----	6F	M G<			
01	053	LAK	002.960	D E G Z	02 02	B I 5	N 4	09-20-17	1901	170200201	6 A B A	H A D	02	A E 1 C	00 00	V2 A	----	----	----	6<	E G<			
														D N 1 C	00 01	V1 F	----	----	----	N<	B A<			
01	053	LAK	002.960	D E G Z	02 02	B I 5	S 7	07-21-18	1656	170200214	4 A A A	H A E	01	A W 1 C	00 00	18 B	10 B	----	----	5E	E A<			
01	053	LAK	002.960	D E G Z	02 02	B I 5	N 3	11-05-19	0840	170200196	6 A A A	H A D	03	E E 2 C	00 01	V2 F	----	----	----	N<	B A<			
														A N 1 C	00 01	V1 D	V3 D	----	----	N<	B A<			
														A N 1 C	00 01	----	V2 F	----	----	N<	B A<			
01	053	LAK	002.970	D E G Z	02 02	B H	S 5	08-29-19	0035	170200214	1 A C A	H A C	02	A S 1 C	00 00	V2 J	----	----	----	1N	< B<			
														A S 1 C	00 00	V1 J	----	----	----	N<	< A<			
01	053	LAK	002.980	D E G Z	02 02	B H	S 4	12-06-17	2101	170200196	6 A C A	H D G	01	U E - C	00 01	V2 -	----	----	----	N<	4 A<			
														A S 1 C	00 00	V1 F	----	----	----	N<	B A<			
01	053	LAK	003.910	D E G Z	02 01	B H	S 6	03-31-17	1327	915121014	6 A A A	H A A	03	A S 1 C	00 01	V2 A	V3 A	----	----	N<	N A<			
														A N 1 C	00 02	V1 J	----	----	----	N<	A A<			
														H N 1 C	00 05	----	V1 J	----	----	N<	A A<			

TASAS SELECTIVE RECORD RETRIEVAL  
TSAR - ACCIDENT DETAIL  
'SR-53 Entire Run '

DI	RTE S NO U F CO	P R POST E MILE	-----HIGHWAY-----				I S D R O A L H Y	ACCIDENT DATE MM-DD-YY	TIME HHMM	COMMON ACCIDENT NUMBER	P ENVIR			R T NO			D V S			PERSON			O L O L O L O L O L			O A M SD																
			H G	A C	B T	L A					L ANES	R LT	F RT	R UT	C COND	F W	L S	R C	T C	N O	M TR	P PI	H H	I I	K K	I I	S S	O O	S S	O O	S S	O O	S S	O O	L L	O O	A A	M M	S S	D D		
01	053	LAK	003.910	D	E	G	Z	02	01	B	H	S	2	08-06-18	1620	170200196	6	A	A	A	H	A	B	02	D	S	1	C	00	00	V2	A	----	----	----	N<	B	A<				
																								A	N	1	C	00	00	V1	J	----	----	----	N<	A	A<					
01	053	LAK	005.320	U	E	B	Z	01	01	R	H	S	2	09-25-17	2120	915119533	4	A	D	A	H	D	E	01	A	S	1	C	00	00	23	B	28	B	----	----	----	N<	C	G<		
01	053	LAK	005.600	U	E	B	Z	01	01	R	H	N	3	08-04-15	1622	915117300	1	A	A	A	H	A	D	02	A	N	1	C	00	02	V2	F	----	----	----	4<	F	E<				
																								A	N	1	C	00	01	V1	F	44	D	----	----	----	N<	B	A<			
01	053	LAK	006.310	U	E	B	Z	01	01	R	H	N	5	03-08-18	0920	915119076	6	A	A	A	H	D	B	02	A	N	1	C	00	00	V2	G	----	----	----	N<	L	A<				
																								A	N	1	C	00	00	V1	F	23	H	44	G	----	----	----	N<	B	A<	
01	053	LAK	006.420	U	E	B	Z	01	01	R	H	N	5	05-07-15	2040	915119430	C	<	<	<	<	D	H	01	A	N	1	C	00	01	V2	F	----	----	----	N<	B	A<				
																								Z	<	-	<	00	00	V1	-	----	----	----	<<	-	<<					
01	053	LAK	006.940	U	E	B	Z	01	01	R	H	S	6	08-18-17	1543	915120848	4	A	A	A	H	A	D	02	A	S	1	C	00	01	V2	D	----	----	----	N<	F	A<				
																								A	S	1	C	00	02	V1	D	----	----	----	N<	B	A<					
01	053	LAK	007.150	U	E	B	Z	01	01	R	H	S	1	09-27-15	1650	915117937	1	A	A	A	H	D	C	02	A	S	1	C	00	00	V2	F	----	----	----	5<	B	B<				
																								A	S	1	C	00	00	V1	F	----	----	----	N<	B	A<					
01	053	LAK	007.190	U	E	B	Z	01	01	R	H	N	3	10-13-15	1705	915119430	4	A	A	A	H	D	B	02	A	N	1	C	00	00	V2	G	----	----	----	N<	L	A<				
																								A	N	1	C	00	00	V1	F	----	----	----	N<	B	A<					
01	053	LAK	007.240	U	E	B	Z	01	01	R	H	S	6	07-29-16	1552	915121255	5	A	A	A	H	D	C	02	C	S	1	C	00	01	V2	D	44	D	----	----	----	N<	B	A<		
																								A	N	1	C	00	00	V1	D	----	----	----	N<	E	A<					
01	053	LAK	007.290	U	E	B	Z	01	01	R	H	S	5	12-31-15	0740	915121152	5	A	A	C	H	D	E	01	D	S	1	C	00	01	18	B	13	B	44	B	----	----	----	N<	P	A<
01	053	LAK	007.290	U	E	B	Z	01	01	R	H	S	3	05-28-19	1225	915115435	3	A	A	A	H	D	B	02	A	S	1	<	00	02	V2	F	----	----	----	N<	F	A<				
																								F	S	1	<	00	00	V1	D	----	----	----	N<	B	A<					
01	053	LAK	007.290	U	E	B	Z	01	01	R	H	S	2	08-12-19	0913	915119533	4	A	A	A	D	D	B	02	D	S	1	<	00	00	V2	F	----	----	----	E<	P	A<				
																								A	S	1	<	00	00	V1	D	----	----	----	N<	B	A<					
01	053	LAK	007.300	U	E	B	Z	01	01	R	H	S	2	08-22-16	1520	915121152	4	A	A	A	H	D	D	02	A	S	1	C	00	00	V2	D	----	----	----	N<	F	A<				
																								A	S	1	C	00	00	V1	D	----	----	----	N<	B	A<					
01	053	LAK	007.310	U	E	B	Z	01	01	R	H	S	5	10-06-16	0948	915116093	4	A	A	A	H	A	B	02	A	S	1	C	00	00	V2	F	----	----	----	J<	P	A<				
																								D	S	1	C	00	00	V1	D	----	----	----	N<	B	A<					
01	053	LAK	007.320	U	E	B	Z	01	01	R	H	S	5	08-01-19	1400	915121152	4	A	A	A	D	A	D	02	A	S	1	<	00	00	V2	A	----	----	----	N<	E	A<				
																								E	S	1	<	00	00	V1	F	----	----	----	N<	B	A<					
01	053	LAK	007.320	U	E	B	Z	01	01	R	H	S	3	09-17-19	1520	915120522	4	A	A	A	H	D	D	02	A	S	1	<	00	00	V2	J	----	----	----	N<	F	A<				
																								A	S	1	<	00	00	V1	E	----	----	----	N<	B	A<					
01	053	LAK	007.360	U	E	B	Z	01	01	R	H	S	5	07-25-19	1625	915121152	4	A	A	A	D	D	D	02	D	S	1	<	00	00	V2	E	----	----	----	N<	F	A<				
																								A	S	1	<	00	00	V1	E	----	----	----	N<	B	A<					

TASAS SELECTIVE RECORD RETRIEVAL  
TSAR - ACCIDENT DETAIL  
'SR-53 Entire Run '

DI	RTE	S	P	-----HIGHWAY-----				I	S	D	ACCIDENT	TIME	COMMON	P	ENVIR	R	T	NO	D	V	S	PERSON	O	L	O	L	O	L	O	L	O	A	M	SD								
NO	U	R	POST	H	A	M	B	LANES	R	F	R	O	A	DATE	HHMM	ACCIDENT	C	COND	R	W	O	MTR	P	I	H	I	K	I	S	O	S	O	S	O	S	O	F	O	P			
F	CO	E	MILE	G	C	T	A	LT	RT	U	T	L	H	Y	MM-DD-YY	NUMBER	F	W	L	S	C	C	C	VEH	T	R	I	P	C	O	C	O	C	O	C	O	C	12	V	12		
01	053	LAK	007.370	U	E	B	Z	01	01	R	H	S	3	11-01-16	1637	915121172	4	A	A	A	H	D	C	02	A	E	1	C	00	00	V2	F	----	----	----	J	<	F	A	<		
01	053	LAK	007.380	U	E	B	Z	01	01	R	H	N	2	12-02-19	1310	915120955	4	B	A	B	D	A	E	01	A	N	1	<	00	01	10	H	----	----	----	N	<	C	A	<		
01	053	LAK	007.430	U	E	B	Z	01	01	R	H	S	3	01-20-15	1410	915119533	4	A	A	A	H	D	D	02	A	S	1	C	00	00	V2	F	----	----	----	J	<	F	A	<		
01	053	LAK	007.430	U	E	B	Z	01	01	R	H	N	4	09-21-16	1145	915117300	6	A	A	A	H	A	C	02	A	N	3	C	00	00	V2	F	----	----	----	N	<	G	A	<		
01	053	LAK	007.430	U	E	B	Z	01	01	R	H	N	4	05-03-17	1420	915115435	5	A	A	A	H	A	C	03	A	N	1	C	00	00	V2	F	----	----	----	N	<	H	A	<		
01	053	LAK	007.430	U	E	B	Z	01	01	R	H	S	3	08-20-19	0950	915119533	4	A	A	A	D	A	E	01	G	S	1	<	00	00	13	B	----	----	----	N	<	E	G	<		

Total Accidents: 134

Case #	Date	Time	Location	HWY 53	Speed Limit	Minor Injuries	Major Injuries	Fatal Injuries	DUI Involved	Caused By Juve?	Primary Collision Factor
15-5	01/01/2015		1331 2500 OLD HIGHWAY 53	Y	55	0	0	0	F	F	22350 VC
15-310	01/30/2015		907 LAKESHORE DR/ SR 53	Y	35				T	F	23152(e) vc
15-397	02/08/2015		1257 HWY 53/OLD HIGHWAY 53	Y	55	0	0	0	F	F	22350-cvc
15-402	02/08/2015		2127 HWY 53/18TH AV	Y	50	1	0	0	F	F	22350 cvc
15-924	04/13/2015		1714 HWY 53/DAM RD	Y	55	1	0	0	F	F	22350-CVC
15-2041	08/05/2015		835 HWY 53/OLD HIGHWAY 53	Y	55	1	0	0	F	F	22107 VC
15-2132	08/13/2015		1224 HWY 53/LAKESHORE DR	Y	55	1	0	0	T	F	23152(e) VC
15-3508	12/28/2015		1016 HWY 53/AUSTIN	Y	30	2	0	0	F	F	22350 CVC
16-684	03/07/2016		608 HWY 53/DAM RD	Y	55	1	0	0	F	F	21453(a) vc
16-1286	05/06/2016		1603 HWY 53/18TH AV	Y	50	3			F	F	22350 VC
16-1445	05/21/2016		1617 HWY 53/DAM RD	Y	55	1			F	F	22350 VC
16-1551	05/31/2016		1415 HWY 53 / 40TH AV	Y	55	1	0	0	F	F	21453(a) VC
16-1571	06/02/2016		1257 HWY 53/DAM RD	Y	55	3	0	0	F	F	21453(a) VC
16-1757	06/21/2016		1353 HWY 53/LAKESHORE DR	Y	55	0	0	0	F	F	22350 vc
16-2048	07/18/2016		2005 HWY 53/DAM RD	Y	55	1	0	0	F	F	21950(b)VC
16-2071	07/20/2016		1645 HWY 53/18TH AV	Y	55	2	0	0	F	F	22350 VC
16-2930	10/07/2016		2308 HWY 53/LAKESHORE DR	Y	55	0	0	0	F	F	21453(c) cvc
16-3121	10/27/2016		1334 18TH/SR 53	Y	30	0	0	0	F	F	21650 VCO
17-85	01/09/2017		2150 HWY 53/18TH AV	Y	50	1	0	0	F	F	22350 CVC
17-174	01/18/2017		1404 HWY 53/LAKESHORE DR	Y	55	0	0	0	F	F	22350 VC
17-562	02/28/2017		1947 HWY 53/DAM RD	Y	50	1			F	F	21453(a) CVC
17-1150	04/28/2017		2233 HWY 53/18TH AV	Y	55	2	0	0	F	F	22107
17-1327	05/16/2017		1608 HWY 53/LAKESHORE DR	Y	30				F	F	21804 VC
17-1411	05/24/2017		1822 HWY 53/DAM RD	Y	55	2	1	0	F	F	21453(a) VC
17-1776	07/04/2017		1636 HWY 53/LAKESHORE DR	Y	55	1			F	F	22107 VC
17-1852	07/12/2017		2054 OLYMPIC DR/HWY 53	Y	30	2	0	1	F	F	21460(a) VC
17-2110	08/08/2017		1151 HWY 53/18TH AV	Y	55	1	0	0	F	F	22350 CVC
17-2305	08/27/2017		2143 HWY 53/18TH AV	Y	55	0	0	0	F	F	23152(a) VC
17-2341	08/31/2017		1246 HWY 53/LAKESHORE DR	Y	55	1	3	0	F	F	21703VC
17-2478	09/14/2017		1256 40TH AV/HWY 53	Y	55	0	0	0	F	F	22107 VC
17-2530	09/20/2017		1901 HWY 53/LAKESHORE DR	Y	55	1			F	F	21453 VC
17-2779	10/13/2017		1650 HWY 53/OLYMPIC DR	Y	55	0	0	0	F	F	22350 VC
17-3156	12/01/2017		1144 HWY 53/18TH AV	Y	55	1	0	0	F	F	22350VC
17-3163	12/02/2017		9 DAM/HWY 53	Y	55	1	0	0	F	F	21453 CVC
17-3199	12/06/2017		2101 40TH AV/HWY 53	Y	55	1	0	0	F	F	21954(a) VC
18-75	01/08/2018		2031 18TH AV/HWY 53	Y	55	2	0	0	F	F	22350 VC
18-214	01/25/2018		1148 HWY 53/DAM RD	Y	55	2			F	F	22107 CVC
18-928	04/08/2018		1808 HWY 53/OLD HIGHWAY 53	Y	55				F	F	21453(a) VC
18-1598	06/07/2018		1105 OLD HWY /SR 53	Y	55	0	0	0	F	F	22350 VC
18-2176	07/18/2018		1751 HWY 53/OLD HIGHWAY 53	Y	50	1	0	0	F	F	21453 CVC
18-2206	07/21/2018		1656 HWY 53/LAKESHORE DR	Y	15	0	0	0	F	F	22107
18-2386	08/06/2018		1620 HWY 53/OLYMPIC DR	Y	55	0	0	0	F	F	21650 VC
18-2562	08/20/2018		830 HWY 53/DAM RD	Y	55		1	0	F	F	22350
18-2566	08/20/2018		1147 HWY 53/DAM RD	Y	55	1			F	F	22350-cvc
18-3623	11/08/2018		1038 HWY 53/DAM RD	Y	55	0	0	0	F	F	21453(c) VC
18-3949	12/10/2018		1953 HWY 53/40TH AV	Y	55				F	F	21954(A) VC
19-278	02/01/2019		1705 HWY 53/POLK AV	Y	55	2			F	F	21804(a) VC
19-534	02/26/2019		1730 40TH AV/HWY 53	Y	55	0	0	0	F	F	22350 CVC
19-1043	04/21/2019		1629 HWY 53/OLYMPIC DR	Y	55	0	2	0	F	F	22107 CVC
19-1147	05/01/2019		1116 HWY 53/LAKESHORE DR	Y	55				F	F	22350VC
19-1347	05/20/2019		2340 HWY 53/OLYMPIC DR	Y	55	0	2	0	F	F	22350 VC
19-1511	06/04/2019		1800 HWY 53/OLYMPIC DR	Y	55	0	0	0	T	F	23152(a) VC
19-1600	06/13/2019		707 HWY 53/40TH AV	Y	55	3			F	F	22107 VC
19-1827	07/05/2019		20 HWY 53/DAM RD	Y	55	0	0	0	F	F	22107 CVC
19-1883	07/10/2019		0 HWY 53/40TH AV	Y	55	0	0	0	F	F	21650 VC
19-1968	07/18/2019		1921 HWY 53/LAKESHORE DR	Y	55	0	1	0	F	F	
19-2403	08/29/2019		35 HWY 53/40TH AV	Y	55	0	0	0	T	F	23152
19-3047	11/05/2019		840 HWY 53/LAKESHORE DR	Y	55	3	0	0	F	F	21457(a) VC
19-3092	11/09/2019		318 HWY 53/18TH AV	Y	55	0	0	0	T	F	23152(a) VC
19-3164	11/15/2019		1746 HWY 53/18TH AV	Y	55	0	0	1	F	F	21954(a) VC
19-3401	12/11/2019		1704 18TH AV/HWY 53	Y	30	0	0	0	F	F	22350 VC
19-3499	12/26/2019		657 HWY 53/OLD HIGHWAY 53	Y	35				F	F	22350aVC
20-138	01/17/2020		1641 HWY 53/DAM RD	Y	55			1	F	F	22107 VC
20-140	01/17/2020		1934 HWY 53/LAKESHORE DR	Y	55	1	2	0	T	F	21453(a) VC
20-504	02/22/2020		214 HWY 53/40TH AV	Y	35		1	0	T	F	23152 (a) CVC
20-699	03/09/2020		1528 18TH AV/HWY 53	Y	55	0	0	0	T	F	23152(A) vc
20-957	04/13/2020		613 3083 HWY 53	Y	55	0	0	0	F	F	21650 VC

20-988	04/16/2020	2027 HWY 53/40TH AV	Y	55	0	0	0	F	F	22107 VC	
20-1181	05/07/2020	1423 HWY 53/40TH AV	Y	55	1			0	F	F	21453(a) VC
20-1429	05/31/2020	2219 HWY 53/DAM RD	Y	55	1	0		1	F	F	21453(a) VC
20-1780	07/04/2020	1609 HWY 53/LAKESHORE DR	Y	55	1			0	F	F	22107 CVC
20-2025	07/28/2020	1140 HWY 53/18TH AV	Y		2	0		0	F	F	21453(c) VC
20-2557	09/14/2020	1548 HWY 53/OLYMPIC DR	Y	55	0	0		0	T	F	23152(a) VC
20-2953	10/19/2020	24 HWY 53/DAM RD	Y	25	2			0	T	F	23152 (a) CVC
20-3300	11/19/2020	2159 HWY 53/18TH AV	Y	55	0	0		1	F	F	21954(a) VC
20-3343	11/24/2020	1709 HWY 53/40TH AV	Y	30	0	0		0	F	F	21801(a) VC
20-3450	12/05/2020	1350 HWY 53/OLYMPIC DR	Y	55				1	F	F	22107 VC
20-3499	12/11/2020	632 HWY 53/40TH AV	Y	55	0	0		0	F	F	22350 cvc
20-3510	12/12/2020	1815 HWY 53/LAKESHORE DR	Y	55				0	F	F	21801(a) VC

Primary Rd		LOCH LOMOND RD		Distance (ft)	500.	Direction	N	Secondary Rd	CASALE DR	NCIC	9151	State Hwy?	N	Route	Postmile Prefix	Postmile	Side of Hwy										
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	008	Beat	008	Type	3	CalTrans	Badge	17904	Collision Date	20150608	Time	1120 Day MON									
Primary Collision Factor		IMPROP TURN		Violation	22107	Collision Type	OVERTURNED	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20150710										
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0																
Hit and Run		Motor Vehicle Involved With		FIXED OBJ		Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCR	Loc Type	Ramp/Int														
Party Info													Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	23	M	W	HNBD		UNS TURN	S	A	0700	HONDA	2004	-	3	N	-	M	G	DRVR	OTH VIS	23	M	1	0	M	G	
																			PASS	2	F	4	0	P	Q		
Primary Rd		LOCH LOMOND RD		Distance (ft)	3.00	Direction	E	Secondary Rd	SEIGLER SPRINGS	NCIC	9151	State Hwy?	N	Route	Postmile Prefix	Postmile	Side of Hwy										
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	008	Beat	008	Type	3	CalTrans	Badge	017141	Collision Date	20151116	Time	1130 Day MON									
Primary Collision Factor		UNSAFE SPEED		Violation	22350	Collision Type	OVERTURNED	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20151210										
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0																
Hit and Run		Motor Vehicle Involved With		NON-CLSN		Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCR	Loc Type	Ramp/Int														
Party Info													Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	42	M	B	HNBD		RAN OFF RD	E	F	2700	MACK	1990	-	3	A	26453	-	M	F	DRVR	SEVERE	42	M	1	0	M	F
Primary Rd		MAIN ST		Distance (ft)	250.	Direction	W	Secondary Rd	2ND ST	NCIC	9151	State Hwy?	N	Route	Postmile Prefix	Postmile	Side of Hwy										
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	005	Beat	005	Type	3	CalTrans	Badge	014431	Collision Date	20150430	Time	1420 Day THU									
Primary Collision Factor		STRTNG[BCKNG		Violation	22106	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20150926										
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0																
Hit and Run		Motor Vehicle Involved With		OTHER MV		Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCR	Loc Type	Ramp/Int														
Party Info													Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	26	F	H	HNBD		BACKING	S	A	0100	CHEVR	2014	-	3	N	-	M	G	PASS	6	F	3	0	M	Q		
																			PASS	2	F	4	0	M	Q		
																			PASS	1	M	5	0	M	Q		
2	DRVR	20	F	W	HNBD		PROC ST	W	A	0100	NISSA	2003	-	3	N	-	M	G	PASS	21	M	3	0	M	G		
Primary Rd		MAIN ST		Distance (ft)	0.00	Direction		Secondary Rd	GUNN ST	NCIC	9151	State Hwy?	N	Route	Postmile Prefix	Postmile	Side of Hwy										
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	005	Beat	005	Type	3	CalTrans	Badge	017128	Collision Date	20151026	Time	1918 Day MON									
Primary Collision Factor		R-O-W AUTO		Violation	21802A	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20151102										
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0																
Hit and Run		Motor Vehicle Involved With		OTHER MV		Lighting	DARK - ST	Ped Action		Cntrl Dev	FNCTNG	Loc Type	Ramp/Int														
Party Info													Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	24	F	W	HNBD		LFT TURN	W	A	0100	FORD	2004	-	3	N	-	M	G									
2	DRVR	18	F	W	HNBD		PROC ST	N	A	0100	TOYO	2010	-	3	N	-	M	G	PASS		15	F	3	0	M	G	
Primary Rd		MAIN ST.		Distance (ft)	528.	Direction	E	Secondary Rd	SR-53	NCIC	9151	State Hwy?	N	Route	Postmile Prefix	Postmile	Side of Hwy										
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	006	Beat	006	Type	3	CalTrans	Badge	019533	Collision Date	20150717	Time	1231 Day FRI									
Primary Collision Factor		UNSAFE SPEED		Violation	22350	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	N	Process Date	20151029										
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0																
Hit and Run		Motor Vehicle Involved With		BICYCLE		Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCR	Loc Type	Ramp/Int														
Party Info													Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	BICY	21	M	W	HNBD		PROC ST	E	L	0400	BICYC	2000	-	3	K	-	P	X	BICY	COMP PN	21	M	1	1	-	V	
2	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	S	A	0100	UNKNO		-	3	N	-	-	-									

Primary Rd MAIN ST.		Distance (ft) 6.00	Direction E	Secondary Rd SR-53	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy																
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 007	Type 3	CalTrans	Badge 020520	Collision Date 20151105	Time 1530	Day THU																
Primary Collision Factor R-O-W PED		Violation 21950A	Collision Type AUTO/PED	Severity INJURY	#Killed 0	#Injured 1	Tow Away? N	Process Date 20151110																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With PED		Lighting DAYLIGHT	Ped Action X-WLK AT	Cntrl Dev FNCTNG	Loc Type	Ramp/Int																		
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	57	F	W	HNBD	RGT TURN	W	A	0100	PONT	2005	-	3	N	-	M	G									
2	PED	19	F	W	HNBD		S	N	6000	-	-	-	3	N	-	-	-	PED	OTH VIS	19	F	9	0	-	-	
Primary Rd MAIN ST.		Distance (ft) 0.00	Direction	Secondary Rd STATE ST.	NCIC 9151	State Hwy? N	Route	Postmile Prefix	Postmile	Side of Hwy																
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 005	Type 3	CalTrans	Badge 019430	Collision Date 20151216	Time 0800	Day WED																
Primary Collision Factor R-O-W AUTO		Violation 21801A	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20160106																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	18	F	W	HNBD	LFT TURN	E	A	0100	TOYT	2015	-	3	N	-	L	G	PASS		16	F	3	0	M	G	
2	DRVR	35	M	W	HNBD	PROC ST	W	F	2700	KENW	2001	-	3	N	-	P	G									
Primary Rd MAIN STREET		Distance (ft) 200.	Direction S	Secondary Rd FIRST STREET	NCIC 9151	State Hwy? N	Route	Postmile Prefix	Postmile	Side of Hwy																
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 001	Type 3	CalTrans	Badge 017300	Collision Date 20151103	Time 0530	Day TUE																
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20151112																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DARK - ST	Ped Action	Cntrl Dev FNCTNG	Loc Type	Ramp/Int																		
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	998	-	IMP UNK	IMP UNK	RAN OFF RD	N	-	9900	-	-	-	3	N	-	B	B									
2	PRKD	998	-			PARKED	W	A	0100	CHRY	2015	-	-	N	-	-	-									
Primary Rd MAIN STREET		Distance (ft) 0.00	Direction	Secondary Rd WILKINSON ROAD	NCIC 9151	State Hwy? N	Route	Postmile Prefix	Postmile	Side of Hwy																
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 005	Type 3	CalTrans	Badge 015435	Collision Date 20150825	Time 1710	Day TUE																
Primary Collision Factor DRVR ALC DRG		Violation 23152A	Collision Type HEAD-ON	Severity INJURY	#Killed 0	#Injured 2	Tow Away? Y	Process Date 20151019																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev FNCTNG	Loc Type	Ramp/Int																		
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	25	F	O	HBD-UI	LFT TURN	N	A	0100	HONDA	1998	-	3	A	22450	-	L	G	DRVR	OTH VIS	25	F	1	0	M	G
																			PASS		21	M	3	0	L	G
2	DRVR	65	M	W	HNBD	PROC ST	E	D	2200	NISSA	2010	-	3	N	-	L	G	DRVR	OTH VIS	65	M	1	0	L	G	
Primary Rd MANZANITA AV		Distance (ft) 0.00	Direction	Secondary Rd HOWARD AV	NCIC 9151	State Hwy? N	Route	Postmile Prefix	Postmile	Side of Hwy																
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 001	Type 3	CalTrans	Badge 19076	Collision Date 20150227	Time 1630	Day FRI																
Primary Collision Factor R-O-W AUTO		Violation 21802A	Collision Type BROADSIDE	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20150325																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	55	F	W	HNBD	PROC ST	S	D	2200	NISSA	1995	-	3	N	-	M	G	PASS	COMP PN	998	F	3	0	-	G	
2	DRVR	27	F	W	HNBD	PROC ST	E	D	2200	CHEVR	2001	-	3	N	-	M	G	PASS		5	M	3	0	P	Q	
																			PASS		2	F	4	0	P	Q



Primary Rd	MORGAN VALLEY	Distance (ft)	40.0	Direction	W	Secondary Rd	BONHAM ROAD	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP	County	Lake	Population	9	Rpt Dist	Beat 006	Type	3	CalTrans	Badge	017937	Collision Date	20151028	Time	0810	Day	WED	
Primary Collision Factor	STRNGJ/BCKNG	Violation	22106	Collision Type	HIT OBJECT	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20151109				
Weather1	CLOUDY	Weather2		Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int							

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	17	F	W	HNBD		RAN OFF RD	W	D	2200	DODGE	1999	-	3	N	-	M H	PASS	COMP PN	52	M	3	0	M	H
																		PASS		19	M	6	0	P	H

Primary Rd	MOUNTAIN	Distance (ft)	2.00	Direction	S	Secondary Rd	HARTMANN RD	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP	County	Lake	Population	9	Rpt Dist	Beat 008	Type	3	CalTrans	Badge	19076	Collision Date	20150416	Time	0607	Day	THU	
Primary Collision Factor	R-O-W PED	Violation	21950A	Collision Type	AUTO/PED	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	N	Process Date	20150528				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	FELONY	Motor Vehicle Involved With	PED	Lighting	DUSK/DAWN	Ped Action	X-WLK AT	Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	68	M	W	IMP UNK	IMP UNK	LFT TURN	N	A	0100	MERCE	2001	-	3	K	-	M G								
2	PED	62	M	W	IMP UNK	IMP UNK		W	N	6000	-	-	-	3	N	-	-	PED	OTH VIS	62	M	9	3	-	-

Primary Rd	N/B SR-53	Distance (ft)	0.00	Direction		Secondary Rd	JESSIE STREET	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	Clearlake	County	Lake	Population	3	Rpt Dist	Beat 016	Type	1	CalTrans	Badge	021152	Collision Date	20151023	Time	1710	Day	FRI	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20151123				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	FELONY	Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	N	D	2200	NISS	2008	-	3	A	22350	-	M B	PASS	OTH VIS	16	F	2	0	L	G
2	DRVR	42	F	B	HNBD		LFT TURN	S	A	0100	NISS	2004	-	3	N	-	L G	PASS		14	M	4	0	L	G	

Primary Rd	NEW LONG VALLEY	Distance (ft)	2640	Direction	S	Secondary Rd	POMO TRL	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP	County	Lake	Population	9	Rpt Dist	Beat 002	Type	3	CalTrans	Badge	19714	Collision Date	20150613	Time	1555	Day	SAT	
Primary Collision Factor	WRONG SIDE	Violation	21460A	Collision Type	HEAD-ON	Severity	INJURY	#Killed	0	#Injured	3	Tow Away?	Y	Process Date	20150718				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	57	M	O	HNBD		OPPOS LN	S	A	0100	LINCO	2001	-	3	N	-	L G	DRVR	OTH VIS	57	M	1	0	L	G
2	DRVR	72	F	W	HNBD		PROC ST	N	A	0700	HONDA	2009	-	3	N	-	L G	DRVR	COMP PN	72	-	1	0	L	G
																		PASS	COMP PN	80	M	3	0	L	G

Primary Rd	NEW LONG VALLEY	Distance (ft)	1584	Direction	N	Secondary Rd	RT 20	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP	County	Lake	Population	9	Rpt Dist	Beat 002	Type	3	CalTrans	Badge	12621	Collision Date	20150419	Time	2200	Day	SUN	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20150930				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	998	-		IMP UNK	IMP UNK	RAN OFF RD	N	A	0100	CHEVR	1998	-	3	A	22350	-	-	PASS		49	M	3	0	M	G

Primary Rd RT 20		Distance (ft) 3696	Direction E	Secondary Rd ROSEMONT DR	NCIC 9151	State Hwy? Y	Route 20	Postmile Prefix -	Postmile 19.820	Side of Hwy W															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans 1	Badge 019430	Collision Date 20150328	Time 0330	Day SAT															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type OVERTURNED	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20160927																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With NON-CLSN		Lighting DARK - NO	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type H	Ramp/Int -																
Party Info							Victim Info																		
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	57	M	W	HNBD	UNS TURN	W	G	2528	KENW	2008	-	3	N	-	P G	DRVR	SEVERE	57	M	1	0	P	G	
Primary Rd RT 20		Distance (ft) 75.0	Direction S	Secondary Rd RT 53	NCIC 9151	State Hwy? Y	Route 53	Postmile Prefix -	Postmile 7.430	Side of Hwy S															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans 1	Badge 19533	Collision Date 20150120	Time 1410	Day TUE															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20160902																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type H	Ramp/Int -																
Party Info							Victim Info																		
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	32	M	H	HNBD	U-TURN	S	A	0100	HONDA	2004	-	3	J	-	M G	PASS		32	M	9	0	-	-	
2	DRVR	73	F	W	HNBD	PROC ST	S	A	0700	LEXUS	2015	-	3	N	-	M G									
Primary Rd RT 20		Distance (ft) 300.	Direction S	Secondary Rd RT 53	NCIC 9151	State Hwy? Y	Route 20	Postmile Prefix -	Postmile 31.618	Side of Hwy E															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 012	Type 1	CalTrans 1	Badge 017300	Collision Date 20150217	Time 2150	Day TUE															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20160902																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With FIXED OBJ		Lighting DAYLIGHT	Ped Action	Cntrl Dev	FUNCTNG	Loc Type I	Ramp/Int 5																
Party Info							Victim Info																		
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	55	M	B	HNBD	RAN OFF RD	E	A	0700	MITSU	2002	-	3	N	-	M G									
Primary Rd RT 20		Distance (ft) 0.00	Direction	Secondary Rd RT 53	NCIC 9151	State Hwy? Y	Route 20	Postmile Prefix -	Postmile 31.618	Side of Hwy E															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 012	Type 1	CalTrans 1	Badge 19076	Collision Date 20150312	Time 1355	Day THU															
Primary Collision Factor R-O-W AUTO		Violation 21802A	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20160907																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type I	Ramp/Int 5																
Party Info							Victim Info																		
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	51	F	W	HNBD	PROC ST	E	A	0700	JEEP	2005	-	3	N	-	M G									
2	DRVR	48	M	W	HNBD	LFT TURN	W	D	2200	GMC	1997	-	3	N	-	M G									
Primary Rd RT 20		Distance (ft) 1584	Direction E	Secondary Rd RT 53	NCIC 9151	State Hwy? Y	Route 20	Postmile Prefix -	Postmile 32.010	Side of Hwy E															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 022	Type 1	CalTrans 1	Badge 019430	Collision Date 20150430	Time 1845	Day THU															
Primary Collision Factor DRVR ALC DRG		Violation 23152A	Collision Type HIT OBJECT	Severity INJURY	#Killed 0	#Injured 1	Tow Away? N	Process Date 20161104																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With FIXED OBJ		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type H	Ramp/Int -																
Party Info							Victim Info																		
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	44	M	W	HBD-UI	UNS TURN	E	C	0200	OTHER	2007	-	3	A	22107	-	P W	DRVR	SEVERE	44	M	1	1	P	W

Include State Highways cases

Report Run On: 03/05/2021

Primary Rd RT 20		Distance (ft) 626.	Direction E	Secondary Rd RT 53	NCIC 9151	State Hwy? Y	Route 20	Postmile Prefix -	Postmile 31.740	Side of Hwy E																	
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 022	Type 1	CalTrans 1	Badge 018337	Collision Date 20150703	Time 1347	Day FRI																	
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20170117																			
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With FIXED OBJ			Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type H	Ramp/Int -																		
Party Info																											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	78	F	W	HNBD		RAN OFF RD	E	A	0100	TOYOT	2010	-	3	N	-	M	G									
Primary Rd RT 20		Distance (ft) 50.0	Direction E	Secondary Rd SCHINDLER ST	NCIC 9151	State Hwy? Y	Route 20	Postmile Prefix -	Postmile 28.500	Side of Hwy W																	
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 012	Type 1	CalTrans 1	Badge 17141	Collision Date 20150430	Time 0100	Day THU																	
Primary Collision Factor DRVR ALCDRNG		Violation 23152A	Collision Type HIT OBJECT	Severity FATAL	#Killed 1	#Injured 0	Tow Away? Y	Process Date 20170404																			
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With FIXED OBJ			Lighting DARK - NO	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type H	Ramp/Int -																		
Party Info																											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	24	M	W	HBD-UI	DRUG	RAN OFF RD	W	A	0700	FORD	1997	-	3	A	22107	-	L	H	DRVR	KILLED	24	M	1	0	L	H
Primary Rd RT 20		Distance (ft) 528.	Direction W	Secondary Rd SHORT ST	NCIC 9151	State Hwy? Y	Route 20	Postmile Prefix -	Postmile 27.760	Side of Hwy E																	
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 012	Type 1	CalTrans 1	Badge 019076	Collision Date 20150306	Time 0755	Day FRI																	
Primary Collision Factor R-O-W AUTO		Violation 21804A	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20160907																			
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type H	Ramp/Int -																		
Party Info																											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	57	M	W	HNBD		LFT TURN	N	D	2200	GMC	1969	-	3	N	-	P	G									
2	DRVR	42	M	W	HNBD		PROC ST	E	G	2531	FREIG	2009	-	3	N	-	M	G									
Primary Rd RT 20		Distance (ft) 0.00	Direction	Secondary Rd SHORT ST	NCIC 9151	State Hwy? Y	Route 20	Postmile Prefix -	Postmile 27.800	Side of Hwy E																	
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 012	Type 1	CalTrans 1	Badge 016093	Collision Date 20150620	Time 1406	Day SAT																	
Primary Collision Factor TOO CLOSE		Violation 21703	Collision Type REAR END	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20161104																			
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type I	Ramp/Int 5																		
Party Info																											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	27	M	W	HNBD		SLOWING	E	D	2200	FORD	2000	-	3	N	-	M	G									
2	DRVR	43	F	W	HNBD		SLOWING	E	A	0100	BMW	2002	-	3	N	-	M	G	DRVR	COMP PN	43	F	1	0	M	G	
																		PASS		2	F	6	0	M	Q		
3	DRVR	40	M	W	HNBD		SLOWING	E	D	2200	TOYOT	2006	-	3	N	-	M	G	PASS		16	M	3	0	M	G	
																		PASS		16	F	4	0	M	G		
																		PASS		17	M	6	0	M	T		
Primary Rd RT 20		Distance (ft) 50.0	Direction W	Secondary Rd SPRING RD	NCIC 9151	State Hwy? Y	Route 20	Postmile Prefix -	Postmile 25.490	Side of Hwy W																	
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 011	Type 1	CalTrans 1	Badge 19430	Collision Date 20150520	Time 1810	Day WED																	
Primary Collision Factor WRONG SIDE		Violation 21460A	Collision Type SIDESWIPE	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20161104																			
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type H	Ramp/Int -																		
Party Info																											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	37	M	W	HNBD		PASSING	W	C	0200	SUZUK	2007	-	3	N	-	P	W	DRVR	OTH VIS	37	M	1	0	P	W	
2	DRVR	51	M	W	HNBD		LFT TURN	W	A	0800	CHEVR	2006	-	3	N	-	M	G									

Primary Rd RT 29 Distance (ft) 85.0 Direction N Secondary Rd LAKEPORT BL NCIC 9151 State Hwy? Y Route 29 Postmile Prefix R Postmile 41.569 Side of Hwy S																									
City Lakeport County Lake Population 2 Rpt Dist Beat 013 Type 1 CalTrans 1 Badge 019076 Collision Date 20150501 Time 1239 Day FRI																									
Primary Collision Factor DRVR ALC DRG Violation 23152E Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20161102																									
Weather1 CLEAR Weather2 Rdw Surface DRY Rdw Cond1 NO UNUSL CND Rdw Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type R Ramp/Int 1																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	22	F	H		DRUG	SLOWING	S	A	0800	DODGE	2002	- 3	A	22350	-	M G								
2	DRVR	28	F	W	HNBD		STOPPED	S	A	0100	SUBAR	2008	- 3	N		-	M G	PASS		8	M	6	0	P	Q
Primary Rd RT 29 Distance (ft) 75.0 Direction Secondary Rd LAKEPORT BL NCIC 9151 State Hwy? Y Route 29 Postmile Prefix R Postmile 41.271 Side of Hwy N																									
City Lakeport County Lake Population 2 Rpt Dist Beat 013 Type 1 CalTrans 1 Badge 14431 Collision Date 20150506 Time 1140 Day WED																									
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20161105																									
Weather1 CLEAR Weather2 Rdw Surface DRY Rdw Cond1 NO UNUSL CND Rdw Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type R Ramp/Int 1																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	88	M	W	HNBD		SLOWING	N	A	0100	ACURA	2006	- 3	N		-	M G								
2	DRVR	21	M	W	HNBD		STOPPED	N	D	2200	DODGE	1993	- 3	N		-	M G	DRVR	COMP PN 21	M	1	0	M	G	
Primary Rd RT 29 Distance (ft) 3696 Direction N Secondary Rd LAKEPORT BL NCIC 9151 State Hwy? Y Route 29 Postmile Prefix R Postmile 42.200 Side of Hwy N																									
City Lakeport County Lake Population 2 Rpt Dist Beat 013 Type 1 CalTrans 1 Badge 019840 Collision Date 20150707 Time 0100 Day TUE																									
Primary Collision Factor IMPROP TURN Violation 22107 Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20170117																									
Weather1 CLEAR Weather2 Rdw Surface DRY Rdw Cond1 NO UNUSL CND Rdw Cond2 Spec Cond 0																									
Hit and Run MSDMNR Motor Vehicle Involved With FIXED OBJ Lighting DARK - NO Ped Action Cntrl Dev NT PRS/FCTR Loc Type H Ramp/Int -																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	RAN OFF RD	N	A	0100	MAZDA	2014	- 3	N		-	L G								
Primary Rd RT 29 Distance (ft) 0.00 Direction Secondary Rd MAIN ST NCIC 9151 State Hwy? Y Route 29 Postmile Prefix R Postmile 34.580 Side of Hwy N																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 015 Type 1 CalTrans 1 Badge 015435 Collision Date 20150119 Time 1655 Day MON																									
Primary Collision Factor R-O-W AUTO Violation 21802A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20161010																									
Weather1 CLEAR Weather2 Rdw Surface DRY Rdw Cond1 NO UNUSL CND Rdw Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type I Ramp/Int 5																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	49	M	H	HNBD		LFT TURN	W	D	2200	FORD	2007	- 3	N		-	M G								
2	DRVR	53	F	W	HNBD		PROC ST	N	A	0100	SUZUK	1988	- 3	N		-	P G	DRVR	COMP PN 53	F	1	0	P	G	
Primary Rd RT 29 Distance (ft) 0.00 Direction Secondary Rd MERRITT RD NCIC 9151 State Hwy? Y Route 29 Postmile Prefix R Postmile 36.070 Side of Hwy N																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 015 Type 1 CalTrans 1 Badge 015435 Collision Date 20150708 Time 1655 Day WED																									
Primary Collision Factor R-O-W AUTO Violation 21801A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 4 Tow Away? Y Process Date 20170114																									
Weather1 CLOUDY Weather2 Rdw Surface DRY Rdw Cond1 NO UNUSL CND Rdw Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With NON-CLSN Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type I Ramp/Int 5																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	16	F	W	HNBD		LFT TURN	S	A	0100	VOLKS	2004	- 3	N		-	M G	DRVR	OTH VIS	16	F	1	0	M	G
																		PASS	COMP PN 17	F	3	0	L	G	
2	DRVR	58	F	W	HNBD		PROC ST	N	A	0700	JEEP	2000	- 3	N		-	L G	DRVR	SEVERE	58	F	1	0	L	G
3	DRVR	72	M	W	HNBD		STOPPED	W	A	0800	DODGE	1998	- 3	N		-	M G	DRVR	COMP PN 72	M	1	0	M	G	

Primary Rd	RT 29	Distance (ft)	2640	Direction	N	Secondary Rd	RT 281	NCIC	9151	State Hwy?	Y	Route	29	Postmile Prefix	-	Postmile	29.180	Side of Hwy	S
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	1	Badge	019714	Collision Date	20150131	Time	2200	Day	SAT
Primary Collision Factor	DRVR ALC DRG	Violation	23152A	Collision Type	OVERTURNED	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20160928				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	NON-CLSN	Lighting	DARK - NO	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type	H	Ramp/Int							

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	30	F	H	HBD-UI		PROC ST	S	A	0100	NISSA	2013	-	3	A	22107	-	L	G							

Primary Rd	RT 29	Distance (ft)	5280	Direction	N	Secondary Rd	RT 281	NCIC	9151	State Hwy?	Y	Route	29	Postmile Prefix	-	Postmile	28.920	Side of Hwy	S
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	1	Badge	017128	Collision Date	20150331	Time	2053	Day	TUE
Primary Collision Factor	DRVR ALC DRG	Violation	23152A	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20160928				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type	H	Ramp/Int							

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	32	M	W	HBD-UI		RAN OFF RD	S	A	0100	TOYOT	2009	-	3	A	22107	-	M	G							

Primary Rd	RT 29	Distance (ft)	185.	Direction	N	Secondary Rd	RT 281	NCIC	9151	State Hwy?	Y	Route	29	Postmile Prefix	-	Postmile	27.930	Side of Hwy	N
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	1	Badge	019076	Collision Date	20150410	Time	0845	Day	FRI
Primary Collision Factor	LANE CHANGE	Violation	21658A	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20161102				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type	H	Ramp/Int							

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	27	F	W	HNBD		CHANG LN	N	A	0700	JEEP	2014	-	3	N	-	M	G	PASS		27	M	3	0	M	G
2	DRVR	21	M	B	HNBD		PROC ST	N	A	0100	MAZDA	2000	-	3	N	-	M	G								

Primary Rd	RT 29	Distance (ft)	130.	Direction	N	Secondary Rd	RT 29 7704	NCIC	9151	State Hwy?	Y	Route	29	Postmile Prefix	-	Postmile	29.820	Side of Hwy	S
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	1	Badge	14431	Collision Date	20150408	Time	1520	Day	WED
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20161102				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type	H	Ramp/Int							

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	24	F	W	HNBD		PROC ST	S	A	0700	CHEVR	2002	-	3	N	-	M	G								
2	DRVR	16	F	W	HNBD		SLOWING	S	A	0800	CHRY	2007	-	3	N	-	M	G	PASS		49	F	3	0	M	G
																			PASS		14	F	5	0	M	G
																			PASS		16	F	9	0	M	G
																			PASS		15	F	7	0	M	G
																			PASS		15	F	4	0	M	G

Primary Rd	RT 29	Distance (ft)	40.0	Direction	N	Secondary Rd	RT 53	NCIC	9151	State Hwy?	Y	Route	29	Postmile Prefix	-	Postmile	20.320	Side of Hwy	S
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans	1	Badge	17937	Collision Date	20150625	Time	2125	Day	THU
Primary Collision Factor	DRVR ALC DRG	Violation	23152A	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20161102				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DARK - ST	Ped Action		Cntrl Dev	FNCTNG	Loc Type	H	Ramp/Int							

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	25	M	H	HBD-UI		PROC ST	S	A	0100	TOYOT	1998	-	3	N	-	M	G								
2	DRVR	42	M	H	HNBD		SLOWING	S	A	0700	HONDA	2013	-	3	N	-	M	G	PASS		52	F	1	0	M	G
																			PASS		21	F	4	0	P	G

Primary Rd RT 29		Distance (ft) 2112	Direction S	Secondary Rd TULE LAKE RD	NCIC 9151	State Hwy? Y	Route 29	Postmile Prefix -	Postmile 51.630	Side of Hwy S															
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 013	Type 1	CalTrans 1	Badge 017300	Collision Date 20150412	Time 1303	Day SUN															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT	Severity INJURY	#Killed 0	#Injured 2	Tow Away? Y	Process Date 20161105																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting DAYLIGHT	Ped Action	Cntrl Dev FNCTNG	Loc Type H	Ramp/Int -																	
Party Info							Victim Info																		
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	35	M	W	HNBD	PROC ST	S	B	0735	FORD	2004	-	3	N	-	M	G	DRVR	OTH VIS	35	M	1	0	M	G
																		PASS	COMP PN	34	F	3	0	M	G
Primary Rd RT 29		Distance (ft) 20.0	Direction S	Secondary Rd WARDLAW ST	NCIC 9151	State Hwy? Y	Route 29	Postmile Prefix -	Postmile 5.970	Side of Hwy N															
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 018	Type 1	CalTrans 1	Badge 19430	Collision Date 20150618	Time 1955	Day THU															
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20161102																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting DARK - NO	Ped Action	Cntrl Dev FNCTNG	Loc Type H	Ramp/Int -																	
Party Info							Victim Info																		
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	39	M	W	HBD-UNK	PROC ST	N	C	0200	FORD	2000	-	1	F	-	M	G	DRVR	OTH VIS	35	M	1	0	M	G
2	DRVR	19	F	W	HNBD	STOPPED	N	A	0700	JEEP	2015	-	3	N	-	M	G	PASS		19	F	3	0	M	G
Primary Rd RT 29		Distance (ft) 600.	Direction N	Secondary Rd WESTERN MINE	NCIC 9151	State Hwy? Y	Route 29	Postmile Prefix -	Postmile 0.630	Side of Hwy N															
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 018	Type 1	CalTrans 1	Badge 17904	Collision Date 20150609	Time 1614	Day TUE															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT	Severity INJURY	#Killed 0	#Injured 2	Tow Away? Y	Process Date 20161105																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type H	Ramp/Int -																	
Party Info							Victim Info																		
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	20	F	H	HNBD	UNS TURN	N	A	0700	TOYOT	1998	-	3	N	-	L	G	DRVR	OTH VIS	20	F	1	0	L	G
																		PASS	COMP PN	55	F	3	0	L	G
Primary Rd RT 29		Distance (ft) 1000	Direction S	Secondary Rd WHALEN WY	NCIC 9151	State Hwy? Y	Route 29	Postmile Prefix R	Postmile 47.170	Side of Hwy N															
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 013	Type 1	CalTrans 1	Badge 019533	Collision Date 20150218	Time 0300	Day WED															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20161010																	
Weather1 FOG		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting DARK - NO	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type H	Ramp/Int -																	
Party Info							Victim Info																		
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	41	F	W	HNBD	RAN OFF RD	N	A	0100	CHEVR	2002	-	3	N	-	M	G	DRVR	OTH VIS	41	-	1	0	M	G
Primary Rd RT 53		Distance (ft) 15.0	Direction N	Secondary Rd ANDERSON	NCIC 9151	State Hwy? Y	Route 53	Postmile Prefix -	Postmile 0.630	Side of Hwy N															
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 016	Type 1	CalTrans 1	Badge 17904	Collision Date 20150524	Time 1229	Day SUN															
Primary Collision Factor WRONG SIDE		Violation 21202A	Collision Type OTHER	Severity INJURY	#Killed 0	#Injured 1	Tow Away? N	Process Date 20161105																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With	NON-CLSN	Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type H	Ramp/Int -																	
Party Info							Victim Info																		
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	BICY	14	M	W	HNBD	PROC ST	W	L	0400	-	-	-	3	N	-	-	-	BICY	SEVERE	14	M	1	1	P	V
2	DRVR	19	F	W	HNBD	PROC ST	N	A	0100	TOYOT	2012	-	3	N	-	M	G	PASS		52	F	3	0	M	G

Primary Rd RT 53		Distance (ft) 0.00	Direction	Secondary Rd JESSIE ST	NCIC 9151	State Hwy? Y	Route 53	Postmile Prefix -	Postmile 0.240	Side of Hwy N																
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 016	Type 1	CalTrans 1	Badge 016148	Collision Date 20150113	Time 0755	Day TUE																
Primary Collision Factor R-O-W AUTO		Violation 21801A	Collision Type BROADSIDE	Severity INJURY	#Killed 0	#Injured 2	Tow Away? Y	Process Date 20160923																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type I	Ramp/Int 5																		
Party Info																										
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	85	F	W	HNBD		LFT TURN	S	A	0100	BUICK	1996	- 3	N	-	L	G	DRVR	COMP PN 85	85	F	1	0	L	G	
2	DRVR	64	M	W	HNBD		PROC ST	N	A	0100	JEEP	2004	- 3	N	-	M	G	DRVR	COMP PN 64	64	M	1	0	M	G	
Primary Rd RT 53		Distance (ft) 528.	Direction N	Secondary Rd MAIN ST	NCIC 9151	State Hwy? Y	Route 53	Postmile Prefix -	Postmile 0.090	Side of Hwy S																
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 016	Type 1	CalTrans 1	Badge 19718	Collision Date 20150214	Time 1315	Day SAT																
Primary Collision Factor DRVR ALC DRG		Violation 23152E	Collision Type BROADSIDE	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20160923																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type H	Ramp/Int -																		
Party Info																										
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1	DRVR	39	F	W		DRUG	LFT TURN	S	A	0100	HONDA	1992	- 3	A	21801	-	M	G	DRVR	COMP PN 53	53	F	1	0	M	G
2	DRVR	53	F		HNBD		PROC ST	N	A	0100	PONTI	2003	- 3	N	-	M	G	PASS		50	M	3	0	M	G	
																		PASS		5	F	4	0	P	Q	
Primary Rd RT 53		Distance (ft) 5280	Direction S	Secondary Rd RT 20	NCIC 9151	State Hwy? Y	Route 53	Postmile Prefix -	Postmile 6.420	Side of Hwy N																
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 016	Type 1	CalTrans 1	Badge 19430	Collision Date 20150507	Time 2040	Day THU																
Primary Collision Factor NOT DRIVER		Violation	Collision Type OTHER	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20161105																		
Weather1		Weather2	Rdwy Surface	Rdwy Cond1	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With ANIMAL	Lighting	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type H	Ramp/Int -																		
Party Info																										
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1	DRVR	32	M	W	HNBD		PROC ST	N	A	0100	NISSA	2006	- 3	N	-	L	G	DRVR	COMP PN 32	32	M	1	0	L	G	
Primary Rd RT 53		Distance (ft) 20.0	Direction S	Secondary Rd RT 20	NCIC 9151	State Hwy? Y	Route 20	Postmile Prefix -	Postmile 31.618	Side of Hwy E																
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 016	Type 1	CalTrans 1	Badge 18337	Collision Date 20150520	Time 1151	Day WED																
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20161102																		
Weather1 CLOUDY		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run MSDMNR		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntrl Dev	FNCTNG	Loc Type I	Ramp/Int 5																		
Party Info																										
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	76	M	W	HNBD		SLOWING	N	A	0100	MERCE	2005	- 3	N	-	M	G	PASS		70	F	3	0	M	G	
2	DRVR	998	M	W	IMP UNK	IMP UNK	SLOWING	N	D	2200	-	-	- 3	N	-	B	-									
Primary Rd RT 53		Distance (ft) 75.0	Direction N	Secondary Rd RT 29	NCIC 9151	State Hwy? Y	Route 53	Postmile Prefix -	Postmile 0.010	Side of Hwy S																
City UNINCORP.		County Lake	Population 9	Rpt Dist Beat 016	Type 1	CalTrans 1	Badge 19533	Collision Date 20150602	Time 1230	Day TUE																
Primary Collision Factor R-O-W AUTO		Violation 21804A	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20161102																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntrl Dev	FNCTNG	Loc Type H	Ramp/Int -																		
Party Info																										
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	19	M	W	HNBD		RGT TURN	S	D	2200	TOYOT	1991	- 3	N	-	P	G									
2	DRVR	62	M	W	HNBD		PROC ST	S	A	0700	JEEP	1997	- 3	N	-	M	G									

2 DRVR 63 F W HNBD SLOWING W A 0100 TOYO 2007 - 3 N - M G																																							
Primary Rd		SR-20		Distance (ft)		4.00		Direction		W		Secondary Rd		SPRING RD		NCIC		9151		State Hwy?		Y		Route		Postmile Prefix		Postmile		Side of Hwy									
City		UNINCORP.		County		Lake		Population		9		Rpt Dist		Beat		011		Type		1		CalTrans		Badge		019811		Collision Date		20150820		Time		0650		Day		THU	
Primary Collision Factor		STRNG BCKNG		Violation		22106		Collision Type		HIT OBJECT		Severity		PDO		#Killed		0		#Injured		0		Tow Away?		N		Process Date		20151019									
Weather1		CLEAR		Weather2		Rdwy Surface		DRY		Rdwy Cond1		NO UNUSL CND		Rdwy Cond2		Spec Cond		1																					
Hit and Run				Motor Vehicle Involved With		FIXED OBJ		Lighting		DAYLIGHT		Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int																			
Party Info														Victim Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected														
1F	DRVR	30	M	W	HNBD		BACKING	E	H		1300	ICCOR	2012	-	3	N	-	P	G	PASS		8	F	2	0	P	A												
																				PASS		14	M	2	0	P	A												
																				PASS		16	F	2	0	P	A												
																				PASS		17	F	2	0	P	A												
																				PASS		14	F	2	0	P	A												
																				PASS		17	M	2	0	P	A												
																				PASS		12	M	2	0	P	A												
																				PASS		13	F	2	0	P	A												
																				PASS		12	F	2	0	P	A												
																				PASS		12	F	2	0	P	A												
																				PASS		17	F	2	0	P	A												
																				PASS		13	F	2	0	P	A												
																				PASS		8	F	2	0	P	A												
																				PASS		7	M	2	0	P	A												
Primary Rd		SR-20		Distance (ft)		528.		Direction		E		Secondary Rd		SR-29		NCIC		9151		State Hwy?		Y		Route		Postmile Prefix		Postmile		Side of Hwy									
City		UNINCORP.		County		Lake		Population		9		Rpt Dist		Beat		011		Type		1		CalTrans		Badge		019840		Collision Date		20150905		Time		1900		Day		SAT	
Primary Collision Factor		IMPROP TURN		Violation		22107		Collision Type		HIT OBJECT		Severity		PDO		#Killed		0		#Injured		0		Tow Away?		N		Process Date		20151019									
Weather1		CLEAR		Weather2		Rdwy Surface		DRY		Rdwy Cond1		CONS ZONE		Rdwy Cond2		Spec Cond		0																					
Hit and Run				Motor Vehicle Involved With		FIXED OBJ		Lighting		DAYLIGHT		Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int																			
Party Info														Victim Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected														
1F	DRVR	19	M	H	HNBD		RAN OFF RD	E	A		0100	MITS	2002	-	1	F	-	M	G																				
Primary Rd		SR-20		Distance (ft)		1056		Direction		W		Secondary Rd		SR-29		NCIC		9151		State Hwy?		Y		Route		Postmile Prefix		Postmile		Side of Hwy									
City		UNINCORP.		County		Lake		Population		9		Rpt Dist		Beat		011		Type		1		CalTrans		Badge		017904		Collision Date		20151111		Time		0821		Day		WED	
Primary Collision Factor		UNSAFE SPEED		Violation		22350		Collision Type		REAR END		Severity		INJURY		#Killed		0		#Injured		6		Tow Away?		Y		Process Date		20151117									
Weather1		CLEAR		Weather2		Rdwy Surface		DRY		Rdwy Cond1		CONS ZONE		Rdwy Cond2		Spec Cond		0																					
Hit and Run				Motor Vehicle Involved With		OTHER MV		Lighting		DAYLIGHT		Ped Action		Cntrl Dev		FNCTNG		Loc Type		Ramp/Int																			
Party Info														Victim Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected														
1F	DRVR	25	F	H	HNBD		PROC ST	E	A		0100	HOND	2003	-	3	N	-	L	G	DRVR	COMP PN	25	F	1	0	L	G												
																				PASS	COMP PN	28	M	3	0	L	G												
																				PASS	COMP PN	9	M	4	0	P	G												
																				PASS	COMP PN	3	F	6	0	P	Q												
2	DRVR	61	M	W	HNBD		STOPPED	E	A		0100	BMW	2001	-	3	N	-	M	G	DRVR	COMP PN	61	M	1	0	M	G												
3	DRVR	49	F	W	HNBD		STOPPED	E	A		0100	VOLK	2005	-	3	N	-	M	G	DRVR	COMP PN	49	F	1	0	M	G												



Primary Rd SR-20		Distance (ft) 2640	Direction W	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy																	
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 012	Type 1	CalTrans	Badge 017904	Collision Date 20150728	Time 0626 Day TUE																		
Primary Collision Factor DRVR ALC DRG		Violation 23152E	Collision Type HEAD-ON		Severity FATAL	#Killed 1	#Injured 0	Tow Away? Y	Process Date 20151109																			
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info										Victim Info																		
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR	40	F	W			DRUG	OPPOS LN	E	A	0100	CHEV	1998	-	3	A	21460	-	L	G	DRVR	KILLED	40	F	1	0	L	G
2	DRVR	54	M	H	HNBD			PROC ST	W	G	2533	KW	2001	-	3	N		-	M	G								
Primary Rd SR-20		Distance (ft) 1056	Direction S	Secondary Rd TULE LAKE RD.		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy																	
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 013	Type 1	CalTrans	Badge 019533	Collision Date 20150916	Time 1710 Day WED																		
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END		Severity INJURY	#Killed 0	#Injured 2	Tow Away? Y	Process Date 20151019																			
Weather1 RAINING		Weather2	Rdwy Surface WET		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info										Victim Info																		
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR	20	M	H	HNBD			PROC ST	S	A	0100	HOND	2012	-	3	N		-	L	G	DRVR	OTH VIS	20	M	1	0	L	G
2	DRVR	52	M	W	HNBD			SLOWING	S	D	2200	NISS	2001	-	3	N		-	M	G	DRVR	COMP PN	52	M	1	0	M	G
Primary Rd SR-20		Distance (ft) 195.	Direction W	Secondary Rd VAN SLEEPER		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy																	
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 018337	Collision Date 20150828	Time 1630 Day FRI																		
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20151019																			
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 CONS ZONE	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info										Victim Info																		
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR	23	M	W	HNBD	FATG		PROC ST	E	A	0100	TOYO	2008	-	3	F		-	L	G								
2	DRVR	31	M	H	HNBD			SLOWING	E	A	0100	TOYO	2003	-	3	N		-	M	G								
Primary Rd SR-20		Distance (ft) 528.	Direction W	Secondary Rd VERNA WAY		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy																	
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 017141	Collision Date 20150922	Time 1230 Day TUE																		
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type OVERTURNED		Severity INJURY	#Killed 0	#Injured 1	Tow Away? N	Process Date 20151019																			
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With NON-CLSN			Lighting DAYLIGHT	Ped Action	Cntrl Dev	FNCTNG	Loc Type	Ramp/Int																		
Party Info										Victim Info																		
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR	20	F	W	HNBD			RAN OFF RD	W	C	0200	HARL	2002	-	3	N		-	-	W	DRVR	OTH VIS	20	F	1	0	P	W
Primary Rd SR-20		Distance (ft) 2640	Direction E	Secondary Rd WALKER RIDGE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy																	
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 022	Type 1	CalTrans	Badge 019533	Collision Date 20150917	Time 1710 Day THU																		
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT		Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20151019																			
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With FIXED OBJ			Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info										Victim Info																		
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected			
1F	DRVR	46	F	H	HNBD			RAN OFF RD	E	A	0100	TOYO	2007	-	3	N		-	M	G								

Primary Rd SR-29		Distance (ft) 250.	Direction N	Secondary Rd LIVE OAK DRIVE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 019811	Collision Date 20150828	Time 1405	Day FRI															
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type HIT OBJECT		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20151019																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 CONS_ZONE	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With FIXED OBJ		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR		Loc Type		Ramp/Int															
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	32	M	W	HNBD		LFT TURN	N	J	4898	FORD	2011	-	3	N	-	M	G								
Primary Rd SR-29		Distance (ft) 29.0	Direction N	Secondary Rd MAIN ST		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 019714	Collision Date 20151007	Time 2130	Day WED															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT		Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20151019																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL_CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With FIXED OBJ		Lighting DARK - NO	Ped Action	Cntrl Dev	NT PRS/FCTR		Loc Type		Ramp/Int															
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	65	F	W	HNBD		PROC ST	N	A	0100	HOND	2003	-	3	N	-	M	G	DRVR	OTH VIS	65	F	1	0	M	G
Primary Rd SR-29		Distance (ft) 118.	Direction S	Secondary Rd MAIN ST.		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 019533	Collision Date 20151228	Time 1500	Day MON															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type SIDESWIPE		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20160108																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL_CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	FNCTNG		Loc Type		Ramp/Int															
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	24	M	W	HNBD		CHANG LN	N	A	0700	TOYO	2007	-	3	N	-	M	G								
2	DRVR	42	F	W	HNBD		PROC ST	N	A	0700	HYUN	2008	-	3	N	-	M	G								
Primary Rd SR-29		Distance (ft) 15.0	Direction N	Secondary Rd MURPHY SPRINGS		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 019430	Collision Date 20151103	Time 1030	Day TUE															
Primary Collision Factor WRONG SIDE		Violation 21650	Collision Type BROADSIDE		Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20151119																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL_CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR		Loc Type		Ramp/Int															
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	48	M	W	HNBD		PASSING	S	A	0700	JEEP	1995	-	3	N	-	M	G	DRVR	COMP PN	48	M	1	0	M	G
2	DRVR	48	F	W	HNBD		SLOWING	S	A	0700	DODG	2007	-	3	N	-	M	G								
Primary Rd SR-29		Distance (ft) 6336	Direction N	Secondary Rd NAPAJ LAKE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 028	Type 1	CalTrans	Badge 017141	Collision Date 20150824	Time 1050	Day MON															
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END		Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20151019																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL_CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR		Loc Type		Ramp/Int															
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	45	M	W	HNBD		SLOWING	N	D	2300	FORD	2012	-	3	N	-	M	G								
2	DRVR	30	M	H	HNBD		SLOWING	N	E	2235	CHEV	2001	-	3	A	22350	-	M	G	PASS	31	M	3	0	M	G
3	DRVR	54	F	W	HNBD		STOPPED	N	A	0100	TOYO	2005	-	3	N	-	M	G								

Primary Rd	SR-29	Distance (ft)	1000	Direction	N	Secondary Rd	SR-281	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	Badge	020520	Collision Date	20151031	Time	2018	Day	SAT	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20151103				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type									Ramp/Int

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	24	M	W	HNBD		RAN OFF RD	N	A	0100	SATU	2000	-	3	N	-	M G	PASS		40	F	3	0	M	G

Primary Rd	SR-29	Distance (ft)	528.	Direction	N	Secondary Rd	SR-281	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	Badge	017141	Collision Date	20151201	Time	0709	Day	TUE	
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20151214				
Weather1	CLEAR	Weather2		Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type									Ramp/Int

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	24	M	W	HNBD		PROC ST	N	A	0100	TOYO	1986	-	3	N	-	M G								
2	DRVR	22	M	H	HNBD		STOPPED	N	D	2200	TOYO	2014	-	3	N	-	M G								
3	DRVR	43	M	W	HNBD		PROC ST	S	J	4800	FORD	2011	-	3	N	-	M G	DRVR	COMP PN	43	M	1	0	M	G
4	DRVR	34	M	H	HNBD		LFT TURN	N	D	2200	TOYO	2004	-	3	N	-	M G								

Primary Rd	SR-29	Distance (ft)	3696	Direction	S	Secondary Rd	SR-281	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans	Badge	017128	Collision Date	20151220	Time	1758	Day	SUN	
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20160127				
Weather1	CLOUDY	Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DARK - NO	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type									Ramp/Int

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	24	M	W	HNBD		PROC ST	S	A	0100	NISS	1997	-	3	N	-	L G	DRVR	OTH VIS	24	M	1	0	L	G
2	PRKD	998	-				PARKED	S	F	2600	DODGE	2011	-	3	N	-	-								

Primary Rd	SR-29	Distance (ft)	3696	Direction	S	Secondary Rd	SR-281	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans	Badge	017128	Collision Date	20151220	Time	1805	Day	SUN	
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20160127				
Weather1	CLOUDY	Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	OTHER MV	Lighting	DARK - NO	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type									Ramp/Int

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	S	A	0700	-	-	3	N	-	B B									
2	PRKD	998	-				PARKED	S	A	0100	NISS	1997	-	3	I	-	-								

Primary Rd	SR-29	Distance (ft)	1056	Direction	S	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 018	Type	1	CalTrans	Badge	015435	Collision Date	20151216	Time	1345	Day	WED	
Primary Collision Factor	LANE CHANGE	Violation	21658A	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20160106				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type									Ramp/Int

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	36	M	A	HNBD		CHANG LN	S	A	0100	NISSA	2013	-	3	N	-	M G								
2	DRVR	29	M	W	HNBD		PROC ST	S	A	0100	HONDA	1993	-	3	N	-	M G								

Primary Rd	SR-29 S/B TODD	Distance (ft)	102.	Direction	S	Secondary Rd	TODD ROAD	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP. ONRAMPT	County	Lake	Population	9	Rpt Dist	Beat 013	Type	1	CalTrans	Badge	015435	Collision Date	20150802	Time	0915	Day	SUN	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20151019				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	39	F	W	HNBD		UNS TURN	S	A	0700	CHEVY	2008	- 3	N	-	M	G	PASS		16	F	1	0	M	G
																		PASS		12	M	6	0	B	G
																		PASS		12	M	4	0	M	G
2	DRVR	79	M	W	HNBD		PROC ST	S	A	0100	JAGU	2000	- 3	N	-	P	G								

Primary Rd	SR-53	Distance (ft)	528.	Direction	S	Secondary Rd	ANDERSON	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans	Badge	015435	Collision Date	20151104	Time	1515	Day	WED	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20151106				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	55	M	W	HNBD	FATG	UNS TURN	N	A	0100	FORD	2007	- 3	N	-	M	G	PASS		39	F	3	0	M	G
2	DRVR	48	M	W	HNBD		PROC ST	N	D	2200	DODGE	2009	- 3	N	-	M	G								

Primary Rd	SR-53	Distance (ft)	7.00	Direction	N	Secondary Rd	FLORENCE	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans	Badge	015435	Collision Date	20151102	Time	1225	Day	MON	
Primary Collision Factor	IMPROP TURN	Violation	22100B	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20151109				
Weather1	CLOUDY	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	87	M	B	HNBD		LFT TURN	S	D	2200	CHEVY	1983	- 3	N	-	P	G	PASS		28	M	3	0	P	G
2	DRVR	45	M	W	HNBD		PROC ST	S	D	2200	DODGE	2001	- 3	N	-	M	G								

Primary Rd	SR-53	Distance (ft)	0.00	Direction		Secondary Rd	JESSIE ST	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans	Badge	017141	Collision Date	20150713	Time	1312	Day	MON	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	SIDESWIPE	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	N	Process Date	20151019				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	FELONY	Motor Vehicle Involved With	BICYCLE	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	RGT TURN	N	-	9900	UNKNO	- 3	N	-	B	B									
2	BICY	61	M	W	HNBD		PROC ST	N	L	0400	HUFFY	- 3	N	-	-	V		BICY	OTH VIS	61	M	1	1	-	V

Primary Rd	SR-53	Distance (ft)	200.	Direction	S	Secondary Rd	JUNCTION PLAZA	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans	Badge	019430	Collision Date	20151013	Time	1705	Day	TUE	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20151026				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	48	M	W	HNBD		ENT TRAF	N	A	0800	DODG	1997	- 3	N	-	M	G								
2	DRVR	37	F	W	HNBD		PROC ST	N	A	0100	TOYO	2006	- 3	N	-	M	G								

Primary Rd SR-53 Distance (ft) 107. Direction N Secondary Rd JUNCTION PLAZA NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 021152 Collision Date 20151231 Time 0740 Day THU																									
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type HIT OBJECT Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20160108																									
Weather1 CLEAR Weather2 Rdwy Surface SNOWY OR ICY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With FIXED OBJ Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	62	M	W	HNBD		MERGING	S	D	2200	FORD	1999	-	3	N	-	M G	DRVR	OTH VIS	62	M	1	0	M	G
Primary Rd SR-53 Distance (ft) 3168 Direction N Secondary Rd OGULIN CANYON NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 017300 Collision Date 20150804 Time 1622 Day TUE																									
Primary Collision Factor DRVR ALC DRG Violation 23152E Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 3 Tow Away? Y Process Date 20151019																									
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	23	M	W		DRUG	U-TURN	N	A	0100	CHEV	1985	-	3	A	22107	-	M G	DRVR	COMP PN 23	M	1	0	M	G
2	DRVR	47	F	W	HNBD		PROC ST	N	A	0700	JEEP	2010	-	3	N	-	L G	DRVR	COMP PN 47	F	1	0	L	G	G
Primary Rd SR-53 Distance (ft) 1584 Direction S Secondary Rd SR-20 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 017937 Collision Date 20150927 Time 1650 Day SUN																									
Primary Collision Factor DRVR ALC DRG Violation 23152A Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20151019																									
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	38	M	W	HBD-UI		PROC ST	S	A	0100	HYUN	2002	-	3	A	22350	-	M G							
2	DRVR	20	M	W	HNBD		PROC ST	S	A	0100	VOLK	2001	-	3	N	-	P G								
Primary Rd SR-53 Distance (ft) 30.0 Direction S Secondary Rd SR-20 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 020520 Collision Date 20151003 Time 2210 Day SAT																									
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20151019																									
Weather1 CLEAR Weather2 WIND Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DARK - ST Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	49	M	W	HNBD		PROC ST	N	A	0100	TOYT	2013	-	3	N	-	L G								
2	DRVR	51	F	H	HNBD		SLOWING	N	A	0100	NISS	2004	-	3	N	-	M G								
Primary Rd SR-53 Distance (ft) 528. Direction N Secondary Rd SR-29 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 015435 Collision Date 20151110 Time 1705 Day TUE																									
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20151117																									
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DUSK/DAWN Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	73	F	W	HNBD		PROC ST	S	A	0100	HONDA	2015	-	3	N	-	M G								
2	DRVR	21	M	H	HNBD		SLOWING	S	A	0100	TOYO	2008	-	3	N	-	M G								

Include State Highways cases

Report Run On: 03/05/2021

Primary Rd	SR-53	Distance (ft)	240.	Direction	N	Secondary Rd	SR-29	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	016093	Collision Date	20151219	Time	1449	Day	SAT
Primary Collision Factor	IMPROP TURN	Violation	22100A	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	2	Tow Away?	Y	Process Date	20160107				
Weather1	CLOUDY	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FUNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	43	F	W	HNBD		RGT TURN	S	D	2200	CHEVY	2010	-	3	N	-	M G	DRVR	OTH VIS	43	F	1	0	M	G
2	DRVR	19	M	B	HNBD		PROC ST	S	A	0100	DODGE	2001	-	3	N	-	L G	DRVR	COMP PN	19	M	1	0	L	G

Primary Rd	SR20	Distance (ft)	6336	Direction	E	Secondary Rd	BLUE LAKES RD	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 011	Type	1	CalTrans		Badge	019714	Collision Date	20150808	Time	0137	Day	SAT
Primary Collision Factor	DRVR ALC DRG	Violation	23152A	Collision Type	HIT OBJECT	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20151019				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	26	M	B	HBD-UI		RAN OFF RD	E	A	0100	HOND	2014	-	3	A	22107	-	L H	DRVR	SEVERE	26	M	1	0	L	H

Primary Rd	STATE ROUTE 29	Distance (ft)	0.00	Direction		Secondary Rd	KELSEY CREEK	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans		Badge	014431	Collision Date	20150810	Time	0725	Day	MON
Primary Collision Factor	R-O-W AUTO	Violation	21802A	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20151019				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	CONS ZONE	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	44	F	W	HNBD		LFT TURN	N	A	0100	DODGE	2005	-	3	N	-	M G								
2	DRVR	18	F	O	HNBD		PROC ST	S	A	0100	DODGE	2001	-	3	N	-	M G								

Primary Rd	STATE ROUTE 29	Distance (ft)	1056	Direction	N	Secondary Rd	NICE/LUCERNE	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 013	Type	1	CalTrans		Badge	014431	Collision Date	20150929	Time	0855	Day	TUE
Primary Collision Factor	NOT DRIVER	Violation		Collision Type	OTHER	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20151019				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	ANIMAL	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1	DRVR	58	M	W	HNBD		PROC ST	N	C	0200	TRIUM	2013	-	3	N	-	- W	DRVR	SEVERE	58	M	1	0	P	W

Primary Rd	STATE ROUTE 53	Distance (ft)	215.	Direction	N	Secondary Rd	STATE ROUTE 29	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	014431	Collision Date	20150805	Time	0825	Day	WED
Primary Collision Factor	R-O-W AUTO	Violation	21804A	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20151019				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	38	M	W	HNBD		LFT TURN	E	A	0700	FORD	1998	-	3	N	-	M G	PASS		25	F	3	0	M	G
																		PASS		5	F	4	0	M	Q
																		PASS		9	M	6	0	M	G
																		PASS		10	F	9	0	M	G
2	DRVR	58	F	W	HNBD		PROC ST	S	A	0100	HONDA	1995	-	3	N	-	M G								

Include State Highways cases

Report Run On: 03/05/2021

Primary Rd		KONOCTI ROAD		Distance (ft)	0.00	Direction		Secondary Rd		MAIN STREET		NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy			
City		UNINCORP.		County	Lake	Population	9	Rpt Dist	Beat	005	Type	3	CalTrans	Badge	021172	Collision Date	20160509	Time	1402	Day	MON				
Primary Collision Factor		R-O-W AUTO		Violation	21802A	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20160524								
Weather1		CLEAR		Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0												
Hit and Run				Motor Vehicle Involved With		OTHER MV		Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int									
Party Info																	Victim Info								
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	38	M	H	HNBD		PROC ST	W	A	0100	KIA	2010	- 3	F	-	M	G	PASS		7	F	4	0	M	G
2	DRVR	46	M	W	HNBD		LFT TURN	S	A	0800	CHEV	2003	- 3	N	-	M	G	PASS		8	M	6	0	M	G
Primary Rd		KONOCTI VIEW		Distance (ft)	150.	Direction	E	Secondary Rd		KEYS BLVD.		NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy			
City		UNINCORP.		County	Lake	Population	9	Rpt Dist	Beat	002	Type	3	CalTrans	Badge	019811	Collision Date	20160908	Time	0725	Day	THU				
Primary Collision Factor		UNSAFE SPEED		Violation	22350	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20160915								
Weather1		CLEAR		Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0												
Hit and Run				Motor Vehicle Involved With		OTHER MV		Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int									
Party Info																	Victim Info								
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	75	M	W	HNBD		PROC ST	E	A	0100	FORD	2008	- 3	E	-	M	G								
2	DRVR	21	F	W	HNBD		STOPPED	W	A	0100	AUDI	2010	- 3	N	-	M	G								
Primary Rd		KUGELMAN		Distance (ft)	835.	Direction	W	Secondary Rd		SR-53		NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy			
City		UNINCORP.		County	Lake	Population	9	Rpt Dist	Beat	004	Type	3	CalTrans	Badge	021172	Collision Date	20160511	Time	1244	Day	WED				
Primary Collision Factor		WRONG SIDE		Violation	21650	Collision Type	HEAD-ON	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	N	Process Date	20160524								
Weather1		CLEAR		Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0												
Hit and Run				Motor Vehicle Involved With		OTHER MV		Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int									
Party Info																	Victim Info								
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1	DRVR	32	M	W	HNBD		PROC ST	W	C	0200	HARL	2002	- 3	N	-	-	W	DRVR	COMP PN 32	M	1	0	P	W	
2F	DRVR	68	M	W	HBD-NUI		PROC ST	E	A	0800	GMC	2002	- 3	N	-	M	G								
Primary Rd		LAKE ST		Distance (ft)	230.	Direction	S	Secondary Rd		BRYANT RD		NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy			
City		UNINCORP.		County	Lake	Population	9	Rpt Dist	Beat	006	Type	3	CalTrans	Badge	017128	Collision Date	20160614	Time	1650	Day	TUE				
Primary Collision Factor		UNSAFE SPEED		Violation	22350	Collision Type	OVERTURNED	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20160627								
Weather1		CLEAR		Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0												
Hit and Run				Motor Vehicle Involved With		NON-CLSN		Lighting	DARK - ST	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int									
Party Info																	Victim Info								
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	43	M	W	HNBD		PROC ST	N	C	0200	HARL	1998	- 3	N	-	-	W	DRVR	OTH VIS	43	M	1	0	P	W
Primary Rd		LAKE STREET		Distance (ft)	1056	Direction	S	Secondary Rd		MISTLETOE LANE		NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy			
City		UNINCORP.		County	Lake	Population	9	Rpt Dist	Beat	006	Type	3	CalTrans	Badge	021172	Collision Date	20160128	Time	1212	Day	THU				
Primary Collision Factor		IMPROP TURN		Violation	22107	Collision Type	HEAD-ON	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20160205								
Weather1		CLOUDY		Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0												
Hit and Run				Motor Vehicle Involved With		FIXED OBJ		Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int									
Party Info																	Victim Info								
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	65	F	W	HNBD		RAN OFF RD	S	A	0100	NISS	2013	- 3	F	-	L	G	PASS		3	F	2	0	L	Q
																		PASS		5	M	3	0	L	Q
																		PASS		1	F	4	0	M	Q

Include State Highways cases

Report Run On: 03/05/2021

Primary Rd <b>JERUSALEM</b> Distance (ft) <b>1056</b> Direction <b>E</b> Secondary Rd <b>SPRUCE GROVE</b> NCIC <b>9151</b> State Hwy? <b>N</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP.</b> County <b>Lake</b> Population <b>9</b> Rpt Dist Beat <b>008</b> Type <b>3</b> CalTrans Badge <b>017141</b> Collision Date <b>20160620</b> Time <b>1930</b> Day <b>MON</b> Primary Collision Factor <b>UNSAFE SPEED</b> Violation <b>22350</b> Collision Type <b>OVERTURNED</b> Severity <b>PDO</b> #Killed <b>0</b> #Injured <b>0</b> Tow Away? <b>Y</b> Process Date <b>20160705</b> Weather1 <b>CLEAR</b> Weather2 Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 Spec Cond <b>0</b> Hit and Run Motor Vehicle Involved With <b>NON-CLSN</b> Lighting <b>DAYLIGHT</b> Ped Action Cntrl Dev <b>FUNCTNG</b> Loc Type Ramp/Int														
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 21 M W IMP UNK IMP UNK RAN OFF RD E A 0100 SATUR 1994 - 3 N - M G														
Primary Rd <b>JESSIE ST</b> Distance (ft) <b>400.</b> Direction <b>E</b> Secondary Rd <b>SR-53</b> NCIC <b>9151</b> State Hwy? <b>N</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP.</b> County <b>Lake</b> Population <b>9</b> Rpt Dist Beat <b>006</b> Type <b>3</b> CalTrans Badge <b>017141</b> Collision Date <b>20160223</b> Time <b>0825</b> Day <b>TUE</b> Primary Collision Factor <b>STRNG[BCKNG</b> Violation <b>22106</b> Collision Type <b>SIDESWIPE</b> Severity <b>INJURY</b> #Killed <b>0</b> #Injured <b>1</b> Tow Away? <b>N</b> Process Date <b>20160301</b> Weather1 <b>CLEAR</b> Weather2 Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 Spec Cond <b>0</b> Hit and Run Motor Vehicle Involved With <b>OTHER MV</b> Lighting <b>DAYLIGHT</b> Ped Action Cntrl Dev <b>NT PRS/FCTR</b> Loc Type Ramp/Int														
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 40 M W HNBD BACKING S A 0800 CHEVY 2008 - 3 N - M G 2 DRVR 47 F W HNBD PROC ST W A 0700 SUZU 2002 - 3 N - B G PASS COMP PN 68 F 3 0 M G														
Primary Rd <b>KENSINGTON WAY</b> Distance (ft) <b>0.00</b> Direction Secondary Rd <b>SHERWOOD CT</b> NCIC <b>9151</b> State Hwy? <b>N</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP.</b> County <b>Lake</b> Population <b>9</b> Rpt Dist Beat <b>001</b> Type <b>3</b> CalTrans Badge <b>017128</b> Collision Date <b>20161030</b> Time <b>1945</b> Day <b>SUN</b> Primary Collision Factor <b>UNKNOWN</b> Violation Collision Type <b>BROADSIDE</b> Severity <b>PDO</b> #Killed <b>0</b> #Injured <b>0</b> Tow Away? <b>N</b> Process Date <b>20161122</b> Weather1 <b>CLOUDY</b> Weather2 Rdwy Surface <b>WET</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 Spec Cond <b>0</b> Hit and Run Motor Vehicle Involved With <b>OTHER MV</b> Lighting <b>DARK - NO</b> Ped Action Cntrl Dev <b>NT PRS/FCTR</b> Loc Type Ramp/Int														
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1 DRVR 52 F W HNBD PROC ST E A 0100 PONT 2001 - 3 N - M G 2 DRVR 16 M W HNBD PROC ST S A 0100 TOYO 1994 - 3 N - P G														
Primary Rd <b>KEYS BOULEVARD</b> Distance (ft) <b>200.</b> Direction <b>N</b> Secondary Rd <b>KONOCTI VIEW</b> NCIC <b>9151</b> State Hwy? <b>N</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP.</b> County <b>Lake</b> Population <b>9</b> Rpt Dist Beat <b>004</b> Type <b>3</b> CalTrans Badge <b>019714</b> Collision Date <b>20160901</b> Time <b>1500</b> Day <b>THU</b> Primary Collision Factor <b>IMPROP TURN</b> Violation <b>22107</b> Collision Type <b>HEAD-ON</b> Severity <b>INJURY</b> #Killed <b>0</b> #Injured <b>1</b> Tow Away? <b>Y</b> Process Date <b>20160908</b> Weather1 <b>CLEAR</b> Weather2 Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 Spec Cond <b>0</b> Hit and Run Motor Vehicle Involved With <b>OTHER MV</b> Lighting <b>DAYLIGHT</b> Ped Action Cntrl Dev <b>NT PRS/FCTR</b> Loc Type Ramp/Int														
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 56 F W HNBD OPPOS LN N D 2200 FORD 2000 - 3 A 21460 - L G 2 DRVR 56 M W HNBD PROC ST S D 2200 CHEV 2003 - 3 N - M G DRVR COMP PN 56 M 1 0 L G														
Primary Rd <b>KONOCTI RD</b> Distance (ft) <b>3168</b> Direction <b>E</b> Secondary Rd <b>VISTA MTN</b> NCIC <b>9151</b> State Hwy? <b>N</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP.</b> County <b>Lake</b> Population <b>9</b> Rpt Dist Beat <b>005</b> Type <b>3</b> CalTrans Badge <b>021199</b> Collision Date <b>20160328</b> Time <b>1640</b> Day <b>MON</b> Primary Collision Factor <b>IMPROP TURN</b> Violation <b>22107</b> Collision Type <b>HIT OBJECT</b> Severity <b>PDO</b> #Killed <b>0</b> #Injured <b>0</b> Tow Away? <b>Y</b> Process Date <b>20160330</b> Weather1 <b>CLOUDY</b> Weather2 Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 Spec Cond <b>0</b> Hit and Run Motor Vehicle Involved With <b>FIXED OBJ</b> Lighting <b>DAYLIGHT</b> Ped Action Cntrl Dev <b>NT PRS/FCTR</b> Loc Type Ramp/Int														
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 40 M H HNBD RAN OFF RD W A 0700 HYUN 2003 - 3 F - L G PASS 3 M 6 0 L Q														



Include State Highways cases

Report Run On: 03/05/2021

Primary Rd	NORTH DRIVE	Distance (ft)	3696	Direction	N	Secondary Rd	SULPHUR BANK	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 004	Type	3	CalTrans		Badge	021255	Collision Date	20161230	Time	0014	Day	FRI
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	HIT OBJECT	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20170109				
Weather1	CLEAR	Weather2		Rdwy Surface	SNOWY OR ICY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type									Ramp/Int

Party Info													Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	998	-		HBD-UNK		RAN OFF RD	N	A	0100	OLDS	2003	-	3	A	22107	-	M	B	PASS	COMP PN	29	F	3	1	M	B

Primary Rd	NORTH MAIN ST	Distance (ft)	0.00	Direction		Secondary Rd	MERRITT ROAD	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 005	Type	3	CalTrans		Badge	019714	Collision Date	20160531	Time	1830	Day	TUE
Primary Collision Factor	WRONG SIDE	Violation	21460A	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20160602				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FNCTNG	Loc Type									Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	998	-		IMP UNK	IMP UNK	OPPOS LN	N	-	9900	-	-	3	A	22450	-	-	-								
2	DRVR	21	M	W	HNBD		LFT TURN	N	D	2200	TOYO	2006	-	3	N	-	M	G	PASS		19	F	3	0	M	G

Primary Rd	OLD HWY. 53	Distance (ft)	20.0	Direction	N	Secondary Rd	LAKESHORE DR.	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	Clearlake	County	Lake	Population	3	Rpt Dist	Beat 901	Type	4	CalTrans		Badge	017904	Collision Date	20160406	Time	1431	Day	WED
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20160413				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	1								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type									Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	45	F	W	HNBD		UNS TURN	S	A	0700	TOYOT	1996	-	3	N	-	M	G								
2	DRVR	52	F	W	HNBD		STOPPED	S	H	1300	THOMA	2005	-	3	N	-	M	G	PASS		7	F	0	0	P	P
																			PASS		6	F	0	0	P	P
																			PASS		10	M	0	0	P	P
																			PASS		11	F	0	0	P	P
																			PASS		998	M	0	0	P	P
																			PASS		6	M	0	0	P	P
																			PASS		10	M	0	0	P	P
																			PASS		10	M	0	0	P	P
																			PASS		11	F	0	0	P	P
																			PASS		13	M	0	0	P	P
																			PASS		12	F	0	0	P	P
																			PASS		998	F	0	0	P	P
																			PASS		10	M	0	0	P	P
																			PASS		11	M	0	0	P	P
																			PASS		9	M	0	0	P	P

Primary Rd	ORCHARD SHORE	Distance (ft)	40.0	Direction	N	Secondary Rd	APPLE LANE	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 004	Type	3	CalTrans		Badge	017300	Collision Date	20160209	Time	1530	Day	TUE
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	AUTO/PED	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	N	Process Date	20160222				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	PED	Lighting	DAYLIGHT	Ped Action	IN RD,	Cntrl Dev	FNCTNG	Loc Type									Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	998	M	A	IMP UNK	IMP UNK	PROC ST	N	A	0100	BUICK	-	3	N	-	-	B	B	PASS		998	M	3	0	B	B
2	PED	13	M	W	HNBD			S	N	6000	-	-	3	N	-	-	-	-	PED	COMP PN	13	M	9	-	-	-

Primary Rd SR-20		Distance (ft) 100.	Direction W	Secondary Rd SPRING STREET		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 021228	Collision Date 20160923	Time 1750 Day FRI															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20160929																	
Weather1 CLOUDY		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info											Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	22	M	W	HNBD		U-TURN	E	D	2200	CHEV	2007	- 3	N	-	M	G	PASS		22	M	3	0	M	G
2	DRVR	34	M	W	HNBD		PROC ST	E	A	0100	VOLK	2007	- 3	N	-	M	G								
Primary Rd SR-20		Distance (ft) 375.	Direction E	Secondary Rd SR-29		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 019840	Collision Date 20160212	Time 2340 Day FRI															
Primary Collision Factor DRVR ALC DRG		Violation 23152E	Collision Type HIT OBJECT	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20160301																	
Weather1 CLOUDY		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With FIXED OBJ		Lighting DARK - ST	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info											Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	24	M	O			PROC ST	N	A	0100	HYUN	2003	- 3	A	22350	-	M	G							
Primary Rd SR-20		Distance (ft) 680.	Direction W	Secondary Rd SR-29		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 019811	Collision Date 20160225	Time 1602 Day THU															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type OVERTURNED	Severity INJURY	#Killed 0	#Injured 1	Tow Away? N	Process Date 20160304																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With NON-CLSN		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info											Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	28	M	H	HNBD		SLOWING	E	C	0200	HARLE	2015	- 3	N	-	-	W	DRVR	SEVERE	28	M	1	1	P	W
Primary Rd SR-20		Distance (ft) 15.0	Direction W	Secondary Rd SR-29		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 019076	Collision Date 20160303	Time 1530 Day THU															
Primary Collision Factor TOO CLOSE		Violation 21703	Collision Type REAR END	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20160308																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info											Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	52	M	W	HNBD		PROC ST	E	A	0700	FORD	1996	- 3	N	-	M	G								
2	DRVR	18	M	W	HNBD		STOPPED	E	A	0700	GMC	2007	- 3	N	-	M	G	PASS		15	M	3	0	N	G
Primary Rd SR-20		Distance (ft) 90.0	Direction W	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 012	Type 1	CalTrans	Badge 018337	Collision Date 20160108	Time 1540 Day FRI															
Primary Collision Factor STRTNG BCKNG		Violation 22106	Collision Type OTHER	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20160113																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info											Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	73	M	W	HNBD		BACKING	E	D	2200	DODG	1993	- 3	F	-	M	G								
2	DRVR	53	F	W	HNBD		STOPPED	E	A	0700	VOLV	2003	- 3	N	-	M	G								

Primary Rd SR-20		Distance (ft)	60.0	Direction	E	Secondary Rd SR-53		NCIC	9151	State Hwy?	Y	Route	Postmile Prefix	Postmile	Side of Hwy											
City UNINCORP.		County	Lake	Population	9	Rpt Dist	Beat 022	Type	1	CalTrans	Badge	021152	Collision Date	20160428	Time 1908 Day THU											
Primary Collision Factor		TOO CLOSE		Violation	21703	Collision Type		REAR END		Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20160502							
Weather1 CLEAR		Weather2		Rdwy Surface DRY		Rdwy Cond1		NO UNUSL CND		Rdwy Cond2		Spec Cond		0												
Hit and Run		Motor Vehicle Involved With				OTHER MV		Lighting		DAYLIGHT		Ped Action		Cntrl Dev		FNCTNG		Loc Type		Ramp/Int						
Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	27	F	W	HNBD		MERGING	E	A	0700	KIA	2015	- 3	N	-	M	G									
2	DRVR	75	M	W	HNBD		MERGING	E	A	0100	LEXU	1995	- 3	N	-	M	G	PASS		54	M	3	0	M	G	
																		PASS		70	M	6	0	M	G	
Primary Rd SR-20		Distance (ft)	0.00	Direction		Secondary Rd SR-53		NCIC	9151	State Hwy?	Y	Route	Postmile Prefix	Postmile	Side of Hwy											
City UNINCORP.		County	Lake	Population	9	Rpt Dist	Beat 022	Type	1	CalTrans	Badge	017141	Collision Date	20160612	Time 1430 Day SUN											
Primary Collision Factor		R-O-W AUTO		Violation	21802A	Collision Type		BROADSIDE		Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20160621							
Weather1 CLEAR		Weather2		Rdwy Surface DRY		Rdwy Cond1		NO UNUSL CND		Rdwy Cond2		Spec Cond		0												
Hit and Run		Motor Vehicle Involved With				OTHER MV		Lighting		DAYLIGHT		Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int						
Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	25	F	B	HNBD		LFT TURN	N	A	0100	VOLK	1999	- 3	N	-	M	G									
2	DRVR	59	F	W	HNBD		LFT TURN	W	A	0100	DODGE	2010	- 3	N	-	M	G									
Primary Rd SR-20		Distance (ft)	0.00	Direction		Secondary Rd SR-53		NCIC	9151	State Hwy?	Y	Route	Postmile Prefix	Postmile	Side of Hwy											
City UNINCORP.		County	Lake	Population	9	Rpt Dist	Beat 022	Type	1	CalTrans	Badge	017128	Collision Date	20160918	Time 1820 Day SUN											
Primary Collision Factor		STOP SGN SIG		Violation	22450A	Collision Type		BROADSIDE		Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20160922							
Weather1 CLEAR		Weather2		Rdwy Surface DRY		Rdwy Cond1		NO UNUSL CND		Rdwy Cond2		Spec Cond		0												
Hit and Run		Motor Vehicle Involved With				NON-CLSN		Lighting		DAYLIGHT		Ped Action		Cntrl Dev		FNCTNG		Loc Type		Ramp/Int						
Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	75	M	W	HNBD		PROC ST	E	A	0700	GMC	2013	- 3	N	-	M	G									
2	DRVR	27	M	W	HNBD		LFT TURN	N	A	0100	FORD	2012	- 3	N	-	M	G	PASS		27	F	3	0	M	G	
Primary Rd SR-20		Distance (ft)	0.00	Direction		Secondary Rd SR-53		NCIC	9151	State Hwy?	Y	Route	Postmile Prefix	Postmile	Side of Hwy											
City UNINCORP.		County	Lake	Population	9	Rpt Dist	Beat 012	Type	1	CalTrans	Badge	021172	Collision Date	20161003	Time 1605 Day MON											
Primary Collision Factor		IMPROP TURN		Violation	22107	Collision Type		BROADSIDE		Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20161011							
Weather1 CLOUDY		Weather2 RAINING		Rdwy Surface WET		Rdwy Cond1		NO UNUSL CND		Rdwy Cond2		Spec Cond		0												
Hit and Run		Motor Vehicle Involved With				OTHER MV		Lighting		DAYLIGHT		Ped Action		Cntrl Dev		FNCTNG		Loc Type		Ramp/Int						
Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	44	M	W	HNBD		LFT TURN	W	A	0700	MIT	1998	- 3	A	22350	-	M	F								
2	DRVR	65	F	O	HNBD		STOPPED	E	A	0100	TOYT	2015	- 3	N	-	L	G	DRVR	COMP PN 65	65	F	1	0	L	G	
Primary Rd SR-20		Distance (ft)	0.00	Direction		Secondary Rd SR-53		NCIC	9151	State Hwy?	Y	Route	Postmile Prefix	Postmile	Side of Hwy											
City UNINCORP.		County	Lake	Population	9	Rpt Dist	Beat 012	Type	1	CalTrans	Badge	015435	Collision Date	20161004	Time 1525 Day TUE											
Primary Collision Factor		R-O-W AUTO		Violation	21802A	Collision Type		BROADSIDE		Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20161011							
Weather1 CLEAR		Weather2		Rdwy Surface DRY		Rdwy Cond1		NO UNUSL CND		Rdwy Cond2		Spec Cond		0												
Hit and Run		Motor Vehicle Involved With				OTHER MV		Lighting		DAYLIGHT		Ped Action		Cntrl Dev		FNCTNG		Loc Type		Ramp/Int						
Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	33	M	W	HNBD		LFT TURN	N	A	0100	FORD	2014	- 3	N	-	L	G									
2	DRVR	65	M	W	HNBD		LFT TURN	W	A	0100	BMW	1997	- 3	N	-	M	G	DRVR	COMP PN 65	65	M	1	0	M	G	

Primary Rd SR-20		Distance (ft) 0.00	Direction	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 022	Type 1	CalTrans	Badge 019533	Collision Date 20161013	Time 1550	Day THU														
Primary Collision Factor R-O-W AUTO		Violation 21802A	Collision Type HEAD-ON		Severity INJURY	#Killed 0	#Injured 2	Tow Away? Y	Process Date 20161020																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev FNCTNG	Loc Type	Ramp/Int																
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	22	M	H	HNBD		PROC ST	E	A	0700	FORD	1994	- 3	N	-	L	G	PASS		35	M	3	0	L	G
2	DRVR	18	F	W	HNBD		LFT TURN	W	A	0100	ACUR	2003	- 3	N	-	L	G	DRVR	OTH VIS	18	F	1	0	L	G
																		PASS	COMP PN 42		F	3	0	L	G

Primary Rd SR-20		Distance (ft) 0.00	Direction	Secondary Rd STOKES AVE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 019840	Collision Date 20160923	Time 1955	Day FRI														
Primary Collision Factor R-O-W AUTO		Violation 21801A	Collision Type HEAD-ON		Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20161007																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run		Motor Vehicle Involved With MV ON OTHER RD			Lighting DARK - ST	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	21	M	W	HNBD		LFT TURN	W	A	0100	NISSA	2005	- 3	N	-	M	G								
2	DRVR	33	F	W	HNBD		PROC ST	E	A	0700	SATU	2004	- 3	N	-	L	G	PASS		13	M	3	0	L	G
																		PASS		5	F	4	0	L	G
																		PASS		9	M	5	0	L	G
																		PASS		9	F	6	0	L	G

Primary Rd SR-20		Distance (ft) 155.	Direction E	Secondary Rd SWANSON ROAD		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 012	Type 1	CalTrans	Badge 021228	Collision Date 20160608	Time 0115	Day WED														
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT		Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20160616																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run		Motor Vehicle Involved With FIXED OBJ			Lighting DARK - NO	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	24	F	W	HNBD	FATG	RAN OFF RD	E	A	0100	CHEV	2011	- 3	N	-	L	G	DRVR	OTH VIS	24	F	1	0	L	G

Primary Rd SR-20		Distance (ft) 10.0	Direction W	Secondary Rd THIRD AVENUE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 016148	Collision Date 20160904	Time 2131	Day SUN														
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type HIT OBJECT		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20160914																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run		Motor Vehicle Involved With ANIMAL			Lighting DARK - ST	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	59	M	W	HNBD		PROC ST	E	D	2200	DODGE	1995	- 3	N	-	M	G								

Primary Rd SR-20		Distance (ft) 95.0	Direction E	Secondary Rd THIRTEENTH AVE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 016148	Collision Date 20160605	Time 1508	Day SUN														
Primary Collision Factor TOO CLOSE		Violation 21703	Collision Type REAR END		Severity INJURY	#Killed 0	#Injured 3	Tow Away? Y	Process Date 20160616																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	20	M	W	HNBD		PROC ST	W	A	0100	SUZU	2006	- 3	N	-	M	G	DRVR	COMP PN 77		M	1	0	L	G
2	DRVR	77	M	W	HNBD		STOPPED	W	A	0100	CHEVR	2005	- 3	N	-	L	G	PASS	COMP PN 71		F	3	0	L	G

Primary Rd	SR-29	Distance (ft)	730.	Direction	N	Secondary Rd	LAKEPORT	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	Lakeport	County	Lake	Population	2	Rpt Dist	Beat 013	Type	1	CalTrans		Badge	018337	Collision Date	20160630	Time	1524	Day	THU
Primary Collision Factor	NOT DRIVER	Violation		Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20160707				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type							Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1	DRVR	66	M	W	HNBD		RAN OFF RD	S	A	0100	NISS	2012	-	3	N	-	M	G								

Primary Rd	SR-29	Distance (ft)	301.	Direction	S	Secondary Rd	LIVE OAK DR	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans		Badge	019714	Collision Date	20160722	Time	1130	Day	FRI
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20160728				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type							Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	52	M	W	HNBD		PROC ST	N	A	0100	CHEV	2000	-	3	F	-	M	G								
2	DRVR	18	F	O	HNBD		PROC ST	N	A	0100	FORD	1998	-	3	N	-	M	G								

Primary Rd	SR-29	Distance (ft)	120.	Direction	S	Secondary Rd	MAIN ST.	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 018	Type	1	CalTrans		Badge	017904	Collision Date	20160105	Time	0841	Day	TUE
Primary Collision Factor	LANE CHANGE	Violation	21658A	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20160118				
Weather1	CLOUDY	Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type							Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	39	F	H	HNBD		CHANG LN	S	A	0100	CHEV	2002	-	3	N	-	M	G								
2	DRVR	28	F	W	HNBD		PROC ST	S	A	0100	FORD	2000	-	3	A	22350	-	L	G							

Primary Rd	SR-29	Distance (ft)	0.00	Direction		Secondary Rd	MAIN STREET	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans		Badge	019200	Collision Date	20160227	Time	2129	Day	SAT
Primary Collision Factor	R-O-W AUTO	Violation	21802A	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20160310				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DARK - NO	Ped Action		Cntrl Dev		FNCTNG		Loc Type							Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	65	F	W	HNBD		LFT TURN	W	A	0700	JEEP	2007	-	3	N	-	L	G	DRVR	COMP PN	65	F	1	0	L	G
2	DRVR	27	M	W	HNBD		PROC ST	N	A	0700	SAAB	2007	-	3	N	-	L	G								

Primary Rd	SR-29	Distance (ft)	45.0	Direction	N	Secondary Rd	MARSH VIEW WAY	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans		Badge	016148	Collision Date	20160309	Time	2200	Day	WED
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20160316				
Weather1	CLOUDY	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DARK - NO	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type							Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	52	M	W	HNBD		PROC ST	S	A	0100	DODGE	2001	-	3	F	-	M	G								
2	DRVR	62	M	W	HNBD		SLOWING	S	D	2200	CHEVR	2003	-	3	N	-	M	G								

Primary Rd SR-29		Distance (ft) 3696	Direction S	Secondary Rd SR-175 COBB		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 019840	Collision Date 20161117	Time 1730	Day THU														
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END		Severity INJURY	#Killed 0	#Injured 3	Tow Away? Y	Process Date 20161201																
Weather1 CLEAR		Weather2		Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND		Rdwy Cond2	Spec Cond 0																	
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DARK - NO	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	46	F	W	HNBD		PROC ST	N	D	2200	TOYOT	2015	- 3	N	-	L	G	DRVR	COMP PN 46	46	F	1	0	L	G
																		PASS		5	M	6	0	M	Q
2	DRVR	38	F	W	HNBD		LFT TURN	N	A	0100	TOYOT	2013	- 3	N	-	L	G	DRVR	COMP PN 38	38	F	1	0	L	G
																		PASS	COMP PN 8	8	F	6	0	P	Q
3	DRVR	29	M	W	HNBD		PROC ST	N	A	0100	MAZD	2011	- 3	A	22107	-	L	G							
Primary Rd SR-29		Distance (ft) 45.0	Direction S	Secondary Rd SR-175 HOPLAND		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 019840	Collision Date 20160121	Time 2115	Day THU														
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END		Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20160212																
Weather1 CLOUDY		Weather2 RAINING		Rdwy Surface WET	Rdwy Cond1 NO UNUSL CND		Rdwy Cond2	Spec Cond 0																	
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DARK - ST	Ped Action	Cntrl Dev	FUNCTNG	Loc Type	Ramp/Int															
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	66	F	W	HNBD		PROC ST	S	A	0100	TOYO	2000	- 3	N	-	M	G	DRVR	OTH VIS	66	F	1	0	M	G
2	DRVR	19	F	W	HNBD		PROC ST	S	A	0100	MAZD	1991	- 3	N	-	M	G	PASS		23	M	3	0	M	G
Primary Rd SR-29		Distance (ft) 1056	Direction S	Secondary Rd SR-175 HOPLAND		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 021228	Collision Date 20160909	Time 1423	Day FRI														
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20160915																
Weather1 CLEAR		Weather2		Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND		Rdwy Cond2	Spec Cond 0																	
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	25	F	H	HNBD		SLOWING	N	A	0100	VOLK	2013	- 3	N	-	M	G								
2	DRVR	18	F	H	HNBD		SLOWING	N	A	0100	SATU	2005	- 3	N	-	M	G	PASS		6	F	6	0	M	G
3	DRVR	22	F	W	HNBD		SLOWING	N	A	0700	DODG	2000	- 3	N	-	M	G	PASS		28	F	3	0	M	G
4	DRVR	21	M	H	HNBD		SLOWING	N	A	0700	CHEV	2010	- 3	A	22350	-	M	G							
Primary Rd SR-29		Distance (ft) 2640	Direction S	Secondary Rd SR-175(COBB)		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 016148	Collision Date 20160111	Time 1912	Day MON														
Primary Collision Factor DRVR ALC DRG		Violation 23152A	Collision Type HIT OBJECT		Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20160210																
Weather1 CLOUDY		Weather2 RAINING		Rdwy Surface WET	Rdwy Cond1 NO UNUSL CND		Rdwy Cond2	Spec Cond 0																	
Hit and Run		Motor Vehicle Involved With FIXED OBJ			Lighting DARK - NO	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	67	M	W	HBD-UI		RAN OFF RD	N	D	2200	CHEVR	1991	- 3	A	22107	-	M	G							
Primary Rd SR-29		Distance (ft) 1584	Direction S	Secondary Rd SR-20		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 013	Type 1	CalTrans	Badge 018337	Collision Date 20160406	Time 0719	Day WED														
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type OVERTURNED		Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20160412																
Weather1 CLEAR		Weather2		Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND		Rdwy Cond2	Spec Cond 0																	
Hit and Run		Motor Vehicle Involved With NON-CLSN			Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	18	F	W	HNBD		RAN OFF RD	S	A	0100	MAZD	2000	- 3	F	-	M	G	DRVR	OTH VIS	18	F	1	0	M	G

Include State Highways cases

Report Run On: 03/05/2021

Primary Rd SR-29 Distance (ft) 140. Direction S Secondary Rd SR-20 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 013 Type 1 CalTrans Badge 019200 Collision Date 20161126 Time 0013 Day SAT																									
Primary Collision Factor DRVR ALC DRG Violation 23152A Collision Type HIT OBJECT Severity FATAL #Killed 2 #Injured 0 Tow Away? Y Process Date 20170519																									
Weather1 CLOUDY Weather2 RAINING Rdwy Surface WET Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With FIXED OBJ Lighting DARK - ST Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	27	M	W	HBD-UI		PROC ST	N	A	0100	CHEV	2009	- 3	A	22350	-	M G	DRVR	KILLED	27	M	1	0	M	G
																		PASS	KILLED	21	M	3	0	M	G
Primary Rd SR-29 Distance (ft) 8976 Direction N Secondary Rd SR-281 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 015 Type 1 CalTrans Badge 020520 Collision Date 20160117 Time 0130 Day SUN																									
Primary Collision Factor DRVR ALC DRG Violation 23152A Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20160208																									
Weather1 CLOUDY Weather2 RAINING Rdwy Surface WET Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With FIXED OBJ Lighting DARK - NO Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	27	M	H	HBD-UI		RAN OFF RD	S	A	0100	TOYO	2005	- 3	A	22107	-	M G	PASS		20	M	6	0	P	G
																		PASS		17	F	4	0	P	G
Primary Rd SR-29 Distance (ft) 0.00 Direction N Secondary Rd SR-281 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 015 Type 1 CalTrans Badge 017141 Collision Date 20160314 Time 1620 Day MON																									
Primary Collision Factor STOP SGN SIG Violation 21453A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20160324																									
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	59	F	W	HNBD		PROC ST	W	A	0100	VOLVO	2008	- 3	N	-	L G	DRVR	COMP PN	51	M	1	0	M	G	
2	DRVR	51	M	W	HNBD		PROC ST	N	D	2200	GMC	1991	- 3	N	-	M G	PASS		57	F	3	0	M	G	
Primary Rd SR-29 Distance (ft) 100. Direction N Secondary Rd SR-281 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 015 Type 1 CalTrans Badge 017141 Collision Date 20160405 Time 1700 Day TUE																									
Primary Collision Factor IMPROP TURN Violation 22107 Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20160419																									
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With FIXED OBJ Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	22	F	H	HNBD		RAN OFF RD	N	A	0100	TOYO	2014	- 3	L	-	M G	PASS		25	M	3	0	M	G	
Primary Rd SR-29 Distance (ft) 130. Direction N Secondary Rd SR-281 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 015 Type 1 CalTrans Badge 017904 Collision Date 20160505 Time 0929 Day THU																									
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20160512																									
Weather1 CLOUDY Weather2 RAINING Rdwy Surface WET Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	27	F	O	HNBD		PROC ST	S	A	0100	KIA	2010	- 3	N	-	L G	DRVR								
2	DRVR	33	M	H	HNBD		SLOWING	S	A	0700	TOYO	2012	- 3	N	-	M G	DRVR								

Primary Rd	SR-29	Distance (ft)	50.0	Direction	N	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans		Badge	017141	Collision Date	20160613	Time	1030	Day	MON
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20160627				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	57	M	W	HNBD		PROC ST	S	C	0600	JEEP	2001	- 3	N		-	M G								
2	DRVR	20	M	W	HNBD		STOPPED	S	F	2700	KENT	2003	- 3	N		-	M G	PASS		20	F	3	0	M	G

Primary Rd	SR-29	Distance (ft)	528.	Direction	S	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 018	Type	1	CalTrans		Badge	019533	Collision Date	20160818	Time	1750	Day	THU
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20160908				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT FNCT		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	M	H	IMP UNK	IMP UNK	PROC ST	N	A	0100	HONDA	1998	- 3	G		-	L G								
2	DRVR	29	F	W	HNBD		STOPPED	N	A	0100	MAZD	2014	- 3	G		-	M G								

Primary Rd	SR-29	Distance (ft)	1584	Direction	S	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 018	Type	1	CalTrans		Badge	021255	Collision Date	20160818	Time	1618	Day	THU
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	INJURY	#Killed	0	#Injured	2	Tow Away?	N	Process Date	20160829				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	29	M	H	HNBD		PROC ST	N	A	0100	FORD	2002	- 3	N		-	L G	DRVR	COMP PN	29	M	1	0	L	G
2	DRVR	67	M	W	HNBD		STOPPED	N	A	0700	LEXUS	2004	- 3	N		-	M G	PASS	OTH VIS	64	F	6	0	L	G
3	DRVR	52	M	H	HNBD		STOPPED	N	A	0100	TOYO	1994	- 3	N		-	M G	PASS		34	M	6	0	M	G
																		PASS		34	M	3	0	M	G

Primary Rd	SR-29	Distance (ft)	1584	Direction	S	Secondary Rd	SR-53	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 018	Type	1	CalTrans		Badge	021255	Collision Date	20160818	Time	1617	Day	THU
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20160829				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	21	M	W	HNBD		PROC ST	N	D	2200	CHEVY	1979	- 3	N		-	M G								
2	DRVR	63	F	H	HNBD		PROC ST	N	A	0100	KIA	2015	- 3	N		-	M G	PASS		39	F	3	0	M	G

Primary Rd	SR-29	Distance (ft)	50.0	Direction	N	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans		Badge	019076	Collision Date	20160830	Time	1730	Day	TUE
Primary Collision Factor	IMPROP PASS	Violation	21750	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20160912				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-	-	IMP UNK	IMP UNK	PASSING	S	C	0200	HARL	2011	- 3	N		-	P W								
2	DRVR	48	M	W	IMP UNK	IMP UNK	STOPPED	S	A	0100	FORD	2007	- 3	N		-	M G								



Primary Rd SR-29		Distance (ft) 22.0	Direction N	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 024	Type 1	CalTrans	Badge 017904	Collision Date 20161023	Time 1129	Day SUN															
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity INJURY	#Killed 0	#Injured 1	Tow Away? N	Process Date 20161025																	
Weather1 CLEAR	Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info										Victim Info															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	54	F	W	HNBD	PROC ST	S	D	2200	GMC	2001	- 3	N	-	M	G									
2	DRVR	69	M	W	HNBD	STOPPED	S	D	2200	TOYO	1999	- 3	N	-	M	G	DRVR	COMP PN 69	M	1	0	M	G		
Primary Rd SR-29		Distance (ft) 528.	Direction S	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 017904	Collision Date 20161025	Time 1315	Day TUE															
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20161027																	
Weather1 CLOUDY	Weather2 RAINING	Rdwy Surface WET	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info										Victim Info															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	39	M	W	HNBD	PROC ST	S	D	2200	DODGE	2000	- 3	N	-	M	G									
2	DRVR	45	F	W	HNBD	SLOWING	S	A	0100	DODGE	2011	- 3	N	-	M	G									
Primary Rd SR-29		Distance (ft) 90.0	Direction W	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 024	Type 1	CalTrans	Badge 021172	Collision Date 20161122	Time 1334	Day TUE															
Primary Collision Factor R-O-W AUTO		Violation 21804A	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20161130																	
Weather1 CLEAR	Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info										Victim Info															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	51	M	H	HNBD	ENT TRAF	N	A	0100	ACURA	2012	- 3	N	-	L	G									
2	DRVR	37	F	W	HNBD	PROC ST	S	A	0100	MITA	2012	- 3	N	-	M	G									
Primary Rd SR-29		Distance (ft) 50.0	Direction S	Secondary Rd ST. HELENA		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 016093	Collision Date 20160121	Time 1138	Day THU															
Primary Collision Factor TOO CLOSE		Violation 21703	Collision Type REAR END	Severity INJURY	#Killed 0	#Injured 1	Tow Away? N	Process Date 20160204																	
Weather1 CLOUDY	Weather2	Rdwy Surface DRY	Rdwy Cond1 CONS ZONE	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	FUNCTNG	Loc Type	Ramp/Int																
Party Info										Victim Info															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	35	M	W	HNBD	SLOWING	N	F	2500	PETE	2009	- 3	F	-	P	G									
2	DRVR	57	F	W	HNBD	PROC ST	N	A	0100	HONDA	2003	- 3	N	-	M	G	DRVR	COMP PN 57	F	1	0	M	G		
Primary Rd SR-29		Distance (ft) 2640	Direction N	Secondary Rd ST. HELENA LANE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 017300	Collision Date 20160114	Time 1320	Day THU															
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity INJURY	#Killed 0	#Injured 3	Tow Away? Y	Process Date 20160202																	
Weather1 CLOUDY	Weather2 RAINING	Rdwy Surface WET	Rdwy Cond1 CONS ZONE	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	FUNCTNG	Loc Type	Ramp/Int																
Party Info										Victim Info															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	20	M	W	HNBD	PROC ST	S	D	2200	FORD	1998	- 3	N	-	L	G	PASS		45	M	3	0	L	G	
2	DRVR	37	F	W	HNBD	STOPPED	S	A	0100	HONDA	2004	- 3	N	-	M	G	PASS	COMP PN 19	F	3	0	M	G		
3	DRVR	39	M	W	HNBD	STOPPED	S	A	0100	VOLK	2006	- 3	N	-	M	G									
4	DRVR	19	F	W	HNBD	STOPPED	S	A	0100	NISSA	2008	- 3	N	-	M	G	DRVR	COMP PN 19	F	1	0	M	G		
																	PASS	COMP PN 19	F	3	0	M	G		

Include State Highways cases

Report Run On: 03/05/2021

Primary Rd	SR-53	Distance (ft)	280.	Direction	N	Secondary Rd	ANDERSON	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	018337	Collision Date	20160527	Time	1137	Day	FRI
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20160531				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	17	M	W	HNBD		UNS TURN	N	A	0100	OLDS	1995	-	2	A	22350	-	M	G							
2	DRVR	82	F	B	HNBD		PROC ST	N	A	0700	MIT	1999	-	2	N		-	M	G							

Primary Rd	SR-53	Distance (ft)	1800	Direction	N	Secondary Rd	ANDERSON	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	019811	Collision Date	20160804	Time	1235	Day	THU
Primary Collision Factor	NOT DRIVER	Violation		Collision Type	HIT OBJECT	Severity	INJURY	#Killed	0	#Injured	2	Tow Away?	Y	Process Date	20160811				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1	DRVR	20	M	W	HNBD		RAN OFF RD	N	A	0100	NISSA	2005	-	3	K		-	L	G	DRVR	COMP PN 20	M	1	0	L	G
																				PASS	COMP PN 19	M	3	0	L	H

Primary Rd	SR-53	Distance (ft)	0.00	Direction		Secondary Rd	ANDERSON	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	017141	Collision Date	20161011	Time	0800	Day	TUE
Primary Collision Factor	R-O-W AUTO	Violation	21802A	Collision Type	HEAD-ON	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20161019				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	74	F	W	HNBD		LFT TURN	E	A	0700	DODGE	1999	-	3	E		-	M	G							
2	DRVR	58	F	W	HNBD		LFT TURN	N	A	0700	TOYO	2004	-	3	N		-	M	G							

Primary Rd	SR-53	Distance (ft)	0.00	Direction		Secondary Rd	JUNCTION PLAZA	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	021255	Collision Date	20160729	Time	1552	Day	FRI
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20160809				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	54	M	W	HNBD		PROC ST	S	C	0200	BMW	2000	-	3	N		-	W	DRVR	OTH VIS	54	M	1	0	P	W	
2	DRVR	45	F	W	HNBD		LFT TURN	N	A	0800	HONDA	2012	-	3	N		-	M	G	PASS		33	F	3	0	M	G
																			PASS		6	F	4	0	M	G	
																			PASS		9	M	6	0	M	G	
																			PASS		8	F	7	0	M	G	
																			PASS		13	F	9	0	M	G	

Primary Rd	SR-53	Distance (ft)	280.	Direction	N	Secondary Rd	JUNCTION PLAZA	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	021152	Collision Date	20160822	Time	1520	Day	MON
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20160824				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	36	M	W	HNBD		U-TURN	S	A	0100	HONDA	2010	-	3	N		-	L	G							

2	DRVR	24	M	H	HNBD	PROC ST	S	A	0100	CHEV	2005	-	3	N	-	M	G	PASS	56	F	3	0	M	G		
<b>Primary Rd</b> SR-53 <i>Distance (ft)</i> 4.00 <i>Direction</i> S <i>Secondary Rd</i> SR-20 <i>NCIC</i> 9151 <i>State Hwy?</i> Y <i>Route</i> <i>Postmile Prefix</i> <i>Postmile</i> <i>Side of Hwy</i> <b>City</b> UNINCORP. <i>County</i> Lake <i>Population</i> 9 <i>Rpt Dist</i> <i>Beat</i> 012 <i>Type</i> 1 <i>CalTrans</i> <i>Badge</i> 017300 <i>Collision Date</i> 20160921 <i>Time</i> 1145 <i>Day</i> WED <i>Primary Collision Factor</i> STRTNG BCKNG <i>Violation</i> 22106 <i>Collision Type</i> REAR END <i>Severity</i> PDO <i>#Killed</i> 0 <i>#Injured</i> 0 <i>Tow Away?</i> Y <i>Process Date</i> 20160927 <i>Weather1</i> CLEAR <i>Weather2</i> <i>Rdwy Surface</i> DRY <i>Rdwy Cond1</i> NO UNUSL CND <i>Rdwy Cond2</i> <i>Spec Cond</i> 0 <i>Hit and Run</i> <i>Motor Vehicle Involved With</i> OTHER MV <i>Lighting</i> DAYLIGHT <i>Ped Action</i> <i>Cntrl Dev</i> FNCTNG <i>Loc Type</i> <i>Ramp/Int</i>																										
<b>Party Info</b>												<b>Victim Info</b>														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	46	M	W	HNBD		BACKING	N	A	0700	TOYOT	2007	-	3	N	-	M	G	PASS		52	F	4	0	P	G
2	DRVR	69	F	W	HNBD		STOPPED	N	A	0100	FORD	1994	-	3	N	-	M	G	PASS		75	M	3	0	M	G
<b>Primary Rd</b> SR-53 <i>Distance (ft)</i> 400. <i>Direction</i> S <i>Secondary Rd</i> SR-20 <i>NCIC</i> 9151 <i>State Hwy?</i> Y <i>Route</i> <i>Postmile Prefix</i> <i>Postmile</i> <i>Side of Hwy</i> <b>City</b> UNINCORP. <i>County</i> Lake <i>Population</i> 9 <i>Rpt Dist</i> <i>Beat</i> 016 <i>Type</i> 1 <i>CalTrans</i> <i>Badge</i> 016093 <i>Collision Date</i> 20161006 <i>Time</i> 0948 <i>Day</i> THU <i>Primary Collision Factor</i> IMPROP TURN <i>Violation</i> 22107 <i>Collision Type</i> SIDESWIPE <i>Severity</i> PDO <i>#Killed</i> 0 <i>#Injured</i> 0 <i>Tow Away?</i> Y <i>Process Date</i> 20161012 <i>Weather1</i> CLEAR <i>Weather2</i> <i>Rdwy Surface</i> DRY <i>Rdwy Cond1</i> NO UNUSL CND <i>Rdwy Cond2</i> <i>Spec Cond</i> 0 <i>Hit and Run</i> <i>Motor Vehicle Involved With</i> OTHER MV <i>Lighting</i> DAYLIGHT <i>Ped Action</i> <i>Cntrl Dev</i> FNCTNG <i>Loc Type</i> <i>Ramp/Int</i>																										
<b>Party Info</b>												<b>Victim Info</b>														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	54	F	W	HNBD		MERGING	S	A	0100	JEEP	2016	-	3	J	-	M	G	PASS		53	M	3	0	M	G
2	DRVR	34	M	W	HNBD		PROC ST	S	D	2200	FORD	2015	-	3	N	-	M	G								
<b>Primary Rd</b> SR-53 <i>Distance (ft)</i> 500. <i>Direction</i> S <i>Secondary Rd</i> SR-20 <i>NCIC</i> 9151 <i>State Hwy?</i> Y <i>Route</i> <i>Postmile Prefix</i> <i>Postmile</i> <i>Side of Hwy</i> <b>City</b> UNINCORP. <i>County</i> Lake <i>Population</i> 9 <i>Rpt Dist</i> <i>Beat</i> 016 <i>Type</i> 1 <i>CalTrans</i> <i>Badge</i> 021172 <i>Collision Date</i> 20161101 <i>Time</i> 1637 <i>Day</i> TUE <i>Primary Collision Factor</i> IMPROP TURN <i>Violation</i> 22107 <i>Collision Type</i> REAR END <i>Severity</i> PDO <i>#Killed</i> 0 <i>#Injured</i> 0 <i>Tow Away?</i> N <i>Process Date</i> 20161109 <i>Weather1</i> CLEAR <i>Weather2</i> <i>Rdwy Surface</i> DRY <i>Rdwy Cond1</i> NO UNUSL CND <i>Rdwy Cond2</i> <i>Spec Cond</i> 0 <i>Hit and Run</i> <i>Motor Vehicle Involved With</i> MV ON OTHER RD <i>Lighting</i> DAYLIGHT <i>Ped Action</i> <i>Cntrl Dev</i> NT PRS/FCTR <i>Loc Type</i> <i>Ramp/Int</i>																										
<b>Party Info</b>												<b>Victim Info</b>														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	91	M	W	HNBD		U-TURN	E	A	0100	SUBA	2015	-	3	J	-	M	G								
2	DRVR	47	F	W	HNBD		PROC ST	S	D	2200	GMC	1995	-	3	N	-	M	G								
<b>Primary Rd</b> SR-53 <i>Distance (ft)</i> 15.0 <i>Direction</i> S <i>Secondary Rd</i> SR-20 <i>NCIC</i> 9151 <i>State Hwy?</i> Y <i>Route</i> <i>Postmile Prefix</i> <i>Postmile</i> <i>Side of Hwy</i> <b>City</b> UNINCORP. <i>County</i> Lake <i>Population</i> 9 <i>Rpt Dist</i> <i>Beat</i> 016 <i>Type</i> 1 <i>CalTrans</i> <i>Badge</i> 019811 <i>Collision Date</i> 20161108 <i>Time</i> 1530 <i>Day</i> TUE <i>Primary Collision Factor</i> UNSAFE SPEED <i>Violation</i> 22350 <i>Collision Type</i> REAR END <i>Severity</i> PDO <i>#Killed</i> 0 <i>#Injured</i> 0 <i>Tow Away?</i> N <i>Process Date</i> 20161122 <i>Weather1</i> CLEAR <i>Weather2</i> <i>Rdwy Surface</i> DRY <i>Rdwy Cond1</i> NO UNUSL CND <i>Rdwy Cond2</i> <i>Spec Cond</i> 0 <i>Hit and Run</i> <i>Motor Vehicle Involved With</i> OTHER MV <i>Lighting</i> DAYLIGHT <i>Ped Action</i> <i>Cntrl Dev</i> FNCTNG <i>Loc Type</i> <i>Ramp/Int</i>																										
<b>Party Info</b>												<b>Victim Info</b>														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	32	F	W	HNBD		PROC ST	N	A	0100	FORD	2014	-	3	N	-	M	G								
2	DRVR	26	F	W	HNBD		STOPPED	N	A	0100	TOYT	2011	-	3	N	-	M	G								
<b>Primary Rd</b> SR-53 <i>Distance (ft)</i> 15.0 <i>Direction</i> N <i>Secondary Rd</i> SR-29 <i>NCIC</i> 9151 <i>State Hwy?</i> Y <i>Route</i> <i>Postmile Prefix</i> <i>Postmile</i> <i>Side of Hwy</i> <b>City</b> UNINCORP. <i>County</i> Lake <i>Population</i> 9 <i>Rpt Dist</i> <i>Beat</i> 016 <i>Type</i> 1 <i>CalTrans</i> <i>Badge</i> 019076 <i>Collision Date</i> 20160712 <i>Time</i> 2040 <i>Day</i> TUE <i>Primary Collision Factor</i> IMPROP TURN <i>Violation</i> 22107 <i>Collision Type</i> HIT OBJECT <i>Severity</i> INJURY <i>#Killed</i> 0 <i>#Injured</i> 1 <i>Tow Away?</i> Y <i>Process Date</i> 20160720 <i>Weather1</i> CLEAR <i>Weather2</i> <i>Rdwy Surface</i> DRY <i>Rdwy Cond1</i> NO UNUSL CND <i>Rdwy Cond2</i> <i>Spec Cond</i> 0 <i>Hit and Run</i> <i>MSDMNR</i> <i>Motor Vehicle Involved With</i> FIXED OBJ <i>Lighting</i> DUSK/DAWN <i>Ped Action</i> <i>Cntrl Dev</i> FNCTNG <i>Loc Type</i> <i>Ramp/Int</i>																										
<b>Party Info</b>												<b>Victim Info</b>														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	22	M	W	HBD-UNK		LFT TURN	N	A	0100	BMW	1997	-	3	N	-	L	H	DRVR	OTH VIS	22	M	1	0	L	H
																			PASS		23	M	3	0	L	B

Primary Rd SR-53		Distance (ft) 70.0	Direction N	Secondary Rd SR-29		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 021228	Collision Date 20161229	Time 1445 Day THU																
Primary Collision Factor LANE CHANGE		Violation 21658A	Collision Type SIDESWIPE	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20170105																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev FNCTNG	Loc Type	Ramp/Int																		
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	50	M	W	HNBD		CHANG LN	S	A	0700	NISS	2013	- 3	N	-	M	G	PASS		79	F	3	0	M	G	
2	DRVR	28	F	W	HNBD		PROC ST	S	A	0100	FORD	2015	- 3	N	-	M	G	PASS		66	M	6	0	P	G	
Primary Rd SR-53		Distance (ft) 0.00	Direction	Secondary Rd WILSON ST		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 019076	Collision Date 20160604	Time 1740 Day SAT																
Primary Collision Factor R-O-W AUTO		Violation 21804A	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20160613																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	75	F	W	HNBD		LFT TURN	E	A	0100	TOYO	2015	- 2	N	-	M	G	PASS		79	F	3	0	M	G	
2	DRVR	27	M	W	HNBD		PROC ST	N	D	2200	FORD	2001	- 2	N	-	M	G	PASS		66	M	6	0	P	G	
Primary Rd SR-53		Distance (ft) 12.0	Direction N	Secondary Rd WILSON ST		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 017141	Collision Date 20160823	Time 0805 Day TUE																
Primary Collision Factor LANE CHANGE		Violation 21658A	Collision Type REAR END	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20170206																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	17	M	W	HNBD		CHANG LN	N	C	0200	BMW	2010	- 3	N	-	P	W	DRVR	COMP PN	17	M	1	0	P	W	
2	DRVR	18	F	O	HNBD		PROC ST	N	A	0100	VOLKS	2001	- 3	N	-	M	G	PASS		25	F	3	0	M	G	
Primary Rd STATE ST		Distance (ft) 724.	Direction S	Secondary Rd GADDY LN		NCIC 9151	State Hwy? N	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 005	Type 3	CalTrans	Badge 019714	Collision Date 20160502	Time 0010 Day MON																
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20160502																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With FIXED OBJ		Lighting DARK - NO	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	44	M	W	HNBD		PROC ST	S	A	0100	VOLK	2002	- 3	N	-	M	G	PASS								
Primary Rd STONE DR.		Distance (ft) 1073	Direction S	Secondary Rd SODA BAY RD.		NCIC 9151	State Hwy? N	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 005	Type 3	CalTrans	Badge 020520	Collision Date 20160207	Time 0216 Day SUN																
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20160218																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With FIXED OBJ		Lighting DARK - NO	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	33	M	W	HNBD		RAN OFF RD	S	A	0100	DODG	2006	- 3	A	22350	-	L	G	PASS	SEVERE	30	M	3	0	M	G

Primary Rd <b>TRANSITION: SR-29</b> Distance (ft) <b>25.0</b> Direction <b>E</b> Secondary Rd <b>SR-29</b> NCIC <b>9151</b> State Hwy? <b>Y</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP</b> County <b>SR-175</b> Lake <b>Lake</b> Population <b>9</b> Rpt Dist <b>Beat 017</b> Type <b>1</b> CalTrans Badge <b>019714</b> Collision Date <b>20160523</b> Time <b>2330</b> Day <b>MON</b> Primary Collision Factor <b>DRVR ALC DRG</b> Violation <b>23152A</b> Collision Type <b>HIT OBJECT</b> Severity <b>PDO</b> #Killed <b>0</b> #Injured <b>0</b> Tow Away? <b>Y</b> Process Date <b>20160525</b> Weather1 <b>CLEAR</b> Weather2 <b>DRY</b> Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 <b>Spec Cond 0</b> Hit and Run <b>Motor Vehicle Involved With</b> <b>FIXED OBJ</b> Lighting <b>DARK - NO</b> Ped Action <b>Cntrl Dev</b> <b>NT PRS/FCTR</b> Loc Type <b>Ramp/Int</b>													
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 24 M W HBD-UI PROC ST E A 0100 NISS 2005 - 3 A 22107 - M G													
Primary Rd <b>WESTERN MINE</b> Distance (ft) <b>6336</b> Direction <b>W</b> Secondary Rd <b>SR-29</b> NCIC <b>9151</b> State Hwy? <b>N</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP</b> County <b>Lake</b> Population <b>9</b> Rpt Dist <b>Beat 008</b> Type <b>3</b> CalTrans Badge <b>017300</b> Collision Date <b>20160517</b> Time <b>1717</b> Day <b>TUE</b> Primary Collision Factor <b>OTHER HAZ</b> Violation <b>21662A</b> Collision Type <b>HEAD-ON</b> Severity <b>PDO</b> #Killed <b>0</b> #Injured <b>0</b> Tow Away? <b>Y</b> Process Date <b>20160524</b> Weather1 <b>CLEAR</b> Weather2 <b>DRY</b> Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 <b>Spec Cond 0</b> Hit and Run <b>Motor Vehicle Involved With</b> <b>OTHER MV</b> Lighting <b>DAYLIGHT</b> Ped Action <b>Cntrl Dev</b> <b>FUNCTNG</b> Loc Type <b>Ramp/Int</b>													
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 30 M W HNBD UNS TURN E A 0100 VOLK 2014 - 3 N - L G 2 DRVR 33 F W HNBD PROC ST W A 0100 SUBAR 2009 - 3 N - M G													
Primary Rd <b>WINCHESTER</b> Distance (ft) <b>528.</b> Direction <b>N</b> Secondary Rd <b>2ND STREET</b> NCIC <b>9151</b> State Hwy? <b>N</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP</b> County <b>Lake</b> Population <b>9</b> Rpt Dist <b>Beat 006</b> Type <b>3</b> CalTrans Badge <b>017300</b> Collision Date <b>20160411</b> Time <b>1332</b> Day <b>MON</b> Primary Collision Factor <b>WRONG SIDE</b> Violation <b>21650</b> Collision Type <b>HEAD-ON</b> Severity <b>INJURY</b> #Killed <b>0</b> #Injured <b>2</b> Tow Away? <b>Y</b> Process Date <b>20160414</b> Weather1 <b>CLEAR</b> Weather2 <b>DRY</b> Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 <b>Spec Cond 0</b> Hit and Run <b>Motor Vehicle Involved With</b> <b>OTHER MV</b> Lighting <b>DAYLIGHT</b> Ped Action <b>Cntrl Dev</b> <b>FUNCTNG</b> Loc Type <b>Ramp/Int</b>													
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 18 M H HNBD OPPOS LN N A 0100 BMW 2006 - 3 F - L G 2 DRVR 18 F B HNBD PROC ST S A 0100 TOYOT 1997 - 3 N - L A DRVR COMP PN 18 F 1 0 L A													
Primary Rd <b>WOLF CREEK ROAD</b> Distance (ft) <b>37.0</b> Direction <b>E</b> Secondary Rd <b>SPRING VALLEY</b> NCIC <b>9151</b> State Hwy? <b>N</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP</b> County <b>Lake</b> Population <b>9</b> Rpt Dist <b>Beat 002</b> Type <b>3</b> CalTrans Badge <b>021228</b> Collision Date <b>20160417</b> Time <b>0320</b> Day <b>SUN</b> Primary Collision Factor <b>DRVR ALC DRG</b> Violation <b>23152A</b> Collision Type <b>HEAD-ON</b> Severity <b>PDO</b> #Killed <b>0</b> #Injured <b>0</b> Tow Away? <b>Y</b> Process Date <b>20160512</b> Weather1 <b>CLEAR</b> Weather2 <b>DRY</b> Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 <b>Spec Cond 0</b> Hit and Run <b>MSDMNR</b> <b>Motor Vehicle Involved With</b> <b>OTHER MV</b> Lighting <b>DARK - NO</b> Ped Action <b>Cntrl Dev</b> <b>NT PRS/FCTR</b> Loc Type <b>Ramp/Int</b>													
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 25 M W HBD-UI PROC ST W D 2200 TOYO 2010 - 3 A 21650 - M G 2 DRVR 41 M W HNBD STOPPED E D 2200 DODG 1999 - 3 N - M G PASS 28 F 2 0 M G PASS 998 M 3 0 P G													

Primary Rd	IRVINE AVENUE	Distance (ft)	493.	Direction	S	Secondary Rd	SR-20	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 003	Type	3	CalTrans	Badge	020848	Collision Date	20171201	Time	1837	Day	FRI	
Primary Collision Factor	DRVR ALC DRG	Violation	23152A	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20171208				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type									Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	29	M	W	HBD-UI		UNS TURN	S	A	0800	DODG	1997	-	3	A	22107	-	M	G							

Primary Rd	ISLAND VIEW DRIVE	Distance (ft)	768.	Direction	W	Secondary Rd	LAKESHORE	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 003	Type	3	CalTrans	Badge	017300	Collision Date	20170328	Time	1230	Day	TUE	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20170329				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FNCTNG	Loc Type									Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	998	-		IMP UNK	IMP UNK	RAN OFF RD	W	-	9900	-	-	3	N	-	B	B									
2	PRKD	998	-				PARKED	S	D	2200	FORD	2006	-	-	N	-	-	-								

Primary Rd	JERUSALEM GRADE ROAD	Distance (ft)	1056	Direction	E	Secondary Rd	JUNE BUG DRIVE	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 008	Type	3	CalTrans	Badge	016093	Collision Date	20170610	Time	1114	Day	SAT	
Primary Collision Factor	DRVR ALC DRG	Violation	23152F	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20170620				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	LOOSE MATRL	Rdwy Cond2	OTHER	Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type									Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	28	F	W	HNBD	DRUG	RAN OFF RD	E	A	0700	TOYO	2001	-	3	A	22107	-	M	H							

Primary Rd	JESSIE STREET	Distance (ft)	20.0	Direction	E	Secondary Rd	SR-53	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 006	Type	3	CalTrans	Badge	021014	Collision Date	20170928	Time	1632	Day	THU	
Primary Collision Factor	STRPNG BCKNG	Violation	22106	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20171010				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FNCTNG	Loc Type									Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	42	M	W	HNBD		PROC ST	W	J	4800	FORD	2014	-	3	N	-	M	G								
2	DRVR	20	M	H	HNBD		STOPPED	W	A	0100	INFI	2009	-	3	N	-	M	G								

Primary Rd	KEYS BLVD	Distance (ft)	131.	Direction	N	Secondary Rd	MARINA VILLAGE	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 004	Type	3	CalTrans	Badge	020927	Collision Date	20170105	Time	1600	Day	THU	
Primary Collision Factor	PED VIOL	Violation	21954A	Collision Type	AUTO/PED	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	N	Process Date	20170206				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	PED	Lighting	DAYLIGHT	Ped Action	IN RD,	Cntrl Dev	NT PRS/FCTR	Loc Type									Ramp/Int

Party Info													Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1	DRVR	45	F	W	HNBD		OPPOS LN	N	A	0100	JEEP	1994	-	3	A	22350	E	M	G							
2F	PED	13	M	H	HNBD			E	N	6000	-	-	-	N	-	-	-	PED	SEVERE	13	M	9	-	-	-	

Primary Rd	SR-29	Distance (ft)	432.	Direction	N	Secondary Rd	LIVE OAK DRIVE	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	Badge	017300	Collision Date	20171002	Time	1004	Day	MON	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	SIDESWIPE	Severity	INJURY	#Killed	0	#Injured	2	Tow Away?	Y	Process Date	20171012				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1	DRVR	55	M	A	HNBD		PROC ST	N	A	0800	HONDA	2013	-	3	N	-	L	G	DRVR	COMP PN 55	M	1	0	L	G
2F	DRVR	34	M	H	HNBD		ENT TRAF	N	A	0100	HONDA	2017	-	3	N	-	L	G	PASS	COMP PN 58	F	3	0	L	G

Primary Rd	SR-29	Distance (ft)	0.00	Direction		Secondary Rd	MAIN ST.	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	Badge	017904	Collision Date	20170721	Time	0756	Day	FRI	
Primary Collision Factor	R-O-W AUTO	Violation	21802A	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20170728				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	17	M	W	HNBD		LFT TURN	W	D	2200	FORD	1990	-	3	N	-	M	G							
2	DRVR	76	F	W	HNBD		PROC ST	N	A	0100	MAZD	2011	-	3	N	-	M	G							

Primary Rd	SR-29	Distance (ft)	150.	Direction	S	Secondary Rd	MAIN STREET	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 018	Type	1	CalTrans	Badge	020949	Collision Date	20171020	Time	1640	Day	FRI	
Primary Collision Factor	R-O-W AUTO	Violation	21804A	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20171026				
Weather1	CLOUDY	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	18	M	W	HNBD		ENT TRAF	E	D	2200	FORD	1998	-	3	N	-	M	G							
2	DRVR	25	M	H	HNBD		PROC ST	S	A	0100	KIA	2015	-	3	N	-	M	G							
3	DRVR	71	F	W	HNBD		PROC ST	S	A	0700	LEXU	2005	-	3	A	22350	-	M	G						

Primary Rd	SR-29	Distance (ft)	0.00	Direction		Secondary Rd	MAIN STREET	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	Badge	020848	Collision Date	20171229	Time	1938	Day	FRI	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20180109				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	56	F	W	HBD-NUI		PROC ST	N	D	2200	MAZDA	1999	-	3	N	-	M	G	DRVR	MINOR	56	F	1	0	M	G

Primary Rd	SR-29	Distance (ft)	30.0	Direction	N	Secondary Rd	MARSH VIEW RD	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans	Badge	017141	Collision Date	20170307	Time	1135	Day	TUE	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20170316				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	71	M	W	HNBD	FATG	UNS TURN	S	A	0100	HONDA	2010	-	3	N	-	M	G							

Primary Rd	SR-29	Distance (ft)	0.00	Direction		Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans		Badge	017904	Collision Date	20170116	Time	1005	Day	MON
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20170126				
Weather1	CLEAR	Weather2		Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FUNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	M	H	IMP UNK	IMP UNK	LFT TURN	S	A	0100	SATUR	-	3	N	-	-	-								
2	DRVR	36	M	W	HNBD		LFT TURN	S	D	2200	TOYO	2015	-	3	N	-	M G								

Primary Rd	SR-29	Distance (ft)	0.00	Direction		Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	019714	Collision Date	20170330	Time	1512	Day	THU
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20170406				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FUNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	25	F	O	HNBD		PROC ST	S	A	0100	CHEVY	2015	-	3	A	21806	-	L G							
2	DRVR	21	F	W	HNBD		LFT TURN	S	J	4198	RAM	2015	-	3	N	-	M G	PASS	COMP PN 30	M	6	0	P	P	

Primary Rd	SR-29	Distance (ft)	0.00	Direction		Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans		Badge	017904	Collision Date	20170428	Time	0743	Day	FRI
Primary Collision Factor	R-O-W AUTO	Violation	21802B	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20170615				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FUNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	62	M	W	HNBD		PROC ST	W	D	2200	DODGE	1998	-	3	N	-	M G								
2	DRVR	77	F	W	HNBD		LFT TURN	E	A	0700	GMC	2010	-	3	N	-	M G								

Primary Rd	SR-29	Distance (ft)	0.00	Direction		Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans		Badge	020848	Collision Date	20170517	Time	1030	Day	WED
Primary Collision Factor	STOP SGN SIG	Violation	21453A	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20170531				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FUNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	54	M	W	HNBD		PROC ST	S	A	0100	VOLVO	1998	-	3	F	-	L G	DRVR	COMP PN 54	M	1	0	L	G	
2	DRVR	33	M	W	HNBD		LFT TURN	S	G	2535	KENW	2015	-	3	N	-	P G								

Primary Rd	SR-29	Distance (ft)	70.0	Direction	N	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans		Badge	020955	Collision Date	20170831	Time	1545	Day	THU
Primary Collision Factor	STRNG BCKNG	Violation	22106	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20170907				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	30	F	H	HNBD		PROC ST	S	A	0100	HOND	1995	-	3	N	-	M G								
2	DRVR	34	F	W	HNBD		STOPPED	S	A	0100	TOYT	2001	-	3	N	-	M G								



Include State Highways cases

Report Run On: 02/01/2021

Primary Rd SR-29		Distance (ft) 94.0	Direction N	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 024	Type 1	CalTrans	Badge 020927	Collision Date 20170926	Time 1305 Day TUE																
Primary Collision Factor R-O-W AUTO		Violation 21804A	Collision Type BROADSIDE		Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20171004																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR Loc Type		Ramp/Int																	
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	57	F	W	HNBD		ENT TRAF	E	A	0100	FORD	2001	- 3	N	-	M	G									
2	DRVR	39	M	H	HNBD		PROC ST	S	D	2200	TOYO	1988	- 3	N	-	P	G									
Primary Rd SR-29		Distance (ft) 528.	Direction S	Secondary Rd ST. HELENA		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 015435	Collision Date 20171129	Time 1615 Day WED																
Primary Collision Factor OTHER HAZ		Violation 21200	Collision Type BROADSIDE		Severity FATAL	#Killed 1	#Injured 0	Tow Away? N	Process Date 20180201																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With BICYCLE		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR Loc Type		Ramp/Int																	
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	BICY	45	F	W	HBD-UI	DRUG	LFT TURN	N	L	0400	RDMAS	-	3	A	22107	-	P	V	BICY	KILLED	45	F	1	1	-	V
2	DRVR	35	F	W	HNBD		PROC ST	N	A	0100	HONDA	2014	- 3	N	-	M	G									
Primary Rd SR-29		Distance (ft) 540.	Direction S	Secondary Rd ST. HELENA LANE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 020949	Collision Date 20171111	Time 2215 Day SAT																
Primary Collision Factor DRVR ALC DRG		Violation 23152A	Collision Type HIT OBJECT		Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20171113																	
Weather1 CLOUDY		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With FIXED OBJ		Lighting DARK - ST	Ped Action	Cntrl Dev	NT PRS/FCTR Loc Type		Ramp/Int																	
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	32	M	W	HBD-UI		UNS TURN	N	A	0100	KIA	2014	- 3	A	22107	-	M	G								
Primary Rd SR-29		Distance (ft) 0.00	Direction	Secondary Rd THOMAS DRIVE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 021152	Collision Date 20171111	Time 1850 Day SAT																
Primary Collision Factor DRVR ALC DRG		Violation 23153A	Collision Type BROADSIDE		Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20171122																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DARK - NO	Ped Action	Cntrl Dev	NT PRS/FCTR Loc Type		Ramp/Int																	
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	60	M	H	HBD-UI		PROC ST	W	A	0800	NISSA	1998	- 3	A	22450	-	M	G								
2	DRVR	67	M	W	HNBD		LFT TURN	S	D	2200	DODGE	2008	- 3	N	-	M	G	DRVR	MINOR	67	M	1	0	M	G	
Primary Rd SR-29		Distance (ft) 5280	Direction S	Secondary Rd TULE LAKE RD		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 013	Type 1	CalTrans	Badge 017141	Collision Date 20171004	Time 1313 Day WED																
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT		Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20171010																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With FIXED OBJ		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR Loc Type		Ramp/Int																	
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	64	M	W	HNBD		RAN OFF RD	N	C	0200	HONDA	2013	- 3	F	-	-	W	DRVR	SEVERE	64	M	1	1	P	W	

Primary Rd	SR-53	Distance (ft)	528.	Direction	N	Secondary Rd	ANDERSON	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy								
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	019533	Collision Date	20171007	Time	0902	Day	SAT							
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20171011											
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0															
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int														
Party Info											Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	47	M	W	HNBD		RAN OFF RD	S	A	0700	TOYO	2007	-	3	N	-	L	G	DRVR	MINOR	47	M	1	0	L	G

Primary Rd	SR-53	Distance (ft)	654.	Direction	N	Secondary Rd	ANDERSON	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy									
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	020522	Collision Date	20171024	Time	1533	Day	TUE								
Primary Collision Factor	UNKNOWN	Violation		Collision Type	SIDESWIPE	Severity	FATAL	#Killed	1	#Injured	1	Tow Away?	Y	Process Date	20171215												
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0																
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int															
Party Info											Victim Info																
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1	DRVR	71	M	W	HNBD		PROC ST	N	A	0100	TOYO	2009	-	3	A	22107	-	L	G	DRVR	KILLED	71	M	1	0	L	G
2	DRVR	48	M	H	HNBD		PROC ST	N	D	2200	FORD	1994	-	3	N	-	M	G	PASS	POSSIBL	35	F	3	0	M	G	

Primary Rd	SR-53	Distance (ft)	0.00	Direction		Secondary Rd	JESSIE STREET	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy								
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	021255	Collision Date	20170717	Time	1335	Day	MON							
Primary Collision Factor	R-O-W AUTO	Violation	21802A	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	N	Process Date	20170720											
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0															
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int														
Party Info											Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	22	F	W	HNBD		LFT TURN	S	A	0100	MAZDA	1990	-	3	N	-	M	G	DRVR	COMP PN	34	F	1	0	M	G
2	DRVR	34	F	W	HNBD		LFT TURN	S	A	0100	HYUND	2016	-	3	N	-	M	G	DRVR	COMP PN	34	F	1	0	M	G

Primary Rd	SR-53	Distance (ft)	1584	Direction	N	Secondary Rd	OGULIN CANYON	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy								
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	019533	Collision Date	20170925	Time	2120	Day	MON							
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20171005											
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0															
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int														
Party Info											Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	998	-		IMP UNK	IMP UNK	RAN OFF RD	S	A	0100	HOND	1999	-	3	N	-	L	B								

Primary Rd	SR-53	Distance (ft)	60.0	Direction	S	Secondary Rd	OLYMPIC DRIVE	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy								
City	Clearlake	County	Lake	Population	3	Rpt Dist	Beat 901	Type	4	CalTrans		Badge	021014	Collision Date	20170331	Time	1327	Day	FRI							
Primary Collision Factor	WRONG SIDE	Violation	21460A	Collision Type	HEAD-ON	Severity	INJURY	#Killed	0	#Injured	8	Tow Away?	Y	Process Date	20170427											
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	1															
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int														
Party Info											Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	88	M	W	HNBD		OPPOS LN	S	A	0100	FORD	2015	-	3	N	-	L	G	DRVR	SEVERE	88	M	1	0	L	G
2	DRVR	70	F	W	HNBD		STOPPED	N	A	0700	JEEP	2017	-	3	N	-	L	G	DRVR	OTH VIS	70	F	1	0	L	G
3	DRVR	61	M	W	HNBD		STOPPED	N	H	6400	MCI	1996	-	3	N	-	P	C	PASS	OTH VIS	50	F	3	0	L	G

PASS	COMP PN 12	F	0	0	P	A
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Primary Rd SR-53 Distance (ft) 30.0 Direction S Secondary Rd SR-20 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy  
 City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 015435 Collision Date 20170503 Time 1420 Day WED  
 Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity INJURY #Killed 0 #Injured 3 Tow Away? Y Process Date 20170515  
 Weather1 CLEAR Weather2 Rdw Surface DRY Rdw Cond1 NO UNUSL CND Rdw Cond2 Spec Cond 0  
 Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int

Party Info															Victim Info										
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	76	M	W	HNBD		SLOWING	N	A	0100	FORD	2008	- 3	N	-	M	G								
2	DRVR	24	F	W	HNBD		STOPPED	N	A	0100	CHEVY	2016	- 3	N	-	M	G	DRVR	COMP PN 24	F	1	0	M	G	
3	DRVR	58	F		HNBD		STOPPED	N	A	0100	FORD	1999	- 3	N	-	L	G	DRVR	COMP PN 58	F	1	0	L	G	
																		PASS	COMP PN 17	F	3	0	M	G	

Primary Rd SR-53 Distance (ft) 2621 Direction S Secondary Rd SR-20 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy  
 City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 020848 Collision Date 20170818 Time 1543 Day FRI  
 Primary Collision Factor IMPROP TURN Violation 22107 Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 3 Tow Away? Y Process Date 20170830  
 Weather1 CLEAR Weather2 Rdw Surface DRY Rdw Cond1 NO UNUSL CND Rdw Cond2 Spec Cond 0  
 Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int

Party Info															Victim Info										
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	62	F	W	HNBD		U-TURN	S	A	0100	NISS	2005	- 3	N	-	M	G	DRVR	COMP PN 62	F	1	0	M	G	
2	DRVR	27	F	W	HNBD		PROC ST	S	A	0100	MITO	2004	- 3	N	-	L	G	PASS	COMP PN 29	M	3	0	L	G	
																		PASS	OTH VIS 8	F	6	0	P	Q	

Primary Rd SR-53 Distance (ft) 300. Direction N Secondary Rd SR-29 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy  
 City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 014642 Collision Date 20170809 Time 0753 Day WED  
 Primary Collision Factor R-O-W AUTO Violation 21801A Collision Type BROADSIDE Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20170810  
 Weather1 CLEAR Weather2 Rdw Surface DRY Rdw Cond1 NO UNUSL CND Rdw Cond2 Spec Cond 0  
 Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int

Party Info															Victim Info										
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	64	F	W	HNBD		LFT TURN	N	D	2200	TOYOT	2005	- 3	N	-	M	G								
2	DRVR	42	M	W	HNBD		PROC ST	S	A	0100	VOLK	2002	- 3	N	-	L	G								

Primary Rd SR-53 Distance (ft) 20.0 Direction N Secondary Rd SR-29 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy  
 City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 019076 Collision Date 20171117 Time 1510 Day FRI  
 Primary Collision Factor R-O-W AUTO Violation 21453B Collision Type AUTO/PED Severity INJURY #Killed 0 #Injured 1 Tow Away? N Process Date 20171127  
 Weather1 CLEAR Weather2 Rdw Surface DRY Rdw Cond1 NO UNUSL CND Rdw Cond2 Spec Cond 0  
 Hit and Run Motor Vehicle Involved With PED Lighting DAYLIGHT Ped Action NOT IN X- Cntrl Dev FNCTNG Loc Type Ramp/Int

Party Info															Victim Info										
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	67	F	W	HNBD		RGT TURN	S	A	0700	NISS	2011	- 3	N	-	M	G								
2	PED	74	M	W	HBD-NUI			E	N	6000	-	-	- 3	A	21950	-	-	PED	MINOR	74	M	0	0	-	P

Primary Rd SR-53		Distance (ft) 15.0	Direction N	Secondary Rd SR-29		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 020848	Collision Date 20171215	Time 1450 Day FRI																
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END		Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20171229																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run MSDMNR		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev	FUNCTNG	Loc Type	Ramp/Int																
Party Info											Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	28	F	W	HNBD		PROC ST	S	A	0100	HOND	2007	-	3	F	-	M	G								
2	DRVR	25	F	W	HNBD		STOPPED	S	A	0700	FORD	2013	-	3	N	-	M	G								

Primary Rd SR-53		Distance (ft) 0.00	Direction	Secondary Rd UNNAMED		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 016093	Collision Date 20171110	Time 0844 Day FRI																
Primary Collision Factor R-O-W AUTO		Violation 21802A	Collision Type BROADSIDE		Severity INJURY	#Killed 0	#Injured 2	Tow Away? Y	Process Date 20171116																	
Weather1 CLOUDY		Weather2	Rdwy Surface WET		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev	FUNCTNG	Loc Type	Ramp/Int																
Party Info											Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	73	M	W	HNBD		LFT TURN	E	A	0100	FORD	2003	-	3	N	-	M	G	DRVR	MINOR	73	M	1	0	L	G
2	DRVR	31	M	W	HNBD		PROC ST	S	A	0100	FORD	2006	-	3	N	-	L	G	DRVR	POSSIBL	31	M	1	0	L	G

Primary Rd SR-53		Distance (ft) 150.	Direction N	Secondary Rd WILSON STREET		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 020949	Collision Date 20171028	Time 1905 Day SAT															
Primary Collision Factor R-O-W AUTO		Violation 21801A	Collision Type BROADSIDE		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20171102																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run MSDMNR		Motor Vehicle Involved With OTHER MV			Lighting DARK - ST	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info											Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	LFT TURN	W	-	9900	-	-	3	N	-	B	B								
2	DRVR	53	F	W	HNBD		PROC ST	S	A	0100	TOYO	2012	-	3	N	-	M	G							

Primary Rd SR-53		Distance (ft) 4.00	Direction N	Secondary Rd WILSON STREET		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 020949	Collision Date 20171129	Time 1655 Day WED															
Primary Collision Factor R-O-W AUTO		Violation 21804A	Collision Type BROADSIDE		Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20171130																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run MSDMNR		Motor Vehicle Involved With OTHER MV			Lighting DUSK/DAWN	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info											Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	73	M	W	HNBD		ENT TRAF	E	A	0100	MERB	1998	-	3	N	-	M	G							
2	DRVR	36	M	W	HNBD		LFT TURN	N	D	2200	CHEV	2004	-	3	N	-	M	G							

Primary Rd STATE STREET		Distance (ft) 712.	Direction S	Secondary Rd GADDY LN		NCIC 9151	State Hwy? N	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 005	Type 3	CalTrans	Badge 020848	Collision Date 20170907	Time 1050 Day THU															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20170919																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run MSDMNR		Motor Vehicle Involved With FIXED OBJ			Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info											Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	UNS TURN	S	G	2531	VOLV	2016	-	3	N	-	B	B							

Include State Highways cases

Report Run On: 02/01/2021

2	DRVR	37	M	W	HNBD	PROC ST	S	A	0700	JEEP	2010	-	3	N	-	M	G
Primary Rd ALPINE COURT Distance (ft) 330. Direction W Secondary Rd MONTEZUMA NCIC 9151 State Hwy? N Route Postmile Prefix Postmile Side of Hwy City UNINCORP. County Lake Population 9 Rpt Dist Beat 004 Type 3 CalTrans Badge 019714 Collision Date 20180511 Time 1420 Day FRI Primary Collision Factor STRTNG BCKNG Violation 22106 Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20180517 Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0 Hit and Run Motor Vehicle Involved With FIXED OBJ Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																	
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 50 M W HNBD BACKING N A 0100 FORD 2015 - 3 N - M G																	
Primary Rd ANDERSON RANCH Distance (ft) 1584 Direction W Secondary Rd SR-53 NCIC 9151 State Hwy? N Route Postmile Prefix Postmile Side of Hwy City UNINCORP. County Lake Population 9 Rpt Dist Beat 004 Type 3 CalTrans Badge 015435 Collision Date 20180312 Time 0925 Day MON Primary Collision Factor IMPROP TURN Violation 22107 Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20180314 Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0 Hit and Run Motor Vehicle Involved With FIXED OBJ Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																	
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 34 M B HNBD RAN OFF RD E A 0100 DODGE 1998 - 3 N - M G																	
Primary Rd BEL AIR WEST Distance (ft) 210. Direction S Secondary Rd FAIRWAY DR. NCIC 9151 State Hwy? N Route Postmile Prefix Postmile Side of Hwy City UNINCORP. County Lake Population 9 Rpt Dist Beat 004 Type 3 CalTrans Badge 017904 Collision Date 20180810 Time 0703 Day FRI Primary Collision Factor IMPROP TURN Violation 22107 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20180815 Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0 Hit and Run Motor Vehicle Involved With PKD MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																	
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 40 M W HNBD UNS TURN S A 0100 SATU 2000 - 3 N - M G 2 PRKD 998 - PARKED S A 0100 NISSA 2004 - - N - - -																	
Primary Rd BIG CANYON RD Distance (ft) 1372 Direction N Secondary Rd HARBIN SPRINGS NCIC 9151 State Hwy? N Route Postmile Prefix Postmile Side of Hwy City UNINCORP. County Lake Population 9 Rpt Dist Beat 008 Type 3 CalTrans Badge 020848 Collision Date 20180709 Time 1615 Day MON Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20180717 Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0 Hit and Run Motor Vehicle Involved With FIXED OBJ Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																	
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 69 F W HNBD UNS TURN S A 0100 SUBA 2000 - 3 N - L G																	
Primary Rd BIG CANYON RD Distance (ft) 5280 Direction N Secondary Rd HARBIN SPRINGS NCIC 9151 State Hwy? N Route Postmile Prefix Postmile Side of Hwy City UNINCORP. County Lake Population 9 Rpt Dist Beat 008 Type 3 CalTrans Badge 019714 Collision Date 20180905 Time 1555 Day WED Primary Collision Factor IMPROP TURN Violation 22107 Collision Type OVERTURNED Severity INJURY #Killed 0 #Injured 2 Tow Away? N Process Date 20180912 Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 LOOSE MATRL Rdwy Cond2 Spec Cond 0 Hit and Run Motor Vehicle Involved With NON-CLSN Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																	
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected 1F DRVR 17 F H HNBD PROC ST S A 0700 TOYO 1997 - 3 J - M G PASS MINOR 15 F 6 0 P G																	

Primary Rd <b>HILL RD. EAST</b> Distance (ft) <b>146.</b> Direction <b>N</b> Secondary Rd <b>HILL RD.</b> NCIC <b>9151</b> State Hwy? <b>N</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP.</b> County <b>Lake</b> Population <b>9</b> Rpt Dist Beat <b>003</b> Type <b>3</b> CalTrans Badge <b>020927</b> Collision Date <b>20180108</b> Time <b>1150</b> Day <b>MON</b> Primary Collision Factor <b>NOT DRIVER</b> Violation Collision Type <b>OTHER</b> Severity <b>PDO</b> #Killed <b>0</b> #Injured <b>0</b> Tow Away? <b>N</b> Process Date <b>20180116</b> Weather1 <b>CLOUDY</b> Weather2 <b>RAINING</b> Rdwy Surface <b>WET</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 Spec Cond <b>0</b> Hit and Run Motor Vehicle Involved With <b>OTHER OBJ</b> Lighting <b>DAYLIGHT</b> Ped Action Cntrl Dev <b>NT PRS/FCTR</b> Loc Type Ramp/Int													
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected <b>1</b> <b>DRVR</b> <b>39</b> <b>M</b> <b>W</b> <b>HNBD</b> <b>PROC ST</b> <b>S</b> <b>A</b> <b>0800</b> <b>DODG</b> <b>2016</b> <b>-</b> <b>3</b> <b>N</b> <b>-</b> <b>M</b> <b>G</b>													
Primary Rd <b>HWY-29 S/B</b> Distance (ft) <b>1056</b> Direction <b>N</b> Secondary Rd <b>HILL ROAD EAST</b> NCIC <b>9151</b> State Hwy? <b>Y</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP.</b> County <b>Lake</b> Population <b>9</b> Rpt Dist Beat <b>013</b> Type <b>1</b> CalTrans Badge <b>018337</b> Collision Date <b>20181208</b> Time <b>1815</b> Day <b>SAT</b> Primary Collision Factor <b>IMPROP TURN</b> Violation <b>22107</b> Collision Type <b>HIT OBJECT</b> Severity <b>PDO</b> #Killed <b>0</b> #Injured <b>0</b> Tow Away? <b>Y</b> Process Date <b>20181219</b> Weather1 <b>CLEAR</b> Weather2 Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 Spec Cond <b>0</b> Hit and Run Motor Vehicle Involved With <b>FIXED OBJ</b> Lighting <b>DARK - NO</b> Ped Action Cntrl Dev <b>NT PRS/FCTR</b> Loc Type Ramp/Int													
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected <b>1F</b> <b>DRVR</b> <b>16</b> <b>M</b> <b>O</b> <b>HNBD</b> <b>CHANG LN</b> <b>S</b> <b>A</b> <b>0700</b> <b>LEXS</b> <b>2005</b> <b>-</b> <b>3</b> <b>N</b> <b>-</b> <b>L</b> <b>G</b>													
Primary Rd <b>JERUSALEM</b> Distance (ft) <b>850.</b> Direction <b>E</b> Secondary Rd <b>SPRUCE GROVE</b> NCIC <b>9151</b> State Hwy? <b>N</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP.</b> County <b>Lake</b> Population <b>9</b> Rpt Dist Beat <b>008</b> Type <b>3</b> CalTrans Badge <b>020949</b> Collision Date <b>20180503</b> Time <b>1520</b> Day <b>THU</b> Primary Collision Factor <b>IMPROP TURN</b> Violation <b>22107</b> Collision Type <b>HIT OBJECT</b> Severity <b>INJURY</b> #Killed <b>0</b> #Injured <b>1</b> Tow Away? <b>Y</b> Process Date <b>20180510</b> Weather1 <b>CLEAR</b> Weather2 Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 Spec Cond <b>0</b> Hit and Run Motor Vehicle Involved With <b>FIXED OBJ</b> Lighting <b>DAYLIGHT</b> Ped Action Cntrl Dev <b>NT PRS/FCTR</b> Loc Type Ramp/Int													
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected <b>1F</b> <b>DRVR</b> <b>55</b> <b>M</b> <b>W</b> <b>HNBD</b> <b>UNS TURN</b> <b>W</b> <b>A</b> <b>0100</b> <b>HONDA</b> <b>1987</b> <b>-</b> <b>3</b> <b>F</b> <b>-</b> <b>P</b> <b>G</b> <b>DRVR</b> <b>POSSIBL</b> <b>55</b> <b>M</b> <b>1</b> <b>0</b> <b>P</b> <b>G</b>													
Primary Rd <b>JESSIE ST.</b> Distance (ft) <b>20.0</b> Direction <b>E</b> Secondary Rd <b>SR-53</b> NCIC <b>9151</b> State Hwy? <b>Y</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP.</b> County <b>Lake</b> Population <b>9</b> Rpt Dist Beat <b>006</b> Type <b>3</b> CalTrans Badge <b>021014</b> Collision Date <b>20181031</b> Time <b>0800</b> Day <b>WED</b> Primary Collision Factor <b>UNSAFE SPEED</b> Violation <b>22350</b> Collision Type <b>REAR END</b> Severity <b>PDO</b> #Killed <b>0</b> #Injured <b>0</b> Tow Away? <b>N</b> Process Date <b>20181116</b> Weather1 <b>CLEAR</b> Weather2 Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 Spec Cond <b>0</b> Hit and Run Motor Vehicle Involved With <b>OTHER MV</b> Lighting <b>DAYLIGHT</b> Ped Action Cntrl Dev <b>FNCTNG</b> Loc Type Ramp/Int													
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected <b>1F</b> <b>DRVR</b> <b>20</b> <b>M</b> <b>H</b> <b>HNBD</b> <b>PROC ST</b> <b>W</b> <b>A</b> <b>0100</b> <b>BUICK</b> <b>2011</b> <b>-</b> <b>3</b> <b>F</b> <b>-</b> <b>M</b> <b>G</b> <b>2</b> <b>DRVR</b> <b>33</b> <b>F</b> <b>W</b> <b>HNBD</b> <b>STOPPED</b> <b>W</b> <b>A</b> <b>0700</b> <b>CHEV</b> <b>2010</b> <b>-</b> <b>3</b> <b>N</b> <b>-</b> <b>M</b> <b>G</b>													
Primary Rd <b>JUNIPERO AVE</b> Distance (ft) <b>65.0</b> Direction <b>N</b> Secondary Rd <b>BUENA VISTA AVE</b> NCIC <b>9151</b> State Hwy? <b>N</b> Route Postmile Prefix Postmile Side of Hwy City <b>UNINCORP.</b> County <b>Lake</b> Population <b>9</b> Rpt Dist Beat <b>005</b> Type <b>3</b> CalTrans Badge <b>018337</b> Collision Date <b>20180402</b> Time <b>2100</b> Day <b>MON</b> Primary Collision Factor <b>HAZ PARKING</b> Violation <b>22515A</b> Collision Type <b>HIT OBJECT</b> Severity <b>PDO</b> #Killed <b>0</b> #Injured <b>0</b> Tow Away? <b>Y</b> Process Date <b>20180412</b> Weather1 <b>CLEAR</b> Weather2 Rdwy Surface <b>DRY</b> Rdwy Cond1 <b>NO UNUSL CND</b> Rdwy Cond2 Spec Cond <b>0</b> Hit and Run Motor Vehicle Involved With <b>FIXED OBJ</b> Lighting <b>DARK - NO</b> Ped Action Cntrl Dev <b>NT PRS/FCTR</b> Loc Type Ramp/Int													
Party Info Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected <b>1F</b> <b>DRVR</b> <b>28</b> <b>M</b> <b>W</b> <b>HNBD</b> <b>PARKED</b> <b>N</b> <b>A</b> <b>0100</b> <b>KIA</b> <b>2004</b> <b>-</b> <b>3</b> <b>O</b> <b>-</b> <b>M</b> <b>B</b>													

Primary Rd	SR-20	Distance (ft)	50.0	Direction	W	Secondary Rd	SR-29	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 011	Type	1	CalTrans	Badge	019200	Collision Date	20181002	Time	1444	Day	TUE	
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20181010				
Weather1	CLOUDY	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FUNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	32	M	W	HNBD		PROC ST	E	A	0100	TOYOT	1997	- 3	N		-	M	G								
2	DRVR	28	M	H	HNBD		STOPPED	E	G	2732	KENW	2013	- 3	N		-	M	G								

Primary Rd	SR-20	Distance (ft)	75.0	Direction	W	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 012	Type	1	CalTrans	Badge	020848	Collision Date	20180218	Time	1540	Day	SUN	
Primary Collision Factor	NOT DRIVER	Violation		Collision Type	REAR END	Severity	INJURY	#Killed	0	#Injured	3	Tow Away?	Y	Process Date	20180221				
Weather1	CLOUDY	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FUNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1	DRVR	25	M	W	HNBD	PHYS	PROC ST	E	A	0100	HONDA	2000	- 3	N		-	L	G	DRVR	POSSIBL	25	M	1	0	L	G
2	DRVR	30	M	W	HNBD		STOPPED	E	A	0100	CHRYS	2006	- 3	N		-	M	G	DRVR	POSSIBL	30	M	1	0	M	G
3	DRVR	27	M	W	HNBD		STOPPED	E	D	2200	FORD	2000	- 3	N		-	M	G	PASS	POSSIBL	21	F	3	0	M	G

Primary Rd	SR-20	Distance (ft)	3168	Direction	E	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 022	Type	1	CalTrans	Badge	020848	Collision Date	20180226	Time	1300	Day	MON	
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20180306				
Weather1	SNOWING	Weather2		Rdwy Surface	SNOWY OR ICY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCR		Loc Type		Ramp/Int					

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	23	F	W	HNBD		PROC ST	E	A	0100	TOYT	2012	- 3	N		-	L	G	DRVR	POSSIBL	23	F	1	0	L	G
2	DRVR	29	F	W	HNBD		SLOWING	E	D	2200	DODG	2014	- 3	N		-	M	G								

Primary Rd	SR-20	Distance (ft)	3168	Direction	W	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 012	Type	1	CalTrans	Badge	021419	Collision Date	20180513	Time	0415	Day	SUN	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20180518				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev		NT PRS/FCR		Loc Type		Ramp/Int					

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	20	M	W	HNBD		RAN OFF RD	W	A	0100	FORD	1989	- 3	N		-	M	G								

Primary Rd	SR-20	Distance (ft)	0.00	Direction		Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 022	Type	1	CalTrans	Badge	021014	Collision Date	20180703	Time	1632	Day	TUE	
Primary Collision Factor	STOP SGN SIG	Violation	22450A	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20180717				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FUNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	52	F	W	HNBD		PROC ST	E	G	2528	FREI	2018	- 3	N		-	M	G								
2	DRVR	34	M	W	HNBD		LFT TURN	N	D	2200	TOYO	2018	- 3	N		-	L	G	DRVR	POSSIBL	34	M	1	0	L	G

Include State Highways cases

Report Run On: 02/01/2021

Primary Rd SR-20 Distance (ft) 2540 Direction E Secondary Rd SR-53 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 012 Type 1 CalTrans Badge 019811 Collision Date 20180907 Time 1633 Day FRI													
Primary Collision Factor NOT DRIVER Violation Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20180914													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run MSDMNR Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1 DRVR 57 F W PHYS PROC ST N A 0100 PONT 2002 - 3 N - - M G													
2 DRVR 998 F IMP UNK IMP UNK PROC ST E D 2200 - - 3 N - - - -													
Primary Rd SR-20 Distance (ft) 0.00 Direction Secondary Rd SR-53 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 012 Type 1 CalTrans Badge 019076 Collision Date 20180919 Time 0820 Day WED													
Primary Collision Factor STOP SGN SIG Violation 22450A Collision Type BROADSIDE Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20181001													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1F DRVR 55 M W HNBD PROC ST E E 2236 RAM 2010 - 3 E - - M G													
2 DRVR 42 M W HNBD LFT TURN N E 2235 FORD 2008 - 3 N - - M G													
Primary Rd SR-20 Distance (ft) 3168 Direction E Secondary Rd SR-53 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 022 Type 1 CalTrans Badge 020848 Collision Date 20181029 Time 0730 Day MON													
Primary Collision Factor STRTNG BCKNG Violation 22106 Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20181106													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With FIXED OBJ Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1F DRVR 50 M W HNBD FATG BACKING W G 2533 PETE 2003 - 3 N - - M G													
Primary Rd SR-20 Distance (ft) 0.00 Direction Secondary Rd STOKES AVE. NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City Clearlake County Lake Population 3 Rpt Dist Beat 011 Type 1 CalTrans Badge 017300 Collision Date 20181024 Time 0715 Day WED													
Primary Collision Factor R-O-W AUTO Violation 21801A Collision Type BROADSIDE Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20181031													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1F DRVR 35 M H HNBD LFT TURN W A 0100 SUZUK 2000 - 3 N - - L G													
2 DRVR 30 M H HNBD PROC ST E A 0100 TOYOT 1995 - 3 N - - M G													
Primary Rd SR-20 Distance (ft) 156. Direction W Secondary Rd THIRTEENTH AVE NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 011 Type 1 CalTrans Badge 021419 Collision Date 20181214 Time 1444 Day FRI													
Primary Collision Factor R-O-W AUTO Violation 21804A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 6 Tow Away? Y Process Date 20181220													
Weather1 CLOUDY Weather2 RAINING Rdwy Surface WET Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1F DRVR 43 M H HBD-NUI ENT TRAF E D 2200 FORD 2003 - 3 E - - L G													
2 DRVR 21 F W HNBD PROC ST W A 0700 CHEV 1998 - 3 A 24400 N L G													
DRIVER POSSIBL 43 M 1 0 L G													
PASS POSSIBL 46 M 3 0 L G													
PASS POSSIBL 17 M 2 0 P C													
DRIVER POSSIBL 21 F 1 0 L G													
PASS POSSIBL 26 F 3 0 L G													
PASS POSSIBL 59 F 6 0 P G													



Primary Rd SR-29		Distance (ft) 0.00	Direction	Secondary Rd LEE BARR DRIVE	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 024	Type 1	CalTrans	Badge 021255	Collision Date 20180625	Time 0435	Day MON															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20180702																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0	Hit and Run																		
Motor Vehicle Involved With OTHER MV		Lighting DARK - NO	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info											Victim Info														
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	59	F	H	HNBD	PROC ST	N	A	0100	HONDA	1994	- 3	N	-	M	G									
2	PRKD	998	-		HNBD	PARKED	N	G	2533	PTRB	2014	- 3	N	-	-	-									
Primary Rd SR-29		Distance (ft) 0.00	Direction	Secondary Rd LEE BARR RD	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 024	Type 1	CalTrans	Badge 017141	Collision Date 20180321	Time 1255	Day WED															
Primary Collision Factor UNKNOWN		Violation	Collision Type SIDESWIPE	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20180402																	
Weather1 CLOUDY		Weather2 RAINING	Rdwy Surface WET	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0	Hit and Run																		
Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info											Victim Info														
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1	DRVR	62	F	W	HNBD	PROC ST	N	A	0700	TOYO	2003	- 3	N	-	M	G									
2	DRVR	49	M	W	HNBD	U-TURN	N	A	0700	JEEP	2003	- 3	N	-	M	G									
Primary Rd SR-29		Distance (ft) 10.0	Direction N	Secondary Rd LIVE OAK DRIVE	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 019200	Collision Date 20180224	Time 1313	Day SAT															
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type SIDESWIPE	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20180301																	
Weather1 CLEAR		Weather2 CLOUDY	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0	Hit and Run																		
Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	FNCTNG	Loc Type	Ramp/Int																		
Party Info											Victim Info														
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	43	M	W	HNBD	FATG	PROC ST	S	A	0700	FORD	2008	- 3	N	-	M	G								
2	DRVR	34	F	H	HNBD	STOPPED	S	A	0100	CHEVY	2018	- 3	N	-	M	G									
3	DRVR	70	M	W	HNBD	STOPPED	S	A	0100	BMW	2002	- 3	N	-	M	G									
Primary Rd SR-29		Distance (ft) 100.	Direction S	Secondary Rd MAIN ST (LOWER	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 017141	Collision Date 20180910	Time 0800	Day MON															
Primary Collision Factor LANE CHANGE		Violation 21658A	Collision Type SIDESWIPE	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20180920																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0	Hit and Run																		
Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info											Victim Info														
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	60	M	W	HNBD	CHANG LN	S	A	0100	HONDA	1997	- 3	N	-	M	G									
2	DRVR	47	F	A	HNBD	PROC ST	S	J	4800	FORD	2014	- 3	N	-	M	G									
Primary Rd SR-29		Distance (ft) 161.	Direction S	Secondary Rd MAIN ST.	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 019811	Collision Date 20180426	Time 1330	Day THU															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20180502																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0	Hit and Run																		
Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																		
Party Info											Victim Info														
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	20	F	W	HNBD	ENT TRAF	N	A	0100	CHRY	2010	- 3	N	-	M	G									
2	DRVR	46	M	W	HNBD	PROC ST	S	D	2200	FORD	1987	- 3	N	-	M	G									

Include State Highways cases

Report Run On: 02/01/2021

Primary Rd SR-29 Distance (ft) 0.00 Direction Secondary Rd MAIN STREET NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 015 Type 1 CalTrans Badge 020522 Collision Date 20180317 Time 1255 Day SAT													
Primary Collision Factor R-O-W AUTO Violation 21802A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20180327													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip													
1F DRVR 81 M W HNBD LFT TURN W D 2200 TOYO 2005 - 3 N - M G													
2 DRVR 26 M W HNBD LFT TURN S C 0200 HARL 2008 - 3 N - - W													
Victim Info													
ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
DRVR MINOR 26 M 1 0 P W													
Primary Rd SR-29 Distance (ft) 0.00 Direction Secondary Rd MAIN STREET NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 015 Type 1 CalTrans Badge 021419 Collision Date 20181106 Time 1520 Day TUE													
Primary Collision Factor R-O-W AUTO Violation 21801A Collision Type HEAD-ON Severity INJURY #Killed 0 #Injured 2 Tow Away? Y Process Date 20181114													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip													
1F DRVR 35 F W HNBD LFT TURN S A 0100 HOND 2010 - 3 N - L G													
2 DRVR 35 F H HNBD PROC ST N A 0700 HOND 2018 - 3 N - L G													
Victim Info													
ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
DRVR SERIOUS 35 F 1 0 L G													
DRVR MINOR 35 F 1 0 L G													
Primary Rd SR-29 Distance (ft) 528. Direction S Secondary Rd MAIN STREET NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 015 Type 1 CalTrans Badge 020522 Collision Date 20180619 Time 1655 Day TUE													
Primary Collision Factor WRONG SIDE Violation 21460A Collision Type SIDESWIPE Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20180629													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 CONS ZONE Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip													
1F DRVR 48 M W HNBD OPPOS LN N G 2531 FRHT 2008 - 3 K - M G													
2 DRVR 78 F W HNBD PROC ST S A 0100 SUBA 2002 - 3 N - L G													
Victim Info													
ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
DRVR POSSIBL 78 F 1 0 L G													
Primary Rd SR-29 Distance (ft) 120. Direction S Secondary Rd MARSH VIEW WAY NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 024 Type 1 CalTrans Badge 018337 Collision Date 20180403 Time 2112 Day TUE													
Primary Collision Factor IMPROV TURN Violation 22107 Collision Type HIT OBJECT Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20180412													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With FIXED OBJ Lighting DARK - NO Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip													
1F DRVR 56 F W HNBD FATG PROC ST S A 0100 CHEV 2016 - 3 N - L G													
Victim Info													
ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
DRVR SERIOUS 56 F 1 0 L G													
Primary Rd SR-29 Distance (ft) 1056 Direction N Secondary Rd MARSH VIEW WAY NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 024 Type 1 CalTrans Badge 017300 Collision Date 20180403 Time 0002 Day TUE													
Primary Collision Factor IMPROV TURN Violation 22107 Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20180411													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run MSDMNR Motor Vehicle Involved With FIXED OBJ Lighting DARK - NO Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip													
1F DRVR 20 F W IMP UNK IMP UNK RAN OFF RD N D 2200 JEEP 1999 - 1 F - M G													
Victim Info													
ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													

Primary Rd	SR-29	Distance (ft)	7392	Direction	S	Secondary Rd	SR-281	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans	Badge	019076	Collision Date	20181002	Time	0720	Day	TUE	
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20181010				
Weather1	CLOUDY	Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	26	F	W	HNBD		PROC ST	N	A	0100	HYUN	2004	- 3	N	-	M	G								
2	DRVR	24	F	W	HNBD		STOPPED	N	A	0700	HYUN	2010	- 3	N	-	M	G								
3	DRVR	27	F	W	HNBD		STOPPED	N	A	0700	MIT	2002	- 3	N	-	M	G								

Primary Rd	SR-29	Distance (ft)	4020	Direction	N	Secondary Rd	SR-281	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	Badge	019811	Collision Date	20181008	Time	1840	Day	MON	
Primary Collision Factor	IMPROP PASS	Violation	21755	Collision Type	SIDESWIPE	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20181017				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DUSK/DAWN	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	32	M	W	HNBD		PASSING	S	A	0100	HONDA	2016	- 3	A	22350	-	L	G	DRVR	MINOR	32	M	1	0	L	G
2	DRVR	37	M	W	HNBD		LFT TURN	S	G	2531	KENW	1999	- 3	N	-	M	G									

Primary Rd	SR-29	Distance (ft)	2640	Direction	N	Secondary Rd	SR-281	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	Badge	017141	Collision Date	20181113	Time	0605	Day	TUE	
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	INJURY	#Killed	0	#Injured	3	Tow Away?	Y	Process Date	20181123				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	18	M	W	HNBD		PROC ST	S	A	0100	HONDA	1998	- 3	N	-	M	G	DRVR	POSSIBL	18	M	1	0	M	G
2	DRVR	49	F	H	HNBD		STOPPED	S	A	0700	MAZDA	2014	- 3	N	-	M	G	DRVR	POSSIBL	49	F	1	0	M	G
3	DRVR	61	M	H	HNBD		STOPPED	S	D	2200	TOYO	2014	- 3	N	-	M	G	PASS	POSSIBL	50	-	3	0	M	G

Primary Rd	SR-29	Distance (ft)	0.00	Direction		Secondary Rd	SR-281	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 025	Type	2	CalTrans	Badge	016093	Collision Date	20181121	Time	1306	Day	WED	
Primary Collision Factor	STOP SGN SIG	Violation	21453A	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20181130				
Weather1	CLOUDY	Weather2		Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	75	M	W	HNBD		LFT TURN	W	D	2200	GMC	1992	- 3	F	-	M	G								
2	DRVR	26	M	W	HNBD		PROC ST	N	F	7600	GMC	2007	- 3	N	-	P	G								

Primary Rd	SR-29	Distance (ft)	106.	Direction	N	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 024	Type	1	CalTrans	Badge	019811	Collision Date	20180503	Time	1410	Day	THU	
Primary Collision Factor	R-O-W AUTO	Violation	21804A	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20180504				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int							

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	48	F	O	HNBD		LFT TURN	N	A	0100	ACUR	2012	- 3	E	-	M	G								
2	DRVR	19	M	W	HNBD		PROC ST	S	A	0100	TOYT	2007	- 3	N	-	L	G								

Primary Rd SR-29		Distance (ft) 75.0	Direction N	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 024	Type 1	CalTrans	Badge 017904	Collision Date 20180926	Time 1040	Day WED															
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20181005																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	FUNCTNG	Loc Type	Ramp/Int																	
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	55	M	W	HNBD		PROC ST	S	A	0100	TOYO	2003	- 3	N	-	M	G									
2	DRVR	60	M	H	HNBD		STOPPED	S	A	0100	KIA	2016	- 3	N	-	M	G									
Primary Rd SR-29		Distance (ft) 0.00	Direction	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 020810	Collision Date 20181228	Time 1945	Day FRI															
Primary Collision Factor STOP SGN SIG		Violation 21453A	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20190102																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DARK - ST	Ped Action	Cntrl Dev	FUNCTNG	Loc Type	Ramp/Int																	
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1	DRVR	60	F	W	HNBD		PROC ST	N	A	0100	CHRY	2004	- 3	N	-	L	G									
2	DRVR	27	M	W	HNBD		LFT TURN	S	A	0100	FORD	2010	- 3	N	-	L	G									
Primary Rd SR-29		Distance (ft) 48.0	Direction N	Secondary Rd ST HELENA DRIVE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 018337	Collision Date 20180411	Time 1739	Day WED															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type BROADSIDE	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20180424																		
Weather1 CLOUDY		Weather2 RAINING	Rdwy Surface WET	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																	
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	34	F	W	HNBD		U-TURN	N	A	0100	CHEV	2002	- 3	N	-	L	G									
2	DRVR	68	F	W	HNBD		PROC ST	N	A	0100	CHRY	2013	- 3	A	22400	-	L	G	PASS	MINOR	49	M	3	0	M	H
Primary Rd SR-29		Distance (ft) 220.	Direction S	Secondary Rd ST. HELENA		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 017904	Collision Date 20180907	Time 0753	Day FRI															
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20180914																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																	
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	28	F	W	HNBD		PROC ST	S	A	0100	FORD	2014	- 3	F	-	M	G	PASS	MINOR	3	M	6	0	P	Q	
2	DRVR	49	M	W	HNBD		STOPPED	S	D	2200	FORD	2008	- 3	N	-	M	G									
Primary Rd SR-29		Distance (ft) 528.	Direction S	Secondary Rd ST. HELENA LANE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 018	Type 1	CalTrans	Badge 017904	Collision Date 20180102	Time 1007	Day TUE															
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20180104																		
Weather1 CLOUDY		Weather2	Rdwy Surface DRY	Rdwy Cond1 CONS ZONE	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																	
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	68	M	W	HNBD		PROC ST	S	A	0100	TOYO	2005	- 3	F	-	M	G	DRVR	POSSIBL	68	M	1	0	M	G	
2	DRVR	33	M	O	HNBD		STOPPED	S	D	2200	TOYOT	2012	- 3	N	-	M	G									
3	DRVR	84	M	W	IMP UNK	IMP UNK	STOPPED	S	A	0100	FORD	2013	- 3	N	-	M	G									

Include State Highways cases

Report Run On: 02/01/2021

Primary Rd SR-29 S/B		Distance (ft) 4752	Direction N	Secondary Rd 11TH ST		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 013	Type 1	CalTrans	Badge 019076	Collision Date 20180126	Time 0630 Day FRI															
Primary Collision Factor NOT DRIVER		Violation	Collision Type OVERTURNED		Severity INJURY	#Killed 0	#Injured 3	Tow Away? Y	Process Date 20180126																
Weather1 CLEAR		Weather2	Rdwy Surface SNOWY OR ICY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run		Motor Vehicle Involved With NON-CLSN			Lighting DARK - NO	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1	DRVR	45	F	H	HNBD		RAN OFF RD	S	D	2200	NISS	2003	- 3	N	-	M	G	DRVR	MINOR	45	F	1	0	M	G
																		PASS	SERIOUS	45	F	3	0	M	G
																		PASS	SERIOUS	39	M	6	0	P	G
Primary Rd SR-29 S/B		Distance (ft) 900.	Direction N	Secondary Rd HILL RD		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 013	Type 1	CalTrans	Badge 019076	Collision Date 20180418	Time 0750 Day WED															
Primary Collision Factor LANE CHANGE		Violation 21658A	Collision Type SIDESWIPE		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20180420																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run MSDMNR		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	M	W	IMP UNK	IMP UNK	PROC ST	S	A	0100	HOND	2000	- 3	N	-	-	-								
2	DRVR	27	M	W	HNBD		PROC ST	S	A	0100	TOYO	2000	- 3	N	-	M	G								
Primary Rd SR-29 S/B		Distance (ft) 1584	Direction S	Secondary Rd HILL ROAD		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 013	Type 1	CalTrans	Badge 021255	Collision Date 20180325	Time 1910 Day SUN															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT		Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20180403																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run		Motor Vehicle Involved With FIXED OBJ			Lighting DUSK/DAWN	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	41	M	W	HNBD		PROC ST	S	A	0700	GMC	2006	- 3	N	-	L	G	PASS	MINOR	12	M	3	0	L	G
Primary Rd SR-53		Distance (ft) 2112	Direction N	Secondary Rd 18TH AVE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 021255	Collision Date 20181025	Time 1340 Day THU															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type SIDESWIPE		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20181105																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 1																		
Hit and Run		Motor Vehicle Involved With PKD MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	57	M	W	HNBD		PROC ST	N	H	1300	BLUE	2005	- 3	L	-	M	G								
2	PRKD	998	-		HNBD		PARKED	N	M	5908	FORET	2002	- 3	N	-	-	-								
Primary Rd SR-53		Distance (ft) 528.	Direction S	Secondary Rd JESSIE ST.		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 017904	Collision Date 20181111	Time 0959 Day SUN															
Primary Collision Factor DRVR ALC DRG		Violation 23152F	Collision Type SIDESWIPE		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20181123																
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																		
Hit and Run MSDMNR		Motor Vehicle Involved With OTHER MV			Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int															
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	33	M	W		DRUG	CHANG LN	N	A	0100	HYUN	2015	- 3	A	21658	-	M	H							
2	DRVR	46	M	W	HNBD		PROC ST	N	A	0700	NISS	2007	- 3	N	-	M	G								

Primary Rd SR-53 Distance (ft) 3168 Direction N Secondary Rd OGULIN CANYON NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 019076 Collision Date 20180308 Time 0920 Day THU																									
Primary Collision Factor STRTNG BCKNG Violation 22106 Collision Type SIDESWIPE Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20180313																									
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	89	M	W	HNBD		ENT TRAF	N	A	0700	CHRY	2001	- 3	N		-	M G								
2	DRVR	34	M	W	HNBD		PROC ST	N	A	0100	HOND	2000	- 3	N		-	M G								
Primary Rd SR-53 Distance (ft) 2112 Direction S Secondary Rd OLD HIGHWAY 53 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 020927 Collision Date 20180505 Time 1520 Day SAT																									
Primary Collision Factor NOT DRIVER Violation Collision Type HIT OBJECT Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20180511																									
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With FIXED OBJ Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1	DRVR	37	M	W	HNBD		RAN OFF RD	S	D	2200	DODGE	2017	- 3	M		-	M G								
Primary Rd SR-53 Distance (ft) 10.0 Direction N Secondary Rd SR-29 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 017904 Collision Date 20180721 Time 1237 Day SAT																									
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20180723																									
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	21	M	W	HNBD		PROC ST	S	D	2200	CHEVY	2003	- 3	N		-	M G								
2	DRVR	29	M	W	HNBD		STOPPED	S	A	0100	MAZDA	2007	- 3	N		-	M G								
Primary Rd SR-53 Distance (ft) 90.0 Direction N Secondary Rd SR-29 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 021014 Collision Date 20181210 Time 1320 Day MON																									
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20181217																									
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	51	F	W	HNBD		PROC ST	S	A	0100	SUBAR	2003	- 3	F		G M G									
2	DRVR	46	M	H	HNBD		STOPPED	S	A	0700	JEEP	2016	- 3	G		-	M G								
Primary Rd SR-53 Distance (ft) 284. Direction N Secondary Rd SR-29 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy																									
City UNINCORP. County Lake Population 9 Rpt Dist Beat 016 Type 1 CalTrans Badge 020848 Collision Date 20181213 Time 1032 Day THU																									
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20181220																									
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0																									
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int																									
Party Info																									
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	66	F	W	HNBD		RGT TURN	S	D	2200	FORD	2006	- 3	N		-	L G								
2	DRVR	79	M	W	HNBD		PROC ST	S	G	2732	PETE	2016	- 3	N		-	P G								



**REPORT 8 - TOTAL COLLISIONS**

01/01/2019 thru 12/31/2019

Total Count: 659

Jurisdiction(s): Clear Lake

Include State Highways cases

Report Run On: 02/01/2021

Primary Rd	SR-53 N/B	Distance (ft)	2640	Direction	S	Secondary Rd	DAM ROAD	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy							
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	020354	Collision Date	20190312	Time	1529	Day	TUE						
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20190318										
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0														
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int													
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	31	M	W	HNBD		PROC ST	N	D	2200	DODGE	2003	-	3	N	-	L G	DRVR	SERIOUS	31	M	1	0	L	G

Primary Rd	11451 SPRUCE	Distance (ft)	2640	Direction	E	Secondary Rd	SR-29	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy							
City	UNINCORP	County	Lake	Population	9	Rpt Dist	Beat 008	Type	3	CalTrans		Badge	021759	Collision Date	20190226	Time	2230	Day	TUE						
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20190405										
Weather1	CLOUDY	Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0														
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int													
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	RAN OFF RD	E	D	2200	DODG	1999	-	3	N	-	B B								

Primary Rd	11TH AVE	Distance (ft)	209.	Direction	S	Secondary Rd	COUNTRY CLUB	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy							
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 001	Type	3	CalTrans		Badge	020848	Collision Date	20190723	Time	1550	Day	TUE						
Primary Collision Factor	DRVR ALCJDRG	Violation	23152A	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20190801										
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0														
Hit and Run		Motor Vehicle Involved With	PKD MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int													
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	55	F	W		DRUG	BACKING	N	D	2200	FORD	1995	-	3	A	22106	-	M H							
2	PRKD	998	-				PARKED	N	A	0100	HONDA	2014	-	-	-	-	-								

Primary Rd	13TH AVE.	Distance (ft)	126.	Direction	N	Secondary Rd	SR-20	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy							
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 011	Type	1	CalTrans		Badge	019533	Collision Date	20190405	Time	1230	Day	FRI						
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20190417										
Weather1	CLOUDY	Weather2		Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0														
Hit and Run	MSDMNR	Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	NT PRS/FCTR	Loc Type		Ramp/Int													
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	RGT TURN	S	D	2200	GMC	1995	-	3	N	-	M B								

Primary Rd	18TH AVE	Distance (ft)	0.00	Direction		Secondary Rd	PHILLIPS AVE.	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy							
City	Clearlake	County	Lake	Population	3	Rpt Dist	Beat 901	Type	4	CalTrans		Badge	019811	Collision Date	20190108	Time	1440	Day	TUE						
Primary Collision Factor	R-O-W AUTO	Violation	21800C	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	N	Process Date	20190117										
Weather1	CLOUDY	Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	1														
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int													
Party Info										Victim Info															
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	62	F	W	HNBD		PROC ST	S	A	0100	CHEV	2014	-	3	N	-	L G	DRVR	POSSIBL	62	F	1	0	L	G
2	DRVR	54	F	W	HNBD		PROC ST	E	H	1400	FORD	2001	-	3	N	-	M G								

Primary Rd	MAIN STREET	Distance (ft)	0.00	Direction		Secondary Rd	LIVE OAK DRIVE	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 005	Type	3	CalTrans	Badge	021255	Collision Date	20190427	Time	0135	Day	SAT	
Primary Collision Factor	STOP SGN SIG	Violation	22450A	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20190508				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	OTHER MV	Lighting	DARK - ST	Ped Action		Cntrl Dev		NT PRS/FCTR	Loc Type								Ramp/Int

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	26	M	H	IMP UNK	IMP UNK	LFT TURN	N	A	0100	ACURA	2003	-	3	N	-	L	B								
2	DRVR	20	M	H	HNBD		PROC ST	E	A	0100	HONDA	2015	-	3	N	-	M	G								

Primary Rd	MAIN STREET	Distance (ft)	0.00	Direction		Secondary Rd	MERRITT ROAD	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 005	Type	3	CalTrans	Badge	017300	Collision Date	20190726	Time	1254	Day	FRI	
Primary Collision Factor	STOP SGN SIG	Violation	22450A	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	2	Tow Away?	Y	Process Date	20190729				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FNCTNG	Loc Type								Ramp/Int

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	21	M	W	HNBD		PROC ST	N	F	2600	ISUZ	2015	-	3	N	-	M	G								
2	DRVR	67	F	H	HNBD		PROC ST	E	A	0700	TOYOT	2003	-	3	N	-	M	G	DRVR	MINOR	67	F	1	0	M	G
																		PASS	MINOR	72	F	3	0	M	G	

Primary Rd	MAIN STREET	Distance (ft)	200.	Direction	E	Secondary Rd	SR-53	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 006	Type	3	CalTrans	Badge	017300	Collision Date	20190727	Time	1202	Day	SAT	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20190729				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FNCTNG	Loc Type								Ramp/Int

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	58	F	W	HNBD		LFT TURN	E	A	0100	FORD	1997	-	3	N	-	M	G								

Primary Rd	MAIN STREET	Distance (ft)	20.0	Direction	E	Secondary Rd	STATE STREET	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 005	Type	3	CalTrans	Badge	021255	Collision Date	20190427	Time	0137	Day	SAT	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20190508				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - ST	Ped Action		Cntrl Dev		NT PRS/FCTR	Loc Type								Ramp/Int

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	26	M	H	IMP UNK	IMP UNK	PROC ST	W	A	0100	ACURA	2003	-	3	N	-	B	B								

Primary Rd	MANZANITA DRIVE	Distance (ft)	420.	Direction	W	Secondary Rd	HUDSON AVENUE	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 001	Type	3	CalTrans	Badge	021152	Collision Date	20190503	Time	1410	Day	FRI	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	N	Process Date	20190510				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR	Loc Type								Ramp/Int

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	20	F	W	HNBD		RAN OFF RD	W	A	0100	VOLK	2001	-	3	N	-	L	G	DRVR	MINOR	20	F	1	0	L	G



Primary Rd	SR-20	Distance (ft)	0.00	Direction		Secondary Rd	SR-29	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 011	Type	1	CalTrans		Badge	017904	Collision Date	20191101	Time	1202	Day	FRI
Primary Collision Factor	R-O-W AUTO	Violation	21803A	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20191105				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1	DRVR	25	M	W	HNBD		PROC ST	W	A	0100	BMW	2003	- 3	N		-	M G								
2F	DRVR	78	M	H	HNBD		ENT TRAF	E	D	2200	GMC	2013	- 3	N		-	M G								

Primary Rd	SR-20	Distance (ft)	0.00	Direction		Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 022	Type	1	CalTrans		Badge	019533	Collision Date	20190116	Time	1345	Day	WED
Primary Collision Factor	R-O-W AUTO	Violation	21802B	Collision Type	HEAD-ON	Severity	INJURY	#Killed	0	#Injured	2	Tow Away?	Y	Process Date	20190124				
Weather1	CLOUDY	Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	40	M	W	HNBD		PROC ST	E	A	0100	CHEV	2012	- 3	N		-	L G	PASS	MINOR	41	F	3	0	L	G
2	DRVR	36	F	W	HNBD		LFT TURN	W	A	0100	SUBA	2005	- 3	N		-	L G	DRVR	POSSIBL	36	F	1	0	L	G

Primary Rd	SR-20	Distance (ft)	0.00	Direction		Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 012	Type	1	CalTrans		Badge	020522	Collision Date	20190122	Time	1440	Day	TUE
Primary Collision Factor	WRONG SIDE	Violation	21460A	Collision Type	HEAD-ON	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20190128				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	73	M	W	HNBD		OPPOS LN	W	D	2200	TOYO	1999	- 3	N		-	M G								
2	DRVR	60	M	A	HNBD		PROC ST	E	D	2200	TOYO	2016	- 3	N		-	M G								

Primary Rd	SR-20	Distance (ft)	200.	Direction	E	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 005	Type	3	CalTrans		Badge	021419	Collision Date	20191116	Time	1935	Day	SAT
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20191125				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	CONS ZONE	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev		FNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	65	M	W	HNBD		PROC ST	W	C	0200	YAMA	1994	- 3	N		-	- W	DRVR	SERIOUS	65	M	1	1	P	W

Primary Rd	SR-20	Distance (ft)	500.	Direction	E	Secondary Rd	SR-53	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 012	Type	1	CalTrans		Badge	021761	Collision Date	20191116	Time	2010	Day	SAT
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	BROADSIDE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20191121				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DARK - NO	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	73	M	W	HNBD		U-TURN	E	A	0100	HOND	2017	- 3	N		-	M G								
2	DRVR	25	F	W	HNBD		PROC ST	E	A	0700	HOND	2016	- 3	N		-	L G								

Primary Rd SR-20		Distance (ft) 2640	Direction E	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 022	Type 1	CalTrans	Badge 022397	Collision Date 20191214	Time 1614	Day SAT														
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20191217																	
Weather1 CLOUDY		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run MSDMNR		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info												Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	49	F	W	HNBD		PROC ST	E	A	0100	HONDA	2019	- 3	N	-	M	G								
2	DRVR	40	M	W	HNBD		STOPPED	E	A	0100	CHEV	2015	- 3	N	-	M	G								
Primary Rd SR-20		Distance (ft) 2640	Direction E	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 022	Type 1	CalTrans	Badge 022397	Collision Date 20191214	Time 1612	Day SAT														
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20191223																	
Weather1 CLOUDY		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info												Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	21	M	H	HNBD		PROC ST	E	A	0100	FORD	2005	- 3	N	-	M	G								
2	DRVR	46	M	W	HNBD		PROC ST	E	G	2531	FRTL	2020	- 3	N	-	M	G								
Primary Rd SR-20		Distance (ft) 5.00	Direction E	Secondary Rd STOKES AVE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 020848	Collision Date 20190403	Time 1855	Day WED														
Primary Collision Factor R-O-W AUTO		Violation 21801A	Collision Type HEAD-ON	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20190412																	
Weather1 CLOUDY		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info												Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	33	M	W	HNBD		LFT TURN	W	D	2200	ISUZU	1998	- 3	N	-	L	G	DRVR	MINOR	33	M	1	0	L	G
2	DRVR	34	F	W	HNBD		PROC ST	E	A	0700	TOYO	1999	- 3	N	-	M	G								
Primary Rd SR-20		Distance (ft) 0.00	Direction	Secondary Rd STOKES AVE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 021419	Collision Date 20191120	Time 1925	Day WED														
Primary Collision Factor R-O-W AUTO		Violation 21801A	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20191121																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DARK - ST	Ped Action	Cntrl Dev	FUNCTNG	Loc Type	Ramp/Int																
Party Info												Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	39	M	H	HNBD		LFT TURN	W	D	2200	TOYO	1999	- 3	N	-	M	G								
2	DRVR	28	F	H	HNBD		PROC ST	E	A	0800	DODG	2010	- 3	N	-	M	G								
Primary Rd SR-20		Distance (ft) 0.00	Direction	Secondary Rd THIRTEENTH AVE		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy														
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 011	Type 1	CalTrans	Badge 017141	Collision Date 20190424	Time 0918	Day WED														
Primary Collision Factor R-O-W AUTO		Violation 21802A	Collision Type BROADSIDE	Severity INJURY	#Killed 0	#Injured 1	Tow Away? N	Process Date 20190506																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run FELONY		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info												Victim Info													
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	M	H	IMP UNK	IMP UNK	LFT TURN	S	D	2200	DODGE	-	- 3	N	-	-	-								
2	DRVR	34	M	W	HNBD		LFT TURN	E	A	0100	HONDA	2008	- 3	N	-	M	G	DRVR	MINOR	34	M	1	0	M	G

Primary Rd	SR-29	Distance (ft)	2094	Direction	S	Secondary Rd	LAKEPORT	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 013	Type	1	CalTrans	Badge	019811	Collision Date	20191121	Time	1810	Day	THU	
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	INJURY	#Killed	0	#Injured	2	Tow Away?	Y	Process Date	20191202				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	CONS ZONE	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int							

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	57	F	W	HNBD		PROC ST	S	A	0700	CHEV	2006	- 3	N	-	M	G	DRVR	POSSIBL	57	F	1	0	M	G
2	DRVR	49	M	W	HNBD		STOPPED	S	A	0100	FORD	2014	- 3	N	-	M	G	DRVR	SERIOUS	49	M	1	0	M	G

Primary Rd	SR-29	Distance (ft)	254.	Direction	S	Secondary Rd	LIVE OAK DR	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	Badge	020848	Collision Date	20190802	Time	1420	Day	FRI	
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20190807				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int							

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	22	F	W	HNBD		SLOWING	N	A	0100	AUDI	2006	- 3	N	-	M	G								
2	DRVR	74	M	W	HBD-NUI		STOPPED	N	D	2200	TOYOT	1998	- 3	N	-	M	G								

Primary Rd	SR-29	Distance (ft)	0.00	Direction		Secondary Rd	LIVE OAK DRIVE.	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	Badge	019811	Collision Date	20191111	Time	1740	Day	MON	
Primary Collision Factor	OTHER HAZ	Violation	21200	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	N	Process Date	20191202				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	BICYCLE	Lighting	DARK - ST	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int							

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	BICY	52	M	W		DRUG	PROC ST	W	L	0400	SPECI	- 3	A	21453	-	P	V	BICY	SERIOUS	52	M	1	1	-	V
2	DRVR	41	M	W	HNBD		PROC ST	N	D	2200	DODGE	2015	- 3	N	-	M	G								

Primary Rd	SR-29	Distance (ft)	1320	Direction	S	Secondary Rd	MAIN STREET	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 018	Type	1	CalTrans	Badge	016093	Collision Date	20190409	Time	1257	Day	TUE	
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20190417				
Weather1	CLOUDY	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int							

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	MERGING	S	E	2235	RAM	- 3	A	21461	-	B	B								
2	DRVR	66	M	W	HNBD		PROC ST	S	D	2200	TOYT	2007	- 3	N	-	M	G								

Primary Rd	SR-29	Distance (ft)	0.00	Direction		Secondary Rd	MAIN STREET	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 015	Type	1	CalTrans	Badge	020354	Collision Date	20190919	Time	2123	Day	THU	
Primary Collision Factor	R-O-W AUTO	Violation	21802A	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	2	Tow Away?	Y	Process Date	20190930				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DARK - ST	Ped Action		Cntrl Dev	FUNCTNG	Loc Type		Ramp/Int							

Party Info													Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	17	M	W	HNBD		LFT TURN	S	A	0100	NISS	2009	- 3	N	-	M	G	DRVR	MINOR	17	M	1	0	M	G
2	DRVR	41	M	O	HNBD		PROC ST	N	A	0100	HONDA	2004	- 3	N	-	L	G	DRVR	POSSIBL	41	M	1	0	L	G

Primary Rd SR-29		Distance (ft) 0.00	Direction	Secondary Rd MAIN STREET	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy																
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 021419	Collision Date 20191109	Time 1744	Day SAT																
Primary Collision Factor R-O-W AUTO		Violation 21802A	Collision Type BROADSIDE	Severity FATAL	#Killed 1	#Injured 0	Tow Away? Y	Process Date 20191213																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DARK - NO	Ped Action	Cntrl Dev FNCTNG	Loc Type	Ramp/Int																			
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	78	M	W	IMP UNK	IMP UNK	LFT TURN	W	D	2200	TOYO	1998	-	3	N	-	M	H	DRVR	KILLED	78	M	1	2	M	H
2	DRVR	48	F	W	HNBD		PROC ST	S	A	0100	INFI	2009	-	3	N	-	M	G								
Primary Rd SR-29		Distance (ft) 528.	Direction N	Secondary Rd MARSH VIEW RD.	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy																
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 024	Type 1	CalTrans	Badge 017904	Collision Date 20191013	Time 1113	Day SUN																
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20191021																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With FIXED OBJ	Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																			
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	25	F	W	HNBD	FATG	UNS TURN	S	D	2200	CHEVR	2011	-	3	N	-	L	G								
Primary Rd SR-29		Distance (ft) 1056	Direction N	Secondary Rd MOCKINGBIRD	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy																
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 013	Type 1	CalTrans	Badge 021419	Collision Date 20190426	Time 2233	Day FRI																
Primary Collision Factor DRVR ALC DRG		Violation 23152A	Collision Type HIT OBJECT	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20190502																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With FIXED OBJ	Lighting DARK - NO	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																			
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	48	M	W	HBD-UI		RAN OFF RD	N	D	2200	FORD	1999	-	3	A	22107	N	L	G							
Primary Rd SR-29		Distance (ft) 2640	Direction N	Secondary Rd NICE-LUCERNE	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy																
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 013	Type 1	CalTrans	Badge 022397	Collision Date 20191112	Time 2153	Day TUE																
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type OVERTURNED	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20191119																		
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With FIXED OBJ	Lighting DARK - NO	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																			
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	71	M	W	HNBD		RAN OFF RD	S	A	0700	HONDA	2004	-	3	N	-	M	G								
Primary Rd SR-29		Distance (ft) 4752	Direction N	Secondary Rd PARK WAY O/C	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy																
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 013	Type 1	CalTrans	Badge 022419	Collision Date 20191220	Time 1715	Day FRI																
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20191224																		
Weather1 CLOUDY		Weather2	Rdwy Surface WET	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																				
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DARK - NO	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																			
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	36	F	W	HNBD		PROC ST	S	A	0100	BMW	2008	-	3	N	-	L	G								
2	DRVR	20	F	A	HNBD		PROC ST	S	A	0700	JEEP	2000	-	3	N	-	M	G								

Primary Rd SR-29		Distance (ft) 0.00	Direction	Secondary Rd SR-281		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 024	Type 1	CalTrans	Badge 019811	Collision Date 20190904	Time 1710	Day WED																
Primary Collision Factor R-O-W AUTO		Violation 21801A	Collision Type BROADSIDE	Severity INJURY	#Killed 0	#Injured 2	Tow Away? N	Process Date 20190916																		
Weather1 CLEAR	Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntrl Dev FNCTNG	Loc Type	Ramp/Int																			
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	18	M	W	HNBD	LFT TURN	E	A	0100	NISSA	2007	-	3	N	-	L	G	PASS	POSSIBL	16	F	3	0	L	G	
2	DRVR	998	M		HNBD	PROC ST	W	A	0100	NISSA	2013	-	3	N	-	M	G	PASS	POSSIBL	56	F	3	0	M	G	
Primary Rd SR-29		Distance (ft) 0.00	Direction	Secondary Rd SR-281		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 020848	Collision Date 20190923	Time 1720	Day MON																
Primary Collision Factor R-O-W AUTO		Violation 21801A	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20190930																		
Weather1 CLEAR	Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntrl Dev FNCTNG	Loc Type	Ramp/Int																			
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	39	F	W	HNBD	LFT TURN	S	A	0100	MERB	1998	-	3	N	-	M	G									
2	DRVR	61	F	W	HNBD	PROC ST	N	D	2200	DODG	2006	-	3	N	-	M	G									
Primary Rd SR-29		Distance (ft) 528.	Direction N	Secondary Rd SR-281		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 022419	Collision Date 20191030	Time 1310	Day WED																
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20191107																		
Weather1 CLEAR	Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntrl Dev NT PRS/FCTR	Loc Type	Ramp/Int																			
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	45	F	W	HNBD	PROC ST	N	D	2200	FORD	2019	-	3	F	-	M	G									
2	DRVR	42	F	W	HNBD	SLOWING	N	D	2200	FORD	1995	-	3	N	-	M	G	DRVR	POSSIBL	42	F	1	0	M	G	
3	DRVR	38	M	O	HNBD	STOPPED	N	A	0700	LAND	2016	-	3	N	-	M	G									
Primary Rd SR-29		Distance (ft) 0.00	Direction	Secondary Rd SR-281		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 015	Type 1	CalTrans	Badge 022419	Collision Date 20191106	Time 0625	Day WED																
Primary Collision Factor DRVR ALC DRG		Violation 23152A	Collision Type HEAD-ON	Severity INJURY	#Killed 0	#Injured 2	Tow Away? Y	Process Date 20191118																		
Weather1 CLEAR	Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntrl Dev FNCTNG	Loc Type	Ramp/Int																			
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	32	F	W	HBD-UI	LFT TURN	S	D	2300	FORD	2002	-	3	A	21453	-	M	G	DRVR	MINOR	32	F	1	0	M	G
2	DRVR	53	M	W	HNBD	PROC ST	N	A	0100	CHEV	2003	-	3	N	-	L	G	DRVR	MINOR	53	M	1	0	L	G	
Primary Rd SR-29		Distance (ft) 14.0	Direction N	Secondary Rd SR-53		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 024	Type 1	CalTrans	Badge 020354	Collision Date 20190507	Time 1750	Day TUE																
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20190515																		
Weather1 CLEAR	Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																					
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntrl Dev FNCTNG	Loc Type	Ramp/Int																			
Party Info										Victim Info																
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected		
1F	DRVR	20	M	W	HNBD	SLOWING	S	A	0100	CHEV	2003	-	3	F	-	M	G									
2	DRVR	32	F	H	HNBD	STOPPED	S	A	0100	HYUN	2017	-	3	N	-	M	G									

Primary Rd SR-29 Distance (ft) 0.00 Direction Secondary Rd SR-53 NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 024 Type 1 CalTrans Badge 020955 Collision Date 20191001 Time 0845 Day TUE													
Primary Collision Factor IMPROP TURN Violation 22107 Collision Type SIDESWIPE Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20191010													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1 DRVR 36 F H HNBD LFT TURN S A 0100 HOND 2008 - 3 N - M G													
2 DRVR 65 M W HNBD LFT TURN S A 0100 LINC 2018 - 3 N - M G													
Victim Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1F DRVR 37 M W HNBD PROC ST S A 0100 HYUN 2016 - 3 E G M G													
2 DRVR 52 F W HNBD STOPPED S A 0100 VOLVO 2000 - 3 G - M G													
Party Info													
Primary Rd SR-29 Distance (ft) 1584 Direction N Secondary Rd ST. HELENA LANE NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 018 Type 1 CalTrans Badge 016093 Collision Date 20191114 Time 0800 Day THU													
Primary Collision Factor UNSAFE SPEED Violation 22350 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20191115													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1F DRVR 37 M W HNBD PROC ST S A 0100 HYUN 2016 - 3 E G M G													
2 DRVR 52 F W HNBD STOPPED S A 0100 VOLVO 2000 - 3 G - M G													
Party Info													
Primary Rd SR-29 Distance (ft) 0.00 Direction N Secondary Rd THOMAS DR NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 015 Type 1 CalTrans Badge 021419 Collision Date 20191101 Time 1810 Day FRI													
Primary Collision Factor STOP SGN SIG Violation 22450A Collision Type SIDESWIPE Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20191107													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DUSK/DAWN Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1F DRVR 32 F H HNBD LFT TURN S A 0100 TOYO 2010 - 3 N - M G													
2 DRVR 59 M H HNBD PROC ST S D 2200 DODG 2005 - 3 N - M G													
Party Info													
Primary Rd SR-29 Distance (ft) 730. Direction N Secondary Rd TULE LAKE RD. NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 013 Type 1 CalTrans Badge 019533 Collision Date 20190930 Time 0625 Day MON													
Primary Collision Factor R-O-W AUTO Violation 21804A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 2 Tow Away? N Process Date 20191009													
Weather1 CLOUDY Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run FELONY Motor Vehicle Involved With OTHER MV Lighting DARK - NO Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1F DRVR 25 M H HNBD LFT TURN S A 0100 MITSU 2002 - 3 N - P G													
2 DRVR 38 M W IMP UNK IMP UNK PROC ST N A 0100 HONDA 2007 - 3 N - L G													
Party Info													
Primary Rd SR-29 Distance (ft) 2112 Direction S Secondary Rd TULE LAKE ROAD NCIC 9151 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy													
City UNINCORP. County Lake Population 9 Rpt Dist Beat 013 Type 1 CalTrans Badge 015435 Collision Date 20190617 Time 1058 Day MON													
Primary Collision Factor WRONG SIDE Violation 21460A Collision Type SIDESWIPE Severity INJURY #Killed 0 #Injured 1 Tow Away? Y Process Date 20190620													
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0													
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1F DRVR 30 M W HNBD OPPOS LN N A 0100 SAAB 2003 - 3 F - L G													
2 DRVR 76 M W HNBD PROC ST S A 0100 TOYO 2011 - 3 N - L G													
Party Info													
Party Type Age Sex Race Sobriety1 Sobriety2 Move Pre Dir SW Veh CHP Veh Make Year SP Info OAF1 Viol OAF2 Safety Equip ROLE Ext Of Inj AGE Sex Seat Pos Safety EQUIP Ejected													
1F DRVR 30 M W HNBD OPPOS LN N A 0100 SAAB 2003 - 3 F - L G													
2 DRVR 76 M W HNBD PROC ST S A 0100 TOYO 2011 - 3 N - L G													
Party Info													

Primary Rd SR-53		Distance (ft) 610.	Direction S	Secondary Rd ANDERSON	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 016093	Collision Date 20190103	Time 1253	Day THU															
Primary Collision Factor LIGHTS		Violation 25251B	Collision Type REAR END	Severity INJURY	#Killed 0	#Injured 3	Tow Away? Y	Process Date 20190115																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																	
Party Info										Victim Info															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	58	M	B	HNBD	STOPPED	N	A	0700	MIT	2006	- 3	N	-	M	G	DRVR	SERIOUS	58	M	1	0	M	G	
2	DRVR	24	F	W	HNBD	SLOWING	N	A	0100	FORD	2012	- 3	N	-	M	G	DRVR	POSSIBL	24	F	1	0	M	G	
3	DRVR	48	F	W	HNBD	SLOWING	N	A	0100	FORD	2009	- 3	A	22350	-	M	G								
4	DRVR	33	F	W	HNBD	SLOWING	N	A	0100	FORD	2012	- 3	A	22350	-	M	G	DRVR	MINOR	33	F	1	0	M	G
Primary Rd SR-53		Distance (ft) 500.	Direction N	Secondary Rd ANDERSON	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 021759	Collision Date 20190226	Time 2320	Day TUE															
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type HIT OBJECT	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20190308																	
Weather1 CLOUDY		Weather2 RAINING	Rdwy Surface WET	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With FIXED OBJ	Lighting DARK - ST	Ped Action	Cntl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																	
Party Info										Victim Info															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	19	M	O	HNBD	RAN OFF RD	S	A	0100	MERB	2003	- 3	N	-	M	G									
Primary Rd SR-53		Distance (ft) 453.	Direction N	Secondary Rd JESSE ST.	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 019533	Collision Date 20191010	Time 1140	Day THU															
Primary Collision Factor R-O-W AUTO		Violation 21801A	Collision Type BROADSIDE	Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20191010																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																	
Party Info										Victim Info															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	60	F	W	HNBD	LFT TURN	N	D	2200	TOYO	2019	- 3	G	-	L	G									
2	DRVR	67	M	W	HNBD	PROC ST	S	B	0835	CHEV	2012	- 3	N	-	M	G									
Primary Rd SR-53		Distance (ft) 75.0	Direction N	Secondary Rd JESSIE ST.	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 017904	Collision Date 20190915	Time 0400	Day SUN															
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT	Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20201117																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		MSDMNR	Motor Vehicle Involved With FIXED OBJ	Lighting DARK - ST	Ped Action	Cntl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																
Party Info										Victim Info															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	998	-	-	IMP UNK	IMP UNK	UNS TURN	S	D	2200	CHEV	2013	- 3	N	-	-									
Primary Rd SR-53		Distance (ft) 0.00	Direction	Secondary Rd JESSIE STREET	NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.	County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 016093	Collision Date 20190508	Time 0746	Day WED															
Primary Collision Factor R-O-W AUTO		Violation 21801A	Collision Type BROADSIDE	Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20191125																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY	Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV	Lighting DAYLIGHT	Ped Action	Cntl Dev	NT PRS/FCTR	Loc Type	Ramp/Int																	
Party Info										Victim Info															
Party Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	61	F	W	HNBD	LFT TURN	S	A	0700	FORD	1995	- 3	A	22100	-	M	G	DRVR	POSSIBL	61	F	1	0	L	G
2	DRVR	71	F	W	HNBD	PROC ST	N	A	0100	KIA	2013	- 3	N	-	M	G									

Primary Rd	SR-53	Distance (ft)	78.0	Direction	N	Secondary Rd	JESSIE STREET	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	022397	Collision Date	20191127	Time	2107	Day	WED
Primary Collision Factor	LANE CHANGE	Violation	21658A	Collision Type	SIDESWIPE	Severity	INJURY	#Killed	0	#Injured	2	Tow Away?	Y	Process Date	20191204				
Weather1	CLOUDY	Weather2		Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DARK - ST	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	49	M	H	HNBD		CHANG LN	N	D	2200	NISS	2003	A 3	N	-	M	G	DRVR	POSSIBL	49	M	1	0	M	G
2	DRVR	29	M	W	HNBD		PROC ST	N	D	2200	DODGE	2004	- 3	N	-	L	G	PASS	POSSIBL	20	F	3	0	L	G

Primary Rd	SR-53	Distance (ft)	4.00	Direction	S	Secondary Rd	JESSIE STREET	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	021255	Collision Date	20191127	Time	2305	Day	WED
Primary Collision Factor	DRVR ALC DRG	Violation	23152A	Collision Type	REAR END	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	Y	Process Date	20191203				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	OTHER	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DARK - ST	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info												
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	34	M	W	HBD-UI		PROC ST	N	A	0800	TOYO	1998	- 3	A	22350	-	M	G	DRVR	POSSIBL	34	M	1	0	M	G
2	OTHR	998	-				STOPPED	N	A	0700	FORD	2015	- -	N	-	-	-									

Primary Rd	SR-53	Distance (ft)	1100	Direction	N	Secondary Rd	KUGLEMAN ST	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	020810	Collision Date	20190208	Time	1800	Day	FRI
Primary Collision Factor	R-O-W AUTO	Violation	21804A	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	4	Tow Away?	N	Process Date	20190218				
Weather1	CLOUDY	Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DARK - ST	Ped Action		Cntrl Dev		FNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	53	M	W	HNBD		ENT TRAF	E	D	2200	DODG	2016	- 3	N	-	M	G	DRVR	POSSIBL	25	M	1	0	M	G
2	DRVR	25	M	W	HNBD		STOPPED	N	A	0100	FORD	2017	- 3	N	-	M	G	PASS	POSSIBL	61	M	3	0	M	G
																		PASS	POSSIBL	39	F	6	0	P	G
																		PASS	POSSIBL	37	M	4	0	P	G

Primary Rd	SR-53	Distance (ft)	50.0	Direction	S	Secondary Rd	ORCHARD ST	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	017141	Collision Date	20191016	Time	1335	Day	WED
Primary Collision Factor	STRNG BCKNG	Violation	22106	Collision Type	SIDESWIPE	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20191022				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	55	M	W	HNBD		ENT TRAF	N	M	4700	FORD	2020	- 3	N	-	M	G	DRVR	POSSIBL	60	F	1	0	L	G
2	DRVR	40	M	H	HNBD		PROC ST	N	A	0100	FORD	2011	- 3	N	-	M	G	PASS	POSSIBL	92	F	3	0	L	G

Primary Rd	SR-53	Distance (ft)	18.0	Direction	S	Secondary Rd	ORCHARD ST	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	020326	Collision Date	20191224	Time	1815	Day	TUE
Primary Collision Factor	R-O-W AUTO	Violation	21801A	Collision Type	BROADSIDE	Severity	INJURY	#Killed	0	#Injured	3	Tow Away?	Y	Process Date	20191227				
Weather1	CLOUDY	Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DARK - ST	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	60	F	W	HNBD		LFT TURN	S	A	0100	HOND	2010	- 3	N	-	L	G	DRVR	POSSIBL	60	F	1	0	L	G
																		PASS	POSSIBL	92	F	3	0	L	G



2	DRVR	56	M	W	HNBD	PROC ST	N	A	0700	MERC	2003	-	3	N	-	M	G	PASS	POSSIBL	81	F	3	0	M	G	
<i>Primary Rd</i> SR-53 <i>Distance (ft)</i> 528. <i>Direction</i> S <i>Secondary Rd</i> SR-20 <i>NCIC</i> 9151 <i>State Hwy?</i> Y <i>Route</i> <i>Postmile Prefix</i> <i>Postmile</i> <i>Side of Hwy</i> <i>City</i> UNINCORP. <i>County</i> Lake <i>Population</i> 9 <i>Rpt Dist</i> <i>Beat</i> 016 <i>Type</i> 1 <i>CalTrans</i> <i>Badge</i> 015435 <i>Collision Date</i> 20190528 <i>Time</i> 1225 <i>Day</i> TUE <i>Primary Collision Factor</i> R-O-W AUTO <i>Violation</i> 21801A <i>Collision Type</i> SIDESWIPE <i>Severity</i> INJURY <i>#Killed</i> 0 <i>#Injured</i> 2 <i>Tow Away?</i> Y <i>Process Date</i> 20190610 <i>Weather1</i> CLEAR <i>Weather2</i> <i>Rdwy Surface</i> DRY <i>Rdwy Cond1</i> NO UNUSL CND <i>Rdwy Cond2</i> <i>Spec Cond</i> 0 <i>Hit and Run</i> <i>Motor Vehicle Involved With</i> OTHER MV <i>Lighting</i> DAYLIGHT <i>Ped Action</i> <i>Cntrl Dev</i> NT PRS/FCTR <i>Loc Type</i> <i>Ramp/Int</i>																										
<i>Party Info</i>															<i>Victim Info</i>											
<i>Party</i>	<i>Type</i>	<i>Age</i>	<i>Sex</i>	<i>Race</i>	<i>Sobriety1</i>	<i>Sobriety2</i>	<i>Move Pre</i>	<i>Dir</i>	<i>SW Veh</i>	<i>CHP Veh</i>	<i>Make</i>	<i>Year</i>	<i>SP Info</i>	<i>OAF1</i>	<i>Viol</i>	<i>OAF2</i>	<i>Safety Equip</i>	<i>ROLE</i>	<i>Ext Of Inj</i>	<i>AGE</i>	<i>Sex</i>	<i>Seat Pos</i>	<i>Safety</i>	<i>EQUIP</i>	<i>Ejected</i>	
1F	DRVR	71	M	W	HNBD		U-TURN	S	A	0100	FORD	2019	-	3	N	-	M	G	DRVR	POSSIBL	71	M	1	0	M	G
2	DRVR	65	M	W	HNBD	PROC ST	S	F	5500	INTL	2004	-	3	N	-	M	G	PASS	POSSIBL	67	F	3	0	M	G	
<i>Primary Rd</i> SR-53 <i>Distance (ft)</i> 450. <i>Direction</i> S <i>Secondary Rd</i> SR-20 <i>NCIC</i> 9151 <i>State Hwy?</i> Y <i>Route</i> <i>Postmile Prefix</i> <i>Postmile</i> <i>Side of Hwy</i> <i>City</i> UNINCORP. <i>County</i> Lake <i>Population</i> 9 <i>Rpt Dist</i> <i>Beat</i> 016 <i>Type</i> 1 <i>CalTrans</i> <i>Badge</i> 021152 <i>Collision Date</i> 20190725 <i>Time</i> 1625 <i>Day</i> THU <i>Primary Collision Factor</i> IMPROP TURN <i>Violation</i> 22107 <i>Collision Type</i> BROADSIDE <i>Severity</i> PDO <i>#Killed</i> 0 <i>#Injured</i> 0 <i>Tow Away?</i> N <i>Process Date</i> 20190802 <i>Weather1</i> CLEAR <i>Weather2</i> <i>Rdwy Surface</i> DRY <i>Rdwy Cond1</i> CONS ZONE <i>Rdwy Cond2</i> <i>Spec Cond</i> 0 <i>Hit and Run</i> <i>Motor Vehicle Involved With</i> OTHER MV <i>Lighting</i> DAYLIGHT <i>Ped Action</i> <i>Cntrl Dev</i> NT PRS/FCTR <i>Loc Type</i> <i>Ramp/Int</i>																										
<i>Party Info</i>															<i>Victim Info</i>											
<i>Party</i>	<i>Type</i>	<i>Age</i>	<i>Sex</i>	<i>Race</i>	<i>Sobriety1</i>	<i>Sobriety2</i>	<i>Move Pre</i>	<i>Dir</i>	<i>SW Veh</i>	<i>CHP Veh</i>	<i>Make</i>	<i>Year</i>	<i>SP Info</i>	<i>OAF1</i>	<i>Viol</i>	<i>OAF2</i>	<i>Safety Equip</i>	<i>ROLE</i>	<i>Ext Of Inj</i>	<i>AGE</i>	<i>Sex</i>	<i>Seat Pos</i>	<i>Safety</i>	<i>EQUIP</i>	<i>Ejected</i>	
1F	DRVR	29	M	H	HNBD		U-TURN	S	D	2200	CHEV	2017	-	3	N	-	M	G								
2	DRVR	49	F	A	HNBD	PROC ST	S	A	0100	HONDA	2015	-	3	N	-	L	G									
<i>Primary Rd</i> SR-53 <i>Distance (ft)</i> 600. <i>Direction</i> S <i>Secondary Rd</i> SR-20 <i>NCIC</i> 9151 <i>State Hwy?</i> Y <i>Route</i> <i>Postmile Prefix</i> <i>Postmile</i> <i>Side of Hwy</i> <i>City</i> UNINCORP. <i>County</i> Lake <i>Population</i> 9 <i>Rpt Dist</i> <i>Beat</i> 016 <i>Type</i> 1 <i>CalTrans</i> <i>Badge</i> 021152 <i>Collision Date</i> 20190801 <i>Time</i> 1400 <i>Day</i> THU <i>Primary Collision Factor</i> IMPROP TURN <i>Violation</i> 22107 <i>Collision Type</i> BROADSIDE <i>Severity</i> PDO <i>#Killed</i> 0 <i>#Injured</i> 0 <i>Tow Away?</i> N <i>Process Date</i> 20190809 <i>Weather1</i> CLEAR <i>Weather2</i> <i>Rdwy Surface</i> DRY <i>Rdwy Cond1</i> CONS ZONE <i>Rdwy Cond2</i> <i>Spec Cond</i> 0 <i>Hit and Run</i> <i>Motor Vehicle Involved With</i> OTHER MV <i>Lighting</i> DAYLIGHT <i>Ped Action</i> <i>Cntrl Dev</i> FNCTNG <i>Loc Type</i> <i>Ramp/Int</i>																										
<i>Party Info</i>															<i>Victim Info</i>											
<i>Party</i>	<i>Type</i>	<i>Age</i>	<i>Sex</i>	<i>Race</i>	<i>Sobriety1</i>	<i>Sobriety2</i>	<i>Move Pre</i>	<i>Dir</i>	<i>SW Veh</i>	<i>CHP Veh</i>	<i>Make</i>	<i>Year</i>	<i>SP Info</i>	<i>OAF1</i>	<i>Viol</i>	<i>OAF2</i>	<i>Safety Equip</i>	<i>ROLE</i>	<i>Ext Of Inj</i>	<i>AGE</i>	<i>Sex</i>	<i>Seat Pos</i>	<i>Safety</i>	<i>EQUIP</i>	<i>Ejected</i>	
1F	DRVR	56	F	W	HNBD		LFT TURN	S	A	0700	VOLVO	2014	-	3	N	-	M	G								
2	DRVR	25	M	W	HNBD	PROC ST	S	E	2235	GMC	2019	-	3	N	-	M	G									
<i>Primary Rd</i> SR-53 <i>Distance (ft)</i> 798. <i>Direction</i> S <i>Secondary Rd</i> SR-20 <i>NCIC</i> 9151 <i>State Hwy?</i> Y <i>Route</i> <i>Postmile Prefix</i> <i>Postmile</i> <i>Side of Hwy</i> <i>City</i> UNINCORP. <i>County</i> Lake <i>Population</i> 9 <i>Rpt Dist</i> <i>Beat</i> 016 <i>Type</i> 1 <i>CalTrans</i> <i>Badge</i> 019533 <i>Collision Date</i> 20190812 <i>Time</i> 0913 <i>Day</i> MON <i>Primary Collision Factor</i> IMPROP TURN <i>Violation</i> 22107 <i>Collision Type</i> SIDESWIPE <i>Severity</i> PDO <i>#Killed</i> 0 <i>#Injured</i> 0 <i>Tow Away?</i> Y <i>Process Date</i> 20190821 <i>Weather1</i> CLEAR <i>Weather2</i> <i>Rdwy Surface</i> DRY <i>Rdwy Cond1</i> CONS ZONE <i>Rdwy Cond2</i> NO UNUSL CND <i>Spec Cond</i> 0 <i>Hit and Run</i> <i>Motor Vehicle Involved With</i> OTHER MV <i>Lighting</i> DAYLIGHT <i>Ped Action</i> <i>Cntrl Dev</i> NT PRS/FCTR <i>Loc Type</i> <i>Ramp/Int</i>																										
<i>Party Info</i>															<i>Victim Info</i>											
<i>Party</i>	<i>Type</i>	<i>Age</i>	<i>Sex</i>	<i>Race</i>	<i>Sobriety1</i>	<i>Sobriety2</i>	<i>Move Pre</i>	<i>Dir</i>	<i>SW Veh</i>	<i>CHP Veh</i>	<i>Make</i>	<i>Year</i>	<i>SP Info</i>	<i>OAF1</i>	<i>Viol</i>	<i>OAF2</i>	<i>Safety Equip</i>	<i>ROLE</i>	<i>Ext Of Inj</i>	<i>AGE</i>	<i>Sex</i>	<i>Seat Pos</i>	<i>Safety</i>	<i>EQUIP</i>	<i>Ejected</i>	
1F	DRVR	33	M	W	HNBD		MERGING	S	D	2200	FORD	1994	-	3	E	-	M	G								
2	DRVR	62	F	H	HNBD	PROC ST	S	A	0100	HONDA	2000	-	3	N	-	M	G									
<i>Primary Rd</i> SR-53 <i>Distance (ft)</i> 0.00 <i>Direction</i> <i>Secondary Rd</i> SR-20 <i>NCIC</i> 9151 <i>State Hwy?</i> Y <i>Route</i> <i>Postmile Prefix</i> <i>Postmile</i> <i>Side of Hwy</i> <i>City</i> UNINCORP. <i>County</i> Lake <i>Population</i> 9 <i>Rpt Dist</i> <i>Beat</i> 016 <i>Type</i> 1 <i>CalTrans</i> <i>Badge</i> 019533 <i>Collision Date</i> 20190820 <i>Time</i> 0950 <i>Day</i> TUE <i>Primary Collision Factor</i> IMPROP TURN <i>Violation</i> 22107 <i>Collision Type</i> HIT OBJECT <i>Severity</i> PDO <i>#Killed</i> 0 <i>#Injured</i> 0 <i>Tow Away?</i> N <i>Process Date</i> 20190828 <i>Weather1</i> CLEAR <i>Weather2</i> <i>Rdwy Surface</i> DRY <i>Rdwy Cond1</i> CONS ZONE <i>Rdwy Cond2</i> NO UNUSL CND <i>Spec Cond</i> 0 <i>Hit and Run</i> <i>Motor Vehicle Involved With</i> FIXED OBJ <i>Lighting</i> DAYLIGHT <i>Ped Action</i> <i>Cntrl Dev</i> FNCTNG <i>Loc Type</i> <i>Ramp/Int</i>																										
<i>Party Info</i>															<i>Victim Info</i>											
<i>Party</i>	<i>Type</i>	<i>Age</i>	<i>Sex</i>	<i>Race</i>	<i>Sobriety1</i>	<i>Sobriety2</i>	<i>Move Pre</i>	<i>Dir</i>	<i>SW Veh</i>	<i>CHP Veh</i>	<i>Make</i>	<i>Year</i>	<i>SP Info</i>	<i>OAF1</i>	<i>Viol</i>	<i>OAF2</i>	<i>Safety Equip</i>	<i>ROLE</i>	<i>Ext Of Inj</i>	<i>AGE</i>	<i>Sex</i>	<i>Seat Pos</i>	<i>Safety</i>	<i>EQUIP</i>	<i>Ejected</i>	
1F	DRVR	46	M	W	IMP UNK	IMP UNK	LFT TURN	S	G	2731	VOLV	2006	-	3	N	-	B	B								

Primary Rd SR-53		Distance (ft) 450.	Direction S	Secondary Rd SR-20		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 020522	Collision Date 20190917	Time 1520 Day TUE																
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type BROADSIDE		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20190918																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR		Loc Type	Ramp/Int																
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	56	F	W	HNBD		U-TURN	S	A	0100	HYUN	2017	-	3	N	-	M	G								
2	DRVR	58	M	W	HNBD		PROC ST	S	A	0700	FORD	2018	-	3	N	-	M	G								
Primary Rd SR-53		Distance (ft) 12.0	Direction S	Secondary Rd SR-20		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 017904	Collision Date 20190925	Time 1646 Day WED																
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT		Severity PDO	#Killed 0	#Injured 0	Tow Away? N	Process Date 20191001																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 CONS ZONE	Rdwy Cond2	Spec Cond 0																			
Hit and Run		MSDMNR	Motor Vehicle Involved With FIXED OBJ		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR		Loc Type	Ramp/Int															
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	998	-		IMP UNK	IMP UNK	UNS TURN	S	-	9900	-	-	-	3	N	-	-	-								
Primary Rd SR-53		Distance (ft) 330.	Direction S	Secondary Rd SR-20		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 020955	Collision Date 20191202	Time 1310 Day MON																
Primary Collision Factor IMPROP TURN		Violation 22107	Collision Type HIT OBJECT		Severity INJURY	#Killed 0	#Injured 1	Tow Away? Y	Process Date 20191210																	
Weather1 CLOUDY		Weather2 RAINING	Rdwy Surface WET		Rdwy Cond1 CONS ZONE	Rdwy Cond2 NO UNUSL CND	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With FIXED OBJ		Lighting DAYLIGHT	Ped Action	Cntrl Dev	FNCTNG		Loc Type	Ramp/Int																
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	71	F	W	HNBD		RAN OFF RD	N	A	0100	TOYT	1996	-	3	N	-	L	G	DRVR	MINOR	71	F	1	0	L	G
Primary Rd SR-53		Distance (ft) 210.	Direction N	Secondary Rd SR-29		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 016	Type 1	CalTrans	Badge 017904	Collision Date 20190901	Time 0939 Day SUN																
Primary Collision Factor UNSAFE SPEED		Violation 22350	Collision Type REAR END		Severity PDO	#Killed 0	#Injured 0	Tow Away? Y	Process Date 20190906																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		MSDMNR	Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR		Loc Type	Ramp/Int															
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	998	M		IMP UNK	IMP UNK	PROC ST	N	D	2200	TOYO	-	-	3	N	-	-	-								
2	DRVR	25	M	W	HNBD		SLOWING	N	A	0100	HONDA	2001	-	3	N	-	M	G								
Primary Rd SR-53		Distance (ft) 479.	Direction N	Secondary Rd SR-29		NCIC 9151	State Hwy? Y	Route	Postmile Prefix	Postmile	Side of Hwy															
City UNINCORP.		County Lake	Population 9	Rpt Dist	Beat 001	Type 3	CalTrans	Badge 016093	Collision Date 20190903	Time 0801 Day TUE																
Primary Collision Factor R-O-W AUTO		Violation 21804A	Collision Type BROADSIDE		Severity INJURY	#Killed 0	#Injured 2	Tow Away? Y	Process Date 20190912																	
Weather1 CLEAR		Weather2	Rdwy Surface DRY		Rdwy Cond1 NO UNUSL CND	Rdwy Cond2	Spec Cond 0																			
Hit and Run		Motor Vehicle Involved With OTHER MV		Lighting DAYLIGHT	Ped Action	Cntrl Dev	NT PRS/FCTR		Loc Type	Ramp/Int																
Party Info												Victim Info														
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected	
1F	DRVR	36	M	W	HNBD		LFT TURN	N	D	2200	CHEVY	2002	-	3	N	-	M	G								
2	DRVR	44	F	W	HNBD		PROC ST	N	A	0700	JEEP	2003	-	3	N	-	L	G	DRVR	POSSIBL	44	F	1	0	M	G
3	DRVR	33	F	W	HNBD		SLOWING	S	A	0100	FORD	2002	-	3	N	-	M	G	PASS	MINOR	14	F	3	0	M	G

Primary Rd	SR-53	Distance (ft)	460.	Direction	N	Secondary Rd	SR-29	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	016093	Collision Date	20191210	Time	1300	Day	TUE
Primary Collision Factor	UNSAFE SPEED	Violation	22350	Collision Type	REAR END	Severity	INJURY	#Killed	0	#Injured	1	Tow Away?	N	Process Date	20191216				
Weather1	CLOUDY	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	40	F	H	HNBD		PROC ST	S	D	2200	CHEVY	2018	- 3	F	-	M	G								
2	DRVR	54	M	W	HNBD		RGT TURN	S	A	0700	CHRY	2020	- 3	N	-	M	G	PASS	POSSIBL	54	M	3	0	M	G

Primary Rd	SR-53	Distance (ft)	0.00	Direction		Secondary Rd	WILSON ST.	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	019811	Collision Date	20191028	Time	1445	Day	MON
Primary Collision Factor	R-O-W AUTO	Violation	21801A	Collision Type	HEAD-ON	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20191107				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	48	F	W	HNBD		LFT TURN	N	A	0700	CHEV	2003	- 3	N	-	M	G								
2	DRVR	46	M	W	HNBD		PROC ST	S	A	0100	HYUN	2003	- 3	N	-	M	G								

Primary Rd	SR-53 N/B	Distance (ft)	180.	Direction	N	Secondary Rd	ANDERSON	NCIC	9151	State Hwy?	Y	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 016	Type	1	CalTrans		Badge	021759	Collision Date	20190303	Time	0130	Day	SUN
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	Y	Process Date	20190314				
Weather1	CLOUDY	Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run	MSDMNR	Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	RAN OFF RD	N	D	2200	GMC	2006	- 3	N	-	M	B								

Primary Rd	STATE STREET	Distance (ft)	3.00	Direction	S	Secondary Rd	GADDY LANE	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 005	Type	3	CalTrans		Badge	020522	Collision Date	20190917	Time	1430	Day	TUE
Primary Collision Factor	IMPROP TURN	Violation	22107	Collision Type	HEAD-ON	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20190918				
Weather1	CLEAR	Weather2		Rdwy Surface	DRY	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	OTHER MV	Lighting	DAYLIGHT	Ped Action		Cntrl Dev		FNCTNG		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	82	F	W	HNBD		LFT TURN	W	D	2200	NISS	2004	- 3	N	-	M	G								
2	DRVR	59	M	H	HNBD		STOPPED	N	A	0100	OLDS	2002	- 3	N	-	M	G								

Primary Rd	STATE STREET	Distance (ft)	780.	Direction	S	Secondary Rd	GADDY LN	NCIC	9151	State Hwy?	N	Route		Postmile Prefix		Postmile		Side of Hwy	
City	UNINCORP.	County	Lake	Population	9	Rpt Dist	Beat 005	Type	3	CalTrans		Badge	021255	Collision Date	20190516	Time	2247	Day	THU
Primary Collision Factor	DRVR ALC DRG	Violation	23152A	Collision Type	HIT OBJECT	Severity	PDO	#Killed	0	#Injured	0	Tow Away?	N	Process Date	20190528				
Weather1	CLOUDY	Weather2	RAINING	Rdwy Surface	WET	Rdwy Cond1	NO UNUSL CND	Rdwy Cond2		Spec Cond	0								
Hit and Run		Motor Vehicle Involved With	FIXED OBJ	Lighting	DARK - NO	Ped Action		Cntrl Dev		NT PRS/FCTR		Loc Type		Ramp/Int					

Party Info														Victim Info											
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	19	M	H	HBD-UI		PROC ST	S	A	0100	NISS	2012	- 3	A	22107	-	M	G							

# Appendix D – Near Term 2030 Conditions Intersection LOS Analysis Worksheets

# MOVEMENT SUMMARY

 Site: 1 [SR 53/ SR 20\_2030 AM]

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: SR 53												
3	L2	258	7.0	0.363	7.3	LOS A	2.5	66.7	0.39	0.21	0.39	18.3
18	R2	120	7.0	0.363	7.3	LOS A	2.5	66.7	0.39	0.21	0.39	22.0
Approach		377	7.0	0.363	7.3	LOS A	2.5	66.7	0.39	0.21	0.39	19.4
East: SR 20												
1	L2	207	7.0	0.190	5.1	LOS A	1.1	29.1	0.48	0.33	0.48	21.9
6	T1	134	7.0	0.144	5.3	LOS A	0.8	20.6	0.48	0.33	0.48	24.2
Approach		340	7.0	0.190	5.2	LOS A	1.1	29.1	0.48	0.33	0.48	22.6
West: SR 20												
2	T1	95	7.0	0.125	6.1	LOS A	0.6	17.1	0.47	0.32	0.47	25.6
12	R2	310	7.0	0.275	5.8	LOS A	1.7	45.9	0.47	0.31	0.47	23.1
Approach		404	7.0	0.275	5.9	LOS A	1.7	45.9	0.47	0.31	0.47	23.7
All Vehicles		1122	7.0	0.363	6.1	LOS A	2.5	66.7	0.44	0.29	0.44	21.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, April 19, 2021 2:28:26 PM

Project: J:\JURISDICTION\L\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\Synchro\With Improvements\Sidra\Roundabout \_SR 53\_SR 20\2030 AM.sip8

HCM 6th TWSC  
2: State Route 53 & Ogulin Canyon Rd North

2030 Conditions  
Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	1	346	0	1	468
Future Vol, veh/h	0	1	346	0	1	468
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	25	88	88	88	88
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	0	4	393	0	1	532

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	927	393	0	0	393	0
Stage 1	393	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263	-
Pot Cap-1 Maneuver	298	656	-	-	1139	-
Stage 1	682	-	-	-	-	-
Stage 2	588	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	298	656	-	-	1139	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	587	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	656	1139
HCM Lane V/C Ratio	-	-	0.006	0.001
HCM Control Delay (s)	-	-	10.5	8.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC  
 3: State Route 53 & Ogulin Canyon Rd South

2030 Conditions  
 Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	8	7	306	29	3	432
Future Vol, veh/h	8	7	306	29	3	432
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	50	-	350	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	55	55	76	76	86	86
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	15	13	403	38	3	502

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	911	-	0	0	441
Stage 1	403	-	-	-	-
Stage 2	508	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.263
Pot Cap-1 Maneuver	304	0	-	-	1093
Stage 1	675	0	-	-	-
Stage 2	604	0	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	303	-	-	-	1093
Mov Cap-2 Maneuver	303	-	-	-	-
Stage 1	675	-	-	-	-
Stage 2	602	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	303	-	1093
HCM Lane V/C Ratio	-	-	0.048	-	0.003
HCM Control Delay (s)	-	-	17.5	0	8.3
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	-	0

HCM 6th TWSC  
4: State Route 53 & Old Hwy 53

2030 Conditions  
Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	24	19	311	432	9
Future Vol, veh/h	27	24	19	311	432	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	50	395	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	81	81	86	86
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	47	42	23	384	502	10

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	932	502	512	0	-	0
Stage 1	502	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	296	569	1028	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	289	569	1028	-	-	-
Mov Cap-2 Maneuver	289	-	-	-	-	-
Stage 1	595	-	-	-	-	-
Stage 2	656	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.1	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1028	-	289	569	-	-
HCM Lane V/C Ratio	0.023	-	0.164	0.074	-	-
HCM Control Delay (s)	8.6	-	19.9	11.8	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0.2	-	-



HCM 6th Signalized Intersection Summary  
5: State Route 53 & Olympic Dr

2030 Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	91	215	267	238	335	111
Future Volume (veh/h)	91	215	267	238	335	111
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1796	1796	1796	1796
Adj Flow Rate, veh/h	165	170	293	262	399	132
Peak Hour Factor	0.90	0.90	0.91	0.91	0.84	0.84
Percent Heavy Veh, %	2	2	7	7	7	7
Cap, veh/h	325	615	351	993	588	192
Arrive On Green	0.18	0.18	0.21	0.55	0.23	0.23
Sat Flow, veh/h	1781	1585	1711	1796	2617	826
Grp Volume(v), veh/h	165	170	293	262	268	263
Grp Sat Flow(s),veh/h/ln	1781	1585	1711	1796	1706	1647
Q Serve(g_s), s	4.1	3.6	8.0	3.7	7.0	7.1
Cycle Q Clear(g_c), s	4.1	3.6	8.0	3.7	7.0	7.1
Prop In Lane	1.00	1.00	1.00			0.50
Lane Grp Cap(c), veh/h	325	615	351	993	397	383
V/C Ratio(X)	0.51	0.28	0.83	0.26	0.68	0.69
Avail Cap(c_a), veh/h	914	1138	877	1474	1400	1352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	10.2	18.6	5.7	17.0	17.1
Incr Delay (d2), s/veh	0.5	0.1	2.0	0.1	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	2.6	0.7	2.2	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.4	10.3	20.6	5.8	18.5	18.7
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	335			555	531	
Approach Delay, s/veh	14.3			13.6	18.6	
Approach LOS	B			B	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		34.2		14.5	15.6	18.6
Change Period (Y+Rc), s		* 7.3		5.6	5.6	* 7.3
Max Green Setting (Gmax), s		* 40		25.0	25.0	* 40
Max Q Clear Time (g_c+I1), s		5.7		6.1	10.0	9.1
Green Ext Time (p_c), s		1.0		0.3	0.2	2.2

Intersection Summary

HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
6: State Route 53 & Polk Ave

2030 Conditions  
Timing Plan: A.M. Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	1	0	5	7	0	3	6	514	0	5	557	1
Future Vol, veh/h	1	0	5	7	0	3	6	514	0	5	557	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	550	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	58	58	58	93	93	93	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	2	0	10	12	0	5	6	553	0	6	640	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1221	1218	321	897	1218	553	641	0	0	553	0	0
Stage 1	653	653	-	565	565	-	-	-	-	-	-	-
Stage 2	568	565	-	332	653	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.205	-	-	4.205	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.2665	-	-	2.2665	-	-
Pot Cap-1 Maneuver	146	180	675	247	180	532	913	-	-	986	-	-
Stage 1	423	463	-	509	507	-	-	-	-	-	-	-
Stage 2	507	507	-	656	463	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	143	177	675	241	177	532	913	-	-	986	-	-
Mov Cap-2 Maneuver	143	177	-	241	177	-	-	-	-	-	-	-
Stage 1	420	459	-	505	503	-	-	-	-	-	-	-
Stage 2	499	503	-	640	459	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.9		18.3		0.1		0.1	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	913	-	-	417	288	986	-	-
HCM Lane V/C Ratio	0.007	-	-	0.029	0.06	0.006	-	-
HCM Control Delay (s)	9	-	-	13.9	18.3	8.7	0	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

HCM 6th Signalized Intersection Summary  
7: State Route 53 & Lakeshore Dr/40th Ave

2030 Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	89	122	508	145	176	80	378	328	203	53	383	129
Future Volume (veh/h)	89	122	508	145	176	80	378	328	203	53	383	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	98	134	0	165	200	91	406	353	218	59	426	0
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.93	0.93	0.93	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	295	352		426	240	109	437	699	424	126	550	
Arrive On Green	0.09	0.19	0.00	0.10	0.20	0.20	0.26	0.34	0.34	0.07	0.16	0.00
Sat Flow, veh/h	1781	1870	0	1781	1216	553	1711	2041	1238	1711	3503	0
Grp Volume(v), veh/h	98	134	0	165	0	291	406	294	277	59	426	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1770	1711	1706	1573	1711	1706	0
Q Serve(g_s), s	3.3	4.9	0.0	5.7	0.0	12.4	18.1	10.7	11.0	2.6	9.4	0.0
Cycle Q Clear(g_c), s	3.3	4.9	0.0	5.7	0.0	12.4	18.1	10.7	11.0	2.6	9.4	0.0
Prop In Lane	1.00		0.00	1.00		0.31	1.00		0.79	1.00		0.00
Lane Grp Cap(c), veh/h	295	352		426	0	349	437	585	539	126	550	
V/C Ratio(X)	0.33	0.38		0.39	0.00	0.83	0.93	0.50	0.51	0.47	0.78	
Avail Cap(c_a), veh/h	590	716		704	0	678	437	763	703	437	1525	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.5	27.8	0.0	22.1	0.0	30.2	28.5	20.4	20.5	34.8	31.5	0.0
Incr Delay (d2), s/veh	0.2	0.3	0.0	0.2	0.0	2.0	26.0	0.2	0.3	1.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.2	0.0	2.3	0.0	5.2	9.6	3.7	3.5	1.0	3.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	28.1	0.0	22.3	0.0	32.2	54.4	20.7	20.8	35.8	32.4	0.0
LnGrp LOS	C	C		C	A	C	D	C	C	D	C	
Approach Vol, veh/h		232	A		456			977			485	A
Approach Delay, s/veh		25.8			28.6			34.7			32.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	33.3	13.2	20.4	25.6	19.1	12.5	21.2				
Change Period (Y+Rc), s	5.6	6.5	5.4	* 5.7	5.6	6.5	5.4	* 5.7				
Max Green Setting (Gmax), s	20.0	35.0	20.0	* 30	20.0	35.0	20.0	* 30				
Max Q Clear Time (g_c+I1), s	4.6	13.0	7.7	6.9	20.1	11.4	5.3	14.4				
Green Ext Time (p_c), s	0.0	1.5	0.2	0.4	0.0	1.2	0.1	0.9				

Intersection Summary

HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
8: State Route 53 & 18th Ave

2030 Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Volume (veh/h)	2	6	7	75	3	88	0	832	89	75	955	6
Future Volume (veh/h)	2	6	7	75	3	88	0	832	89	75	955	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	3	9	10	103	4	121	0	876	94	85	1085	7
Peak Hour Factor	0.67	0.67	0.67	0.73	0.73	0.73	0.95	0.95	0.95	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	91	156	141	383	12	290	3	1099	118	208	2010	13
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.35	0.35	0.12	0.58	0.58
Sat Flow, veh/h	74	851	771	1361	68	1585	1711	3101	333	1711	3476	22
Grp Volume(v), veh/h	22	0	0	107	0	121	0	482	488	85	533	559
Grp Sat Flow(s),veh/h/ln	1696	0	0	1429	0	1585	1711	1706	1727	1711	1706	1792
Q Serve(g_s), s	0.0	0.0	0.0	2.8	0.0	3.6	0.0	13.4	13.4	2.4	10.1	10.1
Cycle Q Clear(g_c), s	0.6	0.0	0.0	3.4	0.0	3.6	0.0	13.4	13.4	2.4	10.1	10.1
Prop In Lane	0.14		0.45	0.96		1.00	1.00		0.19	1.00		0.01
Lane Grp Cap(c), veh/h	388	0	0	395	0	290	3	605	612	208	987	1036
V/C Ratio(X)	0.06	0.00	0.00	0.27	0.00	0.42	0.00	0.80	0.80	0.41	0.54	0.54
Avail Cap(c_a), veh/h	708	0	0	671	0	601	649	1617	1637	649	1617	1699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	0.0	0.0	18.9	0.0	19.1	0.0	15.3	15.3	21.4	6.8	6.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.9	0.9	0.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	1.1	0.0	1.2	0.0	3.8	3.9	0.8	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	0.0	0.0	19.1	0.0	19.4	0.0	16.2	16.2	21.9	7.0	7.0
LnGrp LOS	B	A	A	B	A	B	A	B	B	C	A	A
Approach Vol, veh/h		22			228			970			1177	
Approach Delay, s/veh		17.9			19.3			16.2			8.1	
Approach LOS		B			B			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	25.7		15.2	0.0	37.5		15.2				
Change Period (Y+Rc), s	5.4	7.0		5.6	5.4	7.0		5.6				
Max Green Setting (Gmax), s	20.0	50.0		20.0	20.0	50.0		20.0				
Max Q Clear Time (g_c+1), s	14.4	15.4		2.6	0.0	12.1		5.6				
Green Ext Time (p_c), s	0.0	3.2		0.0	0.0	3.6		0.3				

Intersection Summary

HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary  
 9: State Route 53 & Old Hwy 53/Dam Rd

2030 Conditions  
 Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	142	210	118	115	210	137	649	135	251	740	46
Future Volume (veh/h)	53	142	210	118	115	210	137	649	135	251	740	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	62	167	247	157	153	280	151	713	148	285	841	52
Peak Hour Factor	0.85	0.85	0.85	0.75	0.75	0.75	0.91	0.91	0.91	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	162	343	290	399	390	516	197	862	179	392	1013	63
Arrive On Green	0.09	0.18	0.18	0.12	0.21	0.21	0.11	0.31	0.31	0.12	0.31	0.31
Sat Flow, veh/h	1781	1870	1580	3456	1870	1580	1711	2807	582	3319	3265	202
Grp Volume(v), veh/h	62	167	247	157	153	280	151	433	428	285	440	453
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1728	1870	1580	1711	1706	1683	1659	1706	1760
Q Serve(g_s), s	2.8	6.8	12.8	3.6	6.0	12.3	7.2	19.9	20.0	7.0	20.2	20.2
Cycle Q Clear(g_c), s	2.8	6.8	12.8	3.6	6.0	12.3	7.2	19.9	20.0	7.0	20.2	20.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		0.11
Lane Grp Cap(c), veh/h	162	343	290	399	390	516	197	524	517	392	530	546
V/C Ratio(X)	0.38	0.49	0.85	0.39	0.39	0.54	0.77	0.83	0.83	0.73	0.83	0.83
Avail Cap(c_a), veh/h	422	531	449	818	531	636	405	1010	996	786	1010	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	30.9	33.4	34.6	28.8	23.3	36.3	27.2	27.2	35.9	27.1	27.1
Incr Delay (d2), s/veh	0.6	0.4	5.7	0.2	0.2	0.3	2.4	2.5	2.6	1.0	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.0	5.3	1.5	2.7	4.5	2.9	7.5	7.4	2.7	7.6	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	31.3	39.0	34.9	29.1	23.6	38.7	29.7	29.8	36.9	29.6	29.6
LnGrp LOS	D	C	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		476			590			1012			1178	
Approach Delay, s/veh		36.0			28.0			31.1			31.4	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	32.8	15.1	21.1	15.1	33.1	13.1	23.2				
Change Period (Y+Rc), s	5.4	* 6.9	5.4	5.6	5.4	* 6.9	5.4	5.6				
Max Green Setting (Gmax), s	20.0	* 50	20.0	24.0	20.0	* 50	20.0	24.0				
Max Q Clear Time (g_c+19.0), s	19.0	22.0	5.6	14.8	9.2	22.2	4.8	14.3				
Green Ext Time (p_c), s	0.2	3.9	0.2	0.5	0.1	4.0	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
 10: State Route 53 & Anderson Ranch Pkwy

2030 Conditions  
 Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	3	24	875	1000	59
Future Vol, veh/h	12	3	24	875	1000	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	365	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	87	87	89	89
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	12	3	28	1006	1124	66

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1716	595	1190	0	-	0
Stage 1	1157	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	-	-
Pot Cap-1 Maneuver	81	447	555	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	77	447	555	-	-	-
Mov Cap-2 Maneuver	77	-	-	-	-	-
Stage 1	248	-	-	-	-	-
Stage 2	536	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	50.8	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	555	-	77	447	-	-
HCM Lane V/C Ratio	0.05	-	0.156	0.007	-	-
HCM Control Delay (s)	11.8	-	60.2	13.1	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	0	-	-

HCM 6th TWSC  
 11: State Route 53 & Kugelman St

2030 Conditions  
 Timing Plan: A.M. Peak

Intersection							
Int Delay, s/veh	1.3						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	16	5	7	866	0	884	75
Future Vol, veh/h	16	5	7	866	0	884	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	50	0	80	-	190	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	46	46	83	83	78	78	78
Heavy Vehicles, %	2	2	7	7	7	7	7
Mvmt Flow	35	11	8	1043	0	1133	96

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	1719	615	1229	0	1043	-	0
Stage 1	1181	-	-	-	-	-	-
Stage 2	538	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	6.54	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	2.57	-	-
Pot Cap-1 Maneuver	81	434	536	-	299	-	-
Stage 1	254	-	-	-	-	-	-
Stage 2	549	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	80	434	536	-	299	-	-
Mov Cap-2 Maneuver	80	-	-	-	-	-	-
Stage 1	250	-	-	-	-	-	-
Stage 2	549	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	64.9	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	536	-	80	434	299	-	-
HCM Lane V/C Ratio	0.016	-	0.435	0.025	-	-	-
HCM Control Delay (s)	11.8	-	80.9	13.5	0	-	-
HCM Lane LOS	B	-	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	1.8	0.1	0	-	-

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	41	832	26	72	817
Future Vol, veh/h	1	41	832	26	72	817
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	83	83	78	78
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	1	57	1002	31	92	1047

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1727	518	0	0	1034
Stage 1	1019	-	-	-	-
Stage 2	708	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.24
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.27
Pot Cap-1 Maneuver	80	502	-	-	639
Stage 1	309	-	-	-	-
Stage 2	449	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	52	502	-	-	638
Mov Cap-2 Maneuver	161	-	-	-	-
Stage 1	309	-	-	-	-
Stage 2	294	-	-	-	-






























Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	478	638
HCM Lane V/C Ratio	-	-	0.122	0.145
HCM Control Delay (s)	-	-	13.6	11.6
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q(veh)	-	-	0.4	0.5



HCM 6th Signalized Intersection Summary  
 13: State Route 29 & Main St & State Route 53

2030 Conditions  
 Timing Plan: A.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 		 		 		 	 	 
Traffic Volume (veh/h)	455	62	131	41	48	94	151	340	80	102	334	403
Future Volume (veh/h)	455	62	131	41	48	94	151	340	80	102	334	403
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	517	70	149	47	55	107	168	378	89	113	371	448
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	593	113	241	125	209	335	204	792	184	178	931	687
Arrive On Green	0.18	0.22	0.22	0.07	0.12	0.12	0.12	0.29	0.29	0.10	0.27	0.27
Sat Flow, veh/h	3319	511	1087	1711	1796	1511	1711	2748	640	1711	3413	1522
Grp Volume(v), veh/h	517	0	219	47	55	107	168	233	234	113	371	448
Grp Sat Flow(s),veh/h/ln	1659	0	1597	1711	1796	1511	1711	1706	1681	1711	1706	1522
Q Serve(g_s), s	12.0	0.0	9.8	2.1	2.2	4.7	7.6	8.9	9.1	5.0	7.0	18.1
Cycle Q Clear(g_c), s	12.0	0.0	9.8	2.1	2.2	4.7	7.6	8.9	9.1	5.0	7.0	18.1
Prop In Lane	1.00		0.68	1.00		1.00	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	593	0	355	125	209	335	204	492	484	178	931	687
V/C Ratio(X)	0.87	0.00	0.62	0.38	0.26	0.32	0.82	0.47	0.48	0.63	0.40	0.65
Avail Cap(c_a), veh/h	627	0	483	323	543	615	323	968	954	323	1936	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	27.8	35.0	31.9	25.9	34.1	23.3	23.3	34.1	23.5	16.9
Incr Delay (d2), s/veh	11.7	0.0	0.7	0.7	0.2	0.2	4.5	0.3	0.3	1.4	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	3.5	0.9	1.0	1.7	3.2	3.3	3.3	2.0	2.6	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	0.0	28.5	35.7	32.2	26.1	38.6	23.5	23.6	35.5	23.6	17.3
LnGrp LOS	D	A	C	D	C	C	D	C	C	D	C	B
Approach Vol, veh/h		736			209			635			932	
Approach Delay, s/veh		38.9			29.9			27.6			22.0	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	29.7	11.4	24.4	15.1	28.4	19.8	16.1				
Change Period (Y+Rc), s	5.6	6.8	5.6	6.8	5.6	6.8	5.6	* 6.8				
Max Green Setting (Gmax), s	15.0	45.0	15.0	24.0	15.0	45.0	15.0	* 24				
Max Q Clear Time (g_c+I1), s	7.0	11.1	4.1	11.8	9.6	20.1	14.0	6.7				
Green Ext Time (p_c), s	0.1	1.2	0.0	0.6	0.1	1.5	0.1	0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			29.0									
HCM 6th LOS			C									
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Queues  
5: State Route 53 & Olympic Dr

2030 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	175	165	293	262	531
v/c Ratio	0.53	0.19	0.68	0.25	0.63
Control Delay	27.1	2.1	30.1	6.3	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	2.1	30.1	6.3	23.1
Queue Length 50th (ft)	46	0	91	36	77
Queue Length 95th (ft)	126	25	205	80	147
Internal Link Dist (ft)	735			1679	3149
Turn Bay Length (ft)	215		625		
Base Capacity (vph)	739	1103	716	1727	2222
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.15	0.41	0.15	0.24
Intersection Summary					

Queues  
7: State Route 53 & Lakeshore Dr/40th Ave

2030 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	98	692	165	291	406	571	59	569
v/c Ratio	0.25	1.21	0.65	0.53	1.28	0.50	0.41	0.82
Control Delay	20.8	136.7	32.9	34.2	183.0	25.9	56.8	48.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	136.7	32.9	34.2	183.0	25.9	56.8	48.7
Queue Length 50th (ft)	38	-491	67	151	-345	135	39	182
Queue Length 95th (ft)	79	#834	129	263	#622	213	87	260
Internal Link Dist (ft)		525		345		237		721
Turn Bay Length (ft)	65		70		830		135	
Base Capacity (vph)	543	573	392	547	318	1171	318	1097
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	1.21	0.42	0.53	1.28	0.49	0.19	0.52

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
8: State Route 53 & 18th Ave

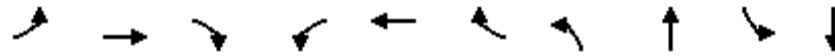
2030 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	22	107	121	970	85	1092
v/c Ratio	0.07	0.44	0.31	0.69	0.32	0.53
Control Delay	19.3	31.5	8.4	18.7	30.5	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.3	31.5	8.4	18.7	30.5	8.0
Queue Length 50th (ft)	4	35	0	152	27	98
Queue Length 95th (ft)	16	75	24	261	80	168
Internal Link Dist (ft)	292	411		2599		679
Turn Bay Length (ft)			150		720	
Base Capacity (vph)	560	442	604	2735	557	2799
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.24	0.20	0.35	0.15	0.39
<b>Intersection Summary</b>						

Queues  
9: State Route 53 & Old Hwy 53/Dam Rd

2030 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	167	247	157	153	280	151	861	285	893
v/c Ratio	0.31	0.61	0.60	0.40	0.43	0.41	0.62	0.77	0.61	0.80
Control Delay	48.5	50.1	15.2	45.5	43.0	7.1	52.0	32.5	45.9	34.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	50.1	15.2	45.5	43.0	7.1	52.0	32.5	45.9	34.4
Queue Length 50th (ft)	33	90	15	42	81	16	81	218	78	234
Queue Length 95th (ft)	87	183	84	79	146	43	183	366	151	379
Internal Link Dist (ft)		478			407			1595		2599
Turn Bay Length (ft)	150		90	135			575		760	
Base Capacity (vph)	391	494	572	758	501	790	372	1821	723	1850
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.34	0.43	0.21	0.31	0.35	0.41	0.47	0.39	0.48

Intersection Summary

Queues

13: State Route 29 & Main St & State Route 53

2030 Conditions

Timing Plan: A.M. Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	517	219	47	55	107	168	467	113	371	448
v/c Ratio	0.70	0.53	0.20	0.21	0.24	0.54	0.62	0.43	0.57	0.45
Control Delay	34.7	23.5	34.9	32.9	5.5	36.2	28.5	36.2	30.7	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	23.5	34.9	32.9	5.5	36.2	28.5	36.2	30.7	3.0
Queue Length 50th (ft)	115	58	20	23	0	71	96	49	84	0
Queue Length 95th (ft)	#239	138	57	60	29	155	167	110	138	49
Internal Link Dist (ft)		479		714			1302		940	
Turn Bay Length (ft)	60		125		70	230		165		500
Base Capacity (vph)	737	618	379	653	539	379	2222	379	2280	1001
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.35	0.12	0.08	0.20	0.44	0.21	0.30	0.16	0.45

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

# MOVEMENT SUMMARY

 Site: 1 [SR 53/ SR 20\_2030 PM]

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: SR 53												
3	L2	320	7.0	0.566	11.4	LOS B	4.7	124.7	0.61	0.43	0.61	16.5
18	R2	223	7.0	0.566	11.4	LOS B	4.7	124.7	0.61	0.43	0.61	19.9
Approach		542	7.0	0.566	11.4	LOS B	4.7	124.7	0.61	0.43	0.61	17.9
East: SR 20												
1	L2	160	7.0	0.173	5.6	LOS A	1.0	26.9	0.55	0.41	0.55	21.6
6	T1	170	7.0	0.168	5.2	LOS A	1.0	26.6	0.54	0.39	0.54	24.3
Approach		329	7.0	0.173	5.4	LOS A	1.0	26.9	0.55	0.40	0.55	22.7
West: SR 20												
2	T1	165	7.0	0.172	5.4	LOS A	1.0	25.8	0.41	0.26	0.41	26.3
12	R2	315	7.0	0.270	5.6	LOS A	1.7	45.8	0.43	0.26	0.43	23.3
Approach		480	7.0	0.270	5.5	LOS A	1.7	45.8	0.42	0.26	0.42	24.3
All Vehicles		1352	7.0	0.566	7.8	LOS A	4.7	124.7	0.53	0.36	0.53	20.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, April 19, 2021 2:30:07 PM

Project: J:\JURISDICTION\L\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\Synchro\With Improvements\Sidra\Roundabout \_SR 53\_SR 20\2030 AM.sip8

HCM 6th TWSC  
2: State Route 53 & Ogulin Canyon Rd North

2030 Conditions  
Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	1	2	497	0	1	447
Future Vol, veh/h	1	2	497	0	1	447
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	25	89	89	88	88
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	4	8	558	0	1	508

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1068	558	0	0	558
Stage 1	558	-	-	-	-
Stage 2	510	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263
Pot Cap-1 Maneuver	245	529	-	-	988
Stage 1	573	-	-	-	-
Stage 2	603	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	245	529	-	-	988
Mov Cap-2 Maneuver	245	-	-	-	-
Stage 1	573	-	-	-	-
Stage 2	602	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	382	988
HCM Lane V/C Ratio	-	-	0.031	0.001
HCM Control Delay (s)	-	-	14.7	8.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0



HCM 6th TWSC  
 3: State Route 53 & Ogulin Canyon Rd South

2030 Conditions  
 Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	28	19	476	13	5	456
Future Vol, veh/h	28	19	476	13	5	456
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	50	-	350	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	87	87	92	92
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	34	23	547	15	5	496

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1053	-	0	0	562
Stage 1	547	-	-	-	-
Stage 2	506	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.263
Pot Cap-1 Maneuver	251	0	-	-	985
Stage 1	580	0	-	-	-
Stage 2	606	0	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	250	-	-	-	985
Mov Cap-2 Maneuver	250	-	-	-	-
Stage 1	580	-	-	-	-
Stage 2	603	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.6	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	250	-	985
HCM Lane V/C Ratio	-	-	0.135	-	0.006
HCM Control Delay (s)	-	-	21.6	0	8.7
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.5	-	0

HCM 6th TWSC  
4: State Route 53 & Old Hwy 53

2030 Conditions  
Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗	↖
Traffic Vol, veh/h	14	12	12	475	461	24
Future Vol, veh/h	14	12	12	475	461	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	50	395	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	91	91	91	91
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	19	16	13	522	507	26

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1055	507	533	0	-	0
Stage 1	507	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	250	566	1010	-	-	-
Stage 1	605	-	-	-	-	-
Stage 2	579	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	247	566	1010	-	-	-
Mov Cap-2 Maneuver	247	-	-	-	-	-
Stage 1	597	-	-	-	-	-
Stage 2	579	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.5	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1010	-	247	566	-	-
HCM Lane V/C Ratio	0.013	-	0.076	0.028	-	-
HCM Control Delay (s)	8.6	-	20.8	11.5	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.1	-	-

# HCM 6th Signalized Intersection Summary

## 5: State Route 53 & Olympic Dr

2030 Conditions  
Timing Plan: P.M. Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	143	287	355	347	321	146
Future Volume (veh/h)	143	287	355	347	321	146
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1796	1796	1796	1796
Adj Flow Rate, veh/h	236	242	386	377	357	162
Peak Hour Factor	0.89	0.89	0.92	0.92	0.90	0.90
Percent Heavy Veh, %	2	2	7	7	7	7
Cap, veh/h	306	681	441	1054	514	230
Arrive On Green	0.17	0.17	0.26	0.59	0.22	0.22
Sat Flow, veh/h	1781	1585	1711	1796	2384	1024
Grp Volume(v), veh/h	236	242	386	377	264	255
Grp Sat Flow(s),veh/h/ln	1781	1585	1711	1796	1706	1612
Q Serve(g_s), s	6.8	5.5	11.6	5.9	7.6	7.8
Cycle Q Clear(g_c), s	6.8	5.5	11.6	5.9	7.6	7.8
Prop In Lane	1.00	1.00	1.00			0.64
Lane Grp Cap(c), veh/h	306	681	441	1054	383	361
V/C Ratio(X)	0.77	0.36	0.88	0.36	0.69	0.71
Avail Cap(c_a), veh/h	834	1150	801	1345	1278	1207
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	10.3	19.0	5.8	19.0	19.1
Incr Delay (d2), s/veh	1.6	0.1	2.2	0.2	1.7	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	3.8	1.0	2.5	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.7	10.4	21.2	5.9	20.7	21.0
LnGrp LOS	C	B	C	A	C	C
Approach Vol, veh/h	478			763	519	
Approach Delay, s/veh	16.4			13.7	20.8	
Approach LOS	B			B	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		38.6		14.8	19.4	19.3
Change Period (Y+Rc), s		* 7.3		5.6	5.6	* 7.3
Max Green Setting (Gmax), s		* 40		25.0	25.0	* 40
Max Q Clear Time (g_c+I1), s		7.9		8.8	13.6	9.8
Green Ext Time (p_c), s		1.5		0.4	0.3	2.2

### Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
6: State Route 53 & Polk Ave

2030 Conditions  
Timing Plan: P.M. Peak

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	0	2	28	5	0	5	6	714	7	2	624	0
Future Vol, veh/h	0	2	28	5	0	5	6	714	7	2	624	0
Conflicting Peds, #/hr	0	0	1	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	550	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	75	75	75	94	94	94	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	0	3	44	7	0	7	6	760	7	2	701	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1485	1484	352	1133	1481	765	701	0	0	767	0	0
Stage 1	705	705	-	776	776	-	-	-	-	-	-	-
Stage 2	780	779	-	357	705	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.205	-	-	4.205	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.2665	-	-	2.2665	-	-
Pot Cap-1 Maneuver	94	124	645	168	125	402	866	-	-	818	-	-
Stage 1	394	438	-	389	407	-	-	-	-	-	-	-
Stage 2	387	405	-	634	438	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	92	123	644	152	124	402	866	-	-	818	-	-
Mov Cap-2 Maneuver	92	123	-	152	124	-	-	-	-	-	-	-
Stage 1	391	436	-	386	404	-	-	-	-	-	-	-
Stage 2	378	402	-	583	436	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	12.9		22.3		0.1			0		
HCM LOS	B		C							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	866	-	-	502	221	818	-	-
HCM Lane V/C Ratio	0.007	-	-	0.095	0.06	0.003	-	-
HCM Control Delay (s)	9.2	-	-	12.9	22.3	9.4	0	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

HCM 6th Signalized Intersection Summary  
7: State Route 53 & Lakeshore Dr/40th Ave

2030 Conditions  
Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	115	265	508	111	254	80	516	528	188	96	493	94
Future Volume (veh/h)	115	265	508	111	254	80	516	528	188	96	493	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	125	288	0	132	302	95	549	562	200	104	536	0
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.94	0.94	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	265	465		353	340	107	377	812	288	140	649	
Arrive On Green	0.08	0.25	0.00	0.09	0.25	0.25	0.22	0.33	0.33	0.08	0.19	0.00
Sat Flow, veh/h	1781	1870	0	1781	1363	429	1711	2469	876	1711	3503	0
Grp Volume(v), veh/h	125	288	0	132	0	397	549	388	374	104	536	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1792	1711	1706	1639	1711	1706	0
Q Serve(g_s), s	4.6	12.4	0.0	4.8	0.0	19.4	20.0	17.9	18.0	5.4	13.7	0.0
Cycle Q Clear(g_c), s	4.6	12.4	0.0	4.8	0.0	19.4	20.0	17.9	18.0	5.4	13.7	0.0
Prop In Lane	1.00		0.00	1.00		0.24	1.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	265	465		353	0	447	377	561	539	140	649	
V/C Ratio(X)	0.47	0.62		0.37	0.00	0.89	1.46	0.69	0.69	0.74	0.83	
Avail Cap(c_a), veh/h	507	618		594	0	593	377	658	632	377	1317	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.1	30.3	0.0	22.7	0.0	32.8	35.4	26.4	26.5	40.7	35.3	0.0
Incr Delay (d2), s/veh	0.5	0.5	0.0	0.2	0.0	10.5	219.3	1.7	1.9	2.9	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	5.5	0.0	2.0	0.0	9.4	30.5	6.7	6.5	2.2	5.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.5	30.8	0.0	23.0	0.0	43.3	254.7	28.2	28.3	43.6	36.3	0.0
LnGrp LOS	C	C		C	A	D	F	C	C	D	D	
Approach Vol, veh/h		413	A		529			1311			640	A
Approach Delay, s/veh		28.9			38.2			123.1			37.5	
Approach LOS		C			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	36.3	13.1	28.3	25.6	23.7	13.1	28.3				
Change Period (Y+Rc), s	5.6	6.5	5.4	* 5.7	5.6	6.5	5.4	* 5.7				
Max Green Setting (Gmax), s	20.0	35.0	20.0	* 30	20.0	35.0	20.0	* 30				
Max Q Clear Time (g_c+I1), s	7.4	20.0	6.8	14.4	22.0	15.7	6.6	21.4				
Green Ext Time (p_c), s	0.1	1.9	0.1	0.9	0.0	1.6	0.1	1.0				

Intersection Summary

HCM 6th Ctrl Delay	75.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

# HCM 6th Signalized Intersection Summary

## 8: State Route 53 & 18th Ave

2030 Conditions  
Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Volume (veh/h)	16	8	3	95	9	103	7	1113	95	73	1026	9
Future Volume (veh/h)	16	8	3	95	9	103	7	1113	95	73	1026	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	23	11	4	113	11	123	8	1223	104	76	1069	9
Peak Hour Factor	0.71	0.71	0.71	0.84	0.84	0.84	0.91	0.91	0.91	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	173	73	18	330	27	249	32	1437	122	180	1865	16
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.02	0.45	0.45	0.11	0.54	0.54
Sat Flow, veh/h	517	462	115	1404	174	1585	1711	3184	270	1711	3468	29
Grp Volume(v), veh/h	38	0	0	124	0	123	8	654	673	76	526	552
Grp Sat Flow(s),veh/h/ln1095	0	0	1578	0	1585	1711	1706	1748	1711	1706	1791	
Q Serve(g_s), s	0.1	0.0	0.0	0.0	0.0	4.5	0.3	21.4	21.6	2.6	12.9	12.9
Cycle Q Clear(g_c), s	4.0	0.0	0.0	3.9	0.0	4.5	0.3	21.4	21.6	2.6	12.9	12.9
Prop In Lane	0.61		0.11	0.91		1.00	1.00		0.15	1.00		0.02
Lane Grp Cap(c), veh/h	264	0	0	357	0	249	32	770	789	180	918	963
V/C Ratio(X)	0.14	0.00	0.00	0.35	0.00	0.49	0.25	0.85	0.85	0.42	0.57	0.57
Avail Cap(c_a), veh/h	493	0	0	588	0	505	545	1358	1391	545	1358	1425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	0.0	24.0	0.0	24.2	30.4	15.3	15.4	26.3	9.7	9.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.6	1.5	1.0	1.0	0.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.5	0.0	0.0	1.6	0.0	1.6	0.1	6.1	6.3	1.0	3.1	3.3	
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	0.0	24.2	0.0	24.8	31.9	16.4	16.4	26.9	9.9	9.9
LnGrp LOS	C	A	A	C	A	C	C	B	B	C	A	A
Approach Vol, veh/h		38			247			1335			1154	
Approach Delay, s/veh		22.9			24.5			16.5			11.0	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	35.4		15.5	6.6	40.8		15.5				
Change Period (Y+Rc), s	5.4	7.0		5.6	5.4	7.0		5.6				
Max Green Setting (Gmax), s	20.0	50.0		20.0	20.0	50.0		20.0				
Max Q Clear Time (g_c+1), s	14.6	23.6		6.0	2.3	14.9		6.5				
Green Ext Time (p_c), s	0.0	4.8		0.0	0.0	3.6		0.4				

### Intersection Summary

HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

### Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary  
 9: State Route 53 & Old Hwy 53/Dam Rd

2030 Conditions  
 Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	150	181	216	144	409	216	747	215	255	775	80
Future Volume (veh/h)	28	150	181	216	144	409	216	747	215	255	775	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	31	169	203	245	164	465	230	795	229	274	833	86
Peak Hour Factor	0.89	0.89	0.89	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	103	373	315	349	454	545	261	944	272	342	973	100
Arrive On Green	0.06	0.20	0.20	0.10	0.24	0.24	0.15	0.36	0.36	0.10	0.31	0.31
Sat Flow, veh/h	1781	1870	1580	3456	1870	1571	1711	2614	753	3319	3122	322
Grp Volume(v), veh/h	31	169	203	245	164	465	230	519	505	274	455	464
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1728	1870	1571	1711	1706	1661	1659	1706	1738
Q Serve(g_s), s	1.7	7.9	11.7	6.8	7.2	24.0	13.0	27.6	27.6	8.0	24.8	24.8
Cycle Q Clear(g_c), s	1.7	7.9	11.7	6.8	7.2	24.0	13.0	27.6	27.6	8.0	24.8	24.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.45	1.00		0.19
Lane Grp Cap(c), veh/h	103	373	315	349	454	545	261	616	600	342	532	542
V/C Ratio(X)	0.30	0.45	0.64	0.70	0.36	0.85	0.88	0.84	0.84	0.80	0.86	0.86
Avail Cap(c_a), veh/h	360	454	383	698	454	545	346	862	839	671	862	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	34.9	36.4	43.1	31.1	30.1	41.1	29.0	29.0	43.4	32.0	32.0
Incr Delay (d2), s/veh	0.6	0.3	1.4	1.0	0.2	12.0	15.4	4.8	5.0	1.7	3.9	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.5	4.6	3.0	3.3	11.9	6.2	10.9	10.7	3.2	9.8	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	35.2	37.8	44.0	31.3	42.1	56.4	33.9	34.0	45.0	35.9	35.8
LnGrp LOS	D	D	D	D	C	D	E	C	C	D	D	D
Approach Vol, veh/h		403			874			1254			1193	
Approach Delay, s/veh		37.3			40.6			38.1			38.0	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	42.6	15.4	25.3	20.5	37.7	11.1	29.6				
Change Period (Y+Rc), s	5.4	* 6.9	5.4	5.6	5.4	* 6.9	5.4	5.6				
Max Green Setting (Gmax), s	20.0	* 50	20.0	24.0	20.0	* 50	20.0	24.0				
Max Q Clear Time (g_c+10), s	11.0	29.6	8.8	13.7	15.0	26.8	3.7	26.0				
Green Ext Time (p_c), s	0.2	4.6	0.2	0.5	0.1	4.1	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
 10: State Route 53 & Anderson Ranch Pkwy

2030 Conditions  
 Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	12.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑↑	↑↑	
Traffic Vol, veh/h	30	16	9	1091	1157	16
Future Vol, veh/h	30	16	9	1091	1157	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	365	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	33	33	98	98	94	94
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	91	48	9	1113	1231	17

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1815	624	1248	0	-	0
Stage 1	1240	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	-	-
Pot Cap-1 Maneuver	~ 69	428	527	-	-	-
Stage 1	236	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 68	428	527	-	-	-
Mov Cap-2 Maneuver	~ 68	-	-	-	-	-
Stage 1	232	-	-	-	-	-
Stage 2	526	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	218.7	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	527	-	68	428	-	-
HCM Lane V/C Ratio	0.017	-	1.337	0.113	-	-
HCM Control Delay (s)	12	-	\$ 327.6	14.5	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	7.4	0.4	-	-

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



HCM 6th TWSC  
 11: State Route 53 & Kugelmann St

2030 Conditions  
 Timing Plan: P.M. Peak

Intersection							
Int Delay, s/veh	1.2						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	19	17	15	1082	0	1022	75
Future Vol, veh/h	19	17	15	1082	0	1022	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	50	0	80	-	190	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	68	68	97	97	91	91	91
Heavy Vehicles, %	2	2	7	7	7	7	7
Mvmt Flow	28	25	15	1115	0	1123	82

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	1752	603	1205	0	1115	-	0
Stage 1	1164	-	-	-	-	-	-
Stage 2	588	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	6.54	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	2.57	-	-
Pot Cap-1 Maneuver	77	442	548	-	268	-	-
Stage 1	259	-	-	-	-	-	-
Stage 2	518	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	75	442	548	-	268	-	-
Mov Cap-2 Maneuver	75	-	-	-	-	-	-
Stage 1	252	-	-	-	-	-	-
Stage 2	518	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	48.2	0.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	548	-	75	442	268	-	-
HCM Lane V/C Ratio	0.028	-	0.373	0.057	-	-	-
HCM Control Delay (s)	11.8	-	79.1	13.6	0	-	-
HCM Lane LOS	B	-	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	1.4	0.2	0	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	14	53	1044	35	35	1005
Future Vol, veh/h	14	53	1044	35	35	1005
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	97	97	91	91
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	16	60	1076	36	38	1104

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1722	556	0	0	1112
Stage 1	1094	-	-	-	-
Stage 2	628	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.24
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.27
Pot Cap-1 Maneuver	80	475	-	-	596
Stage 1	282	-	-	-	-
Stage 2	494	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	67	475	-	-	596
Mov Cap-2 Maneuver	182	-	-	-	-
Stage 1	282	-	-	-	-
Stage 2	412	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.9	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	355	596
HCM Lane V/C Ratio	-	-	0.214	0.065
HCM Control Delay (s)	-	-	17.9	11.5
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.8	0.2

HCM 6th Signalized Intersection Summary  
 13: State Route 29 & Main St & State Route 53

2030 Conditions  
 Timing Plan: P.M. Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	407	48	93	64	81	194	123	462	73	182	397	439
Future Volume (veh/h)	407	48	93	64	81	194	123	462	73	182	397	439
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	462	55	106	70	88	211	135	508	80	202	441	488
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	541	123	237	153	270	447	175	787	123	237	1033	698
Arrive On Green	0.16	0.22	0.22	0.09	0.14	0.14	0.10	0.27	0.27	0.14	0.30	0.30
Sat Flow, veh/h	3456	571	1101	1781	1870	1575	1711	2956	464	1711	3413	1517
Grp Volume(v), veh/h	462	0	161	70	88	211	135	292	296	202	441	488
Grp Sat Flow(s),veh/h/ln	1728	0	1672	1781	1870	1575	1711	1706	1713	1711	1706	1517
Q Serve(g_s), s	11.0	0.0	7.1	3.2	3.6	9.4	6.5	12.8	12.9	9.7	8.7	21.6
Cycle Q Clear(g_c), s	11.0	0.0	7.1	3.2	3.6	9.4	6.5	12.8	12.9	9.7	8.7	21.6
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	541	0	360	153	270	447	175	454	456	237	1033	698
V/C Ratio(X)	0.85	0.00	0.45	0.46	0.33	0.47	0.77	0.64	0.65	0.85	0.43	0.70
Avail Cap(c_a), veh/h	615	0	476	317	532	668	304	910	914	304	1821	1048
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	28.8	36.7	32.4	25.0	36.9	27.4	27.5	35.5	23.5	18.2
Incr Delay (d2), s/veh	9.2	0.0	0.3	0.8	0.3	0.3	2.7	0.6	0.6	13.7	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	2.7	1.4	1.6	3.5	2.7	4.9	4.9	4.7	3.2	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	0.0	29.1	37.5	32.7	25.3	39.6	28.0	28.0	49.2	23.6	18.6
LnGrp LOS	D	A	C	D	C	C	D	C	C	D	C	B
Approach Vol, veh/h		623			369			723			1131	
Approach Delay, s/veh		40.0			29.4			30.2			26.0	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.3	29.3	12.9	24.9	14.2	32.3	18.8	19.0				
Change Period (Y+Rc), s	5.6	6.8	5.6	6.8	5.6	6.8	5.6	* 6.8				
Max Green Setting (Gmax), s	15.0	45.0	15.0	24.0	15.0	45.0	15.0	* 24				
Max Q Clear Time (g_c+I1), s	11.7	14.9	5.2	9.1	8.5	23.6	13.0	11.4				
Green Ext Time (p_c), s	0.1	1.5	0.0	0.4	0.1	1.8	0.2	0.4				

Intersection Summary

HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues  
5: State Route 53 & Olympic Dr

2030 Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	251	232	386	377	519
v/c Ratio	0.72	0.23	0.69	0.34	0.69
Control Delay	37.9	1.7	31.1	8.0	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	1.7	31.1	8.0	28.0
Queue Length 50th (ft)	96	0	144	68	96
Queue Length 95th (ft)	185	28	#345	147	164
Internal Link Dist (ft)	735			1679	3149
Turn Bay Length (ft)	215		625		
Base Capacity (vph)	612	1022	589	1661	1831
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.23	0.66	0.23	0.28

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
7: State Route 53 & Lakeshore Dr/40th Ave

2030 Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	125	840	132	397	549	762	104	638
v/c Ratio	0.43	1.62	0.56	0.78	1.75	0.75	0.58	0.85
Control Delay	25.3	314.5	30.4	47.8	379.6	38.0	60.3	50.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	314.5	30.4	47.8	379.6	38.0	60.3	50.1
Queue Length 50th (ft)	52	~798	55	242	-558	232	69	215
Queue Length 95th (ft)	103	#1193	99	#401	#882	345	133	297
Internal Link Dist (ft)		525		345		237		721
Turn Bay Length (ft)	65		70		830		135	
Base Capacity (vph)	439	519	388	511	314	1087	314	1083
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	1.62	0.34	0.78	1.75	0.70	0.33	0.59

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
8: State Route 53 & 18th Ave

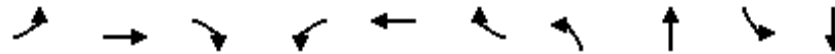
2030 Conditions  
Timing Plan: P.M. Peak



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	124	123	8	1327	76	1078
v/c Ratio	0.15	0.53	0.33	0.04	0.80	0.34	0.52
Control Delay	29.9	41.5	9.4	37.9	21.3	39.6	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	41.5	9.4	37.9	21.3	39.6	9.9
Queue Length 50th (ft)	14	53	0	3	260	32	106
Queue Length 95th (ft)	36	119	39	19	437	90	295
Internal Link Dist (ft)	292	411			2599		679
Turn Bay Length (ft)			150	675		720	
Base Capacity (vph)	406	375	533	474	2344	474	2451
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.33	0.23	0.02	0.57	0.16	0.44
Intersection Summary							

Queues  
9: State Route 53 & Old Hwy 53/Dam Rd

2030 Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	169	203	245	164	465	230	1024	274	919
v/c Ratio	0.18	0.66	0.55	0.60	0.38	0.62	0.76	0.81	0.64	0.82
Control Delay	53.5	58.2	16.3	52.9	41.8	14.6	60.5	34.8	53.1	39.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.5	58.2	16.3	52.9	41.8	14.6	60.5	34.8	53.1	39.3
Queue Length 50th (ft)	19	108	16	80	102	98	143	298	90	290
Queue Length 95th (ft)	59	210	92	144	187	212	#350	490	161	431
Internal Link Dist (ft)		478			407			1595		2599
Turn Bay Length (ft)	150		90	135			575		760	
Base Capacity (vph)	346	437	501	671	468	831	330	1613	640	1632
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.39	0.41	0.37	0.35	0.56	0.70	0.63	0.43	0.56

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues

13: State Route 29 & Main St & State Route 53

2030 Conditions

Timing Plan: P.M. Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	463	161	70	88	211	135	588	202	441	488
v/c Ratio	0.69	0.44	0.33	0.39	0.38	0.55	0.78	0.62	0.48	0.51
Control Delay	38.3	23.0	39.5	40.5	10.2	42.6	36.2	41.8	27.1	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	23.0	39.5	40.5	10.2	42.6	36.2	41.8	27.1	3.6
Queue Length 50th (ft)	115	41	33	42	26	65	145	96	98	6
Queue Length 95th (ft)	#199	104	78	93	81	129	208	#211	157	55
Internal Link Dist (ft)		479		714			1302		940	
Turn Bay Length (ft)	60		125		70	230		165		500
Base Capacity (vph)	668	571	344	592	556	328	1938	328	1971	958
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.28	0.20	0.15	0.38	0.41	0.30	0.62	0.22	0.51

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



HCM 6th Signalized Intersection Summary  
7: State Route 53 & Lakeshore Dr/40th Ave

2030 Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖↗	↖↗		↖	↗	
Traffic Volume (veh/h)	89	122	508	145	176	80	378	328	203	53	383	129
Future Volume (veh/h)	89	122	508	145	176	80	378	328	203	53	383	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	98	134	0	165	200	91	406	353	218	59	426	0
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.93	0.93	0.93	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	350	354		484	249	113	523	502	304	139	579	
Arrive On Green	0.10	0.19	0.00	0.12	0.20	0.20	0.16	0.25	0.25	0.08	0.17	0.00
Sat Flow, veh/h	1781	1870	0	1781	1216	553	3319	2041	1238	1711	3503	0
Grp Volume(v), veh/h	98	134	0	165	0	291	406	294	277	59	426	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1770	1659	1706	1573	1711	1706	0
Q Serve(g_s), s	2.6	4.0	0.0	4.5	0.0	10.0	7.5	10.0	10.3	2.1	7.5	0.0
Cycle Q Clear(g_c), s	2.6	4.0	0.0	4.5	0.0	10.0	7.5	10.0	10.3	2.1	7.5	0.0
Prop In Lane	1.00		0.00	1.00		0.31	1.00		0.79	1.00		0.00
Lane Grp Cap(c), veh/h	350	354		484	0	362	523	419	387	139	579	
V/C Ratio(X)	0.28	0.38		0.34	0.00	0.80	0.78	0.70	0.72	0.42	0.74	
Avail Cap(c_a), veh/h	726	882		832	0	834	1043	938	865	538	1877	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.5	22.5	0.0	16.9	0.0	24.1	25.7	21.9	22.0	27.8	25.1	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.2	0.0	1.6	0.9	0.8	0.9	0.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.7	0.0	1.7	0.0	4.0	2.6	3.4	3.2	0.8	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	22.8	0.0	17.1	0.0	25.7	26.7	22.7	22.9	28.6	25.8	0.0
LnGrp LOS	B	C		B	A	C	C	C	C	C	C	
Approach Vol, veh/h		232	A		456			977			485	A
Approach Delay, s/veh		20.6			22.6			24.4			26.1	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	22.1	13.0	17.8	15.6	17.3	12.0	18.7				
Change Period (Y+Rc), s	5.6	6.5	5.4	* 5.7	5.6	6.5	5.4	* 5.7				
Max Green Setting (Gmax), s	20.0	35.0	20.0	* 30	20.0	35.0	20.0	* 30				
Max Q Clear Time (g_c+I1), s	4.1	12.3	6.5	6.0	9.5	9.5	4.6	12.0				
Green Ext Time (p_c), s	0.0	1.5	0.2	0.4	0.6	1.3	0.1	1.0				

Intersection Summary

HCM 6th Ctrl Delay			24.0									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

# HCM 6th Signalized Intersection Summary

## 8: State Route 53 & 18th Ave

2030 Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	6	7	75	3	88	0	832	89	75	955	6
Future Volume (veh/h)	2	6	7	75	3	88	0	832	89	75	955	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	3	9	10	103	4	121	0	876	94	85	1085	7
Peak Hour Factor	0.67	0.67	0.67	0.73	0.73	0.73	0.95	0.95	0.95	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	290	351	297	396	10	289	3	1155	504	211	1971	13
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.00	0.34	0.34	0.12	0.57	0.57
Sat Flow, veh/h	1266	1870	1585	1393	51	1542	1711	3413	1488	1711	3476	22
Grp Volume(v), veh/h	3	9	10	103	0	125	0	876	94	85	533	559
Grp Sat Flow(s),veh/h/ln	1266	1870	1585	1393	0	1593	1711	1706	1488	1711	1706	1792
Q Serve(g_s), s	0.1	0.2	0.3	3.3	0.0	3.5	0.0	11.7	2.3	2.4	10.1	10.1
Cycle Q Clear(g_c), s	3.7	0.2	0.3	3.5	0.0	3.5	0.0	11.7	2.3	2.4	10.1	10.1
Prop In Lane	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	290	351	297	396	0	298	3	1155	504	211	967	1016
V/C Ratio(X)	0.01	0.03	0.03	0.26	0.00	0.42	0.00	0.76	0.19	0.40	0.55	0.55
Avail Cap(c_a), veh/h	546	729	618	678	0	621	667	3327	1451	667	1664	1747
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	17.0	17.0	18.5	0.0	18.4	0.0	15.1	12.0	20.7	7.0	7.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.4	0.1	0.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.1	1.0	0.0	1.2	0.0	3.3	0.6	0.8	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	17.0	17.1	18.6	0.0	18.7	0.0	15.5	12.0	21.2	7.2	7.2
LnGrp LOS	B	B	B	B	A	B	A	B	B	C	A	A
Approach Vol, veh/h		22			228			970			1177	
Approach Delay, s/veh		17.4			18.7			15.2			8.2	
Approach LOS		B			B			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	24.4		15.2	0.0	36.1		15.2				
Change Period (Y+Rc), s	5.4	7.0		5.6	5.4	7.0		5.6				
Max Green Setting (Gmax), s	20.0	50.0		20.0	20.0	50.0		20.0				
Max Q Clear Time (g_c+I1), s	4.4	13.7		5.7	0.0	12.1		5.5				
Green Ext Time (p_c), s	0.0	3.5		0.0	0.0	3.6		0.4				

### Intersection Summary

HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

### Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary  
9: State Route 53 & Old Hwy 53/Dam Rd

2030 Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	142	210	118	115	210	137	649	135	251	740	46
Future Volume (veh/h)	53	142	210	118	115	210	137	649	135	251	740	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	62	167	247	157	153	280	151	713	148	285	841	52
Peak Hour Factor	0.85	0.85	0.85	0.75	0.75	0.75	0.91	0.91	0.91	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	162	343	290	399	390	516	197	1048	461	392	1013	63
Arrive On Green	0.09	0.18	0.18	0.12	0.21	0.21	0.11	0.31	0.31	0.12	0.31	0.31
Sat Flow, veh/h	1781	1870	1580	3456	1870	1580	1711	3413	1503	3319	3265	202
Grp Volume(v), veh/h	62	167	247	157	153	280	151	713	148	285	440	453
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1728	1870	1580	1711	1706	1503	1659	1706	1760
Q Serve(g_s), s	2.8	6.8	12.8	3.6	6.0	12.3	7.2	15.5	6.4	7.0	20.2	20.2
Cycle Q Clear(g_c), s	2.8	6.8	12.8	3.6	6.0	12.3	7.2	15.5	6.4	7.0	20.2	20.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	162	343	290	399	390	516	197	1048	461	392	530	546
V/C Ratio(X)	0.38	0.49	0.85	0.39	0.39	0.54	0.77	0.68	0.32	0.73	0.83	0.83
Avail Cap(c_a), veh/h	422	531	449	818	531	636	405	2020	889	786	1010	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	30.9	33.4	34.6	28.8	23.3	36.3	25.6	22.5	35.9	27.1	27.1
Incr Delay (d2), s/veh	0.6	0.4	5.7	0.2	0.2	0.3	2.4	0.6	0.3	1.0	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.0	5.3	1.5	2.7	4.5	2.9	5.6	2.3	2.7	7.6	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	31.3	39.0	34.9	29.1	23.6	38.7	26.2	22.8	36.9	29.6	29.6
LnGrp LOS	D	C	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		476			590			1012			1178	
Approach Delay, s/veh		36.0			28.0			27.6			31.4	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	32.8	15.1	21.1	15.1	33.1	13.1	23.2				
Change Period (Y+Rc), s	5.4	* 6.9	5.4	5.6	5.4	* 6.9	5.4	5.6				
Max Green Setting (Gmax), s	20.0	* 50	20.0	24.0	20.0	* 50	20.0	24.0				
Max Q Clear Time (g_c+I1), s	9.0	17.5	5.6	14.8	9.2	22.2	4.8	14.3				
Green Ext Time (p_c), s	0.2	4.0	0.2	0.5	0.1	4.0	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.  
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues  
7: State Route 53 & Lakeshore Dr/40th Ave

2030 Conditions  
Timing Plan: A.M. Peak



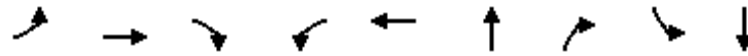
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	98	692	165	291	406	571	59	569
v/c Ratio	0.24	1.17	0.64	0.52	0.76	0.54	0.39	0.81
Control Delay	20.0	122.5	31.3	32.8	52.2	26.7	55.5	46.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	122.5	31.3	32.8	52.2	26.7	55.5	46.4
Queue Length 50th (ft)	37	-472	64	146	130	134	38	176
Queue Length 95th (ft)	79	#834	129	263	210	213	87	260
Internal Link Dist (ft)		525		345		237		721
Turn Bay Length (ft)	65		70		830		135	
Base Capacity (vph)	569	590	407	564	643	1175	331	1139
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	1.17	0.41	0.52	0.63	0.49	0.18	0.50

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
8: State Route 53 & 18th Ave

2030 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	3	9	10	103	125	876	94	85	1092
v/c Ratio	0.01	0.03	0.03	0.40	0.32	0.65	0.15	0.31	0.54
Control Delay	23.0	23.0	0.1	28.6	8.5	18.1	4.0	27.9	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	23.0	0.1	28.6	8.5	18.1	4.0	27.9	8.1
Queue Length 50th (ft)	1	3	0	31	1	134	0	26	98
Queue Length 95th (ft)	6	11	0	68	25	220	25	73	157
Internal Link Dist (ft)		292			411	2599			679
Turn Bay Length (ft)	50		50	150			675	720	
Base Capacity (vph)	436	644	609	485	630	2906	1284	583	2903
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.02	0.21	0.20	0.30	0.07	0.15	0.38
Intersection Summary									

Queues  
9: State Route 53 & Old Hwy 53/Dam Rd

2030 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	62	167	247	157	153	280	151	713	148	285	893
v/c Ratio	0.31	0.61	0.60	0.40	0.43	0.41	0.62	0.63	0.25	0.61	0.80
Control Delay	48.5	50.1	15.2	45.5	43.0	7.1	52.0	28.9	5.1	45.9	34.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	50.1	15.2	45.5	43.0	7.1	52.0	28.9	5.1	45.9	34.4
Queue Length 50th (ft)	33	90	15	42	81	16	81	174	0	78	234
Queue Length 95th (ft)	87	183	84	79	146	43	183	294	42	151	379
Internal Link Dist (ft)		478			407			1595			2599
Turn Bay Length (ft)	150		90	135			575		575	760	
Base Capacity (vph)	391	494	572	758	501	790	372	1864	889	723	1850
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.34	0.43	0.21	0.31	0.35	0.41	0.38	0.17	0.39	0.48

Intersection Summary

HCM 6th Signalized Intersection Summary  
7: State Route 53 & Lakeshore Dr/40th Ave

2030 Conditions  
Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖↗	↖↗		↖	↗	
Traffic Volume (veh/h)	115	265	508	111	254	80	516	528	188	96	493	94
Future Volume (veh/h)	115	265	508	111	254	80	516	528	188	96	493	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	125	288	0	132	302	95	549	562	200	104	536	0
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.94	0.94	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	284	471		372	344	108	632	732	260	148	658	
Arrive On Green	0.09	0.25	0.00	0.09	0.25	0.25	0.19	0.30	0.30	0.09	0.19	0.00
Sat Flow, veh/h	1781	1870	0	1781	1363	429	3319	2469	876	1711	3503	0
Grp Volume(v), veh/h	125	288	0	132	0	397	549	388	374	104	536	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1792	1659	1706	1639	1711	1706	0
Q Serve(g_s), s	4.2	11.5	0.0	4.4	0.0	18.0	13.5	17.5	17.6	5.0	12.7	0.0
Cycle Q Clear(g_c), s	4.2	11.5	0.0	4.4	0.0	18.0	13.5	17.5	17.6	5.0	12.7	0.0
Prop In Lane	1.00		0.00	1.00		0.24	1.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	284	471		372	0	452	632	506	486	148	658	
V/C Ratio(X)	0.44	0.61		0.35	0.00	0.88	0.87	0.77	0.77	0.70	0.81	
Avail Cap(c_a), veh/h	546	665		633	0	637	786	707	679	405	1415	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.9	27.9	0.0	20.6	0.0	30.3	33.2	27.0	27.1	37.5	32.6	0.0
Incr Delay (d2), s/veh	0.4	0.5	0.0	0.2	0.0	7.7	7.5	1.9	2.1	2.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.1	0.0	1.8	0.0	8.3	5.6	6.5	6.3	2.0	4.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	28.4	0.0	20.8	0.0	38.0	40.6	29.0	29.2	39.8	33.6	0.0
LnGrp LOS	C	C		C	A	D	D	C	C	D	C	
Approach Vol, veh/h		413	A		529			1311			640	A
Approach Delay, s/veh		26.6			33.7			33.9			34.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	31.5	13.0	26.9	21.7	22.8	13.0	27.0				
Change Period (Y+Rc), s	5.6	6.5	5.4	* 5.7	5.6	6.5	5.4	* 5.7				
Max Green Setting (Gmax), s	20.0	35.0	20.0	* 30	20.0	35.0	20.0	* 30				
Max Q Clear Time (g_c+I1), s	7.0	19.6	6.4	13.5	15.5	14.7	6.2	20.0				
Green Ext Time (p_c), s	0.1	1.9	0.1	1.0	0.5	1.6	0.1	1.1				

Intersection Summary

HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Notes
























User approved pedestrian interval to be less than phase max green.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
8: State Route 53 & 18th Ave

2030 Conditions  
Timing Plan: P.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	8	3	95	9	103	7	1113	95	73	1026	9
Future Volume (veh/h)	16	8	3	95	9	103	7	1113	95	73	1026	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	23	11	4	113	11	123	8	1223	104	76	1069	9
Peak Hour Factor	0.71	0.71	0.71	0.84	0.84	0.84	0.91	0.91	0.91	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	225	302	256	337	21	238	32	1487	663	183	1817	15
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.02	0.44	0.44	0.11	0.52	0.52
Sat Flow, veh/h	1256	1870	1585	1398	132	1473	1711	3413	1522	1711	3468	29
Grp Volume(v), veh/h	23	11	4	113	0	134	8	1223	104	76	526	552
Grp Sat Flow(s),veh/h/ln	1256	1870	1585	1398	0	1605	1711	1706	1522	1711	1706	1791
Q Serve(g_s), s	1.0	0.3	0.1	4.5	0.0	4.6	0.3	19.2	2.5	2.5	12.9	12.9
Cycle Q Clear(g_c), s	5.7	0.3	0.1	4.8	0.0	4.6	0.3	19.2	2.5	2.5	12.9	12.9
Prop In Lane	1.00		1.00	1.00		0.92	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	225	302	256	337	0	260	32	1487	663	183	894	938
V/C Ratio(X)	0.10	0.04	0.02	0.33	0.00	0.52	0.25	0.82	0.16	0.42	0.59	0.59
Avail Cap(c_a), veh/h	435	614	521	571	0	527	562	2802	1250	562	1401	1471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	21.5	21.4	23.6	0.0	23.3	29.5	15.1	10.4	25.4	10.0	10.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.6	1.5	0.4	0.0	0.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.0	1.4	0.0	1.7	0.1	5.4	0.6	0.9	3.1	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	21.5	21.5	23.8	0.0	23.9	30.9	15.6	10.4	26.0	10.2	10.2
LnGrp LOS	C	C	C	C	A	C	C	B	B	C	B	B
Approach Vol, veh/h		38			247			1335			1154	
Approach Delay, s/veh		24.2			23.9			15.2			11.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.9	33.5		15.4	6.5	38.9		15.4				
Change Period (Y+Rc), s	5.4	7.0		5.6	5.4	7.0		5.6				
Max Green Setting (Gmax), s	20.0	50.0		20.0	20.0	50.0		20.0				
Max Q Clear Time (g_c+I1), s	4.5	21.2		7.7	2.3	14.9		6.8				
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	3.6		0.4				

Intersection Summary

HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

























Notes

User approved pedestrian interval to be less than phase max green.



HCM 6th Signalized Intersection Summary  
 9: State Route 53 & Old Hwy 53/Dam Rd

2030 Conditions  
 Timing Plan: P.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	150	181	216	144	409	216	747	215	255	775	80
Future Volume (veh/h)	28	150	181	216	144	409	216	747	215	255	775	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	31	169	203	245	164	465	230	795	229	274	833	86
Peak Hour Factor	0.89	0.89	0.89	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	103	373	315	349	454	545	261	1232	550	342	973	100
Arrive On Green	0.06	0.20	0.20	0.10	0.24	0.24	0.15	0.36	0.36	0.10	0.31	0.31
Sat Flow, veh/h	1781	1870	1580	3456	1870	1571	1711	3413	1522	3319	3122	322
Grp Volume(v), veh/h	31	169	203	245	164	465	230	795	229	274	455	464
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1728	1870	1571	1711	1706	1522	1659	1706	1738
Q Serve(g_s), s	1.7	7.9	11.7	6.8	7.2	24.0	13.0	19.2	11.2	8.0	24.8	24.8
Cycle Q Clear(g_c), s	1.7	7.9	11.7	6.8	7.2	24.0	13.0	19.2	11.2	8.0	24.8	24.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	103	373	315	349	454	545	261	1232	550	342	532	542
V/C Ratio(X)	0.30	0.45	0.64	0.70	0.36	0.85	0.88	0.65	0.42	0.80	0.86	0.86
Avail Cap(c_a), veh/h	360	454	383	698	454	545	346	1724	769	671	862	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	34.9	36.4	43.1	31.1	30.1	41.1	26.3	23.8	43.4	32.0	32.0
Incr Delay (d2), s/veh	0.6	0.3	1.4	1.0	0.2	12.0	15.4	0.4	0.4	1.7	3.9	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.5	4.6	3.0	3.3	11.9	6.2	7.1	4.1	3.2	9.8	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	35.2	37.8	44.0	31.3	42.1	56.4	26.8	24.2	45.0	35.9	35.8
LnGrp LOS	D	D	D	D	C	D	E	C	C	D	D	D
Approach Vol, veh/h		403			874			1254			1193	
Approach Delay, s/veh		37.3			40.6			31.7			38.0	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	42.6	15.4	25.3	20.5	37.7	11.1	29.6				
Change Period (Y+Rc), s	5.4	* 6.9	5.4	5.6	5.4	* 6.9	5.4	5.6				
Max Green Setting (Gmax), s	20.0	* 50	20.0	24.0	20.0	* 50	20.0	24.0				
Max Q Clear Time (g_c+I1), s	10.0	21.2	8.8	13.7	15.0	26.8	3.7	26.0				
Green Ext Time (p_c), s	0.2	4.7	0.2	0.5	0.1	4.1	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	36.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues  
7: State Route 53 & Lakeshore Dr/40th Ave

2030 Conditions  
Timing Plan: P.M. Peak



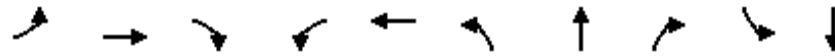
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	125	840	132	397	549	762	104	638
v/c Ratio	0.43	1.62	0.56	0.78	0.90	0.75	0.58	0.85
Control Delay	25.3	314.5	30.4	47.8	63.4	38.0	60.3	50.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	314.5	30.4	47.8	63.4	38.0	60.3	50.1
Queue Length 50th (ft)	52	~798	55	242	190	232	69	215
Queue Length 95th (ft)	103	#1193	99	#401	#344	345	133	297
Internal Link Dist (ft)		525		345		237		721
Turn Bay Length (ft)	65		70		830		135	
Base Capacity (vph)	439	519	388	511	609	1087	314	1083
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	1.62	0.34	0.78	0.90	0.70	0.33	0.59

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
8: State Route 53 & 18th Ave

2030 Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	23	11	4	113	134	8	1223	104	76	1078
v/c Ratio	0.11	0.03	0.01	0.47	0.35	0.04	0.76	0.14	0.32	0.53
Control Delay	30.8	29.8	0.0	37.4	10.9	35.0	19.9	3.2	36.3	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	29.8	0.0	37.4	10.9	35.0	19.9	3.2	36.3	9.8
Queue Length 50th (ft)	8	4	0	44	4	3	217	0	29	96
Queue Length 95th (ft)	26	16	0	107	47	19	368	25	87	282
Internal Link Dist (ft)		292			411		2599			679
Turn Bay Length (ft)	50		50	150		675		675	720	
Base Capacity (vph)	375	559	542	419	568	506	2508	1148	506	2525
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.02	0.01	0.27	0.24	0.02	0.49	0.09	0.15	0.43
Intersection Summary										

Queues  
9: State Route 53 & Old Hwy 53/Dam Rd

2030 Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	31	169	203	245	164	465	230	795	229	274	919
v/c Ratio	0.18	0.66	0.55	0.60	0.38	0.62	0.75	0.61	0.32	0.65	0.82
Control Delay	53.2	58.2	16.3	52.9	41.9	14.6	60.1	29.2	4.5	53.1	39.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.2	58.2	16.3	52.9	41.9	14.6	60.1	29.2	4.5	53.1	39.3
Queue Length 50th (ft)	19	107	16	80	102	98	142	212	0	89	288
Queue Length 95th (ft)	59	210	92	144	187	212	#350	356	53	161	431
Internal Link Dist (ft)		478			407			1595			2599
Turn Bay Length (ft)	150		90	135			575		575	760	
Base Capacity (vph)	347	438	502	673	469	830	330	1658	858	642	1636
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.39	0.40	0.36	0.35	0.56	0.70	0.48	0.27	0.43	0.56

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# LANE SUMMARY

 Site: 1 [SR 53/ 40th Ave\_2030 AM]

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

Lane Use and Performance													
	Demand Flows			Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	Total veh/h	HV %	Cap. veh/h					Veh	Dist ft				
South: SR 53													
Lane 1	421	7.0	996	0.422	100	8.4	LOS A	2.8	72.9	Full	1000	0.0	0.0
Lane 2 <sup>d</sup>	432	7.0	1022	0.422	100	8.2	LOS A	2.8	73.5	Full	1000	0.0	0.0
Approach	852	7.0		0.422		8.3	LOS A	2.8	73.5				
East: 40th Avenue													
Lane 1 <sup>d</sup>	376	2.0	647	0.581	100	15.9	LOS B	4.5	115.1	Full	1000	0.0	0.0
Approach	376	2.0		0.581		15.9	LOS B	4.5	115.1				
North: SR 53													
Lane 1	256	7.0	690	0.371	100	10.1	LOS B	2.2	57.1	Full	1600	0.0	0.0
Lane 2 <sup>d</sup>	274	7.0	739	0.371	100	9.6	LOS A	2.2	58.3	Full	1600	0.0	0.0
Approach	529	7.0		0.371		9.9	LOS A	2.2	58.3				
West: Lakeshore Drive													
Lane 1 <sup>d</sup>	674	2.0	730	0.924	100	40.8	LOS D	21.9	557.0	Full	1000	0.0	0.0
Approach	674	2.0		0.924		40.8	LOS D	21.9	557.0				
Intersection	2432	4.8		0.924		18.8	LOS B	21.9	557.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>d</sup> Dominant lane on roundabout approach

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 2:12:27 PM

Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS Analysis\Sidra\Roundabout@40th Avenue\Sidra Model\Two Lane\40th Ave.sip8

**DETAILED OUTPUT**
 **Site: 1 [SR 53/ 40th Ave\_2030 AM]**

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

**OUTPUT TABLE LINKS**

-  Roundabouts
  - Roundabout Basic Parameters
  - Roundabout Circulating / Exiting Stream Parameters
  - Roundabout Gap Acceptance Parameters
  - Roundabout Flow Rates
-  Movements
  - Intersection Negotiation and Travel Data
  - Movement Capacity and Performance Parameters
  - Fuel Consumption, Emissions and Cost
-  Lanes
  - Lane Performance and Capacity Information
  - Lane, Approach and Intersection Performance
  - Driver Characteristics
  - Lane Delays
  - Lane Queues
  - Lane Queue Percentiles
  - Lane Stops
-  Flow Rates
  - Origin-Destination Flow Rates (Total)
  - Origin-Destination Flow Rates by Movement Class
  - Lane Flow Rates
-  Other
  - Parameter Settings Summary
  - Diagnostics

**Roundabouts**

Roundabout Basic Parameters  
Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av. Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %
-----											
South: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	1000		NA	0.0N
-----											
East: 40th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	1000		NA	0.0N
-----											
North: SR 53											
150.0	30.0	210.0	65.0	30.0	2	2	13.00	1600		NA	0.0N
-----											
West: Lakeshore Drive											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	1000		NA	0.0N
-----											

Roundabout Capacity Model: SIDRA Standard

NA Not Applicable (single Site analysis or unconnected Site in Network analysis).

N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).

[Go to Table Links \(Top\)](#)

Roundabout Circulating / Exiting Stream Parameters  
Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: SR 53													
W	L2	1	Subdominant	248	1.03	255	0.0	0.0	N	0.949	23.0	2.00	0.267
N	T1	1	Subdominant	248	1.03	255	0.0	0.0	N	0.949	23.0	2.00	0.267
N	T1	2	Dominant	248	1.03	255	0.0	0.0	N	0.949	23.0	2.00	0.267
E	R2	2	Dominant	248	1.03	255	0.0	0.0	N	0.949	23.0	2.00	0.267
East: 40th Avenue													
S	L2	1	Dominant	746	1.06	794	0.0	0.0	N	0.902	22.5	1.25	0.456
W	T1	1	Dominant	746	1.06	794	0.0	0.0	N	0.902	22.5	1.25	0.456
N	R2	1	Dominant	746	1.06	794	0.0	0.0	N	0.902	22.5	1.25	0.456
North: SR 53													
E	L2	1	Subdominant	655	1.05	686	0.0	0.0	N	0.924	20.8	2.00	0.575
S	T1	1	Subdominant	655	1.05	686	0.0	0.0	N	0.924	20.8	2.00	0.575
S	T1	2	Dominant	655	1.05	686	0.0	0.0	N	0.924	20.8	2.00	0.575
W	R2	2	Dominant	655	1.05	686	0.0	0.0	N	0.924	20.8	2.00	0.575
West: Lakeshore Drive													
N	L2	1	Dominant	545	1.06	576	0.0	0.0	N	0.923	25.1	1.31	0.368
E	T1	1	Dominant	545	1.06	576	0.0	0.0	N	0.923	25.1	1.31	0.368
S	R2	1	Dominant	545	1.06	576	0.0	0.0	N	0.923	25.1	1.31	0.368

Roundabout Capacity Model: SIDRA Standard

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters  
Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
				Headway sec				Headway sec	Dist ft	Headway sec
South: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Subdominant	2.00	0.267	Y	1.07	4.43	149.5	2.77
N	T1	1	Subdominant	2.00	0.267	Y	1.07	4.43	149.5	2.77
N	T1	2	Dominant	2.00	0.267	Y	1.07	4.33	146.3	2.70
E	R2	2	Dominant	2.00	0.267	Y	1.07	4.33	146.3	2.70
East: 40th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	1.25	0.456	N	1.02	4.10	135.3	2.82
W	T1	1	Dominant	1.25	0.456	N	1.02	4.10	135.3	2.82
N	R2	1	Dominant	1.25	0.456	N	1.02	4.10	135.3	2.82
North: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Subdominant	2.00	0.575	Y	1.07	4.02	122.7	2.72
S	T1	1	Subdominant	2.00	0.575	Y	1.07	4.02	122.7	2.72
S	T1	2	Dominant	2.00	0.575	Y	1.07	3.82	116.6	2.58
W	R2	2	Dominant	2.00	0.575	Y	1.07	3.82	116.6	2.58
West: Lakeshore Drive										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	1.31	0.368	N	1.02	4.37	161.0	2.90
E	T1	1	Dominant	1.31	0.368	N	1.02	4.37	161.0	2.90
S	R2	1	Dominant	1.31	0.368	N	1.02	4.37	161.0	2.90

-----  
 Roundabout Capacity Model: SIDRA Standard  
 Priority sharing means Follow-up Headway plus Intra-bunch Headway  
 is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two  
 successive vehicles across all lanes in the circulating  
 or exiting stream

[Go to Table Links \(Top\)](#)

### Roundabout Flow Rates

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
 Roundabout

#### CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		Percent
	veh/h	pcu/h	
-----			
South: SR 53			
1	0	0	0.0%
2	248	255	100.0%
Total	248	255	
-----			
East: 40th Avenue			
1	504	535	67.5%
2	241	258	32.5%
Total	745	793	
-----			
North: SR 53			
1	0	0	0.0%
2	655	686	100.0%
Total	655	686	
-----			
West: Lakeshore Drive			
1	392	412	71.6%
2	153	164	28.4%
Total	545	576	
-----			

The SIDRA Standard roundabout capacity model option is in use.  
 This model takes into account the total circulating flow as well as the effect  
 of flow distribution in circulating lanes on the entry capacity results.

#### APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
-----			
South: SR 53			
1	0	421	421
2	190	242	432
Total	190	663	853
-----			
East: 40th Avenue			
1	75	301	376
Total	75	301	376
-----			
North: SR 53			
1	0	256	256
2	121	153	274
Total	121	409	530
-----			
West: Lakeshore Drive			
1	476	198	674
Total	476	198	674
-----			

[Go to Table Links \(Top\)](#)

### Movements



Intersection Negotiation and Travel Data  
Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

From Approach	To Exit	Turn	Running Speed mph	Travel Speed mph	Travel Distance ft	Travel Time s	Total Dem Flows veh-mi/h	Travel Distance Arv Flows veh-mi/h	Tot.Trav. Time veh-h/h
-----									
South: SR 53									
	West	L2	34.4	30.7	2319.6#	51.5#	155.7	155.7	5.1
	North	T1	38.1	34.6	2785.3#	54.8#	162.3	162.3	4.7
	East	R2	35.2	31.6	2148.5#	46.4#	77.4	77.4	2.4
-----									
East: 40th Avenue									
	South	L2	31.1	26.3	2228.1#	57.9#	57.3	57.3	2.2
	West	T1	30.5	25.8	2228.1#	58.8#	69.7	69.7	2.7
	North	R2	30.9	27.0	2828.1#	71.4#	40.2	40.2	1.5
-----									
North: SR 53									
	East	L2	39.1	35.2	2829.0#	54.8#	26.8	26.8	0.8
	South	T1	38.9	35.1	2794.6#	54.3#	189.9	189.9	5.4
	West	R2	37.3	34.0	2748.5#	55.2#	62.8	62.8	1.8
-----									
West: Lakeshore Drive									
	North	L2	27.4	20.3	2733.8#	92.0#	43.3	43.3	2.1
	East	T1	24.7	17.5	2133.8#	83.0#	46.1	46.1	2.6
	South	R2	23.7	17.0	2133.8#	85.5#	192.4	192.4	11.3
-----									
ALL VEHICLES:			32.5	26.3	2440.5#	63.2#	1123.9	1123.9	42.7
-----									

"Running Speed" is the average speed excluding stopped periods.

Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.

# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.

INTERSECTION NEGOTIATION DATA

From Approach	To Exit	Turn	Negn Radius ft	Negn Speed mph	Negn Dist ft	App Dist ft	Exit Dist ft	Downstr Dist ft
-----								
South: SR 53								
	West	L2	87.0	18.2	341.6	1000	305	NA
	North	T1	292.3	28.7	201.6	1000	488	NA
	East	R2	175.6	23.7	81.1	1000	305	NA
-----								
East: 40th Avenue								
	South	L2	87.0	18.2	341.6	1000	305	NA
	West	T1	292.3	28.7	201.6	1000	305	NA
	North	R2	188.6	24.3	81.0	1000	488	NA
-----								
North: SR 53								
	East	L2	87.0	18.2	341.6	1600	305	NA
	South	T1	292.3	28.7	201.6	1600	305	NA
	West	R2	175.6	23.7	81.1	1600	305	NA
-----								
West: Lakeshore Drive								
	North	L2	87.0	18.2	341.6	1000	488	NA
	East	T1	292.3	28.7	201.6	1000	305	NA
	South	R2	188.6	24.3	81.0	1000	305	NA
-----								

Maximum Negotiation (Design) Speed = 30.0 mph

NA Downstream Distance does not apply if:

- Exit is an internal leg of a network
- "Program" option was specified
- Distance specified was less than the Exit Negotiation Distance
- Distance specified was greater than the exit leg length

## MOVEMENT SPEEDS AND GEOMETRIC DELAY

Mov ID	Turn	App. Speeds		Exit Speeds		Queue	Geom Delay sec
		Cruise mph	Negn mph	Negn mph	Cruise mph	Move-up Speed mph	
-----							
South: SR 53							
3	L2	55.0	18.2	18.2	40.0	28.0	0.0
8	T1	55.0	28.7	28.7	40.0	28.2	0.0
18	R2	55.0	23.7	23.7	40.0	28.3	0.0
-----							
East: 40th Avenue							
1	L2	35.0	18.2	18.2	40.0	17.6	0.0
6	T1	35.0	28.7	28.7	40.0	17.6	0.0
16	R2	35.0	24.3	24.3	40.0	17.6	0.0
-----							
North: SR 53							
7	L2	55.0	18.2	18.2	40.0	20.0	0.0
4	T1	55.0	28.7	28.7	40.0	20.2	0.0
14	R2	55.0	23.7	23.7	40.0	20.5	0.0
-----							
West: Lakeshore Drive							
5	L2	30.0	18.2	18.2	40.0	19.3	0.0
2	T1	30.0	28.7	28.7	40.0	19.3	0.0
12	R2	30.0	24.3	24.3	40.0	19.3	0.0

HCM Delay Formula option used: Geometric Delay is not included in Control Delay.

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## Movement Capacity and Performance Parameters

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

## MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
-----									
South: SR 53									
3	L2	#	354	248	255	839	0.85	101	0.422
8	T1	#	308	248	255	728	0.85	101	0.422
18	R2	#	190	248	255	450	0.85	101	0.422
-----									
East: 40th Avenue									
1	L2	#	136	746	794	234	0.85	46	0.581
6	T1	#	165	746	794	284	0.85	46	0.581
16	R2	#	75	746	794	129	0.85	46	0.581
-----									
North: SR 53									
7	L2	#	50	655	686	135	0.85	129	0.371
4	T1	#	359	655	686	968	0.85	129	0.371
14	R2	#	121	655	686	326	0.85	129	0.371
-----									
West: Lakeshore Drive									
5	L2	#	84	545	576	91	0.85	-8	0.924*
2	T1	#	114	545	576	124	0.85	-8	0.924*
12	R2	#	476	545	576	516	0.85	-8	0.924*

\* Maximum degree of saturation

# Combined Movement Capacity parameters are shown for all Movement Classes.

## MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
-----										

South: SR 53

3	L2	0.82	0.99	8.4	0.41	145.8	6.69	155.7	5.1	30.7
8	T1	0.70	0.84	8.2	0.41	125.3	6.59	162.3	4.7	34.6
18	R2	0.43	0.52	8.2	0.41	77.2	4.51	77.4	2.4	31.6
-----										
East: 40th Avenue										
1	L2	0.60	0.72	15.9	0.95	129.1	6.60	57.3	2.2	26.3
6	T1	0.73	0.88	15.9	0.95	157.0	7.24	69.7	2.7	25.8
16	R2	0.33	0.40	15.9	0.95	71.3	5.52	40.2	1.5	27.0
-----										
North: SR 53										
7	L2	0.14	0.17	10.1	0.71	35.4	2.56	26.8	0.8	35.2
4	T1	0.99	1.19	9.9	0.70	251.7	7.59	189.9	5.4	35.1
14	R2	0.32	0.39	9.6	0.69	83.7	3.71	62.8	1.8	34.0
-----										
West: Lakeshore Drive										
5	L2	0.95	1.14	40.8	1.89	158.0	20.92	43.3	2.1	20.3
2	T1	1.29	1.55	40.8	1.89	215.5	21.68	46.1	2.6	17.5
12	R2	5.40	6.48	40.8	1.89	899.0	34.45	192.4	11.3	17.0
-----										

[Go to Table Links \(Top\)](#)

### Fuel Consumption, Emissions and Cost Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

#### FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
-----							
South: SR 53							
3	L2	107.08	9.5	86.1	0.10	0.008	0.235
8	T1	73.19	8.0	72.8	0.09	0.006	0.199
18	R2	40.60	4.1	36.8	0.04	0.003	0.107
		220.87	21.7	195.7	0.23	0.018	0.541
-----							
East: 40th Avenue							
1	L2	39.51	3.0	27.1	0.03	0.002	0.033
6	T1	48.05	3.7	32.9	0.04	0.003	0.041
16	R2	22.19	1.9	16.9	0.02	0.002	0.020
		109.75	8.6	76.9	0.08	0.007	0.094
-----							
North: SR 53							
7	L2	14.39	1.4	12.3	0.02	0.001	0.034
4	T1	100.66	9.7	87.2	0.12	0.008	0.243
14	R2	32.69	3.2	28.7	0.04	0.003	0.081
		147.75	14.2	128.2	0.17	0.012	0.359
-----							
West: Lakeshore Drive							
5	L2	33.33	2.3	20.9	0.02	0.002	0.025
2	T1	44.87	2.9	25.5	0.03	0.002	0.031
12	R2	187.16	11.9	106.4	0.11	0.010	0.131
		265.36	17.1	152.9	0.15	0.015	0.187
		743.74	61.6	553.7	0.64	0.052	1.181
-----							
INTERSECTION:		743.74	61.6	553.7	0.64	0.052	1.181
-----							

#### FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
-----							
South: SR 53							
3	L2	0.69	16.3	343.7	0.39	0.032	0.939
8	T1	0.45	20.2	278.7	0.33	0.025	0.763
18	R2	0.52	19.0	295.7	0.35	0.027	0.857
-----							

		0.56	18.2	307.6	0.36	0.028	0.851
-----							
East: 40th Avenue							
1	L2	0.69	18.9	293.3	0.32	0.027	0.361
6	T1	0.69	18.9	293.3	0.32	0.027	0.361
16	R2	0.55	21.2	262.1	0.30	0.024	0.310
-----							
		0.66	19.4	285.8	0.31	0.026	0.349
-----							
North: SR 53							
7	L2	0.54	19.6	286.3	0.39	0.027	0.794
4	T1	0.53	19.6	285.2	0.39	0.027	0.797
14	R2	0.52	19.8	283.8	0.39	0.027	0.801
-----							
		0.53	19.7	285.0	0.39	0.027	0.797
-----							
West: Lakeshore Drive							
5	L2	0.77	18.5	300.2	0.32	0.028	0.357
2	T1	0.97	16.2	343.6	0.35	0.033	0.423
12	R2	0.97	16.2	343.6	0.35	0.033	0.423
-----							
		0.94	16.5	337.0	0.34	0.032	0.413
-----							
INTERSECTION:		0.66	18.2	306.1	0.35	0.028	0.653
-----							

[Go to Table Links \(Top\)](#)

## Lanes

### Lane Performance and Capacity Information Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

#### LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Queue		Lane Length ft
						95% Back veh	ft	
-----								
South: SR 53								
1	421	996	0.422	8.4	0.41	2.8	72.9	1000.0
2	432	1022	0.422	8.2	0.41	2.8	73.5	1000.0
-----								
East: 40th Avenue								
1	376	647	0.581	15.9	0.95	4.5	115.1	1000.0
-----								
North: SR 53								
1	256	690	0.371	10.1	0.71	2.2	57.1	1600.0
2	274	739	0.371	9.6	0.69	2.2	58.3	1600.0
-----								
West: Lakeshore Drive								
1	674	730	0.924	40.8	1.89	21.9	557.0	1000.0
-----								

#### LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: SR 53					
1	421	150	996	0.422	100
2	432	150	1022	0.422	100
-----					
East: 40th Avenue					
1	376	150	647	0.581	100
-----					
North: SR 53					
1	256	150	690	0.371	100
2	274	150	739	0.371	100

```

-----
West: Lakeshore Drive
1      674      150      730      0.924      100
-----

```

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

[Go to Table Links \(Top\)](#)

### Lane, Approach and Intersection Performance

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

```

-----
Lane   Arrival   Adj.   Deg   Aver.   Longest   Lane
No.    Flow      Basic Sat   Delay  Queue    Length
      (veh/h)  Satf.  x     sec    ft       ft
-----
South: SR 53
1      421        7      0.422  8.4     73      1000
2      432        7      0.422  8.2     73      1000
-----
      852        7      0.422  8.3     73
-----
East: 40th Avenue
1      376        2      0.581  15.9    115     1000
-----
      376        2      0.581  15.9    115
-----
North: SR 53
1      256        7      0.371  10.1    57      1600
2      274        7      0.371  9.6     58      1600
-----
      529        7      0.371  9.9     58
-----
West: Lakeshore Drive
1      674        2      0.924  40.8    557     1000
-----
      674        2      0.924  40.8    557
-----
=====
ALL VEHICLES
      Total   %      Max   Aver.   Max
      Flow   HV      X     Delay  Queue
      2432   5      0.924  18.8   557
=====

```

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)  
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

[Go to Table Links \(Top\)](#)

### Driver Characteristics

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

```

-----
Lane   Satn   Satn   Satn   Satn   Average   Driver
No.    Speed Flow Hdwy  Spacing Queue  Response
      mph  veh/h  sec   ft     Space  Time
-----
South: SR 53
1      19.8  1302   2.77   80.36  26.40   1.86
2      26.5  1331   2.70  105.07  26.40   2.02
-----
East: 40th Avenue
1      24.0  1278   2.82   99.27  25.40   2.10
-----
North: SR 53
1      26.6  1324   2.72  106.20  26.40   2.04
2      26.5  1394   2.58  100.33  26.40   1.90
-----

```

```

-----
West: Lakeshore Drive
1      24.3  1241    2.90  103.39   25.40    2.19
-----
    
```

Saturation Flow and Saturation Headway are derived from follow-up headway.

[Go to Table Links \(Top\)](#)

Lane Delays

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

LANE DELAYS

```

-----
                                Delay (seconds/veh)
-----
Lane   Deg.  % Arv  Prog.  Min  Stop-line Delay  Acc.  Queuing  Stopd
No.    Satn  During Factor  Del  1st  2nd Total  Dec.  Total MvUp (Idle) Geom Control
-----
                                dm  dl  d2  dSL  dn  dq  dqm  di  dig  dic
-----
South: SR 53
1      0.422  NA     NA     3.6  5.7  2.6  8.4  5.0  5.6  0.0  5.6  0.0  8.4
2      0.422  NA     NA     3.5  5.6  2.6  8.2  6.3  4.7  0.0  4.7  0.0  8.2
-----
East: 40th Avenue
1      0.581  NA     NA     5.6  8.5  7.4  15.9  5.3  11.8  2.8  9.1  0.0  15.9
-----
North: SR 53
1      0.371  NA     NA     5.3  7.1  3.0  10.1  6.3  5.5  0.0  5.5  0.0  10.1
2      0.371  NA     NA     4.9  6.8  2.8  9.6  6.3  5.0  0.0  5.0  0.0  9.6
-----
West: Lakeshore Drive
1      0.924  NA     NA     5.0  9.6  31.2  40.8  5.2  35.6  11.6  24.0  0.0  40.8
-----
    
```

HCM Delay Formula option used (Exclude Geometric Delay option applies). Control Delay does not include Geometric Delay, and Stop-line Delay is treated as being same as Control Delay.  
 dm: Minimum delay for gap acceptance cases  
 dSL: Stop-line delay (=dl+d2)  
 dn: Average stop-start delay for all vehicles queued and unqueued  
 dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)  
 dqm: Queue move-up delay  
 di: Stopped delay (stopped (idling) time at near-zero speed)  
 dig: Geometric delay  
 dic: Control delay

[Go to Table Links \(Top\)](#)

Lane Queues

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

BACK OF QUEUE (VEHICLES)

```

-----
                                Back of Queue (veh)
-----
Lane   Deg.  % Arv  Prog.  Ovrfl.  Back of Queue (veh)  Queue Stor.  Prob.  Prob.
No.    Satn  During Factor  Queue  Nbl  Nb2  Nb  95%  Ratio  Block  SL Ov.
-----
                                No  Nbl  Nb2  Nb  95%  Av.  95%  %  %
-----
South: SR 53
1      0.422  NA     NA     0.0  1.1  0.0  1.1  2.8  0.03  0.07  0.0  NA
2      0.422  NA     NA     0.0  1.1  0.0  1.1  2.8  0.03  0.07  0.0  NA
-----
East: 40th Avenue
1      0.581  NA     NA     0.5  1.3  0.6  1.8  4.5  0.05  0.12  0.0  NA
-----
North: SR 53
1      0.371  NA     NA     0.0  0.9  0.0  0.9  2.2  0.01  0.04  0.0  NA
2      0.371  NA     NA     0.0  0.9  0.0  0.9  2.2  0.01  0.04  0.0  NA
-----
    
```

West: Lakeshore Drive

1	0.924	NA	NA	4.4	3.0	5.8	8.8	21.9	0.22	0.56	0.0	NA
---	-------	----	----	-----	-----	-----	-----	------	------	------	-----	----

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.422	NA	NA	0.0	29.4	0.0	29.4	72.9	0.03	0.07	0.0	NA
2	0.422	NA	NA	0.0	29.6	0.0	29.6	73.5	0.03	0.07	0.0	NA
East: 40th Avenue												
1	0.581	NA	NA	13.0	32.1	14.2	46.3	115.1	0.05	0.12	0.0	NA
North: SR 53												
1	0.371	NA	NA	0.1	22.9	0.1	23.0	57.1	0.01	0.04	0.0	NA
2	0.371	NA	NA	0.0	23.5	0.0	23.5	58.3	0.01	0.04	0.0	NA
West: Lakeshore Drive												
1	0.924	NA	NA	112.3	76.1	148.0	224.1	557.0	0.22	0.56	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.422	NA	NA	0.0	1.0	1.8
2	0.422	NA	NA	0.0	1.0	1.8
East: 40th Avenue						
1	0.581	NA	NA	0.5	1.7	3.0
North: SR 53						
1	0.371	NA	NA	0.0	0.7	1.3
2	0.371	NA	NA	0.0	0.7	1.3
West: Lakeshore Drive						
1	0.924	NA	NA	4.4	7.6	13.9

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation. (i.e. HCM delays are treated as stop-line delays for this purpose).

## OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.422	NA	NA	0.0	25.8	46.8
2	0.422	NA	NA	0.0	25.9	47.1
East: 40th Avenue						
1	0.581	NA	NA	13.0	42.3	76.7
North: SR 53						
1	0.371	NA	NA	0.1	19.0	34.5
2	0.371	NA	NA	0.0	19.3	34.9
West: Lakeshore Drive						
1	0.924	NA	NA	112.3	194.0	352.0

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation.  
(i.e. HCM delays are treated as stop-line delays for this purpose).

[Go to Table Links \(Top\)](#)

### Lane Queue Percentiles

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

#### LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%
-----								
South: SR 53								
1	0.422	1.1	1.4	2.0	2.3	2.8	3.1	3.3
2	0.422	1.1	1.4	2.0	2.4	2.8	3.1	3.3
-----								
East: 40th Avenue								
1	0.581	1.8	2.4	3.3	3.9	4.5	5.0	5.4
-----								
North: SR 53								
1	0.371	0.9	1.1	1.6	1.8	2.2	2.4	2.6
2	0.371	0.9	1.2	1.6	1.9	2.2	2.5	2.6
-----								
West: Lakeshore Drive								
1	0.924	8.8	11.4	16.1	18.6	21.9	24.3	26.2
-----								

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

#### LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%
-----								
South: SR 53								
1	0.422	29.3	38.0	53.6	62.0	72.9	81.0	87.0
2	0.422	29.5	38.3	53.9	62.5	73.5	81.5	87.6
-----								
East: 40th Avenue								
1	0.581	46.3	59.9	84.5	97.8	115.1	127.7	137.3
-----								
North: SR 53								
1	0.371	23.0	29.7	41.9	48.5	57.1	63.4	68.1
2	0.371	23.5	30.4	42.8	49.6	58.3	64.8	69.6
-----								
West: Lakeshore Drive								
1	0.924	224.0	290.2	409.1	473.7	557.0	618.2	664.6
-----								

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

[Go to Table Links \(Top\)](#)

### Lane Stops

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	-- Effective Stop Rate --				Total Stops H	Queue Move-up Rate hqm	Total Queue Move-ups Hqm	Prop. Queued pq	Aver. Num. of Cycles to Depart
				he1	he2	geom. hig	Overall h					
-----												
South: SR 53												
1	0.422	NA	NA	0.41	0.00	0.00	0.41	173.1	0.00	0.0	0.55	0.55
-----												



2	0.422	NA	NA	0.41	0.00	0.00	0.41	175.3	0.00	0.0	0.55	0.55
-----												
East: 40th Avenue												
1	0.581	NA	NA	0.78	0.18	0.00	0.95	357.5	0.46	173.0	0.78	1.24
-----												
North: SR 53												
1	0.371	NA	NA	0.71	0.00	0.00	0.71	180.9	0.00	0.6	0.73	0.73
2	0.371	NA	NA	0.69	0.00	0.00	0.69	189.9	0.00	0.0	0.73	0.73
-----												
West: Lakeshore Drive												
1	0.924	NA	NA	1.00	0.89	0.00	1.89	1272.5	1.90	1281.1	1.00	2.90
-----												
hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

[Go to Table Links \(Top\)](#)

## Flow Rates

### Origin-Destination Flow Rates (Total)

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

TOTAL FLOW RATES for All Movement Classes (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	354.3	307.6	190.2	852.2
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	135.9	165.2	75.0	376.1
%HV (all designations)	2.0	2.0	2.0	2.0
-----				
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	50.0	358.7	120.7	529.3
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	83.7	114.1	476.1	673.9
%HV (all designations)	2.0	2.0	2.0	2.0
-----				

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

### Origin-Destination Flow Rates by Movement Class

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

FLOW RATES for Light Vehicles (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	329.5	286.1	176.9	792.5
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
-----				

From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	133.2	161.9	73.5	368.6
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	46.5	333.6	112.2	492.3
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	82.0	111.8	466.6	660.4
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

## FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:				
Turn:	W	N	E	TOT
	L2	T1	R2	
Flow Rate	24.8	21.5	13.3	59.7
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	2.7	3.3	1.5	7.5
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	3.5	25.1	8.4	37.1
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	1.7	2.3	9.5	13.5
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
Unit Time for Volumes = 60 minutes  
Peak Flow Period = 15 minutes  
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Lane Flow Rates  
Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
Roundabout

## LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	N	E	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	329.5	61.6	*	391.1
HV	24.8	4.6	*	29.4
Total	354.3	66.2	*	420.6
Lane 2				
LV	*	224.5	176.9	401.4
HV	*	16.9	13.3	30.2
Total	*	241.4	190.2	431.6
-----				
Approach	354.3	307.6	190.2	852.2
-----				
From EAST To:	S	W	N	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	133.2	161.9	73.5	368.6
HV	2.7	3.3	1.5	7.5
Total	135.9	165.2	75.0	376.1
-----				
Approach	135.9	165.2	75.0	376.1
-----				
From NORTH To:	E	S	W	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	46.5	191.2	*	237.7
HV	3.5	14.4	*	17.9
Total	50.0	205.6	*	255.6
Lane 2				
LV	*	142.4	112.2	254.6
HV	*	10.7	8.4	19.2
Total	*	153.1	120.7	273.7
-----				
Approach	50.0	358.7	120.7	529.3
-----				
From WEST To:	N	E	S	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	82.0	111.8	466.6	660.4
HV	1.7	2.3	9.5	13.5
Total	83.7	114.1	476.1	673.9
-----				
Approach	83.7	114.1	476.1	673.9

\* Movement not allocated to the lane

## EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
-----			
Exit: SOUTH			
Lane: 1	324.4	17.1	341.5
Lane: 2	608.9	20.2	629.2
Total	933.3	37.3	970.7
-----			
Exit: EAST			
Lane: 1	335.2	19.1	354.3
Total	335.2	19.1	354.3
-----			
Exit: NORTH			
Lane: 1	143.6	6.3	149.9
Lane: 2	298.0	18.4	316.4
Total	441.6	24.7	466.3
-----			
Exit: WEST			
Lane: 1	603.7	36.6	640.2
Total	603.7	36.6	640.2
-----			

\* Movement not allocated to the lane

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

Movement Class:	LV	HV	TOT
-----			
Exit: SOUTH			
Lane: 1	324.4	17.1	341.5
Lane: 2	608.9	20.2	629.2
Total	933.3	37.3	970.7
-----			
Exit: EAST			
Lane: 1	335.2	19.1	354.3
Total	335.2	19.1	354.3
-----			
Exit: NORTH			
Lane: 1	143.6	6.3	149.9
Lane: 2	298.0	18.4	316.4
Total	441.6	24.7	466.3
-----			
Exit: WEST			
Lane: 1	603.7	36.6	640.2
Total	603.7	36.6	640.2
-----			

\* Movement not allocated to the lane

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

## Other

### Parameter Settings Summary

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
 Roundabout

\* Basic Parameters:  
 Intersection Type: Roundabout  
 Driving on the right-hand side of the road  
 Input data specified in US units  
 Model Defaults: US HCM (Customary)  
 Peak Flow Period (for performance): 15 minutes  
 Unit time (for volumes): 60 minutes.  
 HCM Delay Model option used  
 HCM Queue Model option used  
 Level of Service based on: Delay and v/c (HCM 6)  
 Queue percentile: 95%

[Go to Table Links \(Top\)](#)

### Diagnostics

Site: SR 53/ 40th Ave\_2030 AM

Site ID: 1  
 Roundabout

#### Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 2.3%  
 Number of Iterations: 6 (Maximum: 10)  
 Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:  
 2.9% 1.6% 0.8%

Other Diagnostic Messages (if any):

[Go to Table Links \(Top\)](#)

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 2:12:27 PM  
Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS  
Analysis\Sidra\Roundabout@40th Avenue\Sidra Model\Two Lane\40th Ave.sip8

# LANE SUMMARY

 **Site: 1 [SR 53/ 40th Ave\_2030 PM]**

Lake County SR 53 Corridor Study  
 2030 AM  
 Site Category: (None)  
 Roundabout

Lane Use and Performance													
	Demand Flows			Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	Total veh/h	HV %	Cap. veh/h					Veh	Dist ft				
South: SR 53													
Lane 1	564	7.0	865	0.652	100	14.9	LOS B	8.2	217.0	Full	1000	0.0	0.0
Lane 2 <sup>d</sup>	590	7.0	905	0.652	100	14.4	LOS B	8.3	219.3	Full	1000	0.0	0.0
Approach	1154	7.0		0.652		14.6	LOS B	8.3	219.3				
East: 40th Avenue													
Lane 1 <sup>d</sup>	417	2.0	482	0.867	100	43.6	LOS D	11.1	282.5	Full	1000	0.0	0.0
Approach	417	2.0		0.867		43.6	LOS D	11.1	282.5				
North: SR 53													
Lane 1	302	7.0	544	0.555	100	17.4	LOS B	4.8	127.5	Full	1600	0.0	0.0
Lane 2 <sup>d</sup>	338	7.0	609	0.555	100	15.9	LOS B	5.1	133.4	Full	1600	0.0	0.0
Approach	640	7.0		0.555		16.6	LOS B	5.1	133.4				
West: Lakeshore Drive													
Lane 1 <sup>d</sup>	828	2.0	680	1.218	100	132.3	LOS F	70.8	1797.4	Full	1000	0.0	26.6
Approach	828	2.0		1.218		132.3	LOS F	70.8	1797.4				
Intersection	3040	5.0		1.218		51.1	LOS D	70.8	1797.4				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>d</sup> Dominant lane on roundabout approach

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 2:14:08 PM

Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS Analysis\Sidra\Roundabout@40th Avenue\Sidra Model\Two Lane\40th Ave.sip8

**DETAILED OUTPUT**
 **Site: 1 [SR 53/ 40th Ave\_2030 PM]**

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

**OUTPUT TABLE LINKS**

-  Roundabouts
  - Roundabout Basic Parameters
  - Roundabout Circulating / Exiting Stream Parameters
  - Roundabout Gap Acceptance Parameters
  - Roundabout Flow Rates
-  Movements
  - Intersection Negotiation and Travel Data
  - Movement Capacity and Performance Parameters
  - Fuel Consumption, Emissions and Cost
-  Lanes
  - Lane Performance and Capacity Information
  - Lane, Approach and Intersection Performance
  - Driver Characteristics
  - Lane Delays
  - Lane Queues
  - Lane Queue Percentiles
  - Lane Stops
-  Flow Rates
  - Origin-Destination Flow Rates (Total)
  - Origin-Destination Flow Rates by Movement Class
  - Lane Flow Rates
-  Other
  - Parameter Settings Summary
  - Diagnostics

**Roundabouts**

Roundabout Basic Parameters  
Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av. Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %
-----											
South: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	1000		NA	0.0N
-----											
East: 40th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	1000		NA	0.0N
-----											
North: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	1600		NA	0.0N
-----											
West: Lakeshore Drive											
150.0	30.0	210.0	100.0	30.0	1	1	13.00	1000		NA	0.0N
-----											

Roundabout Capacity Model: SIDRA Standard

NA Not Applicable (single Site analysis or unconnected Site in Network analysis).

N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).

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Roundabout Circulating / Exiting Stream Parameters  
Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: SR 53													
W	L2	1	Subdominant	384	1.03	396	0.0	0.0	N	0.924	24.3	2.00	0.383
N	T1	1	Subdominant	384	1.03	396	0.0	0.0	N	0.924	24.3	2.00	0.383
N	T1	2	Dominant	384	1.03	396	0.0	0.0	Y	0.924	24.3	2.00	0.383
E	R2	2	Dominant	384	1.03	396	0.0	0.0	Y	0.924	24.3	2.00	0.383
East: 40th Avenue													
S	L2	1	Dominant	1067	1.07	1137	0.0	0.0	Y	0.767	23.0	1.16	0.561
W	T1	1	Dominant	1067	1.07	1137	0.0	0.0	Y	0.767	23.0	1.16	0.561
N	R2	1	Dominant	1067	1.07	1137	0.0	0.0	Y	0.767	23.0	1.16	0.561
North: SR 53													
E	L2	1	Subdominant	826	1.05	867	0.0	0.0	N	0.850	21.2	2.00	0.671
S	T1	1	Subdominant	826	1.05	867	0.0	0.0	N	0.850	21.2	2.00	0.671
S	T1	2	Dominant	826	1.05	867	0.0	0.0	N	0.850	21.2	2.00	0.671
W	R2	2	Dominant	826	1.05	867	0.0	0.0	N	0.850	21.2	2.00	0.671
West: Lakeshore Drive													
N	L2	1	Dominant	657	1.06	697	0.0	0.0	N	0.868	25.6	2.00	0.582
E	T1	1	Dominant	657	1.06	697	0.0	0.0	N	0.868	25.6	2.00	0.582
S	R2	1	Dominant	657	1.06	697	0.0	0.0	N	0.868	25.6	2.00	0.582

Roundabout Capacity Model: SIDRA Standard

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters  
Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
				Headway sec				Headway sec	Dist ft	Headway sec
South: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Subdominant	2.00	0.383	Y	1.07	4.28	152.3	2.74
N	T1	1	Subdominant	2.00	0.383	Y	1.07	4.28	152.3	2.74
N	T1	2	Dominant	2.00	0.383	Y	1.07	4.13	146.9	2.65
E	R2	2	Dominant	2.00	0.383	Y	1.07	4.13	146.9	2.65
East: 40th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	1.16	0.561	Y	1.02	3.73	126.2	2.69
W	T1	1	Dominant	1.16	0.561	Y	1.02	3.73	126.2	2.69
N	R2	1	Dominant	1.16	0.561	Y	1.02	3.73	126.2	2.69
North: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Subdominant	2.00	0.671	Y	1.07	3.84	119.2	2.67
S	T1	1	Subdominant	2.00	0.671	Y	1.07	3.84	119.2	2.67
S	T1	2	Dominant	2.00	0.671	Y	1.07	3.54	110.0	2.46
W	R2	2	Dominant	2.00	0.671	Y	1.07	3.54	110.0	2.46
West: Lakeshore Drive										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	2.00	0.582	Y	1.02	4.27	160.3	2.43
E	T1	1	Dominant	2.00	0.582	Y	1.02	4.27	160.3	2.43
S	R2	1	Dominant	2.00	0.582	Y	1.02	4.27	160.3	2.43



-----  
 Roundabout Capacity Model: SIDRA Standard  
 Priority sharing means Follow-up Headway plus Intra-bunch Headway  
 is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two  
 successive vehicles across all lanes in the circulating  
 or exiting stream

[Go to Table Links \(Top\)](#)

### Roundabout Flow Rates

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
 Roundabout

#### CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		
	veh/h	pcu/h	Percent
-----			
South: SR 53			
1	0	0	0.0%
2	384	396	100.0%
Total	384	396	
-----			
East: 40th Avenue			
1	653	694	61.0%
2	414	443	39.0%
Total	1067	1137	
-----			
North: SR 53			
1	0	0	0.0%
2	826	867	100.0%
Total	826	867	
-----			
West: Lakeshore Drive			
1	657	697	100.0%
Total	657	697	
-----			

The SIDRA Standard roundabout capacity model option is in use.  
 This model takes into account the total circulating flow as well as the effect  
 of flow distribution in circulating lanes on the entry capacity results.

#### APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
-----			
South: SR 53			
1	0	564	564
2	176	414	590
Total	176	978	1154
-----			
East: 40th Avenue			
1	75	342	417
Total	75	342	417
-----			
North: SR 53			
1	0	302	302
2	88	250	338
Total	88	552	640
-----			
West: Lakeshore Drive			
1	473	355	828
Total	473	355	828
-----			

[Go to Table Links \(Top\)](#)

### Movements

Intersection Negotiation and Travel Data  
Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

From Approach	To Exit	Turn	Running Speed mph	Travel Speed mph	Travel Distance ft	Travel Time s	Total Dem Flows veh-mi/h	Travel Distance Arv Flows veh-mi/h	Tot.Trav. Time veh-h/h
-----									
South: SR 53									
	West	L2	31.4	27.2	2321.7#	58.2#	212.7	212.7	7.8
	North	T1	34.9	31.3	2791.0#	60.8#	261.4	261.4	8.4
	East	R2	31.6	28.0	2165.7#	52.8#	72.2	72.2	2.6
-----									
East: 40th Avenue									
	South	L2	27.4	17.9	2214.9#	84.5#	43.8	43.8	2.5
	West	T1	26.9	17.7	2214.9#	85.5#	99.9	99.9	5.7
	North	R2	27.9	19.6	2814.9#	98.0#	40.0	40.0	2.0
-----									
North: SR 53									
	East	L2	36.3	30.8	2843.4#	63.0#	48.6	48.6	1.6
	South	T1	36.1	31.2	2803.8#	61.3#	245.3	245.3	7.9
	West	R2	34.7	30.6	2770.2#	61.8#	46.2	46.2	1.5
-----									
West: Lakeshore Drive									
	North	L2	20.8	10.2	2750.9#	183.7#	56.1	56.1	5.5
	East	T1	18.1	8.4	2150.9#	174.7#	101.0	101.0	12.0
	South	R2	17.6	8.3	2150.9#	177.3#	192.6	192.6	23.3
-----									
ALL VEHICLES:			28.7	17.6	2465.6#	95.5#	1419.7	1419.7	80.7
-----									

"Running Speed" is the average speed excluding stopped periods.

Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.

# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.

INTERSECTION NEGOTIATION DATA

From Approach	To Exit	Turn	Negn Radius ft	Negn Speed mph	Negn Dist ft	App Dist ft	Exit Dist ft	Downstr Dist ft
-----								
South: SR 53								
	West	L2	87.0	18.2	341.6	1000	305	NA
	North	T1	292.3	28.7	201.6	1000	488	NA
	East	R2	175.6	23.7	81.1	1000	305	NA
-----								
East: 40th Avenue								
	South	L2	87.0	18.2	341.6	1000	305	NA
	West	T1	292.3	28.7	201.6	1000	305	NA
	North	R2	188.6	24.3	81.0	1000	488	NA
-----								
North: SR 53								
	East	L2	87.0	18.2	341.6	1600	305	NA
	South	T1	292.3	28.7	201.6	1600	305	NA
	West	R2	175.6	23.7	81.1	1600	305	NA
-----								
West: Lakeshore Drive								
	North	L2	87.0	18.2	341.6	1000	488	NA
	East	T1	292.3	28.7	201.6	1000	305	NA
	South	R2	188.6	24.3	81.0	1000	305	NA
-----								

Maximum Negotiation (Design) Speed = 30.0 mph

NA Downstream Distance does not apply if:

- Exit is an internal leg of a network
- "Program" option was specified
- Distance specified was less than the Exit Negotiation Distance
- Distance specified was greater than the exit leg length

## MOVEMENT SPEEDS AND GEOMETRIC DELAY

Mov ID	Turn	App. Speeds		Exit Speeds		Queue Move-up Speed mph	Geom Delay sec
		Cruise mph	Negn mph	Negn mph	Cruise mph		
-----							
South: SR 53							
3	L2	55.0	18.2	18.2	40.0	23.8	0.0
8	T1	55.0	28.7	28.7	40.0	24.2	0.0
18	R2	55.0	23.7	23.7	40.0	24.2	0.0
-----							
East: 40th Avenue							
1	L2	35.0	18.2	18.2	40.0	16.0	0.0
6	T1	35.0	28.7	28.7	40.0	16.0	0.0
16	R2	35.0	24.3	24.3	40.0	16.0	0.0
-----							
North: SR 53							
7	L2	55.0	18.2	18.2	40.0	18.9	0.0
4	T1	55.0	28.7	28.7	40.0	19.3	0.0
14	R2	55.0	23.7	23.7	40.0	19.6	0.0
-----							
West: Lakeshore Drive							
5	L2	30.0	18.2	18.2	40.0	20.5	0.0
2	T1	30.0	28.7	28.7	40.0	20.5	0.0
12	R2	30.0	24.3	24.3	40.0	20.5	0.0

HCM Delay Formula option used: Geometric Delay is not included in Control Delay.

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## Movement Capacity and Performance Parameters

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

## MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
-----									
South: SR 53									
3	L2	#	484	384	396	742	0.85	30	0.652
8	T1	#	495	384	396	758	0.85	30	0.652
18	R2	#	176	384	396	270	0.85	30	0.652
-----									
East: 40th Avenue									
1	L2	#	104	1067	1137	120	0.85	-2	0.867
6	T1	#	238	1067	1137	275	0.85	-2	0.867
16	R2	#	75	1067	1137	87	0.85	-2	0.867
-----									
North: SR 53									
7	L2	#	90	826	867	162	0.85	53	0.555
4	T1	#	462	826	867	832	0.85	53	0.555
14	R2	#	88	826	867	159	0.85	53	0.555
-----									
West: Lakeshore Drive									
5	L2	#	108	657	697	88	0.85	-30	1.218*
2	T1	#	248	657	697	203	0.85	-30	1.218*
12	R2	#	473	657	697	388	0.85	-30	1.218*

\* Maximum degree of saturation

# Combined Movement Capacity parameters are shown for all Movement Classes.

## MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
-----										

South: SR 53

3	L2	2.00	2.40	14.9	0.84	408.4	14.75	212.7	7.8	27.2
8	T1	1.99	2.38	14.5	0.83	411.2	15.70	261.4	8.4	31.3
18	R2	0.70	0.84	14.4	0.83	146.0	9.51	72.2	2.6	28.0
-----										
East: 40th Avenue										
1	L2	1.26	1.52	43.6	1.50	156.3	12.34	43.8	2.5	17.9
6	T1	2.89	3.46	43.6	1.50	356.5	16.67	99.9	5.7	17.7
16	R2	0.91	1.09	43.6	1.50	112.3	11.63	40.0	2.0	19.6
-----										
North: SR 53										
7	L2	0.44	0.52	17.4	1.01	90.7	5.71	48.6	1.6	30.8
4	T1	2.12	2.55	16.6	1.01	465.6	13.15	245.3	7.9	31.2
14	R2	0.39	0.47	15.9	1.01	88.9	5.79	46.2	1.5	30.6
-----										
West: Lakeshore Drive										
5	L2	3.95	4.74	132.3	3.59	385.8	64.91	56.1	5.5	10.2
2	T1	9.10	10.93	132.3	3.59	888.5	74.35	101.0	12.0	8.4
12	R2	17.37	20.84	132.3	3.59	1695.2	90.15	192.6	23.3	8.3
-----										

[Go to Table Links \(Top\)](#)

### Fuel Consumption, Emissions and Cost Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

#### FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
-----							
South: SR 53							
3	L2	172.64	14.5	131.1	0.14	0.012	0.358
8	T1	133.86	13.8	125.1	0.15	0.011	0.350
18	R2	43.58	4.1	37.1	0.04	0.003	0.110
		350.08	32.5	293.3	0.33	0.027	0.818
-----							
East: 40th Avenue							
1	L2	41.65	2.6	23.4	0.02	0.002	0.028
6	T1	95.02	6.0	53.5	0.06	0.005	0.064
16	R2	30.32	2.1	18.9	0.02	0.002	0.022
		167.00	10.7	95.8	0.10	0.009	0.113
-----							
North: SR 53							
7	L2	30.48	2.7	24.3	0.03	0.002	0.066
4	T1	146.98	13.3	119.8	0.16	0.012	0.336
14	R2	26.54	2.5	22.1	0.03	0.002	0.064
		204.00	18.4	166.2	0.22	0.016	0.465
-----							
West: Lakeshore Drive							
5	L2	84.84	4.2	37.2	0.04	0.004	0.040
2	T1	194.11	8.9	79.1	0.07	0.008	0.088
12	R2	370.35	16.9	150.9	0.14	0.016	0.167
		649.30	29.9	267.2	0.25	0.029	0.295
		1370.38	91.6	822.6	0.90	0.081	1.691
-----							
INTERSECTION:							
		1370.38	91.6	822.6	0.90	0.081	1.691
-----							

#### FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
-----							
South: SR 53							
3	L2	0.81	14.6	383.0	0.42	0.036	1.045
8	T1	0.51	18.9	297.4	0.35	0.027	0.832
18	R2	0.60	17.6	319.5	0.37	0.030	0.946
-----							

		0.64	16.8	333.6	0.38	0.031	0.930
-----							
East: 40th Avenue							
1	L2	0.95	16.7	332.9	0.35	0.032	0.395
6	T1	0.95	16.7	332.9	0.35	0.032	0.395
16	R2	0.76	19.0	293.0	0.32	0.028	0.337
-----							
		0.91	17.1	324.2	0.34	0.031	0.383
-----							
North: SR 53							
7	L2	0.63	18.0	310.4	0.41	0.030	0.844
4	T1	0.60	18.5	303.6	0.40	0.029	0.850
14	R2	0.57	18.8	297.6	0.40	0.028	0.855
-----							
		0.60	18.4	303.7	0.40	0.029	0.850
-----							
West: Lakeshore Drive							
5	L2	1.51	13.5	412.5	0.40	0.043	0.448
2	T1	1.92	11.4	486.8	0.46	0.052	0.539
12	R2	1.92	11.4	486.8	0.46	0.052	0.539
-----							
		1.86	11.7	474.9	0.45	0.051	0.524
-----							
INTERSECTION:		0.97	15.5	360.0	0.40	0.035	0.740
-----							

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## Lanes

### Lane Performance and Capacity Information Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

#### LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Q u e u e		Lane Length ft
						95% Back veh	ft	
-----								
South: SR 53								
1	564	865	0.652	14.9	0.84	8.2	217.0	1000.0
2	590	905	0.652	14.4	0.83	8.3	219.3	1000.0
-----								
East: 40th Avenue								
1	417	482	0.867	43.6	1.50	11.1	282.5	1000.0
-----								
North: SR 53								
1	302	544	0.555	17.4	1.01	4.8	127.5	1600.0
2	338	609	0.555	15.9	1.01	5.1	133.4	1600.0
-----								
West: Lakeshore Drive								
1	828	680	1.218	132.3	3.59	70.8	1797.4	1000.0
-----								

#### LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: SR 53					
1	564	150	865	0.652	100
2	590	150	905	0.652	100
-----					
East: 40th Avenue					
1	417	150	482	0.867	100
-----					
North: SR 53					
1	302	150	544	0.555	100
2	338	150	609	0.555	100

```

-----
West: Lakeshore Drive
1      828      150      680      1.218      100
-----

```

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

[Go to Table Links \(Top\)](#)

### Lane, Approach and Intersection Performance

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

```

-----
Lane   Arrival   Adj.   Deg   Aver.   Longest   Lane
No.    Flow      Basic Sat   Delay  Queue    Length
      (veh/h)  Satf.  x     sec    ft       ft
-----
South: SR 53
1      564        7      0.652  14.9    217      1000
2      590        7      0.652  14.4    219      1000
-----
      1154      7      0.652  14.6    219
-----
East: 40th Avenue
1      417        2      0.867  43.6    283      1000
-----
      417        2      0.867  43.6    283
-----
North: SR 53
1      302        7      0.555  17.4    127      1600
2      338        7      0.555  15.9    133      1600
-----
      640        7      0.555  16.6    133
-----
West: Lakeshore Drive
1      828        2      1.218  132.3   1797     1000
-----
      828        2      1.218  132.3   1797
-----
=====
ALL VEHICLES
      Total   %      Max   Aver.   Max
      Flow   HV      X     Delay  Queue
      3040   5      1.218  51.1   1797
=====

```

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)  
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

[Go to Table Links \(Top\)](#)

### Driver Characteristics

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

```

-----
Lane   Satn   Satn   Satn   Satn   Average   Driver
No.    Speed Flow Hdwy  Spacing Queue  Response
      mph   veh/h sec   ft     Space  Time
-----
South: SR 53
1      19.7  1312   2.74   79.12  26.40   1.83
2      27.2  1359   2.65  105.67  26.40   1.99
-----
East: 40th Avenue
1      25.3  1340   2.69   99.62  25.40   2.00
-----
North: SR 53
1      25.6  1350   2.67   99.93  26.40   1.96
2      27.4  1464   2.46   98.83  26.40   1.80
-----

```

```

-----
West: Lakeshore Drive
1      24.8  1479    2.43   88.64   25.40   1.74
-----

```

Saturation Flow and Saturation Headway are derived from follow-up headway.

[Go to Table Links \(Top\)](#)

### Lane Delays

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

#### LANE DELAYS

```

-----
                                Delay (seconds/veh)
Lane   Deg.  % Arv  Prog.  Min  Stop-line Delay  Acc.  Queuing  Stopd
No.    Satn  During Factor  Del  1st  2nd Total  Dec.  Total MvUp (Idle) Geom Control
-----
South: SR 53
1      0.652  NA     NA     4.2  7.4  7.5  14.9  5.0  10.9  3.2  7.7  0.0  14.9
2      0.652  NA     NA     4.0  7.2  7.1  14.4  6.6  9.1  3.0  6.1  0.0  14.4
-----
East: 40th Avenue
1      0.867  NA     NA     7.5  11.9  31.8  43.6  5.7  38.2  8.9  29.3  0.0  43.6
-----
North: SR 53
1      0.555  NA     NA     6.7  9.4  7.9  17.4  5.9  12.1  2.6  9.5  0.0  17.4
2      0.555  NA     NA     6.0  8.7  7.1  15.9  6.7  9.8  2.5  7.3  0.0  15.9
-----
West: Lakeshore Drive
1      1.218  NA     NA     5.3  10.3  121.9  132.3  5.4  126.8  33.1  93.7  0.0  132.3
-----

```

HCM Delay Formula option used (Exclude Geometric Delay option applies). Control Delay does not include Geometric Delay, and Stop-line Delay is treated as being same as Control Delay.

dm: Minimum delay for gap acceptance cases

dSL: Stop-line delay (=d1+d2)

dn: Average stop-start delay for all vehicles queued and unqueued

dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)

dqm: Queue move-up delay

di: Stopped delay (stopped (idling) time at near-zero speed)

dig: Geometric delay

dic: Control delay

[Go to Table Links \(Top\)](#)

### Lane Queues

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

#### BACK OF QUEUE (VEHICLES)

```

-----
Lane   Deg.  % Arv  Prog.  Ovrfl.  Back of Queue (veh)  Queue Stor.  Prob.  Prob.
No.    Satn  During Factor  Queue  Nbl  Nb2  Nb  95%  Ratio  95%  Block  SL Ov.
-----
South: SR 53
1      0.652  NA     NA     0.8  2.0  1.3  3.3  8.2  0.09  0.22  0.0  NA
2      0.652  NA     NA     0.8  2.1  1.3  3.3  8.3  0.09  0.22  0.0  NA
-----
East: 40th Avenue
1      0.867  NA     NA     2.3  2.1  2.4  4.5  11.1  0.11  0.28  0.0  NA
-----
North: SR 53
1      0.555  NA     NA     0.4  1.5  0.5  1.9  4.8  0.03  0.08  0.0  NA
2      0.555  NA     NA     0.4  1.6  0.5  2.0  5.1  0.03  0.08  0.0  NA
-----

```

West: Lakeshore Drive

1	1.218	NA	NA	22.0	4.9	23.6	28.5	70.8	0.72	1.80	26.6	NA
---	-------	----	----	------	-----	------	------	------	------	------	------	----

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.652	NA	NA	22.3	53.9	33.4	87.3	217.0	0.09	0.22	0.0	NA
2	0.652	NA	NA	22.0	54.9	33.3	88.3	219.3	0.09	0.22	0.0	NA
East: 40th Avenue												
1	0.867	NA	NA	58.5	52.4	61.3	113.7	282.5	0.11	0.28	0.0	NA
North: SR 53												
1	0.555	NA	NA	11.8	39.3	12.0	51.3	127.5	0.03	0.08	0.0	NA
2	0.555	NA	NA	11.8	41.3	12.4	53.7	133.4	0.03	0.08	0.0	NA
West: Lakeshore Drive												
1	1.218	NA	NA	559.0	124.5	598.7	723.2	1797.4	0.72	1.80	26.6	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.652	NA	NA	0.8	2.3	4.2
2	0.652	NA	NA	0.8	2.4	4.3
East: 40th Avenue						
1	0.867	NA	NA	2.3	5.1	9.2
North: SR 53						
1	0.555	NA	NA	0.4	1.5	2.6
2	0.555	NA	NA	0.4	1.5	2.7
West: Lakeshore Drive						
1	1.218	NA	NA	22.0	30.4	55.2

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation. (i.e. HCM delays are treated as stop-line delays for this purpose).

## OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.652	NA	NA	22.3	61.5	111.6
2	0.652	NA	NA	22.0	62.2	112.9
East: 40th Avenue						
1	0.867	NA	NA	58.5	128.5	233.1
North: SR 53						
1	0.555	NA	NA	11.8	38.5	69.9
2	0.555	NA	NA	11.8	39.3	71.3
West: Lakeshore Drive						
1	1.218	NA	NA	559.0	772.9	1402.0

HCM Delay Formula option used:



Cycle-Average Queue is calculated using average delay from the HCM equation.  
(i.e. HCM delays are treated as stop-line delays for this purpose).

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### Lane Queue Percentiles

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

#### LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%
South: SR 53								
1	0.652	3.3	4.3	6.0	7.0	8.2	9.1	9.8
2	0.652	3.3	4.3	6.1	7.1	8.3	9.2	9.9
East: 40th Avenue								
1	0.867	4.5	5.8	8.2	9.5	11.1	12.3	13.3
North: SR 53								
1	0.555	1.9	2.5	3.5	4.1	4.8	5.4	5.8
2	0.555	2.0	2.6	3.7	4.3	5.1	5.6	6.0
West: Lakeshore Drive								
1	1.218	28.5	36.9	52.0	60.2	70.8	78.5	84.4

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

#### LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%
South: SR 53								
1	0.652	87.3	113.0	159.4	184.5	217.0	240.8	258.9
2	0.652	88.2	114.3	161.1	186.5	219.3	243.4	261.7
East: 40th Avenue								
1	0.867	113.6	147.2	207.5	240.3	282.5	313.6	337.1
North: SR 53								
1	0.555	51.3	66.4	93.6	108.4	127.5	141.5	152.1
2	0.555	53.6	69.5	97.9	113.4	133.4	148.0	159.1
West: Lakeshore Drive								
1	1.218	722.9	936.4	1320.0	1528.5	1797.4	1995.0	2144.5

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

[Go to Table Links \(Top\)](#)

### Lane Stops

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	-- Effective Stop Rate --				Total Stops H	Queue Move-up Rate hqm	Total Queue Move-ups Hqm	Prop. Queued pq	Aver. Num. of Cycles to Depart
				he1	he2	geom. hig	Overall h					
South: SR 53												
1	0.652	NA	NA	0.71	0.14	0.00	0.84	476.2	0.40	223.1	0.80	1.19

2	0.652	NA	NA	0.70	0.13	0.00	0.83	489.4	0.38	223.3	0.79	1.17
-----												
East: 40th Avenue												
1	0.867	NA	NA	0.95	0.55	0.00	1.50	625.0	1.56	652.1	0.95	2.51
-----												
North: SR 53												
1	0.555	NA	NA	0.90	0.11	0.00	1.01	303.9	0.38	114.7	0.90	1.28
2	0.555	NA	NA	0.91	0.10	0.00	1.01	341.3	0.36	120.5	0.91	1.26
-----												
West: Lakeshore Drive												
1	1.218	NA	NA	1.00	2.59	0.00	3.59	2969.5	5.25	4352.4	1.00	6.25
-----												
hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

[Go to Table Links \(Top\)](#)

## Flow Rates

### Origin-Destination Flow Rates (Total)

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

TOTAL FLOW RATES for All Movement Classes (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	483.7	494.6	176.1	1154.3
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	104.3	238.0	75.0	417.4
%HV (all designations)	2.0	2.0	2.0	2.0
-----				
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	90.2	462.0	88.0	640.2
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	107.6	247.8	472.8	828.3
%HV (all designations)	2.0	2.0	2.0	2.0
-----				

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
Unit Time for Volumes = 60 minutes  
Peak Flow Period = 15 minutes  
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

### Origin-Destination Flow Rates by Movement Class

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

FLOW RATES for Light Vehicles (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	449.8	459.9	163.8	1073.5
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
-----				

From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	102.3	233.3	73.5	409.0
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	83.9	429.6	81.9	595.4
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	105.5	242.9	463.4	811.7
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	18.9	43.5	83.0	145.3

## FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:				
Turn:	W	N	E	TOT
	L2	T1	R2	
Flow Rate	33.9	34.6	12.3	80.8
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	2.1	4.8	1.5	8.3
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	6.3	32.3	6.2	44.8
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	2.2	5.0	9.5	16.6
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.4	0.9	1.7	3.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
Unit Time for Volumes = 60 minutes  
Peak Flow Period = 15 minutes  
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Lane Flow Rates  
Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
Roundabout

## LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	N	E	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	449.8	74.7	*	524.6
HV	33.9	5.6	*	39.5
Total	483.7	80.3	*	564.0
Lane 2				
LV	*	385.2	163.8	549.0
HV	*	29.0	12.3	41.3
Total	*	414.2	176.1	590.3
Approach	483.7	494.6	176.1	1154.3
-----				
From EAST To:	S	W	N	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	102.3	233.3	73.5	409.0
HV	2.1	4.8	1.5	8.3
Total	104.3	238.0	75.0	417.4
Approach	104.3	238.0	75.0	417.4
-----				
From NORTH To:	E	S	W	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	83.9	197.2	*	281.1
HV	6.3	14.8	*	21.2
Total	90.2	212.1	*	302.3
Lane 2				
LV	*	232.4	81.9	314.3
HV	*	17.5	6.2	23.7
Total	*	249.9	88.0	337.9
Approach	90.2	462.0	88.0	640.2
-----				
From WEST To:	N	E	S	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	105.5	242.9	463.4	811.7
HV	2.2	5.0	9.5	16.6
Total	107.6	247.8	472.8	828.3
Approach	107.6	247.8	472.8	828.3

\* Movement not allocated to the lane

## EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
-----			
Exit: SOUTH			
Lane: 1	299.5	16.9	316.4
Lane: 2	695.8	26.9	722.7
Total	995.2	43.9	1039.1
-----			
Exit: EAST			
Lane: 1	490.5	23.6	514.1
Total	490.5	23.6	514.1
-----			
Exit: NORTH			
Lane: 1	180.2	7.8	188.0
Lane: 2	458.7	30.5	489.2
Total	638.9	38.3	677.2
-----			
Exit: WEST			
Lane: 1	765.0	44.8	809.8
Total	765.0	44.8	809.8

\* Movement not allocated to the lane

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

```

-----
Movement Class:      LV      HV      TOT
-----
Exit: SOUTH
Lane:  1             299.5   16.9   316.4
Lane:  2             695.8   26.9   722.7
Total                995.2   43.9  1039.1
-----
Exit: EAST
Lane:  1             490.5   23.6   514.1
Total                490.5   23.6   514.1
-----
Exit: NORTH
Lane:  1             180.2    7.8   188.0
Lane:  2             458.7   30.5   489.2
Total                638.9   38.3   677.2
-----
Exit: WEST
Lane:  1             765.0   44.8   809.8
Total                765.0   44.8   809.8
-----

```

\* Movement not allocated to the lane

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

## Other

### Parameter Settings Summary

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
 Roundabout

\* Basic Parameters:  
 Intersection Type: Roundabout  
 Driving on the right-hand side of the road  
 Input data specified in US units  
 Model Defaults: US HCM (Customary)  
 Peak Flow Period (for performance): 15 minutes  
 Unit time (for volumes): 60 minutes.  
 HCM Delay Model option used  
 HCM Queue Model option used  
 Level of Service based on: Delay and v/c (HCM 6)  
 Queue percentile: 95%

[Go to Table Links \(Top\)](#)

### Diagnostics

Site: SR 53/ 40th Ave\_2030 PM

Site ID: 1  
 Roundabout

#### Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 4.7%  
 Number of Iterations: 7 (Maximum: 10)  
 Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:  
 3.6% 1.6% 0.6%

Other Diagnostic Messages (if any):

[Go to Table Links \(Top\)](#)

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 2:14:08 PM  
Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS  
Analysis\Sidra\Roundabout@40th Avenue\Sidra Model\Two Lane\40th Ave.sip8

# LANE SUMMARY

 **Site: 1 [SR 53/18th Ave\_2030 AM]**

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

Lane Use and Performance													
	Demand Flows		Cap.	Deg.	Lane	Average	Level of	95% Back of Queue		Lane	Lane	Cap.	Prob.
	Total	HV	veh/h	Satn	Util.	Delay	Service	Veh	Dist	Config	Length	Adj.	Block.
	veh/h	%	veh/h	v/c	%	sec			ft		ft	%	%
South: SR 53													
Lane 1	499	7.0	1173	0.425	100	7.5	LOS A	2.7	70.1	Full	2500	0.0	0.0
Lane 2 <sup>d</sup>	503	7.0	1183	0.425	100	7.4	LOS A	2.7	70.1	Full	2500	0.0	0.0
Approach	1002	7.0		0.425		7.4	LOS A	2.7	70.1				
East: 18th Avenue													
Lane 1 <sup>d</sup>	180	2.0	621	0.290	100	9.6	LOS A	1.2	30.8	Full	500	0.0	0.0
Approach	180	2.0		0.290		9.6	LOS A	1.2	30.8				
North: SR 53													
Lane 1	561	7.0	1172	0.479	100	8.3	LOS A	3.5	92.9	Full	5000	0.0	0.0
Lane 2 <sup>d</sup>	565	7.0	1181	0.479	100	8.2	LOS A	3.5	93.0	Full	5000	0.0	0.0
Approach	1126	7.0		0.479		8.2	LOS A	3.5	93.0				
West: 18th Avenue													
Lane 1 <sup>d</sup>	16	2.0	534	0.031	100	7.1	LOS A	0.1	2.9	Full	250	0.0	0.0
Approach	16	2.0		0.031		7.1	LOS A	0.1	2.9				
Intersection	2325	6.6		0.479		8.0	LOS A	3.5	93.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>d</sup> Dominant lane on roundabout approach

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:30:47 PM

Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS Analysis\Sidra\Roundabout@18th Avenue\Sidra Model\Two Lane\18th Ave.sip8

**DETAILED OUTPUT**
 **Site: 1 [SR 53/18th Ave\_2030 AM]**

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

**OUTPUT TABLE LINKS**

-  Roundabouts
  - Roundabout Basic Parameters
  - Roundabout Circulating / Exiting Stream Parameters
  - Roundabout Gap Acceptance Parameters
  - Roundabout Flow Rates
-  Movements
  - Intersection Negotiation and Travel Data
  - Movement Capacity and Performance Parameters
  - Fuel Consumption, Emissions and Cost
-  Lanes
  - Lane Performance and Capacity Information
  - Lane, Approach and Intersection Performance
  - Driver Characteristics
  - Lane Delays
  - Lane Queues
  - Lane Queue Percentiles
  - Lane Stops
-  Flow Rates
  - Origin-Destination Flow Rates (Total)
  - Origin-Destination Flow Rates by Movement Class
  - Lane Flow Rates
-  Other
  - Parameter Settings Summary
  - Diagnostics

**Roundabouts**

Roundabout Basic Parameters  
Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av. Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %
-----											
South: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	2500		NA	0.0N
-----											
East: 18th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	500		NA	0.0N
-----											
North: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	5000		NA	0.0N
-----											
West: 18th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	250		NA	0.0N
-----											

Roundabout Capacity Model: SIDRA Standard

NA Not Applicable (single Site analysis or unconnected Site in Network analysis).

N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).

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Roundabout Circulating / Exiting Stream Parameters  
Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: SR 53													
W	L2	1	Subdominant	90	1.07	96	0.0	0.0	N	0.991	18.9	2.00	0.110
N	T1	1	Subdominant	90	1.07	96	0.0	0.0	N	0.991	18.9	2.00	0.110
N	T1	2	Dominant	90	1.07	96	0.0	0.0	N	0.991	18.9	2.00	0.110
E	R2	2	Dominant	90	1.07	96	0.0	0.0	N	0.991	18.9	2.00	0.110
East: 18th Avenue													
S	L2	1	Dominant	908	1.07	971	0.0	0.0	N	0.920	28.7	1.08	0.475
W	T1	1	Dominant	908	1.07	971	0.0	0.0	N	0.920	28.7	1.08	0.475
N	R2	1	Dominant	908	1.07	971	0.0	0.0	N	0.920	28.7	1.08	0.475
North: SR 53													
E	L2	1	Subdominant	86	1.02	88	0.0	0.0	N	0.983	18.6	2.00	0.101
S	T1	1	Subdominant	86	1.02	88	0.0	0.0	N	0.983	18.6	2.00	0.101
S	T1	2	Dominant	86	1.02	88	0.0	0.0	N	0.983	18.6	2.00	0.101
W	R2	2	Dominant	86	1.02	88	0.0	0.0	N	0.983	18.6	2.00	0.101
West: 18th Avenue													
N	L2	1	Dominant	1201	1.07	1281	0.0	0.0	N	0.879	27.3	1.05	0.568
E	T1	1	Dominant	1201	1.07	1281	0.0	0.0	N	0.879	27.3	1.05	0.568
S	R2	1	Dominant	1201	1.07	1281	0.0	0.0	N	0.879	27.3	1.05	0.568

Roundabout Capacity Model: SIDRA Standard

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Roundabout Gap Acceptance Parameters  
Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
				Headway sec				Headway sec	Dist ft	Headway sec
South: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Subdominant	2.00	0.110	Y	1.07	4.62	128.3	2.79
N	T1	1	Subdominant	2.00	0.110	Y	1.07	4.62	128.3	2.79
N	T1	2	Dominant	2.00	0.110	Y	1.07	4.59	127.3	2.77
E	R2	2	Dominant	2.00	0.110	Y	1.07	4.59	127.3	2.77
East: 18th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	1.08	0.475	N	1.02	3.90	164.0	2.75
W	T1	1	Dominant	1.08	0.475	N	1.02	3.90	164.0	2.75
N	R2	1	Dominant	1.08	0.475	N	1.02	3.90	164.0	2.75
North: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Subdominant	2.00	0.101	Y	1.07	4.63	126.1	2.79
S	T1	1	Subdominant	2.00	0.101	Y	1.07	4.63	126.1	2.79
S	T1	2	Dominant	2.00	0.101	Y	1.07	4.60	125.2	2.77
W	R2	2	Dominant	2.00	0.101	Y	1.07	4.60	125.2	2.77
West: 18th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	1.05	0.568	Y	1.02	3.61	144.2	2.63
E	T1	1	Dominant	1.05	0.568	Y	1.02	3.61	144.2	2.63
S	R2	1	Dominant	1.05	0.568	Y	1.02	3.61	144.2	2.63

-----  
 Roundabout Capacity Model: SIDRA Standard  
 Priority sharing means Follow-up Headway plus Intra-bunch Headway  
 is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two  
 successive vehicles across all lanes in the circulating  
 or exiting stream

[Go to Table Links \(Top\)](#)

### Roundabout Flow Rates

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
 Roundabout

#### CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		Percent
	veh/h	pcu/h	
-----			
South: SR 53			
1	0	0	0.0%
2	90	96	100.0%
Total	90	96	
-----			
East: 18th Avenue			
1	501	536	55.2%
2	406	435	44.8%
Total	907	971	
-----			
North: SR 53			
1	0	0	0.0%
2	86	88	100.0%
Total	86	88	
-----			
West: 18th Avenue			
1	642	683	53.3%
2	559	598	46.7%
Total	1201	1281	
-----			

The SIDRA Standard roundabout capacity model option is in use.  
 This model takes into account the total circulating flow as well as the effect  
 of flow distribution in circulating lanes on the entry capacity results.

#### APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
-----			
South: SR 53			
1	0	499	499
2	97	406	503
Total	97	905	1002
-----			
East: 18th Avenue			
1	96	84	180
Total	96	84	180
-----			
North: SR 53			
1	0	561	561
2	7	558	565
Total	7	1119	1126
-----			
West: 18th Avenue			
1	8	8	16
Total	8	8	16
-----			

[Go to Table Links \(Top\)](#)

### Movements

Intersection Negotiation and Travel Data  
Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

From Approach	To Exit	Turn	Running Speed mph	Travel Speed mph	Travel Distance ft	Travel Time s	Total Dem Flows veh-mi/h	Travel Distance Arv Flows veh-mi/h	Tot.Trav. Time veh-h/h
-----									
South: SR 53									
	West	L2	26.2	24.5	2951.9#	82.1#	0.6	0.6	0.0
	North	T1	50.5	48.1	7691.4#	109.0#	1317.4	1317.4	27.4
	East	R2	42.8	38.8	3178.4#	55.9#	58.2	58.2	1.5
-----									
East: 18th Avenue									
	South	L2	30.0	27.5	3200.9#	79.3#	49.4	49.4	1.8
	West	T1	27.1	21.2	950.9#	30.6#	0.6	0.6	0.0
	North	R2	28.8	27.5	5700.9#	141.4#	103.3	103.3	3.8
-----									
North: SR 53									
	East	L2	36.7	34.8	5722.0#	112.2#	88.3	88.3	2.5
	South	T1	49.4	46.8	7710.3#	112.2#	1515.8	1515.8	32.4
	West	R2	37.0	35.1	5450.2#	106.0#	6.7	6.7	0.2
-----									
West: 18th Avenue									
	North	L2	30.4	29.5	5414.0#	125.0#	2.2	2.2	0.1
	East	T1	29.0	24.9	914.0#	25.0#	1.1	1.1	0.0
	South	R2	28.4	27.1	2914.0#	73.4#	4.2	4.2	0.2
-----									
ALL VEHICLES:			47.4	45.1	7148.9#	108.2#	3148.0	3148.0	69.9

"Running Speed" is the average speed excluding stopped periods.

Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.

# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.

INTERSECTION NEGOTIATION DATA

From Approach	To Exit	Turn	Negn Radius ft	Negn Speed mph	Negn Dist ft	App Dist ft	Exit Dist ft	Downstr Dist ft
-----								
South: SR 53								
	West	L2	87.0	18.2	341.6	2500	76	NA
	North	T1	292.3	28.7	201.6	2500	1524	NA
	East	R2	175.6	23.7	81.1	2500	152	NA
-----								
East: 18th Avenue								
	South	L2	87.0	18.2	341.6	500	762	NA
	West	T1	292.3	28.7	201.6	500	76	NA
	North	R2	188.6	24.3	81.0	500	1524	NA
-----								
North: SR 53								
	East	L2	87.0	18.2	341.6	5000	152	NA
	South	T1	292.3	28.7	201.6	5000	762	NA
	West	R2	175.6	23.7	81.1	5000	76	NA
-----								
West: 18th Avenue								
	North	L2	87.0	18.2	341.6	250	1524	NA
	East	T1	292.3	28.7	201.6	250	152	NA
	South	R2	188.6	24.3	81.0	250	762	NA

Maximum Negotiation (Design) Speed = 30.0 mph

NA Downstream Distance does not apply if:

- Exit is an internal leg of a network
- "Program" option was specified
- Distance specified was less than the Exit Negotiation Distance
- Distance specified was greater than the exit leg length

## MOVEMENT SPEEDS AND GEOMETRIC DELAY

Mov ID	Turn	App. Speeds		Exit Speeds		Queue	Geom Delay sec
		Cruise mph	Negn mph	Negn mph	Cruise mph	Move-up Speed mph	
-----							
South: SR 53							
3	L2	55.0	18.2	18.2	55.0	42.3	0.0
8	T1	55.0	28.7	28.7	55.0	42.4	0.0
18	R2	55.0	23.7	23.7	55.0	42.5	0.0
-----							
East: 18th Avenue							
1	L2	30.0	18.2	18.2	30.0	16.4	0.0
6	T1	30.0	28.7	28.7	30.0	16.4	0.0
16	R2	30.0	24.3	24.3	30.0	16.4	0.0
-----							
North: SR 53							
7	L2	55.0	18.2	18.2	55.0	43.7	0.0
4	T1	55.0	28.7	28.7	55.0	44.0	0.0
14	R2	55.0	23.7	23.7	55.0	44.3	0.0
-----							
West: 18th Avenue							
5	L2	30.0	18.2	18.2	30.0	15.4	0.0
2	T1	30.0	28.7	28.7	30.0	15.4	0.0
12	R2	30.0	24.3	24.3	30.0	15.4	0.0

HCM Delay Formula option used: Geometric Delay is not included in Control Delay.

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## Movement Capacity and Performance Parameters

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

## MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
-----									
South: SR 53									
3	L2	#	1	90	96	3	0.85	100	0.425
8	T1	#	904	90	96	2126	0.85	100	0.425
18	R2	#	97	90	96	227	0.85	100	0.425
-----									
East: 18th Avenue									
1	L2	#	82	908	971	281	0.85	193	0.290
6	T1	#	3	908	971	11	0.85	193	0.290
16	R2	#	96	908	971	329	0.85	193	0.290
-----									
North: SR 53									
7	L2	#	82	86	88	170	0.85	78	0.479*
4	T1	#	1038	86	88	2169	0.85	78	0.479*
14	R2	#	7	86	88	14	0.85	78	0.479*
-----									
West: 18th Avenue									
5	L2	#	2	1201	1281	71	0.85	2686	0.031
2	T1	#	7	1201	1281	214	0.85	2686	0.031
12	R2	#	8	1201	1281	249	0.85	2686	0.031

\* Maximum degree of saturation

# Combined Movement Capacity parameters are shown for all Movement Classes.

## MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
-----										

South: SR 53

3	L2	0.00	0.00	7.5	0.17	0.2	2.15	0.6	0.0	24.5
8	T1	1.87	2.24	7.4	0.17	155.1	28.82	1317.4	27.4	48.1
18	R2	0.20	0.24	7.4	0.17	16.5	3.49	58.2	1.5	38.8
-----										
East: 18th Avenue										
1	L2	0.22	0.26	9.6	0.65	53.3	3.14	49.4	1.8	27.5
6	T1	0.01	0.01	9.6	0.65	2.1	1.02	0.6	0.0	21.2
16	R2	0.26	0.31	9.6	0.65	62.6	5.02	103.3	3.8	27.5
-----										
North: SR 53										
7	L2	0.19	0.22	8.3	0.19	15.3	4.71	88.3	2.5	34.8
4	T1	2.37	2.85	8.2	0.19	194.7	33.85	1515.8	32.4	46.8
14	R2	0.01	0.02	8.2	0.19	1.2	2.98	6.7	0.2	35.1
-----										
West: 18th Avenue										
5	L2	0.00	0.01	7.1	0.58	1.3	0.18	2.2	0.1	29.5
2	T1	0.01	0.02	7.1	0.58	3.8	0.16	1.1	0.0	24.9
12	R2	0.02	0.02	7.1	0.58	4.5	0.27	4.2	0.2	27.1
-----										

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### Fuel Consumption, Emissions and Cost Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

#### FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
-----							
South: SR 53							
3	L2	0.42	0.0	0.4	0.00	0.000	0.001
8	T1	379.67	61.7	559.7	1.06	0.057	1.459
18	R2	36.86	3.7	33.2	0.05	0.003	0.099
		416.95	65.5	593.2	1.11	0.060	1.559
-----							
East: 18th Avenue							
1	L2	17.24	1.9	16.6	0.01	0.001	0.016
6	T1	0.61	0.0	0.3	0.00	0.000	0.000
16	R2	22.77	3.4	30.4	0.02	0.002	0.028
		40.62	5.3	47.3	0.03	0.003	0.045
-----							
North: SR 53							
7	L2	47.96	4.5	40.7	0.07	0.004	0.111
4	T1	623.54	71.5	644.9	1.22	0.066	1.698
14	R2	3.79	0.4	3.2	0.01	0.000	0.009
		675.29	76.4	688.8	1.30	0.070	1.819
-----							
West: 18th Avenue							
5	L2	0.36	0.1	0.6	0.00	0.000	0.001
2	T1	0.77	0.1	0.5	0.00	0.000	0.001
12	R2	1.06	0.1	1.3	0.00	0.000	0.001
		2.20	0.3	2.5	0.00	0.000	0.003
		1135.05	147.4	1331.8	2.44	0.134	3.425
-----							
INTERSECTION:		1135.05	147.4	1331.8	2.44	0.134	3.425
-----							

#### FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
-----							
South: SR 53							
3	L2	0.69	14.7	378.4	0.56	0.036	1.210
8	T1	0.29	21.3	264.0	0.50	0.027	0.688
18	R2	0.63	15.8	354.0	0.55	0.034	1.053
-----							

		0.30	21.0	267.8	0.50	0.027	0.704
-----							
East: 18th Avenue							
1	L2	0.35	26.7	208.6	0.16	0.015	0.206
6	T1	1.04	15.9	348.3	0.28	0.032	0.405
16	R2	0.22	30.5	182.7	0.13	0.012	0.169
-----							
		0.26	29.1	191.7	0.14	0.013	0.182
-----							
North: SR 53							
7	L2	0.54	19.5	286.6	0.51	0.029	0.781
4	T1	0.41	21.2	264.4	0.50	0.027	0.696
14	R2	0.56	19.0	293.9	0.52	0.029	0.841
-----							
		0.42	21.1	265.7	0.50	0.027	0.701
-----							
West: 18th Avenue							
5	L2	0.16	32.1	173.8	0.13	0.011	0.160
2	T1	0.69	19.0	293.0	0.24	0.026	0.349
12	R2	0.25	28.7	194.5	0.15	0.014	0.193
-----							
		0.29	27.4	203.1	0.15	0.015	0.207
-----							
INTERSECTION:		0.36	21.4	262.9	0.48	0.026	0.676
-----							

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## Lanes

### Lane Performance and Capacity Information Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

#### LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Queue		Lane Length ft
						95% Back veh	ft	
-----								
South: SR 53								
1	499	1173	0.425	7.5	0.17	2.7	70.1	2500.0
2	503	1183	0.425	7.4	0.17	2.7	70.1	2500.0
-----								
East: 18th Avenue								
1	180	621	0.290	9.6	0.65	1.2	30.8	500.0
-----								
North: SR 53								
1	561	1172	0.479	8.3	0.19	3.5	92.9	5000.0
2	565	1181	0.479	8.2	0.19	3.5	93.0	5000.0
-----								
West: 18th Avenue								
1	16	534	0.031	7.1	0.58	0.1	2.9	250.0
-----								

#### LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: SR 53					
1	499	150	1173	0.425	100
2	503	150	1183	0.425	100
-----					
East: 18th Avenue					
1	180	150	621	0.290	100
-----					
North: SR 53					
1	561	150	1172	0.479	100
2	565	150	1181	0.479	100

```
-----
West: 18th Avenue
1      16      16    534    0.031  100
-----
```

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

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### Lane, Approach and Intersection Performance

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

```
-----
Lane   Arrival   Adj.   Deg   Aver.   Longest   Lane
No.    Flow      Basic Sat   Delay  Queue    Length
      (veh/h)  Satf.  x     sec    ft       ft
-----
South: SR 53
1      499        7      0.425  7.5     70      2500
2      503        7      0.425  7.4     70      2500
-----
      1002       7      0.425  7.4     70
-----
East: 18th Avenue
1      180        2      0.290  9.6     31      500
-----
      180        2      0.290  9.6     31
-----
North: SR 53
1      561        7      0.479  8.3     93      5000
2      565        7      0.479  8.2     93      5000
-----
      1126       7      0.479  8.2     93
-----
West: 18th Avenue
1      16         2      0.031  7.1     3        250
-----
      16         2      0.031  7.1     3
-----
=====
ALL VEHICLES
      Total   %      Max   Aver.   Max
      Flow   HV      X     Delay  Queue
      2325   7      0.479  8.0    93
=====
```

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)  
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

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### Driver Characteristics

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

```
-----
Lane   Satn   Satn   Satn   Satn   Average   Driver
No.    Speed Flow Hdwy   Spacing Queue   Response
      mph   veh/h sec   ft     Space   Time
-----
South: SR 53
1      28.7  1290   2.79  117.38  26.40   2.16
2      27.7  1301   2.77  112.62  26.40   2.12
-----
East: 18th Avenue
1      21.6  1309   2.75   87.19  25.40   1.95
-----
North: SR 53
1      27.2  1290   2.79  111.25  26.40   2.13
2      28.6  1299   2.77  116.45  26.40   2.14
-----
```

```
-----
West: 18th Avenue
1      25.3  1368    2.63   97.49   25.40   1.95
-----
```

Saturation Flow and Saturation Headway are derived from follow-up headway.

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Lane Delays

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

LANE DELAYS

```
-----
                                Delay (seconds/veh)
Lane   Deg.  % Arv  Prog.  Min  Stop-line Delay  Acc.  Queuing  Stopd
No.    Satn  During Factor  Del  1st  2nd Total  Dec.  Total MvUp (Idle) Geom Control
-----
South: SR 53
1      0.425  NA     NA     3.1  5.2  2.3  7.5  7.3  5.1  0.0  5.1  0.0  7.5
2      0.425  NA     NA     3.0  5.2  2.2  7.4  6.9  5.2  0.0  5.2  0.0  7.4
-----
East: 18th Avenue
1      0.290  NA     NA     5.8  7.3  2.4  9.6  4.5  6.6  0.0  6.6  0.0  9.6
-----
North: SR 53
1      0.479  NA     NA     3.1  5.5  2.8  8.3  6.5  5.9  0.0  5.9  0.0  8.3
2      0.479  NA     NA     3.1  5.4  2.8  8.2  7.3  5.6  0.0  5.6  0.0  8.2
-----
West: 18th Avenue
1      0.031  NA     NA     6.8  6.9  0.2  7.1  5.6  3.5  0.0  3.5  0.0  7.1
-----
```

HCM Delay Formula option used (Exclude Geometric Delay option applies). Control Delay does not include Geometric Delay, and Stop-line Delay is treated as being same as Control Delay.  
dm: Minimum delay for gap acceptance cases  
dSL: Stop-line delay (=d1+d2)  
dn: Average stop-start delay for all vehicles queued and unqueued  
dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)  
dqm: Queue move-up delay  
di: Stopped delay (stopped (idling) time at near-zero speed)  
dig: Geometric delay  
dic: Control delay

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Lane Queues

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

BACK OF QUEUE (VEHICLES)

```
-----
Lane   Deg.  % Arv  Prog.  Ovrfl.  Back of Queue (veh)  Queue Stor.  Prob.  Prob.
No.    Satn  During Factor  Queue  Nbl  Nb2  Nb  95%  Ratio  95%  Block  SL Ov.
-----
South: SR 53
1      0.425  NA     NA     0.0  1.1  0.0  1.1  2.7  0.01  0.03  0.0  NA
2      0.425  NA     NA     0.0  1.1  0.0  1.1  2.7  0.01  0.03  0.0  NA
-----
East: 18th Avenue
1      0.290  NA     NA     0.0  0.5  0.0  0.5  1.2  0.02  0.06  0.0  NA
-----
North: SR 53
1      0.479  NA     NA     0.0  1.4  0.0  1.4  3.5  0.01  0.02  0.0  NA
2      0.479  NA     NA     0.0  1.4  0.0  1.4  3.5  0.01  0.02  0.0  NA
-----
West: 18th Avenue
```



1	0.031	NA	NA	0.0	0.0	0.0	0.0	0.1	0.00	0.01	0.0	NA
---	-------	----	----	-----	-----	-----	-----	-----	------	------	-----	----

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.425	NA	NA	0.0	28.2	0.0	28.2	70.1	0.01	0.03	0.0	NA
2	0.425	NA	NA	0.0	28.2	0.0	28.2	70.1	0.01	0.03	0.0	NA
East: 18th Avenue												
1	0.290	NA	NA	0.0	12.4	0.0	12.4	30.8	0.02	0.06	0.0	NA
North: SR 53												
1	0.479	NA	NA	0.0	37.4	0.0	37.4	92.9	0.01	0.02	0.0	NA
2	0.479	NA	NA	0.0	37.4	0.0	37.4	93.0	0.01	0.02	0.0	NA
West: 18th Avenue												
1	0.031	NA	NA	0.0	1.2	0.0	1.2	2.9	0.00	0.01	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.425	NA	NA	0.0	1.0	1.9
2	0.425	NA	NA	0.0	1.0	1.9
East: 18th Avenue						
1	0.290	NA	NA	0.0	0.5	0.9
North: SR 53						
1	0.479	NA	NA	0.0	1.3	2.3
2	0.479	NA	NA	0.0	1.3	2.3
West: 18th Avenue						
1	0.031	NA	NA	0.0	0.0	0.1

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation. (i.e. HCM delays are treated as stop-line delays for this purpose).

## OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.425	NA	NA	0.0	27.3	49.5
2	0.425	NA	NA	0.0	27.3	49.6
East: 18th Avenue						
1	0.290	NA	NA	0.0	12.2	22.2
North: SR 53						
1	0.479	NA	NA	0.0	34.0	61.6
2	0.479	NA	NA	0.0	34.0	61.7
West: 18th Avenue						
1	0.031	NA	NA	0.0	0.8	1.5

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation.  
(i.e. HCM delays are treated as stop-line delays for this purpose).

[Go to Table Links \(Top\)](#)

### Lane Queue Percentiles

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

#### LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%
South: SR 53								
1	0.425	1.1	1.4	1.9	2.3	2.7	2.9	3.2
2	0.425	1.1	1.4	2.0	2.3	2.7	2.9	3.2
East: 18th Avenue								
1	0.290	0.5	0.6	0.9	1.0	1.2	1.3	1.4
North: SR 53								
1	0.479	1.4	1.8	2.6	3.0	3.5	3.9	4.2
2	0.479	1.4	1.8	2.6	3.0	3.5	3.9	4.2
West: 18th Avenue								
1	0.031	0.0	0.1	0.1	0.1	0.1	0.1	0.1

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

#### LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%
South: SR 53								
1	0.425	28.2	36.5	51.5	59.6	70.1	77.8	83.6
2	0.425	28.2	36.5	51.5	59.6	70.1	77.9	83.7
East: 18th Avenue								
1	0.290	12.4	16.0	22.6	26.2	30.8	34.2	36.7
North: SR 53								
1	0.479	37.4	48.4	68.2	79.0	92.9	103.1	110.8
2	0.479	37.4	48.5	68.3	79.1	93.0	103.2	111.0
West: 18th Avenue								
1	0.031	1.2	1.5	2.2	2.5	2.9	3.3	3.5

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

[Go to Table Links \(Top\)](#)

### Lane Stops

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	-- Effective Stop Rate --				Total Stops H	Queue Move-up Rate hqm	Total Queue Move-ups Hqm	Prop. Queued pq	Aver. Num. of Cycles to Depart
				he1	he2	geom. hig	Overall h					
South: SR 53												
1	0.425	NA	NA	0.17	0.00	0.00	0.17	85.8	0.00	0.0	0.32	0.32

2	0.425	NA	NA	0.17	0.00	0.00	0.17	86.0	0.00	0.0	0.32	0.32
-----												
East: 18th Avenue												
1	0.290	NA	NA	0.65	0.00	0.00	0.65	118.1	0.00	0.0	0.65	0.65
-----												
North: SR 53												
1	0.479	NA	NA	0.19	0.00	0.00	0.19	105.5	0.00	0.0	0.36	0.36
2	0.479	NA	NA	0.19	0.00	0.00	0.19	105.7	0.00	0.0	0.36	0.36
-----												
West: 18th Avenue												
1	0.031	NA	NA	0.58	0.00	0.00	0.58	9.5	0.00	0.0	0.64	0.64
-----												
hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

[Go to Table Links \(Top\)](#)

## Flow Rates

### Origin-Destination Flow Rates (Total)

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

#### TOTAL FLOW RATES for All Movement Classes (veh/h)

-----				
From SOUTH To:	W	N	E	TOT
Turn:	L2	T1	R2	TOT
Flow Rate	1.1	904.3	96.7	1002.2
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From EAST To:	S	W	N	TOT
Turn:	L2	T1	R2	TOT
Flow Rate	81.5	3.3	95.7	180.4
%HV (all designations)	2.0	2.0	2.0	2.0
-----				
From NORTH To:	E	S	W	TOT
Turn:	L2	T1	R2	TOT
Flow Rate	81.5	1038.0	6.5	1126.1
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From WEST To:	N	E	S	TOT
Turn:	L2	T1	R2	TOT
Flow Rate	2.2	6.5	7.6	16.3
%HV (all designations)	2.0	2.0	2.0	2.0
-----				

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

### Origin-Destination Flow Rates by Movement Class

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

#### FLOW RATES for Light Vehicles (veh/h)

-----				
From SOUTH To:	W	N	E	TOT
Turn:	L2	T1	R2	TOT
Flow Rate	1.0	841.0	90.0	932.0
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
-----				

From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	79.9	3.2	93.7	176.8
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	75.8	965.4	6.1	1047.3
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	2.1	6.4	7.5	16.0
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

## FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:				
Turn:	W	N	E	TOT
	L2	T1	R2	
Flow Rate	0.1	63.3	6.8	70.2
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	1.6	0.1	1.9	3.6
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	5.7	72.7	0.5	78.8
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	0.0	0.1	0.2	0.3
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
Unit Time for Volumes = 60 minutes  
Peak Flow Period = 15 minutes  
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

Lane Flow Rates  
Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
Roundabout

LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	N	E	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	1.0	463.0	*	464.0
HV	0.1	34.8	*	34.9
Total	1.1	497.9	*	498.9
Lane 2				
LV	*	378.0	90.0	468.0
HV	*	28.5	6.8	35.2
Total	*	406.5	96.7	503.2
-----				
Approach	1.1	904.3	96.7	1002.2
-----				
From EAST To:	S	W	N	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	79.9	3.2	93.7	176.8
HV	1.6	0.1	1.9	3.6
Total	81.5	3.3	95.7	180.4
-----				
Approach	81.5	3.3	95.7	180.4
-----				
From NORTH To:	E	S	W	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	75.8	445.8	*	521.6
HV	5.7	33.6	*	39.3
Total	81.5	479.3	*	560.9
Lane 2				
LV	*	519.6	6.1	525.7
HV	*	39.1	0.5	39.6
Total	*	558.7	6.5	565.2
-----				
Approach	81.5	1038.0	6.5	1126.1
-----				
From WEST To:	N	E	S	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	2.1	6.4	7.5	16.0
HV	0.0	0.1	0.2	0.3
Total	2.2	6.5	7.6	16.3
-----				
Approach	2.2	6.5	7.6	16.3

\* Movement not allocated to the lane

EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
-----			
Exit: SOUTH			
Lane: 1	525.7	35.2	560.9
Lane: 2	527.0	39.3	566.3
Total	1052.7	74.4	1127.2
-----			
Exit: EAST			
Lane: 1	172.2	12.6	184.8
Total	172.2	12.6	184.8
-----			
Exit: NORTH			
Lane: 1	465.1	34.9	500.0
Lane: 2	471.8	30.4	502.1
Total	936.9	65.3	1002.2
-----			
Exit: WEST			
Lane: 1	10.3	0.6	10.9
Total	10.3	0.6	10.9
-----			

\* Movement not allocated to the lane

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

```

-----
Movement Class:      LV      HV      TOT
-----
Exit: SOUTH
Lane:  1             525.7   35.2   560.9
Lane:  2             527.0   39.3   566.3
Total                1052.7   74.4  1127.2
-----
Exit: EAST
Lane:  1             172.2   12.6   184.8
Total                172.2   12.6   184.8
-----
Exit: NORTH
Lane:  1             465.1   34.9   500.0
Lane:  2             471.8   30.4   502.1
Total                936.9   65.3  1002.2
-----
Exit: WEST
Lane:  1              10.3    0.6    10.9
Total                10.3    0.6    10.9
-----

```

\* Movement not allocated to the lane

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

## Other

### Parameter Settings Summary

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
 Roundabout

\* Basic Parameters:  
 Intersection Type: Roundabout  
 Driving on the right-hand side of the road  
 Input data specified in US units  
 Model Defaults: US HCM (Customary)  
 Peak Flow Period (for performance): 15 minutes  
 Unit time (for volumes): 60 minutes.  
 HCM Delay Model option used  
 HCM Queue Model option used  
 Level of Service based on: Delay and v/c (HCM 6)  
 Queue percentile: 95%

[Go to Table Links \(Top\)](#)

### Diagnostics

Site: SR 53/18th Ave\_2030 AM

Site ID: 1  
 Roundabout

#### Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 2.4%  
 Number of Iterations: 7 (Maximum: 10)  
 Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:  
 2.0% 1.0% 0.5%

Other Diagnostic Messages (if any):

[Go to Table Links \(Top\)](#)

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:30:47 PM  
Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS  
Analysis\Sidra\Roundabout@18th Avenue\Sidra Model\Two Lane\18th Ave.sip8

# LANE SUMMARY

 Site: 1 [SR 53/18th Ave\_2030 PM]

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

Lane Use and Performance													
	Demand Flows			Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	Total veh/h	HV %	Cap. veh/h					Veh	Dist ft				
South: SR 53													
Lane 1	657	7.0	1156	0.568	100	10.0	LOS A	4.4	115.1	Full	2500	0.0	0.0
Lane 2 <sup>d</sup>	664	7.0	1168	0.568	100	9.9	LOS A	4.4	115.2	Full	2500	0.0	0.0
Approach	1321	7.0		0.568		9.9	LOS A	4.4	115.2				
East: 18th Avenue													
Lane 1 <sup>d</sup>	225	2.0	506	0.445	100	15.0	LOS B	2.4	61.1	Full	500	0.0	0.0
Approach	225	2.0		0.445		15.0	LOS B	2.4	61.1				
North: SR 53													
Lane 1	599	7.0	1129	0.530	100	9.4	LOS A	4.1	109.4	Full	5000	0.0	0.0
Lane 2 <sup>d</sup>	606	7.0	1142	0.530	100	9.3	LOS A	4.2	109.7	Full	5000	0.0	0.0
Approach	1204	7.0		0.530		9.3	LOS A	4.2	109.7				
West: 18th Avenue													
Lane 1 <sup>d</sup>	29	2.0	489	0.060	100	8.2	LOS A	0.2	6.1	Full	250	0.0	0.0
Approach	29	2.0		0.060		8.2	LOS A	0.2	6.1				
Intersection	2779	6.5		0.568		10.1	LOS B	4.4	115.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>d</sup> Dominant lane on roundabout approach

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:41:52 PM






Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS Analysis\Sidra\Roundabout@18th Avenue\Sidra Model\Two Lane\18th Ave.sip8



**DETAILED OUTPUT**
 **Site: 1 [SR 53/18th Ave\_2030 PM]**

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

**OUTPUT TABLE LINKS**

-  Roundabouts
  - Roundabout Basic Parameters
  - Roundabout Circulating / Exiting Stream Parameters
  - Roundabout Gap Acceptance Parameters
  - Roundabout Flow Rates
-  Movements
  - Intersection Negotiation and Travel Data
  - Movement Capacity and Performance Parameters
  - Fuel Consumption, Emissions and Cost
-  Lanes
  - Lane Performance and Capacity Information
  - Lane, Approach and Intersection Performance
  - Driver Characteristics
  - Lane Delays
  - Lane Queues
  - Lane Queue Percentiles
  - Lane Stops
-  Flow Rates
  - Origin-Destination Flow Rates (Total)
  - Origin-Destination Flow Rates by Movement Class
  - Lane Flow Rates
-  Other
  - Parameter Settings Summary
  - Diagnostics

**Roundabouts**

Roundabout Basic Parameters  
Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av. Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %
-----											
South: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	2500		NA	0.0N
-----											
East: 18th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	500		NA	0.0N
-----											
North: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	5000		NA	0.0N
-----											
West: 18th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	250		NA	0.0N
-----											

Roundabout Capacity Model: SIDRA Standard

NA Not Applicable (single Site analysis or unconnected Site in Network analysis).

N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).

[Go to Table Links \(Top\)](#)

Roundabout Circulating / Exiting Stream Parameters  
Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: SR 53													
W	L2	1	Subdominant	105	1.06	112	0.0	0.0	N	0.989	19.0	2.00	0.127
N	T1	1	Subdominant	105	1.06	112	0.0	0.0	N	0.989	19.0	2.00	0.127
N	T1	2	Dominant	105	1.06	112	0.0	0.0	N	0.989	19.0	2.00	0.127
E	R2	2	Dominant	105	1.06	112	0.0	0.0	N	0.989	19.0	2.00	0.127
East: 18th Avenue													
S	L2	1	Dominant	1235	1.07	1320	0.0	0.0	N	0.847	28.5	1.07	0.587
W	T1	1	Dominant	1235	1.07	1320	0.0	0.0	N	0.847	28.5	1.07	0.587
N	R2	1	Dominant	1235	1.07	1320	0.0	0.0	N	0.847	28.5	1.07	0.587
North: SR 53													
E	L2	1	Subdominant	121	1.02	123	0.0	0.0	N	0.975	19.0	2.00	0.139
S	T1	1	Subdominant	121	1.02	123	0.0	0.0	N	0.975	19.0	2.00	0.139
S	T1	2	Dominant	121	1.02	123	0.0	0.0	N	0.975	19.0	2.00	0.139
W	R2	2	Dominant	121	1.02	123	0.0	0.0	N	0.975	19.0	2.00	0.139
West: 18th Avenue													
N	L2	1	Dominant	1298	1.07	1384	0.0	0.0	N	0.834	27.2	1.06	0.602
E	T1	1	Dominant	1298	1.07	1384	0.0	0.0	N	0.834	27.2	1.06	0.602
S	R2	1	Dominant	1298	1.07	1384	0.0	0.0	N	0.834	27.2	1.06	0.602

Roundabout Capacity Model: SIDRA Standard

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Roundabout Gap Acceptance Parameters  
Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
				Headway sec				Headway sec	Dist ft	Headway sec
South: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Subdominant	2.00	0.127	Y	1.07	4.60	128.5	2.79
N	T1	1	Subdominant	2.00	0.127	Y	1.07	4.60	128.5	2.79
N	T1	2	Dominant	2.00	0.127	Y	1.07	4.56	127.3	2.76
E	R2	2	Dominant	2.00	0.127	Y	1.07	4.56	127.3	2.76
East: 18th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	1.07	0.587	Y	1.02	3.57	149.3	2.62
W	T1	1	Dominant	1.07	0.587	Y	1.02	3.57	149.3	2.62
N	R2	1	Dominant	1.07	0.587	Y	1.02	3.57	149.3	2.62
North: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Subdominant	2.00	0.139	Y	1.07	4.59	128.0	2.79
S	T1	1	Subdominant	2.00	0.139	Y	1.07	4.59	128.0	2.79
S	T1	2	Dominant	2.00	0.139	Y	1.07	4.54	126.6	2.76
W	R2	2	Dominant	2.00	0.139	Y	1.07	4.54	126.6	2.76
West: 18th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	1.06	0.602	Y	1.02	3.52	140.6	2.59
E	T1	1	Dominant	1.06	0.602	Y	1.02	3.52	140.6	2.59
S	R2	1	Dominant	1.06	0.602	Y	1.02	3.52	140.6	2.59

-----  
 Roundabout Capacity Model: SIDRA Standard  
 Priority sharing means Follow-up Headway plus Intra-bunch Headway  
 is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two  
 successive vehicles across all lanes in the circulating  
 or exiting stream

[Go to Table Links \(Top\)](#)

### Roundabout Flow Rates

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
 Roundabout

#### CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		Percent
	veh/h	pcu/h	
-----			
South: SR 53			
1	0	0	0.0%
2	105	112	100.0%
Total	105	112	
-----			
East: 18th Avenue			
1	674	721	54.6%
2	560	600	45.4%
Total	1234	1321	
-----			
North: SR 53			
1	0	0	0.0%
2	121	123	100.0%
Total	121	123	
-----			
West: 18th Avenue			
1	702	746	53.9%
2	596	637	46.1%
Total	1298	1383	
-----			

The SIDRA Standard roundabout capacity model option is in use.  
 This model takes into account the total circulating flow as well as the effect  
 of flow distribution in circulating lanes on the entry capacity results.

#### APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
-----			
South: SR 53			
1	0	657	657
2	103	561	664
Total	103	1218	1321
-----			
East: 18th Avenue			
1	112	113	225
Total	112	113	225
-----			
North: SR 53			
1	0	599	599
2	10	596	606
Total	10	1195	1205
-----			
West: 18th Avenue			
1	3	26	29
Total	3	26	29
-----			

[Go to Table Links \(Top\)](#)

### Movements

Intersection Negotiation and Travel Data  
Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

From Approach	To Exit	Turn	Running Speed mph	Travel Speed mph	Travel Distance ft	Travel Time s	Total Dem Flows veh-mi/h	Travel Distance Arv Flows veh-mi/h	Tot.Trav. Time veh-h/h
-----									
South: SR 53									
	West	L2	25.9	23.8	2953.2#	84.7#	4.3	4.3	0.2
	North	T1	50.1	47.0	7693.8#	111.6#	1762.8	1762.8	37.5
	East	R2	42.2	37.1	3182.9#	58.5#	62.2	62.2	1.7
-----									
East: 18th Avenue									
	South	L2	29.2	25.8	3205.9#	84.8#	62.7	62.7	2.4
	West	T1	24.9	18.1	955.9#	36.1#	1.8	1.8	0.1
	North	R2	28.4	26.5	5705.9#	146.9#	121.0	121.0	4.6
-----									
North: SR 53									
	East	L2	36.5	34.4	5720.2#	113.2#	86.0	86.0	2.5
	South	T1	49.1	46.4	7709.2#	113.3#	1628.3	1628.3	35.1
	West	R2	36.8	34.7	5449.7#	107.1#	10.1	10.1	0.3
-----									
West: 18th Avenue									
	North	L2	29.8	28.7	5521.2#	131.2#	18.2	18.2	0.6
	East	T1	26.4	22.3	1021.2#	31.2#	1.7	1.7	0.1
	South	R2	27.5	25.9	3021.2#	79.6#	1.9	1.9	0.1
-----									
ALL VEHICLES:			46.9	44.2	7144.7#	110.2#	3760.9	3760.9	85.1
-----									

"Running Speed" is the average speed excluding stopped periods.

Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.

# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.

INTERSECTION NEGOTIATION DATA

From Approach	To Exit	Turn	Negn Radius ft	Negn Speed mph	Negn Dist ft	App Dist ft	Exit Dist ft	Downstr Dist ft
-----								
South: SR 53								
	West	L2	87.0	18.2	341.6	2500	76	NA
	North	T1	292.3	28.7	201.6	2500	1524	NA
	East	R2	175.6	23.7	81.1	2500	152	NA
-----								
East: 18th Avenue								
	South	L2	87.0	18.2	341.6	500	762	NA
	West	T1	292.3	28.7	201.6	500	76	NA
	North	R2	188.6	24.3	81.0	500	1524	NA
-----								
North: SR 53								
	East	L2	87.0	18.2	341.6	5000	152	NA
	South	T1	292.3	28.7	201.6	5000	762	NA
	West	R2	175.6	23.7	81.1	5000	76	NA
-----								
West: 18th Avenue								
	North	L2	87.0	18.2	341.6	250	1524	NA
	East	T1	292.3	28.7	201.6	250	152	NA
	South	R2	188.6	24.3	81.0	250	762	NA
-----								

Maximum Negotiation (Design) Speed = 30.0 mph

NA Downstream Distance does not apply if:

- Exit is an internal leg of a network
- "Program" option was specified
- Distance specified was less than the Exit Negotiation Distance
- Distance specified was greater than the exit leg length

## MOVEMENT SPEEDS AND GEOMETRIC DELAY

Mov ID	Turn	App. Speeds		Exit Speeds		Queue Move-up Speed mph	Geom Delay sec
		Cruise mph	Negn mph	Negn mph	Cruise mph		
-----							
South: SR 53							
3	L2	55.0	18.2	18.2	55.0	39.6	0.0
8	T1	55.0	28.7	28.7	55.0	39.7	0.0
18	R2	55.0	23.7	23.7	55.0	39.8	0.0
-----							
East: 18th Avenue							
1	L2	30.0	18.2	18.2	30.0	15.4	0.0
6	T1	30.0	28.7	28.7	30.0	15.4	0.0
16	R2	30.0	24.3	24.3	30.0	15.4	0.0
-----							
North: SR 53							
7	L2	55.0	18.2	18.2	55.0	37.9	0.0
4	T1	55.0	28.7	28.7	55.0	38.0	0.0
14	R2	55.0	23.7	23.7	55.0	38.0	0.0
-----							
West: 18th Avenue							
5	L2	30.0	18.2	18.2	30.0	15.2	0.0
2	T1	30.0	28.7	28.7	30.0	15.2	0.0
12	R2	30.0	24.3	24.3	30.0	15.2	0.0

HCM Delay Formula option used: Geometric Delay is not included in Control Delay.

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## Movement Capacity and Performance Parameters

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

## MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
-----									
South: SR 53									
3	L2	#	8	105	112	13	0.85	50	0.568*
8	T1	#	1210	105	112	2129	0.85	50	0.568*
18	R2	#	103	105	112	182	0.85	50	0.568*
-----									
East: 18th Avenue									
1	L2	#	103	1235	1320	232	0.85	91	0.445
6	T1	#	10	1235	1320	22	0.85	91	0.445
16	R2	#	112	1235	1320	252	0.85	91	0.445
-----									
North: SR 53									
7	L2	#	79	121	123	150	0.85	60	0.530
4	T1	#	1115	121	123	2104	0.85	60	0.530
14	R2	#	10	121	123	18	0.85	60	0.530
-----									
West: 18th Avenue									
5	L2	#	17	1298	1384	290	0.85	1316	0.060
2	T1	#	9	1298	1384	145	0.85	1316	0.060
12	R2	#	3	1298	1384	54	0.85	1316	0.060

\* Maximum degree of saturation

# Combined Movement Capacity parameters are shown for all Movement Classes.

## MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
-----										

South: SR 53

3	L2	0.02	0.03	10.0	0.25	1.9	3.62	4.3	0.2	23.8
8	T1	3.34	4.01	9.9	0.25	298.0	40.56	1762.8	37.5	47.0
18	R2	0.28	0.34	9.9	0.25	25.3	5.07	62.2	1.7	37.1
-----										
East: 18th Avenue										
1	L2	0.43	0.52	15.0	0.88	90.9	4.96	62.7	2.4	25.8
6	T1	0.04	0.05	15.0	0.88	8.6	2.08	1.8	0.1	18.1
16	R2	0.47	0.56	15.0	0.88	98.5	6.98	121.0	4.6	26.5
-----										
North: SR 53										
7	L2	0.21	0.25	9.4	0.27	21.8	5.23	86.0	2.5	34.4
4	T1	2.89	3.47	9.3	0.27	304.6	37.53	1628.3	35.1	46.4
14	R2	0.03	0.03	9.3	0.27	2.7	3.57	10.1	0.3	34.7
-----										
West: 18th Avenue										
5	L2	0.04	0.05	8.2	0.67	11.7	0.90	18.2	0.6	28.7
2	T1	0.02	0.02	8.2	0.67	5.8	0.30	1.7	0.1	22.3
12	R2	0.01	0.01	8.2	0.67	2.2	0.27	1.9	0.1	25.9
-----										

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### Fuel Consumption, Emissions and Cost Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

#### FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
-----							
South: SR 53							
3	L2	3.04	0.3	2.6	0.00	0.000	0.008
8	T1	523.92	83.5	756.7	1.42	0.077	1.982
18	R2	40.83	4.0	36.3	0.06	0.004	0.109
		567.80	87.8	795.6	1.48	0.081	2.100
-----							
East: 18th Avenue							
1	L2	24.90	2.5	22.1	0.02	0.002	0.022
6	T1	2.13	0.1	1.1	0.00	0.000	0.001
16	R2	29.97	4.1	36.8	0.03	0.003	0.034
		57.00	6.7	60.0	0.04	0.004	0.057
-----							
North: SR 53							
7	L2	47.25	4.5	40.1	0.07	0.004	0.110
4	T1	677.45	77.4	698.1	1.31	0.071	1.845
14	R2	5.75	0.5	4.8	0.01	0.000	0.014
		730.45	82.4	743.0	1.39	0.076	1.969
-----							
West: 18th Avenue							
5	L2	3.87	0.6	5.5	0.00	0.000	0.005
2	T1	1.52	0.1	1.0	0.00	0.000	0.001
12	R2	0.64	0.1	0.7	0.00	0.000	0.001
		6.03	0.8	7.1	0.01	0.001	0.007
		1361.28	177.7	1605.7	2.93	0.161	4.133
-----							
INTERSECTION:		1361.28	177.7	1605.7	2.93	0.161	4.133
-----							

#### FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
-----							
South: SR 53							
3	L2	0.71	14.5	384.0	0.57	0.037	1.227
8	T1	0.30	21.1	266.7	0.50	0.027	0.699
18	R2	0.66	15.4	362.3	0.56	0.035	1.092
-----							

		0.31	20.8	270.2	0.50	0.027	0.713
-----							
East: 18th Avenue							
1	L2	0.40	25.4	219.5	0.17	0.017	0.217
6	T1	1.20	14.4	384.2	0.31	0.036	0.442
16	R2	0.25	29.5	188.9	0.14	0.013	0.175
-----							
		0.31	27.7	201.1	0.15	0.015	0.192
-----							
North: SR 53							
7	L2	0.55	19.3	289.9	0.52	0.029	0.794
4	T1	0.42	21.0	266.4	0.50	0.027	0.704
14	R2	0.57	18.8	296.4	0.52	0.030	0.850
-----							
		0.42	20.9	267.7	0.50	0.027	0.709
-----							
West: 18th Avenue							
5	L2	0.21	29.8	187.3	0.14	0.013	0.174
2	T1	0.90	15.7	353.5	0.28	0.032	0.402
12	R2	0.34	25.5	218.5	0.17	0.016	0.217
-----							
		0.28	27.5	202.8	0.15	0.015	0.195
-----							
INTERSECTION:		0.36	21.2	265.3	0.48	0.027	0.683
-----							

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## Lanes

### Lane Performance and Capacity Information Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

#### LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Q u e u e		Lane Length ft
						95% Back veh	ft	
-----								
South: SR 53								
1	657	1156	0.568	10.0	0.25	4.4	115.1	2500.0
2	664	1168	0.568	9.9	0.25	4.4	115.2	2500.0
-----								
East: 18th Avenue								
1	225	506	0.445	15.0	0.88	2.4	61.1	500.0
-----								
North: SR 53								
1	599	1129	0.530	9.4	0.27	4.1	109.4	5000.0
2	606	1142	0.530	9.3	0.27	4.2	109.7	5000.0
-----								
West: 18th Avenue								
1	29	489	0.060	8.2	0.67	0.2	6.1	250.0
-----								

#### LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: SR 53					
1	657	150	1156	0.568	100
2	664	150	1168	0.568	100
-----					
East: 18th Avenue					
1	225	150	506	0.445	100
-----					
North: SR 53					
1	599	150	1129	0.530	100
2	606	150	1142	0.530	100

```

-----
West: 18th Avenue
1      29      29      489      0.060      100
-----

```

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

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### Lane, Approach and Intersection Performance

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

```

-----
Lane   Arrival   Adj.   Deg   Aver.   Longest   Lane
No.    Flow      Basic Sat   Delay  Queue    Length
      (veh/h)  Satf.  x     sec    ft       ft
-----
South: SR 53
1      657       7      0.568 10.0    115      2500
2      664       7      0.568  9.9     115      2500
-----
      1321     7      0.568  9.9     115
-----
East: 18th Avenue
1      225       2      0.445 15.0     61       500
-----
      225       2      0.445 15.0     61
-----
North: SR 53
1      599       7      0.530  9.4     109      5000
2      606       7      0.530  9.3     110      5000
-----
      1204     7      0.530  9.3     110
-----
West: 18th Avenue
1      29        2      0.060  8.2      6       250
-----
      29        2      0.060  8.2      6
-----
=====
ALL VEHICLES
      Total   %      Max   Aver.   Max
      Flow   HV      X     Delay  Queue
      2779   7      0.568 10.1   115
=====

```

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)  
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

[Go to Table Links \(Top\)](#)

### Driver Characteristics

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

```

-----
Lane   Satn   Satn   Satn   Satn   Average   Driver
No.    Speed Flow Hdwy   Spacing Queue   Response
      mph   veh/h sec   ft     Space   Time
-----
South: SR 53
1      28.6  1291   2.79  116.88 26.40    2.16
2      27.9  1303   2.76  113.11 26.40    2.12
-----
East: 18th Avenue
1      21.7  1376   2.62   83.22 25.40    1.82
-----
North: SR 53
1      27.3  1292   2.79  111.58 26.40    2.13
2      28.6  1306   2.76  115.75 26.40    2.13
-----

```



```

-----
West: 18th Avenue
1      22.0  1388    2.59   83.53   25.40    1.80
-----

```

Saturation Flow and Saturation Headway are derived from follow-up headway.

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### Lane Delays

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

#### LANE DELAYS

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Delay (seconds/veh)										
				Min Del dm	Stop-line 1st dl	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic	
South: SR 53														
1	0.568	NA	NA	3.1	6.0	4.0	10.0	7.2	6.9	6.9	0.0	6.9	0.0	10.0
2	0.568	NA	NA	3.1	5.9	4.0	9.9	6.9	7.0	0.0	7.0	0.0	9.9	
East: 18th Avenue														
1	0.445	NA	NA	7.2	9.4	5.6	15.0	4.6	11.5	1.6	9.9	0.0	15.0	
North: SR 53														
1	0.530	NA	NA	3.2	5.8	3.5	9.4	6.6	6.4	0.0	6.4	0.0	9.4	
2	0.530	NA	NA	3.2	5.8	3.5	9.3	7.2	6.0	0.0	6.0	0.0	9.3	
West: 18th Avenue														
1	0.060	NA	NA	7.4	7.7	0.5	8.2	4.9	4.8	0.0	4.8	0.0	8.2	

HCM Delay Formula option used (Exclude Geometric Delay option applies). Control Delay does not include Geometric Delay, and Stop-line Delay is treated as being same as Control Delay.

dm: Minimum delay for gap acceptance cases

dSL: Stop-line delay (=d1+d2)

dn: Average stop-start delay for all vehicles queued and unqueued

dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)

dqm: Queue move-up delay

di: Stopped delay (stopped (idling) time at near-zero speed)

dig: Geometric delay

dic: Control delay

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### Lane Queues

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

#### BACK OF QUEUE (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (veh)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.568	NA	NA	0.0	1.8	0.0	1.8	4.4	0.02	0.05	0.0	NA
2	0.568	NA	NA	0.0	1.8	0.0	1.8	4.4	0.02	0.05	0.0	NA
East: 18th Avenue												
1	0.445	NA	NA	0.2	0.8	0.2	1.0	2.4	0.05	0.12	0.0	NA
North: SR 53												
1	0.530	NA	NA	0.0	1.7	0.0	1.7	4.1	0.01	0.02	0.0	NA
2	0.530	NA	NA	0.0	1.7	0.0	1.7	4.2	0.01	0.02	0.0	NA

West: 18th Avenue

1	0.060	NA	NA	0.0	0.1	0.0	0.1	0.2	0.01	0.02	0.0	NA
---	-------	----	----	-----	-----	-----	-----	-----	------	------	-----	----

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.568	NA	NA	0.0	46.3	0.0	46.3	115.1	0.02	0.05	0.0	NA
2	0.568	NA	NA	0.0	46.4	0.0	46.4	115.2	0.02	0.05	0.0	NA
East: 18th Avenue												
1	0.445	NA	NA	4.9	20.6	4.0	24.6	61.1	0.05	0.12	0.0	NA
North: SR 53												
1	0.530	NA	NA	0.0	44.0	0.0	44.0	109.4	0.01	0.02	0.0	NA
2	0.530	NA	NA	0.0	44.1	0.0	44.1	109.7	0.01	0.02	0.0	NA
West: 18th Avenue												
1	0.060	NA	NA	0.0	2.4	0.0	2.4	6.1	0.01	0.02	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.568	NA	NA	0.0	1.8	3.3
2	0.568	NA	NA	0.0	1.8	3.3
East: 18th Avenue						
1	0.445	NA	NA	0.2	0.9	1.7
North: SR 53						
1	0.530	NA	NA	0.0	1.6	2.8
2	0.530	NA	NA	0.0	1.6	2.8
West: 18th Avenue						
1	0.060	NA	NA	0.0	0.1	0.1

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation. (i.e. HCM delays are treated as stop-line delays for this purpose).

## OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.568	NA	NA	0.0	48.0	87.2
2	0.568	NA	NA	0.0	48.2	87.4
East: 18th Avenue						
1	0.445	NA	NA	4.9	23.8	43.1
North: SR 53						
1	0.530	NA	NA	0.0	41.2	74.7
2	0.530	NA	NA	0.0	41.3	75.0
West: 18th Avenue						
1	0.060	NA	NA	0.0	1.7	3.1

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation.  
(i.e. HCM delays are treated as stop-line delays for this purpose).

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### Lane Queue Percentiles

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

#### LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%
-----								
South: SR 53								
1	0.568	1.8	2.3	3.2	3.7	4.4	4.8	5.2
2	0.568	1.8	2.3	3.2	3.7	4.4	4.8	5.2
-----								
East: 18th Avenue								
1	0.445	1.0	1.3	1.8	2.0	2.4	2.7	2.9
-----								
North: SR 53								
1	0.530	1.7	2.2	3.0	3.5	4.1	4.6	4.9
2	0.530	1.7	2.2	3.1	3.5	4.2	4.6	5.0
-----								
West: 18th Avenue								
1	0.060	0.1	0.1	0.2	0.2	0.2	0.3	0.3
-----								

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

#### LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%
-----								
South: SR 53								
1	0.568	46.3	59.9	84.5	97.9	115.1	127.7	137.3
2	0.568	46.3	60.0	84.6	98.0	115.2	127.9	137.5
-----								
East: 18th Avenue								
1	0.445	24.6	31.8	44.9	52.0	61.1	67.8	72.9
-----								
North: SR 53								
1	0.530	44.0	57.0	80.4	93.1	109.4	121.5	130.6
2	0.530	44.1	57.1	80.5	93.3	109.7	121.7	130.9
-----								
West: 18th Avenue								
1	0.060	2.4	3.2	4.5	5.2	6.1	6.7	7.2
-----								

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

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### Lane Stops

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	-- Effective Stop Rate --				Total Stops H	Queue Move-up Rate hqm	Total Queue Move-ups Hqm	Prop. Queued pq	Aver. Num. of Cycles to Depart
				he1	he2	hig	h					
-----												
South: SR 53												
1	0.568	NA	NA	0.25	0.00	0.00	0.25	162.4	0.00	0.0	0.42	0.42
-----												

2	0.568	NA	NA	0.25	0.00	0.00	0.25	162.8	0.00	0.0	0.42	0.42
-----												
East: 18th Avenue												
1	0.445	NA	NA	0.77	0.11	0.00	0.88	198.0	0.30	66.4	0.77	1.06
-----												
North: SR 53												
1	0.530	NA	NA	0.27	0.00	0.00	0.27	164.2	0.00	0.0	0.46	0.46
2	0.530	NA	NA	0.27	0.00	0.00	0.27	164.8	0.00	0.0	0.45	0.45
-----												
West: 18th Avenue												
1	0.060	NA	NA	0.67	0.00	0.00	0.67	19.7	0.00	0.0	0.68	0.68
-----												
hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

[Go to Table Links \(Top\)](#)

## Flow Rates

### Origin-Destination Flow Rates (Total)

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

#### TOTAL FLOW RATES for All Movement Classes (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	7.6	1209.8	103.3	1320.7
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	103.3	9.8	112.0	225.0
%HV (all designations)	2.0	2.0	2.0	2.0
-----				
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	79.3	1115.2	9.8	1204.3
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	17.4	8.7	3.3	29.3
%HV (all designations)	2.0	2.0	2.0	2.0
-----				

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

### Origin-Destination Flow Rates by Movement Class

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

#### FLOW RATES for Light Vehicles (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	7.1	1125.1	96.0	1228.2
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
-----				

From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	101.2	9.6	109.7	220.5
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	73.8	1037.2	9.1	1120.0
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	17.0	8.5	3.2	28.8
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

## FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:				
Turn:	W	N	E	TOT
	L2	T1	R2	
Flow Rate	0.5	84.7	7.2	92.4
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	2.1	0.2	2.2	4.5
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	5.6	78.1	0.7	84.3
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	0.3	0.2	0.1	0.6
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
Unit Time for Volumes = 60 minutes  
Peak Flow Period = 15 minutes  
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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Lane Flow Rates  
Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
Roundabout

## LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To: Turn:	W L2	N T1	E R2	TOT
-----				
Lane 1				
LV	7.1	603.9	*	611.0
HV	0.5	45.5	*	46.0
Total	7.6	649.4	*	657.0
Lane 2				
LV	*	521.2	96.0	617.2
HV	*	39.2	7.2	46.5
Total	*	560.4	103.3	663.7
-----				
Approach	7.6	1209.8	103.3	1320.7
-----				
From EAST To: Turn:	S L2	W T1	N R2	TOT
-----				
Lane 1				
LV	101.2	9.6	109.7	220.5
HV	2.1	0.2	2.2	4.5
Total	103.3	9.8	112.0	225.0
-----				
Approach	103.3	9.8	112.0	225.0
-----				
From NORTH To: Turn:	E L2	S T1	W R2	TOT
-----				
Lane 1				
LV	73.8	483.0	*	556.8
HV	5.6	36.4	*	41.9
Total	79.3	519.4	*	598.8
Lane 2				
LV	*	554.1	9.1	563.2
HV	*	41.7	0.7	42.4
Total	*	595.8	9.8	605.6
-----				
Approach	79.3	1115.2	9.8	1204.3
-----				
From WEST To: Turn:	N L2	E T1	S R2	TOT
-----				
Lane 1				
LV	17.0	8.5	3.2	28.8
HV	0.3	0.2	0.1	0.6
Total	17.4	8.7	3.3	29.3
-----				
Approach	17.4	8.7	3.3	29.3

\* Movement not allocated to the lane

## EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
-----			
Exit: SOUTH			
Lane: 1	584.2	38.4	622.7
Lane: 2	557.3	41.8	599.1
Total	1141.5	80.2	1221.7
-----			
Exit: EAST			
Lane: 1	178.3	13.0	191.3
Total	178.3	13.0	191.3
-----			
Exit: NORTH			
Lane: 1	621.0	45.8	666.8
Lane: 2	630.9	41.5	672.4
Total	1251.9	87.3	1339.1
-----			
Exit: WEST			
Lane: 1	25.8	1.4	27.2
Total	25.8	1.4	27.2
-----			

\* Movement not allocated to the lane

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

```

-----
Movement Class:      LV      HV      TOT
-----
Exit: SOUTH
Lane:  1             584.2   38.4   622.7
Lane:  2             557.3   41.8   599.1
Total                1141.5   80.2  1221.7
-----
Exit: EAST
Lane:  1             178.3   13.0   191.3
Total                178.3   13.0   191.3
-----
Exit: NORTH
Lane:  1             621.0   45.8   666.8
Lane:  2             630.9   41.5   672.4
Total                1251.9   87.3  1339.1
-----
Exit: WEST
Lane:  1              25.8    1.4    27.2
Total                25.8    1.4    27.2
-----

```

\* Movement not allocated to the lane

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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## Other

### Parameter Settings Summary

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
 Roundabout

\* Basic Parameters:  
 Intersection Type: Roundabout  
 Driving on the right-hand side of the road  
 Input data specified in US units  
 Model Defaults: US HCM (Customary)  
 Peak Flow Period (for performance): 15 minutes  
 Unit time (for volumes): 60 minutes.  
 HCM Delay Model option used  
 HCM Queue Model option used  
 Level of Service based on: Delay and v/c (HCM 6)  
 Queue percentile: 95%

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### Diagnostics

Site: SR 53/18th Ave\_2030 PM

Site ID: 1  
 Roundabout

#### Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 3.4%  
 Number of Iterations: 7 (Maximum: 10)  
 Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:  
 2.8% 1.5% 0.7%

Other Diagnostic Messages (if any):

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:41:52 PM  
Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS  
Analysis\Sidra\Roundabout@18th Avenue\Sidra Model\Two Lane\18th Ave.sip8



# Appendix E – Future 2040 Conditions Intersection LOS Analysis Worksheets

# MOVEMENT SUMMARY

 Site: 1 [SR 53/ SR 20\_2040 AM ]

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: SR 53												
3	L2	299	7.0	0.430	8.3	LOS A	3.2	85.2	0.45	0.27	0.45	17.8
18	R2	139	7.0	0.430	8.3	LOS A	3.2	85.2	0.45	0.27	0.45	21.4
Approach		438	7.0	0.430	8.3	LOS A	3.2	85.2	0.45	0.27	0.45	18.9
East: SR 20												
1	L2	240	7.0	0.230	5.6	LOS A	1.4	36.8	0.53	0.39	0.53	21.6
6	T1	155	7.0	0.175	5.8	LOS A	1.0	26.0	0.53	0.39	0.53	23.7
Approach		396	7.0	0.230	5.7	LOS A	1.4	36.8	0.53	0.39	0.53	22.3
West: SR 20												
2	T1	110	7.0	0.150	6.6	LOS A	0.8	21.2	0.51	0.37	0.51	25.1
12	R2	360	7.0	0.329	6.6	LOS A	2.2	58.3	0.53	0.38	0.53	22.5
Approach		470	7.0	0.329	6.6	LOS A	2.2	58.3	0.53	0.38	0.53	23.1
All Vehicles		1303	7.0	0.430	6.9	LOS A	3.2	85.2	0.50	0.34	0.50	21.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, April 19, 2021 2:31:43 PM

Project: J:\JURISDICTION\L\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\Synchro\With Improvements\Sidra\Roundabout \_SR 53\_SR 20\2030 AM.sip8

HCM 6th TWSC  
2: State Route 53 & Ogulin Canyon Rd North

2040 Conditions  
Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	1	443	0	1	599
Future Vol, veh/h	0	1	443	0	1	599
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	25	88	88	88	88
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	0	4	503	0	1	681

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1186	503	0	0	503	0
Stage 1	503	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263	-
Pot Cap-1 Maneuver	208	569	-	-	1036	-
Stage 1	607	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	208	569	-	-	1036	-
Mov Cap-2 Maneuver	208	-	-	-	-	-
Stage 1	607	-	-	-	-	-
Stage 2	501	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	569	1036
HCM Lane V/C Ratio	-	-	0.007	0.001
HCM Control Delay (s)	-	-	11.4	8.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC  
3: State Route 53 & Ogulin Canyon Rd South

2040 Conditions  
Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	9	8	392	34	4	553
Future Vol, veh/h	9	8	392	34	4	553
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	50	-	350	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	55	55	76	76	86	86
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	16	15	516	45	5	643

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1169	-	0	0	561
Stage 1	516	-	-	-	-
Stage 2	653	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.263
Pot Cap-1 Maneuver	213	0	-	-	986
Stage 1	599	0	-	-	-
Stage 2	518	0	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	212	-	-	-	986
Mov Cap-2 Maneuver	212	-	-	-	-
Stage 1	599	-	-	-	-
Stage 2	515	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.4	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	212	986
HCM Lane V/C Ratio	-	-	0.077	0.005
HCM Control Delay (s)	-	-	23.4	0
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC  
4: State Route 53 & Old Hwy 53

2040 Conditions  
Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗	↖
Traffic Vol, veh/h	31	28	22	398	553	11
Future Vol, veh/h	31	28	22	398	553	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	50	395	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	81	81	86	86
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	54	49	27	491	643	13

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1188	643	656	0	-	0
Stage 1	643	-	-	-	-	-
Stage 2	545	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	208	473	908	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	581	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	202	473	908	-	-	-
Mov Cap-2 Maneuver	202	-	-	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	581	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.8	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	908	-	202	473	-	-
HCM Lane V/C Ratio	0.03	-	0.269	0.104	-	-
HCM Control Delay (s)	9.1	-	29.3	13.5	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1	0.3	-	-

HCM 6th Signalized Intersection Summary  
5: State Route 53 & Olympic Dr

2040 Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	249	310	305	429	129
Future Volume (veh/h)	105	249	310	305	429	129
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1796	1796	1796	1796
Adj Flow Rate, veh/h	192	197	341	335	511	154
Peak Hour Factor	0.90	0.90	0.91	0.91	0.84	0.84
Percent Heavy Veh, %	2	2	7	7	7	7
Cap, veh/h	291	624	395	1081	697	209
Arrive On Green	0.16	0.16	0.23	0.60	0.27	0.27
Sat Flow, veh/h	1781	1585	1711	1796	2677	776
Grp Volume(v), veh/h	192	197	341	335	336	329
Grp Sat Flow(s),veh/h/ln	1781	1585	1711	1796	1706	1657
Q Serve(g_s), s	5.6	4.7	10.5	5.0	9.8	9.9
Cycle Q Clear(g_c), s	5.6	4.7	10.5	5.0	9.8	9.9
Prop In Lane	1.00	1.00	1.00			0.47
Lane Grp Cap(c), veh/h	291	624	395	1081	460	446
V/C Ratio(X)	0.66	0.32	0.86	0.31	0.73	0.74
Avail Cap(c_a), veh/h	810	1087	778	1307	1242	1206
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	11.5	20.3	5.4	18.3	18.3
Incr Delay (d2), s/veh	1.0	0.1	2.2	0.1	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.8	3.5	0.9	3.2	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.5	11.6	22.6	5.5	19.9	20.1
LnGrp LOS	C	B	C	A	B	C
Approach Vol, veh/h	389			676	665	
Approach Delay, s/veh	17.0			14.1	20.0	
Approach LOS	B			B	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		40.4		14.6	18.3	22.1
Change Period (Y+Rc), s		* 7.3		5.6	5.6	* 7.3
Max Green Setting (Gmax), s		* 40		25.0	25.0	* 40
Max Q Clear Time (g_c+I1), s		7.0		7.6	12.5	11.9
Green Ext Time (p_c), s		1.3		0.3	0.2	2.9

Intersection Summary

HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
6: State Route 53 & Polk Ave

2040 Conditions  
Timing Plan: A.M. Peak

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	1	0	5	8	0	4	7	658	0	5	713	1
Future Vol, veh/h	1	0	5	8	0	4	7	658	0	5	713	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	550	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	58	58	58	93	93	93	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	2	0	10	14	0	7	8	708	0	6	820	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1561	1557	411	1146	1557	708	821	0	0	708	0	0
Stage 1	833	833	-	724	724	-	-	-	-	-	-	-
Stage 2	728	724	-	422	833	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.205	-	-	4.205	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.2665	-	-	2.2665	-	-
Pot Cap-1 Maneuver	83	112	591	165	112	434	780	-	-	861	-	-
Stage 1	330	383	-	416	429	-	-	-	-	-	-	-
Stage 2	414	429	-	581	383	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	80	109	591	159	109	434	780	-	-	861	-	-
Mov Cap-2 Maneuver	80	109	-	159	109	-	-	-	-	-	-	-
Stage 1	327	378	-	412	425	-	-	-	-	-	-	-
Stage 2	403	425	-	564	378	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.1		24.8		0.1		0.2	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	780	-	-	286	202	861	-	-
HCM Lane V/C Ratio	0.01	-	-	0.042	0.102	0.007	-	-
HCM Control Delay (s)	9.7	-	-	18.1	24.8	9.2	0.1	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

HCM 6th Signalized Intersection Summary  
7: State Route 53 & Lakeshore Dr/40th Ave

2040 Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	104	141	590	168	205	93	439	420	236	62	490	150
Future Volume (veh/h)	104	141	590	168	205	93	439	420	236	62	490	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	114	155	0	191	233	106	472	452	254	69	544	0
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.93	0.93	0.93	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	275	374		432	269	122	395	740	413	128	663	
Arrive On Green	0.09	0.20	0.00	0.11	0.22	0.22	0.23	0.35	0.35	0.07	0.19	0.00
Sat Flow, veh/h	1781	1870	0	1781	1216	553	1711	2112	1178	1711	3503	0
Grp Volume(v), veh/h	114	155	0	191	0	339	472	365	341	69	544	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1770	1711	1706	1584	1711	1706	0
Q Serve(g_s), s	4.2	6.3	0.0	7.2	0.0	16.0	20.0	15.3	15.5	3.4	13.2	0.0
Cycle Q Clear(g_c), s	4.2	6.3	0.0	7.2	0.0	16.0	20.0	15.3	15.5	3.4	13.2	0.0
Prop In Lane	1.00		0.00	1.00		0.31	1.00		0.74	1.00		0.00
Lane Grp Cap(c), veh/h	275	374		432	0	391	395	598	555	128	663	
V/C Ratio(X)	0.41	0.41		0.44	0.00	0.87	1.20	0.61	0.62	0.54	0.82	
Avail Cap(c_a), veh/h	532	647		651	0	613	395	689	640	395	1378	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.9	30.2	0.0	23.6	0.0	32.5	33.3	23.3	23.3	38.7	33.5	0.0
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.3	0.0	4.9	110.3	0.6	0.7	1.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	2.8	0.0	2.9	0.0	7.1	19.5	5.5	5.2	1.4	5.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	30.5	0.0	23.8	0.0	37.5	143.6	23.9	24.1	40.0	34.5	0.0
LnGrp LOS	C	C		C	A	D	F	C	C	D	C	
Approach Vol, veh/h		269	A		530			1178			613	A
Approach Delay, s/veh		28.3			32.6			71.9			35.1	
Approach LOS		C			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	36.9	14.7	23.0	25.6	23.3	12.9	24.9				
Change Period (Y+Rc), s	5.6	6.5	5.4	* 5.7	5.6	6.5	5.4	* 5.7				
Max Green Setting (Gmax), s	20.0	35.0	20.0	* 30	20.0	35.0	20.0	* 30				
Max Q Clear Time (g_c+I1), s	5.4	17.5	9.2	8.3	22.0	15.2	6.2	18.0				
Green Ext Time (p_c), s	0.0	1.8	0.2	0.5	0.0	1.6	0.1	1.0				

Intersection Summary

HCM 6th Ctrl Delay	50.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.



# HCM 6th Signalized Intersection Summary

## 8: State Route 53 & 18th Ave

2040 Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↕		↕	↕↕	
Traffic Volume (veh/h)	3	7	8	88	4	102	0	1065	104	88	1223	7
Future Volume (veh/h)	3	7	8	88	4	102	0	1065	104	88	1223	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	4	10	12	121	5	140	0	1121	109	100	1390	8
Peak Hour Factor	0.67	0.67	0.67	0.73	0.73	0.73	0.95	0.95	0.95	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	83	131	125	335	12	256	3	1333	129	205	2203	13
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.00	0.43	0.43	0.12	0.63	0.63
Sat Flow, veh/h	93	814	777	1363	72	1585	1711	3135	304	1711	3479	20
Grp Volume(v), veh/h	26	0	0	126	0	140	0	609	621	100	682	716
Grp Sat Flow(s),veh/h/ln	1684	0	0	1435	0	1585	1711	1706	1733	1711	1706	1793
Q Serve(g_s), s	0.0	0.0	0.0	4.0	0.0	5.0	0.0	19.6	19.7	3.4	15.0	15.0
Cycle Q Clear(g_c), s	0.8	0.0	0.0	4.8	0.0	5.0	0.0	19.6	19.7	3.4	15.0	15.0
Prop In Lane	0.15		0.46	0.96		1.00	1.00		0.18	1.00		0.01
Lane Grp Cap(c), veh/h	339	0	0	346	0	256	3	726	737	205	1081	1135
V/C Ratio(X)	0.08	0.00	0.00	0.36	0.00	0.55	0.00	0.84	0.84	0.49	0.63	0.63
Avail Cap(c_a), veh/h	605	0	0	578	0	517	558	1391	1413	558	1391	1461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	0.0	0.0	23.5	0.0	23.7	0.0	15.8	15.8	25.2	6.9	6.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.7	0.0	1.0	1.0	0.7	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.6	0.0	1.8	0.0	5.7	5.8	1.2	2.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.9	0.0	0.0	23.8	0.0	24.3	0.0	16.8	16.8	25.9	7.1	7.1
LnGrp LOS	C	A	A	C	A	C	A	B	B	C	A	A
Approach Vol, veh/h		26			266			1230			1498	
Approach Delay, s/veh		21.9			24.1			16.8			8.3	
Approach LOS		C			C			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.8	33.1		15.5	0.0	45.8		15.5				
Change Period (Y+Rc), s	5.4	7.0		5.6	5.4	7.0		5.6				
Max Green Setting (Gmax), s	20.0	50.0		20.0	20.0	50.0		20.0				
Max Q Clear Time (g_c+1), s	15.4	21.7		2.8	0.0	17.0		7.0				
Green Ext Time (p_c), s	0.0	4.3		0.0	0.0	5.2		0.4				

### Intersection Summary

HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

### Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary  
 9: State Route 53 & Old Hwy 53/Dam Rd

2040 Conditions  
 Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	164	244	137	133	244	159	830	156	291	948	54
Future Volume (veh/h)	62	164	244	137	133	244	159	830	156	291	948	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	73	193	287	183	177	325	175	912	171	331	1077	61
Peak Hour Factor	0.85	0.85	0.85	0.75	0.75	0.75	0.91	0.91	0.91	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	148	374	316	322	393	520	204	1060	199	394	1215	69
Arrive On Green	0.08	0.20	0.20	0.09	0.21	0.21	0.12	0.37	0.37	0.12	0.37	0.37
Sat Flow, veh/h	1781	1870	1580	3456	1870	1581	1711	2862	536	3319	3283	186
Grp Volume(v), veh/h	73	193	287	183	177	325	175	544	539	331	560	578
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1728	1870	1581	1711	1706	1692	1659	1706	1763
Q Serve(g_s), s	4.2	9.8	19.0	5.4	8.8	18.6	10.7	31.5	31.5	10.4	32.9	32.9
Cycle Q Clear(g_c), s	4.2	9.8	19.0	5.4	8.8	18.6	10.7	31.5	31.5	10.4	32.9	32.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.11
Lane Grp Cap(c), veh/h	148	374	316	322	393	520	204	632	627	394	631	652
V/C Ratio(X)	0.49	0.52	0.91	0.57	0.45	0.62	0.86	0.86	0.86	0.84	0.89	0.89
Avail Cap(c_a), veh/h	333	420	355	646	420	543	320	798	791	621	798	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	38.2	41.8	46.4	36.8	30.3	46.2	31.1	31.1	46.1	31.6	31.6
Incr Delay (d2), s/veh	1.0	0.4	23.4	0.6	0.3	1.5	8.0	7.3	7.4	3.3	9.4	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	4.5	9.4	2.4	4.1	7.3	4.8	13.0	12.9	4.3	13.9	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	38.6	65.2	47.0	37.1	31.8	54.2	38.4	38.5	49.4	41.0	40.7
LnGrp LOS	D	D	E	D	D	C	D	D	D	D	D	D
Approach Vol, veh/h		553			685			1258			1469	
Approach Delay, s/veh		53.6			37.2			40.7			42.8	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.1	46.5	15.4	27.0	18.1	46.5	14.3	28.1				
Change Period (Y+Rc), s	5.4	* 6.9	5.4	5.6	5.4	* 6.9	5.4	5.6				
Max Green Setting (Gmax), s	20.0	* 50	20.0	24.0	20.0	* 50	20.0	24.0				
Max Q Clear Time (g_c+1/2), s	11.4	33.5	7.4	21.0	12.7	34.9	6.2	20.6				
Green Ext Time (p_c), s	0.3	4.6	0.2	0.3	0.1	4.7	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
 10: State Route 53 & Anderson Ranch Pkwy

2040 Conditions  
 Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	4	28	1120	1281	69
Future Vol, veh/h	13	4	28	1120	1281	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	365	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	87	87	89	89
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	13	4	32	1287	1439	78

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2186	759	1517	0	-	0
Stage 1	1478	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	-	-
Pot Cap-1 Maneuver	39	349	413	-	-	-
Stage 1	176	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	36	349	413	-	-	-
Mov Cap-2 Maneuver	36	-	-	-	-	-
Stage 1	162	-	-	-	-	-
Stage 2	449	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	120.9	0.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	413	-	36	349	-	-
HCM Lane V/C Ratio	0.078	-	0.361	0.011	-	-
HCM Control Delay (s)	14.5	-	153.4	15.4	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.3	-	1.2	0	-	-

HCM 6th TWSC  
 11: State Route 53 & Kugelman St

2040 Conditions  
 Timing Plan: A.M. Peak

Intersection							
Int Delay, s/veh	5						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	19	5	8	1108	0	1132	88
Future Vol, veh/h	19	5	8	1108	0	1132	88
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	50	0	80	-	190	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	46	46	83	83	78	78	78
Heavy Vehicles, %	2	2	7	7	7	7	7
Mvmt Flow	41	11	10	1335	0	1451	113

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	2196	782	1564	0	1335	-	0
Stage 1	1508	-	-	-	-	-	-
Stage 2	688	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	6.54	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	2.57	-	-
Pot Cap-1 Maneuver	~ 38	337	395	-	192	-	-
Stage 1	169	-	-	-	-	-	-
Stage 2	460	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	~ 37	337	395	-	192	-	-
Mov Cap-2 Maneuver	~ 37	-	-	-	-	-	-
Stage 1	165	-	-	-	-	-	-
Stage 2	460	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	281.3	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	395	-	37	337	192	-	-
HCM Lane V/C Ratio	0.024	-	1.116	0.032	-	-	-
HCM Control Delay (s)	14.3	-	\$ 351.1	16	0	-	-
HCM Lane LOS	B	-	F	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	4.2	0.1	0	-	-

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th TWSC  
12: State Route 53 & Jessie St

2040 Conditions  
Timing Plan: A.M. Peak

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	47	1065	30	84	1046
Future Vol, veh/h	1	47	1065	30	84	1046
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	83	83	78	78
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	1	65	1283	36	108	1341


























Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	2189	661	0	0	1320
Stage 1	1302	-	-	-	-
Stage 2	887	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.24
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.27
Pot Cap-1 Maneuver	39	405	-	-	494
Stage 1	219	-	-	-	-
Stage 2	363	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	6	405	-	-	494
Mov Cap-2 Maneuver	40	-	-	-	-
Stage 1	219	-	-	-	-
Stage 2	52	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.2	0	6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	340	494
HCM Lane V/C Ratio	-	-	0.196	0.218
HCM Control Delay (s)	-	-	18.2	14.3
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.7	0.8

HCM 6th Signalized Intersection Summary  
 13: State Route 29 & Main St & State Route 53

2040 Conditions  
 Timing Plan: A.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 							 			 	
Traffic Volume (veh/h)	528	71	152	47	55	109	175	435	93	119	428	467
Future Volume (veh/h)	528	71	152	47	55	109	175	435	93	119	428	467
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	600	81	173	53	62	124	194	483	103	132	476	519
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	560	103	219	126	191	309	228	975	207	167	1066	732
Arrive On Green	0.17	0.20	0.20	0.07	0.11	0.11	0.13	0.35	0.35	0.10	0.31	0.31
Sat Flow, veh/h	3319	509	1088	1711	1796	1509	1711	2802	594	1711	3413	1522
Grp Volume(v), veh/h	600	0	254	53	62	124	194	293	293	132	476	519
Grp Sat Flow(s),veh/h/ln	1659	0	1597	1711	1796	1509	1711	1706	1689	1711	1706	1522
Q Serve(g_s), s	15.0	0.0	13.4	2.6	2.8	6.3	9.8	12.0	12.1	6.7	9.9	23.8
Cycle Q Clear(g_c), s	15.0	0.0	13.4	2.6	2.8	6.3	9.8	12.0	12.1	6.7	9.9	23.8
Prop In Lane	1.00		0.68	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	560	0	322	126	191	309	228	594	588	167	1066	732
V/C Ratio(X)	1.07	0.00	0.79	0.42	0.32	0.40	0.85	0.49	0.50	0.79	0.45	0.71
Avail Cap(c_a), veh/h	560	0	431	289	485	556	289	864	856	289	1729	1028
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	0.0	33.7	39.3	36.7	30.7	37.6	22.8	22.8	39.2	24.4	18.1
Incr Delay (d2), s/veh	58.3	0.0	4.9	0.8	0.4	0.3	14.7	0.2	0.2	3.2	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	0.0	5.3	1.1	1.3	2.3	4.8	4.5	4.5	2.8	3.7	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.3	0.0	38.5	40.1	37.1	31.0	52.4	23.0	23.1	42.4	24.5	18.7
LnGrp LOS	F	A	D	D	D	C	D	C	C	D	C	B
Approach Vol, veh/h		854			239			780			1127	
Approach Delay, s/veh		78.4			34.6			30.3			23.9	
Approach LOS		E			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.3	37.7	12.2	24.7	17.4	34.5	20.6	16.3				
Change Period (Y+Rc), s	5.6	6.8	5.6	6.8	5.6	6.8	5.6	* 6.8				
Max Green Setting (Gmax), s	15.0	45.0	15.0	24.0	15.0	45.0	15.0	* 24				
Max Q Clear Time (g_c+I1), s	8.7	14.1	4.6	15.4	11.8	25.8	17.0	8.3				
Green Ext Time (p_c), s	0.1	1.5	0.0	0.6	0.1	1.9	0.0	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			41.9									
HCM 6th LOS			D									
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Queues  
5: State Route 53 & Olympic Dr

2040 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	203	191	341	335	665
v/c Ratio	0.63	0.22	0.73	0.30	0.72
Control Delay	34.3	2.7	35.1	6.7	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	2.7	35.1	6.7	27.4
Queue Length 50th (ft)	70	3	129	53	128
Queue Length 95th (ft)	158	34	#301	116	200
Internal Link Dist (ft)	735			1679	3149
Turn Bay Length (ft)	215		625		
Base Capacity (vph)	636	1000	613	1647	1910
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.19	0.56	0.20	0.35

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
7: State Route 53 & Lakeshore Dr/40th Ave

2040 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	803	191	339	472	706	69	711
v/c Ratio	0.34	1.47	0.72	0.64	1.58	0.59	0.47	0.88
Control Delay	24.4	248.5	40.3	40.9	311.2	29.9	62.6	53.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	248.5	40.3	40.9	311.2	29.9	62.6	53.3
Queue Length 50th (ft)	50	~725	88	204	-492	198	49	252
Queue Length 95th (ft)	96	#1103	165	333	#797	302	104	350
Internal Link Dist (ft)		525		345		237		721
Turn Bay Length (ft)	65		70		830		135	
Base Capacity (vph)	479	546	369	528	298	1196	298	1028
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	1.47	0.52	0.64	1.58	0.59	0.23	0.69

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



Queues  
8: State Route 53 & 18th Ave

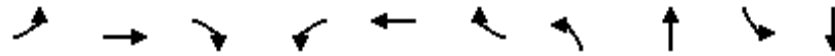
2040 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	26	126	140	1230	100	1398
v/c Ratio	0.09	0.52	0.35	0.79	0.40	0.65
Control Delay	22.4	40.3	9.1	21.5	39.2	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	40.3	9.1	21.5	39.2	9.6
Queue Length 50th (ft)	5	51	0	228	41	157
Queue Length 95th (ft)	21	105	26	411	110	276
Internal Link Dist (ft)	292	411		2599		679
Turn Bay Length (ft)			150		720	
Base Capacity (vph)	496	391	563	2394	494	2594
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.32	0.25	0.51	0.20	0.54
Intersection Summary						

Queues  
9: State Route 53 & Old Hwy 53/Dam Rd

2040 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	193	287	183	177	325	175	1083	331	1138
v/c Ratio	0.42	0.71	0.69	0.52	0.51	0.51	0.73	0.83	0.73	0.87
Control Delay	59.7	61.8	22.8	55.7	50.5	14.9	66.1	36.6	57.5	39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	61.8	22.8	55.7	50.5	14.9	66.1	36.6	57.5	39.7
Queue Length 50th (ft)	51	136	46	67	123	72	123	343	120	375
Queue Length 95th (ft)	105	219	128	95	174	105	#228	533	186	552
Internal Link Dist (ft)		478			407			1595		2599
Turn Bay Length (ft)	150		90	135			575		760	
Base Capacity (vph)	329	416	517	639	424	707	314	1548	609	1562
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.46	0.56	0.29	0.42	0.46	0.56	0.70	0.54	0.73

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues

13: State Route 29 & Main St & State Route 53

2040 Conditions

Timing Plan: A.M. Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	600	254	53	63	124	194	586	132	476	519
v/c Ratio	0.93	0.56	0.26	0.24	0.25	0.62	0.70	0.54	0.68	0.52
Control Delay	58.4	26.0	40.6	35.7	5.1	43.9	32.4	43.8	35.0	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	26.0	40.6	35.7	5.1	43.9	32.4	43.8	35.0	4.2
Queue Length 50th (ft)	151	81	24	29	0	88	132	61	115	10
Queue Length 95th (ft)	#342	177	69	69	32	#230	230	140	190	73
Internal Link Dist (ft)		479		714			1302		940	
Turn Bay Length (ft)	60		125		70	230		165		500
Base Capacity (vph)	643	569	331	570	560	331	1948	331	1990	990
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.45	0.16	0.11	0.22	0.59	0.30	0.40	0.24	0.52

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

# MOVEMENT SUMMARY

 Site: 1 [SR 53/ SR 20\_2040 PM]

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: SR 53												
3	L2	371	7.0	0.677	15.0	LOS B	9.5	250.6	0.75	0.67	0.95	15.2
18	R2	259	7.0	0.677	15.0	LOS B	9.5	250.6	0.75	0.67	0.95	18.2
Approach		629	7.0	0.677	15.0	LOS B	9.5	250.6	0.75	0.67	0.95	16.4
East: SR 20												
1	L2	186	7.0	0.217	6.5	LOS A	1.3	35.4	0.62	0.49	0.62	21.1
6	T1	196	7.0	0.207	5.9	LOS A	1.3	34.6	0.61	0.47	0.61	23.7
Approach		382	7.0	0.217	6.2	LOS A	1.3	35.4	0.62	0.48	0.62	22.2
West: SR 20												
2	T1	191	7.0	0.206	5.9	LOS A	1.2	32.0	0.46	0.31	0.46	25.8
12	R2	366	7.0	0.323	6.3	LOS A	2.2	58.0	0.48	0.31	0.48	22.7
Approach		558	7.0	0.323	6.2	LOS A	2.2	58.0	0.48	0.31	0.48	23.7
All Vehicles		1568	7.0	0.677	9.7	LOS A	9.5	250.6	0.62	0.49	0.70	19.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, April 19, 2021 2:33:03 PM

Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\Synchro\With Improvements\Sidra\Roundabout \_SR 53\_SR 20\2030 AM.sip8

HCM 6th TWSC  
2: State Route 53 & Ogulin Canyon Rd North

2040 Conditions  
Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	3	636	0	1	572
Future Vol, veh/h	1	3	636	0	1	572
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	25	89	89	88	88
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	4	12	715	0	1	650

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1367	715	0	0	715
Stage 1	715	-	-	-	-
Stage 2	652	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263
Pot Cap-1 Maneuver	162	431	-	-	863
Stage 1	485	-	-	-	-
Stage 2	518	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	162	431	-	-	863
Mov Cap-2 Maneuver	162	-	-	-	-
Stage 1	485	-	-	-	-
Stage 2	517	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	305	863
HCM Lane V/C Ratio	-	-	0.052	0.001
HCM Control Delay (s)	-	-	17.5	9.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC  
 3: State Route 53 & Ogulin Canyon Rd South

2040 Conditions  
 Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	32	22	609	15	5	584
Future Vol, veh/h	32	22	609	15	5	584
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	50	-	350	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	87	87	92	92
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	39	27	700	17	5	635

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1345	-	0	0	717
Stage 1	700	-	-	-	-
Stage 2	645	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.263
Pot Cap-1 Maneuver	167	0	-	-	861
Stage 1	493	0	-	-	-
Stage 2	522	0	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	166	-	-	-	861
Mov Cap-2 Maneuver	166	-	-	-	-
Stage 1	493	-	-	-	-
Stage 2	519	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33.1	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	166	-	861	-
HCM Lane V/C Ratio	-	-	0.232	-	0.006	-
HCM Control Delay (s)	-	-	33.1	0	9.2	-
HCM Lane LOS	-	-	D	A	A	-
HCM 95th %tile Q(veh)	-	-	0.9	-	0	-

HCM 6th TWSC  
4: State Route 53 & Old Hwy 53

2040 Conditions  
Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗	↖
Traffic Vol, veh/h	16	13	13	608	590	28
Future Vol, veh/h	16	13	13	608	590	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	50	395	-	-	350
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	91	91	91	91
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	21	17	14	668	648	31

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1344	648	679	0	-	0
Stage 1	648	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	167	470	890	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	164	470	890	-	-	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	513	-	-	-	-	-
Stage 2	495	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.5	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	890	-	164	470	-	-
HCM Lane V/C Ratio	0.016	-	0.13	0.037	-	-
HCM Control Delay (s)	9.1	-	30.2	13	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0.1	-	-

# HCM 6th Signalized Intersection Summary

## 5: State Route 53 & Olympic Dr

2040 Conditions  
Timing Plan: P.M. Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	166	333	412	444	412	170
Future Volume (veh/h)	166	333	412	444	412	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1796	1796	1796	1796
Adj Flow Rate, veh/h	274	280	448	483	458	189
Peak Hour Factor	0.89	0.89	0.92	0.92	0.90	0.90
Percent Heavy Veh, %	2	2	7	7	7	7
Cap, veh/h	330	748	490	1118	597	244
Arrive On Green	0.19	0.19	0.29	0.62	0.25	0.25
Sat Flow, veh/h	1781	1585	1711	1796	2452	967
Grp Volume(v), veh/h	274	280	448	483	330	317
Grp Sat Flow(s),veh/h/ln	1781	1585	1711	1796	1706	1622
Q Serve(g_s), s	9.9	7.6	17.0	9.3	12.0	12.2
Cycle Q Clear(g_c), s	9.9	7.6	17.0	9.3	12.0	12.2
Prop In Lane	1.00	1.00	1.00			0.60
Lane Grp Cap(c), veh/h	330	748	490	1118	431	410
V/C Ratio(X)	0.83	0.37	0.91	0.43	0.77	0.77
Avail Cap(c_a), veh/h	664	1044	637	1118	1017	967
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	11.4	23.1	6.5	23.2	23.3
Incr Delay (d2), s/veh	2.1	0.1	13.2	0.2	2.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	7.4	2.1	4.3	4.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.4	11.5	36.4	6.7	25.4	25.6
LnGrp LOS	C	B	D	A	C	C
Approach Vol, veh/h	554			931	647	
Approach Delay, s/veh	19.9			21.0	25.5	
Approach LOS	B			C	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		49.1		18.0	24.8	24.3
Change Period (Y+Rc), s		* 7.3		5.6	5.6	* 7.3
Max Green Setting (Gmax), s		* 40		25.0	25.0	* 40
Max Q Clear Time (g_c+I1), s		11.3		11.9	19.0	14.2
Green Ext Time (p_c), s		2.1		0.5	0.2	2.8

### Intersection Summary

HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th TWSC  
6: State Route 53 & Polk Ave

2040 Conditions  
Timing Plan: P.M. Peak

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	0	3	32	5	0	5	7	914	8	3	799	0
Future Vol, veh/h	0	3	32	5	0	5	7	914	8	3	799	0
Conflicting Peds, #/hr	0	0	1	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	550	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	75	75	75	94	94	94	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	0	5	51	7	0	7	7	972	9	3	898	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1899	1899	450	1450	1895	978	898	0	0	981	0	0
Stage 1	904	904	-	991	991	-	-	-	-	-	-	-
Stage 2	995	995	-	459	904	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.205	-	-	4.205	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.2665	-	-	2.2665	-	-
Pot Cap-1 Maneuver	47	69	557	100	69	303	728	-	-	677	-	-
Stage 1	299	355	-	295	323	-	-	-	-	-	-	-
Stage 2	294	322	-	552	355	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	45	68	556	85	68	303	728	-	-	677	-	-
Mov Cap-2 Maneuver	45	68	-	85	68	-	-	-	-	-	-	-
Stage 1	296	352	-	292	320	-	-	-	-	-	-	-
Stage 2	284	319	-	490	352	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	17.5		35.1		0.1		0			
HCM LOS	C		E							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	728	-	-	344	133	677	-	-
HCM Lane V/C Ratio	0.01	-	-	0.161	0.1	0.005	-	-
HCM Control Delay (s)	10	-	-	17.5	35.1	10.3	0	-
HCM Lane LOS	A	-	-	C	E	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.3	0	-	-

HCM 6th Signalized Intersection Summary  
7: State Route 53 & Lakeshore Dr/40th Ave

2040 Conditions  
Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	133	307	590	129	295	93	599	676	218	112	631	109
Future Volume (veh/h)	133	307	590	129	295	93	599	676	218	112	631	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	145	334	0	154	351	111	637	719	232	122	686	0
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.94	0.94	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	229	508		332	375	119	330	853	275	150	788	
Arrive On Green	0.08	0.27	0.00	0.08	0.28	0.28	0.19	0.34	0.34	0.09	0.23	0.00
Sat Flow, veh/h	1781	1870	0	1781	1361	430	1711	2537	819	1711	3503	0
Grp Volume(v), veh/h	145	334	0	154	0	462	637	484	467	122	686	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1792	1711	1706	1649	1711	1706	0
Q Serve(g_s), s	6.0	16.4	0.0	6.4	0.0	26.1	20.0	27.2	27.2	7.3	20.1	0.0
Cycle Q Clear(g_c), s	6.0	16.4	0.0	6.4	0.0	26.1	20.0	27.2	27.2	7.3	20.1	0.0
Prop In Lane	1.00		0.00	1.00		0.24	1.00		0.50	1.00		0.00
Lane Grp Cap(c), veh/h	229	508		332	0	493	330	574	554	150	788	
V/C Ratio(X)	0.63	0.66		0.46	0.00	0.94	1.93	0.84	0.84	0.81	0.87	
Avail Cap(c_a), veh/h	435	541		531	0	518	330	576	557	330	1152	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.6	33.5	0.0	25.3	0.0	36.7	41.8	31.9	31.9	46.5	38.4	0.0
Incr Delay (d2), s/veh	1.1	2.0	0.0	0.4	0.0	23.6	429.6	10.4	10.7	4.0	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	7.6	0.0	2.6	0.0	14.3	47.2	11.8	11.5	3.1	8.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	35.5	0.0	25.7	0.0	60.2	471.5	42.2	42.6	50.5	42.1	0.0
LnGrp LOS	C	D		C	A	E	F	D	D	D	D	
Approach Vol, veh/h		479	A		616			1588			808	A
Approach Delay, s/veh		33.4			51.6			214.5			43.4	
Approach LOS		C			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	41.4	13.8	33.8	25.6	30.4	13.4	34.2				
Change Period (Y+Rc), s	5.6	6.5	5.4	* 5.7	5.6	6.5	5.4	* 5.7				
Max Green Setting (Gmax), s	20.0	35.0	20.0	* 30	20.0	35.0	20.0	* 30				
Max Q Clear Time (g_c+I1), s	9.3	29.2	8.4	18.4	22.0	22.1	8.0	28.1				
Green Ext Time (p_c), s	0.1	1.6	0.1	1.0	0.0	1.9	0.1	0.4				

Intersection Summary

HCM 6th Ctrl Delay	121.3
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
8: State Route 53 & 18th Ave

2040 Conditions  
Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Volume (veh/h)	19	9	4	110	11	120	8	1425	110	85	1313	11
Future Volume (veh/h)	19	9	4	110	11	120	8	1425	110	85	1313	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	27	13	6	131	13	143	9	1566	121	89	1368	11
Peak Hour Factor	0.71	0.71	0.71	0.84	0.84	0.84	0.91	0.91	0.91	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	96	39	10	250	16	224	35	1726	132	166	2130	17
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.02	0.54	0.54	0.10	0.61	0.61
Sat Flow, veh/h	172	279	68	1159	115	1585	1711	3212	246	1711	3470	28
Grp Volume(v), veh/h	46	0	0	144	0	143	9	827	860	89	673	706
Grp Sat Flow(s),veh/h/ln	519	0	0	1274	0	1585	1711	1706	1752	1711	1706	1791
Q Serve(g_s), s	0.8	0.0	0.0	0.0	0.0	6.8	0.4	34.9	35.8	4.0	20.2	20.2
Cycle Q Clear(g_c), s	9.7	0.0	0.0	9.0	0.0	6.8	0.4	34.9	35.8	4.0	20.2	20.2
Prop In Lane	0.59		0.13	0.91		1.00	1.00		0.14	1.00		0.02
Lane Grp Cap(c), veh/h	145	0	0	266	0	224	35	917	941	166	1047	1099
V/C Ratio(X)	0.32	0.00	0.00	0.54	0.00	0.64	0.26	0.90	0.91	0.54	0.64	0.64
Avail Cap(c_a), veh/h	297	0	0	420	0	395	427	1064	1092	427	1064	1117
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	0.0	33.4	0.0	32.5	38.7	16.6	16.9	34.5	9.9	9.9
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.6	0.0	1.1	1.4	8.8	9.8	1.0	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.7	0.0	2.6	0.2	12.4	13.3	1.6	5.4	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	0.0	0.0	34.0	0.0	33.6	40.1	25.5	26.7	35.5	10.9	10.8
LnGrp LOS	C	A	A	C	A	C	D	C	C	D	B	B
Approach Vol, veh/h		46			287			1696			1468	
Approach Delay, s/veh		32.6			33.8			26.2			12.3	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.2	50.1		16.9	7.0	56.2		16.9				
Change Period (Y+Rc), s	5.4	7.0		5.6	5.4	7.0		5.6				
Max Green Setting (Gmax), s	20.0	50.0		20.0	20.0	50.0		20.0				
Max Q Clear Time (g_c+10), s	10.0	37.8		11.7	2.4	22.2		11.0				
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	5.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary  
 9: State Route 53 & Old Hwy 53/Dam Rd

2040 Conditions  
 Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	174	210	251	167	474	251	957	249	296	992	93
Future Volume (veh/h)	32	174	210	251	167	474	251	957	249	296	992	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	36	196	236	285	190	539	267	1018	265	318	1067	100
Peak Hour Factor	0.89	0.89	0.89	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	104	313	264	345	391	506	286	1141	296	374	1169	110
Arrive On Green	0.06	0.17	0.17	0.10	0.21	0.21	0.17	0.43	0.43	0.11	0.37	0.37
Sat Flow, veh/h	1781	1870	1579	3456	1870	1569	1711	2682	695	3319	3154	295
Grp Volume(v), veh/h	36	196	236	285	190	539	267	646	637	318	577	590
Grp Sat Flow(s),veh/h/ln	1781	1870	1579	1728	1870	1569	1711	1706	1671	1659	1706	1743
Q Serve(g_s), s	2.3	11.7	17.5	9.7	10.7	25.0	18.4	41.8	42.3	11.2	38.4	38.5
Cycle Q Clear(g_c), s	2.3	11.7	17.5	9.7	10.7	25.0	18.4	41.8	42.3	11.2	38.4	38.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	1.00		0.17
Lane Grp Cap(c), veh/h	104	313	264	345	391	506	286	726	711	374	633	646
V/C Ratio(X)	0.35	0.63	0.89	0.83	0.49	1.06	0.93	0.89	0.90	0.85	0.91	0.91
Avail Cap(c_a), veh/h	298	375	317	578	391	506	286	726	711	555	714	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	46.3	48.7	52.8	41.6	40.6	49.1	31.8	31.9	52.1	35.8	35.8
Incr Delay (d2), s/veh	0.7	1.2	20.9	1.9	0.3	58.3	35.3	13.0	13.9	5.4	14.6	14.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.5	8.5	4.3	5.0	23.0	10.3	18.3	18.3	4.8	17.3	17.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	47.4	69.7	54.7	42.0	98.9	84.5	44.7	45.8	57.5	50.4	50.3
LnGrp LOS	D	D	E	D	D	F	F	D	D	E	D	D
Approach Vol, veh/h		468			1014			1550			1485	
Approach Delay, s/veh		59.2			75.9			52.0			51.9	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.9	57.7	17.3	25.6	25.4	51.2	12.4	30.6				
Change Period (Y+Rc), s	5.4	* 6.9	5.4	5.6	5.4	* 6.9	5.4	5.6				
Max Green Setting (Gmax), s	20.0	* 50	20.0	24.0	20.0	* 50	20.0	24.0				
Max Q Clear Time (g_c+I), s	11.2	44.3	11.7	19.5	20.4	40.5	4.3	27.0				
Green Ext Time (p_c), s	0.2	3.0	0.3	0.4	0.0	3.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	58.1
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
10: State Route 53 & Anderson Ranch Pkwy

2040 Conditions  
Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	45.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	19	11	1396	1481	19
Future Vol, veh/h	35	19	11	1396	1481	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	365	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	33	33	98	98	94	94
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	106	58	11	1424	1576	20

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2320	798	1596	0	-	0
Stage 1	1586	-	-	-	-	-
Stage 2	734	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	-	-
Pot Cap-1 Maneuver	~ 32	329	384	-	-	-
Stage 1	154	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 31	329	384	-	-	-
Mov Cap-2 Maneuver	~ 31	-	-	-	-	-
Stage 1	150	-	-	-	-	-
Stage 2	436	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 885	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	384	-	31	329	-	-
HCM Lane V/C Ratio	0.029	-	3.421	0.175	-	-
HCM Control Delay (s)	14.7	\$	1355.6	18.2	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	12.6	0.6	-	-

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th TWSC  
 11: State Route 53 & Kugelmann St

2040 Conditions  
 Timing Plan: P.M. Peak

Intersection							
Int Delay, s/veh	3.6						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	22	20	18	1385	0	1309	88
Future Vol, veh/h	22	20	18	1385	0	1309	88
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	50	0	80	-	190	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	68	68	97	97	91	91	91
Heavy Vehicles, %	2	2	7	7	7	7	7
Mvmt Flow	32	29	19	1428	0	1438	97

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	2239	768	1535	0	1428	-	0
Stage 1	1487	-	-	-	-	-	-
Stage 2	752	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.24	-	6.54	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.27	-	2.57	-	-
Pot Cap-1 Maneuver	36	344	406	-	167	-	-
Stage 1	174	-	-	-	-	-	-
Stage 2	426	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	34	344	406	-	167	-	-
Mov Cap-2 Maneuver	34	-	-	-	-	-	-
Stage 1	166	-	-	-	-	-	-
Stage 2	426	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	171.9	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	406	-	34	344	167	-	-
HCM Lane V/C Ratio	0.046	-	0.952	0.085	-	-	-
HCM Control Delay (s)	14.3	-	313.2	16.4	0	-	-
HCM Lane LOS	B	-	F	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	3.4	0.3	0	-	-

HCM 6th TWSC  
12: State Route 53 & Jessie St

2040 Conditions  
Timing Plan: P.M. Peak

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	16	62	1337	40	40	1287
Future Vol, veh/h	16	62	1337	40	40	1287
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	97	97	91	91
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	18	70	1378	41	44	1414
























Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	2194	710	0	0	1419
Stage 1	1399	-	-	-	-
Stage 2	795	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.24
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.27
Pot Cap-1 Maneuver	38	376	-	-	451
Stage 1	194	-	-	-	-
Stage 2	405	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	21	376	-	-	451
Mov Cap-2 Maneuver	104	-	-	-	-
Stage 1	194	-	-	-	-
Stage 2	221	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.8	0	3.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	245	451
HCM Lane V/C Ratio	-	-	0.362	0.097
HCM Control Delay (s)	-	-	27.8	13.8
HCM Lane LOS	-	-	D	B
HCM 95th %tile Q(veh)	-	-	1.6	0.3

HCM 6th Signalized Intersection Summary  
 13: State Route 29 & Main St & State Route 53

2040 Conditions  
 Timing Plan: P.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	473	55	108	74	94	225	143	591	85	211	508	509
Future Volume (veh/h)	473	55	108	74	94	225	143	591	85	211	508	509
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	538	62	123	80	102	245	157	649	93	234	564	566
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	511	125	249	141	291	480	187	912	130	253	1170	746
Arrive On Green	0.15	0.22	0.22	0.08	0.16	0.16	0.11	0.30	0.30	0.15	0.34	0.34
Sat Flow, veh/h	3456	560	1111	1781	1870	1576	1711	2997	429	1711	3413	1518
Grp Volume(v), veh/h	538	0	185	80	102	245	157	369	373	234	564	566
Grp Sat Flow(s),veh/h/ln	1728	0	1670	1781	1870	1576	1711	1706	1719	1711	1706	1518
Q Serve(g_s), s	15.0	0.0	9.8	4.4	4.9	13.0	9.1	19.5	19.5	13.7	13.2	30.7
Cycle Q Clear(g_c), s	15.0	0.0	9.8	4.4	4.9	13.0	9.1	19.5	19.5	13.7	13.2	30.7
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	511	0	374	141	291	480	187	519	523	253	1170	746
V/C Ratio(X)	1.05	0.00	0.49	0.57	0.35	0.51	0.84	0.71	0.71	0.93	0.48	0.76
Avail Cap(c_a), veh/h	511	0	395	263	442	607	253	757	762	253	1514	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	0.0	34.3	45.0	38.2	29.1	44.3	31.3	31.4	42.7	26.2	21.0
Incr Delay (d2), s/veh	54.5	0.0	0.4	1.3	0.3	0.3	13.1	0.7	0.7	36.4	0.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	0.0	3.8	2.0	2.3	5.0	4.4	7.6	7.7	8.1	5.1	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.7	0.0	34.7	46.3	38.5	29.4	57.4	32.0	32.0	79.1	26.4	23.4
LnGrp LOS	F	A	C	D	D	C	E	C	C	E	C	C
Approach Vol, veh/h		723			427			899			1364	
Approach Delay, s/veh		81.6			34.8			36.5			34.2	
Approach LOS		F			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.6	37.7	13.7	29.5	16.7	41.6	20.6	22.6				
Change Period (Y+Rc), s	5.6	6.8	5.6	6.8	5.6	6.8	5.6	* 6.8				
Max Green Setting (Gmax), s	15.0	45.0	15.0	24.0	15.0	45.0	15.0	* 24				
Max Q Clear Time (g_c+I1), s	15.7	21.5	6.4	11.8	11.1	32.7	17.0	15.0				
Green Ext Time (p_c), s	0.0	1.9	0.1	0.5	0.1	2.1	0.0	0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			44.9									
HCM 6th LOS			D									
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



Queues  
5: State Route 53 & Olympic Dr

2040 Conditions  
Timing Plan: P.M. Peak



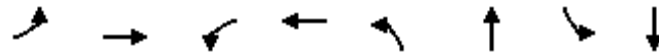
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	292	269	448	483	647
v/c Ratio	0.79	0.28	0.85	0.43	0.76
Control Delay	44.4	3.1	46.1	9.7	31.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	3.1	46.1	9.7	31.9
Queue Length 50th (ft)	128	10	208	109	142
Queue Length 95th (ft)	234	50	#489	218	226
Internal Link Dist (ft)	735			1679	3149
Turn Bay Length (ft)	215		625		
Base Capacity (vph)	551	974	528	1548	1648
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.28	0.85	0.31	0.39

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
7: State Route 53 & Lakeshore Dr/40th Ave

2040 Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	145	975	154	462	637	951	122	804
v/c Ratio	0.61	2.00	0.64	0.97	2.18	0.87	0.65	0.90
Control Delay	35.8	481.6	37.0	76.3	567.7	46.2	66.2	54.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.8	481.6	37.0	76.3	567.7	46.2	66.2	54.7
Queue Length 50th (ft)	71	~1125	75	340	~775	336	90	298
Queue Length 95th (ft)	125	#1479	120	#539	#1072	#537	156	#410
Internal Link Dist (ft)		525		345		237		721
Turn Bay Length (ft)	65		70		830		135	
Base Capacity (vph)	364	487	364	478	292	1089	292	1011
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	2.00	0.42	0.97	2.18	0.87	0.42	0.80

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
8: State Route 53 & 18th Ave

2040 Conditions  
Timing Plan: P.M. Peak



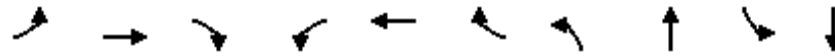
Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	144	143	9	1687	89	1379
v/c Ratio	0.21	0.70	0.39	0.05	0.89	0.47	0.61
Control Delay	33.0	55.4	9.5	41.5	26.7	48.3	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	55.4	9.5	41.5	26.7	48.3	11.2
Queue Length 50th (ft)	20	80	0	5	429	49	172
Queue Length 95th (ft)	41	138	41	21	#753	103	440
Internal Link Dist (ft)	292	411			2599		679
Turn Bay Length (ft)			150	675		720	
Base Capacity (vph)	318	296	465	377	1900	377	2274
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.49	0.31	0.02	0.89	0.24	0.61

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
9: State Route 53 & Old Hwy 53/Dam Rd

2040 Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	196	236	285	190	539	267	1283	318	1167
v/c Ratio	0.25	0.77	0.65	0.71	0.45	0.75	0.96	0.91	0.77	0.90
Control Delay	61.4	71.9	23.4	63.3	46.6	24.3	96.9	44.0	65.4	45.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	71.9	23.4	63.3	46.6	24.3	96.9	44.0	65.4	45.9
Queue Length 50th (ft)	28	154	44	115	143	220	217	485	129	446
Queue Length 95th (ft)	68	244	132	168	213	321	#447	#793	191	#678
Internal Link Dist (ft)		478			407			1595		2599
Turn Bay Length (ft)	150		90	135			575		760	
Base Capacity (vph)	292	369	450	566	431	765	278	1411	540	1378
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.53	0.52	0.50	0.44	0.70	0.96	0.91	0.59	0.85

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
13: State Route 29 & Main St & State Route 53

2040 Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	538	186	80	102	245	157	742	234	564	566
v/c Ratio	0.88	0.52	0.39	0.44	0.49	0.64	0.80	0.78	0.54	0.60
Control Delay	54.4	28.1	45.0	44.2	18.3	49.7	36.5	56.4	28.4	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	28.1	45.0	44.2	18.3	49.7	36.5	56.4	28.4	6.8
Queue Length 50th (ft)	148	57	41	53	63	80	196	123	137	41
Queue Length 95th (ft)	#309	138	98	114	146	#182	291	#315	215	143
Internal Link Dist (ft)		479		714			1302		940	
Turn Bay Length (ft)	60		125		70	230		165		500
Base Capacity (vph)	612	528	315	543	503	300	1778	300	1806	948
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.35	0.25	0.19	0.49	0.52	0.42	0.78	0.31	0.60

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary  
 7: State Route 53 & Lakeshore Dr/40th Ave

2040 Conditions  
 Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖↗	↖↗		↖	↗	
Traffic Volume (veh/h)	104	141	590	168	205	93	439	420	236	62	490	150
Future Volume (veh/h)	104	141	590	168	205	93	439	420	236	62	490	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	114	155	0	191	233	106	472	452	254	69	544	0
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.93	0.93	0.93	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	311	400		464	275	125	569	613	342	138	681	
Arrive On Green	0.10	0.21	0.00	0.11	0.23	0.23	0.17	0.29	0.29	0.08	0.20	0.00
Sat Flow, veh/h	1781	1870	0	1781	1216	553	3319	2112	1178	1711	3503	0
Grp Volume(v), veh/h	114	155	0	191	0	339	472	365	341	69	544	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1770	1659	1706	1584	1711	1706	0
Q Serve(g_s), s	3.6	5.4	0.0	6.2	0.0	13.9	10.4	14.6	14.8	2.9	11.5	0.0
Cycle Q Clear(g_c), s	3.6	5.4	0.0	6.2	0.0	13.9	10.4	14.6	14.8	2.9	11.5	0.0
Prop In Lane	1.00		0.00	1.00		0.31	1.00		0.74	1.00		0.00
Lane Grp Cap(c), veh/h	311	400		464	0	400	569	495	460	138	681	
V/C Ratio(X)	0.37	0.39		0.41	0.00	0.85	0.83	0.74	0.74	0.50	0.80	
Avail Cap(c_a), veh/h	611	742		742	0	702	877	790	733	452	1579	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.5	25.5	0.0	19.7	0.0	28.0	30.3	24.2	24.3	33.3	28.8	0.0
Incr Delay (d2), s/veh	0.3	0.2	0.0	0.2	0.0	1.9	2.2	0.8	0.9	1.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.3	0.0	2.4	0.0	5.7	3.9	5.2	4.8	1.1	4.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	25.7	0.0	19.9	0.0	30.0	32.5	25.0	25.2	34.3	29.7	0.0
LnGrp LOS	C	C		B	A	C	C	C	C	C	C	
Approach Vol, veh/h		269	A		530			1178			613	A
Approach Delay, s/veh		23.6			26.3			28.1			30.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	28.5	13.6	21.9	18.6	21.6	12.7	22.8				
Change Period (Y+Rc), s	5.6	6.5	5.4	* 5.7	5.6	6.5	5.4	* 5.7				
Max Green Setting (Gmax), s	20.0	35.0	20.0	* 30	20.0	35.0	20.0	* 30				
Max Q Clear Time (g_c+I1), s	4.9	16.8	8.2	7.4	12.4	13.5	5.6	15.9				
Green Ext Time (p_c), s	0.1	1.8	0.2	0.5	0.6	1.6	0.1	1.1				

Intersection Summary

HCM 6th Ctrl Delay	27.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

# HCM 6th Signalized Intersection Summary

## 8: State Route 53 & 18th Ave

2040 Conditions  
Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↑	↗	↖	↑↗	
Traffic Volume (veh/h)	3	7	8	88	4	102	0	1065	104	88	1223	7
Future Volume (veh/h)	3	7	8	88	4	102	0	1065	104	88	1223	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	4	10	12	121	5	140	0	1121	109	100	1390	8
Peak Hour Factor	0.67	0.67	0.67	0.73	0.73	0.73	0.95	0.95	0.95	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	225	312	264	347	9	256	3	1388	605	210	2159	12
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.00	0.41	0.41	0.12	0.62	0.62
Sat Flow, veh/h	1243	1870	1585	1390	55	1538	1711	3413	1489	1711	3479	20
Grp Volume(v), veh/h	4	10	12	121	0	145	0	1121	109	100	682	716
Grp Sat Flow(s),veh/h/ln	1243	1870	1585	1390	0	1593	1711	1706	1489	1711	1706	1793
Q Serve(g_s), s	0.2	0.3	0.4	4.7	0.0	4.9	0.0	17.2	2.8	3.2	14.9	15.0
Cycle Q Clear(g_c), s	5.1	0.3	0.4	5.0	0.0	4.9	0.0	17.2	2.8	3.2	14.9	15.0
Prop In Lane	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	225	312	264	347	0	266	3	1388	605	210	1059	1112
V/C Ratio(X)	0.02	0.03	0.05	0.35	0.00	0.55	0.00	0.81	0.18	0.48	0.64	0.64
Avail Cap(c_a), veh/h	438	632	535	585	0	538	578	2881	1257	578	1441	1513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	20.7	20.7	22.8	0.0	22.6	0.0	15.5	11.2	24.2	7.1	7.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.6	0.0	0.4	0.1	0.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.1	1.5	0.0	1.8	0.0	4.9	0.7	1.1	2.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	20.7	20.7	23.0	0.0	23.3	0.0	16.0	11.3	24.8	7.3	7.3
LnGrp LOS	C	C	C	C	A	C	A	B	B	C	A	A
Approach Vol, veh/h		26			266			1230			1498	
Approach Delay, s/veh		21.4			23.1			15.5			8.5	
Approach LOS		C			C			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.7	31.1		15.5	0.0	43.8		15.5				
Change Period (Y+Rc), s	5.4	7.0		5.6	5.4	7.0		5.6				
Max Green Setting (Gmax), s	20.0	50.0		20.0	20.0	50.0		20.0				
Max Q Clear Time (g_c+I1), s	5.2	19.2		7.1	0.0	17.0		7.0				
Green Ext Time (p_c), s	0.0	4.8		0.0	0.0	5.2		0.4				

### Intersection Summary

























HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

### Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary  
 9: State Route 53 & Old Hwy 53/Dam Rd

2040 Conditions  
 Timing Plan: A.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	164	244	137	133	244	159	830	156	291	948	54
Future Volume (veh/h)	62	164	244	137	133	244	159	830	156	291	948	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	73	193	287	183	177	325	175	912	171	331	1077	61
Peak Hour Factor	0.85	0.85	0.85	0.75	0.75	0.75	0.91	0.91	0.91	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	148	374	316	322	393	520	204	1264	557	394	1215	69
Arrive On Green	0.08	0.20	0.20	0.09	0.21	0.21	0.12	0.37	0.37	0.12	0.37	0.37
Sat Flow, veh/h	1781	1870	1580	3456	1870	1581	1711	3413	1503	3319	3283	186
Grp Volume(v), veh/h	73	193	287	183	177	325	175	912	171	331	560	578
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1728	1870	1581	1711	1706	1503	1659	1706	1763
Q Serve(g_s), s	4.2	9.8	19.0	5.4	8.8	18.6	10.7	24.6	8.6	10.4	32.9	32.9
Cycle Q Clear(g_c), s	4.2	9.8	19.0	5.4	8.8	18.6	10.7	24.6	8.6	10.4	32.9	32.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	148	374	316	322	393	520	204	1264	557	394	631	652
V/C Ratio(X)	0.49	0.52	0.91	0.57	0.45	0.62	0.86	0.72	0.31	0.84	0.89	0.89
Avail Cap(c_a), veh/h	333	420	355	646	420	543	320	1596	703	621	798	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	38.2	41.8	46.4	36.8	30.3	46.2	28.9	23.9	46.1	31.6	31.6
Incr Delay (d2), s/veh	1.0	0.4	23.4	0.6	0.3	1.5	8.0	1.0	0.2	3.3	9.4	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	4.5	9.4	2.4	4.1	7.3	4.8	9.3	3.1	4.3	13.9	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	38.6	65.2	47.0	37.1	31.8	54.2	30.0	24.1	49.4	41.0	40.7
LnGrp LOS	D	D	E	D	D	C	D	C	C	D	D	D
Approach Vol, veh/h		553			685			1258			1469	
Approach Delay, s/veh		53.6			37.2			32.5			42.8	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.1	46.5	15.4	27.0	18.1	46.5	14.3	28.1				
Change Period (Y+Rc), s	5.4	* 6.9	5.4	5.6	5.4	* 6.9	5.4	5.6				
Max Green Setting (Gmax), s	20.0	* 50	20.0	24.0	20.0	* 50	20.0	24.0				
Max Q Clear Time (g_c+I1), s	12.4	26.6	7.4	21.0	12.7	34.9	6.2	20.6				
Green Ext Time (p_c), s	0.3	5.1	0.2	0.3	0.1	4.7	0.0	0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			40.1									
HCM 6th LOS			D									
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



Queues  
7: State Route 53 & Lakeshore Dr/40th Ave

2040 Conditions  
Timing Plan: A.M. Peak



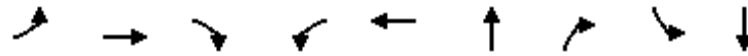
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	803	191	339	472	706	69	711
v/c Ratio	0.34	1.46	0.72	0.64	0.85	0.60	0.47	0.88
Control Delay	24.2	243.5	39.8	40.5	62.0	30.2	62.4	52.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	243.5	39.8	40.5	62.0	30.2	62.4	52.6
Queue Length 50th (ft)	50	~725	88	204	172	198	49	252
Queue Length 95th (ft)	96	#1103	165	333	#301	302	104	350
Internal Link Dist (ft)		525		345		237		721
Turn Bay Length (ft)	65		70		830		135	
Base Capacity (vph)	486	550	372	533	584	1179	301	1039
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	1.46	0.51	0.64	0.81	0.60	0.23	0.68

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
8: State Route 53 & 18th Ave

2040 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	4	10	12	121	145	1121	109	100	1398
v/c Ratio	0.02	0.03	0.03	0.48	0.36	0.74	0.15	0.38	0.67
Control Delay	28.7	28.4	0.1	36.1	9.4	20.4	3.6	35.5	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.7	28.4	0.1	36.1	9.4	20.4	3.6	35.5	9.7
Queue Length 50th (ft)	1	3	0	45	2	192	0	37	147
Queue Length 95th (ft)	8	14	0	95	28	348	28	103	263
Internal Link Dist (ft)		292			411	2599			679
Turn Bay Length (ft)	50		50	150			675	720	
Base Capacity (vph)	385	580	558	435	592	2573	1151	525	2668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.02	0.02	0.28	0.24	0.44	0.09	0.19	0.52
Intersection Summary									

Queues  
9: State Route 53 & Old Hwy 53/Dam Rd

2040 Conditions  
Timing Plan: A.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	73	193	287	183	177	325	175	912	171	331	1138
v/c Ratio	0.42	0.71	0.69	0.52	0.51	0.51	0.73	0.68	0.25	0.73	0.87
Control Delay	59.7	61.8	22.8	55.7	50.5	14.9	66.1	31.5	4.7	57.5	39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	61.8	22.8	55.7	50.5	14.9	66.1	31.5	4.7	57.5	39.7
Queue Length 50th (ft)	51	136	46	67	123	72	123	271	0	120	375
Queue Length 95th (ft)	105	219	128	95	174	105	#228	423	47	186	552
Internal Link Dist (ft)		478			407			1595			2599
Turn Bay Length (ft)	150		90	135			575		575	760	
Base Capacity (vph)	329	416	517	639	424	707	314	1580	788	609	1562
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.46	0.56	0.29	0.42	0.46	0.56	0.58	0.22	0.54	0.73

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary  
7: State Route 53 & Lakeshore Dr/40th Ave

2040 Conditions  
Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖↗	↖↗		↖	↗	
Traffic Volume (veh/h)	133	307	590	129	295	93	599	676	218	112	631	109
Future Volume (veh/h)	133	307	590	129	295	93	599	676	218	112	631	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	145	334	0	154	351	111	637	719	232	122	686	0
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.94	0.94	0.94	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	229	508		332	375	119	640	853	275	150	788	
Arrive On Green	0.08	0.27	0.00	0.08	0.28	0.28	0.19	0.34	0.34	0.09	0.23	0.00
Sat Flow, veh/h	1781	1870	0	1781	1361	430	3319	2537	819	1711	3503	0
Grp Volume(v), veh/h	145	334	0	154	0	462	637	484	467	122	686	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1792	1659	1706	1649	1711	1706	0
Q Serve(g_s), s	6.0	16.4	0.0	6.4	0.0	26.1	19.9	27.2	27.2	7.3	20.1	0.0
Cycle Q Clear(g_c), s	6.0	16.4	0.0	6.4	0.0	26.1	19.9	27.2	27.2	7.3	20.1	0.0
Prop In Lane	1.00		0.00	1.00		0.24	1.00		0.50	1.00		0.00
Lane Grp Cap(c), veh/h	229	508		332	0	493	640	574	554	150	788	
V/C Ratio(X)	0.63	0.66		0.46	0.00	0.94	0.99	0.84	0.84	0.81	0.87	
Avail Cap(c_a), veh/h	435	541		531	0	518	640	576	557	330	1152	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.6	33.5	0.0	25.3	0.0	36.7	41.8	31.9	31.9	46.5	38.4	0.0
Incr Delay (d2), s/veh	1.1	2.0	0.0	0.4	0.0	23.6	34.2	10.4	10.7	4.0	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	7.6	0.0	2.6	0.0	14.3	10.6	11.8	11.5	3.1	8.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	35.5	0.0	25.7	0.0	60.2	76.0	42.2	42.6	50.5	42.1	0.0
LnGrp LOS	C	D		C	A	E	E	D	D	D	D	
Approach Vol, veh/h		479	A		616			1588			808	A
Approach Delay, s/veh		33.4			51.6			55.9			43.4	
Approach LOS		C			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	41.4	13.8	33.8	25.6	30.4	13.4	34.2				
Change Period (Y+Rc), s	5.6	6.5	5.4	* 5.7	5.6	6.5	5.4	* 5.7				
Max Green Setting (Gmax), s	20.0	35.0	20.0	* 30	20.0	35.0	20.0	* 30				
Max Q Clear Time (g_c+I1), s	9.3	29.2	8.4	18.4	21.9	22.1	8.0	28.1				
Green Ext Time (p_c), s	0.1	1.6	0.1	1.0	0.0	1.9	0.1	0.4				

Intersection Summary

HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes
























User approved pedestrian interval to be less than phase max green.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary  
8: State Route 53 & 18th Ave

2040 Conditions  
Timing Plan: P.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	9	4	110	11	120	8	1425	110	85	1313	11
Future Volume (veh/h)	19	9	4	110	11	120	8	1425	110	85	1313	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	27	13	6	131	13	143	9	1566	121	89	1368	11
Peak Hour Factor	0.71	0.71	0.71	0.84	0.84	0.84	0.91	0.91	0.91	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	147	251	213	275	18	197	35	1782	795	174	2093	17
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.02	0.52	0.52	0.10	0.60	0.60
Sat Flow, veh/h	1231	1870	1585	1393	134	1472	1711	3413	1522	1711	3470	28
Grp Volume(v), veh/h	27	13	6	131	0	156	9	1566	121	89	673	706
Grp Sat Flow(s),veh/h/ln	1231	1870	1585	1393	0	1605	1711	1706	1522	1711	1706	1791
Q Serve(g_s), s	1.6	0.5	0.2	6.7	0.0	6.9	0.4	30.1	3.1	3.7	19.2	19.2
Cycle Q Clear(g_c), s	8.5	0.5	0.2	7.2	0.0	6.9	0.4	30.1	3.1	3.7	19.2	19.2
Prop In Lane	1.00		1.00	1.00		0.92	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	147	251	213	275	0	215	35	1782	795	174	1030	1081
V/C Ratio(X)	0.18	0.05	0.03	0.48	0.00	0.72	0.26	0.88	0.15	0.51	0.65	0.65
Avail Cap(c_a), veh/h	313	503	426	463	0	432	460	2294	1023	460	1147	1204
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	28.1	28.0	31.2	0.0	30.9	35.9	15.7	9.2	31.6	9.7	9.7
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.5	0.0	1.7	1.4	2.9	0.0	0.9	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.2	0.1	2.2	0.0	2.7	0.2	9.2	0.8	1.4	4.9	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	28.1	28.0	31.7	0.0	32.6	37.3	18.6	9.3	32.5	10.4	10.4
LnGrp LOS	D	C	C	C	A	C	D	B	A	C	B	B
Approach Vol, veh/h		46			287			1696			1468	
Approach Delay, s/veh		32.3			32.2			18.0			11.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	45.8		15.6	6.9	51.9		15.6				
Change Period (Y+Rc), s	5.4	7.0		5.6	5.4	7.0		5.6				
Max Green Setting (Gmax), s	20.0	50.0		20.0	20.0	50.0		20.0				
Max Q Clear Time (g_c+I1), s	5.7	32.1		10.5	2.4	21.2		9.2				
Green Ext Time (p_c), s	0.0	6.7		0.0	0.0	5.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary  
9: State Route 53 & Old Hwy 53/Dam Rd

2040 Conditions  
Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	174	210	251	167	474	251	957	249	296	992	93
Future Volume (veh/h)	32	174	210	251	167	474	251	957	249	296	992	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	36	196	236	285	190	539	267	1018	265	318	1067	100
Peak Hour Factor	0.89	0.89	0.89	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	7	7	7
Cap, veh/h	104	313	264	345	391	506	286	1452	647	374	1169	110
Arrive On Green	0.06	0.17	0.17	0.10	0.21	0.21	0.17	0.43	0.43	0.11	0.37	0.37
Sat Flow, veh/h	1781	1870	1579	3456	1870	1569	1711	3413	1522	3319	3154	295
Grp Volume(v), veh/h	36	196	236	285	190	539	267	1018	265	318	577	590
Grp Sat Flow(s),veh/h/ln	1781	1870	1579	1728	1870	1569	1711	1706	1522	1659	1706	1743
Q Serve(g_s), s	2.3	11.7	17.5	9.7	10.7	25.0	18.4	29.2	14.5	11.2	38.4	38.5
Cycle Q Clear(g_c), s	2.3	11.7	17.5	9.7	10.7	25.0	18.4	29.2	14.5	11.2	38.4	38.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	104	313	264	345	391	506	286	1452	647	374	633	646
V/C Ratio(X)	0.35	0.63	0.89	0.83	0.49	1.06	0.93	0.70	0.41	0.85	0.91	0.91
Avail Cap(c_a), veh/h	298	375	317	578	391	506	286	1452	647	555	714	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	46.3	48.7	52.8	41.6	40.6	49.1	28.1	23.9	52.1	35.8	35.8
Incr Delay (d2), s/veh	0.7	1.2	20.9	1.9	0.3	58.3	35.3	1.4	0.3	5.4	14.6	14.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.5	8.5	4.3	5.0	23.0	10.3	11.2	5.3	4.8	17.3	17.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	47.4	69.7	54.7	42.0	98.9	84.5	29.6	24.2	57.5	50.4	50.3
LnGrp LOS	D	D	E	D	D	F	F	C	C	E	D	D
Approach Vol, veh/h		468			1014			1550			1485	
Approach Delay, s/veh		59.2			75.9			38.1			51.9	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.9	57.7	17.3	25.6	25.4	51.2	12.4	30.6				
Change Period (Y+Rc), s	5.4	* 6.9	5.4	5.6	5.4	* 6.9	5.4	5.6				
Max Green Setting (Gmax), s	20.0	* 50	20.0	24.0	20.0	* 50	20.0	24.0				
Max Q Clear Time (g_c+I1), s	13.2	31.2	11.7	19.5	20.4	40.5	4.3	27.0				
Green Ext Time (p_c), s	0.2	5.7	0.3	0.4	0.0	3.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	53.3
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.  
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queues  
7: State Route 53 & Lakeshore Dr/40th Ave

2040 Conditions  
Timing Plan: P.M. Peak



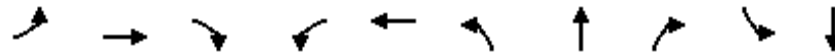
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	145	975	154	462	637	951	122	804
v/c Ratio	0.61	2.00	0.64	0.97	1.12	0.87	0.65	0.90
Control Delay	35.8	481.6	37.0	76.3	120.7	46.2	66.2	54.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.8	481.6	37.0	76.3	120.7	46.2	66.2	54.7
Queue Length 50th (ft)	71	~1125	75	340	-289	336	90	298
Queue Length 95th (ft)	125	#1479	120	#539	#442	#537	156	#410
Internal Link Dist (ft)		525		345		237		721
Turn Bay Length (ft)	65		70		830		135	
Base Capacity (vph)	364	487	364	478	567	1089	292	1011
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	2.00	0.42	0.97	1.12	0.87	0.42	0.80

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
8: State Route 53 & 18th Ave

2040 Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	27	13	6	131	156	9	1566	121	89	1379
v/c Ratio	0.17	0.05	0.02	0.62	0.43	0.05	0.83	0.13	0.45	0.61
Control Delay	36.8	33.9	0.0	49.9	11.8	40.9	22.5	2.9	46.7	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	33.9	0.0	49.9	11.8	40.9	22.5	2.9	46.7	10.9
Queue Length 50th (ft)	14	7	0	71	6	5	354	0	48	160
Queue Length 95th (ft)	30	18	0	126	51	21	#652	28	103	432
Internal Link Dist (ft)		292			411		2599			679
Turn Bay Length (ft)	50		50	150		675		675	720	
Base Capacity (vph)	252	441	447	330	490	400	2000	944	400	2358
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.03	0.01	0.40	0.32	0.02	0.78	0.13	0.22	0.58

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



Queues  
9: State Route 53 & Old Hwy 53/Dam Rd

2040 Conditions  
Timing Plan: P.M. Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	36	196	236	285	190	539	267	1018	265	318	1167
v/c Ratio	0.24	0.77	0.65	0.71	0.45	0.75	0.95	0.71	0.33	0.76	0.91
Control Delay	61.3	71.5	23.3	63.0	46.4	24.2	95.3	34.1	4.4	65.0	46.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	71.5	23.3	63.0	46.4	24.2	95.3	34.1	4.4	65.0	46.7
Queue Length 50th (ft)	28	154	44	115	143	220	217	343	0	129	446
Queue Length 95th (ft)	68	244	132	168	213	321	#447	521	58	191	#678
Internal Link Dist (ft)		478			407			1595			2599
Turn Bay Length (ft)	150		90	135			575		575	760	
Base Capacity (vph)	293	371	451	570	434	768	280	1449	799	543	1387
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.53	0.52	0.50	0.44	0.70	0.95	0.70	0.33	0.59	0.84

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# LANE SUMMARY

 Site: 1 [SR 53/ 40th Ave\_2040 AM]

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

Lane Use and Performance													
	Demand Flows			Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	Total veh/h	HV %	Cap. veh/h					Veh	Dist ft				
South: SR 53													
Lane 1	587	7.0	998	0.588	100	11.6	LOS B	5.2	137.1	Full	1000	0.0	0.0
Lane 2 <sup>d</sup>	603	7.0	1025	0.588	100	11.3	LOS B	5.1	134.4	Full	1000	0.0	0.0
Approach	1190	7.0		0.588		11.4	LOS B	5.2	137.1				
East: 40th Avenue													
Lane 1 <sup>d</sup>	507	2.0	523	0.968	100	59.7	LOS E	18.6	472.3	Full	1000	0.0	0.0
Approach	507	2.0		0.968		59.7	LOS E	18.6	472.3				
North: SR 53													
Lane 1	359	7.0	513	0.700	100	25.3	LOS C	7.8	204.6	Full	1600	0.0	0.0
Lane 2 <sup>d</sup>	404	7.0	578	0.700	100	23.0	LOS C	8.2	217.2	Full	1600	0.0	0.0
Approach	763	7.0		0.700		24.1	LOS C	8.2	217.2				
West: Lakeshore Drive													
Lane 1 <sup>d</sup>	908	2.0	586	1.548	100	274.0	LOS F	117.1	2975.0	Full	1000	0.0	100.0
Approach	908	2.0		1.548		274.0	LOS F	117.1	2975.0				
Intersection	3367	4.9		1.548		92.3	LOS F	117.1	2975.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>d</sup> Dominant lane on roundabout approach

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:54:26 PM






Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS Analysis\Sidra\Roundabout@40th Avenue\Sidra Model\Two Lane\40th Ave.sip8

## DETAILED OUTPUT

 Site: 1 [SR 53/ 40th Ave\_2040 AM]

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

### OUTPUT TABLE LINKS

-  Roundabouts
  - Roundabout Basic Parameters
  - Roundabout Circulating / Exiting Stream Parameters
  - Roundabout Gap Acceptance Parameters
  - Roundabout Flow Rates
-  Movements
  - Intersection Negotiation and Travel Data
  - Movement Capacity and Performance Parameters
  - Fuel Consumption, Emissions and Cost
-  Lanes
  - Lane Performance and Capacity Information
  - Lane, Approach and Intersection Performance
  - Driver Characteristics
  - Lane Delays
  - Lane Queues
  - Lane Queue Percentiles
  - Lane Stops
-  Flow Rates
  - Origin-Destination Flow Rates (Total)
  - Origin-Destination Flow Rates by Movement Class
  - Lane Flow Rates
-  Other
  - Parameter Settings Summary
  - Diagnostics

## Roundabouts

Roundabout Basic Parameters  
Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av. Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %
-----											
South: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	1000		NA	0.0N
-----											
East: 40th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	1000		NA	0.0N
-----											
North: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	1600		NA	0.0N
-----											
West: Lakeshore Drive											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	1000		NA	0.0N
-----											

Roundabout Capacity Model: SIDRA Standard

NA Not Applicable (single Site analysis or unconnected Site in Network analysis).

N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).

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Roundabout Circulating / Exiting Stream Parameters  
Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: SR 53													
W	L2	1	Subdominant	241	1.03	249	0.0	0.0	N	0.955	23.6	2.00	0.261
N	T1	1	Subdominant	241	1.03	249	0.0	0.0	N	0.955	23.6	2.00	0.261
N	T1	2	Dominant	241	1.03	249	0.0	0.0	Y	0.955	23.6	2.00	0.261
E	R2	2	Dominant	241	1.03	249	0.0	0.0	Y	0.955	23.6	2.00	0.261
East: 40th Avenue													
S	L2	1	Dominant	1007	1.07	1074	0.0	0.0	Y	0.824	22.9	1.23	0.559
W	T1	1	Dominant	1007	1.07	1074	0.0	0.0	Y	0.824	22.9	1.23	0.559
N	R2	1	Dominant	1007	1.07	1074	0.0	0.0	Y	0.824	22.9	1.23	0.559
North: SR 53													
E	L2	1	Subdominant	883	1.05	924	0.0	0.0	N	0.847	20.8	2.00	0.699
S	T1	1	Subdominant	883	1.05	924	0.0	0.0	N	0.847	20.8	2.00	0.699
S	T1	2	Dominant	883	1.05	924	0.0	0.0	N	0.847	20.8	2.00	0.699
W	R2	2	Dominant	883	1.05	924	0.0	0.0	N	0.847	20.8	2.00	0.699
West: Lakeshore Drive													
N	L2	1	Dominant	783	1.06	828	0.0	0.0	N	0.832	25.3	1.27	0.476
E	T1	1	Dominant	783	1.06	828	0.0	0.0	N	0.832	25.3	1.27	0.476
S	R2	1	Dominant	783	1.06	828	0.0	0.0	N	0.832	25.3	1.27	0.476

Roundabout Capacity Model: SIDRA Standard

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters  
Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
								Headway sec	Dist ft	
South: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Subdominant	2.00	0.261	Y	1.07	4.44	154.0	2.77
N	T1	1	Subdominant	2.00	0.261	Y	1.07	4.44	154.0	2.77
N	T1	2	Dominant	2.00	0.261	Y	1.07	4.34	150.7	2.71
E	R2	2	Dominant	2.00	0.261	Y	1.07	4.34	150.7	2.71
East: 40th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	1.23	0.559	Y	1.02	3.80	127.7	2.71
W	T1	1	Dominant	1.23	0.559	Y	1.02	3.80	127.7	2.71
N	R2	1	Dominant	1.23	0.559	Y	1.02	3.80	127.7	2.71
North: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Subdominant	2.00	0.699	Y	1.07	3.79	115.7	2.66
S	T1	1	Subdominant	2.00	0.699	Y	1.07	3.79	115.7	2.66
S	T1	2	Dominant	2.00	0.699	Y	1.07	3.48	106.2	2.44
W	R2	2	Dominant	2.00	0.699	Y	1.07	3.48	106.2	2.44
West: Lakeshore Drive										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	1.27	0.476	Y	1.02	4.06	150.8	2.80
E	T1	1	Dominant	1.27	0.476	Y	1.02	4.06	150.8	2.80
S	R2	1	Dominant	1.27	0.476	Y	1.02	4.06	150.8	2.80

-----  
 Roundabout Capacity Model: SIDRA Standard  
 Priority sharing means Follow-up Headway plus Intra-bunch Headway  
 is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two  
 successive vehicles across all lanes in the circulating  
 or exiting stream

[Go to Table Links \(Top\)](#)

### Roundabout Flow Rates

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
 Roundabout

#### CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate veh/h	pcu/h	Percent
-----			
South: SR 53			
1	0	0	0.0%
2	241	249	100.0%
Total	241	249	
-----			
East: 40th Avenue			
1	660	703	65.5%
2	347	371	34.5%
Total	1007	1074	
-----			
North: SR 53			
1	0	0	0.0%
2	883	924	100.0%
Total	883	924	
-----			
West: Lakeshore Drive			
1	541	570	68.9%
2	241	258	31.1%
Total	782	828	

The SIDRA Standard roundabout capacity model option is in use.  
 This model takes into account the total circulating flow as well as the effect  
 of flow distribution in circulating lanes on the entry capacity results.

#### APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
-----			
South: SR 53			
1	0	587	587
2	257	346	603
Total	257	933	1190
-----			
East: 40th Avenue			
1	101	406	507
Total	101	406	507
-----			
North: SR 53			
1	0	359	359
2	163	241	404
Total	163	600	763
-----			
West: Lakeshore Drive			
1	641	267	908
Total	641	267	908

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### Movements

Intersection Negotiation and Travel Data  
Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

From Approach	To Exit	Turn	Running Speed mph	Travel Speed mph	Travel Distance ft	Travel Time s	Total Dem Flows veh-mi/h	Travel Distance Arv Flows veh-mi/h	Tot.Trav. Time veh-h/h
-----									
South: SR 53									
	West	L2	33.9	29.0	2315.4#	54.5#	209.3	209.3	7.2
	North	T1	37.3	32.7	2790.1#	58.2#	241.2	241.2	7.4
	East	R2	34.4	29.6	2150.3#	49.5#	104.5	104.5	3.5
-----									
East: 40th Avenue									
	South	L2	24.6	15.0	2228.0#	101.6#	77.1	77.1	5.2
	West	T1	24.2	14.8	2228.0#	102.6#	94.0	94.0	6.3
	North	R2	25.6	16.8	2828.0#	115.1#	54.1	54.1	3.2
-----									
North: SR 53									
	East	L2	34.7	27.6	2827.9#	69.9#	36.1	36.1	1.3
	South	T1	34.4	27.8	2794.0#	68.6#	281.8	281.8	10.1
	West	R2	33.1	27.3	2753.0#	68.6#	85.0	85.0	3.1
-----									
West: Lakeshore Drive									
	North	L2	15.9	5.7	2733.8#	325.2#	58.5	58.5	10.2
	East	T1	13.5	4.6	2133.8#	316.2#	61.9	61.9	13.5
	South	R2	13.2	4.6	2133.8#	318.7#	259.2	259.2	56.8
-----									
ALL VEHICLES:			27.6	12.2	2450.4#	136.7#	1562.8	1562.8	127.9

"Running Speed" is the average speed excluding stopped periods.

Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.

# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.

INTERSECTION NEGOTIATION DATA

From Approach	To Exit	Turn	Negn Radius ft	Negn Speed mph	Negn Dist ft	App Dist ft	Exit Dist ft	Downstr Dist ft
-----								
South: SR 53								
	West	L2	87.0	18.2	341.6	1000	305	NA
	North	T1	292.3	28.7	201.6	1000	488	NA
	East	R2	175.6	23.7	81.1	1000	305	NA
-----								
East: 40th Avenue								
	South	L2	87.0	18.2	341.6	1000	305	NA
	West	T1	292.3	28.7	201.6	1000	305	NA
	North	R2	188.6	24.3	81.0	1000	488	NA
-----								
North: SR 53								
	East	L2	87.0	18.2	341.6	1600	305	NA
	South	T1	292.3	28.7	201.6	1600	305	NA
	West	R2	175.6	23.7	81.1	1600	305	NA
-----								
West: Lakeshore Drive								
	North	L2	87.0	18.2	341.6	1000	488	NA
	East	T1	292.3	28.7	201.6	1000	305	NA
	South	R2	188.6	24.3	81.0	1000	305	NA

Maximum Negotiation (Design) Speed = 30.0 mph

NA Downstream Distance does not apply if:

- Exit is an internal leg of a network
- "Program" option was specified
- Distance specified was less than the Exit Negotiation Distance
- Distance specified was greater than the exit leg length

MOVEMENT SPEEDS AND GEOMETRIC DELAY

Mov ID	Turn	App. Speeds		Exit Speeds		Queue	Geom Delay sec
		Cruise mph	Negn mph	Negn mph	Cruise mph	Move-up Speed mph	
-----							
South: SR 53							
3	L2	55.0	18.2	18.2	40.0	28.3	0.0
8	T1	55.0	28.7	28.7	40.0	28.5	0.0
18	R2	55.0	23.7	23.7	40.0	28.6	0.0
-----							
East: 40th Avenue							
1	L2	35.0	18.2	18.2	40.0	16.3	0.0
6	T1	35.0	28.7	28.7	40.0	16.3	0.0
16	R2	35.0	24.3	24.3	40.0	16.3	0.0
-----							
North: SR 53							
7	L2	55.0	18.2	18.2	40.0	18.6	0.0
4	T1	55.0	28.7	28.7	40.0	19.0	0.0
14	R2	55.0	23.7	23.7	40.0	19.3	0.0
-----							
West: Lakeshore Drive							
5	L2	30.0	18.2	18.2	40.0	17.4	0.0
2	T1	30.0	28.7	28.7	40.0	17.4	0.0
12	R2	30.0	24.3	24.3	40.0	17.4	0.0

HCM Delay Formula option used: Geometric Delay is not included in Control Delay.

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Movement Capacity and Performance Parameters

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
-----									
South: SR 53									
3	L2	#	477	241	249	811	0.85	45	0.588
8	T1	#	457	241	249	776	0.85	45	0.588
18	R2	#	257	241	249	436	0.85	45	0.588
-----									
East: 40th Avenue									
1	L2	#	183	1007	1074	189	0.85	-12	0.968
6	T1	#	223	1007	1074	230	0.85	-12	0.968
16	R2	#	101	1007	1074	104	0.85	-12	0.968
-----									
North: SR 53									
7	L2	#	67	883	924	96	0.85	22	0.700
4	T1	#	533	883	924	761	0.85	22	0.700
14	R2	#	163	883	924	233	0.85	22	0.700
-----									
West: Lakeshore Drive									
5	L2	#	113	783	828	73	0.85	-45	1.548*
2	T1	#	153	783	828	99	0.85	-45	1.548*
12	R2	#	641	783	828	414	0.85	-45	1.548*

\* Maximum degree of saturation

# Combined Movement Capacity parameters are shown for all Movement Classes.

MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
-----										

South: SR 53

3	L2	1.53	1.84	11.6	0.51	245.7	10.88	209.3	7.2	29.0
8	T1	1.44	1.73	11.4	0.51	231.0	11.23	241.2	7.4	32.7
18	R2	0.81	0.97	11.3	0.50	129.1	7.52	104.5	3.5	29.6
-----										
East: 40th Avenue										
1	L2	3.03	3.63	59.7	1.90	346.1	22.11	77.1	5.2	15.0
6	T1	3.69	4.43	59.7	1.90	422.3	23.69	94.0	6.3	14.8
16	R2	1.68	2.01	59.7	1.90	191.6	19.25	54.1	3.2	16.8
-----										
North: SR 53										
7	L2	0.47	0.57	25.3	1.17	78.8	7.80	36.1	1.3	27.6
4	T1	3.59	4.31	24.3	1.17	625.7	18.60	281.8	10.1	27.8
14	R2	1.04	1.25	23.0	1.18	192.6	10.28	85.0	3.1	27.3
-----										
West: Lakeshore Drive										
5	L2	8.60	10.32	274.0	5.48	619.1	1108.25	58.5	10.2	5.7
2	T1	11.67	14.00	274.0	5.48	839.3	112.64	61.9	13.5	4.6
12	R2	48.81	58.57	274.0	5.48	3512.0	171.21	259.2	56.8	4.6
-----										

[Go to Table Links \(Top\)](#)

### Fuel Consumption, Emissions and Cost Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

#### FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
-----							
South: SR 53							
3	L2	152.67	13.3	119.7	0.13	0.011	0.326
8	T1	117.11	12.4	111.7	0.13	0.010	0.306
18	R2	58.83	5.7	51.4	0.06	0.005	0.149
		328.61	31.3	282.7	0.33	0.026	0.782
-----							
East: 40th Avenue							
1	L2	88.49	5.1	45.8	0.05	0.005	0.053
6	T1	107.97	6.3	55.9	0.06	0.006	0.064
16	R2	49.50	3.1	28.0	0.03	0.003	0.031
		245.96	14.5	129.7	0.13	0.013	0.149
-----							
North: SR 53							
7	L2	24.30	2.0	18.4	0.02	0.002	0.051
4	T1	186.23	15.9	142.9	0.19	0.014	0.399
14	R2	54.86	4.7	42.8	0.06	0.004	0.121
		265.39	22.6	204.1	0.27	0.020	0.571
-----							
West: Lakeshore Drive							
5	L2	155.47	6.0	53.4	0.05	0.006	0.051
2	T1	209.99	7.7	68.3	0.06	0.008	0.066
12	R2	878.70	32.0	285.8	0.25	0.033	0.276
		1244.16	45.7	407.5	0.36	0.047	0.393
		2084.12	114.1	1024.0	1.09	0.106	1.894
-----							
INTERSECTION:		2084.12	114.1	1024.0	1.09	0.106	1.894
-----							

#### FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
-----							
South: SR 53							
3	L2	0.73	15.8	355.3	0.40	0.033	0.968
8	T1	0.49	19.5	287.8	0.34	0.026	0.789
18	R2	0.56	18.4	305.5	0.36	0.028	0.887
-----							



		0.59	17.7	316.6	0.37	0.029	0.875
-----							
East: 40th Avenue							
1	L2	1.15	15.0	369.2	0.38	0.037	0.426
6	T1	1.15	15.0	369.2	0.38	0.037	0.426
16	R2	0.91	17.3	321.8	0.34	0.031	0.361
-----							
		1.09	15.5	357.8	0.37	0.036	0.410
-----							
North: SR 53							
7	L2	0.67	17.7	316.9	0.41	0.031	0.876
4	T1	0.66	17.8	315.0	0.41	0.031	0.880
14	R2	0.65	17.9	312.6	0.41	0.031	0.886
-----							
		0.66	17.8	314.7	0.41	0.031	0.881
-----							
West: Lakeshore Drive							
5	L2	2.66	9.8	566.9	0.52	0.064	0.543
2	T1	3.39	8.1	685.3	0.60	0.079	0.661
12	R2	3.39	8.1	685.3	0.60	0.079	0.661
-----							
		3.28	8.3	667.0	0.59	0.077	0.643
-----							
INTERSECTION:		1.33	13.7	407.2	0.43	0.042	0.753
-----							

[Go to Table Links \(Top\)](#)

## Lanes

### Lane Performance and Capacity Information Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

#### LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Queue		Lane Length ft
						95% Back veh	ft	
-----								
South: SR 53								
1	587	998	0.588	11.6	0.51	5.2	137.1	1000.0
2	603	1025	0.588	11.3	0.50	5.1	134.4	1000.0
-----								
East: 40th Avenue								
1	507	523	0.968	59.7	1.90	18.6	472.3	1000.0
-----								
North: SR 53								
1	359	513	0.700	25.3	1.17	7.8	204.6	1600.0
2	404	578	0.700	23.0	1.18	8.2	217.2	1600.0
-----								
West: Lakeshore Drive								
1	908	586	1.548	274.0	5.48	117.1	2975.0	1000.0
-----								

#### LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: SR 53					
1	587	150	998	0.588	100
2	603	150	1025	0.588	100
-----					
East: 40th Avenue					
1	507	150	523	0.968	100
-----					
North: SR 53					
1	359	150	513	0.700	100
2	404	150	578	0.700	100

```

-----
West: Lakeshore Drive
1      908      150    586    1.548    100
-----

```

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

[Go to Table Links \(Top\)](#)

### Lane, Approach and Intersection Performance

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

```

-----
Lane   Arrival   Adj.   Deg   Aver.   Longest   Lane
No.    Flow      Basic Sat   Delay  Queue    Length
      (veh/h)  Satf.  x     sec    ft       ft
-----
South: SR 53
1      587        7      0.588  11.6    137      1000
2      603        7      0.588  11.3    134      1000
-----
      1190      7      0.588  11.4    137
-----
East: 40th Avenue
1      507        2      0.968  59.7    472      1000
-----
      507        2      0.968  59.7    472
-----
North: SR 53
1      359        7      0.700  25.3    205      1600
2      404        7      0.700  23.0    217      1600
-----
      763        7      0.700  24.1    217
-----
West: Lakeshore Drive
1      908        2      1.548  274.0   2975     1000
-----
      908        2      1.548  274.0   2975
-----
=====
ALL VEHICLES
      Total   %      Max   Aver.   Max
      Flow   HV      X     Delay  Queue
      3367   5      1.548  92.3   2975
=====

```

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)  
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

[Go to Table Links \(Top\)](#)

### Driver Characteristics

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

```

-----
Lane   Satn   Satn   Satn   Satn   Average   Driver
No.    Speed Flow Hdwy  Spacing Queue  Response
      mph   veh/h  sec   ft     Space  Time
      -----
South: SR 53
1      20.1  1301   2.77  81.70  26.40  1.87
2      26.6  1330   2.71  105.48 26.40  2.03
-----
East: 40th Avenue
1      24.0  1328   2.71  95.53  25.40  1.99
-----
North: SR 53
1      26.7  1355   2.66  104.10 26.40  1.98
2      26.7  1477   2.44  95.35  26.40  1.76
-----

```

```
-----
West: Lakeshore Drive
1      24.3  1284    2.80   99.94   25.40    2.09
-----
```

Saturation Flow and Saturation Headway are derived from follow-up headway.

[Go to Table Links \(Top\)](#)

Lane Delays

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

LANE DELAYS

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Delay (seconds/veh)									
				Min Del dm	Stop-line 1st dl	2nd d2	Delay Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: SR 53													
1	0.588	NA	NA	3.6	6.5	5.0	11.6	5.0	8.4	0.5	7.8	0.0	11.6
2	0.588	NA	NA	3.5	6.4	4.9	11.3	6.3	7.3	0.4	6.9	0.0	11.3
East: 40th Avenue													
1	0.968	NA	NA	6.9	11.8	47.9	59.7	5.3	54.4	14.5	39.9	0.0	59.7
North: SR 53													
1	0.700	NA	NA	7.1	10.6	14.7	25.3	6.3	19.2	4.9	14.3	0.0	25.3
2	0.700	NA	NA	6.3	9.8	13.2	23.0	6.4	16.7	4.8	11.9	0.0	23.0
West: Lakeshore Drive													
1	1.548	NA	NA	6.2	11.2	262.8	274.0	5.2	268.8	60.5	208.3	0.0	274.0

HCM Delay Formula option used (Exclude Geometric Delay option applies). Control Delay does not include Geometric Delay, and Stop-line Delay is treated as being same as Control Delay.  
 dm: Minimum delay for gap acceptance cases  
 dSL: Stop-line delay (=d1+d2)  
 dn: Average stop-start delay for all vehicles queued and unqueued  
 dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)  
 dqm: Queue move-up delay  
 di: Stopped delay (stopped (idling) time at near-zero speed)  
 dig: Geometric delay  
 dic: Control delay

[Go to Table Links \(Top\)](#)

Lane Queues

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

BACK OF QUEUE (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (veh)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.588	NA	NA	0.2	1.8	0.3	2.1	5.2	0.06	0.14	0.0	NA
2	0.588	NA	NA	0.1	1.8	0.2	2.0	5.1	0.05	0.13	0.0	NA
East: 40th Avenue												
1	0.968	NA	NA	4.6	2.5	5.0	7.5	18.6	0.19	0.47	0.0	NA
North: SR 53												
1	0.700	NA	NA	1.1	2.0	1.1	3.1	7.8	0.05	0.13	0.0	NA
2	0.700	NA	NA	1.1	2.1	1.2	3.3	8.2	0.05	0.14	0.0	NA

West: Lakeshore Drive

1	1.548	NA	NA	41.8	4.6	42.6	47.1	117.1	1.20	2.97	100.0	NA
---	-------	----	----	------	-----	------	------	-------	------	------	-------	----

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.588	NA	NA	4.2	48.0	7.2	55.2	137.1	0.06	0.14	0.0	NA
2	0.588	NA	NA	3.3	48.4	5.7	54.1	134.4	0.05	0.13	0.0	NA
East: 40th Avenue												
1	0.968	NA	NA	116.5	62.7	127.3	190.0	472.3	0.19	0.47	0.0	NA
North: SR 53												
1	0.700	NA	NA	27.8	52.6	29.7	82.3	204.6	0.05	0.13	0.0	NA
2	0.700	NA	NA	28.7	55.6	31.8	87.4	217.2	0.05	0.14	0.0	NA
West: Lakeshore Drive												
1	1.548	NA	NA	1060.5	115.6	1081.4	1197.0	2975.0	1.20	2.97	100.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.588	NA	NA	0.2	1.9	3.4
2	0.588	NA	NA	0.1	1.9	3.4
East: 40th Avenue						
1	0.968	NA	NA	4.6	8.4	15.2
North: SR 53						
1	0.700	NA	NA	1.1	2.5	4.6
2	0.700	NA	NA	1.1	2.6	4.7
West: Lakeshore Drive						
1	1.548	NA	NA	41.8	69.1	125.3

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation. (i.e. HCM delays are treated as stop-line delays for this purpose).

## OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.588	NA	NA	4.2	49.8	90.3
2	0.588	NA	NA	3.3	50.1	90.9
East: 40th Avenue						
1	0.968	NA	NA	116.5	213.3	386.9
North: SR 53						
1	0.700	NA	NA	27.8	66.6	120.8
2	0.700	NA	NA	28.7	68.1	123.6
West: Lakeshore Drive						
1	1.548	NA	NA	1060.5	1754.7	3183.1

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation.  
(i.e. HCM delays are treated as stop-line delays for this purpose).

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### Lane Queue Percentiles

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

#### LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%
South: SR 53								
1	0.588	2.1	2.7	3.8	4.4	5.2	5.8	6.2
2	0.588	2.0	2.7	3.7	4.3	5.1	5.7	6.1
East: 40th Avenue								
1	0.968	7.5	9.7	13.7	15.8	18.6	20.6	22.2
North: SR 53								
1	0.700	3.1	4.0	5.7	6.6	7.8	8.6	9.2
2	0.700	3.3	4.3	6.0	7.0	8.2	9.1	9.8
West: Lakeshore Drive								
1	1.548	47.1	61.0	86.0	99.6	117.1	130.0	139.7

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

#### LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%
South: SR 53								
1	0.588	55.1	71.4	100.7	116.6	137.1	152.2	163.6
2	0.588	54.1	70.0	98.7	114.3	134.4	149.2	160.4
East: 40th Avenue								
1	0.968	189.9	246.0	346.8	401.6	472.3	524.2	563.5
North: SR 53								
1	0.700	82.3	106.6	150.3	174.0	204.6	227.1	244.1
2	0.700	87.4	113.2	159.5	184.7	217.2	241.1	259.2
West: Lakeshore Drive								
1	1.548	1196.4	1549.8	2184.8	2529.8	2975.0	3301.9	3549.4

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

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### Lane Stops

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	-- Effective Stop Rate --				Total Stops H	Queue Move-up Rate hqm	Total Queue Move-ups Hqm	Prop. Queued pq	Aver. Num. of Cycles to Depart
				he1	he2	geom. hig	Overall h					
South: SR 53												
1	0.588	NA	NA	0.49	0.02	0.00	0.51	302.3	0.06	35.4	0.64	0.70

2	0.588	NA	NA	0.48	0.02	0.00	0.50	303.5	0.05	28.0	0.64	0.68
-----												
East: 40th Avenue												
1	0.968	NA	NA	1.00	0.90	0.00	1.90	960.0	2.52	1274.7	1.00	3.51
-----												
North: SR 53												
1	0.700	NA	NA	0.97	0.20	0.00	1.17	419.3	0.72	256.9	0.97	1.68
2	0.700	NA	NA	0.98	0.20	0.00	1.18	477.7	0.69	280.6	0.98	1.67
-----												
West: Lakeshore Drive												
1	1.548	NA	NA	1.00	4.48	0.00	5.48	4970.4	10.48	9507.8	1.00	11.48
-----												
hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

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## Flow Rates

### Origin-Destination Flow Rates (Total)

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

TOTAL FLOW RATES for All Movement Classes (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	477.2	456.5	256.5	1190.2
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	182.6	222.8	101.1	506.5
%HV (all designations)	2.0	2.0	2.0	2.0
-----				
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	67.4	532.6	163.0	763.0
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	113.0	153.3	641.3	907.6
%HV (all designations)	2.0	2.0	2.0	2.0
-----				

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
Unit Time for Volumes = 60 minutes  
Peak Flow Period = 15 minutes  
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

### Origin-Destination Flow Rates by Movement Class

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

FLOW RATES for Light Vehicles (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	443.8	424.6	238.6	1106.9
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
-----				

From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	179.0	218.4	99.1	496.4
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	62.7	495.3	151.6	709.6
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	110.8	150.2	628.5	889.5
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	39.2	53.2	222.5	314.8

## FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:				
Turn:	W	N	E	TOT
	L2	T1	R2	
Flow Rate	33.4	32.0	18.0	83.3
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	3.7	4.5	2.0	10.1
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	4.7	37.3	11.4	53.4
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	2.3	3.1	12.8	18.2
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.8	1.1	4.5	6.4

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
Unit Time for Volumes = 60 minutes  
Peak Flow Period = 15 minutes  
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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Lane Flow Rates  
Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
Roundabout

## LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	N	E	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	443.8	102.3	*	546.0
HV	33.4	7.7	*	41.1
Total	477.2	110.0	*	587.1
Lane 2				
LV	*	322.3	238.6	560.9
HV	*	24.3	18.0	42.2
Total	*	346.6	256.5	603.1
Approach	477.2	456.5	256.5	1190.2
-----				
From EAST To:	S	W	N	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	179.0	218.4	99.1	496.4
HV	3.7	4.5	2.0	10.1
Total	182.6	222.8	101.1	506.5
Approach	182.6	222.8	101.1	506.5
-----				
From NORTH To:	E	S	W	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	62.7	270.9	*	333.5
HV	4.7	20.4	*	25.1
Total	67.4	291.2	*	358.6
Lane 2				
LV	*	224.5	151.6	376.1
HV	*	16.9	11.4	28.3
Total	*	241.4	163.0	404.4
Approach	67.4	532.6	163.0	763.0
-----				
From WEST To:	N	E	S	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	110.8	150.2	628.5	889.5
HV	2.3	3.1	12.8	18.2
Total	113.0	153.3	641.3	907.6
Approach	113.0	153.3	641.3	907.6
-----				
* Movement not allocated to the lane				

## EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
-----			
Exit: SOUTH			
Lane: 1	449.8	24.0	473.9
Lane: 2	852.9	29.7	882.7
Total	1302.8	53.8	1356.5
-----			
Exit: EAST			
Lane: 1	451.4	25.7	477.2
Total	451.4	25.7	477.2
-----			
Exit: NORTH			
Lane: 1	213.0	10.0	223.0
Lane: 2	421.4	26.3	447.6
Total	634.4	36.2	670.7
-----			
Exit: WEST			
Lane: 1	813.8	49.3	863.0
Total	813.8	49.3	863.0
-----			



\* Movement not allocated to the lane

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

```

-----
Movement Class:      LV      HV      TOT
-----
Exit: SOUTH
Lane:  1             449.8   24.0   473.9
Lane:  2             852.9   29.7   882.7
Total                1302.8   53.8  1356.5
-----
Exit: EAST
Lane:  1             451.4   25.7   477.2
Total                451.4   25.7   477.2
-----
Exit: NORTH
Lane:  1             213.0   10.0   223.0
Lane:  2             421.4   26.3   447.6
Total                634.4   36.2   670.7
-----
Exit: WEST
Lane:  1             813.8   49.3   863.0
Total                813.8   49.3   863.0
-----

```

\* Movement not allocated to the lane

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

## Other

### Parameter Settings Summary

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
 Roundabout

\* Basic Parameters:  
 Intersection Type: Roundabout  
 Driving on the right-hand side of the road  
 Input data specified in US units  
 Model Defaults: US HCM (Customary)  
 Peak Flow Period (for performance): 15 minutes  
 Unit time (for volumes): 60 minutes.  
 HCM Delay Model option used  
 HCM Queue Model option used  
 Level of Service based on: Delay and v/c (HCM 6)  
 Queue percentile: 95%

[Go to Table Links \(Top\)](#)

### Diagnostics

Site: SR 53/ 40th Ave\_2040 AM

Site ID: 1  
 Roundabout

#### Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 3.5%  
 Number of Iterations: 7 (Maximum: 10)  
 Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:  
 2.7% 1.4% 0.7%

Other Diagnostic Messages (if any):

[Go to Table Links \(Top\)](#)

---

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:54:26 PM  
Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS  
Analysis\Sidra\Roundabout@40th Avenue\Sidra Model\Two Lane\40th Ave.sip8

# LANE SUMMARY

 Site: 1 [SR 53/ 40th Ave\_2040 PM]

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

Lane Use and Performance													
	Demand Flows			Deg.	Lane	Average	Level of	95% Back of Queue		Lane	Lane	Cap.	Prob.
	Total	HV	Cap.	Satn	Util.	Delay	Service	Veh	Dist	Config	Length	Adj.	Block.
	veh/h	%	veh/h	v/c	%	sec			ft		ft	%	%
South: SR 53													
Lane 1	795	7.0	902	0.881	100	29.5	LOS C	25.1	662.3	Full	1000	0.0	0.0
Lane 2 <sup>d</sup>	828	7.0	940	0.881	100	28.7	LOS C	25.6	676.5	Full	1000	0.0	0.0
Approach	1623	7.0		0.881		29.1	LOS C	25.6	676.5				
East: 40th Avenue													
Lane 1 <sup>d</sup>	562	2.0	311	1.805	100	403.4	LOS F	91.2	2317.3	Full	1000	0.0	42.9
Approach	562	2.0		1.805		403.4	LOS F	91.2	2317.3				
North: SR 53													
Lane 1	433	7.0	422	1.026	100	82.3	LOS F	25.1	663.1	Full	1600	0.0	0.0
Lane 2 <sup>d</sup>	493	7.0	481	1.026	100	77.3	LOS F	27.7	731.3	Full	1600	0.0	0.0
Approach	926	7.0		1.026		79.6	LOS E	27.7	731.3				
West: Lakeshore Drive													
Lane 1 <sup>d</sup>	1120	2.0	540	2.075	100	507.9	LOS F	198.5	5040.8	Full	1000	0.0	100.0
Approach	1120	2.0		2.075		507.9	LOS F	198.5	5040.8				
Intersection	4230	5.0		2.075		216.6	LOS F	198.5	5040.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>d</sup> Dominant lane on roundabout approach

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:55:10 PM

Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS Analysis\Sidra\Roundabout@40th Avenue\Sidra Model\Two Lane\40th Ave.sip8

**DETAILED OUTPUT**
 **Site: 1 [SR 53/ 40th Ave\_2040 PM]**

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

**OUTPUT TABLE LINKS**

-  Roundabouts
  - Roundabout Basic Parameters
  - Roundabout Circulating / Exiting Stream Parameters
  - Roundabout Gap Acceptance Parameters
  - Roundabout Flow Rates
-  Movements
  - Intersection Negotiation and Travel Data
  - Movement Capacity and Performance Parameters
  - Fuel Consumption, Emissions and Cost
-  Lanes
  - Lane Performance and Capacity Information
  - Lane, Approach and Intersection Performance
  - Driver Characteristics
  - Lane Delays
  - Lane Queues
  - Lane Queue Percentiles
  - Lane Stops
-  Flow Rates
  - Origin-Destination Flow Rates (Total)
  - Origin-Destination Flow Rates by Movement Class
  - Lane Flow Rates
-  Other
  - Parameter Settings Summary
  - Diagnostics

**Roundabouts**

Roundabout Basic Parameters  
Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av. Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %
-----											
South: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	1000		NA	0.0N
-----											
East: 40th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	1000		NA	0.0N
-----											
North: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	1600		NA	0.0N
-----											
West: Lakeshore Drive											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	1000		NA	0.0N
-----											

Roundabout Capacity Model: SIDRA Standard

NA Not Applicable (single Site analysis or unconnected Site in Network analysis).

N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).

[Go to Table Links \(Top\)](#)

Roundabout Circulating / Exiting Stream Parameters  
Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: SR 53													
W	L2	1	Subdominant	350	1.04	363	0.0	0.0	N	0.940	24.9	2.00	0.357
N	T1	1	Subdominant	350	1.04	363	0.0	0.0	N	0.940	24.9	2.00	0.357
N	T1	2	Dominant	350	1.04	363	0.0	0.0	Y	0.940	24.9	2.00	0.357
E	R2	2	Dominant	350	1.04	363	0.0	0.0	Y	0.940	24.9	2.00	0.357
East: 40th Avenue													
S	L2	1	Dominant	1456	1.07	1555	0.0	0.0	Y	0.586	23.5	1.14	0.681
W	T1	1	Dominant	1456	1.07	1555	0.0	0.0	Y	0.586	23.5	1.14	0.681
N	R2	1	Dominant	1456	1.07	1555	0.0	0.0	Y	0.586	23.5	1.14	0.681
North: SR 53													
E	L2	1	Subdominant	909	1.06	959	0.0	0.0	N	0.738	21.4	2.00	0.715
S	T1	1	Subdominant	909	1.06	959	0.0	0.0	N	0.738	21.4	2.00	0.715
S	T1	2	Dominant	909	1.06	959	0.0	0.0	Y	0.738	21.4	2.00	0.715
W	R2	2	Dominant	909	1.06	959	0.0	0.0	Y	0.738	21.4	2.00	0.715
West: Lakeshore Drive													
N	L2	1	Dominant	858	1.07	914	0.0	0.0	Y	0.781	26.4	1.12	0.465
E	T1	1	Dominant	858	1.07	914	0.0	0.0	Y	0.781	26.4	1.12	0.465
S	R2	1	Dominant	858	1.07	914	0.0	0.0	Y	0.781	26.4	1.12	0.465

Roundabout Capacity Model: SIDRA Standard

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters  
Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
				Headway sec				Headway sec	Dist ft	Headway sec
South: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Subdominant	2.00	0.357	Y	1.07	4.31	157.5	2.75
N	T1	1	Subdominant	2.00	0.357	Y	1.07	4.31	157.5	2.75
N	T1	2	Dominant	2.00	0.357	Y	1.07	4.17	152.4	2.66
E	R2	2	Dominant	2.00	0.357	Y	1.07	4.17	152.4	2.66
East: 40th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	1.14	0.681	Y	1.02	3.40	116.9	2.53
W	T1	1	Dominant	1.14	0.681	Y	1.02	3.40	116.9	2.53
N	R2	1	Dominant	1.14	0.681	Y	1.02	3.40	116.9	2.53
North: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Subdominant	2.00	0.715	Y	1.07	3.77	118.1	2.65
S	T1	1	Subdominant	2.00	0.715	Y	1.07	3.77	118.1	2.65
S	T1	2	Dominant	2.00	0.715	Y	1.07	3.44	107.9	2.42
W	R2	2	Dominant	2.00	0.715	Y	1.07	3.44	107.9	2.42
West: Lakeshore Drive										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	1.12	0.465	N	1.02	3.96	153.1	2.77
E	T1	1	Dominant	1.12	0.465	N	1.02	3.96	153.1	2.77
S	R2	1	Dominant	1.12	0.465	N	1.02	3.96	153.1	2.77

-----  
 Roundabout Capacity Model: SIDRA Standard  
 Priority sharing means Follow-up Headway plus Intra-bunch Headway  
 is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two  
 successive vehicles across all lanes in the circulating  
 or exiting stream

[Go to Table Links \(Top\)](#)

### Roundabout Flow Rates

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
 Roundabout

#### CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate veh/h	pcu/h	Percent
-----			
South: SR 53			
1	0	0	0.0%
2	350	363	100.0%
Total	350	363	
-----			
East: 40th Avenue			
1	864	921	59.3%
2	592	633	40.7%
Total	1456	1554	
-----			
North: SR 53			
1	0	0	0.0%
2	909	959	100.0%
Total	909	959	
-----			
West: Lakeshore Drive			
1	496	527	57.6%
2	362	387	42.4%
Total	858	914	
-----			

The SIDRA Standard roundabout capacity model option is in use.  
 This model takes into account the total circulating flow as well as the effect  
 of flow distribution in circulating lanes on the entry capacity results.

#### APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
-----			
South: SR 53			
1	0	795	795
2	237	591	828
Total	237	1386	1623
-----			
East: 40th Avenue			
1	101	461	562
Total	101	461	562
-----			
North: SR 53			
1	0	433	433
2	118	375	493
Total	118	808	926
-----			
West: Lakeshore Drive			
1	641	479	1120
Total	641	479	1120
-----			

[Go to Table Links \(Top\)](#)

### Movements

Intersection Negotiation and Travel Data  
Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

From Approach	To Exit	Turn	Running Speed mph	Travel Speed mph	Travel Distance ft	Travel Time s	Total Dem Flows veh-mi/h	Travel Distance Arv Flows veh-mi/h	Tot.Trav. Time veh-h/h
-----									
South: SR 53									
	West	L2	27.2	21.8	2316.4#	72.5#	285.6	285.6	13.1
	North	T1	30.3	25.3	2796.3#	75.5#	389.1	389.1	15.4
	East	R2	26.8	22.0	2167.1#	67.1#	97.3	97.3	4.4
-----									
East: 40th Avenue									
	South	L2	15.6	3.4	2214.9#	444.3#	58.8	58.8	17.3
	West	T1	15.4	3.4	2214.9#	445.3#	134.5	134.5	39.7
	North	R2	17.4	4.2	2814.9#	457.8#	53.9	53.9	12.9
-----									
North: SR 53									
	East	L2	28.1	15.2	2841.0#	127.7#	65.5	65.5	4.3
	South	T1	27.7	15.4	2803.7#	124.2#	364.2	364.2	23.7
	West	R2	26.6	15.3	2772.6#	123.3#	62.2	62.2	4.1
-----									
West: Lakeshore Drive									
	North	L2	13.4	3.4	2750.6#	559.4#	75.3	75.3	22.5
	East	T1	11.2	2.7	2150.6#	550.4#	135.9	135.9	51.0
	South	R2	11.0	2.7	2150.6#	552.9#	261.2	261.2	98.5
-----									
ALL VEHICLES:			22.1	6.5	2475.7#	261.1#	1983.6	1983.6	306.8
-----									

"Running Speed" is the average speed excluding stopped periods.

Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.

# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.

INTERSECTION NEGOTIATION DATA

From Approach	To Exit	Turn	Negn Radius ft	Negn Speed mph	Negn Dist ft	App Dist ft	Exit Dist ft	Downstr Dist ft
-----								
South: SR 53								
	West	L2	87.0	18.2	341.6	1000	305	NA
	North	T1	292.3	28.7	201.6	1000	488	NA
	East	R2	175.6	23.7	81.1	1000	305	NA
-----								
East: 40th Avenue								
	South	L2	87.0	18.2	341.6	1000	305	NA
	West	T1	292.3	28.7	201.6	1000	305	NA
	North	R2	188.6	24.3	81.0	1000	488	NA
-----								
North: SR 53								
	East	L2	87.0	18.2	341.6	1600	305	NA
	South	T1	292.3	28.7	201.6	1600	305	NA
	West	R2	175.6	23.7	81.1	1600	305	NA
-----								
West: Lakeshore Drive								
	North	L2	87.0	18.2	341.6	1000	488	NA
	East	T1	292.3	28.7	201.6	1000	305	NA
	South	R2	188.6	24.3	81.0	1000	305	NA
-----								

Maximum Negotiation (Design) Speed = 30.0 mph

NA Downstream Distance does not apply if:

- Exit is an internal leg of a network
- "Program" option was specified
- Distance specified was less than the Exit Negotiation Distance
- Distance specified was greater than the exit leg length

MOVEMENT SPEEDS AND GEOMETRIC DELAY

Mov ID	Turn	App. Speeds		Exit Speeds		Queue Move-up Speed mph	Geom Delay sec
		Cruise mph	Negn mph	Negn mph	Cruise mph		
-----							
South: SR 53							
3	L2	55.0	18.2	18.2	40.0	24.6	0.0
8	T1	55.0	28.7	28.7	40.0	24.9	0.0
18	R2	55.0	23.7	23.7	40.0	24.9	0.0
-----							
East: 40th Avenue							
1	L2	35.0	18.2	18.2	40.0	15.1	0.0
6	T1	35.0	28.7	28.7	40.0	15.1	0.0
16	R2	35.0	24.3	24.3	40.0	15.1	0.0
-----							
North: SR 53							
7	L2	55.0	18.2	18.2	40.0	18.5	0.0
4	T1	55.0	28.7	28.7	40.0	18.9	0.0
14	R2	55.0	23.7	23.7	40.0	19.2	0.0
-----							
West: Lakeshore Drive							
5	L2	30.0	18.2	18.2	40.0	16.7	0.0
2	T1	30.0	28.7	28.7	40.0	16.7	0.0
12	R2	30.0	24.3	24.3	40.0	16.7	0.0

HCM Delay Formula option used: Geometric Delay is not included in Control Delay.

[Go to Table Links \(Top\)](#)

Movement Capacity and Performance Parameters

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
-----									
South: SR 53									
3	L2	#	651	350	363	739	0.85	-4	0.881
8	T1	#	735	350	363	834	0.85	-4	0.881
18	R2	#	237	350	363	269	0.85	-4	0.881
-----									
East: 40th Avenue									
1	L2	#	140	1456	1555	78	0.85	-53	1.805
6	T1	#	321	1456	1555	178	0.85	-53	1.805
16	R2	#	101	1456	1555	56	0.85	-53	1.805
-----									
North: SR 53									
7	L2	#	122	909	959	119	0.85	-17	1.026
4	T1	#	686	909	959	669	0.85	-17	1.026
14	R2	#	118	909	959	116	0.85	-17	1.026
-----									
West: Lakeshore Drive									
5	L2	#	145	858	914	70	0.85	-59	2.075*
2	T1	#	334	858	914	161	0.85	-59	2.075*
12	R2	#	641	858	914	309	0.85	-59	2.075*

\* Maximum degree of saturation

# Combined Movement Capacity parameters are shown for all Movement Classes.

MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
-----										

South: SR 53



3	L2	5.34	6.41	29.5	1.34	870.3	35.56	285.6	13.1	21.8
8	T1	5.89	7.07	28.9	1.33	974.8	38.92	389.1	15.4	25.3
18	R2	1.89	2.27	28.7	1.32	313.8	26.02	97.3	4.4	22.0
-----										
East: 40th Avenue										
1	L2	15.71	18.86	403.4	4.08	571.7	93.99	58.8	17.3	3.4
6	T1	35.93	43.12	403.4	4.08	1307.5	120.46	134.5	39.7	3.4
16	R2	11.33	13.59	403.4	4.08	412.2	88.57	53.9	12.9	4.2
-----										
North: SR 53										
7	L2	2.78	3.34	82.3	1.73	210.1	25.35	65.5	4.3	15.2
4	T1	15.16	18.19	79.6	1.75	1198.0	49.78	364.2	23.7	15.4
14	R2	2.54	3.05	77.3	1.76	209.0	27.13	62.2	4.1	15.3
-----										
West: Lakeshore Drive										
5	L2	20.40	24.48	507.9	7.08	1023.3	188.29	75.3	22.5	3.4
2	T1	47.08	56.50	507.9	7.08	2361.9	224.43	135.9	51.0	2.7
12	R2	90.48	108.58	507.9	7.08	4539.2	284.11	261.2	98.5	2.7
-----										

[Go to Table Links \(Top\)](#)

### Fuel Consumption, Emissions and Cost Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

#### FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
-----							
South: SR 53							
3	L2	284.42	21.9	197.5	0.21	0.019	0.540
8	T1	255.78	23.1	209.0	0.23	0.020	0.591
18	R2	75.80	6.3	56.8	0.06	0.005	0.170
		615.99	51.3	463.2	0.50	0.044	1.302
-----							
East: 40th Avenue							
1	L2	263.17	8.5	75.5	0.06	0.009	0.062
6	T1	601.82	19.3	172.6	0.15	0.021	0.142
16	R2	190.24	6.4	57.1	0.05	0.007	0.047
		1055.23	34.2	305.3	0.26	0.036	0.250
-----							
North: SR 53							
7	L2	74.95	4.6	41.3	0.05	0.004	0.106
4	T1	404.11	25.1	225.6	0.27	0.024	0.595
14	R2	67.20	4.2	37.9	0.05	0.004	0.103
		546.25	33.9	304.9	0.37	0.033	0.804
-----							
West: Lakeshore Drive							
5	L2	337.30	10.9	97.5	0.08	0.012	0.081
2	T1	776.87	24.2	216.1	0.18	0.026	0.179
12	R2	1493.02	46.5	415.2	0.35	0.051	0.345
		2607.19	81.7	728.8	0.61	0.089	0.605
		4824.67	201.1	1802.1	1.74	0.202	2.961
-----							
INTERSECTION:		4824.67	201.1	1802.1	1.74	0.202	2.961
-----							

#### FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
-----							
South: SR 53							
3	L2	1.00	13.0	429.6	0.45	0.042	1.175
8	T1	0.66	16.8	333.7	0.37	0.031	0.944
18	R2	0.78	15.4	362.8	0.40	0.035	1.087
-----							

		0.80	15.0	372.8	0.40	0.036	1.048
-----							
East: 40th Avenue							
1	L2	4.47	7.0	797.5	0.68	0.095	0.654
6	T1	4.47	7.0	797.5	0.68	0.095	0.654
16	R2	3.53	8.4	658.6	0.59	0.077	0.541
-----							
		4.27	7.2	767.2	0.66	0.091	0.629
-----							
North: SR 53							
7	L2	1.14	14.3	391.9	0.47	0.043	1.003
4	T1	1.11	14.5	384.9	0.47	0.042	1.015
14	R2	1.08	14.8	379.0	0.46	0.041	1.025
-----							
		1.11	14.5	385.1	0.47	0.042	1.015
-----							
West: Lakeshore Drive							
5	L2	4.48	6.9	804.1	0.69	0.096	0.668
2	T1	5.72	5.6	987.8	0.83	0.120	0.820
12	R2	5.72	5.6	987.8	0.83	0.120	0.820
-----							
		5.52	5.8	958.5	0.81	0.116	0.796
-----							
INTERSECTION:		2.43	9.9	564.5	0.55	0.063	0.928
-----							

[Go to Table Links \(Top\)](#)

## Lanes

### Lane Performance and Capacity Information Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

#### LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Queue		Lane Length ft
						95% Back veh	ft	
-----								
South: SR 53								
1	795	902	0.881	29.5	1.34	25.1	662.3	1000.0
2	828	940	0.881	28.7	1.32	25.6	676.5	1000.0
-----								
East: 40th Avenue								
1	562	311	1.805	403.4	4.08	91.2	2317.3	1000.0
-----								
North: SR 53								
1	433	422	1.026	82.3	1.73	25.1	663.1	1600.0
2	493	481	1.026	77.3	1.76	27.7	731.3	1600.0
-----								
West: Lakeshore Drive								
1	1120	540	2.075	507.9	7.08	198.5	5040.8	1000.0
-----								

#### LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: SR 53					
1	795	150	902	0.881	100
2	828	150	940	0.881	100
-----					
East: 40th Avenue					
1	562	150	311	1.805	100
-----					
North: SR 53					
1	433	150	422	1.026	100
2	493	150	481	1.026	100

```
-----
West: Lakeshore Drive
1      1120    150   540   2.075  100
-----
```

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

[Go to Table Links \(Top\)](#)

### Lane, Approach and Intersection Performance

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

```
-----
Lane   Arrival   Adj.   Deg   Aver.   Longest   Lane
No.    Flow      Basic Sat   Delay  Queue    Length
      (veh/h)  Satf.  x     sec    ft       ft
-----
South: SR 53
1      795        7      0.881 29.5    662      1000
2      828        7      0.881 28.7    677      1000
-----
      1623      7      0.881 29.1    677
-----
East: 40th Avenue
1      562        2      1.805 403.4   2317     1000
-----
      562        2      1.805 403.4   2317
-----
North: SR 53
1      433        7      1.026 82.3    663      1600
2      493        7      1.026 77.3    731      1600
-----
      926        7      1.026 79.6    731
-----
West: Lakeshore Drive
1      1120      2      2.075 507.9   5041     1000
-----
      1120      2      2.075 507.9   5041
=====
ALL VEHICLES
      Total   %      Max   Aver.   Max
      Flow   HV      X     Delay  Queue
      4230   5      2.075 216.6  5041
=====
```

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)  
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

[Go to Table Links \(Top\)](#)

### Driver Characteristics

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

```
-----
Lane   Satn   Satn   Satn   Satn   Average   Driver
No.    Speed Flow Hdwy  Spacing Queue  Response
      mph   veh/h  sec   ft     Space  Time
      -----
South: SR 53
1      20.1  1309   2.75   80.90  26.40   1.85
2      27.3  1353   2.66  106.44  26.40   2.00
-----
East: 40th Avenue
1      25.3  1424   2.53   93.73  25.40   1.84
-----
North: SR 53
1      25.7  1357   2.65  100.12  26.40   1.95
2      27.5  1486   2.42   97.70  26.40   1.77
-----
```

```

-----
West: Lakeshore Drive
1      24.8  1299   2.77  100.96   25.40   2.07
-----

```

Saturation Flow and Saturation Headway are derived from follow-up headway.

[Go to Table Links \(Top\)](#)

### Lane Delays

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

#### LANE DELAYS

```

-----
                                Delay (seconds/veh)
Lane   Deg.  % Arv  Prog.  Min  Stop-line Delay  Acc.  Queuing  Stopd
No.    Satn  During Factor  Del  1st  2nd Total  Dec.  Total MvUp (Idle) Geom Control
-----
South: SR 53
1      0.881  NA     NA     4.0  8.4  21.2  29.5  5.0  24.6  10.1  14.4  0.0  29.5
2      0.881  NA     NA     3.8  8.2  20.5  28.7  6.7  22.1  10.1  12.0  0.0  28.7
-----
East: 40th Avenue
1      1.805  NA     NA     11.7 16.7 386.7 403.4  5.7 397.7  50.4 347.3  0.0 403.4
-----
North: SR 53
1      1.026  NA     NA     8.5 13.5  68.8  82.3  5.9  76.3  17.5  58.8  0.0  82.3
2      1.026  NA     NA     7.5 12.5  64.8  77.3  6.8  70.6  18.3  52.2  0.0  77.3
-----
West: Lakeshore Drive
1      2.075  NA     NA     6.7 11.7 496.3 507.9  5.4 502.5  83.1 419.4  0.0 507.9
-----

```

HCM Delay Formula option used (Exclude Geometric Delay option applies). Control Delay does not include Geometric Delay, and Stop-line Delay is treated as being same as Control Delay.

dm: Minimum delay for gap acceptance cases

dSL: Stop-line delay (=d1+d2)

dn: Average stop-start delay for all vehicles queued and unqueued

dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)

dqm: Queue move-up delay

di: Stopped delay (stopped (idling) time at near-zero speed)

dig: Geometric delay

dic: Control delay

[Go to Table Links \(Top\)](#)

### Lane Queues

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

#### BACK OF QUEUE (VEHICLES)

```

-----
Lane   Deg.  % Arv  Prog.  Ovrfl.  Back of Queue (veh)  Queue Stor.  Prob.  Prob.
No.    Satn  During Factor  Queue  Nb1  Nb2  Nb  95%  Ratio  95%  Block  SL Ov.
-----
South: SR 53
1      0.881  NA     NA     4.1  3.7  6.4  10.1  25.1  0.27  0.66  0.0  NA
2      0.881  NA     NA     4.1  3.8  6.5  10.3  25.6  0.27  0.68  0.0  NA
-----
East: 40th Avenue
1      1.805  NA     NA     32.4  4.2  32.6  36.7  91.2  0.93  2.32  42.9  NA
-----
North: SR 53
1      1.026  NA     NA     6.4  3.3  6.8  10.1  25.1  0.17  0.41  0.0  NA
2      1.026  NA     NA     7.0  3.5  7.6  11.1  27.7  0.18  0.46  0.0  NA
-----

```

West: Lakeshore Drive

1	2.075	NA	NA	73.5	5.7	74.2	79.9	198.5	2.03	5.04	100.0	NA
---	-------	----	----	------	-----	------	------	-------	------	------	-------	----

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.881	NA	NA	107.6	98.4	168.1	266.5	662.3	0.27	0.66	0.0	NA
2	0.881	NA	NA	108.7	100.3	171.9	272.2	676.5	0.27	0.68	0.0	NA
East: 40th Avenue												
1	1.805	NA	NA	823.5	105.6	826.8	932.4	2317.3	0.93	2.32	42.9	NA
North: SR 53												
1	1.026	NA	NA	168.9	87.0	179.8	266.8	663.1	0.17	0.41	0.0	NA
2	1.026	NA	NA	185.7	93.2	201.1	294.3	731.3	0.18	0.46	0.0	NA
West: Lakeshore Drive												
1	2.075	NA	NA	1867.4	144.8	1883.4	2028.2	5040.8	2.03	5.04	100.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.881	NA	NA	4.1	6.5	11.8
2	0.881	NA	NA	4.1	6.6	12.0
East: 40th Avenue						
1	1.805	NA	NA	32.4	63.0	114.2
North: SR 53						
1	1.026	NA	NA	6.4	9.9	18.0
2	1.026	NA	NA	7.0	10.6	19.2
West: Lakeshore Drive						
1	2.075	NA	NA	73.5	158.0	286.6

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation. (i.e. HCM delays are treated as stop-line delays for this purpose).

## OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.881	NA	NA	107.6	172.2	312.3
2	0.881	NA	NA	108.7	174.4	316.4
East: 40th Avenue						
1	1.805	NA	NA	823.5	1599.5	2901.6
North: SR 53						
1	1.026	NA	NA	168.9	261.2	473.9
2	1.026	NA	NA	185.7	279.5	507.1
West: Lakeshore Drive						
1	2.075	NA	NA	1867.4	4012.2	7278.4

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation.  
(i.e. HCM delays are treated as stop-line delays for this purpose).

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### Lane Queue Percentiles

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

#### LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%
-----								
South: SR 53								
1	0.881	10.1	13.1	18.4	21.3	25.1	27.8	29.9
2	0.881	10.3	13.3	18.8	21.8	25.6	28.4	30.6
-----								
East: 40th Avenue								
1	1.805	36.7	47.5	67.0	77.6	91.2	101.3	108.9
-----								
North: SR 53								
1	1.026	10.1	13.1	18.4	21.4	25.1	27.9	30.0
2	1.026	11.1	14.4	20.3	23.6	27.7	30.7	33.1
-----								
West: Lakeshore Drive								
1	2.075	79.8	103.4	145.7	168.8	198.5	220.3	236.8
-----								

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

#### LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%
-----								
South: SR 53								
1	0.881	266.4	345.0	486.4	563.2	662.3	735.1	790.2
2	0.881	272.1	352.4	496.8	575.3	676.5	750.9	807.1
-----								
East: 40th Avenue								
1	1.805	931.9	1207.2	1701.8	1970.5	2317.3	2572.0	2764.8
-----								
North: SR 53								
1	1.026	266.7	345.4	486.9	563.8	663.1	735.9	791.1
2	1.026	294.1	381.0	537.1	621.9	731.3	811.7	872.6
-----								
West: Lakeshore Drive								
1	2.075	2027.2	2625.9	3701.9	4286.4	5040.8	5594.8	6014.2
-----								

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

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### Lane Stops

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	-- Effective Stop Rate --				Total Stops H	Queue Move-up Rate hqm	Total Queue Move-ups Hqm	Prop. Queued pq	Aver. Num. of Cycles to Depart
				he1	he2	geom. hig	Overall h					
-----												
South: SR 53												
1	0.881	NA	NA	0.89	0.44	0.00	1.34	1062.0	1.25	991.8	1.00	2.25
-----												

2	0.881	NA	NA	0.88	0.44	0.00	1.32	1096.9	1.23	1016.6	1.00	2.23
-----												
East: 40th Avenue												
1	1.805	NA	NA	1.00	3.08	0.00	4.08	2291.4	9.20	5170.2	1.00	10.20
-----												
North: SR 53												
1	1.026	NA	NA	1.00	0.73	0.00	1.73	747.4	2.60	1126.0	1.00	3.60
2	1.026	NA	NA	1.00	0.76	0.00	1.76	869.7	2.65	1306.9	1.00	3.65
-----												
West: Lakeshore Drive												
1	2.075	NA	NA	1.00	6.08	0.00	7.08	7924.4	14.70	16455.0	1.00	15.70
-----												
hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

[Go to Table Links \(Top\)](#)

## Flow Rates

### Origin-Destination Flow Rates (Total)

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

#### TOTAL FLOW RATES for All Movement Classes (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	651.1	734.8	237.0	1622.8
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	140.2	320.7	101.1	562.0
%HV (all designations)	2.0	2.0	2.0	2.0
-----				
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	121.7	685.9	118.5	926.1
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	144.6	333.7	641.3	1119.6
%HV (all designations)	2.0	2.0	2.0	2.0
-----				

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

### Origin-Destination Flow Rates by Movement Class

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
Roundabout

#### FLOW RATES for Light Vehicles (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	605.5	683.3	220.4	1509.2
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
-----				

From EAST To:				
Turn:	S L2	W T1	N R2	TOT
Flow Rate	137.4	314.2	99.1	550.7
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	61.3	140.2	44.2	245.7
From NORTH To:				
Turn:	E L2	S T1	W R2	TOT
Flow Rate	113.2	637.9	110.2	861.3
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	2.8	16.0	2.8	21.5
From WEST To:				
Turn:	N L2	E T1	S R2	TOT
Flow Rate	141.7	327.0	628.5	1097.2
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	73.4	169.4	325.6	568.4

## FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:				
Turn:	W L2	N T1	E R2	TOT
Flow Rate	45.6	51.4	16.6	113.6
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
From EAST To:				
Turn:	S L2	W T1	N R2	TOT
Flow Rate	2.8	6.4	2.0	11.2
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	1.3	2.9	0.9	5.0
From NORTH To:				
Turn:	E L2	S T1	W R2	TOT
Flow Rate	8.5	48.0	8.3	64.8
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.2	1.2	0.2	1.6
From WEST To:				
Turn:	N L2	E T1	S R2	TOT
Flow Rate	2.9	6.7	12.8	22.4
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	1.5	3.5	6.6	11.6

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
Unit Time for Volumes = 60 minutes  
Peak Flow Period = 15 minutes  
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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Lane Flow Rates  
Site: SR 53/ 40th Ave\_2040 PM



Site ID: 1  
Roundabout

## LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	N	E	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	605.5	133.4	*	738.9
HV	45.6	10.0	*	55.6
Total	651.1	143.4	*	794.5
Lane 2				
LV	*	550.0	220.4	770.3
HV	*	41.4	16.6	58.0
Total	*	591.4	237.0	828.3
Approach	651.1	734.8	237.0	1622.8
-----				
From EAST To:	S	W	N	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	137.4	314.2	99.1	550.7
HV	2.8	6.4	2.0	11.2
Total	140.2	320.7	101.1	562.0
Approach	140.2	320.7	101.1	562.0
-----				
From NORTH To:	E	S	W	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	113.2	289.5	*	402.8
HV	8.5	21.8	*	30.3
Total	121.7	311.3	*	433.1
Lane 2				
LV	*	348.3	110.2	458.5
HV	*	26.2	8.3	34.5
Total	*	374.5	118.5	493.0
Approach	121.7	685.9	118.5	926.1
-----				
From WEST To:	N	E	S	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	141.7	327.0	628.5	1097.2
HV	2.9	6.7	12.8	22.4
Total	144.6	333.7	641.3	1119.6
Approach	144.6	333.7	641.3	1119.6
-----				
* Movement not allocated to the lane				

## EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
-----			
Exit: SOUTH			
Lane: 1	427.0	24.6	451.6
Lane: 2	976.8	39.0	1015.8
Total	1403.8	63.6	1467.4
-----			
Exit: EAST			
Lane: 1	660.6	31.8	692.4
Total	660.6	31.8	692.4
-----			
Exit: NORTH			
Lane: 1	275.0	12.9	288.0
Lane: 2	649.0	43.4	692.5
Total	924.1	56.3	980.4
-----			
Exit: WEST			
Lane: 1	1029.9	60.3	1090.2
Total	1029.9	60.3	1090.2
-----			

\* Movement not allocated to the lane

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

```

-----
Movement Class:      LV      HV      TOT
-----
Exit: SOUTH
Lane:  1             427.0   24.6   451.6
Lane:  2             976.8   39.0  1015.8
Total                1403.8   63.6  1467.4
-----
Exit: EAST
Lane:  1             660.6   31.8   692.4
Total                660.6   31.8   692.4
-----
Exit: NORTH
Lane:  1             275.0   12.9   288.0
Lane:  2             649.0   43.4   692.5
Total                924.1   56.3   980.4
-----
Exit: WEST
Lane:  1            1029.9   60.3  1090.2
Total                1029.9   60.3  1090.2
-----

```

\* Movement not allocated to the lane

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

## Other

### Parameter Settings Summary

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
 Roundabout

\* Basic Parameters:  
 Intersection Type: Roundabout  
 Driving on the right-hand side of the road  
 Input data specified in US units  
 Model Defaults: US HCM (Customary)  
 Peak Flow Period (for performance): 15 minutes  
 Unit time (for volumes): 60 minutes.  
 HCM Delay Model option used  
 HCM Queue Model option used  
 Level of Service based on: Delay and v/c (HCM 6)  
 Queue percentile: 95%

[Go to Table Links \(Top\)](#)

### Diagnostics

Site: SR 53/ 40th Ave\_2040 PM

Site ID: 1  
 Roundabout

#### Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 7.2%  
 Number of Iterations: 8 (Maximum: 10)  
 Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:  
 3.5% 1.8% 1.0%

Other Diagnostic Messages (if any):

[Go to Table Links \(Top\)](#)

---

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:55:10 PM  
Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS  
Analysis\Sidra\Roundabout@40th Avenue\Sidra Model\Two Lane\40th Ave.sip8

# LANE SUMMARY

 Site: 1 [SR 53/18th Ave\_2040 AM]

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

Lane Use and Performance													
	Demand Flows		Cap.	Deg.	Lane	Average	Level of	95% Back of Queue		Lane	Lane	Cap.	Prob.
	Total	HV	veh/h	Satn	Util.	Delay	Service	Veh	Dist	Config	Length	Adj.	Block.
	veh/h	%	veh/h	v/c	%	sec			ft		ft	%	%
South: SR 53													
Lane 1	633	7.0	1151	0.550	100	9.6	LOS A	4.2	110.5	Full	2500	0.0	0.0
Lane 2 <sup>d</sup>	639	7.0	1163	0.550	100	9.6	LOS A	4.2	110.6	Full	2500	0.0	0.0
Approach	1272	7.0		0.550		9.6	LOS A	4.2	110.6				
East: 18th Avenue													
Lane 1 <sup>d</sup>	211	2.0	525	0.401	100	13.4	LOS B	2.1	52.2	Full	500	0.0	0.0
Approach	211	2.0		0.401		13.4	LOS B	2.1	52.2				
North: SR 53													
Lane 1	713	7.0	1151	0.619	100	11.2	LOS B	5.7	151.5	Full	5000	0.0	0.0
Lane 2 <sup>d</sup>	720	7.0	1162	0.619	100	11.1	LOS B	5.7	151.8	Full	5000	0.0	0.0
Approach	1433	7.0		0.619		11.1	LOS B	5.7	151.8				
West: 18th Avenue													
Lane 1 <sup>d</sup>	20	2.0	427	0.046	100	9.2	LOS A	0.2	4.7	Full	250	0.0	0.0
Approach	20	2.0		0.046		9.2	LOS A	0.2	4.7				
Intersection	2935	6.6		0.619		10.6	LOS B	5.7	151.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>d</sup> Dominant lane on roundabout approach

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:42:43 PM






Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS Analysis\Sidra\Roundabout@18th Avenue\Sidra Model\Two Lane\18th Ave.sip8

## DETAILED OUTPUT

 Site: 1 [SR 53/18th Ave\_2040 AM]

Lake County SR 53 Corridor Study  
 2030 AM  
 Site Category: (None)  
 Roundabout

### OUTPUT TABLE LINKS

-  Roundabouts
  - Roundabout Basic Parameters
  - Roundabout Circulating / Exiting Stream Parameters
  - Roundabout Gap Acceptance Parameters
  - Roundabout Flow Rates
-  Movements
  - Intersection Negotiation and Travel Data
  - Movement Capacity and Performance Parameters
  - Fuel Consumption, Emissions and Cost
-  Lanes
  - Lane Performance and Capacity Information
  - Lane, Approach and Intersection Performance
  - Driver Characteristics
  - Lane Delays
  - Lane Queues
  - Lane Queue Percentiles
  - Lane Stops
-  Flow Rates
  - Origin-Destination Flow Rates (Total)
  - Origin-Destination Flow Rates by Movement Class
  - Lane Flow Rates
-  Other
  - Parameter Settings Summary
  - Diagnostics

### Roundabouts

Roundabout Basic Parameters  
 Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
 Roundabout

Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av. Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %
-----											
South: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	2500		NA	0.0N
-----											
East: 18th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	500		NA	0.0N
-----											
North: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	5000		NA	0.0N
-----											
West: 18th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	250		NA	0.0N
-----											

Roundabout Capacity Model: SIDRA Standard  
 NA Not Applicable (single Site analysis or unconnected Site in Network analysis).  
 N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).

[Go to Table Links \(Top\)](#)

Roundabout Circulating / Exiting Stream Parameters  
Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: SR 53													
W	L2	1	Subdominant	107	1.06	113	0.0	0.0	N	0.985	18.9	2.00	0.129
N	T1	1	Subdominant	107	1.06	113	0.0	0.0	N	0.985	18.9	2.00	0.129
N	T1	2	Dominant	107	1.06	113	0.0	0.0	N	0.985	18.9	2.00	0.129
E	R2	2	Dominant	107	1.06	113	0.0	0.0	N	0.985	18.9	2.00	0.129
East: 18th Avenue													
S	L2	1	Dominant	1162	1.07	1243	0.0	0.0	N	0.855	28.7	1.07	0.564
W	T1	1	Dominant	1162	1.07	1243	0.0	0.0	N	0.855	28.7	1.07	0.564
N	R2	1	Dominant	1162	1.07	1243	0.0	0.0	N	0.855	28.7	1.07	0.564
North: SR 53													
E	L2	1	Subdominant	101	1.02	103	0.0	0.0	N	0.977	18.6	2.00	0.118
S	T1	1	Subdominant	101	1.02	103	0.0	0.0	N	0.977	18.6	2.00	0.118
S	T1	2	Dominant	101	1.02	103	0.0	0.0	N	0.977	18.6	2.00	0.118
W	R2	2	Dominant	101	1.02	103	0.0	0.0	N	0.977	18.6	2.00	0.118
West: 18th Avenue													
N	L2	1	Dominant	1521	1.07	1622	0.0	0.0	N	0.793	27.4	1.05	0.663
E	T1	1	Dominant	1521	1.07	1622	0.0	0.0	N	0.793	27.4	1.05	0.663
S	R2	1	Dominant	1521	1.07	1622	0.0	0.0	N	0.793	27.4	1.05	0.663

Roundabout Capacity Model: SIDRA Standard

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters  
Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
				Headway sec	Bunched	Sharing	Entry	Headway sec	Dist ft	Headway sec
South: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Subdominant	2.00	0.129	Y	1.07	4.60	127.6	2.79
N	T1	1	Subdominant	2.00	0.129	Y	1.07	4.60	127.6	2.79
N	T1	2	Dominant	2.00	0.129	Y	1.07	4.56	126.4	2.76
E	R2	2	Dominant	2.00	0.129	Y	1.07	4.56	126.4	2.76
East: 18th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	1.07	0.564	Y	1.02	3.64	153.0	2.65
W	T1	1	Dominant	1.07	0.564	Y	1.02	3.64	153.0	2.65
N	R2	1	Dominant	1.07	0.564	Y	1.02	3.64	153.0	2.65
North: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Subdominant	2.00	0.118	Y	1.07	4.62	125.9	2.79
S	T1	1	Subdominant	2.00	0.118	Y	1.07	4.62	125.9	2.79
S	T1	2	Dominant	2.00	0.118	Y	1.07	4.58	124.9	2.77
W	R2	2	Dominant	2.00	0.118	Y	1.07	4.58	124.9	2.77
West: 18th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	1.05	0.663	Y	1.02	3.35	134.6	2.50
E	T1	1	Dominant	1.05	0.663	Y	1.02	3.35	134.6	2.50
S	R2	1	Dominant	1.05	0.663	Y	1.02	3.35	134.6	2.50

-----  
 Roundabout Capacity Model: SIDRA Standard  
 Priority sharing means Follow-up Headway plus Intra-bunch Headway  
 is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two  
 successive vehicles across all lanes in the circulating  
 or exiting stream

[Go to Table Links \(Top\)](#)

### Roundabout Flow Rates

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
 Roundabout

#### CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		Percent
	veh/h	pcu/h	
-----			
South: SR 53			
1	0	0	0.0%
2	107	113	100.0%
Total	107	113	
-----			
East: 18th Avenue			
1	636	680	54.7%
2	526	563	45.3%
Total	1162	1243	
-----			
North: SR 53			
1	0	0	0.0%
2	101	103	100.0%
Total	101	103	
-----			
West: 18th Avenue			
1	809	860	53.0%
2	712	762	47.0%
Total	1521	1622	
-----			

The SIDRA Standard roundabout capacity model option is in use.  
 This model takes into account the total circulating flow as well as the effect  
 of flow distribution in circulating lanes on the entry capacity results.

#### APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
-----			
South: SR 53			
1	0	633	633
2	113	526	639
Total	113	1159	1272
-----			
East: 18th Avenue			
1	111	100	211
Total	111	100	211
-----			
North: SR 53			
1	0	713	713
2	8	712	720
Total	8	1425	1433
-----			
West: 18th Avenue			
1	9	11	20
Total	9	11	20
-----			

[Go to Table Links \(Top\)](#)

### Movements

Intersection Negotiation and Travel Data  
Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

From Approach	To Exit	Turn	Running Speed mph	Travel Speed mph	Travel Distance ft	Travel Time s	Total Dem Flows veh-mi/h	Travel Distance Arv Flows veh-mi/h	Tot.Trav. Time veh-h/h
-----									
South: SR 53									
	West	L2	25.9	23.9	2951.8#	84.3#	0.6	0.6	0.0
	North	T1	50.2	47.2	7692.1#	111.2#	1686.4	1686.4	35.7
	East	R2	42.2	37.3	3180.3#	58.1#	68.1	68.1	1.8
-----									
East: 18th Avenue									
	South	L2	29.4	26.3	3201.7#	83.1#	58.0	58.0	2.2
	West	T1	25.3	18.8	951.7#	34.4#	0.8	0.8	0.0
	North	R2	28.5	26.8	5701.7#	145.2#	119.7	119.7	4.5
-----									
North: SR 53									
	East	L2	36.4	33.9	5720.4#	115.1#	103.6	103.6	3.1
	South	T1	49.0	45.7	7709.7#	115.1#	1941.1	1941.1	42.5
	West	R2	36.7	34.1	5450.3#	108.9#	7.9	7.9	0.2
-----									
West: 18th Avenue									
	North	L2	30.2	29.0	5421.3#	127.4#	3.3	3.3	0.1
	East	T1	28.2	22.9	921.3#	27.4#	1.3	1.3	0.1
	South	R2	28.2	26.3	2921.3#	75.8#	4.8	4.8	0.2
-----									
ALL VEHICLES:			47.1	44.2	7188.7#	111.0#	3995.7	3995.7	90.5

"Running Speed" is the average speed excluding stopped periods.

Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.

# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.

INTERSECTION NEGOTIATION DATA

From Approach	To Exit	Turn	Negn Radius ft	Negn Speed mph	Negn Dist ft	App Dist ft	Exit Dist ft	Downstr Dist ft
-----								
South: SR 53								
	West	L2	87.0	18.2	341.6	2500	76	NA
	North	T1	292.3	28.7	201.6	2500	1524	NA
	East	R2	175.6	23.7	81.1	2500	152	NA
-----								
East: 18th Avenue								
	South	L2	87.0	18.2	341.6	500	762	NA
	West	T1	292.3	28.7	201.6	500	76	NA
	North	R2	188.6	24.3	81.0	500	1524	NA
-----								
North: SR 53								
	East	L2	87.0	18.2	341.6	5000	152	NA
	South	T1	292.3	28.7	201.6	5000	762	NA
	West	R2	175.6	23.7	81.1	5000	76	NA
-----								
West: 18th Avenue								
	North	L2	87.0	18.2	341.6	250	1524	NA
	East	T1	292.3	28.7	201.6	250	152	NA
	South	R2	188.6	24.3	81.0	250	762	NA

Maximum Negotiation (Design) Speed = 30.0 mph

NA Downstream Distance does not apply if:

- Exit is an internal leg of a network
- "Program" option was specified
- Distance specified was less than the Exit Negotiation Distance
- Distance specified was greater than the exit leg length



## MOVEMENT SPEEDS AND GEOMETRIC DELAY

Mov ID	Turn	App. Speeds		Exit Speeds		Queue Move-up Speed mph	Geom Delay sec
		Cruise mph	Negn mph	Negn mph	Cruise mph		
-----							
South: SR 53							
3	L2	55.0	18.2	18.2	55.0	39.3	0.0
8	T1	55.0	28.7	28.7	55.0	39.4	0.0
18	R2	55.0	23.7	23.7	55.0	39.5	0.0
-----							
East: 18th Avenue							
1	L2	30.0	18.2	18.2	30.0	15.6	0.0
6	T1	30.0	28.7	28.7	30.0	15.6	0.0
16	R2	30.0	24.3	24.3	30.0	15.6	0.0
-----							
North: SR 53							
7	L2	55.0	18.2	18.2	55.0	41.0	0.0
4	T1	55.0	28.7	28.7	55.0	41.1	0.0
14	R2	55.0	23.7	23.7	55.0	41.2	0.0
-----							
West: 18th Avenue							
5	L2	30.0	18.2	18.2	30.0	14.8	0.0
2	T1	30.0	28.7	28.7	30.0	14.8	0.0
12	R2	30.0	24.3	24.3	30.0	14.8	0.0

HCM Delay Formula option used: Geometric Delay is not included in Control Delay.

[Go to Table Links \(Top\)](#)

## Movement Capacity and Performance Parameters

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

## MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
-----									
South: SR 53									
3	L2	#	1	107	113	2	0.85	55	0.550
8	T1	#	1158	107	113	2106	0.85	55	0.550
18	R2	#	113	107	113	206	0.85	55	0.550
-----									
East: 18th Avenue									
1	L2	#	96	1162	1243	238	0.85	112	0.401
6	T1	#	4	1162	1243	11	0.85	112	0.401
16	R2	#	111	1162	1243	276	0.85	112	0.401
-----									
North: SR 53									
7	L2	#	96	101	103	154	0.85	37	0.619*
4	T1	#	1329	101	103	2146	0.85	37	0.619*
14	R2	#	8	101	103	12	0.85	37	0.619*
-----									
West: 18th Avenue									
5	L2	#	3	1521	1622	71	0.85	1754	0.046
2	T1	#	8	1521	1622	166	0.85	1754	0.046
12	R2	#	9	1521	1622	190	0.85	1754	0.046

\* Maximum degree of saturation

# Combined Movement Capacity parameters are shown for all Movement Classes.

## MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
-----										

South: SR 53

3	L2	0.00	0.00	9.6	0.25	0.3	3.38	0.6	0.0	23.9
8	T1	3.09	3.70	9.6	0.25	286.6	38.71	1686.4	35.7	47.2
18	R2	0.30	0.36	9.6	0.25	27.9	5.07	68.1	1.8	37.3
-----										
East: 18th Avenue										
1	L2	0.36	0.43	13.4	0.83	79.5	4.39	58.0	2.2	26.3
6	T1	0.02	0.02	13.4	0.83	3.6	1.72	0.8	0.0	18.8
16	R2	0.41	0.50	13.4	0.83	92.1	6.57	119.7	4.5	26.8
-----										
North: SR 53										
7	L2	0.30	0.36	11.2	0.28	26.8	6.95	103.6	3.1	33.9
4	T1	4.11	4.93	11.1	0.28	371.2	46.09	1941.1	42.5	45.7
14	R2	0.02	0.03	11.1	0.28	2.1	4.80	7.9	0.2	34.1
-----										
West: 18th Avenue										
5	L2	0.01	0.01	9.2	0.71	2.3	0.28	3.3	0.1	29.0
2	T1	0.02	0.02	9.2	0.71	5.4	0.24	1.3	0.1	22.9
12	R2	0.02	0.03	9.2	0.71	6.1	0.37	4.8	0.2	26.3
-----										

[Go to Table Links \(Top\)](#)

### Fuel Consumption, Emissions and Cost Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

#### FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
-----							
South: SR 53							
3	L2	0.43	0.0	0.4	0.00	0.000	0.001
8	T1	499.53	79.8	723.7	1.36	0.073	1.895
18	R2	44.46	4.4	39.6	0.06	0.004	0.118
		544.42	84.3	763.6	1.42	0.077	2.015
-----							
East: 18th Avenue							
1	L2	22.24	2.3	20.2	0.02	0.002	0.020
6	T1	0.91	0.1	0.5	0.00	0.000	0.001
16	R2	28.72	4.0	36.1	0.03	0.003	0.034
		51.87	6.3	56.7	0.04	0.004	0.054
-----							
North: SR 53							
7	L2	57.76	5.4	48.6	0.09	0.005	0.133
4	T1	818.77	92.8	836.4	1.57	0.085	2.211
14	R2	4.54	0.4	3.8	0.01	0.000	0.011
		881.07	98.6	888.8	1.66	0.091	2.355
-----							
West: 18th Avenue							
5	L2	0.59	0.1	1.0	0.00	0.000	0.001
2	T1	1.01	0.1	0.7	0.00	0.000	0.001
12	R2	1.34	0.2	1.6	0.00	0.000	0.002
		2.94	0.4	3.2	0.00	0.000	0.003
		1480.29	189.5	1712.3	3.13	0.172	4.427
-----							
INTERSECTION:		1480.29	189.5	1712.3	3.13	0.172	4.427
-----							

#### FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
-----							
South: SR 53							
3	L2	0.71	14.5	384.9	0.57	0.037	1.233
8	T1	0.30	21.1	266.7	0.50	0.027	0.698
18	R2	0.65	15.5	360.9	0.56	0.035	1.081
-----							

		0.31	20.8	270.3	0.50	0.027	0.713
-----							
East: 18th Avenue							
1	L2	0.38	25.7	216.5	0.16	0.016	0.215
6	T1	1.16	14.8	374.6	0.30	0.035	0.434
16	R2	0.24	29.8	187.1	0.14	0.013	0.174
-----							
		0.29	28.2	197.5	0.15	0.014	0.188
-----							
North: SR 53							
7	L2	0.56	19.1	291.5	0.52	0.030	0.798
4	T1	0.42	20.9	267.7	0.50	0.027	0.708
14	R2	0.58	18.7	298.5	0.52	0.030	0.856
-----							
		0.43	20.8	269.1	0.50	0.027	0.713
-----							
West: 18th Avenue							
5	L2	0.18	31.5	177.1	0.13	0.012	0.164
2	T1	0.76	17.8	311.9	0.26	0.028	0.370
12	R2	0.28	27.8	200.7	0.15	0.015	0.200
-----							
		0.31	26.8	208.0	0.16	0.016	0.211
-----							
INTERSECTION:		0.37	21.1	266.3	0.49	0.027	0.688
-----							

[Go to Table Links \(Top\)](#)

## Lanes

### Lane Performance and Capacity Information Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

#### LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Q u e u e		Lane Length ft
						95% Back veh	ft	
-----								
South: SR 53								
1	633	1151	0.550	9.6	0.25	4.2	110.5	2500.0
2	639	1163	0.550	9.6	0.25	4.2	110.6	2500.0
-----								
East: 18th Avenue								
1	211	525	0.401	13.4	0.83	2.1	52.2	500.0
-----								
North: SR 53								
1	713	1151	0.619	11.2	0.28	5.7	151.5	5000.0
2	720	1162	0.619	11.1	0.28	5.7	151.8	5000.0
-----								
West: 18th Avenue								
1	20	427	0.046	9.2	0.71	0.2	4.7	250.0
-----								

#### LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: SR 53					
1	633	150	1151	0.550	100
2	639	150	1163	0.550	100
-----					
East: 18th Avenue					
1	211	150	525	0.401	100
-----					
North: SR 53					
1	713	150	1151	0.619	100
2	720	150	1162	0.619	100

```

-----
West: 18th Avenue
1      20      20      427      0.046      100
-----

```

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

[Go to Table Links \(Top\)](#)

### Lane, Approach and Intersection Performance

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

```

-----
Lane   Arrival   Adj.   Deg   Aver.   Longest   Lane
No.    Flow      Basic Sat   Delay  Queue    Length
      (veh/h)  Satf.  x     sec    ft       ft
-----
South: SR 53
1      633       7      0.550  9.6     110      2500
2      639       7      0.550  9.6     111      2500
-----
      1272     7      0.550  9.6     111
-----
East: 18th Avenue
1      211       2      0.401  13.4    52       500
-----
      211       2      0.401  13.4    52
-----
North: SR 53
1      713       7      0.619  11.2    152      5000
2      720       7      0.619  11.1    152      5000
-----
      1433     7      0.619  11.1    152
-----
West: 18th Avenue
1      20        2      0.046  9.2     5        250
-----
      20        2      0.046  9.2     5
-----
=====
ALL VEHICLES
      Total   %      Max   Aver.   Max
      Flow   HV      X     Delay  Queue
      2935   7      0.619 10.6   152
=====

```

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)  
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

[Go to Table Links \(Top\)](#)

### Driver Characteristics

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

```

-----
Lane   Satn   Satn   Satn   Satn   Average   Driver
No.    Speed Flow  Hdwy  Spacing  Queue    Response
      mph   veh/h  sec   ft      Space    Time
      (mph)  h      sec   ft      ft       sec
-----
South: SR 53
1      28.7   1291   2.79  117.29  26.40    2.16
2      27.8   1304   2.76  112.65  26.40    2.11
-----
East: 18th Avenue
1      21.6   1360   2.65  83.90   25.40    1.85
-----
North: SR 53
1      27.3   1291   2.79  111.64  26.40    2.13
2      28.7   1302   2.77  116.21  26.40    2.14
-----

```

```

-----
West: 18th Avenue
1      25.0  1439    2.50   91.73   25.40   1.81
-----

```

Saturation Flow and Saturation Headway are derived from follow-up headway.

[Go to Table Links \(Top\)](#)

### Lane Delays

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

#### LANE DELAYS

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Delay (seconds/veh)									
				Min Del dm	Stop-line 1st dl	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: SR 53													
1	0.550	NA	NA	3.1	5.9	3.8	9.6	7.3	6.5	0.0	6.5	0.0	9.6
2	0.550	NA	NA	3.1	5.8	3.7	9.6	6.9	6.6	0.0	6.6	0.0	9.6
East: 18th Avenue													
1	0.401	NA	NA	6.9	8.9	4.5	13.4	4.5	10.0	1.2	8.8	0.0	13.4
North: SR 53													
1	0.619	NA	NA	3.1	6.2	4.9	11.2	6.6	7.9	0.0	7.9	0.0	11.2
2	0.619	NA	NA	3.1	6.2	4.9	11.1	7.3	7.6	0.0	7.6	0.0	11.1
West: 18th Avenue													
1	0.046	NA	NA	8.5	8.8	0.4	9.2	5.5	5.2	0.0	5.2	0.0	9.2

HCM Delay Formula option used (Exclude Geometric Delay option applies). Control Delay does not include Geometric Delay, and Stop-line Delay is treated as being same as Control Delay.

dm: Minimum delay for gap acceptance cases

dSL: Stop-line delay (=d1+d2)

dn: Average stop-start delay for all vehicles queued and unqueued

dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)

dqm: Queue move-up delay

di: Stopped delay (stopped (idling) time at near-zero speed)

dig: Geometric delay

dic: Control delay

[Go to Table Links \(Top\)](#)

### Lane Queues

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

#### BACK OF QUEUE (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (veh)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.550	NA	NA	0.0	1.7	0.0	1.7	4.2	0.02	0.04	0.0	NA
2	0.550	NA	NA	0.0	1.7	0.0	1.7	4.2	0.02	0.04	0.0	NA
East: 18th Avenue												
1	0.401	NA	NA	0.1	0.7	0.1	0.8	2.1	0.04	0.10	0.0	NA
North: SR 53												
1	0.619	NA	NA	0.0	2.3	0.0	2.3	5.7	0.01	0.03	0.0	NA
2	0.619	NA	NA	0.0	2.3	0.0	2.3	5.7	0.01	0.03	0.0	NA
West: 18th Avenue												

1	0.046	NA	NA	0.0	0.1	0.0	0.1	0.2	0.01	0.02	0.0	NA
---	-------	----	----	-----	-----	-----	-----	-----	------	------	-----	----

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.550	NA	NA	0.0	44.5	0.0	44.5	110.5	0.02	0.04	0.0	NA
2	0.550	NA	NA	0.0	44.5	0.0	44.5	110.6	0.02	0.04	0.0	NA
East: 18th Avenue												
1	0.401	NA	NA	3.4	18.3	2.7	21.0	52.2	0.04	0.10	0.0	NA
North: SR 53												
1	0.619	NA	NA	0.0	61.0	0.0	61.0	151.5	0.01	0.03	0.0	NA
2	0.619	NA	NA	0.0	61.1	0.0	61.1	151.8	0.01	0.03	0.0	NA
West: 18th Avenue												
1	0.046	NA	NA	0.0	1.9	0.0	1.9	4.7	0.01	0.02	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.550	NA	NA	0.0	1.7	3.1
2	0.550	NA	NA	0.0	1.7	3.1
East: 18th Avenue						
1	0.401	NA	NA	0.1	0.8	1.4
North: SR 53						
1	0.619	NA	NA	0.0	2.2	4.0
2	0.619	NA	NA	0.0	2.2	4.0
West: 18th Avenue						
1	0.046	NA	NA	0.0	0.0	0.1

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation. (i.e. HCM delays are treated as stop-line delays for this purpose).

## OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.550	NA	NA	0.0	44.7	81.0
2	0.550	NA	NA	0.0	44.8	81.3
East: 18th Avenue						
1	0.401	NA	NA	3.4	20.0	36.2
North: SR 53						
1	0.619	NA	NA	0.0	58.4	106.0
2	0.619	NA	NA	0.0	58.6	106.3
West: 18th Avenue						
1	0.046	NA	NA	0.0	1.3	2.3

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation.  
(i.e. HCM delays are treated as stop-line delays for this purpose).

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### Lane Queue Percentiles

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

#### LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%
South: SR 53								
1	0.550	1.7	2.2	3.1	3.6	4.2	4.6	5.0
2	0.550	1.7	2.2	3.1	3.6	4.2	4.7	5.0
East: 18th Avenue								
1	0.401	0.8	1.1	1.5	1.7	2.1	2.3	2.5
North: SR 53								
1	0.619	2.3	3.0	4.2	4.9	5.7	6.4	6.8
2	0.619	2.3	3.0	4.2	4.9	5.7	6.4	6.9
West: 18th Avenue								
1	0.046	0.1	0.1	0.1	0.2	0.2	0.2	0.2

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

#### LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%
South: SR 53								
1	0.550	44.4	57.6	81.1	94.0	110.5	122.6	131.8
2	0.550	44.5	57.6	81.3	94.1	110.6	122.8	132.0
East: 18th Avenue								
1	0.401	21.0	27.2	38.4	44.4	52.2	58.0	62.3
North: SR 53								
1	0.619	60.9	78.9	111.3	128.9	151.5	168.2	180.8
2	0.619	61.0	79.1	111.5	129.1	151.8	168.5	181.1
West: 18th Avenue								
1	0.046	1.9	2.5	3.5	4.0	4.7	5.3	5.7

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

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### Lane Stops

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	-- Effective Stop Rate --				Total Stops H	Queue Move-up Rate hqm	Total Queue Move-ups Hqm	Prop. Queued pq	Aver. Num. of Cycles to Depart
				he1	he2	hig	h					
South: SR 53												
1	0.550	NA	NA	0.25	0.00	0.00	0.25	157.2	0.00	0.0	0.42	0.42

2	0.550	NA	NA	0.25	0.00	0.00	0.25	157.6	0.00	0.0	0.42	0.42
-----												
East: 18th Avenue												
1	0.401	NA	NA	0.74	0.09	0.00	0.83	175.2	0.22	46.5	0.74	0.97
-----												
North: SR 53												
1	0.619	NA	NA	0.28	0.00	0.00	0.28	199.8	0.00	0.0	0.49	0.49
2	0.619	NA	NA	0.28	0.00	0.00	0.28	200.3	0.00	0.0	0.49	0.49
-----												
West: 18th Avenue												
1	0.046	NA	NA	0.71	0.00	0.00	0.71	13.8	0.00	0.0	0.72	0.72
-----												
hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

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## Flow Rates

### Origin-Destination Flow Rates (Total)

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

#### TOTAL FLOW RATES for All Movement Classes (veh/h)

-----				
From SOUTH To:	W	N	E	TOT
Turn:	L2	T1	R2	TOT
Flow Rate	1.1	1157.6	113.0	1271.7
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From EAST To:	S	W	N	TOT
Turn:	L2	T1	R2	TOT
Flow Rate	95.7	4.3	110.9	210.9
%HV (all designations)	2.0	2.0	2.0	2.0
-----				
From NORTH To:	E	S	W	TOT
Turn:	L2	T1	R2	TOT
Flow Rate	95.7	1329.3	7.6	1432.6
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From WEST To:	N	E	S	TOT
Turn:	L2	T1	R2	TOT
Flow Rate	3.3	7.6	8.7	19.6
%HV (all designations)	2.0	2.0	2.0	2.0
-----				

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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### Origin-Destination Flow Rates by Movement Class

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

#### FLOW RATES for Light Vehicles (veh/h)

-----				
From SOUTH To:	W	N	E	TOT
Turn:	L2	T1	R2	TOT
Flow Rate	1.0	1076.6	105.1	1182.7
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
-----				



From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	93.7	4.3	108.7	206.7
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	89.0	1236.3	7.1	1332.3
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	3.2	7.5	8.5	19.2
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

## FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:				
Turn:	W	N	E	TOT
	L2	T1	R2	
Flow Rate	0.1	81.0	7.9	89.0
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	1.9	0.1	2.2	4.2
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	6.7	93.1	0.5	100.3
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	0.1	0.2	0.2	0.4
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
Unit Time for Volumes = 60 minutes  
Peak Flow Period = 15 minutes  
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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Lane Flow Rates  
Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
Roundabout

## LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	N	E	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	1.0	587.3	*	588.3
HV	0.1	44.2	*	44.3
Total	1.1	631.5	*	632.6
Lane 2				
LV	*	489.3	105.1	594.4
HV	*	36.8	7.9	44.7
Total	*	526.1	113.0	639.2
-----				
Approach	1.1	1157.6	113.0	1271.7
-----				
From EAST To:	S	W	N	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	93.7	4.3	108.7	206.7
HV	1.9	0.1	2.2	4.2
Total	95.7	4.3	110.9	210.9
-----				
Approach	95.7	4.3	110.9	210.9
-----				
From NORTH To:	E	S	W	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	89.0	574.1	*	663.1
HV	6.7	43.2	*	49.9
Total	95.7	617.3	*	713.0
Lane 2				
LV	*	662.2	7.1	669.3
HV	*	49.8	0.5	50.4
Total	*	712.0	7.6	719.6
-----				
Approach	95.7	1329.3	7.6	1432.6
-----				
From WEST To:	N	E	S	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	3.2	7.5	8.5	19.2
HV	0.1	0.2	0.2	0.4
Total	3.3	7.6	8.7	19.6
-----				
Approach	3.3	7.6	8.7	19.6

\* Movement not allocated to the lane

## EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
-----			
Exit: SOUTH			
Lane: 1	667.9	45.1	713.0
Lane: 2	670.7	50.0	720.7
Total	1338.6	95.1	1433.7
-----			
Exit: EAST			
Lane: 1	201.5	14.8	216.3
Total	201.5	14.8	216.3
-----			
Exit: NORTH			
Lane: 1	590.5	44.3	634.8
Lane: 2	597.9	39.0	637.0
Total	1188.4	83.3	1271.7
-----			
Exit: WEST			
Lane: 1	12.3	0.7	13.0
Total	12.3	0.7	13.0
-----			

\* Movement not allocated to the lane

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

```

-----
Movement Class:      LV      HV      TOT
-----
Exit: SOUTH
Lane:  1             667.9   45.1   713.0
Lane:  2             670.7   50.0   720.7
Total                1338.6   95.1  1433.7
-----
Exit: EAST
Lane:  1             201.5   14.8   216.3
Total                201.5   14.8   216.3
-----
Exit: NORTH
Lane:  1             590.5   44.3   634.8
Lane:  2             597.9   39.0   637.0
Total                1188.4   83.3  1271.7
-----
Exit: WEST
Lane:  1             12.3    0.7    13.0
Total                12.3    0.7    13.0
-----

```

\* Movement not allocated to the lane

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

## Other

### Parameter Settings Summary

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
 Roundabout

\* Basic Parameters:  
 Intersection Type: Roundabout  
 Driving on the right-hand side of the road  
 Input data specified in US units  
 Model Defaults: US HCM (Customary)  
 Peak Flow Period (for performance): 15 minutes  
 Unit time (for volumes): 60 minutes.  
 HCM Delay Model option used  
 HCM Queue Model option used  
 Level of Service based on: Delay and v/c (HCM 6)  
 Queue percentile: 95%

[Go to Table Links \(Top\)](#)

### Diagnostics

Site: SR 53/18th Ave\_2040 AM

Site ID: 1  
 Roundabout

#### Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 4.3%  
 Number of Iterations: 7 (Maximum: 10)  
 Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:  
 3.7% 1.9% 1.0%

Other Diagnostic Messages (if any):

[Go to Table Links \(Top\)](#)

---

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:42:43 PM  
Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS  
Analysis\Sidra\Roundabout@18th Avenue\Sidra Model\Two Lane\18th Ave.sip8

# LANE SUMMARY

 Site: 1 [SR 53/18th Ave\_2040 PM]

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

Lane Use and Performance													
	Demand Flows			Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	Total veh/h	HV %	Cap. veh/h					Veh	Dist ft				
South: SR 53													
Lane 1	834	7.0	1131	0.737	100	15.2	LOS B	7.9	207.8	Full	2500	0.0	0.0
Lane 2 <sup>d</sup>	844	7.0	1145	0.737	100	15.1	LOS B	7.9	208.3	Full	2500	0.0	0.0
Approach	1677	7.0		0.737		15.1	LOS B	7.9	208.3				
East: 18th Avenue													
Lane 1 <sup>d</sup>	262	2.0	369	0.709	100	33.9	LOS C	5.3	134.4	Full	500	0.0	0.0
Approach	262	2.0		0.709		33.9	LOS C	5.3	134.4				
North: SR 53													
Lane 1	761	7.0	1101	0.691	100	13.7	LOS B	7.1	186.6	Full	5000	0.0	0.0
Lane 2 <sup>d</sup>	771	7.0	1116	0.691	100	13.5	LOS B	7.1	187.2	Full	5000	0.0	0.0
Approach	1532	7.0		0.691		13.6	LOS B	7.1	187.2				
West: 18th Avenue													
Lane 1 <sup>d</sup>	35	2.0	363	0.096	100	11.5	LOS B	0.4	10.4	Full	250	0.0	0.0
Approach	35	2.0		0.096		11.5	LOS B	0.4	10.4				
Intersection	3505	6.6		0.737		15.8	LOS B	7.9	208.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

<sup>d</sup> Dominant lane on roundabout approach

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Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:43:56 PM

Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS Analysis\Sidra\Roundabout@18th Avenue\Sidra Model\Two Lane\18th Ave.sip8

**DETAILED OUTPUT**
 **Site: 1 [SR 53/18th Ave\_2040 PM]**

Lake County SR 53 Corridor Study  
2030 AM  
Site Category: (None)  
Roundabout

**OUTPUT TABLE LINKS**

-  Roundabouts
  - Roundabout Basic Parameters
  - Roundabout Circulating / Exiting Stream Parameters
  - Roundabout Gap Acceptance Parameters
  - Roundabout Flow Rates
-  Movements
  - Intersection Negotiation and Travel Data
  - Movement Capacity and Performance Parameters
  - Fuel Consumption, Emissions and Cost
-  Lanes
  - Lane Performance and Capacity Information
  - Lane, Approach and Intersection Performance
  - Driver Characteristics
  - Lane Delays
  - Lane Queues
  - Lane Queue Percentiles
  - Lane Stops
-  Flow Rates
  - Origin-Destination Flow Rates (Total)
  - Origin-Destination Flow Rates by Movement Class
  - Lane Flow Rates
-  Other
  - Parameter Settings Summary
  - Diagnostics

**Roundabouts**

Roundabout Basic Parameters  
Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

Central Island Diam ft	Circ Width ft	Insc Diam. ft	Entry Radius ft	Entry Angle deg	Circ Lanes	Entry Lanes	Av. Entry Lane Width ft	App Dist ft	Prop Upstr	Queued Signal	Extra Bunching %
-----											
South: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	2500		NA	0.0N
-----											
East: 18th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	500		NA	0.0N
-----											
North: SR 53											
150.0	30.0	210.0	100.0	30.0	2	2	13.00	5000		NA	0.0N
-----											
West: 18th Avenue											
150.0	30.0	210.0	100.0	30.0	2	1	13.00	250		NA	0.0N
-----											

Roundabout Capacity Model: SIDRA Standard

NA Not Applicable (single Site analysis or unconnected Site in Network analysis).

N Program option resulted in zero value (single Site analysis or unconnected Site in Network analysis).

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Roundabout Circulating / Exiting Stream Parameters  
Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	Opng Flow veh/h	HVE pcu/veh	Adj. Flow pcu/h	%Near Only	%Exit Flow Incl.	Cap. Const. Effect	O-D Factor	Aver Speed mph	In-Bunch Headway sec	Prop. Bunched
South: SR 53													
W	L2	1	Subdominant	123	1.06	130	0.0	0.0	N	0.982	19.0	2.00	0.146
N	T1	1	Subdominant	123	1.06	130	0.0	0.0	N	0.982	19.0	2.00	0.146
N	T1	2	Dominant	123	1.06	130	0.0	0.0	N	0.982	19.0	2.00	0.146
E	R2	2	Dominant	123	1.06	130	0.0	0.0	N	0.982	19.0	2.00	0.146
East: 18th Avenue													
S	L2	1	Dominant	1578	1.07	1688	0.0	0.0	N	0.713	28.5	1.06	0.686
W	T1	1	Dominant	1578	1.07	1688	0.0	0.0	N	0.713	28.5	1.06	0.686
N	R2	1	Dominant	1578	1.07	1688	0.0	0.0	N	0.713	28.5	1.06	0.686
North: SR 53													
E	L2	1	Subdominant	140	1.02	143	0.0	0.0	N	0.966	19.1	2.00	0.160
S	T1	1	Subdominant	140	1.02	143	0.0	0.0	N	0.966	19.1	2.00	0.160
S	T1	2	Dominant	140	1.02	143	0.0	0.0	N	0.966	19.1	2.00	0.160
W	R2	2	Dominant	140	1.02	143	0.0	0.0	N	0.966	19.1	2.00	0.160
West: 18th Avenue													
N	L2	1	Dominant	1639	1.07	1748	0.0	0.0	N	0.717	27.3	1.06	0.698
E	T1	1	Dominant	1639	1.07	1748	0.0	0.0	N	0.717	27.3	1.06	0.698
S	R2	1	Dominant	1639	1.07	1748	0.0	0.0	N	0.717	27.3	1.06	0.698

Roundabout Capacity Model: SIDRA Standard

[Go to Table Links \(Top\)](#)

Roundabout Gap Acceptance Parameters  
Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

Dest	Turn	Lane No.	Lane Type	In-Bunch Headway sec	Prop. Bunched	Priority Sharing	HVE for Entry	Critical Gap		Follow-up Headway sec
								Headway sec	Dist ft	
South: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
W	L2	1	Subdominant	2.00	0.146	Y	1.07	4.58	127.6	2.79
N	T1	1	Subdominant	2.00	0.146	Y	1.07	4.58	127.6	2.79
N	T1	2	Dominant	2.00	0.146	Y	1.07	4.53	126.2	2.75
E	R2	2	Dominant	2.00	0.146	Y	1.07	4.53	126.2	2.75
East: 18th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
S	L2	1	Dominant	1.06	0.686	Y	1.02	3.31	138.4	2.48
W	T1	1	Dominant	1.06	0.686	Y	1.02	3.31	138.4	2.48
N	R2	1	Dominant	1.06	0.686	Y	1.02	3.31	138.4	2.48
North: SR 53										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
E	L2	1	Subdominant	2.00	0.160	Y	1.07	4.56	127.6	2.78
S	T1	1	Subdominant	2.00	0.160	Y	1.07	4.56	127.6	2.78
S	T1	2	Dominant	2.00	0.160	Y	1.07	4.51	126.0	2.75
W	R2	2	Dominant	2.00	0.160	Y	1.07	4.51	126.0	2.75
West: 18th Avenue										
Environment Factor: 1.20										
Entry/Circ. Flow Adjustment: None										
N	L2	1	Dominant	1.06	0.698	Y	1.02	3.27	131.3	2.45
E	T1	1	Dominant	1.06	0.698	Y	1.02	3.27	131.3	2.45
S	R2	1	Dominant	1.06	0.698	Y	1.02	3.27	131.3	2.45

-----  
 Roundabout Capacity Model: SIDRA Standard  
 Priority sharing means Follow-up Headway plus Intra-bunch Headway  
 is larger than the Critical Gap.

Dist (Distance): Spacing, i.e. distance between the front ends of two  
 successive vehicles across all lanes in the circulating  
 or exiting stream

[Go to Table Links \(Top\)](#)

### Roundabout Flow Rates

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
 Roundabout

#### CIRCULATING LANE FLOW RATES

Lane No.	Circulating Flow Rate		Percent
	veh/h	pcu/h	
-----			
South: SR 53			
1	0	0	0.0%
2	123	130	100.0%
Total	123	130	
-----			
East: 18th Avenue			
1	854	913	54.1%
2	724	775	45.9%
Total	1578	1688	
-----			
North: SR 53			
1	0	0	0.0%
2	140	143	100.0%
Total	140	143	
-----			
West: 18th Avenue			
1	880	936	53.5%
2	759	812	46.5%
Total	1639	1748	
-----			

The SIDRA Standard roundabout capacity model option is in use.  
 This model takes into account the total circulating flow as well as the effect  
 of flow distribution in circulating lanes on the entry capacity results.

#### APPROACH LANE FLOW RATES

Lane No.	Approach Flows (veh/h)		
	Out	To Downst	Total
-----			
South: SR 53			
1	0	834	834
2	120	724	844
Total	120	1558	1678
-----			
East: 18th Avenue			
1	130	132	262
Total	130	132	262
-----			
North: SR 53			
1	0	761	761
2	12	759	771
Total	12	1520	1532
-----			
West: 18th Avenue			
1	4	31	35
Total	4	31	35
-----			

[Go to Table Links \(Top\)](#)

### Movements



Intersection Negotiation and Travel Data  
Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

TRAVEL SPEED, TRAVEL DISTANCE AND TRAVEL TIME

From Approach	To Exit	Turn	Running Speed mph	Travel Speed mph	Travel Distance ft	Travel Time s	Total Dem Flows veh-mi/h	Travel Distance Arv Flows veh-mi/h	Tot.Trav. Time veh-h/h
-----									
South: SR 53									
	West	L2	25.4	22.4	2953.1#	89.9#	4.9	4.9	0.2
	North	T1	49.4	44.9	7694.4#	116.8#	2257.2	2257.2	50.2
	East	R2	41.0	34.1	3184.5#	63.6#	72.1	72.1	2.1
-----									
East: 18th Avenue									
	South	L2	27.9	21.1	3205.5#	103.7#	72.6	72.6	3.4
	West	T1	21.9	11.8	955.5#	55.0#	2.2	2.2	0.2
	North	R2	27.7	23.5	5705.5#	165.8#	140.9	140.9	6.0
-----									
North: SR 53									
	East	L2	36.1	33.2	5718.6#	117.4#	100.1	100.1	3.0
	South	T1	48.5	44.7	7708.6#	117.5#	2083.6	2083.6	46.6
	West	R2	36.3	33.4	5449.7#	111.3#	12.3	12.3	0.4
-----									
West: 18th Avenue									
	North	L2	29.7	28.0	5519.7#	134.5#	21.6	21.6	0.8
	East	T1	25.9	20.1	1019.7#	34.5#	1.9	1.9	0.1
	South	R2	27.4	24.8	3019.7#	82.9#	2.5	2.5	0.1
-----									
ALL VEHICLES:			46.5	42.2	7187.5#	116.2#	4771.8	4771.8	113.1

"Running Speed" is the average speed excluding stopped periods.

Travel Time values include cruise times and intersection delays including acceleration, deceleration and idling delays.

# Travel Distance and Travel Time values include travel on the External Exit section based on the Exit Distance or user-specified Downstream Distance value as applicable.

INTERSECTION NEGOTIATION DATA

From Approach	To Exit	Turn	Negn Radius ft	Negn Speed mph	Negn Dist ft	App Dist ft	Exit Dist ft	Downstr Dist ft
-----								
South: SR 53								
	West	L2	87.0	18.2	341.6	2500	76	NA
	North	T1	292.3	28.7	201.6	2500	1524	NA
	East	R2	175.6	23.7	81.1	2500	152	NA
-----								
East: 18th Avenue								
	South	L2	87.0	18.2	341.6	500	762	NA
	West	T1	292.3	28.7	201.6	500	76	NA
	North	R2	188.6	24.3	81.0	500	1524	NA
-----								
North: SR 53								
	East	L2	87.0	18.2	341.6	5000	152	NA
	South	T1	292.3	28.7	201.6	5000	762	NA
	West	R2	175.6	23.7	81.1	5000	76	NA
-----								
West: 18th Avenue								
	North	L2	87.0	18.2	341.6	250	1524	NA
	East	T1	292.3	28.7	201.6	250	152	NA
	South	R2	188.6	24.3	81.0	250	762	NA

Maximum Negotiation (Design) Speed = 30.0 mph

NA Downstream Distance does not apply if:

- Exit is an internal leg of a network
- "Program" option was specified
- Distance specified was less than the Exit Negotiation Distance
- Distance specified was greater than the exit leg length

## MOVEMENT SPEEDS AND GEOMETRIC DELAY

Mov ID	Turn	App. Speeds		Exit Speeds		Queue Move-up Speed mph	Geom Delay sec
		Cruise mph	Negn mph	Negn mph	Cruise mph		
-----							
South: SR 53							
3	L2	55.0	18.2	18.2	55.0	37.0	0.0
8	T1	55.0	28.7	28.7	55.0	37.1	0.0
18	R2	55.0	23.7	23.7	55.0	37.2	0.0
-----							
East: 18th Avenue							
1	L2	30.0	18.2	18.2	30.0	14.8	0.0
6	T1	30.0	28.7	28.7	30.0	14.8	0.0
16	R2	30.0	24.3	24.3	30.0	14.8	0.0
-----							
North: SR 53							
7	L2	55.0	18.2	18.2	55.0	35.5	0.0
4	T1	55.0	28.7	28.7	55.0	35.6	0.0
14	R2	55.0	23.7	23.7	55.0	35.7	0.0
-----							
West: 18th Avenue							
5	L2	30.0	18.2	18.2	30.0	14.7	0.0
2	T1	30.0	28.7	28.7	30.0	14.7	0.0
12	R2	30.0	24.3	24.3	30.0	14.7	0.0

HCM Delay Formula option used: Geometric Delay is not included in Control Delay.

[Go to Table Links \(Top\)](#)

## Movement Capacity and Performance Parameters

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

## MOVEMENT CAPACITY PARAMETERS

Mov ID	Turn	Mov Cl.	Arv Flow veh/h	Opng Flow veh/h	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Deg. Satn x
-----									
South: SR 53									
3	L2	#	9	123	130	12	0.85	15	0.737*
8	T1	#	1549	123	130	2102	0.85	15	0.737*
18	R2	#	120	123	130	162	0.85	15	0.737*
-----									
East: 18th Avenue									
1	L2	#	120	1578	1688	169	0.85	20	0.709
6	T1	#	12	1578	1688	17	0.85	20	0.709
16	R2	#	130	1578	1688	184	0.85	20	0.709
-----									
North: SR 53									
7	L2	#	92	140	143	134	0.85	23	0.691
4	T1	#	1427	140	143	2066	0.85	23	0.691
14	R2	#	12	140	143	17	0.85	23	0.691
-----									
West: 18th Avenue									
5	L2	#	21	1639	1748	216	0.85	788	0.096
2	T1	#	10	1639	1748	102	0.85	788	0.096
12	R2	#	4	1639	1748	45	0.85	788	0.096

\* Maximum degree of saturation

# Combined Movement Capacity parameters are shown for all Movement Classes.

## MOVEMENT PERFORMANCE

Mov ID	Turn	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-mi/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (mph)
-----										

South: SR 53

3	L2	0.04	0.04	15.2	0.40	3.5	6.48	4.9	0.2	22.4
8	T1	6.51	7.81	15.1	0.40	618.7	57.33	2257.2	50.2	44.9
18	R2	0.50	0.60	15.1	0.40	47.5	8.42	72.1	2.1	34.1
-----										
East: 18th Avenue										
1	L2	1.13	1.35	33.9	1.23	147.0	8.62	72.6	3.4	21.1
6	T1	0.11	0.14	33.9	1.23	14.7	4.53	2.2	0.2	11.8
16	R2	1.23	1.48	33.9	1.23	160.3	11.08	140.9	6.0	23.5
-----										
North: SR 53										
7	L2	0.35	0.42	13.7	0.42	38.6	8.07	100.1	3.0	33.2
4	T1	5.39	6.47	13.6	0.42	592.9	52.27	2083.6	46.6	44.7
14	R2	0.04	0.05	13.5	0.41	4.9	6.00	12.3	0.4	33.4
-----										
West: 18th Avenue										
5	L2	0.07	0.08	11.5	0.77	16.0	1.21	21.6	0.8	28.0
2	T1	0.03	0.04	11.5	0.77	7.6	0.47	1.9	0.1	20.1
12	R2	0.01	0.02	11.5	0.77	3.4	0.45	2.5	0.1	24.8
-----										

[Go to Table Links \(Top\)](#)

### Fuel Consumption, Emissions and Cost Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

#### FUEL CONSUMPTION, EMISSIONS AND COST (TOTAL)

Mov ID	Turn	Cost Total \$/h	Fuel Total gal/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
-----							
South: SR 53							
3	L2	3.70	0.3	3.1	0.00	0.000	0.010
8	T1	711.93	109.1	988.9	1.84	0.101	2.607
18	R2	50.51	4.9	43.6	0.07	0.004	0.132
		766.14	114.3	1035.7	1.91	0.105	2.750
-----							
East: 18th Avenue							
1	L2	39.07	3.2	28.4	0.02	0.002	0.028
6	T1	3.62	0.2	1.6	0.00	0.000	0.002
16	R2	46.09	5.1	45.8	0.03	0.003	0.042
		88.78	8.5	75.8	0.06	0.006	0.072
-----							
North: SR 53							
7	L2	57.11	5.3	47.8	0.08	0.005	0.132
4	T1	898.49	100.8	909.3	1.70	0.093	2.415
14	R2	7.28	0.7	6.0	0.01	0.001	0.017
		962.88	106.8	963.1	1.79	0.098	2.564
-----							
West: 18th Avenue							
5	L2	5.00	0.7	6.7	0.00	0.000	0.006
2	T1	1.90	0.1	1.1	0.00	0.000	0.001
12	R2	0.94	0.1	0.9	0.00	0.000	0.001
		7.83	1.0	8.7	0.01	0.001	0.008
		1825.64	230.6	2083.3	3.77	0.210	5.394
-----							
INTERSECTION:		1825.64	230.6	2083.3	3.77	0.210	5.394
-----							

#### FUEL CONSUMPTION, EMISSIONS AND COST (RATE)

Mov ID	Turn	Cost Rate \$/mi	Fuel Eff. mpg	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
-----							
South: SR 53							
3	L2	0.76	14.0	398.0	0.58	0.038	1.274
8	T1	0.32	20.7	272.2	0.51	0.028	0.718
18	R2	0.70	14.8	376.1	0.57	0.037	1.141
-----							

		0.33	20.4	275.7	0.51	0.028	0.732
-----							
East: 18th Avenue							
1	L2	0.54	22.9	243.0	0.19	0.020	0.236
6	T1	1.67	12.0	463.2	0.38	0.046	0.505
16	R2	0.33	27.6	202.1	0.15	0.015	0.186
-----							
		0.41	25.5	218.5	0.16	0.017	0.206
-----							
North: SR 53							
7	L2	0.57	18.8	296.6	0.52	0.030	0.817
4	T1	0.43	20.7	271.2	0.51	0.028	0.720
14	R2	0.59	18.4	302.8	0.53	0.030	0.872
-----							
		0.44	20.6	272.5	0.51	0.028	0.725
-----							
West: 18th Avenue							
5	L2	0.23	29.1	191.7	0.14	0.013	0.178
2	T1	1.00	14.7	377.6	0.31	0.035	0.427
12	R2	0.38	24.6	226.6	0.17	0.017	0.225
-----							
		0.30	26.7	208.5	0.16	0.015	0.201
-----							
INTERSECTION:		0.38	20.7	271.3	0.49	0.027	0.702
-----							

[Go to Table Links \(Top\)](#)

## Lanes

### Lane Performance and Capacity Information Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

#### LANE PERFORMANCE

Lane No.	Flow veh/h	Cap veh/h	Deg. Satn x	Aver. Delay sec	Eff. Stop Rate	Q u e u e		Lane Length ft
						95% Back veh	ft	
-----								
South: SR 53								
1	834	1131	0.737	15.2	0.40	7.9	207.8	2500.0
2	844	1145	0.737	15.1	0.40	7.9	208.3	2500.0
-----								
East: 18th Avenue								
1	262	369	0.709	33.9	1.23	5.3	134.4	500.0
-----								
North: SR 53								
1	761	1101	0.691	13.7	0.42	7.1	186.6	5000.0
2	771	1116	0.691	13.5	0.41	7.1	187.2	5000.0
-----								
West: 18th Avenue								
1	35	363	0.096	11.5	0.77	0.4	10.4	250.0
-----								

#### LANE FLOW AND CAPACITY INFORMATION

Lane No.	Total Arv Flow veh/h	Min Cap veh/h	Tot Cap veh/h	Deg. Satn x	Lane Util %
South: SR 53					
1	834	150	1131	0.737	100
2	844	150	1145	0.737	100
-----					
East: 18th Avenue					
1	262	150	369	0.709	100
-----					
North: SR 53					
1	761	150	1101	0.691	100
2	771	150	1116	0.691	100

```
-----
West: 18th Avenue
1      35      35      363      0.096      100
-----
```

The capacity values of Continuous Lanes are obtained by adjusting the basic saturation flow for lane width, grade, movement class and turning vehicle effects. Saturation flow scale applies if specified.

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### Lane, Approach and Intersection Performance

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

```
-----
Lane   Arrival   Adj.   Deg   Aver.   Longest   Lane
No.    Flow      Basic Sat   Delay  Queue    Length
      (veh/h)  Satf.  x     sec    ft       ft
-----
South: SR 53
1      834        7      0.737 15.2    208      2500
2      844        7      0.737 15.1    208      2500
-----
1677    7      0.737 15.1    208
-----
East: 18th Avenue
1      262        2      0.709 33.9    134      500
-----
262     2      0.709 33.9    134
-----
North: SR 53
1      761        7      0.691 13.7    187      5000
2      771        7      0.691 13.5    187      5000
-----
1532    7      0.691 13.6    187
-----
West: 18th Avenue
1      35         2      0.096 11.5    10       250
-----
35      2      0.096 11.5    10
=====
ALL VEHICLES
Total   %      Max   Aver.   Max
Flow   HV      X     Delay  Queue
3505   7      0.737 15.8    208
=====
```

Peak flow period = 15 minutes.

Queue values in this table are 95% queue (feet)  
Note: Basic Saturation Flows at roundabouts or sign-controlled intersections apply only to continuous lanes.

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### Driver Characteristics

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

```
-----
Lane   Satn   Satn   Satn   Satn   Average   Driver
No.    Speed Flow Hdwy   Spacing Queue   Response
      mph  veh/h sec   ft     Space   Time
-----
South: SR 53
1      28.6  1293   2.79  116.81  26.40    2.16
2      28.0  1307   2.75  113.09  26.40    2.11
-----
East: 18th Avenue
1      21.7  1454   2.48   78.86  25.40    1.68
-----
North: SR 53
1      27.4  1294   2.78  111.93  26.40    2.13
2      28.6  1309   2.75  115.43  26.40    2.12
-----
```

```

-----
West: 18th Avenue
1      21.9  1467    2.45   78.79   25.40   1.66
-----

```

Saturation Flow and Saturation Headway are derived from follow-up headway.

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### Lane Delays

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

#### LANE DELAYS

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Delay (seconds/veh)									
				Min Del dm	Stop-line 1st dl	2nd d2	Delay Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: SR 53													
1	0.737	NA	NA	3.2	6.9	8.3	15.2	7.2	10.6	0.0	10.6	0.0	15.2
2	0.737	NA	NA	3.1	6.8	8.2	15.1	7.0	10.7	0.0	10.7	0.0	15.1
East: 18th Avenue													
1	0.709	NA	NA	9.8	13.4	20.6	33.9	4.6	29.8	4.5	25.3	0.0	33.9
North: SR 53													
1	0.691	NA	NA	3.3	6.7	7.0	13.7	6.7	9.4	0.0	9.4	0.0	13.7
2	0.691	NA	NA	3.2	6.7	6.9	13.5	7.2	8.9	0.0	8.9	0.0	13.5
West: 18th Avenue													
1	0.096	NA	NA	10.0	10.5	1.0	11.5	4.9	7.7	0.0	7.7	0.0	11.5

HCM Delay Formula option used (Exclude Geometric Delay option applies). Control Delay does not include Geometric Delay, and Stop-line Delay is treated as being same as Control Delay.

dm: Minimum delay for gap acceptance cases

dSL: Stop-line delay (=d1+d2)

dn: Average stop-start delay for all vehicles queued and unqueued

dq: Queuing delay (the part of the stop-line delay that includes stopped delay and queue move-up delay)

dqm: Queue move-up delay

di: Stopped delay (stopped (idling) time at near-zero speed)

dig: Geometric delay

dic: Control delay

[Go to Table Links \(Top\)](#)

### Lane Queues

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

#### BACK OF QUEUE (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (veh)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.737	NA	NA	0.0	3.2	0.0	3.2	7.9	0.03	0.08	0.0	NA
2	0.737	NA	NA	0.0	3.2	0.0	3.2	7.9	0.03	0.08	0.0	NA
East: 18th Avenue												
1	0.709	NA	NA	0.8	1.4	0.7	2.1	5.3	0.11	0.27	0.0	NA
North: SR 53												
1	0.691	NA	NA	0.0	2.8	0.0	2.8	7.1	0.02	0.04	0.0	NA
2	0.691	NA	NA	0.0	2.9	0.0	2.9	7.1	0.02	0.04	0.0	NA

West: 18th Avenue

1	0.096	NA	NA	0.0	0.2	0.0	0.2	0.4	0.02	0.04	0.0	NA
---	-------	----	----	-----	-----	-----	-----	-----	------	------	-----	----

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## BACK OF QUEUE (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Back of Queue (ft)				Queue Stor. Ratio		Prob. Block %	Prob. SL Ov. %
					Nb1	Nb2	Nb	95%	Av.	95%		
South: SR 53												
1	0.737	NA	NA	0.0	83.6	0.0	83.6	207.8	0.03	0.08	0.0	NA
2	0.737	NA	NA	0.0	83.8	0.0	83.8	208.3	0.03	0.08	0.0	NA
East: 18th Avenue												
1	0.709	NA	NA	21.5	36.4	17.7	54.1	134.4	0.11	0.27	0.0	NA
North: SR 53												
1	0.691	NA	NA	0.0	75.1	0.0	75.1	186.6	0.02	0.04	0.0	NA
2	0.691	NA	NA	0.0	75.3	0.0	75.3	187.2	0.02	0.04	0.0	NA
West: 18th Avenue												
1	0.096	NA	NA	0.0	4.2	0.0	4.2	10.4	0.02	0.04	0.0	NA

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

## OTHER QUEUE RESULTS (VEHICLES)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.737	NA	NA	0.0	3.5	6.4
2	0.737	NA	NA	0.0	3.5	6.4
East: 18th Avenue						
1	0.709	NA	NA	0.8	2.5	4.5
North: SR 53						
1	0.691	NA	NA	0.0	2.9	5.2
2	0.691	NA	NA	0.0	2.9	5.3
West: 18th Avenue						
1	0.096	NA	NA	0.0	0.1	0.2

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation. (i.e. HCM delays are treated as stop-line delays for this purpose).

## OTHER QUEUE RESULTS (DISTANCE)

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	Ovrfl. Queue No	Cyc-Av. Queue	
					Nc	95%
South: SR 53						
1	0.737	NA	NA	0.0	92.8	168.4
2	0.737	NA	NA	0.0	93.1	169.0
East: 18th Avenue						
1	0.709	NA	NA	21.5	62.7	113.8
North: SR 53						
1	0.691	NA	NA	0.0	76.3	138.4
2	0.691	NA	NA	0.0	76.6	138.9
West: 18th Avenue						
1	0.096	NA	NA	0.0	2.8	5.1

HCM Delay Formula option used:

Cycle-Average Queue is calculated using average delay from the HCM equation.  
(i.e. HCM delays are treated as stop-line delays for this purpose).

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### Lane Queue Percentiles

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

#### LANE QUEUE PERCENTILES (VEHICLES)

Lane No.	Deg. Satn x	Percentile Back of Queue (veh)						
		50%	70%	85%	90%	95%	98%	100%
South: SR 53								
1	0.737	3.2	4.1	5.8	6.7	7.9	8.7	9.4
2	0.737	3.2	4.1	5.8	6.7	7.9	8.8	9.4
East: 18th Avenue								
1	0.709	2.1	2.8	3.9	4.5	5.3	5.9	6.3
North: SR 53								
1	0.691	2.8	3.7	5.2	6.0	7.1	7.8	8.4
2	0.691	2.9	3.7	5.2	6.0	7.1	7.9	8.5
West: 18th Avenue								
1	0.096	0.2	0.2	0.3	0.3	0.4	0.5	0.5

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

#### LANE QUEUE PERCENTILES (DISTANCE)

Lane No.	Deg. Satn x	Percentile Back of Queue (feet)						
		50%	70%	85%	90%	95%	98%	100%
South: SR 53								
1	0.737	83.6	108.3	152.6	176.7	207.8	230.7	248.0
2	0.737	83.8	108.5	152.9	177.1	208.3	231.1	248.5
East: 18th Avenue								
1	0.709	54.1	70.0	98.7	114.3	134.4	149.2	160.4
North: SR 53								
1	0.691	75.0	97.2	137.0	158.7	186.6	207.1	222.6
2	0.691	75.3	97.5	137.5	159.2	187.2	207.8	223.4
West: 18th Avenue								
1	0.096	4.2	5.4	7.7	8.9	10.4	11.6	12.5

SIDRA Standard models are used for Back of Queue estimation since HCM only gives Cycle-Average Queues for unsignalised intersections.

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### Lane Stops

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

Lane No.	Deg. Satn x	% Arv During Green	Prog. Factor	-- Effective Stop Rate --				Total Stops H	Queue Move-up Rate hqm	Total Queue Move-ups Hqm	Prop. Queued pq	Aver. Num. of Cycles to Depart
				he1	he2	geom. hig	Overall h					
South: SR 53												
1	0.737	NA	NA	0.40	0.00	0.00	0.40	334.3	0.00	0.0	0.63	0.63



2	0.737	NA	NA	0.40	0.00	0.00	0.40	335.4	0.00	0.0	0.63	0.63
-----												
East: 18th Avenue												
1	0.709	NA	NA	0.91	0.32	0.00	1.23	322.0	0.85	223.3	0.91	1.76
-----												
North: SR 53												
1	0.691	NA	NA	0.42	0.00	0.00	0.42	317.4	0.00	0.0	0.64	0.64
2	0.691	NA	NA	0.41	0.00	0.00	0.41	319.0	0.00	0.0	0.64	0.64
-----												
West: 18th Avenue												
1	0.096	NA	NA	0.77	0.00	0.00	0.77	26.9	0.00	0.0	0.77	0.77
-----												
hig is the average value for all movements in a shared lane												
hqm is average queue move-up rate for all vehicles queued and unqueued												

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## Flow Rates

### Origin-Destination Flow Rates (Total)

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

#### TOTAL FLOW RATES for All Movement Classes (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	8.7	1548.9	119.6	1677.2
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From EAST To:	S	W	N	
Turn:	L2	T1	R2	TOT
Flow Rate	119.6	12.0	130.4	262.0
%HV (all designations)	2.0	2.0	2.0	2.0
-----				
From NORTH To:	E	S	W	
Turn:	L2	T1	R2	TOT
Flow Rate	92.4	1427.2	12.0	1531.5
%HV (all designations)	7.0	7.0	7.0	7.0
-----				
From WEST To:	N	E	S	
Turn:	L2	T1	R2	TOT
Flow Rate	20.7	9.8	4.3	34.8
%HV (all designations)	2.0	2.0	2.0	2.0
-----				

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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### Origin-Destination Flow Rates by Movement Class

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

#### FLOW RATES for Light Vehicles (veh/h)

-----				
From SOUTH To:	W	N	E	
Turn:	L2	T1	R2	TOT
Flow Rate	8.1	1440.5	111.2	1559.8
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0
-----				

From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	117.2	11.7	127.8	256.7
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	85.9	1327.3	11.1	1424.3
Mov Class %	93.0	93.0	93.0	93.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	20.2	9.6	4.3	34.1
Mov Class %	98.0	98.0	98.0	98.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

## FLOW RATES for Heavy Vehicles (veh/h)

From SOUTH To:				
Turn:	W	N	E	TOT
	L2	T1	R2	
Flow Rate	0.6	108.4	8.4	117.4
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From EAST To:				
Turn:	S	W	N	TOT
	L2	T1	R2	
Flow Rate	2.4	0.2	2.6	5.2
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From NORTH To:				
Turn:	E	S	W	TOT
	L2	T1	R2	
Flow Rate	6.5	99.9	0.8	107.2
Mov Class %	7.0	7.0	7.0	7.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

From WEST To:				
Turn:	N	E	S	TOT
	L2	T1	R2	
Flow Rate	0.4	0.2	0.1	0.7
Mov Class %	2.0	2.0	2.0	2.0
Flow Scale	1.00	1.00	1.00	-
Peak Flow Factor	0.92	0.92	0.92	-
Residual Demand	0.0	0.0	0.0	0.0

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
Unit Time for Volumes = 60 minutes  
Peak Flow Period = 15 minutes  
Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

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Lane Flow Rates  
Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
Roundabout

## LANE FLOW RATES AT STOP LINE (veh/h)

From SOUTH To:	W	N	E	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	8.1	767.1	*	775.2
HV	0.6	57.7	*	58.3
Total	8.7	824.8	*	833.5
Lane 2				
LV	*	673.4	111.2	784.6
HV	*	50.7	8.4	59.1
Total	*	724.1	119.6	843.7
-----				
Approach	8.7	1548.9	119.6	1677.2
-----				
From EAST To:	S	W	N	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	117.2	11.7	127.8	256.7
HV	2.4	0.2	2.6	5.2
Total	119.6	12.0	130.4	262.0
-----				
Approach	119.6	12.0	130.4	262.0
-----				
From NORTH To:	E	S	W	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	85.9	621.4	*	707.3
HV	6.5	46.8	*	53.2
Total	92.4	668.2	*	760.6
Lane 2				
LV	*	705.9	11.1	717.0
HV	*	53.1	0.8	54.0
Total	*	759.0	12.0	771.0
-----				
Approach	92.4	1427.2	12.0	1531.5
-----				
From WEST To:	N	E	S	TOT
Turn:	L2	T1	R2	
-----				
Lane 1				
LV	20.2	9.6	4.3	34.1
HV	0.4	0.2	0.1	0.7
Total	20.7	9.8	4.3	34.8
-----				
Approach	20.7	9.8	4.3	34.8

\* Movement not allocated to the lane

## EXIT LANE FLOW RATES

Movement Class:	LV	HV	TOT
-----			
Exit: SOUTH			
Lane: 1	738.6	49.2	787.7
Lane: 2	710.1	53.2	763.3
Total	1448.7	102.4	1551.1
-----			
Exit: EAST			
Lane: 1	206.7	15.0	221.7
Total	206.7	15.0	221.7
-----			
Exit: NORTH			
Lane: 1	787.3	58.1	845.5
Lane: 2	801.2	53.3	854.5
Total	1588.6	111.4	1700.0
-----			
Exit: WEST			
Lane: 1	30.9	1.7	32.6
Total	30.9	1.7	32.6

\* Movement not allocated to the lane

DOWNSTREAM LANE FLOW RATES FOR EXIT ROADS

```

-----
Movement Class:      LV      HV      TOT
-----
Exit: SOUTH
Lane:  1             738.6   49.2   787.7
Lane:  2             710.1   53.2   763.3
Total                1448.7  102.4  1551.1
-----
Exit: EAST
Lane:  1             206.7   15.0   221.7
Total                206.7   15.0   221.7
-----
Exit: NORTH
Lane:  1             787.3   58.1   845.5
Lane:  2             801.2   53.3   854.5
Total                1588.6  111.4  1700.0
-----
Exit: WEST
Lane:  1             30.9    1.7    32.6
Total                30.9    1.7    32.6
-----

```

\* Movement not allocated to the lane

Flow rates shown above are Arrival Flow Rates (veh/h) based on the following input specifications:  
 Unit Time for Volumes = 60 minutes  
 Peak Flow Period = 15 minutes  
 Effects of Volume Factors (Peak Flow Factor, Flow Scale, Growth Rate) are included.  
 Arrival Flow Rates may be less than Demand Flow Rates if capacity constraint applies in network analysis.

[Go to Table Links \(Top\)](#)

## Other

### Parameter Settings Summary

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
 Roundabout

\* Basic Parameters:  
 Intersection Type: Roundabout  
 Driving on the right-hand side of the road  
 Input data specified in US units  
 Model Defaults: US HCM (Customary)  
 Peak Flow Period (for performance): 15 minutes  
 Unit time (for volumes): 60 minutes.  
 HCM Delay Model option used  
 HCM Queue Model option used  
 Level of Service based on: Delay and v/c (HCM 6)  
 Queue percentile: 95%

[Go to Table Links \(Top\)](#)

### Diagnostics

Site: SR 53/18th Ave\_2040 PM

Site ID: 1  
 Roundabout

#### Lane Flow-Capacity Iterations:

Site Model Variability Index (Iterations 3 to N): 5.3%  
 Number of Iterations: 8 (Maximum: 10)  
 Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations:  
 2.9% 1.5% 0.8%

Other Diagnostic Messages (if any):

[Go to Table Links \(Top\)](#)

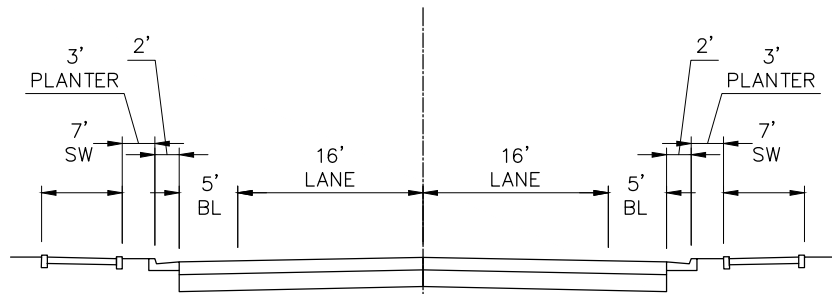
---

**SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com**  
Organisation: TJKM TRANSPORTATION CONSULTANTS | Processed: Monday, December 20, 2021 1:43:56 PM  
Project: J:\JURISDICTION\Lake County\149-026 SR 53 Corridor Circulation Study\Analysis\LOS  
Analysis\Sidra\Roundabout@18th Avenue\Sidra Model\Two Lane\18th Ave.sip8

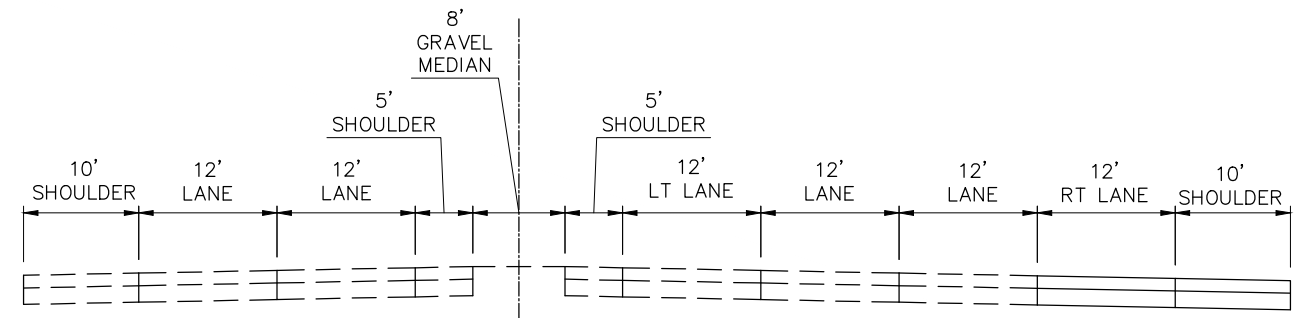
# Appendix F– Conceptual Layouts



CONCEPTUAL IMPROVEMENTS, SUBJECT TO CHANGE



SECTION A-A (NTS)



SECTION B-B (NTS)

SHORT TERM IMPROVEMENTS

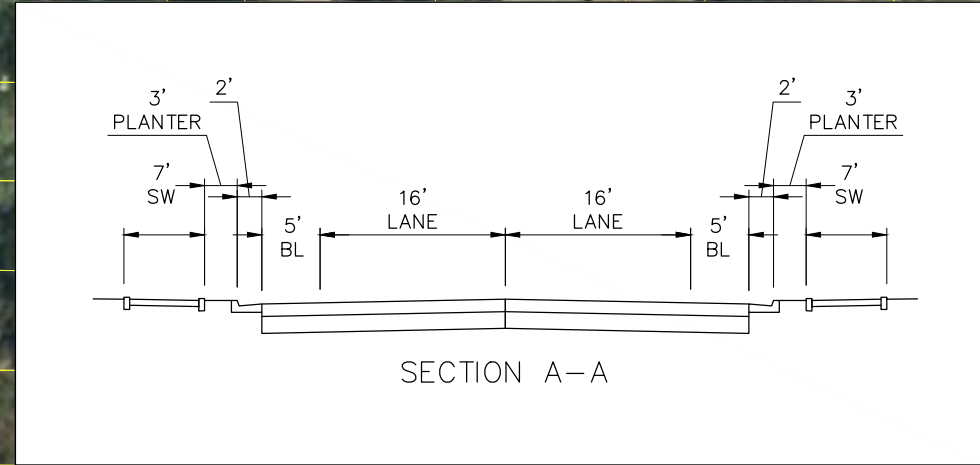
- ADD NB RIGHT TURN LANE ON STATE ROUTE 53
- ADD EB LEFT TURN AND RIGHT TURN LANES ON 18TH AVENUE
- RECONFIGURE WB FOR EXCLUSIVE LEFT TURN LANE AND SHARED/THROUGH RIGHT TURN LANE
- INTERSECTION WIDENING (ACCEL/DECEL) SB STATE ROUTE 53
- ADA/SIDEWALK/RAMP CONSTRUCTION

LAKE AREA PLANNING COUNCIL  
 STATE ROUTE 53 CORRIDOR LOCAL CIRCULATION STUDY,  
 CLEARLAKE, CA  
 DECEMBER 16, 2021

STATE ROUTE 53 & 18TH AVENUE  
 SHORT TERM  
 Scale: 1"=100'



CONCEPTUAL IMPROVEMENTS, SUBJECT TO CHANGE



MEDIUM TERM IMPROVEMENTS

- CONVERT INTERSECTION TO TWO-LANE ROUNDABOUT
- ADD CROSSWALKS/ADA RAMPS
- RE-STRIPE STATE ROUTE 53

CONFORM TO SHORT-TERM 18TH AVE

CONFORM TRAVELED WAY TO SHORT-TERM 18TH AVE

CONFORM SIDEWALK TO SHORT-TERM 18TH AVE

RETAINING WALL

EXISTING CONSTRUCTION

NEW CONSTRUCTION

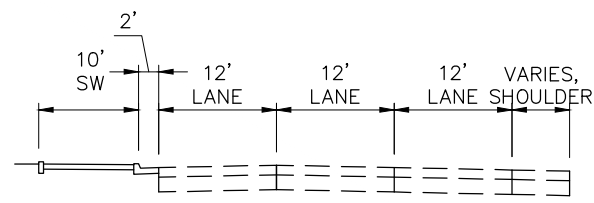
LAKE AREA PLANNING COUNCIL  
 STATE ROUTE 53 CORRIDOR LOCAL CIRCULATION STUDY,  
 CLEARLAKE, CA  
 DECEMBER 16, 2021

STATE ROUTE 53 & 18TH AVENUE  
 MEDIUM TERM  
 Scale: 1"=100'





CONCEPTUAL IMPROVEMENTS, SUBJECT TO CHANGE



SHORT TERM IMPROVEMENTS

- ADD NB LEFT TURN LANE ON STATE ROUTE 53
- ADD SIDEWALKS TO N. SIDE OF LAKESHORE/40TH (WEST LEG) AND S. SIDE OF 40TH (EAST LEG)
- ADD CROSSWALKS/ADA RAMPS
- RE-STRIPE STATE ROUTE 53

NEW CONSTRUCTION

NEW CONSTRUCTION

NEW CONSTRUCTION

W 40TH AVE

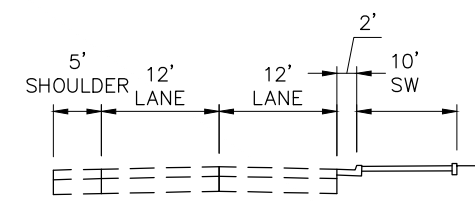
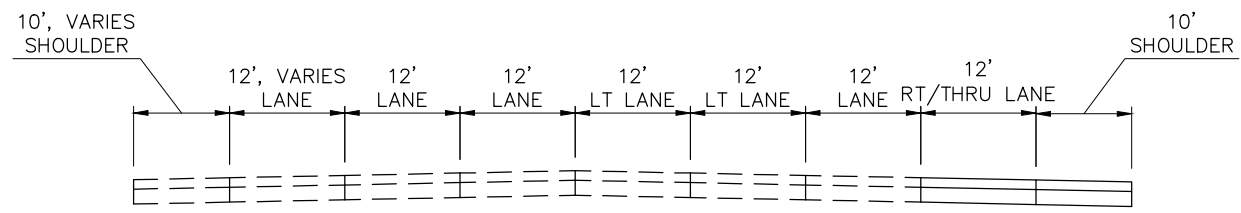
40TH AVE

40TH AVE

LAKESHORE DRIVE

NEW CONSTRUCTION

NEW CONSTRUCTION



53

LAKE AREA PLANNING COUNCIL  
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 CLEARLAKE, CA  
 DECEMBER 16, 2021

STATE ROUTE 53 & 40TH AVENUE  
 SHORT TERM  
 Scale: 1"=100'



DATE PLOTTED 12/16/2021 11:42:22 AM  
 TIME PLOTTED 11:42:22 AM  
 USERNAME Kressmir.Panoyetov

CONCEPTUAL IMPROVEMENTS, SUBJECT TO CHANGE



- MEDIUM TERM IMPROVEMENTS
- CONVERT INTERSECTION TO TWO-LANE ROUNDABOUT
  - MINOR R/W IMPACTS
  - ADD CROSSWALKS/ADA RAMPS
  - RE-STRIPE STATE ROUTE 53

CONFORM TO SHORT-TERM 40TH AVE

422' TO CONFORM

NEW CONSTRUCTION

CONFORM TO SHORT-TERM 40TH AVE

NEW CONSTRUCTION

422' TO CONFORM

LAKE AREA PLANNING COUNCIL  
 STATE ROUTE 53 CORRIDOR LOCAL CIRCULATION STUDY,  
 CLEARLAKE, CA  
 DECEMBER 16, 2021

STATE ROUTE 53 & 40TH AVENUE  
 MEDIUM TERM  
 Scale: 1"=100'



DATE PLOTTED 12/16/2021 11:43:08 AM  
 TIME PLOTTED 11:43:08 AM  
 USERNAME Kressmir.Panoyetov

CONCEPTUAL IMPROVEMENTS, SUBJECT TO CHANGE



LAKE AREA PLANNING COUNCIL  
STATE ROUTE 53 CORRIDOR LOCAL CIRCULATION STUDY,  
CLEARLAKE , CA  
DECEMBER 16, 2021

STATE ROUTE 53 & 40TH AVENUE  
LONG TERM  
Scale: 1"=200'



CONCEPTUAL IMPROVEMENTS, SUBJECT TO CHANGE



CONFORM TO EXISTING STATE ROUTE 53

NEW CONSTRUCTION

DAM ROAD



CONFORM TO EXISTING STATE ROUTE 53

NEW CONSTRUCTION



DAM ROAD EXTENSION

DAM ROAD

DAM ROAD

WALMAR

### SHORT TERM IMPROVEMENTS

- INTERSECTION IMPROVEMENTS AT STATE ROUTE 53 SHOULD BE COMBINED WITH DAM ROAD EXTENSION ROUNDABOUT PROJECT
- NO CHANGES TO LANE/INTERSECTION VEHICLE LANES
- UPGRADE SIGNAL/PED HEADS
- ADA RAMPS AND CROSSWALKS AT ALL CORNERS
- EXTEND SIDEWALK TO STATE R/W AT WEST LEG

**LAKE AREA PLANNING COUNCIL**  
**STATE ROUTE 53 CORRIDOR LOCAL CIRCULATION STUDY,**  
**CLEARLAKE , CA**  
**DECEMBER 16, 2021**

**STATE ROUTE 53 & DAM ROAD**  
**SHORT TERM**  
 Scale: 1"=100'



CONCEPTUAL IMPROVEMENTS, SUBJECT TO CHANGE



LAKE AREA PLANNING COUNCIL  
 STATE ROUTE 53 CORRIDOR LOCAL CIRCULATION STUDY,  
 CLEARLAKE, CA  
 DECEMBER 16, 2021

STATE ROUTE 53 & 18TH STREET AND DAM ROAD  
 LONG TERM - ALTERNATIVE 2  
 Scale: 1"=300'



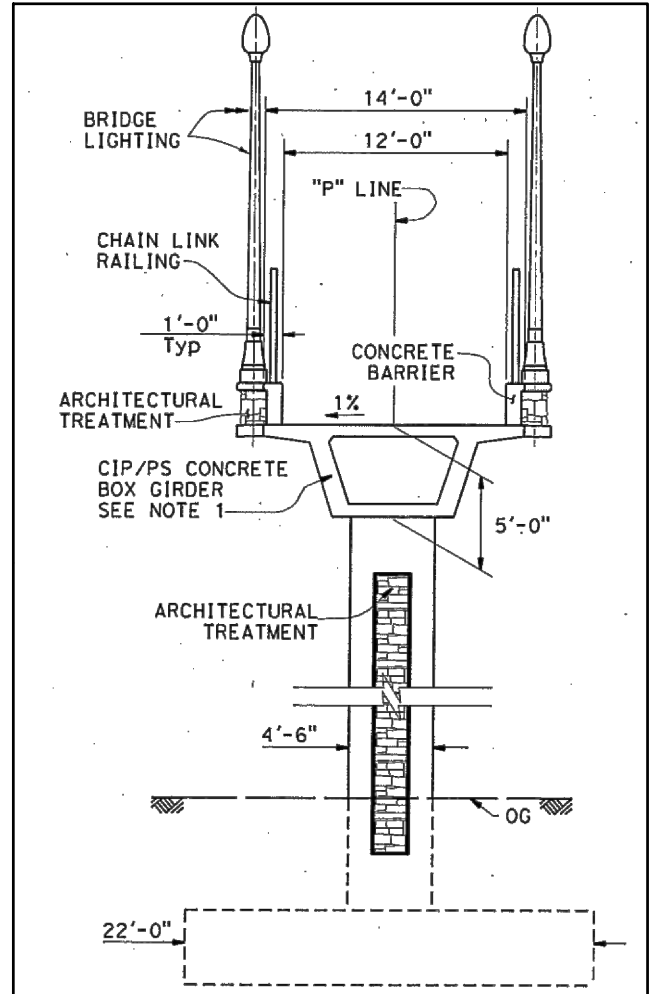
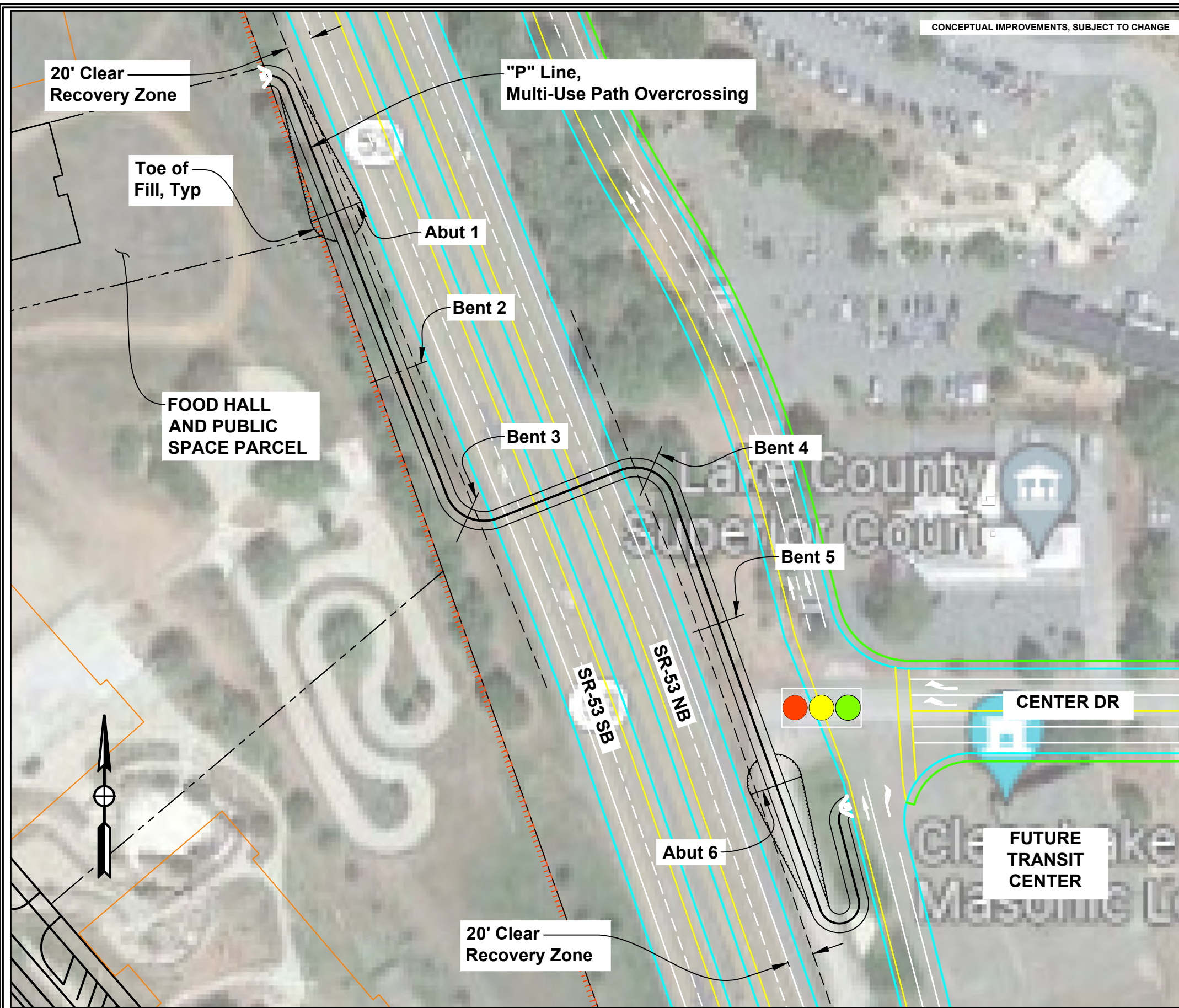
CONCEPTUAL IMPROVEMENTS, SUBJECT TO CHANGE



LAKE AREA PLANNING COUNCIL  
 STATE ROUTE 53 CORRIDOR LOCAL CIRCULATION STUDY,  
 CLEARLAKE, CA  
 DECEMBER 16, 2021

STATE ROUTE 53 & 18TH STREET AND DAM ROAD  
 LONG TERM - ALTERNATIVE 1  
 Scale: 1"=300'





Example Typical Section from "El Dorado Hills POC"

No Scale

Date of Estimate	=	11/22/2021
Structure Depth	=	5.00 ft
Length	=	660 ft
Width	=	14 ft
Area	=	9240 sq.ft
Cost/ sq.ft. Including 10% Mobilization & 30% Contingency	=	\$ 523.65
<b>TOTAL COST</b>	=	<b>\$ 4,838,515</b>

**PROPOSED MULTI-PATH OVERCROSSING**  
Scale: 1"=40'

LAKE AREA PLANNING COUNCIL  
STATE ROUTE 53 CORRIDOR LOCAL CIRCULATION STUDY,  
CLEARLAKE, CA  
DECEMBER 17, 2021



## Appendix G– Cost Estimates



**Preliminary Cost Estimate**

**Project ID: 40th Ave and Lakeshore Dr at SR 53 (SHORT TERM INTERSECTION)**

Type of Estimate : Preliminary Cost Estimate  
 Program Code :  
 Project Limits : 40th Ave and Lakeshore Dr At SR 53

Description: Restripe 40th and Lakeshore Dr, add sidewalk on 40th and Lakeshore, restripe SR-53, add NB left turn onto Lake Shore from SR-53, remove and replace both porkchop islands

Scope :  
 Alternative : 40th SHORT TERM - INTERSECTION

	Current Cost	Escalated Cost (5 yr)
ROADWAY ITEMS	\$ 2,134,900	\$ 2,415,443
STRUCTURE ITEMS	\$ -	\$ -
<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$ 2,134,900</b>	<b>\$ 2,415,443</b>
RIGHT OF WAY	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY COST</b>	<b>\$ 2,135,000</b>	<b>\$ 2,416,000</b>
PR/ED SUPPORT	\$ -	\$ -
PS&E SUPPORT	\$ -	\$ -
RIGHT OF WAY SUPPORT	\$ -	\$ -
CONSTRUCTION SUPPORT	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY SUPPORT COST*</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL PROJECT COST</b>	<b>\$ 2,150,000</b>	<b>\$ 2,450,000</b>

If Project has been programmed enter Programmed Amount \$ -

Date of Estimate (Month/Year) Month / Year  
 12 / 2021  
 Estimated Date of Construction Start (Month/Year) /  
 Number of Working Days Working Days  
 Estimated Mid-Point of Construction (Month/Year) Month / Year  
 Number of Plant Establishment Days Days

**Estimated Project Schedule**

PID Approval  
 PA/ED Approval  
 PS&E  
 RTL  
 Begin Construction

Approved by Project Manager  (xxx) xxx-xxxx  
 Project Manager Date Phone

## I. ROADWAY ITEMS SUMMARY

Section	Cost
1 Earthwork	\$ 78,500
2 Pavement Structural Section	\$ 303,300
3 Drainage	\$ 40,000
4 Specialty Items	\$ -
5 Environmental	\$ 45,300
6 Traffic Items	\$ 776,900
7 Detours	\$ -
8 Minor Items	\$ 124,400
9 Roadway Mobilization	\$ 136,900
10 Supplemental Work	\$ 136,900
11 State Furnished	\$ -
12 Contingencies	\$ 492,700
13 Overhead	\$ -
<b>TOTAL ROADWAY ITEMS</b>	<b>\$ 2,134,900</b>

<b>Estimate Prepared By</b>	Brent Harrison (Assistant Engineer)	11/18/2021	
	Name and Title	Date	Phone
<b>Estimate Reviewed By</b>	C. Davis	12/4/2021	916-368-9181
	Name and Title	Date	Phone

**By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.**

**SECTION 1: EARTHWORK**

Item code	Unit	Quantity		Unit Price (\$)		Cost
160101 Clearing & Grubbing	LS	1	x	5,000.00	= \$	5,000
170101 Develop Water Supply	LS		x		= \$	-
190101 Roadway Excavation	CY	2,100	x	35.00	= \$	73,500
190103 Roadway Excavation (Type Y) ADL	CY		x		= \$	-
190105 Roadway Excavation (Type Z-2) ADL	CY		x		= \$	-
192037 Structure Excavation (Retaining Wall)	CY		x		= \$	-
193013 Structure Backfill (Retaining Wall)	CY		x		= \$	-
193031 Pervious Backfill Material (Retaining Wall)	CY		x		= \$	-
194001 Ditch Excavation	CY		x		= \$	-
198001 Impored Borrow	CY		x		= \$	-
198007 Imported Material (Shoulder Backing)	TON		x		= \$	-
XXXXXX Some Item			x		= \$	-

<b>TOTAL EARTHWORK SECTION ITEMS</b>	<b>\$</b>	<b>78,500</b>
--------------------------------------	-----------	---------------

**SECTION 2: PAVEMENT STRUCTURAL SECTION**

Item code	Unit	Quantity		Unit Price (\$)		Cost
150771 Remove Asphalt Concrete Dike	LF		x		= \$	-
150860 Remove Base and Surfacing	CY		x		= \$	-
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x		= \$	-
1532XX Remove Concrete (type)	CY		x		= \$	-
250401 Class 4 Aggregate Subbase	CY		x		= \$	-
260201 Class 2 Aggregate Base	CY	540	x	65.00	= \$	35,100
290201 Asphalt Treated Permeable Base	CY		x		= \$	-
365001 Sand Cover	TON		x		= \$	-
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x		= \$	-
374492 Asphaltic Emulsion (Polymer Modified)	TON		x		= \$	-
3750XX Screenings (Type XX)	TON		x		= \$	-
377501 Slurry Seal	TON		x		= \$	-
390095 Replace Asphalt Concrete Surfacing	CY		x		= \$	-
390132 Hot Mix Asphalt (Type A)	TON	280	x	150.00	= \$	42,000
390136 Minor Hot Mix Asphalt	TON		x		= \$	-
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON		x		= \$	-
393003 Geosynthetic Pavement Interlayer	SQYD		x		= \$	-
39405X Shoulder Rumber Strip (HMA, Type XX Inden	STA		x		= \$	-
394071 Place Hot Mix Asphalt Dike	LF		x		= \$	-
394090 Place Hot Mix Asphalt (Misc. Area)	SQYD		x		= \$	-
397005 Tack Coat	TON		x		= \$	-
401000 Concrete Pavement	CY		x		= \$	-
401108 Replace Concrete Pavement (Rapid Strength	CY		x		= \$	-
404092 Seal Pavement Joint	LF		x		= \$	-
404094 Seal Longitudinal Isolation Joint	LF		x		= \$	-
413112A Repair Spalled Joints (Polyester Grout)	SQYD		x		= \$	-
413115 Seal Existing Concrete Pavement Joint	LF		x		= \$	-
420102 Groove Existing Concrete Pavement	SQYD		x		= \$	-
420201 Grind Existing Concrete Pavement	SQYD		x		= \$	-
731502 Minor Concrete (Misc. Const)	CY		x		= \$	-
731530 Minor Concrete (Textured Paving)	SQFT		x		= \$	-
731504 Minor Concrete (Curb and Gutter)	CY	120	x	885.00	= \$	106,200
731521 Minor Concrete (Sidewalk)	CY	150	x	800.00	= \$	120,000
XXXXXX Some Item			x		= \$	-

<b>TOTAL STRUCTURAL SECTION ITEMS</b>	<b>\$</b>	<b>303,300</b>
---------------------------------------	-----------	----------------

PRELIMINARY  
PROJECT COST ESTIMATE

**SECTION 3: DRAINAGE**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Drainage Systems	LS	1	x 20,000.00	= \$ 20,000
150206 Abandon Culvert	LF		x	= \$ -
150805 Remove Culvert	LF		x	= \$ -
150820 Modify Inlet	EA		x	= \$ -
152430 Adjust Inlet	LF		x	= \$ -
155003 Cap Inlet	EA		x	= \$ -
193114 Sand Backfill	CY		x	= \$ -
510502 Minor Concrete (Minor Structure)	CY		x	= \$ -
510512 Minor Concrete (Box Culvert)	CY		x	= \$ -
62XXXX XXX" APC Pipe	LF		x	= \$ -
64XXXX XXX" Plastic Pipe	LF		x	= \$ -
65XXXX XXX" RCP Pipe	LF		x	= \$ -
66XXXX XXX" CSP Pipe	LF		x	= \$ -
68XXXX Edge Drain	LF		x	= \$ -
69XXXX XXX" Pipe Downdrain	LF		x	= \$ -
70XXXX XXX" Pipe Inlet	LF		x	= \$ -
70XXXX XXX" Pipe Riser	LF		x	= \$ -
70XXXX XXX" Flared End Section	EA		x	= \$ -
703233 Grated Line Drain	LF		x	= \$ -
72XXXX Rock Slope Protection (Type and Method)	CY		x	= \$ -
721420 Concrete (Ditch Lining)	CY		x	= \$ -
721430 Concrete (Channel Lining)	CY		x	= \$ -
729010 Rock Slope Protection Fabric	SQYD		x	= \$ -
750001 Miscellaneous Iron and Steel	LB		x	= \$ -
Water Quality Treatment and BMP's	LS	1	x 20,000.00	= \$ 20,000
			x	= \$ -

<b>TOTAL DRAINAGE ITEMS</b>	<b>\$ 40,000</b>
-----------------------------	------------------

**SECTION 4: SPECIALTY ITEMS**

Item code	Unit	Quantity	Unit Price (\$)	Cost
070012 Progress Schedule (Critical Path Method)	LS		x	= \$ -
150662 Remove Metal Beam Guard Railing	LF		x	= \$ -
150668 Remove Terminal Systems	EA		x	= \$ -
1532XX Remove Barrier ( <i>Insert Type</i> )	LF		x	= \$ -
153250 Remove Sound Wall	SQFT		x	= \$ -
190110 Lead Compliance Plan	LS		x	= \$ -
49XXXX CIDH Concrete Piling ( <i>Insert Diameter</i> )	LF		x	= \$ -
510060 Structural Concrete (Retaining Wall)	CY		x	= \$ -
510133 Class 2 Concrete (Retaining Wall)	CY		x	= \$ -
510524 Minor Concrete (Sound Wall)	CY		x	= \$ -
5110XX Architectural Treatment ( <i>Insert Type</i> )	SQFT		x	= \$ -
511048 Apply Anti-Graffiti Coating	SQFT		x	= \$ -
5136XX Reinforced Concrete Crib Wall ( <i>Insert Type</i> )	SQFT		x	= \$ -
518002 Sound Wall (Masonry Block)	SQFT		x	= \$ -
520103 Bar Reinf. Steel (Retaining Wall)	LB		x	= \$ -
80XXXX Fence ( <i>Insert Type</i> )	LF		x	= \$ -
832001 Metal Beam Guard Railing	LF		x	= \$ -
832007 Midwest Guardrail System (Wood Post)	LF		x	= \$ -
839310 Double Thrie Beam Barrier	LF		x	= \$ -
839521 Cable Railing	LF		x	= \$ -
83954X Transition Railing ( <i>Insert Type</i> )	EA		x	= \$ -
8395XX Terminal System (Type CAT)	EA		x	= \$ -
839584 Alternative In-Line Terminal System	EA		x	= \$ -
8395XX End Anchor Assembly ( <i>Insert Type</i> )	EA		x	= \$ -
839561 Rail Tensioning Assembly	EA		x	= \$ -
839XXX Crash Cushion ( <i>Insert Type</i> )	EA		x	= \$ -
83XXXX Concrete Barrier ( <i>Insert Type</i> )	LF		x	= \$ -
XXXXXX Some Item			x	= \$ -

<b>TOTAL SPECIALTY ITEMS</b>	<b>\$ -</b>
------------------------------	-------------

**SECTION 5: ENVIRONMENTAL**

**5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
130670 TEMPORARY REINFORCED SILT FENCE	LF	1,400	x 4.00 = \$	5,600
160110 Temporary High-Visibility Fence	LF	1,400	x 2.00 = \$	2,800
071325 Temporary Fence (Type ESA)			x = \$	-
210350 Fiber Rolls	LF	1,400	x 3.00 = \$	4,200
210430 Hydroseed	SQFT	18,000	x 0.15 = \$	2,700
<u>Subtotal Environmental</u>				<u>\$ 15,300</u>

**5B - LANDSCAPE AND IRRIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	x	= \$	-
20XXXX XXX" (Insert Type) Conduit (Use for	LF		= \$	-
20XXXX Extend XXX" (Insert Type) Conduit	LF		= \$	-
201700 Imported Topsoil	CY	x	= \$	-
2030XX Erosion Control (Type __)	SQYD	x	= \$	-
203021 Fiber Rolls	LF	x	= \$	-
203026 Move In/ Move Out (Erosion Control)	EA	x	= \$	-
204099 Plant Establishment Work	LS	x	= \$	-
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208000 Irrigation System	LS	x	= \$	-
208304 Water Meter	EA	x	= \$	-
209801 Maintenance Vehicle Pullout	EA	x	= \$	-
XXXXXX Some Item				
<u>Subtotal Landscape and Irrigation</u>				<u>\$ -</u>

**5C - NPDES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
074016 Construction Site Management	LS	1	x 10,000.00 = \$	10,000
6615 Resident Engineers Office (2-Seasons)	LS		x = \$	-
074017 Prepare WPCP	LS	1	x 10,000.00 = \$	10,000
074019 Prepare SWPPP	LS		x = \$	-
074023 Temporary Erosion Control	SQYD		x = \$	-
074027 Temporary Erosion Control Blanket	SQYD		x = \$	-
074028 Temporary Fiber Roll	LF		x = \$	-
074032 Temporary Concrete Washout Facility	EA	2	x 5,000.00 = \$	10,000
074033 Temporary Construction Entrance	EA		x = \$	-
074035 Temporary Check Dam	LF		x = \$	-
074037 Move In/ Move Out (Temporary Erosion Cont)	EA		x = \$	-
074038 Temp. Drainage Inlet Protection	EA		x = \$	-
074041 Street Sweeping	LS		x = \$	-
074042 Temporary Concrete Washout (Portable)	LS		x = \$	-
XXXXXX Some Item				

**Supplemental Work for NPDES**

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595 Water Pollution Control Maintenance Sharing*	LS		x = \$	-
066596 Additional Water Pollution Control**	LS		x = \$	-
066597 Storm Water Sampling and Analysis***	LS		x = \$	-
XXXXXX Some Item				

Subtotal NPDES (Without Supplemental Work)    \$    30,000

\*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

\*\*Applies to both SWPPPs and WPCP projects.

\*\*\* Applies only to project with SWPPPs.

<b>TOTAL ENVIRONMENTAL</b>	<b>\$ 45,300</b>
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**SECTION 6: TRAFFIC ITEMS**

**6A - Traffic Electrical**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150760 Remove Sign Structure	EA	x	= \$	-
151581 Reconstruct Sign Structure	EA	x	= \$	-
152641 Modify Sign Structure	EA	x	= \$	-
5602XX Furnish Sign Structure	LB	x	= \$	-
5602XX Install Sign Structure	LB	x	= \$	-
56XXXX XXX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-
860090 Maintain Existing Traffic Management	LS	x	= \$	-
860810 Inductive Loop Detectors	EA	x	= \$	-
86055X Lighting & Sign Illumination	LS	x	= \$	-
8607XX Interconnection Facilities	LS	x	= \$	-
8609XX Traffic Monitoring Stations	LS	x	= \$	-
870400 Signal and Lighting System	LS	1 x	500,000.00 = \$	500,000
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
86XXXX Fiber Optic Conduit System	LS	x	= \$	-
XXXXX Some Item				
<u>Subtotal Traffic Electrical</u>				<u>\$ 500,000</u>

**6B - Traffic Signing and Striping**

Item code	Unit	Quantity	Unit Price (\$)	Cost
120090 Construction Area Signs	LS	1 x	15,000.00 = \$	15,000
150701 Remove Yellow Painted Traffic Stripe	LF	x	= \$	-
150710 Remove Traffic Stripe	LF	x	= \$	-
150713 Remove Pavement Marking	SQFT	x	= \$	-
150742 Remove Roadside Sign	EA	x	= \$	-
152320 Reset Roadside Sign	EA	x	= \$	-
152390 Relocate Roadside Sign	EA	x	= \$	-
820840 Roadside Sign - One Post	EA	x	= \$	-
566012 Roadside Sign (Two Post)	EA	x	= \$	-
560XXX Furnish Sign Panels	SQFT	x	= \$	-
560XXX Install Sign Panels	SQFT	x	= \$	-
82010X Delineator (Class X)	EA	x	= \$	-
Overhead Signs	EA	x	= \$	-
840501 Thermoplastic Traffic Stripe	LF	16,700 x	2.50 = \$	41,750
840515 Thermoplastic Pavement Marking	SQFT	780 x	6.00 = \$	4,680
<u>Subtotal Traffic Signing and Striping</u>				<u>\$ 61,430</u>

**6C - Stage Construction and Traffic Handling**

Item code	Unit	Quantity	Unit Price (\$)	Cost
66063 Traffic Management Plan - Public Information	LS	x	= \$	-
CHP Enhanced Enforcement	LS	x	= \$	-
120100 Traffic Control System	LS	1 x	100,000.00 = \$	100,000
120120 Type III Barricade	EA	x	= \$	-
120143 Temporary Pavement Delineation	LS	1 x	20,000.00 = \$	20,000
12016X Channelizer	EA	x	= \$	-
128651 Portable Changeable Message Sign (EA)	EA	4 x	13,000.00 = \$	52,000
129000 Temporary Railing (Type K)	LF	700 x	50.00 = \$	35,000
129100 Temporary Crash Cushion Module	EA	28 x	300.00 = \$	8,400
129099A Traffic Plastic Drum	EA	x	= \$	-
839603A Temporary Crash Cushion (ADIEM)	EA	x	= \$	-
XXXXXX Some Item				
<u>Subtotal Stage Construction and Traffic Handling</u>				<u>\$ 215,400</u>

<b>TOTAL TRAFFIC ITEMS</b>	<b>\$ 776,900</b>
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**SECTION 7: DETOURS**

Include constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
0713XX Temporary Fence (Type X)	LF	x	= \$	-
07XXXX Temporary Drainage	LS	x	= \$	-
120143 Temporary Pavement Delineation	LF	x	= \$	-
1286XX Temporary Signals	EA	x	= \$	-
129000 Temporary Railing (Type K)	LF	x	= \$	-
190101 Roadway Excavation	CY	x	= \$	-
198001 Imported Borrow	CY	x	= \$	-
198050 Embankment	CY	x	= \$	-
250401 Class 4 Aggregate Subbase	CY	x	= \$	-
260201 Class 2 Aggregate Base	CY	x	= \$	-
390132 Hot Mix Asphalt (Type A)	TON	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-
<b>TOTAL DETOURS</b>				<b>\$ -</b>

SUBTOTAL SECTIONS 1-7 \$ 1,244,000

**SECTION 8: MINOR ITEMS**

**8A - Americans with Disabilities Act Items**

ADA Items 0.0% \$ -

**8B - Bike Path Items**

Bike Path Items 0.0% \$ -

**8C - Other Minor Items**

Other Minor Items 10.0% \$ 124,400

Total of Section 1-7 \$ 1,244,000 x 10.0% = \$ 124,400

**TOTAL MINOR ITEMS \$ 124,400**

**SECTIONS 9: MOBILIZATION**

item code	Quantity	Unit Price (\$)	Cost
999990 Total Section 1-8	\$ 1,368,400 x 10%	= \$	136,840
<b>TOTAL MOBILIZATION</b>			<b>\$ 136,900</b>

**SECTION 10: SUPPLEMENTAL WORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
066015 Federal Trainee Program	LS	x	= \$	-
066063 Traffic Management Plan - Public Informati	LS	x	= \$	-
066090 Maintain Traffic	LS	x	= \$	-
066094 Value Analysis	LS	x	= \$	-
066204 Remove Rock & Debris	LS	x	= \$	-
066222 Locate Existing Cross-Over	LS	x	= \$	-
066670 Payment Adjustments For Price Index Fluct	LS	x	= \$	-
066700 Partnering	LS	x	= \$	-
066866 Operation of Existing Traffic Management S	LS	x	= \$	-
066920 Dispute Review Board	LS	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-
<i>Cost of NPDES Supplemental Work specified in Section 5C</i>				= \$ -
Total Section 1-8		\$ 1,368,400	10%	= \$ 136,840
<b>TOTAL SUPPLEMENTAL WORK</b>			<b>\$ 136,900</b>	

**SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES**

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Item code	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>		
066063 Public Information	LS	x	=	\$0		
066105 RE Office	LS	x	=	\$0		
066803 Padlocks	LS	x	=	\$0		
066838 Reflective Numbers and Edge Sealer	LS	x	=	\$0		
066901 Water Expenses	LS	x	=	\$0		
066062A COZEEP Expenses	LS	x	=	\$0		
06684X Ramp Meter Controller Assembly	LS	x	=	\$0		
06684X TMS Controller Assembly	LS	x	=	\$0		
06684X Traffic Signal Controller Assembly	LS	x	=	\$0		
XXXXXX Some Item						
Total Section 1-8		\$	1,368,400	0%	= \$	-

<b>TOTAL STATE FURNISHED</b>	<b>\$0</b>
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**SECTION 12: TIME-RELATED OVERHEAD**

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Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = 5%

Item code	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
070018 Time-Related Overhead	WD	0	X #DIV/0!	= \$0

<b>TOTAL TIME-RELATED OVERHEAD</b>	<b>\$0</b>
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**SECTION 13: CONTINGENCY**

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(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-11	\$	1,642,200	x	30%	=	\$492,660
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<b>TOTAL CONTINGENCY</b>	<b>\$492,700</b>
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## II. STRUCTURE ITEMS

DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)		XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00	\$0.00	\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
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DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00	\$0.00	\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
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<b>TOTAL COST OF BRIDGES</b>	<b>\$0.00</b>
<b>MOBILIZATION (10%)</b>	<b>\$0.00</b>
<b>TOTAL COST OF BUILDINGS</b>	<b>\$0.00</b>

<b>TOTAL COST OF STRUCTURES<sup>1</sup></b>	<b>\$0.00</b>
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Estimate Prepared By: \_\_\_\_\_ Date \_\_\_\_\_  
 XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

<sup>1</sup>Structure's Estimate includes Overhead and Mobilization.  
 Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc

**DO NOT PRINT THIS SHEET AS PART OF COST ESTIMATE ATTACHMENT TO PROJECT INITIATION OR APPROVAL DOCUMENTS.**

### III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

			\$	PARTIAL TAKE FULL TAKE	
A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill,			
	A2)	SB-1210	\$	0	
B)		Acquisition of Offsite Mitigation	\$	0	
C)	C1)	Utility Relocation (State Share)	\$	0	
	C2)	Potholing (Design Phase)	\$	0	
D)		Railroad Acquisition	\$	0	
E)		Clearance / Demolition	\$	0	
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	\$	0	
G)		Title and Escrow	\$	0	
H)		Environmental Review	\$	0	
I)		Condemnation Settlements (Items G & H applied to items A + B)	\$	0	
				0%	
J)		Design Appreciation Factor	\$	0	
				0%	
K)		Utility Relocation (Construction Cost)	\$	0	
L)	<b>TOTAL RIGHT OF WAY ESTIMATE</b>				<b>\$0</b>
	(Excluding Item #8 - Hazardous Waste)				
M)	<b>TOTAL R/W ESTIMATE: Escalated</b>				<b>\$0</b>
N)	<b>Right of Way Support</b>				<b>\$ 0</b>

Support Cost  
Estimate Prepared By \_\_\_\_\_ Project Coordinator<sup>1</sup> \_\_\_\_\_ Phone \_\_\_\_\_

Utility Estimate  
Prepared By \_\_\_\_\_ Utility Coordinator<sup>2</sup> \_\_\_\_\_ Phone \_\_\_\_\_

R/W Acquisition  
Estimate Prepared By \_\_\_\_\_ Right of Way Estimator<sup>3</sup> \_\_\_\_\_ Phone \_\_\_\_\_

<sup>1</sup> When estimate has Support Costs only <sup>2</sup> When estimate has Utility Relocation

<sup>3</sup> When R/W Acquisition is required



**Preliminary Cost Estimate**

**Project ID: 40th Ave and Lakeshore Dr at SR 53 (MID TERM ROUNDABOUT)**

Type of Estimate : Preliminary Cost Estimate  
 Program Code :  
 Project Limits : 40th Ave and Lakeshore Dr At SR 53

Description: Construct two lane roundabout at the intersection of 40th Ave and Lakeshore Dr at SR-53, rebuild limits of SR-39 shown, add sidewalks along 40th and Lakeshore

Scope :  
 Alternative : 40th MID TERM - ROUNDABOUT

	Current Cost	Escalated Cost (8 yr)
ROADWAY ITEMS	\$ 4,292,500	\$ 5,229,994
STRUCTURE ITEMS	\$ -	\$ -
<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$ 4,292,500</b>	<b>\$ 5,229,994</b>
RIGHT OF WAY	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY COST</b>	<b>\$ 4,293,000</b>	<b>\$ 5,230,000</b>
PR/ED SUPPORT	\$ -	\$ -
PS&E SUPPORT	\$ -	\$ -
RIGHT OF WAY SUPPORT	\$ -	\$ -
CONSTRUCTION SUPPORT	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY SUPPORT COST*</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL PROJECT COST</b>	<b>\$ 4,300,000</b>	<b>\$ 5,250,000</b>

If Project has been programmed enter Programmed Amount \$ -

Date of Estimate (Month/Year) Month / Year  
 12 / 2021  
 Estimated Date of Construction Start (Month/Year) /  
 Number of Working Days Working Days  
 Estimated Mid-Point of Construction (Month/Year) Month / Year  
 Number of Plant Establishment Days Days

**Estimated Project Schedule**

PID Approval  
 PA/ED Approval  
 PS&E  
 RTL  
 Begin Construction

Approved by Project  
 Manager



(xxx) xxx-xxxx

Project Manager

Date

Phone

## I. ROADWAY ITEMS SUMMARY

Section	Cost
1 Earthwork	\$ 394,500
2 Pavement Structural Section	\$ 1,101,600
3 Drainage	\$ 139,500
4 Specialty Items	\$ -
5 Environmental	\$ 91,500
6 Traffic Items	\$ 774,200
7 Detours	\$ -
8 Minor Items	\$ 250,200
9 Roadway Mobilization	\$ 275,200
10 Supplemental Work	\$ 275,200
11 State Furnished	\$ -
12 Contingencies	\$ 990,600
13 Overhead	\$ -
<b>TOTAL ROADWAY ITEMS</b>	<b>\$ 4,292,500</b>

Estimate Prepared By Brent Harrison (Assistant Engineer) 11/18/2021 \_\_\_\_\_  
Name and Title Date Phone

Estimate Reviewed By C. Davis 12/4//2021 916-368-9181  
Name and Title Date Phone

**By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.**

**SECTION 1: EARTHWORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
160101 Clearing & Grubbing	LS	1	x 20,000.00 = \$	20,000
170101 Develop Water Supply	LS		x = \$	-
190101 Roadway Excavation	CY	10,700	x 35.00 = \$	374,500
190103 Roadway Excavation (Type Y) ADL	CY		x = \$	-
190105 Roadway Excavation (Type Z-2) ADL	CY		x = \$	-
192037 Structure Excavation (Retaining Wall)	CY		x = \$	-
193013 Structure Backfill (Retaining Wall)	CY		x = \$	-
193031 Pervious Backfill Material (Retaining Wall)	CY		x = \$	-
194001 Ditch Excavation	CY		x = \$	-
198001 Impored Borrow	CY		x = \$	-
198007 Imported Material (Shoulder Backing)	TON		x = \$	-
XXXXXX Some Item			x = \$	-

<b>TOTAL EARTHWORK SECTION ITEMS</b>	<b>\$ 394,500</b>
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**SECTION 2: PAVEMENT STRUCTURAL SECTION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150771 Remove Asphalt Concrete Dike	LF		x = \$	-
150860 Remove Base and Surfacing	CY		x = \$	-
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x = \$	-
1532XX Remove Concrete (type)	CY		x = \$	-
250401 Class 4 Aggregate Subbase	CY		x = \$	-
260201 Class 2 Aggregate Base	CY	5,900	x 65.00 = \$	383,500
290201 Asphalt Treated Permeable Base	CY		x = \$	-
365001 Sand Cover	TON		x = \$	-
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x = \$	-
374492 Asphaltic Emulsion (Polymer Modified)	TON		x = \$	-
3750XX Screenings (Type XX)	TON		x = \$	-
377501 Slurry Seal	TON		x = \$	-
390095 Replace Asphalt Concrete Surfacing	CY		x = \$	-
390132 Hot Mix Asphalt (Type A)	TON	2,900	x 150.00 = \$	435,000
390136 Minor Hot Mix Asphalt	TON		x = \$	-
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON		x = \$	-
393003 Geosynthetic Pavement Interlayer	SQYD		x = \$	-
39405X Shoulder Rumber Strip (HMA, Type XX Inden	STA		x = \$	-
394071 Place Hot Mix Asphalt Dike	LF		x = \$	-
394090 Place Hot Mix Asphalt (Misc. Area)	SQYD		x = \$	-
397005 Tack Coat	TON		x = \$	-
401000 Concrete Pavement	CY		x = \$	-
401108 Replace Concrete Pavement (Rapid Strength	CY		x = \$	-
404092 Seal Pavement Joint	LF		x = \$	-
404094 Seal Longitudinal Isolation Joint	LF		x = \$	-
413112A Repair Spalled Joints (Polyester Grout)	SQYD		x = \$	-
413115 Seal Existing Concrete Pavement Joint	LF		x = \$	-
420102 Groove Existing Concrete Pavement	SQYD		x = \$	-
420201 Grind Existing Concrete Pavement	SQYD		x = \$	-
731502 Minor Concrete (Misc. Const)	CY		x = \$	-
731530 Minor Concrete (Textured Paving)	SQFT		x = \$	-
731504 Minor Concrete (Curb and Gutter)	CY	130	x 885.00 = \$	115,050
731521 Minor Concrete (Sidewalk)	CY	210	x 800.00 = \$	168,000
XXXXXX Some Item			x = \$	-

<b>TOTAL STRUCTURAL SECTION ITEMS</b>	<b>\$ 1,101,600</b>
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PRELIMINARY  
PROJECT COST ESTIMATE

**SECTION 3: DRAINAGE**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Drainage Systems (5% of Earthwork)	LS	1	x 39,450.00 = \$	39,450
150206 Abandon Culvert	LF		x = \$	-
150805 Remove Culvert	LF		x = \$	-
150820 Modify Inlet	EA		x = \$	-
152430 Adjust Inlet	LF		x = \$	-
155003 Cap Inlet	EA		x = \$	-
193114 Sand Backfill	CY		x = \$	-
510502 Minor Concrete (Minor Structure)	CY		x = \$	-
510512 Minor Concrete (Box Culvert)	CY		x = \$	-
62XXXX XXX" APC Pipe	LF		x = \$	-
64XXXX XXX" Plastic Pipe	LF		x = \$	-
65XXXX XXX" RCP Pipe	LF		x = \$	-
66XXXX XXX" CSP Pipe	LF		x = \$	-
68XXXX Edge Drain	LF		x = \$	-
69XXXX XXX" Pipe Downdrain	LF		x = \$	-
70XXXX XXX" Pipe Inlet	LF		x = \$	-
70XXXX XXX" Pipe Riser	LF		x = \$	-
70XXXX XXX" Flared End Section	EA		x = \$	-
703233 Grated Line Drain	LF		x = \$	-
72XXXX Rock Slope Protection (Type and Method)	CY		x = \$	-
721420 Concrete (Ditch Lining)	CY		x = \$	-
721430 Concrete (Channel Lining)	CY		x = \$	-
729010 Rock Slope Protection Fabric	SQYD		x = \$	-
750001 Miscellaneous Iron and Steel	LB		x = \$	-
Water Quality Treatment and BMP's	LS	1	x 100,000.00 = \$	100,000
			x = \$	-

<b>TOTAL DRAINAGE ITEMS</b>	<b>\$ 139,500</b>
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**SECTION 4: SPECIALTY ITEMS**

Item code	Unit	Quantity	Unit Price (\$)	Cost
070012 Progress Schedule (Critical Path Method)	LS		x = \$	-
150662 Remove Metal Beam Guard Railing	LF		x = \$	-
150668 Remove Terminal Systems	EA		x = \$	-
1532XX Remove Barrier ( <i>Insert Type</i> )	LF		x = \$	-
153250 Remove Sound Wall	SQFT		x = \$	-
190110 Lead Compliance Plan	LS		x = \$	-
49XXXX CIDH Concrete Piling ( <i>Insert Diameter</i> )	LF		x = \$	-
510060 Structural Concrete (Retaining Wall)	CY		x = \$	-
510133 Class 2 Concrete (Retaining Wall)	CY		x = \$	-
510524 Minor Concrete (Sound Wall)	CY		x = \$	-
5110XX Architectural Treatment ( <i>Insert Type</i> )	SQFT		x = \$	-
511048 Apply Anti-Graffiti Coating	SQFT		x = \$	-
5136XX Reinforced Concrete Crib Wall ( <i>Insert Type</i> )	SQFT		x = \$	-
518002 Sound Wall (Masonry Block)	SQFT		x = \$	-
520103 Bar Reinf. Steel (Retaining Wall)	LB		x = \$	-
80XXXX Fence ( <i>Insert Type</i> )	LF		x = \$	-
832001 Metal Beam Guard Railing	LF		x = \$	-
832007 Midwest Guardrail System (Wood Post)	LF		x = \$	-
839310 Double Thrie Beam Barrier	LF		x = \$	-
839521 Cable Railing	LF		x = \$	-
83954X Transition Railing ( <i>Insert Type</i> )	EA		x = \$	-
8395XX Terminal System (Type CAT)	EA		x = \$	-
839584 Alternative In-Line Terminal System	EA		x = \$	-
8395XX End Anchor Assembly ( <i>Insert Type</i> )	EA		x = \$	-
839561 Rail Tensioning Assembly	EA		x = \$	-
839XXX Crash Cushion ( <i>Insert Type</i> )	EA		x = \$	-
83XXXX Concrete Barrier ( <i>Insert Type</i> )	LF		x = \$	-
XXXXXX Some Item			x = \$	-

<b>TOTAL SPECIALTY ITEMS</b>	<b>\$ -</b>
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**SECTION 5: ENVIRONMENTAL**

**5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
130670 TEMPORARY REINFORCED SILT FENCE	LF	2,600	x 4.00 = \$	10,400
160110 Temporary High-Visibility Fence	LF	2,600	x 2.00 = \$	5,200
071325 Temporary Fence (Type ESA)			x = \$	-
210350 Fiber Rolls	LF	2,600	x 3.00 = \$	7,800
210430 Hydroseed	SQFT	40,400	x 0.15 = \$	6,060
<u>Subtotal Environmental</u>				<u>\$ 29,460</u>

**5B - LANDSCAPE AND IRRIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	x	= \$	-
20XXXX XXX" (Insert Type) Conduit (Use for	LF	x	= \$	-
20XXXX Extend XXX" (Insert Type) Conduit	LF	x	= \$	-
201700 Imported Topsoil	CY	x	= \$	-
2030XX Erosion Control (Type __)	SQYD	x	= \$	-
203021 Fiber Rolls	LF	x	= \$	-
203026 Move In/ Move Out (Erosion Control)	EA	x	= \$	-
204099 Plant Establishment Work	LS	x	= \$	-
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208000 Irrigation System	LS	x	= \$	-
208304 Water Meter	EA	x	= \$	-
209801 Maintenance Vehicle Pullout	EA	x	= \$	-
XXXXXX Some Item				
<u>Subtotal Landscape and Irrigation</u>				<u>\$ -</u>

**5C - NPDES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
074016 Construction Site Management	LS	1	x 30,000.00 = \$	30,000
6615 Resident Engineers Office (2-Seasons)	LS	x	= \$	-
074017 Prepare WPCP	LS	x	= \$	-
074019 Prepare SWPPP	LS	1	x 12,000.00 = \$	12,000
074023 Temporary Erosion Control	SQYD	x	= \$	-
074027 Temporary Erosion Control Blanket	SQYD	x	= \$	-
074028 Temporary Fiber Roll	LF	x	= \$	-
074032 Temporary Concrete Washout Facility	EA	2	x 5,000.00 = \$	10,000
074033 Temporary Construction Entrance	EA	2	x 5,000.00 = \$	10,000
074035 Temporary Check Dam	LF	x	= \$	-
074037 Move In/ Move Out (Temporary Erosion Conti	EA	x	= \$	-
074038 Temp. Drainage Inlet Protection	EA	x	= \$	-
074041 Street Sweeping	LS	x	= \$	-
074042 Temporary Concrete Washout (Portable)	LS	x	= \$	-
XXXXXX Some Item				

**Supplemental Work for NPDES**

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595 Water Pollution Control Maintenance Sharing*	LS	x	= \$	-
066596 Additional Water Pollution Control**	LS	x	= \$	-
066597 Storm Water Sampling and Analysis***	LS	x	= \$	-
XXXXXX Some Item				

Subtotal NPDES (Without Supplemental Work)     \$ 62,000

\*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

\*\*Applies to both SWPPPs and WPCP projects.

\*\*\* Applies only to project with SWPPPs.

<b>TOTAL ENVIRONMENTAL</b>	<b>\$ 91,500</b>
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**SECTION 6: TRAFFIC ITEMS**

**6A - Traffic Electrical**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150760 Remove Sign Structure	EA	x	= \$	-
151581 Reconstruct Sign Structure	EA	x	= \$	-
152641 Modify Sign Structure	EA	x	= \$	-
5602XX Furnish Sign Structure	LB	x	= \$	-
5602XX Install Sign Structure	LB	x	= \$	-
56XXXX XXX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-
860090 Maintain Existing Traffic Management	LS	x	= \$	-
860810 Inductive Loop Detectors	EA	x	= \$	-
86055X Lighting & Sign Illumination	LS	1 x	100,000.00 = \$	100,000
8607XX Interconnection Facilities	LS	x	= \$	-
8609XX Traffic Monitoring Stations	LS	x	= \$	-
870400 Signal and Lighting System	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
86XXXX Fiber Optic Conduit System	LS	x	= \$	-
XXXXXX Some Item				
<i>Subtotal Traffic Electrical</i>				<u>\$ 100,000</u>

**6B - Traffic Signing and Striping**

Item code	Unit	Quantity	Unit Price (\$)	Cost
120090 Construction Area Signs	LS	1 x	30,000.00 = \$	30,000
150701 Remove Yellow Painted Traffic Stripe	LF	x	= \$	-
150710 Remove Traffic Stripe	LF	x	= \$	-
150713 Remove Pavement Marking	SQFT	x	= \$	-
150742 Remove Roadside Sign	EA	x	= \$	-
152320 Reset Roadside Sign	EA	x	= \$	-
152390 Relocate Roadside Sign	EA	x	= \$	-
820840 Roadside Sign - One Post	EA	15 x	450.00 = \$	6,750
566012 Roadside Sign (Two Post)	EA	x	= \$	-
560XXX Furnish Sign Panels	SQFT	x	= \$	-
560XXX Install Sign Panels	SQFT	x	= \$	-
82010X Delineator (Class X)	EA	x	= \$	-
Overhead Signs	EA	x	= \$	-
840501 Thermoplastic Traffic Stripe	LF	9,000 x	2.50 = \$	22,500
840515 Thermoplastic Pavement Marking	SQFT	410 x	6.00 = \$	2,460
<i>Subtotal Traffic Signing and Striping</i>				<u>\$ 61,710</u>

**6C - Stage Construction and Traffic Handling**

Item code	Unit	Quantity	Unit Price (\$)	Cost
66063 Traffic Management Plan - Public Information	LS	1 x	10,000.00 = \$	10,000
CHP Enhanced Enforcement	LS	1 x	30,000.00 = \$	30,000
120100 Traffic Control System	LS	1 x	200,000.00 = \$	200,000
120120 Type III Barricade	EA	x	= \$	-
120143 Temporary Pavement Delineation	LS	1 x	30,000.00 = \$	30,000
12016X Channelizer	EA	x	= \$	-
128651 Portable Changeable Message Sign (EA)	EA	4 x	13,000.00 = \$	52,000
129000 Temporary Railing (Type K)	LF	4,800 x	50.00 = \$	240,000
129100 Temporary Crash Cushion Module	EA	168 x	300.00 = \$	50,400
129099A Traffic Plastic Drum	EA	x	= \$	-
839603A Temporary Crash Cushion (ADIEM)	EA	x	= \$	-
XXXXXX Some Item				
<i>Subtotal Stage Construction and Traffic Handling</i>				<u>\$ 612,400</u>

<b>TOTAL TRAFFIC ITEMS</b>	<b>\$ 774,200</b>
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## II. STRUCTURE ITEMS

DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)		XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00	\$0.00	\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
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DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00	\$0.00	\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
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<b>TOTAL COST OF BRIDGES</b>	<b>\$0.00</b>
<b>MOBILIZATION (10%)</b>	<b>\$0.00</b>
<b>TOTAL COST OF BUILDINGS</b>	<b>\$0.00</b>

<b>TOTAL COST OF STRUCTURES<sup>1</sup></b>	<b>\$0.00</b>
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Estimate Prepared By: XXXXXXXXXXXXXXXXXXXX ----- Division of Structures Date \_\_\_\_\_

<sup>1</sup>Structure's Estimate includes Overhead and Mobilization.  
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc





**Preliminary Cost Estimate**

**Project ID: 40th Ave and Lakeshore Dr at SR 53 (LONG TERM TIGHT DIAMOND)**

**Type of Estimate :** Preliminary Cost Estimate  
**Program Code :**  
**Project Limits :** 40th Ave and Lakeshore Dr At SR 53

**Description:** Construct a Tight Diamond Interchange at 40th Ave, Construct single lane exit and entrance ramps to SR53, Construct signals at the 2 ramp intersections, Construct a two lane over crossing with left turn lanes, Improve 40th Ave to accomodate intersection, Local road improvement as needed on 40th Ave, Moss Ave and Cedar Ave

**Scope :**

**Alternative :** 40th LONG TERM - Tight Diamond

	Current Cost	Escalated Cost (10 yr)
ROADWAY ITEMS	\$ 39,710,900	\$ 50,833,309
STRUCTURE ITEMS	\$ 2,273,040	\$ 2,909,683
<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$ 41,983,940</b>	<b>\$ 53,742,993</b>
RIGHT OF WAY	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY COST</b>	<b>\$ 41,984,000</b>	<b>\$ 53,743,000</b>
PR/ED SUPPORT	\$ -	\$ -
PS&E SUPPORT	\$ -	\$ -
RIGHT OF WAY SUPPORT	\$ -	\$ -
CONSTRUCTION SUPPORT	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY SUPPORT COST*</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL PROJECT COST</b>	<b>\$ 42,000,000</b>	<b>\$ 53,800,000</b>

If Project has been programmed enter Programmed Amount \$ -

Date of Estimate (Month/Year) Month / Year  
12 / 2021  
 Estimated Date of Construction Start (Month/Year) /  
 Number of Working Days Working Days  
 Estimated Mid-Point of Construction (Month/Year) Month / Year  
 Number of Plant Establishment Days Days

**Estimated Project Schedule**

PID Approval  
 PA/ED Approval  
 PS&E  
 RTL  
 Begin Construction

Approved by Project Manager



(xxx) xxx-xxxx

Project Manager

Date

Phone

## I. ROADWAY ITEMS SUMMARY

Section	Cost
1 Earthwork	\$ 12,404,000
2 Pavement Structural Section	\$ 6,585,200
3 Drainage	\$ 720,200
4 Specialty Items	\$ 51,500
5 Environmental	\$ 449,800
6 Traffic Items	\$ 2,930,700
7 Detours	\$ -
8 Minor Items	\$ 2,314,200
9 Roadway Mobilization	\$ 2,545,600
10 Supplemental Work	\$ 2,545,600
11 State Furnished	\$ -
12 Contingencies	\$ 9,164,100
13 Overhead	\$ -
<b>TOTAL ROADWAY ITEMS</b>	
	<b>\$ 39,710,900</b>

<b>Estimate Prepared By</b>	Brent Harrison (Assistant Engineer)	11/18/2021	
	Name and Title	Date	Phone
<b>Estimate Reviewed By</b>	C. Davis	12/14/2021	916-368-9181
	Name and Title	Date	Phone

**By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.**



**SECTION 1: EARTHWORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
160101 Clearing & Grubbing	LS	1	x 40,000.00	= \$ 40,000
170101 Develop Water Supply	LS		x	= \$ -
190101 Roadway Excavation	CY	25,400	x 35.00	= \$ 889,000
190103 Roadway Excavation (Type Y) ADL	CY		x	= \$ -
190105 Roadway Excavation (Type Z-2) ADL	CY		x	= \$ -
192037 Structure Excavation (Retaining Wall)	CY		x	= \$ -
193013 Structure Backfill (Retaining Wall)	CY		x	= \$ -
193031 Pervious Backfill Material (Retaining Wall)	CY		x	= \$ -
194001 Ditch Excavation	CY		x	= \$ -
198001 Impored Borrow	CY	459,000	x 25.00	= \$ 11,475,000
198007 Imported Material (Shoulder Backing)	TON		x	= \$ -
XXXXXX Some Item			x	= \$ -

<b>TOTAL EARTHWORK SECTION ITEMS</b>	<b>\$ 12,404,000</b>
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**SECTION 2: PAVEMENT STRUCTURAL SECTION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150771 Remove Asphalt Concrete Dike	LF		x	= \$ -
150860 Remove Base and Surfacing	CY		x	= \$ -
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x	= \$ -
1532XX Remove Concrete (type)	CY		x	= \$ -
250401 Class 4 Aggregate Subbase	CY		x	= \$ -
260201 Class 2 Aggregate Base	CY	38,600	x 65.00	= \$ 2,509,000
290201 Asphalt Treated Permeable Base	CY		x	= \$ -
365001 Sand Cover	TON		x	= \$ -
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x	= \$ -
374492 Asphaltic Emulsion (Polymer Modified)	TON		x	= \$ -
3750XX Screenings (Type XX)	TON		x	= \$ -
377501 Slurry Seal	TON		x	= \$ -
390095 Replace Asphalt Concrete Surfacing	CY		x	= \$ -
390132 Hot Mix Asphalt (Type A)	TON	19,700	x 150.00	= \$ 2,955,000
390136 Minor Hot Mix Asphalt	TON		x	= \$ -
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON	2,930	x 165.00	= \$ 483,450
393003 Geosynthetic Pavement Interlayer	SQYD		x	= \$ -
39405X Shoulder Rumber Strip (HMA, Type XX Inden	STA		x	= \$ -
394071 Place Hot Mix Asphalt Dike	LF		x	= \$ -
394090 Place Hot Mix Asphalt (Misc. Area)	SQYD		x	= \$ -
397005 Tack Coat	TON		x	= \$ -
401000 Concrete Pavement	CY		x	= \$ -
401108 Replace Concrete Pavement (Rapid Strength	CY		x	= \$ -
404092 Seal Pavement Joint	LF		x	= \$ -
404094 Seal Longitudinal Isolation Joint	LF		x	= \$ -
413112A Repair Spalled Joints (Polyester Grout)	SQYD		x	= \$ -
413115 Seal Existing Concrete Pavement Joint	LF		x	= \$ -
420102 Groove Existing Concrete Pavement	SQYD		x	= \$ -
420201 Grind Existing Concrete Pavement	SQYD		x	= \$ -
731502 Minor Concrete (Misc. Const)	CY		x	= \$ -
731530 Minor Concrete (Textured Paving)	SQFT		x	= \$ -
731504 Minor Concrete (Curb and Gutter)	CY	340	x 885.00	= \$ 300,900
731521 Minor Concrete (Sidewalk)	CY	421	x 800.00	= \$ 336,800
XXXXXX Some Item			x	= \$ -

<b>TOTAL STRUCTURAL SECTION ITEMS</b>	<b>\$ 6,585,200</b>
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PRELIMINARY  
PROJECT COST ESTIMATE

**SECTION 3: DRAINAGE**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Drainage Systems (5% of Earthwork)	LS	1	x 620,200.00 = \$	620,200
150206 Abandon Culvert	LF		x = \$	-
150805 Remove Culvert	LF		x = \$	-
150820 Modify Inlet	EA		x = \$	-
152430 Adjust Inlet	LF		x = \$	-
155003 Cap Inlet	EA		x = \$	-
193114 Sand Backfill	CY		x = \$	-
510502 Minor Concrete (Minor Structure)	CY		x = \$	-
510512 Minor Concrete (Box Culvert)	CY		x = \$	-
62XXXX XXX" APC Pipe	LF		x = \$	-
64XXXX XXX" Plastic Pipe	LF		x = \$	-
65XXXX XXX" RCP Pipe	LF		x = \$	-
66XXXX XXX" CSP Pipe	LF		x = \$	-
68XXXX Edge Drain	LF		x = \$	-
69XXXX XXX" Pipe Downrain	LF		x = \$	-
70XXXX XXX" Pipe Inlet	LF		x = \$	-
70XXXX XXX" Pipe Riser	LF		x = \$	-
70XXXX XXX" Flared End Section	EA		x = \$	-
703233 Grated Line Drain	LF		x = \$	-
72XXXX Rock Slope Protection (Type and Method)	CY		x = \$	-
721420 Concrete (Ditch Lining)	CY		x = \$	-
721430 Concrete (Channel Lining)	CY		x = \$	-
729010 Rock Slope Protection Fabric	SQYD		x = \$	-
750001 Miscellaneous Iron and Steel	LB		x = \$	-
Water Quality Treatment and BMP's	LS	1	x 100,000.00 = \$	100,000
			x = \$	-

<b>TOTAL DRAINAGE ITEMS</b>	<b>\$ 720,200</b>
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**SECTION 4: SPECIALTY ITEMS**

Item code	Unit	Quantity	Unit Price (\$)	Cost
070012 Progress Schedule (Critical Path Method)	LS		x = \$	-
150662 Remove Metal Beam Guard Railing	LF		x = \$	-
150668 Remove Terminal Systems	EA		x = \$	-
1532XX Remove Barrier ( <i>Insert Type</i> )	LF		x = \$	-
153250 Remove Sound Wall	SQFT		x = \$	-
190110 Lead Compliance Plan	LS		x = \$	-
49XXXX CIDH Concrete Piling ( <i>Insert Diameter</i> )	LF		x = \$	-
510060 Structural Concrete (Retaining Wall)	CY		x = \$	-
510133 Class 2 Concrete (Retaining Wall)	CY		x = \$	-
510524 Minor Concrete (Sound Wall)	CY		x = \$	-
5110XX Architectural Treatment ( <i>Insert Type</i> )	SQFT		x = \$	-
511048 Apply Anti-Graffiti Coating	SQFT		x = \$	-
5136XX Reinforced Concrete Crib Wall ( <i>Insert Type</i> )	SQFT		x = \$	-
518002 Sound Wall (Masonry Block)	SQFT		x = \$	-
520103 Bar Reinf. Steel (Retaining Wall)	LB		x = \$	-
80XXXX Fence ( <i>Insert Type</i> )	LF		x = \$	-
832001 Metal Beam Guard Railing	LF		x = \$	-
832007 Midwest Guardrail System (Wood Post)	LF	300	x 125.00 = \$	37,500
839310 Double Thrie Beam Barrier	LF		x = \$	-
839521 Cable Railing	LF		x = \$	-
83954X Transition Railing ( <i>Insert Type</i> )	EA		x = \$	-
8395XX Terminal System (Type CAT)	EA		x = \$	-
839584 Alternative In-Line Terminal System	EA	4	x 3,500.00 = \$	14,000
8395XX End Anchor Assembly ( <i>Insert Type</i> )	EA		x = \$	-
839561 Rail Tensioning Assembly	EA		x = \$	-
839XXX Crash Cushion ( <i>Insert Type</i> )	EA		x = \$	-
83XXXX Concrete Barrier ( <i>Insert Type</i> )	LF		x = \$	-
XXXXXX Some Item			x = \$	-

<b>TOTAL SPECIALTY ITEMS</b>	<b>\$ 51,500</b>
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**SECTION 5: ENVIRONMENTAL**

**5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
130670 TEMPORARY REINFORCED SILT FENCE	LF	20,600	x 4.00 = \$	82,400
160110 Temporary High-Visibility Fence	LF	20,600	x 2.00 = \$	41,200
071325 Temporary Fence (Type ESA)			x = \$	-
210350 Fiber Rolls	LF	20,600	x 3.00 = \$	61,800
210430 Hydroseed	SQFT	782,400	x 0.15 = \$	117,360
<i>Subtotal Environmental</i>				<u>\$ 302,760</u>

**5B - LANDSCAPE AND IRRIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	x	= \$	-
20XXXX XXX" (Insert Type) Conduit (Use for	LF	x	= \$	-
20XXXX Extend XXX" (Insert Type) Conduit	LF	x	= \$	-
201700 Imported Topsoil	CY	x	= \$	-
2030XX Erosion Control (Type __)	SQYD	x	= \$	-
203021 Fiber Rolls	LF	x	= \$	-
203026 Move In/ Move Out (Erosion Control)	EA	x	= \$	-
204099 Plant Establishment Work	LS	x	= \$	-
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208000 Irrigation System	LS	x	= \$	-
208304 Water Meter	EA	x	= \$	-
209801 Maintenance Vehicle Pullout	EA	x	= \$	-
XXXXXX Some Item				-
<i>Subtotal Landscape and Irrigation</i>				<u>\$ -</u>

**5C - NPDES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
074016 Construction Site Management	LS	1	x 40,000.00 = \$	40,000
6615 Resident Engineers Office (2-Seasons)	LS	1	x 75,000.00 = \$	75,000
074017 Prepare WPCP	LS	x	= \$	-
074019 Prepare SWPPP	LS	1	x 12,000.00 = \$	12,000
074023 Temporary Erosion Control	SQYD	x	= \$	-
074027 Temporary Erosion Control Blanket	SQYD	x	= \$	-
074028 Temporary Fiber Roll	LF	x	= \$	-
074032 Temporary Concrete Washout Facility	EA	2	x 5,000.00 = \$	10,000
074033 Temporary Construction Entrance	EA	2	x 5,000.00 = \$	10,000
074035 Temporary Check Dam	LF	x	= \$	-
074037 Move In/ Move Out (Temporary Erosion Conti	EA	x	= \$	-
074038 Temp. Drainage Inlet Protection	EA	x	= \$	-
074041 Street Sweeping	LS	x	= \$	-
074042 Temporary Concrete Washout (Portable)	LS	x	= \$	-
XXXXXX Some Item				-

**Supplemental Work for NPDES**

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595 Water Pollution Control Maintenance Sharing*	LS	x	= \$	-
066596 Additional Water Pollution Control**	LS	x	= \$	-
066597 Storm Water Sampling and Analysis***	LS	x	= \$	-
XXXXXX Some Item				-

*Subtotal NPDES (Without Supplemental Work)* \$ 147,000

\*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

\*\*Applies to both SWPPPs and WPCP projects.

\*\*\* Applies only to project with SWPPPs.

<b>TOTAL ENVIRONMENTAL</b>	<b>\$ 449,800</b>
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**SECTION 6: TRAFFIC ITEMS**

**6A - Traffic Electrical**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150760 Remove Sign Structure	EA	x	= \$	-
151581 Reconstruct Sign Structure	EA	x	= \$	-
152641 Modify Sign Structure	EA	x	= \$	-
5602XX Furnish Sign Structure	LB	x	= \$	-
5602XX Install Sign Structure	LB	x	= \$	-
56XXXX XXX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-
860090 Maintain Existing Traffic Management	LS	x	= \$	-
860810 Inductive Loop Detectors	EA	x	= \$	-
86055X Lighting & Sign Illumination	LS	1 x	500,000.00 = \$	500,000
8607XX Interconnection Facilities	LS	x	= \$	-
8609XX Traffic Monitoring Stations	LS	x	= \$	-
870400 Signal and Lighting System	LS	1 x	1,000,000.00 = \$	1,000,000
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
86XXXX Fiber Optic Conduit System	LS	x	= \$	-
XXXXX Some Item				
<i>Subtotal Traffic Electrical</i>				<b>\$ 1,500,000</b>

**6B - Traffic Signing and Striping**

Item code	Unit	Quantity	Unit Price (\$)	Cost
120090 Construction Area Signs	LS	1 x	60,000.00 = \$	60,000
150701 Remove Yellow Painted Traffic Stripe	LF	x	= \$	-
150710 Remove Traffic Stripe	LF	x	= \$	-
150713 Remove Pavement Marking	SQFT	x	= \$	-
150742 Remove Roadside Sign	EA	x	= \$	-
152320 Reset Roadside Sign	EA	x	= \$	-
152390 Relocate Roadside Sign	EA	x	= \$	-
820840 Roadside Sign - One Post	EA	50 x	450.00 = \$	22,500
566012 Roadside Sign (Two Post)	EA	x	= \$	-
560XXX Furnish Sign Panels	SQFT	x	= \$	-
560XXX Install Sign Panels	SQFT	x	= \$	-
82010X Delineator (Class X)	EA	x	= \$	-
Overhead Signs	EA	4 x	115,000.00 = \$	460,000
840501 Thermoplastic Traffic Stripe	LF	46,500 x	2.50 = \$	116,250
840515 Thermoplastic Pavement Marking	SQFT	1,190 x	6.00 = \$	7,140
<i>Subtotal Traffic Signing and Striping</i>				<b>\$ 665,890</b>

**6C - Stage Construction and Traffic Handling**

Item code	Unit	Quantity	Unit Price (\$)	Cost
66063 Traffic Management Plan - Public Information	LS	1 x	10,000.00 = \$	10,000
CHP Enhanced Enforcement	LS	1 x	230,000.00 = \$	230,000
120100 Traffic Control System	LS	1 x	200,000.00 = \$	200,000
120120 Type III Barricade	EA	x	= \$	-
120143 Temporary Pavement Delineation	LS	1 x	30,000.00 = \$	30,000
12016X Channelizer	EA	x	= \$	-
128651 Portable Changeable Message Sign (EA)	EA	6 x	13,000.00 = \$	78,000
129000 Temporary Railing (Type K)	LF	4,000 x	50.00 = \$	200,000
129100 Temporary Crash Cushion Module	EA	56 x	300.00 = \$	16,800
129099A Traffic Plastic Drum	EA	x	= \$	-
839603A Temporary Crash Cushion (ADIEM)	EA	x	= \$	-
XXXXXX Some Item				
<i>Subtotal Stage Construction and Traffic Handling</i>				<b>\$ 764,800</b>

<b>TOTAL TRAFFIC ITEMS</b>	<b>\$ 2,930,700</b>
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## II. STRUCTURE ITEMS

### Bridge 1

DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Bridge Name	40th OC	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	CIP Box	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	56.00 LF	0.00 LF	0.00 LF
Total Bridge Length (Feet)	164.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	9184 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)		XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$225.00	\$0.00	\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$2,066,400.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
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DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00	\$0.00	\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
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<b>TOTAL COST OF BRIDGES</b>	<b>\$2,066,400.00</b>
<b>MOBILIZATION (10%)</b>	<b>\$206,640.00</b>
<b>TOTAL COST OF BUILDINGS</b>	<b>\$0.00</b>

<b>TOTAL COST OF STRUCTURES<sup>1</sup></b>	<b>\$2,273,040.00</b>
---	-----------------------

Estimate Prepared By: \_\_\_\_\_  
XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

\_\_\_\_\_ Date

<sup>1</sup>Structure's Estimate includes Overhead and Mobilization.  
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc







**Preliminary Cost Estimate**

**Project ID: 18th Ave at SR 53 (SHORT TERM INTERSECTION)**

**Type of Estimate :** Preliminary Cost Estimate  
**Program Code :**  
**Project Limits :** 18th Ave At SR 53

**Description:** Realign Eastbound approach of 18th Ave at the intersection of 18th Ave and SR-53, Repave and restripe Eastbound approach, Add pavement and stripe for a NB right turn pocket onto 18th Ave, Add sidewalks and bike lane along south side of 18th Ave.

**Scope :**  
**Alternative :** 18th SHORT TERM - INTERSECTION

	Current Cost	Escalated Cost (5 yr)
ROADWAY ITEMS	\$ 3,891,300	\$ 4,402,649
STRUCTURE ITEMS	\$ -	\$ -
<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$ 3,891,300</b>	<b>\$ 4,402,649</b>
RIGHT OF WAY	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY COST</b>	<b>\$ 3,892,000</b>	<b>\$ 4,403,000</b>
PR/ED SUPPORT	\$ -	\$ -
PS&E SUPPORT	\$ -	\$ -
RIGHT OF WAY SUPPORT	\$ -	\$ -
CONSTRUCTION SUPPORT	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY SUPPORT COST*</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL PROJECT COST</b>	<b>\$ 3,900,000</b>	<b>\$ 4,450,000</b>

If Project has been programmed enter Programmed Amount \$ -

Date of Estimate (Month/Year) Month / Year  
12 / 2021

Estimated Date of Construction Start (Month/Year) /

Number of Working Days Working Days  
Month / Year

Estimated Mid-Point of Construction (Month/Year)

Number of Plant Establishment Days Days

**Estimated Project Schedule**

PID Approval  
 PA/ED Approval  
 PS&E  
 RTL  
 Begin Construction

Approved by Project  
Manager

[Redacted Signature]

(xxx) xxx-xxxx

Project Manager

Date

Phone

## I. ROADWAY ITEMS SUMMARY

Section	Cost
1 Earthwork	\$ 233,500
2 Pavement Structural Section	\$ 625,000
3 Drainage	\$ 40,000
4 Specialty Items	\$ 82,500
5 Environmental	\$ 102,200
6 Traffic Items	\$ 1,184,300
7 Detours	\$ -
8 Minor Items	\$ 226,800
9 Roadway Mobilization	\$ 249,500
10 Supplemental Work	\$ 249,500
11 State Furnished	\$ -
12 Contingencies	\$ 898,000
13 Overhead	\$ -
<b>TOTAL ROADWAY ITEMS</b>	<b>\$ 3,891,300</b>

<b>Estimate Prepared By</b>	Brent Harrison (Assistant Engineer)	11/18/2021	
	Name and Title	Date	Phone
<b>Estimate Reviewed By</b>	C. Davis	12/14/2021	916-368-9181
	Name and Title	Date	Phone

**By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.**

**SECTION 1: EARTHWORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
160101 Clearing & Grubbing	LS	1	x 20,000.00 = \$	20,000
170101 Develop Water Supply	LS		x = \$	-
190101 Roadway Excavation	CY	6,100	x 35.00 = \$	213,500
190103 Roadway Excavation (Type Y) ADL	CY		x = \$	-
190105 Roadway Excavation (Type Z-2) ADL	CY		x = \$	-
192037 Structure Excavation (Retaining Wall)	CY		x = \$	-
193013 Structure Backfill (Retaining Wall)	CY		x = \$	-
193031 Pervious Backfill Material (Retaining Wall)	CY		x = \$	-
194001 Ditch Excavation	CY		x = \$	-
198001 Impored Borrow	CY		x = \$	-
198007 Imported Material (Shoulder Backing)	TON		x = \$	-
XXXXXX Some Item			x = \$	-

<b>TOTAL EARTHWORK SECTION ITEMS</b>	<b>\$ 233,500</b>
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**SECTION 2: PAVEMENT STRUCTURAL SECTION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150771 Remove Asphalt Concrete Dike	LF		x = \$	-
150860 Remove Base and Surfacing	CY		x = \$	-
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x = \$	-
1532XX Remove Concrete (type)	CY		x = \$	-
250401 Class 4 Aggregate Subbase	CY		x = \$	-
260201 Class 2 Aggregate Base	CY	3,410	x 65.00 = \$	221,650
290201 Asphalt Treated Permeable Base	CY		x = \$	-
365001 Sand Cover	TON		x = \$	-
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x = \$	-
374492 Asphaltic Emulsion (Polymer Modified)	TON		x = \$	-
3750XX Screenings (Type XX)	TON		x = \$	-
377501 Slurry Seal	TON		x = \$	-
390095 Replace Asphalt Concrete Surfacing	CY		x = \$	-
390132 Hot Mix Asphalt (Type A)	TON	1,630	x 150.00 = \$	244,500
390136 Minor Hot Mix Asphalt	TON		x = \$	-
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON		x = \$	-
393003 Geosynthetic Pavement Interlayer	SQYD		x = \$	-
39405X Shoulder Rumber Strip (HMA, Type XX Inden	STA		x = \$	-
394071 Place Hot Mix Asphalt Dike	LF		x = \$	-
394090 Place Hot Mix Asphalt (Misc. Area)	SQYD		x = \$	-
397005 Tack Coat	TON		x = \$	-
401000 Concrete Pavement	CY		x = \$	-
401108 Replace Concrete Pavement (Rapid Strength	CY		x = \$	-
404092 Seal Pavement Joint	LF		x = \$	-
404094 Seal Longitudinal Isolation Joint	LF		x = \$	-
413112A Repair Spalled Joints (Polyester Grout)	SQYD		x = \$	-
413115 Seal Existing Concrete Pavement Joint	LF		x = \$	-
420102 Groove Existing Concrete Pavement	SQYD		x = \$	-
420201 Grind Existing Concrete Pavement	SQYD		x = \$	-
731502 Minor Concrete (Misc. Const)	CY		x = \$	-
731530 Minor Concrete (Textured Paving)	SQFT		x = \$	-
731504 Minor Concrete (Curb and Gutter)	CY	80	x 885.00 = \$	70,800
731521 Minor Concrete (Sidewalk)	CY	110	x 800.00 = \$	88,000
XXXXXX Some Item			x = \$	-

<b>TOTAL STRUCTURAL SECTION ITEMS</b>	<b>\$ 625,000</b>
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**SECTION 3: DRAINAGE**

Item code		Unit	Quantity	Unit Price (\$)	Cost
	Drainage Systems (5% of Earthwork)	LS	x	23,350.00	= \$ -
150206	Abandon Culvert	LF	x	= \$	-
150805	Remove Culvert	LF	x	= \$	-
150820	Modify Inlet	EA	x	= \$	-
152430	Adjust Inlet	LF	x	= \$	-
155003	Cap Inlet	EA	x	= \$	-
193114	Sand Backfill	CY	x	= \$	-
510502	Minor Concrete (Minor Structure)	CY	x	= \$	-
510512	Minor Concrete (Box Culvert)	CY	x	= \$	-
62XXXX	XXX" APC Pipe	LF	x	= \$	-
64XXXX	XXX" Plastic Pipe	LF	x	= \$	-
65XXXX	XXX" RCP Pipe	LF	x	= \$	-
66XXXX	XXX" CSP Pipe	LF	x	= \$	-
68XXXX	Edge Drain	LF	x	= \$	-
69XXXX	XXX" Pipe Downdrain	LF	x	= \$	-
70XXXX	XXX" Pipe Inlet	LF	x	= \$	-
70XXXX	XXX" Pipe Riser	LF	x	= \$	-
70XXXX	XXX" Flared End Section	EA	x	= \$	-
703233	Grated Line Drain	LF	x	= \$	-
72XXXX	Rock Slope Protection (Type and Method)	CY	x	= \$	-
721420	Concrete (Ditch Lining)	CY	x	= \$	-
721430	Concrete (Channel Lining)	CY	x	= \$	-
729010	Rock Slope Protection Fabric	SQYD	x	= \$	-
750001	Miscellaneous Iron and Steel	LB	x	= \$	-
	Water Quality Treatment and BMP's	LS	1	x 40,000.00	= \$ 40,000
			x	= \$	-

<b>TOTAL DRAINAGE ITEMS</b>	<b>\$</b>	<b>40,000</b>
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**SECTION 4: SPECIALTY ITEMS**

Item code		Unit	Quantity	Unit Price (\$)	Cost
070012	Progress Schedule (Critical Path Method)	LS	x	= \$	-
150662	Remove Metal Beam Guard Railing	LF	x	= \$	-
150668	Remove Terminal Systems	EA	x	= \$	-
1532XX	Remove Barrier ( <i>Insert Type</i> )	LF	x	= \$	-
153250	Remove Sound Wall	SQFT	x	= \$	-
190110	Lead Compliance Plan	LS	x	= \$	-
49XXXX	CIDH Concrete Piling ( <i>Insert Diameter</i> )	LF	x	= \$	-
510060	Structural Concrete (Retaining Wall)	CY	x	= \$	-
510133	Class 2 Concrete (Retaining Wall)	CY	x	= \$	-
510524	Minor Concrete (Sound Wall)	CY	x	= \$	-
5110XX	Architectural Treatment ( <i>Insert Type</i> )	SQFT	x	= \$	-
	Retaining Wall	LF	110	x 750.00	= \$ 82,500
511048	Apply Anti-Graffiti Coating	SQFT	x	= \$	-
5136XX	Reinforced Concrete Crib Wall ( <i>Insert Type</i> )	SQFT	x	= \$	-
518002	Sound Wall (Masonry Block)	SQFT	x	= \$	-
520103	Bar Reinf. Steel (Retaining Wall)	LB	x	= \$	-
80XXXX	Fence ( <i>Insert Type</i> )	LF	x	= \$	-
832001	Metal Beam Guard Railing	LF	x	= \$	-
832007	Midwest Guardrail System (Wood Post)	LF	x	= \$	-
839310	Double Thrie Beam Barrier	LF	x	= \$	-
839521	Cable Railing	LF	x	= \$	-
83954X	Transition Railing ( <i>Insert Type</i> )	EA	x	= \$	-
8395XX	Terminal System (Type CAT)	EA	x	= \$	-
839584	Alternative In-Line Terminal System	EA	x	= \$	-
8395XX	End Anchor Assembly ( <i>Insert Type</i> )	EA	x	= \$	-
839561	Rail Tensioning Assembly	EA	x	= \$	-
839XXX	Crash Cushion ( <i>Insert Type</i> )	EA	x	= \$	-
83XXXX	Concrete Barrier ( <i>Insert Type</i> )	LF	x	= \$	-
XXXXXX	Some Item		x	= \$	-

<b>TOTAL SPECIALTY ITEMS</b>	<b>\$</b>	<b>82,500</b>
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**SECTION 5: ENVIRONMENTAL**

**5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
130670 TEMPORARY REINFORCED SILT FENCE	LF	3,220	x 4.00 = \$	12,880
160110 Temporary High-Visibility Fence	LF	3,220	x 2.00 = \$	6,440
071325 Temporary Fence (Type ESA)			x = \$	-
210350 Fiber Rolls	LF	3,220	x 3.00 = \$	9,660
210430 Hydroseed	SQFT	74,200	x 0.15 = \$	11,130
<i>Subtotal Environmental</i>				<u>\$ 40,110</u>

**5B - LANDSCAPE AND IRRIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	x	= \$	-
20XXXX XXX" (Insert Type) Conduit (Use for	LF	x	= \$	-
20XXXX Extend XXX" (Insert Type) Conduit	LF	x	= \$	-
201700 Imported Topsoil	CY	x	= \$	-
2030XX Erosion Control (Type __)	SQYD	x	= \$	-
203021 Fiber Rolls	LF	x	= \$	-
203026 Move In/ Move Out (Erosion Control)	EA	x	= \$	-
204099 Plant Establishment Work	LS	x	= \$	-
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208000 Irrigation System	LS	x	= \$	-
208304 Water Meter	EA	x	= \$	-
209801 Maintenance Vehicle Pullout	EA	x	= \$	-
XXXXXX Some Item				-
<i>Subtotal Landscape and Irrigation</i>				<u>\$ -</u>

**5C - NPDES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
074016 Construction Site Management	LS	1	x 25,000.00 = \$	25,000
6615 Resident Engineers Office (2-Seasons)	LS	x	= \$	-
074017 Prepare WPCP	LS	x	= \$	-
074019 Prepare SWPPP	LS	1	x 12,000.00 = \$	12,000
074023 Temporary Erosion Control	SQYD	x	= \$	-
074027 Temporary Erosion Control Blanket	SQYD	x	= \$	-
074028 Temporary Fiber Roll	LF	x	= \$	-
074032 Temporary Concrete Washout Facility	EA	3	x 5,000.00 = \$	15,000
074033 Temporary Construction Entrance	EA	2	x 5,000.00 = \$	10,000
074035 Temporary Check Dam	LF	x	= \$	-
074037 Move In/ Move Out (Temporary Erosion Conti	EA	x	= \$	-
074038 Temp. Drainage Inlet Protection	EA	x	= \$	-
074041 Street Sweeping	LS	x	= \$	-
074042 Temporary Concrete Washout (Portable)	LS	x	= \$	-
XXXXXX Some Item				-

**Supplemental Work for NPDES**

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595 Water Pollution Control Maintenance Sharing*	LS	x	= \$	-
066596 Additional Water Pollution Control**	LS	x	= \$	-
066597 Storm Water Sampling and Analysis***	LS	x	= \$	-
XXXXXX Some Item				-

*Subtotal NPDES (Without Supplemental Work)* \$ 62,000

\*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

\*\*Applies to both SWPPPs and WPCP projects.

\*\*\* Applies only to project with SWPPPs.

<b>TOTAL ENVIRONMENTAL</b>	<b>\$ 102,200</b>
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**SECTION 6: TRAFFIC ITEMS**

**6A - Traffic Electrical**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150760 Remove Sign Structure	EA	x	= \$	-
151581 Reconstruct Sign Structure	EA	x	= \$	-
152641 Modify Sign Structure	EA	x	= \$	-
5602XX Furnish Sign Structure	LB	x	= \$	-
5602XX Install Sign Structure	LB	x	= \$	-
56XXXX XXX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-
860090 Maintain Existing Traffic Management	LS	x	= \$	-
860810 Inductive Loop Detectors	EA	x	= \$	-
86055X Lighting & Sign Illumination	LS	x	= \$	-
8607XX Interconnection Facilities	LS	x	= \$	-
8609XX Traffic Monitoring Stations	LS	x	= \$	-
870400 Signal and Lighting System	LS	2 x	500,000.00 = \$	1,000,000
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
86XXXX Fiber Optic Conduit System	LS	x	= \$	-
XXXXX Some Item				
<b>Subtotal Traffic Electrical</b>				<b>\$ 1,000,000</b>

**6B - Traffic Signing and Striping**

Item code	Unit	Quantity	Unit Price (\$)	Cost
120090 Construction Area Signs	LS	1 x	15,000.00 = \$	15,000
150701 Remove Yellow Painted Traffic Stripe	LF	x	= \$	-
150710 Remove Traffic Stripe	LF	x	= \$	-
150713 Remove Pavement Marking	SQFT	x	= \$	-
150742 Remove Roadside Sign	EA	x	= \$	-
152320 Reset Roadside Sign	EA	x	= \$	-
152390 Relocate Roadside Sign	EA	x	= \$	-
820840 Roadside Sign - One Post	EA	10 x	450.00 = \$	4,500
566012 Roadside Sign (Two Post)	EA	x	= \$	-
560XXX Furnish Sign Panels	SQFT	x	= \$	-
560XXX Install Sign Panels	SQFT	x	= \$	-
82010X Delineator (Class X)	EA	x	= \$	-
Overhead Signs	EA	x	= \$	-
840501 Thermoplastic Traffic Stripe	LF	5,600 x	2.50 = \$	14,000
840515 Thermoplastic Pavement Marking	SQFT	900 x	6.00 = \$	5,400
<b>Subtotal Traffic Signing and Striping</b>				<b>\$ 38,900</b>

**6C - Stage Construction and Traffic Handling**

Item code	Unit	Quantity	Unit Price (\$)	Cost
66063 Traffic Management Plan - Public Information	LS	x	= \$	-
CHP Enhanced Enforcement	LS	x	= \$	-
120100 Traffic Control System	LS	x	25,000.00 = \$	-
120120 Type III Barricade	EA	x	= \$	-
120143 Temporary Pavement Delineation	LS	1 x	20,000.00 = \$	20,000
12016X Channelizer	EA	x	= \$	-
128651 Portable Changeable Message Sign (EA)	EA	4 x	13,000.00 = \$	52,000
129000 Temporary Railing (Type K)	LF	1,300 x	50.00 = \$	65,000
129100 Temporary Crash Cushion Module	EA	28 x	300.00 = \$	8,400
129099A Traffic Plastic Drum	EA	x	= \$	-
839603A Temporary Crash Cushion (ADIEM)	EA	x	= \$	-
XXXXXX Some Item				
<b>Subtotal Stage Construction and Traffic Handling</b>				<b>\$ 145,400</b>

<b>TOTAL TRAFFIC ITEMS</b>	<b>\$ 1,184,300</b>
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**SECTION 7: DETOURS**

Include constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
0713XX Temporary Fence (Type X)	LF	x	= \$	-
07XXXX Temporary Drainage	LS	x	= \$	-
120143 Temporary Pavement Delineation	LF	x	= \$	-
1286XX Temporary Signals	EA	x	= \$	-
129000 Temporary Railing (Type K)	LF	x	= \$	-
190101 Roadway Excavation	CY	x	= \$	-
198001 Imported Borrow	CY	x	= \$	-
198050 Embankment	CY	x	= \$	-
250401 Class 4 Aggregate Subbase	CY	x	= \$	-
260201 Class 2 Aggregate Base	CY	x	= \$	-
390132 Hot Mix Asphalt (Type A)	TON	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-
<b>TOTAL DETOURS</b>				<b>\$ -</b>
SUBTOTAL SECTIONS 1-7				\$ 2,267,500

**SECTION 8: MINOR ITEMS**

<b>8A - Americans with Disabilities Act Items</b>	ADA Items	0.0%	\$	-
<b>8B - Bike Path Items</b>	Bike Path Items	0.0%	\$	-
<b>8C - Other Minor Items</b>	Other Minor Items	10.0%	\$	226,750
Total of Section 1-7		\$ 2,267,500	x 10.0%	= \$ 226,750
<b>TOTAL MINOR ITEMS</b>				<b>\$ 226,800</b>

**SECTIONS 9: MOBILIZATION**

<b>item code</b>				
999990	Total Section 1-8	\$ 2,494,300	x 10%	= \$ 249,430
<b>TOTAL MOBILIZATION</b>				<b>\$ 249,500</b>

**SECTION 10: SUPPLEMENTAL WORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
066015 Federal Trainee Program	LS	x	= \$	-
066063 Traffic Management Plan - Public Informati	LS	x	= \$	-
066090 Maintain Traffic	LS	x	= \$	-
066094 Value Analysis	LS	x	= \$	-
066204 Remove Rock & Debris	LS	x	= \$	-
066222 Locate Existing Cross-Over	LS	x	= \$	-
066670 Payment Adjustments For Price Index Fluct	LS	x	= \$	-
066700 Partnering	LS	x	= \$	-
066866 Operation of Existing Traffic Management S	LS	x	= \$	-
066920 Dispute Review Board	LS	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-
<i>Cost of NPDES Supplemental Work specified in Section 5C</i>				= \$ -
Total Section 1-8		\$ 2,494,300	10%	= \$ 249,430
<b>TOTAL SUPPLEMENTAL WORK</b>				<b>\$ 249,500</b>



**SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
066063 Public Information	LS	x	=	\$0
066105 RE Office	LS	x	=	\$0
066803 Padlocks	LS	x	=	\$0
066838 Reflective Numbers and Edge Sealer	LS	x	=	\$0
066901 Water Expenses	LS	x	=	\$0
066062A COZEEP Expenses	LS	x	=	\$0
06684X Ramp Meter Controller Assembly	LS	x	=	\$0
06684X TMS Controller Assembly	LS	x	=	\$0
06684X Traffic Signal Controller Assembly	LS	x	=	\$0
XXXXXX Some Item				
Total Section 1-8		\$ 2,494,300	0%	= \$ -

<b>TOTAL STATE FURNISHED</b>	<b>\$0</b>
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**SECTION 12: TIME-RELATED OVERHEAD**

Estiamted Time-Related Overhead (TRO) Percentage (0% to 10%) = 5%

Item code	Unit	Quantity	Unit Price (\$)	Cost
070018 Time-Related Overhead	WD	0	X #DIV/0!	= \$0

<b>TOTAL TIME-RELATED OVERHEAD</b>	<b>\$0</b>
------------------------------------	------------

**SECTION 13: CONTINGENCY**

(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-11 \$ 2,993,300 x 30% = \$897,990

<b>TOTAL CONTINGENCY</b>	<b>\$898,000</b>
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## II. STRUCTURE ITEMS

DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF		0.00 LF		0.00 LF
Total Length (Feet)	0.00 LF		0.00 LF		0.00 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0.00 LF		0.00 LF		0.00 LF
Footing Type (pile or spread)			XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00		\$0.00		\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>		<b>\$0.00</b>		<b>\$0.00</b>
-------------------------------	---------------	--	---------------	--	---------------

DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF		0.00 LF		0.00 LF
Total Length (Feet)	0.00 LF		0.00 LF		0.00 LF
Total Area (Square Feet)	0 SQFT		0.00 SQFT		0.0 SQFT
Structure Depth (Feet)	0.00 LF		0.00 LF		0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00		\$0.00		\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>		<b>\$0.00</b>		<b>\$0.00</b>
-------------------------------	---------------	--	---------------	--	---------------

<b>TOTAL COST OF BRIDGES</b>	<b>\$0.00</b>
<b>MOBILIZATION (10%)</b>	<b>\$0.00</b>
<b>TOTAL COST OF BUILDINGS</b>	<b>\$0.00</b>

<b>TOTAL COST OF STRUCTURES<sup>1</sup></b>	<b>\$0.00</b>
---	---------------

Estimate Prepared By: \_\_\_\_\_ Date \_\_\_\_\_  
XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

<sup>1</sup>Structure's Estimate includes Overhead and Mobilization.  
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc

**DO NOT PRINT THIS SHEET AS PART OF COST ESTIMATE ATTACHMENT TO PROJECT INITIATION OR APPROVAL DOCUMENTS.**

### III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill,	\$	PARTIAL TAKE	3,975.00
				FULL TAKE	
	A2)	SB-1210	\$		0
B)		Acquisition of Offsite Mitigation	\$		0
C)	C1)	Utility Relocation (State Share)	\$		0
	C2)	Potholing (Design Phase)	\$		0
D)		Railroad Acquisition	\$		0
E)		Clearance / Demolition	\$		0
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	\$		0
G)		Title and Escrow	\$		0
H)		Environmental Review	\$		0
I)		Condemnation Settlements	\$		0
		(Items G & H applied to items A + B)	0%		
J)		Design Appreciation Factor	\$		0
			0%		
K)		Utility Relocation (Construction Cost)	\$		0

L) 

<b>TOTAL RIGHT OF WAY ESTIMATE</b>	<b>\$0</b>
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(Excluding Item #8 - Hazardous Waste)

M) 

<b>TOTAL R/W ESTIMATE: Escalated</b>	<b>\$0</b>
--------------------------------------	------------

N) 

<b>Right of Way Support</b>	<b>\$</b>	<b>0</b>
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Support Cost  
Estimate Prepared By \_\_\_\_\_ Project Coordinator<sup>1</sup> \_\_\_\_\_ Phone \_\_\_\_\_

Utility Estimate  
Prepared By \_\_\_\_\_ Utility Coordinator<sup>2</sup> \_\_\_\_\_ Phone \_\_\_\_\_

R/W Acquisition  
Estimate Prepared By \_\_\_\_\_ Right of Way Estimator<sup>3</sup> \_\_\_\_\_ Phone \_\_\_\_\_

<sup>1</sup> When estimate has Support Costs only <sup>2</sup> When estimate has Utility Relocation

<sup>3</sup> When R/W Acquisition is required

**DO NOT PRINT THIS SHEET AS PART OF COST ESTIMATE ATTACHMENT TO PROJECT INITIATION OR APPROVAL DOCUMENTS.**

**IV. SUPPORT COST ESTIMATE SUMMARY**

Please obtain a P3 report (CL#3) from PPM to fill in the support cost for these categories.

SB-45 CATEGORY SUPPORT COST	PREVIOUS	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FUTURE	P3 Total	Support Ratio
PR/ED (PD,PE,PM)											\$ -	0.00%
PS&E (PS)											\$ -	0.00%
R/W (RW)											\$ -	0.00%
CONSTRUCTION (CM)											\$ -	0.00%
<b>Total Support Cost:</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%

Note: It is assumed that the Support Costs are already escalated by Programming to the year of expenditure. Use project Programming Sheet data.

<b>Total Capital Cost:</b>	<b>\$3,892,000</b>
<b>Total Capital Outlay Support Cost:</b>	<b>\$0</b>
<b>Overall Percent Support Cost:</b>	<b>0.00%</b>

**V. ESCALATED CONSTRUCTION COST ESTIMATE SUMMARY**

Note: Right of way escalated cost are accounted for on sheet 10 of 11.

Month / Year  
 Date of Estimate (Month/Year) 12 / 2021  
 Estimated Date of Construction Start (Month/Year) 0 / 0  
 Number of Working Days 0 WD  
 Estimated Mid-Point of Construction (Month/Year) 0 / 0

YEAR	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	FUTURE
<b>FORECASTED ESCALATION RATE*</b>		2.5%	2.5%	2.5%	2.5%	2.5%					

ESCALATED CONSTRUCTION COSTS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	FUTURE	TOTAL ESCALATED COSTS
ROADWAY ITEMS	\$ 3,891,300	\$ 3,988,583	\$ 4,088,297	\$ 4,190,504	\$ 4,295,267	\$ 4,402,649	\$ 4,402,649	\$ 4,402,649	\$ 4,402,649	\$ 4,402,649	\$ 4,402,649	\$ 4,402,649
STRUCTURE ITEMS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>SUBTOTAL</b>	\$ 3,891,300	\$ 3,988,583	\$ 4,088,297	\$ 4,190,504	\$ 4,295,267	\$ 4,402,649	\$ 4,402,649	\$ 4,402,649	\$ 4,402,649	\$ 4,402,649	\$ 4,402,649	<b>\$ 4,402,649</b>

Approved by: \_\_\_\_\_  
Project Control Engineer

\_\_\_\_\_ Date

**Preliminary Cost Estimate**

**Project ID: Dam Road at SR 53 (SHORT TERM INTERSECTION)**

Type of Estimate : Preliminary Cost Estimate  
 Program Code :  
 Project Limits : Dam Road At SR 53

Description: Add sidewalk on dam road, widen and restripe NB SR-53 for additional turn lane, connect to existing roundabout at Dam Road

Scope :  
 Alternative : Dam SHORT TERM - INTERSECTION

	Current Cost	Escalated Cost (5 yr)
ROADWAY ITEMS	\$ 773,400	\$ 875,031
STRUCTURE ITEMS	\$ -	\$ -
<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$ 773,400</b>	<b>\$ 875,031</b>
RIGHT OF WAY	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY COST</b>	<b>\$ 774,000</b>	<b>\$ 876,000</b>
PR/ED SUPPORT	\$ -	\$ -
PS&E SUPPORT	\$ -	\$ -
RIGHT OF WAY SUPPORT	\$ -	\$ -
CONSTRUCTION SUPPORT	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY SUPPORT COST*</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL PROJECT COST</b>	<b>\$ 775,000</b>	<b>\$ 880,000</b>

If Project has been programmed enter Programmed Amount \$ -

Date of Estimate (Month/Year) Month / Year  
 12 / 2021  
 Estimated Date of Construction Start (Month/Year) /  
 Number of Working Days Working Days  
 Estimated Mid-Point of Construction (Month/Year) Month / Year  
 Number of Plant Establishment Days Days

**Estimated Project Schedule**

PID Approval  
 PA/ED Approval  
 PS&E  
 RTL  
 Begin Construction

Approved by Project Manager  (xxx) xxx-xxxx  
 Project Manager Date Phone

## I. ROADWAY ITEMS SUMMARY

Section	Cost
1 Earthwork	\$ 48,000
2 Pavement Structural Section	\$ 122,400
3 Drainage	\$ 30,000
4 Specialty Items	\$ -
5 Environmental	\$ 55,600
6 Traffic Items	\$ 194,600
7 Detours	\$ -
8 Minor Items	\$ 45,100
9 Roadway Mobilization	\$ 49,600
10 Supplemental Work	\$ 49,600
11 State Furnished	\$ -
12 Contingencies	\$ 178,500
13 Overhead	\$ -
<b>TOTAL ROADWAY ITEMS</b>	<b>\$ 773,400</b>

Estimate Prepared By Brent Harrison (Assistant Engineer) 11/18/2021  
Name and Title Date Phone

Estimate Reviewed By C. Davis 12/14/2021 916-368-9181  
Name and Title Date Phone

**By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.**

**SECTION 1: EARTHWORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
160101 Clearing & Grubbing	LS	1	x 20,000.00	= \$ 20,000
170101 Develop Water Supply	LS		x	= \$ -
190101 Roadway Excavation	CY	800	x 35.00	= \$ 28,000
190103 Roadway Excavation (Type Y) ADL	CY		x	= \$ -
190105 Roadway Excavation (Type Z-2) ADL	CY		x	= \$ -
192037 Structure Excavation (Retaining Wall)	CY		x	= \$ -
193013 Structure Backfill (Retaining Wall)	CY		x	= \$ -
193031 Pervious Backfill Material (Retaining Wall)	CY		x	= \$ -
194001 Ditch Excavation	CY		x	= \$ -
198001 Impored Borrow	CY		x	= \$ -
198007 Imported Material (Shoulder Backing)	TON		x	= \$ -
XXXXXX Some Item			x	= \$ -

<b>TOTAL EARTHWORK SECTION ITEMS</b>	<b>\$</b>	<b>48,000</b>
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**SECTION 2: PAVEMENT STRUCTURAL SECTION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150771 Remove Asphalt Concrete Dike	LF		x	= \$ -
150860 Remove Base and Surfacing	CY		x	= \$ -
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x	= \$ -
1532XX Remove Concrete (type)	CY		x	= \$ -
250401 Class 4 Aggregate Subbase	CY		x	= \$ -
260201 Class 2 Aggregate Base	CY	670	x 65.00	= \$ 43,550
290201 Asphalt Treated Permeable Base	CY		x	= \$ -
365001 Sand Cover	TON		x	= \$ -
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x	= \$ -
374492 Asphaltic Emulsion (Polymer Modified)	TON		x	= \$ -
3750XX Screenings (Type XX)	TON		x	= \$ -
377501 Slurry Seal	TON		x	= \$ -
390095 Replace Asphalt Concrete Surfacing	CY		x	= \$ -
390132 Hot Mix Asphalt (Type A)	TON	330	x 150.00	= \$ 49,500
390136 Minor Hot Mix Asphalt	TON		x	= \$ -
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON		x	= \$ -
393003 Geosynthetic Pavement Interlayer	SQYD		x	= \$ -
39405X Shoulder Rumber Strip (HMA, Type XX Inden	STA		x	= \$ -
394071 Place Hot Mix Asphalt Dike	LF		x	= \$ -
394090 Place Hot Mix Asphalt (Misc. Area)	SQYD		x	= \$ -
397005 Tack Coat	TON		x	= \$ -
401000 Concrete Pavement	CY		x	= \$ -
401108 Replace Concrete Pavement (Rapid Strength	CY		x	= \$ -
404092 Seal Pavement Joint	LF		x	= \$ -
404094 Seal Longitudinal Isolation Joint	LF		x	= \$ -
413112A Repair Spalled Joints (Polyester Grout)	SQYD		x	= \$ -
413115 Seal Existing Concrete Pavement Joint	LF		x	= \$ -
420102 Groove Existing Concrete Pavement	SQYD		x	= \$ -
420201 Grind Existing Concrete Pavement	SQYD		x	= \$ -
731502 Minor Concrete (Misc. Const)	CY		x	= \$ -
731530 Minor Concrete (Textured Paving)	SQFT		x	= \$ -
731504 Minor Concrete (Curb and Gutter)	CY	15	x 885.00	= \$ 13,275
731521 Minor Concrete (Sidewalk)	CY	20	x 800.00	= \$ 16,000
XXXXXX Some Item			x	= \$ -

<b>TOTAL STRUCTURAL SECTION ITEMS</b>	<b>\$</b>	<b>122,400</b>
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PRELIMINARY  
PROJECT COST ESTIMATE

**SECTION 3: DRAINAGE**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Drainage Systems (5% of Earthwork)	LS	x	4,800.00	= \$ -
150206 Abandon Culvert	LF	x	= \$	-
150805 Remove Culvert	LF	x	= \$	-
150820 Modify Inlet	EA	x	= \$	-
152430 Adjust Inlet	LF	x	= \$	-
155003 Cap Inlet	EA	x	= \$	-
193114 Sand Backfill	CY	x	= \$	-
510502 Minor Concrete (Minor Structure)	CY	x	= \$	-
510512 Minor Concrete (Box Culvert)	CY	x	= \$	-
62XXXX XXX" APC Pipe	LF	x	= \$	-
64XXXX XXX" Plastic Pipe	LF	x	= \$	-
65XXXX XXX" RCP Pipe	LF	x	= \$	-
66XXXX XXX" CSP Pipe	LF	x	= \$	-
68XXXX Edge Drain	LF	x	= \$	-
69XXXX XXX" Pipe Downrain	LF	x	= \$	-
70XXXX XXX" Pipe Inlet	LF	x	= \$	-
70XXXX XXX" Pipe Riser	LF	x	= \$	-
70XXXX XXX" Flared End Section	EA	x	= \$	-
703233 Grated Line Drain	LF	x	= \$	-
72XXXX Rock Slope Protection (Type and Method)	CY	x	= \$	-
721420 Concrete (Ditch Lining)	CY	x	= \$	-
721430 Concrete (Channel Lining)	CY	x	= \$	-
729010 Rock Slope Protection Fabric	SQYD	x	= \$	-
750001 Miscellaneous Iron and Steel	LB	x	= \$	-
Water Quality Treatment and BMP's	LS	1	x 30,000.00	= \$ 30,000
			x	= \$ -

<b>TOTAL DRAINAGE ITEMS</b>	<b>\$ 30,000</b>
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**SECTION 4: SPECIALTY ITEMS**

Item code	Unit	Quantity	Unit Price (\$)	Cost
070012 Progress Schedule (Critical Path Method)	LS	x	= \$	-
150662 Remove Metal Beam Guard Railing	LF	x	= \$	-
150668 Remove Terminal Systems	EA	x	= \$	-
1532XX Remove Barrier ( <i>Insert Type</i> )	LF	x	= \$	-
153250 Remove Sound Wall	SQFT	x	= \$	-
190110 Lead Compliance Plan	LS	x	= \$	-
49XXXX CIDH Concrete Piling ( <i>Insert Diameter</i> )	LF	x	= \$	-
510060 Structural Concrete (Retaining Wall)	CY	x	= \$	-
510133 Class 2 Concrete (Retaining Wall)	CY	x	= \$	-
510524 Minor Concrete (Sound Wall)	CY	x	= \$	-
5110XX Architectural Treatment ( <i>Insert Type</i> )	SQFT	x	= \$	-
511048 Apply Anti-Graffiti Coating	SQFT	x	= \$	-
5136XX Reinforced Concrete Crib Wall ( <i>Insert Type</i> )	SQFT	x	= \$	-
518002 Sound Wall (Masonry Block)	SQFT	x	= \$	-
520103 Bar Reinf. Steel (Retaining Wall)	LB	x	= \$	-
80XXXX Fence ( <i>Insert Type</i> )	LF	x	= \$	-
832001 Metal Beam Guard Railing	LF	x	= \$	-
832007 Midwest Guardrail System (Wood Post)	LF	x	= \$	-
839310 Double Thrie Beam Barrier	LF	x	= \$	-
839521 Cable Railing	LF	x	= \$	-
83954X Transition Railing ( <i>Insert Type</i> )	EA	x	= \$	-
8395XX Terminal System (Type CAT)	EA	x	= \$	-
839584 Alternative In-Line Terminal System	EA	x	= \$	-
8395XX End Anchor Assembly ( <i>Insert Type</i> )	EA	x	= \$	-
839561 Rail Tensioning Assembly	EA	x	= \$	-
839XXX Crash Cushion ( <i>Insert Type</i> )	EA	x	= \$	-
83XXXX Concrete Barrier ( <i>Insert Type</i> )	LF	x	= \$	-
XXXXXX Some Item		x	= \$	-

<b>TOTAL SPECIALTY ITEMS</b>	<b>\$ -</b>
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**SECTION 5: ENVIRONMENTAL**

**5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
130670 TEMPORARY REINFORCED SILT FENCE	LF	760	x 4.00 = \$	3,040
160110 Temporary High-Visibility Fence	LF	760	x 2.00 = \$	1,520
071325 Temporary Fence (Type ESA)			x = \$	-
210350 Fiber Rolls	LF	760	x 3.00 = \$	2,280
210430 Hydroseed	SQFT	11,400	x 0.15 = \$	1,710
<i>Subtotal Environmental</i>				<u>\$ 8,550</u>

**5B - LANDSCAPE AND IRRIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	x	= \$	-
20XXXX XXX" (Insert Type) Conduit (Use for	LF	x	= \$	-
20XXXX Extend XXX" (Insert Type) Conduit	LF	x	= \$	-
201700 Imported Topsoil	CY	x	= \$	-
2030XX Erosion Control (Type __)	SQYD	x	= \$	-
203021 Fiber Rolls	LF	x	= \$	-
203026 Move In/ Move Out (Erosion Control)	EA	x	= \$	-
204099 Plant Establishment Work	LS	x	= \$	-
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208000 Irrigation System	LS	x	= \$	-
208304 Water Meter	EA	x	= \$	-
209801 Maintenance Vehicle Pullout	EA	x	= \$	-
XXXXXX Some Item				-
<i>Subtotal Landscape and Irrigation</i>				<u>\$ -</u>

**5C - NPDES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
074016 Construction Site Management	LS	1	x 25,000.00 = \$	25,000
6615 Resident Engineers Office (2-Seasons)	LS		x = \$	-
074017 Prepare WPCP	LS		x = \$	-
074019 Prepare SWPPP	LS	1	x 12,000.00 = \$	12,000
074023 Temporary Erosion Control	SQYD		x = \$	-
074027 Temporary Erosion Control Blanket	SQYD		x = \$	-
074028 Temporary Fiber Roll	LF		x = \$	-
074032 Temporary Concrete Washout Facility	EA	1	x 5,000.00 = \$	5,000
074033 Temporary Construction Entrance	EA	1	x 5,000.00 = \$	5,000
074035 Temporary Check Dam	LF		x = \$	-
074037 Move In/ Move Out (Temporary Erosion Conti	EA		x = \$	-
074038 Temp. Drainage Inlet Protection	EA		x = \$	-
074041 Street Sweeping	LS		x = \$	-
074042 Temporary Concrete Washout (Portable)	LS		x = \$	-
XXXXXX Some Item				-

**Supplemental Work for NPDES**

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595 Water Pollution Control Maintenance Sharing*	LS		x = \$	-
066596 Additional Water Pollution Control**	LS		x = \$	-
066597 Storm Water Sampling and Analysis***	LS		x = \$	-
XXXXXX Some Item				-

*Subtotal NPDES (Without Supplemental Work)* \$ 47,000

\*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

\*\*Applies to both SWPPPs and WPCP projects.

\*\*\* Applies only to project with SWPPPs.

<b>TOTAL ENVIRONMENTAL</b>	<b>\$ 55,600</b>
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**SECTION 6: TRAFFIC ITEMS**

**6A - Traffic Electrical**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150760 Remove Sign Structure	EA	x	= \$	-
151581 Reconstruct Sign Structure	EA	x	= \$	-
152641 Modify Sign Structure	EA	x	= \$	-
5602XX Furnish Sign Structure	LB	x	= \$	-
5602XX Install Sign Structure	LB	x	= \$	-
56XXXX XXX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-
860090 Maintain Existing Traffic Management	LS	x	= \$	-
860810 Inductive Loop Detectors	EA	x	= \$	-
86055X Lighting & Sign Illumination	LS	x	= \$	-
8607XX Interconnection Facilities	LS	x	= \$	-
8609XX Traffic Monitoring Stations	LS	x	= \$	-
870400 Signal and Lighting System	LS	1 x	100,000.00 = \$	100,000
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
86XXXX Fiber Optic Conduit System	LS	x	= \$	-
XXXXXX Some Item				
<i>Subtotal Traffic Electrical</i>				<u>\$ 100,000</u>

**6B - Traffic Signing and Striping**

Item code	Unit	Quantity	Unit Price (\$)	Cost
120090 Construction Area Signs	LS	1 x	15,000.00 = \$	15,000
150701 Remove Yellow Painted Traffic Stripe	LF	x	= \$	-
150710 Remove Traffic Stripe	LF	x	= \$	-
150713 Remove Pavement Marking	SQFT	x	= \$	-
150742 Remove Roadside Sign	EA	x	= \$	-
152320 Reset Roadside Sign	EA	x	= \$	-
152390 Relocate Roadside Sign	EA	x	= \$	-
820840 Roadside Sign - One Post	EA	5 x	450.00 = \$	2,250
566012 Roadside Sign (Two Post)	EA	x	= \$	-
560XXX Furnish Sign Panels	SQFT	x	= \$	-
560XXX Install Sign Panels	SQFT	x	= \$	-
82010X Delineator (Class X)	EA	x	= \$	-
Overhead Signs	EA	x	= \$	-
840501 Thermoplastic Traffic Stripe	LF	1,900 x	2.50 = \$	4,750
840515 Thermoplastic Pavement Marking	SQFT	400 x	6.00 = \$	2,400
<i>Subtotal Traffic Signing and Striping</i>				<u>\$ 24,400</u>

**6C - Stage Construction and Traffic Handling**

Item code	Unit	Quantity	Unit Price (\$)	Cost
66063 Traffic Management Plan - Public Information	LS	x	= \$	-
CHP Enhanced Enforcement	LS	x	= \$	-
120100 Traffic Control System	LS	x	25,000.00 = \$	-
120120 Type III Barricade	EA	x	= \$	-
120143 Temporary Pavement Delineation	LS	1 x	15,000.00 = \$	15,000
12016X Channelizer	EA	x	= \$	-
128651 Portable Changeable Message Sign (EA)	EA	2 x	13,000.00 = \$	26,000
129000 Temporary Railing (Type K)	LF	500 x	50.00 = \$	25,000
129100 Temporary Crash Cushion Module	EA	14 x	300.00 = \$	4,200
129099A Traffic Plastic Drum	EA	x	= \$	-
839603A Temporary Crash Cushion (ADIEM)	EA	x	= \$	-
XXXXXX Some Item				
<i>Subtotal Stage Construction and Traffic Handling</i>				<u>\$ 70,200</u>

<b>TOTAL TRAFFIC ITEMS</b>	<b>\$ 194,600</b>
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**SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES**

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Item code	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
066063 Public Information	LS	x	=	\$0
066105 RE Office	LS	x	=	\$0
066803 Padlocks	LS	x	=	\$0
066838 Reflective Numbers and Edge Sealer	LS	x	=	\$0
066901 Water Expenses	LS	x	=	\$0
066062A COZEED Expenses	LS	x	=	\$0
06684X Ramp Meter Controller Assembly	LS	x	=	\$0
06684X TMS Controller Assembly	LS	x	=	\$0
06684X Traffic Signal Controller Assembly	LS	x	=	\$0
XXXXXX Some Item				
Total Section 1-8		\$ 495,700	0%	= \$ -

<b>TOTAL STATE FURNISHED</b>	<b>\$0</b>
------------------------------	------------

**SECTION 12: TIME-RELATED OVERHEAD**

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Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = 5%

Item code	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
070018 Time-Related Overhead	WD	0	X #DIV/0!	= \$0

<b>TOTAL TIME-RELATED OVERHEAD</b>	<b>\$0</b>
------------------------------------	------------

**SECTION 13: CONTINGENCY**

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(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-11	\$ 594,900	x 30%	= \$178,470
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<b>TOTAL CONTINGENCY</b>	<b>\$178,500</b>
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## II. STRUCTURE ITEMS

DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF		0.00 LF		0.00 LF
Total Length (Feet)	0.00 LF		0.00 LF		0.00 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0.00 LF		0.00 LF		0.00 LF
Footing Type (pile or spread)			XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00		\$0.00		\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>		<b>\$0.00</b>		<b>\$0.00</b>
-------------------------------	---------------	--	---------------	--	---------------

DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF		0.00 LF		0.00 LF
Total Length (Feet)	0.00 LF		0.00 LF		0.00 LF
Total Area (Square Feet)	0 SQFT		0.00 SQFT		0.0 SQFT
Structure Depth (Feet)	0.00 LF		0.00 LF		0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00		\$0.00		\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>		<b>\$0.00</b>		<b>\$0.00</b>
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<b>TOTAL COST OF BRIDGES</b>	<b>\$0.00</b>
<b>MOBILIZATION (10%)</b>	<b>\$0.00</b>
<b>TOTAL COST OF BUILDINGS</b>	<b>\$0.00</b>

<b>TOTAL COST OF STRUCTURES<sup>1</sup></b>	<b>\$0.00</b>
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Estimate Prepared By: \_\_\_\_\_  
XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

\_\_\_\_\_ Date

<sup>1</sup>Structure's Estimate includes Overhead and Mobilization.  
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc





**Preliminary Cost Estimate**

**Project ID: 18th Ave at SR 53 (MID TERM ROUNDABOUT)**

Type of Estimate : Preliminary Cost Estimate  
 Program Code :  
 Project Limits : 18th Ave At SR 53

Description: Construct two lane roundabout at the intersectin of 18th Ave and SR-53,  
 Construct retaining wall on 18th Ave East of SR-53

Scope :  
 Alternative : 18th MID TERM - ROUNDABOUT

	Current Cost	Escalated Cost (8 yr)
ROADWAY ITEMS	\$ 5,913,400	\$ 7,204,904
STRUCTURE ITEMS	\$ -	\$ -
<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$ 5,913,400</b>	<b>\$ 7,204,904</b>
RIGHT OF WAY	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY COST</b>	<b>\$ 5,914,000</b>	<b>\$ 7,205,000</b>
PR/ED SUPPORT	\$ -	\$ -
PS&E SUPPORT	\$ -	\$ -
RIGHT OF WAY SUPPORT	\$ -	\$ -
CONSTRUCTION SUPPORT	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY SUPPORT COST*</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL PROJECT COST</b>	<b>\$ 5,950,000</b>	<b>\$ 7,250,000</b>

If Project has been programmed enter Programmed Amount \$ -

Month / Year

Date of Estimate (Month/Year) 12 / 2021

Estimated Date of Construction Start (Month/Year) /

Number of Working Days Working Days

Month / Year

Estimated Mid-Point of Construction (Month/Year)

Number of Plant Establishment Days Days

**Estimated Project Schedule**

PID Approval

PA/ED Approval

PS&E

RTL

Begin Construction

Approved by Project  
Manager



(xxx) xxx-xxxx

Project Manager

Date

Phone



## I. ROADWAY ITEMS SUMMARY

Section	Cost
1 Earthwork	\$ 558,500
2 Pavement Structural Section	\$ 1,517,800
3 Drainage	\$ 155,900
4 Specialty Items	\$ 525,000
5 Environmental	\$ 96,800
6 Traffic Items	\$ 591,900
7 Detours	\$ -
8 Minor Items	\$ 344,600
9 Roadway Mobilization	\$ 379,100
10 Supplemental Work	\$ 379,100
11 State Furnished	\$ -
12 Contingencies	\$ 1,364,700
13 Overhead	\$ -
<b>TOTAL ROADWAY ITEMS</b>	<b>\$ 5,913,400</b>

<b>Estimate Prepared By</b>	Brent Harrison (Assistant Engineer)	11/18/2021	
	Name and Title	Date	Phone
<b>Estimate Reviewed By</b>	C. Davis	12/14/2021	916-368-8191
	Name and Title	Date	Phone

**By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.**

**SECTION 1: EARTHWORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
160101 Clearing & Grubbing	LS	1	x 30,000.00 = \$	30,000
170101 Develop Water Supply	LS		x = \$	-
190101 Roadway Excavation	CY	15,100	x 35.00 = \$	528,500
190103 Roadway Excavation (Type Y) ADL	CY		x = \$	-
190105 Roadway Excavation (Type Z-2) ADL	CY		x = \$	-
192037 Structure Excavation (Retaining Wall)	CY		x = \$	-
193013 Structure Backfill (Retaining Wall)	CY		x = \$	-
193031 Pervious Backfill Material (Retaining Wall)	CY		x = \$	-
194001 Ditch Excavation	CY		x = \$	-
198001 Impored Borrow	CY		x = \$	-
198007 Imported Material (Shoulder Backing)	TON		x = \$	-
XXXXXX Some Item			x = \$	-

<b>TOTAL EARTHWORK SECTION ITEMS</b>	<b>\$ 558,500</b>
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**SECTION 2: PAVEMENT STRUCTURAL SECTION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150771 Remove Asphalt Concrete Dike	LF		x = \$	-
150860 Remove Base and Surfacing	CY		x = \$	-
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x = \$	-
1532XX Remove Concrete (type)	CY		x = \$	-
250401 Class 4 Aggregate Subbase	CY		x = \$	-
260201 Class 2 Aggregate Base	CY	8,800	x 65.00 = \$	572,000
290201 Asphalt Treated Permeable Base	CY		x = \$	-
365001 Sand Cover	TON		x = \$	-
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x = \$	-
374492 Asphaltic Emulsion (Polymer Modified)	TON		x = \$	-
3750XX Screenings (Type XX)	TON		x = \$	-
377501 Slurry Seal	TON		x = \$	-
390095 Replace Asphalt Concrete Surfacing	CY		x = \$	-
390132 Hot Mix Asphalt (Type A)	TON	4,300	x 150.00 = \$	645,000
390136 Minor Hot Mix Asphalt	TON		x = \$	-
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON		x = \$	-
393003 Geosynthetic Pavement Interlayer	SQYD		x = \$	-
39405X Shoulder Rumber Strip (HMA, Type XX Inden	STA		x = \$	-
394071 Place Hot Mix Asphalt Dike	LF		x = \$	-
394090 Place Hot Mix Asphalt (Misc. Area)	SQYD		x = \$	-
397005 Tack Coat	TON		x = \$	-
401000 Concrete Pavement	CY		x = \$	-
401108 Replace Concrete Pavement (Rapid Strength	CY		x = \$	-
404092 Seal Pavement Joint	LF		x = \$	-
404094 Seal Longitudinal Isolation Joint	LF		x = \$	-
413112A Repair Spalled Joints (Polyester Grout)	SQYD		x = \$	-
413115 Seal Existing Concrete Pavement Joint	LF		x = \$	-
420102 Groove Existing Concrete Pavement	SQYD		x = \$	-
420201 Grind Existing Concrete Pavement	SQYD		x = \$	-
731502 Minor Concrete (Misc. Const)	CY		x = \$	-
731530 Minor Concrete (Textured Paving)	SQFT		x = \$	-
731504 Minor Concrete (Curb and Gutter)	CY	150	x 885.00 = \$	132,750
731521 Minor Concrete (Sidewalk)	CY	210	x 800.00 = \$	168,000
XXXXXX Some Item			x = \$	-

<b>TOTAL STRUCTURAL SECTION ITEMS</b>	<b>\$ 1,517,800</b>
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**SECTION 3: DRAINAGE**

Item code		Unit	Quantity	Unit Price (\$)		Cost
	Drainage Systems (5% of Earthwork)	LS	1	x 55,850.00	= \$	55,850
150206	Abandon Culvert	LF		x	= \$	-
150805	Remove Culvert	LF		x	= \$	-
150820	Modify Inlet	EA		x	= \$	-
152430	Adjust Inlet	LF		x	= \$	-
155003	Cap Inlet	EA		x	= \$	-
193114	Sand Backfill	CY		x	= \$	-
510502	Minor Concrete (Minor Structure)	CY		x	= \$	-
510512	Minor Concrete (Box Culvert)	CY		x	= \$	-
62XXXX	XXX" APC Pipe	LF		x	= \$	-
64XXXX	XXX" Plastic Pipe	LF		x	= \$	-
65XXXX	XXX" RCP Pipe	LF		x	= \$	-
66XXXX	XXX" CSP Pipe	LF		x	= \$	-
68XXXX	Edge Drain	LF		x	= \$	-
69XXXX	XXX" Pipe Downdrain	LF		x	= \$	-
70XXXX	XXX" Pipe Inlet	LF		x	= \$	-
70XXXX	XXX" Pipe Riser	LF		x	= \$	-
70XXXX	XXX" Flared End Section	EA		x	= \$	-
703233	Grated Line Drain	LF		x	= \$	-
72XXXX	Rock Slope Protection (Type and Method)	CY		x	= \$	-
721420	Concrete (Ditch Lining)	CY		x	= \$	-
721430	Concrete (Channel Lining)	CY		x	= \$	-
729010	Rock Slope Protection Fabric	SQYD		x	= \$	-
750001	Miscellaneous Iron and Steel	LB		x	= \$	-
XXXXXX	Water Quality Treatment and BMP's	LS	1	x 100,000.00	= \$	100,000
XXXXXX	Some Item			x	= \$	-

<b>TOTAL DRAINAGE ITEMS</b>	<b>\$</b>	<b>155,900</b>
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**SECTION 4: SPECIALTY ITEMS**

Item code		Unit	Quantity	Unit Price (\$)		Cost
070012	Progress Schedule (Critical Path Method)	LS		x	= \$	-
150662	Remove Metal Beam Guard Railing	LF		x	= \$	-
150668	Remove Terminal Systems	EA		x	= \$	-
1532XX	Remove Barrier ( <i>Insert Type</i> )	LF		x	= \$	-
153250	Remove Sound Wall	SQFT		x	= \$	-
190110	Lead Compliance Plan	LS		x	= \$	-
49XXXX	CIDH Concrete Piling ( <i>Insert Diameter</i> )	LF		x	= \$	-
510060	Structural Concrete (Retaining Wall)	CY		x	= \$	-
510133	Class 2 Concrete (Retaining Wall)	CY		x	= \$	-
510524	Minor Concrete (Sound Wall)	CY		x	= \$	-
5110XX	Architectural Treatment ( <i>Insert Type</i> )	SQFT		x	= \$	-
	Retaining Wall	LF	700	x 750.00	= \$	525,000
511048	Apply Anti-Graffiti Coating	SQFT		x	= \$	-
5136XX	Reinforced Concrete Crib Wall ( <i>Insert Type</i> )	SQFT		x	= \$	-
518002	Sound Wall (Masonry Block)	SQFT		x	= \$	-
520103	Bar Reinf. Steel (Retaining Wall)	LB		x	= \$	-
80XXXX	Fence ( <i>Insert Type</i> )	LF		x	= \$	-
832001	Metal Beam Guard Railing	LF		x	= \$	-
832007	Midwest Guardrail System (Wood Post)	LF		x	= \$	-
839310	Double Thrie Beam Barrier	LF		x	= \$	-
839521	Cable Railing	LF		x	= \$	-
83954X	Transition Railing ( <i>Insert Type</i> )	EA		x	= \$	-
8395XX	Terminal System (Type CAT)	EA		x	= \$	-
839584	Alternative In-Line Terminal System	EA		x	= \$	-
8395XX	End Anchor Assembly ( <i>Insert Type</i> )	EA		x	= \$	-
839561	Rail Tensioning Assembly	EA		x	= \$	-
839XXX	Crash Cushion ( <i>Insert Type</i> )	EA		x	= \$	-
83XXXX	Concrete Barrier ( <i>Insert Type</i> )	LF		x	= \$	-
XXXXXX	Some Item			x	= \$	-

<b>TOTAL SPECIALTY ITEMS</b>	<b>\$</b>	<b>525,000</b>
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**SECTION 5: ENVIRONMENTAL**

**5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
130670 TEMPORARY REINFORCED SILT FENCE	LF	3,400	x 4.00 = \$	13,600
160110 Temporary High-Visibility Fence	LF	3,400	x 2.00 = \$	6,800
071325 Temporary Fence (Type ESA)			x = \$	-
210350 Fiber Rolls	LF	3,400	x 3.00 = \$	10,200
210430 Hydroseed	SQFT	27,400	x 0.15 = \$	4,110
<u>Subtotal Environmental</u>				<u>\$ 34,710</u>

**5B - LANDSCAPE AND IRRIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	x	= \$	-
20XXXX XXX" (Insert Type) Conduit (Use for	LF	x	= \$	-
20XXXX Extend XXX" (Insert Type) Conduit	LF	x	= \$	-
201700 Imported Topsoil	CY	x	= \$	-
2030XX Erosion Control (Type __)	SQYD	x	= \$	-
203021 Fiber Rolls	LF	x	= \$	-
203026 Move In/ Move Out (Erosion Control)	EA	x	= \$	-
204099 Plant Establishment Work	LS	x	= \$	-
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208000 Irrigation System	LS	x	= \$	-
208304 Water Meter	EA	x	= \$	-
209801 Maintenance Vehicle Pullout	EA	x	= \$	-
XXXXXX Some Item				-
<u>Subtotal Landscape and Irrigation</u>				<u>\$ -</u>

**5C - NPDES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
074016 Construction Site Management	LS	1	x 30,000.00 = \$	30,000
6615 Resident Engineers Office (2-Seasons)	LS	x	= \$	-
074017 Prepare WPCP	LS	x	= \$	-
074019 Prepare SWPPP	LS	1	x 12,000.00 = \$	12,000
074023 Temporary Erosion Control	SQYD	x	= \$	-
074027 Temporary Erosion Control Blanket	SQYD	x	= \$	-
074028 Temporary Fiber Roll	LF	x	= \$	-
074032 Temporary Concrete Washout Facility	EA	2	x 5,000.00 = \$	10,000
074033 Temporary Construction Entrance	EA	2	x 5,000.00 = \$	10,000
074035 Temporary Check Dam	LF	x	= \$	-
074037 Move In/ Move Out (Temporary Erosion Conti	EA	x	= \$	-
074038 Temp. Drainage Inlet Protection	EA	x	= \$	-
074041 Street Sweeping	LS	x	= \$	-
074042 Temporary Concrete Washout (Portable)	LS	x	= \$	-
XXXXXX Some Item				-

**Supplemental Work for NPDES**

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595 Water Pollution Control Maintenance Sharing*	LS	x	= \$	-
066596 Additional Water Pollution Control**	LS	x	= \$	-
066597 Storm Water Sampling and Analysis***	LS	x	= \$	-
XXXXXX Some Item				-

Subtotal NPDES (Without Supplemental Work)      \$ 62,000

\*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

\*\*Applies to both SWPPPs and WPCP projects.

\*\*\* Applies only to project with SWPPPs.

<b>TOTAL ENVIRONMENTAL</b>	<b>\$ 96,800</b>
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**SECTION 6: TRAFFIC ITEMS**

**6A - Traffic Electrical**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150760 Remove Sign Structure	EA	x	= \$	-
151581 Reconstruct Sign Structure	EA	x	= \$	-
152641 Modify Sign Structure	EA	x	= \$	-
5602XX Furnish Sign Structure	LB	x	= \$	-
5602XX Install Sign Structure	LB	x	= \$	-
56XXXX XXX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-
860090 Maintain Existing Traffic Management	LS	x	= \$	-
860810 Inductive Loop Detectors	EA	x	= \$	-
86055X Lighting & Sign Illumination	LS	1 x	100,000.00 = \$	100,000
8607XX Interconnection Facilities	LS	x	= \$	-
8609XX Traffic Monitoring Stations	LS	x	= \$	-
870400 Signal and Lighting System	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
86XXXX Fiber Optic Conduit System	LS	x	= \$	-
XXXXX Some Item				
<i>Subtotal Traffic Electrical</i>				<u>\$ 100,000</u>

**6B - Traffic Signing and Striping**

Item code	Unit	Quantity	Unit Price (\$)	Cost
120090 Construction Area Signs	LS	1 x	30,000.00 = \$	30,000
150701 Remove Yellow Painted Traffic Stripe	LF	x	= \$	-
150710 Remove Traffic Stripe	LF	x	= \$	-
150713 Remove Pavement Marking	SQFT	x	= \$	-
150742 Remove Roadside Sign	EA	x	= \$	-
152320 Reset Roadside Sign	EA	x	= \$	-
152390 Relocate Roadside Sign	EA	x	= \$	-
820840 Roadside Sign - One Post	EA	20 x	450.00 = \$	9,000
566012 Roadside Sign (Two Post)	EA	x	= \$	-
560XXX Furnish Sign Panels	SQFT	x	= \$	-
560XXX Install Sign Panels	SQFT	x	= \$	-
82010X Delineator (Class X)	EA	x	= \$	-
Overhead Signs	EA	x	= \$	-
840501 Thermoplastic Traffic Stripe	LF	7,200 x	2.50 = \$	18,000
840515 Thermoplastic Pavement Marking	SQFT	310 x	6.00 = \$	1,860
<i>Subtotal Traffic Signing and Striping</i>				<u>\$ 58,860</u>

**6C - Stage Construction and Traffic Handling**

Item code	Unit	Quantity	Unit Price (\$)	Cost
66063 Traffic Management Plan - Public Information	LS	1 x	10,000.00 = \$	10,000
CHP Enhanced Enforcement	LS	1 x	30,000.00 = \$	30,000
120100 Traffic Control System	LS	1 x	50,000.00 = \$	50,000
120120 Type III Barricade	EA	x	= \$	-
120143 Temporary Pavement Delineation	LS	1 x	40,000.00 = \$	40,000
12016X Channelizer	EA	x	= \$	-
128651 Portable Changeable Message Sign (EA)	EA	3 x	13,000.00 = \$	39,000
129000 Temporary Railing (Type K)	LF	4,020 x	50.00 = \$	201,000
129100 Temporary Crash Cushion Module	EA	210 x	300.00 = \$	63,000
129099A Traffic Plastic Drum	EA	x	= \$	-
839603A Temporary Crash Cushion (ADIEM)	EA	x	= \$	-
XXXXXX Some Item				
<i>Subtotal Stage Construction and Traffic Handling</i>				<u>\$ 433,000</u>

<b>TOTAL TRAFFIC ITEMS</b>	<b>\$ 591,900</b>
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**SECTION 7: DETOURS**

Include constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
0713XX Temporary Fence (Type X)	LF	x	= \$	-
07XXXX Temporary Drainage	LS	x	= \$	-
120143 Temporary Pavement Delineation	LF	x	= \$	-
1286XX Temporary Signals	EA	x	= \$	-
129000 Temporary Railing (Type K)	LF	x	= \$	-
190101 Roadway Excavation	CY	x	= \$	-
198001 Imported Borrow	CY	x	= \$	-
198050 Embankment	CY	x	= \$	-
250401 Class 4 Aggregate Subbase	CY	x	= \$	-
260201 Class 2 Aggregate Base	CY	x	= \$	-
390132 Hot Mix Asphalt (Type A)	TON	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-
<b>TOTAL DETOURS</b>				<b>\$ -</b>

SUBTOTAL SECTIONS 1-7 \$ 3,445,900

**SECTION 8: MINOR ITEMS**

**8A - Americans with Disabilities Act Items**

ADA Items 0.0% \$ -

**8B - Bike Path Items**

Bike Path Items 0.0% \$ -

**8C - Other Minor Items**

Other Minor Items 10.0% \$ 344,590

Total of Section 1-7 \$ 3,445,900 x 10.0% = \$ 344,590

**TOTAL MINOR ITEMS \$ 344,600**

**SECTIONS 9: MOBILIZATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
999990 Total Section 1-8		\$ 3,790,500	x 10%	= \$ 379,050
<b>TOTAL MOBILIZATION</b>				<b>\$ 379,100</b>

**SECTION 10: SUPPLEMENTAL WORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
066015 Federal Trainee Program	LS	x	= \$	-
066063 Traffic Management Plan - Public Informati	LS	x	= \$	-
066090 Maintain Traffic	LS	x	= \$	-
066094 Value Analysis	LS	x	= \$	-
066204 Remove Rock & Debris	LS	x	= \$	-
066222 Locate Existing Cross-Over	LS	x	= \$	-
066670 Payment Adjustments For Price Index Fluct	LS	x	= \$	-
066700 Partnering	LS	x	= \$	-
066866 Operation of Existing Traffic Management S	LS	x	= \$	-
066920 Dispute Review Board	LS	x	= \$	-
XXXXXX Some Item		x	= \$	-

Cost of NPDES Supplemental Work specified in Section 5C = \$ -

Total Section 1-8 \$ 3,790,500 10% = \$ 379,050

**TOTAL SUPPLEMENTAL WORK \$ 379,100**



## II. STRUCTURE ITEMS

DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)		XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00	\$0.00	\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
-------------------------------	---------------	---------------	---------------

DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00	\$0.00	\$0.00

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
-------------------------------	---------------	---------------	---------------

<b>TOTAL COST OF BRIDGES</b>	<b>\$0.00</b>
<b>MOBILIZATION (10%)</b>	<b>\$0.00</b>
<b>TOTAL COST OF BUILDINGS</b>	<b>\$0.00</b>

<b>TOTAL COST OF STRUCTURES<sup>1</sup></b>	<b>\$0.00</b>
---	---------------

Estimate Prepared By: \_\_\_\_\_  
XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

\_\_\_\_\_ Date

<sup>1</sup>Structure's Estimate includes Overhead and Mobilization.  
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc







**Preliminary Cost Estimate**

**Project ID: 18th Ave and Dam Road at SR 53 (LONG TERM SPLIT DIAMOND LOOP OFF RAMP SB AT DAM ROAD - OVERCROSSING - ALT 1)**

**Type of Estimate :** Preliminary Cost Estimate  
**Program Code :**  
**Project Limits :** 18th Ave and Dam Road At SR 53

**Description:** Construct split diamond intersection between 18th Ave and Dam Road.  
 Construct NB frontage road inbetween 18th Ave and Dam Road. Build two overcrossings over SR 53 at 18th Ave and Dam Road. Realign 18th Ave. Realign Cache Creek Way outside of circular offramp. Construct new sidewalk along 18th Ave and Dam Road. Construct Pedestrian Overcrossing Over SR-53.

**Scope :**

**Alternative :** LONG TERM - SPLIT DIAMOND - OVERCROSSING - ALT 1

	Current Cost	Escalated Cost (10 yr)
ROADWAY ITEMS	\$ 44,671,900	\$ 57,183,809
STRUCTURE ITEMS	\$ 8,521,480	\$ 10,908,215
<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$ 53,193,380</b>	<b>\$ 68,092,024</b>
RIGHT OF WAY	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY COST</b>	<b>\$ 53,194,000</b>	<b>\$ 68,093,000</b>
PR/ED SUPPORT	\$ -	\$ -
PS&E SUPPORT	\$ -	\$ -
RIGHT OF WAY SUPPORT	\$ -	\$ -
CONSTRUCTION SUPPORT	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY SUPPORT COST*</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL PROJECT COST</b>	<b>\$ 53,200,000</b>	<b>\$ 68,100,000</b>

If Project has been programmed enter Programmed Amount \$ -

Date of Estimate (Month/Year) Month / Year  
12 / 2021  
 Estimated Date of Construction Start (Month/Year) /  
 Number of Working Days Working Days  
 Estimated Mid-Point of Construction (Month/Year) Month / Year  
 Number of Plant Establishment Days Days

**Estimated Project Schedule**

PID Approval  
 PA/ED Approval  
 PS&E  
 RTL  
 Begin Construction

Approved by Project Manager

[Redacted Signature]

(xxx) xxx-xxxx

Project Manager

Date

Phone

## I. ROADWAY ITEMS SUMMARY

Section	Cost
1 Earthwork	\$ 13,128,000
2 Pavement Structural Section	\$ 7,507,600
3 Drainage	\$ 756,400
4 Specialty Items	\$ 1,606,500
5 Environmental	\$ 545,000
6 Traffic Items	\$ 2,489,000
7 Detours	\$ -
8 Minor Items	\$ 2,603,300
9 Roadway Mobilization	\$ 2,863,600
10 Supplemental Work	\$ 2,863,600
11 State Furnished	\$ -
12 Contingencies	\$ 10,308,900
13 Overhead	\$ -
<b>TOTAL ROADWAY ITEMS</b>	
	<b>\$ 44,671,900</b>

Estimate Prepared By Brent Harrison (Assistant Engineer) 11/18/2021  
Name and Title Date Phone

Estimate Reviewed By C. Davis 12/14/2021 916-368-9181  
Name and Title Date Phone

**By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.**

**SECTION 1: EARTHWORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
160101 Clearing & Grubbing	LS	1	x 60,000.00	= \$ 60,000
170101 Develop Water Supply	LS		x	= \$ -
190101 Roadway Excavation	CY	63,000	x 35.00	= \$ 2,205,000
190103 Roadway Excavation (Type Y) ADL	CY		x	= \$ -
190105 Roadway Excavation (Type Z-2) ADL	CY		x	= \$ -
192037 Structure Excavation (Retaining Wall)	CY		x	= \$ -
193013 Structure Backfill (Retaining Wall)	CY		x	= \$ -
193031 Pervious Backfill Material (Retaining Wall)	CY		x	= \$ -
194001 Ditch Excavation	CY		x	= \$ -
198001 Impored Borrow	CY	362,100	x 30.00	= \$ 10,863,000
198007 Imported Material (Shoulder Backing)	TON		x	= \$ -
XXXXXX Some Item			x	= \$ -

<b>TOTAL EARTHWORK SECTION ITEMS</b>	<b>\$ 13,128,000</b>
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**SECTION 2: PAVEMENT STRUCTURAL SECTION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150771 Remove Asphalt Concrete Dike	LF		x	= \$ -
150860 Remove Base and Surfacing	CY		x	= \$ -
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x	= \$ -
1532XX Remove Concrete (type)	CY		x	= \$ -
250401 Class 4 Aggregate Subbase	CY		x	= \$ -
260201 Class 2 Aggregate Base	CY	43,900	x 65.00	= \$ 2,853,500
290201 Asphalt Treated Permeable Base	CY		x	= \$ -
365001 Sand Cover	TON		x	= \$ -
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x	= \$ -
374492 Asphaltic Emulsion (Polymer Modified)	TON		x	= \$ -
3750XX Screenings (Type XX)	TON		x	= \$ -
377501 Slurry Seal	TON		x	= \$ -
390095 Replace Asphalt Concrete Surfacing	CY		x	= \$ -
390132 Hot Mix Asphalt (Type A)	TON	21,500	x 150.00	= \$ 3,225,000
390136 Minor Hot Mix Asphalt	TON		x	= \$ -
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON		x	= \$ -
393003 Geosynthetic Pavement Interlayer	SQYD		x	= \$ -
39405X Shoulder Rumber Strip (HMA, Type XX Inden	STA		x	= \$ -
394071 Place Hot Mix Asphalt Dike	LF		x	= \$ -
394090 Place Hot Mix Asphalt (Misc. Area)	SQYD		x	= \$ -
397005 Tack Coat	TON		x	= \$ -
401000 Concrete Pavement	CY		x	= \$ -
401108 Replace Concrete Pavement (Rapid Strength	CY		x	= \$ -
404092 Seal Pavement Joint	LF		x	= \$ -
404094 Seal Longitudinal Isolation Joint	LF		x	= \$ -
413112A Repair Spalled Joints (Polyester Grout)	SQYD		x	= \$ -
413115 Seal Existing Concrete Pavement Joint	LF		x	= \$ -
420102 Groove Existing Concrete Pavement	SQYD		x	= \$ -
420201 Grind Existing Concrete Pavement	SQYD		x	= \$ -
731502 Minor Concrete (Misc. Const)	CY		x	= \$ -
731530 Minor Concrete (Textured Paving)	SQFT		x	= \$ -
731504 Minor Concrete (Curb and Gutter)	CY	700	x 885.00	= \$ 619,500
731521 Minor Concrete (Sidewalk)	CY	1,012	x 800.00	= \$ 809,600
XXXXXX Some Item			x	= \$ -

<b>TOTAL STRUCTURAL SECTION ITEMS</b>	<b>\$ 7,507,600</b>
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PRELIMINARY  
PROJECT COST ESTIMATE

**SECTION 3: DRAINAGE**

Item code		Unit	Quantity		Unit Price (\$)		Cost
	Drainage Systems (5% of Earthwork)	LS	1	x	656,400.00	= \$	656,400
150206	Abandon Culvert	LF		x		= \$	-
150805	Remove Culvert	LF		x		= \$	-
150820	Modify Inlet	EA		x		= \$	-
152430	Adjust Inlet	LF		x		= \$	-
155003	Cap Inlet	EA		x		= \$	-
193114	Sand Backfill	CY		x		= \$	-
510502	Minor Concrete (Minor Structure)	CY		x		= \$	-
510512	Minor Concrete (Box Culvert)	CY		x		= \$	-
62XXXX	XXX" APC Pipe	LF		x		= \$	-
64XXXX	XXX" Plastic Pipe	LF		x		= \$	-
65XXXX	XXX" RCP Pipe	LF		x		= \$	-
66XXXX	XXX" CSP Pipe	LF		x		= \$	-
68XXXX	Edge Drain	LF		x		= \$	-
69XXXX	XXX" Pipe Downdrain	LF		x		= \$	-
70XXXX	XXX" Pipe Inlet	LF		x		= \$	-
70XXXX	XXX" Pipe Riser	LF		x		= \$	-
70XXXX	XXX" Flared End Section	EA		x		= \$	-
703233	Grated Line Drain	LF		x		= \$	-
72XXXX	Rock Slope Protection (Type and Method)	CY		x		= \$	-
721420	Concrete (Ditch Lining)	CY		x		= \$	-
721430	Concrete (Channel Lining)	CY		x		= \$	-
729010	Rock Slope Protection Fabric	SQYD		x		= \$	-
750001	Miscellaneous Iron and Steel	LB		x		= \$	-
	Water Quality Treatment and BMP's	LS	1	x	100,000.00	= \$	100,000
				x		= \$	-

<b>TOTAL DRAINAGE ITEMS</b>	<b>\$ 756,400</b>
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**SECTION 4: SPECIALTY ITEMS**

Item code		Unit	Quantity		Unit Price (\$)		Cost
070012	Progress Schedule (Critical Path Method)	LS		x		= \$	-
150662	Remove Metal Beam Guard Railing	LF		x		= \$	-
150668	Remove Terminal Systems	EA		x		= \$	-
1532XX	Remove Barrier ( <i>Insert Type</i> )	LF		x		= \$	-
153250	Remove Sound Wall	SQFT		x		= \$	-
190110	Lead Compliance Plan	LS		x		= \$	-
49XXXX	CIDH Concrete Piling ( <i>Insert Diameter</i> )	LF		x		= \$	-
510060	Structural Concrete (Retaining Wall)	CY		x		= \$	-
510133	Class 2 Concrete (Retaining Wall)	CY		x		= \$	-
510524	Minor Concrete (Sound Wall)	CY		x		= \$	-
5110XX	Architectural Treatment ( <i>Insert Type</i> )	SQFT	1,900	x	50.00	= \$	95,000
	Retaining Wall	LF	1,878	x	750.00	= \$	1,408,500
511048	Apply Anti-Graffiti Coating	SQFT		x		= \$	-
5136XX	Reinforced Concrete Crib Wall ( <i>Insert Type</i> )	SQFT		x		= \$	-
518002	Sound Wall (Masonry Block)	SQFT		x		= \$	-
520103	Bar Reinf. Steel (Retaining Wall)	LB		x		= \$	-
80XXXX	Fence ( <i>Insert Type</i> )	LF		x		= \$	-
832001	Metal Beam Guard Railing	LF		x		= \$	-
832007	Midwest Guardrail System (Wood Post)	LF	600	x	125.00	= \$	75,000
839310	Double Thrie Beam Barrier	LF		x		= \$	-
839521	Cable Railing	LF		x		= \$	-
83954X	Transition Railing ( <i>Insert Type</i> )	EA		x		= \$	-
8395XX	Terminal System (Type CAT)	EA		x		= \$	-
839584	Alternative In-Line Terminal System	EA	8	x	3,500.00	= \$	28,000
8395XX	End Anchor Assembly ( <i>Insert Type</i> )	EA		x		= \$	-
839561	Rail Tensioning Assembly	EA		x		= \$	-
839XXX	Crash Cushion ( <i>Insert Type</i> )	EA		x		= \$	-
83XXXX	Concrete Barrier ( <i>Insert Type</i> )	LF		x		= \$	-
				x		= \$	-

<b>TOTAL SPECIALTY ITEMS</b>	<b>\$ 1,606,500</b>
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**SECTION 5: ENVIRONMENTAL**

**5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
130670 TEMPORARY REINFORCED SILT FENCE	LF	22,700	x 4.00 = \$	90,800
160110 Temporary High-Visibility Fence	LF	22,700	x 2.00 = \$	45,400
071325 Temporary Fence (Type ESA)			x = \$	-
210350 Fiber Rolls	LF	22,700	x 3.00 = \$	68,100
210430 Hydroseed	SQFT	1,158,000	x 0.15 = \$	173,700
<b>Subtotal Environmental</b>				<b>\$ 378,000</b>

**5B - LANDSCAPE AND IRRIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	x	= \$	-
20XXXX XXX" (Insert Type) Conduit (Use for	LF	x	= \$	-
20XXXX Extend XXX" (Insert Type) Conduit	LF	x	= \$	-
201700 Imported Topsoil	CY	x	= \$	-
2030XX Erosion Control (Type __)	SQYD	x	= \$	-
203021 Fiber Rolls	LF	x	= \$	-
203026 Move In/ Move Out (Erosion Control)	EA	x	= \$	-
204099 Plant Establishment Work	LS	x	= \$	-
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208000 Irrigation System	LS	x	= \$	-
208304 Water Meter	EA	x	= \$	-
209801 Maintenance Vehicle Pullout	EA	x	= \$	-
XXXXXX Some Item				
<b>Subtotal Landscape and Irrigation</b>				<b>\$ -</b>

**5C - NPDES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
074016 Construction Site Management	LS	1	x 40,000.00 = \$	40,000
6615 Resident Engineers Office (2-Seasons)	LS	1	x 75,000.00 = \$	75,000
074017 Prepare WPCP	LS	x	= \$	-
074019 Prepare SWPPP	LS	1	x 12,000.00 = \$	12,000
074023 Temporary Erosion Control	SQYD	x	= \$	-
074027 Temporary Erosion Control Blanket	SQYD	x	= \$	-
074028 Temporary Fiber Roll	LF	x	= \$	-
074032 Temporary Concrete Washout Facility	EA	4	x 5,000.00 = \$	20,000
074033 Temporary Construction Entrance	EA	4	x 5,000.00 = \$	20,000
074035 Temporary Check Dam	LF	x	= \$	-
074037 Move In/ Move Out (Temporary Erosion Cont	EA	x	= \$	-
074038 Temp. Drainage Inlet Protection	EA	x	= \$	-
074041 Street Sweeping	LS	x	= \$	-
074042 Temporary Concrete Washout (Portable)	LS	x	= \$	-
XXXXXX Some Item				

**Supplemental Work for NPDES**

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595 Water Pollution Control Maintenance Sharing	LS	x	= \$	-
066596 Additional Water Pollution Control**	LS	x	= \$	-
066597 Storm Water Sampling and Analysis***	LS	x	= \$	-
XXXXXX Some Item				

**Subtotal NPDES (Without Supplemental Work) \$ 167,000**

\*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

\*\*Applies to both SWPPPs and WPCP projects.

\*\*\* Applies only to project with SWPPPs.

<b>TOTAL ENVIRONMENTAL</b>	<b>\$ 545,000</b>
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**SECTION 6: TRAFFIC ITEMS**

**6A - Traffic Electrical**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150760 Remove Sign Structure	EA	x	= \$	-
151581 Reconstruct Sign Structure	EA	x	= \$	-
152641 Modify Sign Structure	EA	x	= \$	-
5602XX Furnish Sign Structure	LB	x	= \$	-
5602XX Install Sign Structure	LB	x	= \$	-
56XXXX XXX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-
860090 Maintain Existing Traffic Management	LS	x	= \$	-
860810 Inductive Loop Detectors	EA	x	= \$	-
86055X Lighting & Sign Illumination	LS	1 x	350,000.00 = \$	350,000
8607XX Interconnection Facilities	LS	x	= \$	-
8609XX Traffic Monitoring Stations	LS	x	= \$	-
870400 Signal and Lighting System	LS	1 x	500,000.00 = \$	500,000
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
86XXXX Fiber Optic Conduit System	LS	x	= \$	-
XXXXX Some Item				
<u>Subtotal Traffic Electrical</u>				<u>\$ 850,000</u>

**6B - Traffic Signing and Striping**

Item code	Unit	Quantity	Unit Price (\$)	Cost
120090 Construction Area Signs	LS	1 x	60,000.00 = \$	60,000
150701 Remove Yellow Painted Traffic Stripe	LF	x	= \$	-
150710 Remove Traffic Stripe	LF	x	= \$	-
150713 Remove Pavement Marking	SQFT	x	= \$	-
150742 Remove Roadside Sign	EA	x	= \$	-
152320 Reset Roadside Sign	EA	x	= \$	-
152390 Relocate Roadside Sign	EA	x	= \$	-
820840 Roadside Sign - One Post	EA	75 x	450.00 = \$	33,750
566012 Roadside Sign (Two Post)	EA	x	= \$	-
560XXX Furnish Sign Panels	SQFT	x	= \$	-
560XXX Install Sign Panels	SQFT	x	= \$	-
82010X Delineator (Class X)	EA	x	= \$	-
Overhead Signs	EA	4 x	115,000.00 = \$	460,000
840501 Thermoplastic Traffic Stripe	LF	49,000 x	2.50 = \$	122,500
840515 Thermoplastic Pavement Marking	SQFT	2,250 x	6.00 = \$	13,500
<u>Subtotal Traffic Signing and Striping</u>				<u>\$ 689,750</u>

**6C - Stage Construction and Traffic Handling**

Item code	Unit	Quantity	Unit Price (\$)	Cost
66063 Traffic Management Plan - Public Information	LS	1 x	10,000.00 = \$	10,000
CHP Enhanced Enforcement	LS	1 x	260,000.00 = \$	260,000
120100 Traffic Control System	LS	1 x	200,000.00 = \$	200,000
120120 Type III Barricade	EA	x	= \$	-
120143 Temporary Pavement Delineation	LF	x	= \$	-
12016X Channelizer	EA	x	= \$	-
128651 Portable Changeable Message Sign (EA)	EA	8 x	13,000.00 = \$	104,000
129000 Temporary Railing (Type K)	LF	7,000 x	50.00 = \$	350,000
129100 Temporary Crash Cushion Module	EA	84 x	300.00 = \$	25,200
129099A Traffic Plastic Drum	EA	x	= \$	-
839603A Temporary Crash Cushion (ADIEM)	EA	x	= \$	-
XXXXXX Some Item				
<u>Subtotal Stage Construction and Traffic Handling</u>				<u>\$ 949,200</u>

<b>TOTAL TRAFFIC ITEMS</b>	<b>\$ 2,489,000</b>
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**SECTION 7: DETOURS**

Include constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
0713XX Temporary Fence (Type X)	LF	x	= \$	-
07XXXX Temporary Drainage	LS	x	= \$	-
120143 Temporary Pavement Delineation	LF	x	= \$	-
1286XX Temporary Signals	EA	x	= \$	-
129000 Temporary Railing (Type K)	LF	x	= \$	-
190101 Roadway Excavation	CY	x	= \$	-
198001 Imported Borrow	CY	x	= \$	-
198050 Embankment	CY	x	= \$	-
250401 Class 4 Aggregate Subbase	CY	x	= \$	-
260201 Class 2 Aggregate Base	CY	x	= \$	-
390132 Hot Mix Asphalt (Type A)	TON	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-
<b>TOTAL DETOURS</b>				<b>\$ -</b>

SUBTOTAL SECTIONS 1-7 \$ 26,032,500

**SECTION 8: MINOR ITEMS**

**8A - Americans with Disabilities Act Items**

ADA Items 0.0% \$ -

**8B - Bike Path Items**

Bike Path Items 0.0% \$ -

**8C - Other Minor Items**

Other Minor Items 10.0% \$ 2,603,250

Total of Section 1-7 \$ 26,032,500 x 10.0% = \$ 2,603,250

**TOTAL MINOR ITEMS \$ 2,603,300**

**SECTIONS 9: MOBILIZATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
999990 Total Section 1-8		\$ 28,635,800	x 10%	= \$ 2,863,580
<b>TOTAL MOBILIZATION</b>				<b>\$ 2,863,600</b>

**SECTION 10: SUPPLEMENTAL WORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
066015 Federal Trainee Program	LS	x	= \$	-
066063 Traffic Management Plan - Public Informatic	LS	x	= \$	-
066090 Maintain Traffic	LS	x	= \$	-
066094 Value Analysis	LS	x	= \$	-
066204 Remove Rock & Debris	LS	x	= \$	-
066222 Locate Existing Cross-Over	LS	x	= \$	-
066670 Payment Adjustments For Price Index Fluctu	LS	x	= \$	-
066700 Partnering	LS	x	= \$	-
066866 Operation of Existing Traffic Management S	LS	x	= \$	-
066920 Dispute Review Board	LS	x	= \$	-
XXXXXX Some Item		x	= \$	-

Cost of NPDES Supplemental Work specified in Section 5C = \$ -

Total Section 1-8 \$ 28,635,800 10% = \$ 2,863,580

**TOTAL SUPPLEMENTAL WORK \$ 2,863,600**



## II. STRUCTURE ITEMS

	<u>Bridge 1</u>		<u>Bridge 2</u>		<u>Bridge 3</u>	
DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00	
Bridge Name	18th OC		Dam OC		Pedestrian OC	
Bridge Number						
Structure Type						
Width (Feet) [out to out]	52.00	LF	175.00	LF		
Total Bridge Length (Feet)	169.00	LF	52.00	LF		
Total Area (Square Feet)	8788	SQFT	9100	SQFT		
Structure Depth (Feet)		LF	0.00	LF		
Footing Type (pile or spread)						
Cost Per Square Foot	\$225.00		\$225.00		\$3,722,000.00	

<b>COST OF EACH STRUCTURE</b>	<b>\$1,977,300.00</b>		<b>\$2,047,500.00</b>		<b>\$3,722,000.00</b>
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	00/00/00		00/00/00		00/00/00	
DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00	
Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX	
Bridge Number	57-XXX		57-XXX		57-XXX	
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX	
Width (Feet) [out to out]	0.00	LF	0.00	LF	0.00	LF
Total Length (Feet)	0.00	LF	0.00	LF	0.00	LF
Total Area (Square Feet)	0	SQFT	0.00	SQFT	0.0	SQFT
Structure Depth (Feet)	0.00	LF	0.00	LF	0.00	LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX	
Cost Per Square Foot	\$0.00		\$0.00		\$0.00	

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>		<b>\$0.00</b>		<b>\$0.00</b>
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<b>TOTAL COST OF BRIDGES</b>	<b>\$7,746,800.00</b>
<b>MOBILIZATION (10%)</b>	<b>\$774,680.00</b>
<b>TOTAL COST OF BUILDINGS</b>	<b>\$0.00</b>

<b>TOTAL COST OF STRUCTURES<sup>1</sup></b>	<b>\$8,521,480.00</b>
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Estimate Prepared By: \_\_\_\_\_  
XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

\_\_\_\_\_ Date

<sup>1</sup>Structure's Estimate includes Overhead and Mobilization.  
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc

**DO NOT PRINT THIS SHEET AS PART OF COST ESTIMATE ATTACHMENT TO PROJECT INITIATION OR APPROVAL DOCUMENTS.**

### III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

				PARTIAL TAKE	FULL TAKE
A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill,	\$		
	A2)	SB-1210	\$		0
B)		Acquisition of Offsite Mitigation	\$		0
C)	C1)	Utility Relocation (State Share)	\$		0
	C2)	Potholing (Design Phase)	\$		0
D)		Railroad Acquisition	\$		0
E)		Clearance / Demolition	\$		0
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	\$		0
G)		Title and Escrow	\$		0
H)		Environmental Review	\$		0
I)		Condemnation Settlements (Items G & H applied to items A + B)	\$		0
					0%
J)		Design Appreciation Factor	\$		0
					0%
K)		Utility Relocation (Construction Cost)	\$		0
L)	<b>TOTAL RIGHT OF WAY ESTIMATE</b>				<b>\$0</b>
	(Excluding Item #8 - Hazardous Waste)				
M)	<b>TOTAL R/W ESTIMATE: Escalated</b>				<b>\$0</b>
N)	<b>Right of Way Support</b>				<b>\$ 0</b>

Support Cost  
Estimate Prepared By \_\_\_\_\_ Project Coordinator<sup>1</sup> \_\_\_\_\_ Phone \_\_\_\_\_

Utility Estimate  
Prepared By \_\_\_\_\_ Utility Coordinator<sup>2</sup> \_\_\_\_\_ Phone \_\_\_\_\_

R/W Acquisition  
Estimate Prepared By \_\_\_\_\_ Right of Way Estimator<sup>3</sup> \_\_\_\_\_ Phone \_\_\_\_\_

<sup>1</sup> When estimate has Support Costs only    <sup>2</sup> When estimate has Utility Relocation    <sup>3</sup> When R/W Acquisition is required



**Preliminary Cost Estimate**

**Project ID: 18th Ave and Dam Road at SR 53 (LONG TERM SPLIT DIAMOND DIAGONAL SB OFF RAMP AT DAM ROAD - OVERCROSSING - ALT 2)**

**Type of Estimate :** Preliminary Cost Estimate

**Program Code :**

**Project Limits :** 18th Ave and Dam Road At SR 53

**Description:** Construct split diamond intersection between 18th Ave and Dam Road.  
Construct NB frontage road inbetween 18th Ave and Dam Road. Build two overcrossings over SR 53 at 18th Ave and Dam Road. Realign 18th Ave. Realign Cache Creek Way. Construct new sidewalk along 18th Ave and Dam Road.  
Construct Pedestrian Overcrossing Over SR-53.

**Scope :**

**Alternative :** LONG TERM - SPLIT DIAMOND - OVERCROSSING - ALT 2

	Current Cost	Escalated Cost (10 yr)
ROADWAY ITEMS	\$ 43,908,600	\$ 56,206,720
STRUCTURE ITEMS	\$ 8,521,480	\$ 10,908,215
<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$ 52,430,080</b>	<b>\$ 67,114,935</b>
RIGHT OF WAY	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY COST</b>	<b>\$ 52,431,000</b>	<b>\$ 67,115,000</b>
PR/ED SUPPORT	\$ -	\$ -
PS&E SUPPORT	\$ -	\$ -
RIGHT OF WAY SUPPORT	\$ -	\$ -
CONSTRUCTION SUPPORT	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY SUPPORT COST*</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL PROJECT COST</b>	<b>\$ 52,500,000</b>	<b>\$ 67,200,000</b>

If Project has been programmed enter Programmed Amount \$ -

Date of Estimate (Month/Year) Month / Year  
12 / 2021

Estimated Date of Construction Start (Month/Year) /

Number of Working Days Working Days

Estimated Mid-Point of Construction (Month/Year) Month / Year

Number of Plant Establishment Days Days

**Estimated Project Schedule**

PID Approval  
PA/ED Approval  
PS&E  
RTL  
Begin Construction

Approved by Project Manager



(xxx) xxx-xxxx

Project Manager

Date

Phone

## I. ROADWAY ITEMS SUMMARY

Section	Cost
1 Earthwork	\$ 13,134,000
2 Pavement Structural Section	\$ 7,094,100
3 Drainage	\$ 756,700
4 Specialty Items	\$ 1,606,500
5 Environmental	\$ 517,800
6 Traffic Items	\$ 2,478,500
7 Detours	\$ -
8 Minor Items	\$ 2,558,800
9 Roadway Mobilization	\$ 2,814,700
10 Supplemental Work	\$ 2,814,700
11 State Furnished	\$ -
12 Contingencies	\$ 10,132,800
13 Overhead	\$ -
<b>TOTAL ROADWAY ITEMS</b>	<b>\$ 43,908,600</b>

<b>Estimate Prepared By</b>	Brent Harrison (Assistant Engineer)	11/18/2021	
	Name and Title	Date	Phone
<b>Estimate Reviewed By</b>	C. Davis	12/14/2021	916-368-9181
	Name and Title	Date	Phone

**By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.**

**SECTION 1: EARTHWORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
160101 Clearing & Grubbing	LS	1	x 60,000.00	= \$ 60,000
170101 Develop Water Supply	LS		x	= \$ -
190101 Roadway Excavation	CY	60,000	x 35.00	= \$ 2,100,000
190103 Roadway Excavation (Type Y) ADL	CY		x	= \$ -
190105 Roadway Excavation (Type Z-2) ADL	CY		x	= \$ -
192037 Structure Excavation (Retaining Wall)	CY		x	= \$ -
193013 Structure Backfill (Retaining Wall)	CY		x	= \$ -
193031 Pervious Backfill Material (Retaining Wall)	CY		x	= \$ -
194001 Ditch Excavation	CY		x	= \$ -
198001 Impored Borrow	CY	365,800	x 30.00	= \$ 10,974,000
198007 Imported Material (Shoulder Backing)	TON		x	= \$ -
XXXXXX Some Item			x	= \$ -

**TOTAL EARTHWORK SECTION ITEMS \$ 13,134,000**

**SECTION 2: PAVEMENT STRUCTURAL SECTION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150771 Remove Asphalt Concrete Dike	LF		x	= \$ -
150860 Remove Base and Surfacing	CY		x	= \$ -
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x	= \$ -
1532XX Remove Concrete (type)	CY		x	= \$ -
250401 Class 4 Aggregate Subbase	CY		x	= \$ -
260201 Class 2 Aggregate Base	CY	41,000	x 65.00	= \$ 2,665,000
290201 Asphalt Treated Permeable Base	CY		x	= \$ -
365001 Sand Cover	TON		x	= \$ -
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x	= \$ -
374492 Asphaltic Emulsion (Polymer Modified)	TON		x	= \$ -
3750XX Screenings (Type XX)	TON		x	= \$ -
377501 Slurry Seal	TON		x	= \$ -
390095 Replace Asphalt Concrete Surfacing	CY		x	= \$ -
390132 Hot Mix Asphalt (Type A)	TON	20,000	x 150.00	= \$ 3,000,000
390136 Minor Hot Mix Asphalt	TON		x	= \$ -
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON		x	= \$ -
393003 Geosynthetic Pavement Interlayer	SQYD		x	= \$ -
39405X Shoulder Rumber Strip (HMA, Type XX Inden	STA		x	= \$ -
394071 Place Hot Mix Asphalt Dike	LF		x	= \$ -
394090 Place Hot Mix Asphalt (Misc. Area)	SQYD		x	= \$ -
397005 Tack Coat	TON		x	= \$ -
401000 Concrete Pavement	CY		x	= \$ -
401108 Replace Concrete Pavement (Rapid Strength	CY		x	= \$ -
404092 Seal Pavement Joint	LF		x	= \$ -
404094 Seal Longitudinal Isolation Joint	LF		x	= \$ -
413112A Repair Spalled Joints (Polyester Grout)	SQYD		x	= \$ -
413115 Seal Existing Concrete Pavement Joint	LF		x	= \$ -
420102 Groove Existing Concrete Pavement	SQYD		x	= \$ -
420201 Grind Existing Concrete Pavement	SQYD		x	= \$ -
731502 Minor Concrete (Misc. Const)	CY		x	= \$ -
731530 Minor Concrete (Textured Paving)	SQFT		x	= \$ -
731504 Minor Concrete (Curb and Gutter)	CY	700	x 885.00	= \$ 619,500
731521 Minor Concrete (Sidewalk)	CY	1,012	x 800.00	= \$ 809,600
XXXXXX Some Item			x	= \$ -

**TOTAL STRUCTURAL SECTION ITEMS \$ 7,094,100**



PRELIMINARY  
PROJECT COST ESTIMATE

**SECTION 3: DRAINAGE**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Drainage Systems (5% of Earthwork)	LS	1	x 656,700.00	= \$ 656,700
150206 Abandon Culvert	LF		x	= \$ -
150805 Remove Culvert	LF		x	= \$ -
150820 Modify Inlet	EA		x	= \$ -
152430 Adjust Inlet	LF		x	= \$ -
155003 Cap Inlet	EA		x	= \$ -
193114 Sand Backfill	CY		x	= \$ -
510502 Minor Concrete (Minor Structure)	CY		x	= \$ -
510512 Minor Concrete (Box Culvert)	CY		x	= \$ -
62XXXX XXX" APC Pipe	LF		x	= \$ -
64XXXX XXX" Plastic Pipe	LF		x	= \$ -
65XXXX XXX" RCP Pipe	LF		x	= \$ -
66XXXX XXX" CSP Pipe	LF		x	= \$ -
68XXXX Edge Drain	LF		x	= \$ -
69XXXX XXX" Pipe Downdrain	LF		x	= \$ -
70XXXX XXX" Pipe Inlet	LF		x	= \$ -
70XXXX XXX" Pipe Riser	LF		x	= \$ -
70XXXX XXX" Flared End Section	EA		x	= \$ -
703233 Grated Line Drain	LF		x	= \$ -
72XXXX Rock Slope Protection (Type and Method)	CY		x	= \$ -
721420 Concrete (Ditch Lining)	CY		x	= \$ -
721430 Concrete (Channel Lining)	CY		x	= \$ -
729010 Rock Slope Protection Fabric	SQYD		x	= \$ -
750001 Miscellaneous Iron and Steel	LB		x	= \$ -
Water Quality Treatment and BMP's	LS	1	x 100,000.00	= \$ 100,000
			x	= \$ -

<b>TOTAL DRAINAGE ITEMS</b>	<b>\$ 756,700</b>
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**SECTION 4: SPECIALTY ITEMS**

Item code	Unit	Quantity	Unit Price (\$)	Cost
070012 Progress Schedule (Critical Path Method)	LS		x	= \$ -
150662 Remove Metal Beam Guard Railing	LF		x	= \$ -
150668 Remove Terminal Systems	EA		x	= \$ -
1532XX Remove Barrier ( <i>Insert Type</i> )	LF		x	= \$ -
153250 Remove Sound Wall	SQFT		x	= \$ -
190110 Lead Compliance Plan	LS		x	= \$ -
49XXXX CIDH Concrete Piling ( <i>Insert Diameter</i> )	LF		x	= \$ -
510060 Structural Concrete (Retaining Wall)	CY		x	= \$ -
510133 Class 2 Concrete (Retaining Wall)	CY		x	= \$ -
510524 Minor Concrete (Sound Wall)	CY		x	= \$ -
5110XX Architectural Treatment ( <i>Insert Type</i> )	SQFT	1,900	x 50.00	= \$ 95,000
Retaining Wall	LF	1,878	x 750.00	= \$ 1,408,500
511048 Apply Anti-Graffiti Coating	SQFT		x	= \$ -
5136XX Reinforced Concrete Crib Wall ( <i>Insert Type</i> )	SQFT		x	= \$ -
518002 Sound Wall (Masonry Block)	SQFT		x	= \$ -
520103 Bar Reinf. Steel (Retaining Wall)	LB		x	= \$ -
80XXXX Fence ( <i>Insert Type</i> )	LF		x	= \$ -
832001 Metal Beam Guard Railing	LF		x	= \$ -
832007 Midwest Guardrail System (Wood Post)	LF	600	x 125.00	= \$ 75,000
839310 Double Thrie Beam Barrier	LF		x	= \$ -
839521 Cable Railing	LF		x	= \$ -
83954X Transition Railing ( <i>Insert Type</i> )	EA		x	= \$ -
8395XX Terminal System (Type CAT)	EA		x	= \$ -
839584 Alternative In-Line Terminal System	EA	8	x 3,500.00	= \$ 28,000
8395XX End Anchor Assembly ( <i>Insert Type</i> )	EA		x	= \$ -
839561 Rail Tensioning Assembly	EA		x	= \$ -
839XXX Crash Cushion ( <i>Insert Type</i> )	EA		x	= \$ -
83XXXX Concrete Barrier ( <i>Insert Type</i> )	LF		x	= \$ -
			x	= \$ -

<b>TOTAL SPECIALTY ITEMS</b>	<b>\$ 1,606,500</b>
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**SECTION 5: ENVIRONMENTAL**

**5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
130670 TEMPORARY REINFORCED SILT FENCE	LF	20,700	x 4.00 = \$	82,800
160110 Temporary High-Visibility Fence	LF	20,700	x 2.00 = \$	41,400
071325 Temporary Fence (Type ESA)			x = \$	-
210350 Fiber Rolls	LF	20,700	x 3.00 = \$	62,100
210430 Hydroseed	SQFT	1,096,400	x 0.15 = \$	164,460
<i>Subtotal Environmental</i>				<b>\$ 350,760</b>

**5B - LANDSCAPE AND IRRIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	x	= \$	-
20XXXX XXX" (Insert Type) Conduit (Use for	LF	x	= \$	-
20XXXX Extend XXX" (Insert Type) Conduit	LF	x	= \$	-
201700 Imported Topsoil	CY	x	= \$	-
2030XX Erosion Control (Type __)	SQYD	x	= \$	-
203021 Fiber Rolls	LF	x	= \$	-
203026 Move In/ Move Out (Erosion Control)	EA	x	= \$	-
204099 Plant Establishment Work	LS	x	= \$	-
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208000 Irrigation System	LS	x	= \$	-
208304 Water Meter	EA	x	= \$	-
209801 Maintenance Vehicle Pullout	EA	x	= \$	-
XXXXXX Some Item				-
<i>Subtotal Landscape and Irrigation</i>				<b>\$ -</b>

**5C - NPDES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
074016 Construction Site Management	LS	1	x 40,000.00 = \$	40,000
6615 Resident Engineers Office (2-Seasons)	LS	1	x 75,000.00 = \$	75,000
074017 Prepare WPCP	LS	x	= \$	-
074019 Prepare SWPPP	LS	1	x 12,000.00 = \$	12,000
074023 Temporary Erosion Control	SQYD	x	= \$	-
074027 Temporary Erosion Control Blanket	SQYD	x	= \$	-
074028 Temporary Fiber Roll	LF	x	= \$	-
074032 Temporary Concrete Washout Facility	EA	4	x 5,000.00 = \$	20,000
074033 Temporary Construction Entrance	EA	4	x 5,000.00 = \$	20,000
074035 Temporary Check Dam	LF	x	= \$	-
074037 Move In/ Move Out (Temporary Erosion Conti	EA	x	= \$	-
074038 Temp. Drainage Inlet Protection	EA	x	= \$	-
074041 Street Sweeping	LS	x	= \$	-
074042 Temporary Concrete Washout (Portable)	LS	x	= \$	-
XXXXXX Some Item				-

**Supplemental Work for NPDES**

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595 Water Pollution Control Maintenance Sharing*	LS	x	= \$	-
066596 Additional Water Pollution Control**	LS	x	= \$	-
066597 Storm Water Sampling and Analysis***	LS	x	= \$	-
XXXXXX Some Item				-

*Subtotal NPDES (Without Supplemental Work)* **\$ 167,000**

\*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

\*\*Applies to both SWPPPs and WPCP projects.

\*\*\* Applies only to project with SWPPPs.

<b>TOTAL ENVIRONMENTAL</b>	<b>\$ 517,800</b>
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**SECTION 6: TRAFFIC ITEMS**

**6A - Traffic Electrical**

Item code	Unit	Quantity	Unit Price (\$)	Cost
150760 Remove Sign Structure	EA	x	= \$	-
151581 Reconstruct Sign Structure	EA	x	= \$	-
152641 Modify Sign Structure	EA	x	= \$	-
5602XX Furnish Sign Structure	LB	x	= \$	-
5602XX Install Sign Structure	LB	x	= \$	-
56XXXX XXX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-
860090 Maintain Existing Traffic Management	LS	x	= \$	-
860810 Inductive Loop Detectors	EA	x	= \$	-
86055X Lighting & Sign Illumination	LS	1 x	350,000.00 = \$	350,000
8607XX Interconnection Facilities	LS	x	= \$	-
8609XX Traffic Monitoring Stations	LS	x	= \$	-
870400 Signal and Lighting System	LS	1 x	500,000.00 = \$	500,000
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
8611XX Ramp Metering System (Location X)	LS	x	= \$	-
86XXXX Fiber Optic Conduit System	LS	x	= \$	-
XXXXX Some Item				
<b>Subtotal Traffic Electrical</b>				<b>\$ 850,000</b>

**6B - Traffic Signing and Striping**

Item code	Unit	Quantity	Unit Price (\$)	Cost
120090 Construction Area Signs	LS	1 x	60,000.00 = \$	60,000
150701 Remove Yellow Painted Traffic Stripe	LF	x	= \$	-
150710 Remove Traffic Stripe	LF	x	= \$	-
150713 Remove Pavement Marking	SQFT	x	= \$	-
150742 Remove Roadside Sign	EA	x	= \$	-
152320 Reset Roadside Sign	EA	x	= \$	-
152390 Relocate Roadside Sign	EA	x	= \$	-
820840 Roadside Sign - One Post	EA	75 x	450.00 = \$	33,750
566012 Roadside Sign (Two Post)	EA	x	= \$	-
560XXX Furnish Sign Panels	SQFT	x	= \$	-
560XXX Install Sign Panels	SQFT	x	= \$	-
82010X Delineator (Class X)	EA	x	= \$	-
Overhead Signs	EA	4 x	115,000.00 = \$	460,000
840501 Thermoplastic Traffic Stripe	LF	44,800 x	2.50 = \$	112,000
840515 Thermoplastic Pavement Marking	SQFT	2,250 x	6.00 = \$	13,500
<b>Subtotal Traffic Signing and Striping</b>				<b>\$ 679,250</b>

**6C - Stage Construction and Traffic Handling**

Item code	Unit	Quantity	Unit Price (\$)	Cost
66063 Traffic Management Plan - Public Information	LS	1 x	10,000.00 = \$	10,000
CHP Enhanced Enforcement	LS	1 x	260,000.00 = \$	260,000
120100 Traffic Control System	LS	1 x	200,000.00 = \$	200,000
120120 Type III Barricade	EA	x	= \$	-
120143 Temporary Pavement Delineation	LF	x	= \$	-
12016X Channelizer	EA	x	= \$	-
128651 Portable Changeable Message Sign (EA)	EA	8 x	13,000.00 = \$	104,000
129000 Temporary Railing (Type K)	LF	7,000 x	50.00 = \$	350,000
129100 Temporary Crash Cushion Module	EA	84 x	300.00 = \$	25,200
129099A Traffic Plastic Drum	EA	x	= \$	-
839603A Temporary Crash Cushion (ADIEM)	EA	x	= \$	-
XXXXXX Some Item				
<b>Subtotal Stage Construction and Traffic Handling</b>				<b>\$ 949,200</b>

<b>TOTAL TRAFFIC ITEMS</b>	<b>\$ 2,478,500</b>
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**SECTION 7: DETOURS**

Include constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
0713XX Temporary Fence (Type X)	LF	x	= \$	-
07XXXX Temporary Drainage	LS	x	= \$	-
120143 Temporary Pavement Delineation	LF	x	= \$	-
1286XX Temporary Signals	EA	x	= \$	-
129000 Temporary Railing (Type K)	LF	x	= \$	-
190101 Roadway Excavation	CY	x	= \$	-
198001 Imported Borrow	CY	x	= \$	-
198050 Embankment	CY	x	= \$	-
250401 Class 4 Aggregate Subbase	CY	x	= \$	-
260201 Class 2 Aggregate Base	CY	x	= \$	-
390132 Hot Mix Asphalt (Type A)	TON	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-
<b>TOTAL DETOURS</b>				<b>\$ -</b>
SUBTOTAL SECTIONS 1-7				\$ 25,587,600

**SECTION 8: MINOR ITEMS**

<b>8A - Americans with Disabilities Act Items</b>				
ADA Items			0.0%	\$ -
<b>8B - Bike Path Items</b>				
Bike Path Items			0.0%	\$ -
<b>8C - Other Minor Items</b>				
Other Minor Items			10.0%	\$ 2,558,760
Total of Section 1-7	\$ 25,587,600	x	10.0%	= \$ 2,558,760
<b>TOTAL MINOR ITEMS</b>				<b>\$ 2,558,800</b>

**SECTIONS 9: MOBILIZATION**

<b>item code</b>				
999990 Total Section 1-8	\$ 28,146,400	x	10%	= \$ 2,814,640
<b>TOTAL MOBILIZATION</b>				<b>\$ 2,814,700</b>

**SECTION 10: SUPPLEMENTAL WORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
066015 Federal Trainee Program	LS	x	= \$	-
066063 Traffic Management Plan - Public Informati	LS	x	= \$	-
066090 Maintain Traffic	LS	x	= \$	-
066094 Value Analysis	LS	x	= \$	-
066204 Remove Rock & Debris	LS	x	= \$	-
066222 Locate Existing Cross-Over	LS	x	= \$	-
066670 Payment Adjustments For Price Index Fluct	LS	x	= \$	-
066700 Partnering	LS	x	= \$	-
066866 Operation of Existing Traffic Management S	LS	x	= \$	-
066920 Dispute Review Board	LS	x	= \$	-
XXXXXX Some Item		x	= \$	-
<i>Cost of NPDES Supplemental Work specified in Section 5C</i>				= \$ -
Total Section 1-8	\$ 28,146,400		10%	= \$ 2,814,640
<b>TOTAL SUPPLEMENTAL WORK</b>				<b>\$ 2,814,700</b>



## II. STRUCTURE ITEMS

	<u>Bridge 1</u>		<u>Bridge 2</u>		<u>Bridge 3</u>	
DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00	
Bridge Name	18th OC		Dam OC		Pedestrian OC	
Bridge Number						
Structure Type						
Width (Feet) [out to out]	52.00	LF	175.00	LF		
Total Bridge Length (Feet)	169.00	LF	52.00	LF		
Total Area (Square Feet)	8788	SQFT	9100	SQFT		
Structure Depth (Feet)		LF	0.00	LF		
Footing Type (pile or spread)						
Cost Per Square Foot	\$225.00		\$225.00		\$3,722,000.00	

<b>COST OF EACH STRUCTURE</b>	<b>\$1,977,300.00</b>		<b>\$2,047,500.00</b>		<b>\$3,722,000.00</b>
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DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00	
Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX	
Bridge Number	57-XXX		57-XXX		57-XXX	
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX	
Width (Feet) [out to out]	0.00	LF	0.00	LF	0.00	LF
Total Length (Feet)	0.00	LF	0.00	LF	0.00	LF
Total Area (Square Feet)	0	SQFT	0.00	SQFT	0.0	SQFT
Structure Depth (Feet)	0.00	LF	0.00	LF	0.00	LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX	
Cost Per Square Foot	\$0.00		\$0.00		\$0.00	

<b>COST OF EACH STRUCTURE</b>	<b>\$0.00</b>		<b>\$0.00</b>		<b>\$0.00</b>
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<b>TOTAL COST OF BRIDGES</b>	<b>\$7,746,800.00</b>
<b>MOBILIZATION (10%)</b>	<b>\$774,680.00</b>
<b>TOTAL COST OF BUILDINGS</b>	<b>\$0.00</b>

<b>TOTAL COST OF STRUCTURES<sup>1</sup></b>	<b>\$8,521,480.00</b>
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Estimate Prepared By: \_\_\_\_\_ Date \_\_\_\_\_  
XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

<sup>1</sup>Structure's Estimate includes Overhead and Mobilization.  
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc

**DO NOT PRINT THIS SHEET AS PART OF COST ESTIMATE ATTACHMENT TO PROJECT INITIATION OR APPROVAL DOCUMENTS.**

### III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

				PARTIAL TAKE	FULL TAKE
A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill,	\$		
	A2)	SB-1210	\$		0
B)		Acquisition of Offsite Mitigation	\$		0
C)	C1)	Utility Relocation (State Share)	\$		0
	C2)	Potholing (Design Phase)	\$		0
D)		Railroad Acquisition	\$		0
E)		Clearance / Demolition	\$		0
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	\$		0
G)		Title and Escrow	\$		0
H)		Environmental Review	\$		0
I)		Condemnation Settlements (Items G & H applied to items A + B)	\$	0%	0
J)		Design Appreciation Factor	\$	0%	0
K)		Utility Relocation (Construction Cost)	\$		0
L)	<b>TOTAL RIGHT OF WAY ESTIMATE</b>				<b>\$0</b>
	(Excluding Item #8 - Hazardous Waste)				
M)	<b>TOTAL R/W ESTIMATE: Escalated</b>				<b>\$0</b>
N)	<b>Right of Way Support</b>				<b>\$ 0</b>

Support Cost  
Estimate Prepared By \_\_\_\_\_ Project Coordinator<sup>1</sup> \_\_\_\_\_ Phone \_\_\_\_\_

Utility Estimate  
Prepared By \_\_\_\_\_ Utility Coordinator<sup>2</sup> \_\_\_\_\_ Phone \_\_\_\_\_

R/W Acquisition  
Estimate Prepared By \_\_\_\_\_ Right of Way Estimator<sup>3</sup> \_\_\_\_\_ Phone \_\_\_\_\_

<sup>1</sup> When estimate has Support Costs only <sup>2</sup> When estimate has Utility Relocation

<sup>3</sup> When R/W Acquisition is required

