

TRAVELERS STATION

Travelers Station Traffic Impact Analysis

Keith Higgins, Traffic Engineering

July, 2020

Keith Higgins

Traffic Engineer

**TRAVELERS STATION
TRAFFIC IMPACT ANALYSIS**

FINAL REPORT

SAN BENITO COUNTY, CALIFORNIA

Prepared for
Coats Consulting
Carmel, CA 93921

Prepared by
Keith Higgins, Traffic Engineer
Gilroy, CA 95020

January 18, 2022



TABLE OF CONTENTS

1 INTRODUCTION 1

 1.1 Scope of Work 1

 1.2 Study Network 1

 1.3 Traffic Operation Evaluation Methodologies 1

 1.4 Level of Service Standards 2

 1.4.1 *San Benito County* 2

 1.4.2 *Caltrans* 2

 1.5 Significance Criteria 3

 1.5.1 *Environmental (CEQA)* 3

 1.5.2 *Local* 3

 1.6 Regional Transportation Impact Mitigation Fee 4

2 EXISTING TRAFFIC CONDITIONS 6

 2.1 Existing Traffic Network 6

 2.2 Existing Pedestrian Network 6

 2.3 Existing Bicycle Network 7

 2.4 Existing Transit Service 7

 2.5 Existing Traffic Conditions 7

 2.5.1 *Vehicle Circulation* 7

 2.5.2 *Pedestrian Circulation* 9

 2.5.3 *Bicycle Circulation* 9

3 EXISTING PLUS PROJECT CONDITIONS 10

 3.1 Project Trip Generation 10

 3.2 Project Pass-by and Diverted Link Assignment 11

 3.3 Project Trip Distribution and Assignment 11

 3.4 Total Project Trip Assignment 11

 3.5 Existing Plus Project Traffic Conditions 11

 3.5.1 *Vehicle Circulation* 11

 3.5.2 *Pedestrian Circulation* 12

 3.5.3 *Bicycle Circulation* 12

 3.5.4 *Transit Circulation* 12

 3.5.5 *Regional Transportation Impact Mitigation Fee* 12

4 CUMULATIVE WITHOUT PROJECT CONDITIONS 13

 4.1 Cumulative Without Project Traffic Volumes 13

 4.2 Cumulative Without Project Traffic Conditions 13

 4.2.1 *Vehicle Circulation* 13

 4.2.2 *Pedestrian Circulation* 13

 4.2.3 *Bicycle Circulation* 13

 4.2.4 *Transit Circulation* 13

Travelers Station Traffic Impact Analysis

5	CUMULATIVE PLUS PROJECT CONDITIONS	14
5.1	Derivation of Cumulative Plus Project Condition Traffic Volumes	14
5.2	Cumulative Plus Project Traffic Conditions	14
5.2.1	<i>Vehicle Circulation</i>	14
7.2.2	<i>Pedestrian Circulation</i>	15
7.2.3	<i>Bicycle Circulation</i>	15
7.2.4	<i>Transit Circulation</i>	15
8	VEHICLE QUEUING	16
9	SITE ACCESS AND INTERNAL CIRCULATION	17
9.1	Site Access	17
9.1.1	<i>Project Access Operations</i>	17
9.1.2	<i>Project Access Sight Distance</i>	17
9.1.3	<i>North Driveway</i>	18
9.1.4	<i>Central Driveway</i>	18
9.1.5	<i>South Driveway</i>	18
9.2	Internal Circulation	18
9.3	Project Frontage Improvements.....	19
10	PROJECT VEHICLE MILES TRAVELED	20
11	SUMMARY OF IMPROVEMENT RESPONSIBILITIES	22
11.1	Summary of Project Responsibilities	22
11.2	Summary of San Benito County Responsibilities	23
11.3	Summary of Caltrans Responsibilities	23
12	REFERENCES	24
12.1	List of References	24
12.2	List of Contacts	24

LIST OF EXHIBITS

1. Project Location Map and Study Area
2. Project Site Plan
3. Existing Conditions – AM and PM Peak Hour Volumes
- 4A. Intersection Levels of Service
- 4B. Recommended Intersection Improvements
5. Project Trip Generation
- 6A. US 101 Diverted Link Trips – AM and PM Peak Hour Volumes
- 6B. State Route 129 Passby Trips – AM and PM Peak Hour Volumes
- 6C. Searle Road Passby Trips – AM and PM Peak Hour Volumes
- 6D. San Juan Highway Passby Trips – AM and PM Peak Hour Volumes
- 6E. Total Project Passby Trip Assignment – AM and PM Peak Hour Volumes
7. Project Trip Distribution
8. Project Primary Trip Assignment – AM and PM Peak Hour Volumes
9. Total Project Traffic Assignment – AM and PM Peak Hour Volumes
10. Existing Plus Project Conditions – AM and PM Peak Hour Volumes
11. Cumulative Without Project Conditions – AM and PM Peak Hour Volumes
12. Cumulative Plus Project Conditions – AM and PM Peak Hour Volumes
13. Vehicle Queues at Searle Road / State Route 129 Intersection
14. Project Driveway Volumes and Operations – Cumulative Plus Project Conditions – AM and PM Peak Hour Volumes
15. Sight Distance Evaluation at Project Driveways

LIST OF APPENDICES

- A. Level of Service Descriptions
- B. Intersection StreetLight and Traffic Volume Counts
- C. Intersection Level of Service Calculations – Existing Conditions
- D. Intersection Level of Service Calculations – Existing Plus Project Conditions
- E. Intersection Level of Service Calculations – Cumulative Without Project Conditions
- F. Intersection Level of Service Calculations – Cumulative Plus Project Conditions
- G. Warrant Worksheets
- H. Vehicle Queuing Calculations
- I. Sight Distance Calculations

1 INTRODUCTION

A gasoline station with convenience market is being proposed on Searle Road, immediately south of State Route 129 and adjacent to US 101, in San Benito County, California. The location of the project site and study area are indicated on **Exhibit 1**. The site plan is shown on **Exhibit 2**.

This report presents the findings of an analysis of vehicular, pedestrian, bicycle, and transit circulation at the project site and the immediately surrounding street network under Existing, Existing Plus Project, Cumulative Without Project and Cumulative Plus Project conditions.

1.1 Scope of Work

This report addresses the following topics:

- Existing vehicular, pedestrian and bicycle circulation at the two project access points and the surrounding street network.
- Assessment of potential impacts to vehicular, pedestrian, bicycle, and transit circulation due to the Project, and recommendations to minimize or alleviate those impacts.
- Assessment of potential Cumulative traffic impacts with and without the project and recommendations to minimize or alleviate those impacts.
- Assessment of site access and on-site circulation.
- Vehicle-miles traveled are estimated for the project.

1.2 Study Network

The AM and PM peak periods are analyzed at the following three intersections:

1. Searle Road / State Route 129
2. Southbound US 101 Ramps / State Route 129
3. Northbound US 101 Ramps / State Route 129 – San Juan Highway

Operations of the three project driveways on Searle Road under Cumulative Plus Project conditions are also included in this analysis.

1.3 Traffic Operation Evaluation Methodologies

Intersection traffic operations were evaluated based upon the level of service (LOS) concept. LOS is a qualitative description of an intersection's operations, ranging from LOS A to LOS F. Level of Service "A" represents free flow uncongested traffic conditions. Level of Service "F" represents highly congested traffic conditions with unacceptable delay to vehicles at intersections. The intermediate levels of service represent

Travelers Station Traffic Impact Analysis

incremental levels of congestion and delay between these two extremes. The analysis was performed using the *2010 Highway Capacity Manual* methodologies. LOS descriptions for each type of existing traffic control at the study intersections (i.e., signal, and one-way stop) are included as **Appendix A**.

Intersection traffic operations were evaluated using the Synchro© traffic analysis software (Version 10). The average delay is then correlated to a level of service. For two-way stop-controlled intersections, only the vehicle delay for side street traffic is analyzed. LOS for each side street movement is based on the distribution of gaps in the major street traffic stream and driver judgment in selecting gaps. For signalized intersections, the overall intersection delay is used to determine LOS.

1.4 Level of Service Standards

The study public road intersections are all under the jurisdiction of Caltrans. Project driveway intersections are under the jurisdiction of the County of San Benito.

1.4.1 San Benito County

The overall standard for congestion levels in San Benito County is LOS D. LOS D is also considered the maximum acceptable level of service for side-street operations at one- and two-way stop-controlled intersections.

1.4.2 Caltrans

The Caltrans level of service standard is the transition from LOS C to LOS D (abbreviated as C-D in this report). This is essentially LOS C.

However, San Benito County General Plan Policy C-1.12 states that a standard of LOS D shall be used for all state highway facilities within the county, consistent with its countywide level of service standard. As quoted from the *2035 San Benito County General Plan Update Revised Draft Environmental Impact Report*, EMC Planning Group, March 16, 2015:

As the LOS policy for such highways primarily affects local residents and local development, 2035 General Plan Policy C-1.12 proposes a LOS standard of D for state highway facilities within the County to accommodate expected development growth within the County while still providing reasonable operating conditions for auto traffic.

In addition to the fact that the Board of Supervisors has indicated that it wants to use LOS D as its new roadway improvement for General Plan consistency purposes, the County believes that LOS D is an appropriate threshold of significance for CEQA purposes, particularly if development becomes denser in the Hollister area and in the northern parts of the County nearer the Bay Area. Use of LOS D as a CEQA threshold of significance is consistent with the

Travelers Station Traffic Impact Analysis

practice of many other public agencies in California and it is the recommended threshold of significance by the County's traffic experts. Use of LOS C as a threshold of significance for CEQA purposes is also likely to result in mitigation measures that result in overbuilding roadway improvements based on the County's policy priorities. Roadway improvements necessary to meet an [sic] LOS C in the buildout condition are not considered fundable, necessary or desirable.

For this reason, this report will apply a LOS D standard to all study Caltrans intersections.

1.5 Significance Criteria

Two different significance criteria have been used to assess the impacts and adverse effects of this project – one for environmental impacts and one for local adverse effects. The environmental impacts refer to impacts assessed per the California Environmental Quality Act (CEQA) guidelines. The local adverse effects are assessed relative to capacity and the San Benito County level of service standard and are used only for determining compliance with agency policies and guidelines. The following significance criteria have been used in this study:

1.5.1 Environmental (CEQA)

Senate Bill (SB) 743 requires that, starting July 2020, transportation impacts for projects per the California Environmental Quality Act (CEQA) be based on a project's Vehicle Miles Traveled (VMT), rather than level of service. The publication *Technical Advisory on Evaluating Transportation Impacts in CEQA*, State of California Governor's Office of Planning and Research, December 2018, suggests that a significant environmental (CEQA) VMT threshold for commercial/retail be a projects be a maintaining of the current retail VMT for the region, although agencies are allowed to adopt their own customized thresholds. As of this writing, San Benito County has not established either a VMT standard or significance threshold for VMT analysis. This report, therefore, includes a qualitative VMT analysis and significance evaluation per CEQA for the study project.

1.5.2 Local

SB 743 also allows local jurisdictions to, , assess local adverse impacts associated with their own adopted level of service standards. This is separate from the CEQA significance analysis. The level of service criteria of San Benito County applies to intersections under Caltrans jurisdiction if the intersection is located in unincorporated San Benito County.

For the purposes of this analysis, a local adverse effect would occur at any study intersection in the following circumstances:

All-Way Stop-Controlled Intersections (Intersections 2):

At an all-way stop-controlled intersections:

Travelers Station Traffic Impact Analysis

- A significant local adverse effect would occur if an intersection operating at LOS A, B, C or D degrades to LOS E or F due to the addition of project trips; or
- For intersections already operating at LOS E or F, a local adverse effect would occur if the addition of project trips causes the intersection delay to increase by more than 4.0 seconds.

One- or Two-Way Stop-Controlled Intersections (Intersections 1, 3-4):

At a one-way or two-way stop-controlled intersection:

- A local adverse effect would occur if side-street operations at an intersection operating at LOS A, B, C or D degrades to LOS E or F due to the addition of project trips and the traffic volumes with the addition of project trips are sufficiently high enough to satisfy the peak hour traffic signal warrant adopted by Caltrans in its Manual of Uniform Traffic Control Devices (CA MUTCD).
- For intersections with side-street operations already at E or F, a local adverse effect would occur if the project adds at least one trip to the intersection and the traffic volumes with the addition of project trips are sufficiently high enough to satisfy the peak hour traffic signal warrant adopted by Caltrans in its Manual of Uniform Traffic Control Devices (CA MUTCD).

1.6 Regional Transportation Impact Mitigation Fee

The Council of San Benito County Governments (COG) administers the San Benito County Regional Transportation Impact Mitigation Fee (TIMF). This fee funds construction of traffic improvements on the regional highway system throughout northern San Benito County, including the following improvements in the greater study area:

Segments:

1. Widen SR 156 to four lanes between The Alameda in San Juan Bautista and Union Road west of Hollister. The closest part of this improvement is about 4 miles from the Project.

The TIMF is assessed based upon the square footage of the proposed building to be occupied by the Project. The Project's TIMF assessment will be determined by San Benito County, based upon the project definition and the fee rates established in the *Regional Transportation Impact Mitigation Fee Nexus Study*, Michael Baker International, January 2016.

Intersections:

All TIMF intersections are within, or in the immediate vicinity of, the City of Hollister. No intersections are within 10 miles of the Project.

Travelers Station Traffic Impact Analysis

Bicycle and Pedestrian Improvement:

1. San Benito River Trail (Project U-1 and H-1) from San Juan Bautista State Historical Park to Airline Highway south of Hollister. The closest part of this improvement is about 3.5 miles from the Project.

2 EXISTING TRAFFIC CONDITIONS

This chapter evaluates Existing traffic conditions and includes a description of the project setting.

2.1 Existing Traffic Network

The project site is located on Searle Road south of State Route 129 (SR 129). Regional access to the project site is provided by US 101, SR 129, and San Juan Highway. Other roadways in the study area include driveways to Anzar High School and a private construction company. The following is a brief description of each roadway in the study area.

US 101 is a four- to five-lane state highway in San Benito County, connecting San Benito County with Gilroy and the San Francisco Bay Area to the north and Monterey County to the south. It also provides statewide circulation, extending north into Oregon and south to Los Angeles. US 101 is also a major commute corridor from San Benito and Monterey Counties into the Bay Area. In the study area, US 101 is a freeway with a full interchange at State Route 129. The speed limit on US 101 is 65 miles per hour (mph).

State Route 129 (SR 129) is a two-lane state highway in San Benito County, extending from US 101 north of San Juan Bautista to State Route 1 (SR 1) in Watsonville. It serves as both a commute corridor between the two counties, as well as a major commercial trucking corridor between Santa Cruz, Monterey, San Benito, and Santa Clara Counties. A connection to State Route 156 via US 101 also provides continued access to and from the Central Valley. The presumed speed limit of SR 129 in the study area is 55 mph.

San Juan Highway is a two-lane, generally north-south roadway in San Benito County, connecting US 101/SR 129 and San Juan Bautista. It provides access to and from San Juan Bautista, as well as adjacent properties, such as Anzar High School and various agricultural fields and produce processing facilities. Through its connection to San Justo Road, it also provides an alternative access to the City of Hollister, bypassing both State Route 25 and State Route 156. The presumed speed limit on San Juan Highway is 55 mph. There is also a 25-mph school zone in the vicinity of Anzar High School.

Searle Road is a two-lane, north-south roadway in San Benito County. Searle Road is effectively a frontage road to US 101 between SR 129, providing direct access to properties adjacent to the freeway. The presumed speed limit on Searle Road is 55 mph.

2.2 Existing Pedestrian Network

There are no sidewalks within the study area, including near Anzar High School.

There are no marked crosswalks at any of the study intersections.

2.3 Existing Bicycle Network

There are four types of bicycle facilities defined by Caltrans. Each type is described below:

1. Bike path (Class I) – A separate right-of-way designed for the exclusive use of bicycle and pedestrian traffic with minimal cross-traffic.
2. Bike lane (Class II) – A striped lane for one-way bike travel on a street or highway, typically including signs placed along the street segment.
3. Bike route (Class III) – Provides a shared use with pedestrian or motor vehicle traffic. Typically, these facilities are city streets with signage designating the segment for Bike Route without additional striping or facilities.
4. Separated bikeways (Class IV) – A bikeway for the exclusive use of bicycles and includes a separation between the bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible posts, inflexible barriers, or on-street parking.

There are no bicycle facilities in the study area, although Class II bike lanes are present on San Juan Highway south of Anzar High School.

Although the shoulders of SR 129 and San Juan Highway in the study area are of sufficient width to accommodate bicycle traffic, these shoulders narrow as one proceeds westward towards Watsonville, limiting bicycle travel. Shoulders on Searle Road are either too narrow or non-existent to accommodate bicycle travel.

2.4 Existing Transit Service

San Benito County Local Transportation Authority (LTA) provides fixed-route bus service in San Benito County. Operating as County Express, it provides three lines in Hollister, plus intra-county service to Gilroy via San Juan Bautista, Dial-a-Ride and Paratransit services.

There is no bus service to the immediate project vicinity. The nearest bus stop is located at Anzar High School, an approximately 15-minute walk from the project site. This stop, which is located on Intercounty line between Hollister and Gilroy via San Juan Bautista, is only serviced roughly every two hours during the school year.

2.5 Existing Traffic Conditions

2.5.1 Vehicle Circulation

In March 2020, the San Benito County Health and Human Services Agency instituted a shelter-in-place order for all of San Benito County, restricting operations and travel to/from offices, commercial businesses, and recreational activities. This order was in response to the COVID-19 pandemic occurring within the County during the Year 2020. As a result,

Travelers Station Traffic Impact Analysis

traffic activity throughout the county was significantly reduced from typical conditions, precluding the usual collection of peak period traffic volumes at the four study intersections.

Existing peak hour traffic volumes at the four study intersections were therefore approximated using a combination of resources, as listed below.

1. First, historical traffic volumes from October 2019 were obtained from StreetLight Data at the Searle Road / SR 129, US 101 Southbound Ramps / SR 129, and US 101 Northbound Ramps / SR 129 – San Juan Highway intersections. This data can be found in **Appendix B**. The StreetLight Data volumes are approximations of hourly turning movement volumes derived from contextualized, aggregated and normalized cell phone, connected vehicle, commercial vehicle and navigation data that are further validated by StreetLight Data with historical traffic counts and in-roadway sensors. The StreetLight Data was further analyzed by Keith Higgins Traffic Engineer to derive existing AM and PM peak hour volumes at the three study intersections.
2. Second, historical traffic volume counts in the study area were reviewed. Although few intersection traffic counts have been performed at this intersection in the past 20 years, volumes from the past traffic study for the once-proposed Kawahara Nursery (Year 2000 volumes) were reviewed for historical context.
3. Finally, AM and PM “spot” traffic intersection traffic counts were performed at the study intersections. Fifteen-minute counts were performed during the AM peak hour in July 2020 at all three study intersections and at 75-minute count was performed during the PM peak hour at the US 101 Southbound Ramps / SR 129 intersection. **Appendix B** also contains these “spot” traffic counts. These counts were compared to the StreetLight Data to derive the AM and PM peak hour volumes, the peak hour factors and the percentages of heavy vehicles at the three study intersections. An additional 10% increase to the AM peak hour volumes was also applied to account for traffic to and from Anzar High School, which was not in session during the AM “spot” traffic counts.

The resulting Existing Condition AM and PM peak hour volumes used in this analysis are depicted in **Exhibit 3**.

Existing levels of service at the study intersections are summarized on **Exhibit 4A**. Recommended intersection improvements are summarized on **Exhibit 4B**. The LOS calculation sheets for Existing conditions can be found in **Appendix C**.

All of the study intersections currently operate at or better than their respective level of service standards.

Travelers Station Traffic Impact Analysis

Observations in July 2020 found that eastbound SR 129 vehicle queues at the US 101 Southbound Ramps / SR 129 intersection occasionally extended well past the Searle Road intersection, briefly blocking traffic from turning onto and off Searle Road. This was most common on the eastbound SR 129 approach where queues were created by semitrailer trucks, whose slower travel speeds created platoons of as many as 25 vehicles. Caltrans should consider adding "KEEP CLEAR" pavement markings on eastbound SR 129 in its intersection with Searle Road.

2.5.2 Pedestrian Circulation

No pedestrian activity was observed at the study intersections during the July 2020 spot traffic counts. Due to the rural nature of the study area and limited development, little if any pedestrian activity is likely present.

2.5.3 Bicycle Circulation

No bicycle activity was observed at the study intersections during the July 2020 spot traffic counts. Due to the rural nature of the study area and limited development, little if any pedestrian activity is likely present.

3 EXISTING PLUS PROJECT CONDITIONS

3.1 Project Trip Generation

The project is a gasoline and diesel station with 16 fueling positions for automobiles and 4 fueling positions for large trucks, as well as a 4,000 square foot convenience market with drive-through window. Three project driveways are proposed, all on Searle Road south of SR 129.

Trip generation for the project was estimated using trip rates published in *Trip Generation Manual*, Institute of Transportation Engineers (ITE), 10th Edition, 2017. This is the most recent version of the primary trip generation data source used by the traffic engineering and transportation planning industry.

To be conservative, the trip generation for the automobile fueling positions and convenience market are estimated using the number of fueling positions, rather than size of the convenience market, as the former generates a larger number of vehicle trips. However, no published trip generation is available for the truck fueling facility. The following is a discussion of the assumptions made to estimate trips from this element of the Project.

A trip generation estimate was made for the truck fueling facility assuming about one-sixth as many trucks per hour can be fueled as passenger cars. This is based on a fuel tank capacity of 125 to 300 gallons for semi-trailer trucks compared with about 15 to 20 gallons for most passenger cars. Fuel dispensers have a maximum flow rate of about 10 gallons per minute for autos and 34 gallons per minute for large trucks. An auto will take about 2 to 3 minutes to fuel, plus 2 minutes to park and install and remove the fuel dispenser and pay for the transaction for a total of about 4 minutes. The service rate per fueling position is about 14 vehicles per hour, which matches the PM peak hour rate quoted in the Trip Generation Manual. The fueling rate for large trucks is a maximum of 34 gallons per minute. The typical truck will take about 5 to 8 minutes to fuel plus time to park, install the fuel dispenser into several tanks and vacate the fueling position. The total transaction time is about 15 minutes. Assuming a constant demand, a truck fueling facility has a capacity to serve about one-fourth as many trucks as a gas station to serve cars per fueling position. Large trucks also have a range of over 1,000 miles on a full tank and have much fewer vehicles on the road. It is estimated that the truck fueling component of the Project will generate about one-sixth as much daily truck traffic per fueling position as trips generated by a gas station with mini-market. A more conservative assumption of one-fourth the gas station rate is used for peak hours. This results in an estimate of about 28.67 vehicles per fueling station with 2.575 during the AM peak hour, 3.50 during the PM peak hour.

An internal reduction of 20% is applied to account for trucks that are both fueled at the truck fueling area and parked while the occupant(s) visit the convenience market.

The trip generation estimate also includes pass-by and diverted link trips. According to ITE, 56% of all project trips to and from gasoline facilities are either pass-by or diverted link trips. These trips are defined as existing traffic currently passing by the project site that divert into the project while in route to their final destination. By definition, these trips are existing trips already in the area, rather than completely new trips attracted to the project site. Pass-by and diverted link trips are anticipated from all of the roadways surrounding the project site, including US 101, SR 129, San Juan Highway and Searle Road.

Exhibit 5 summarizes the net project primary trip generation. The project would generate a net estimated 1,683 daily trips, with 203 trips (102 in, 101 out) during the AM peak hour and 169 trips (85 in, 84 out) during the PM peak hour.

3.2 Project Pass-by and Diverted Link Assignment

Exhibits 6A-D depict the project pass-by and diverted link traffic from US 101, SR 129, Searle Road and San Juan Highway, respectively. The pass-by and diverted link trips from **Exhibits 6A-D** were added together to create the total pass-by trips depicted on **Exhibit 6E**.

3.3 Project Trip Distribution and Assignment

Exhibit 7 depicts the trip distribution for the primary project trips. This distribution was derived based upon existing traffic distributions at the study intersections as well as the locations of population subareas within commute distance of the project. The project trip distribution was combined with the primary trip component of the project trip generation to estimate the primary project trip assignment depicted on **Exhibit 8**.

3.4 Total Project Trip Assignment

The total project trip assignment is depicted on **Exhibit 9**. These volumes are the sum of the total pass-by trips (**Exhibit 6E**) and the primary project trips (**Exhibit 8**).

3.5 Existing Plus Project Traffic Conditions

3.3.1 Vehicle Circulation

The total project trip assignment (**Exhibit 9**) was added to the existing traffic volumes in **Exhibit 3** to estimate Existing Plus Project volumes, which are depicted on **Exhibit 10**.

Existing Plus Project intersection levels of service are summarized on **Exhibit 4A**. Recommended intersection improvements are summarized on **Exhibit 4B**. The LOS calculation sheets for Existing Plus Project conditions can be found in **Appendix D**.

All of the study intersections would continue to operate at or better than their respective level of service standards under Existing Plus Project conditions. No improvements will be required.

3.5.2 Pedestrian Circulation

Minimal residential or commercial uses are within walking distance of the project site. In addition, no pedestrian facilities are provided on any of the rural roads in the greater project vicinity. This will result in minimal generation of pedestrian traffic from the project. Therefore, the project would not represent a significant local adverse effect to pedestrian circulation.

3.5.3 Bicycle Circulation

The project is anticipated to generate minimal bicycle traffic. Therefore, the project would not represent a significant local adverse effect to bicycle circulation.

3.5.4 Transit Circulation

The project would not increase transit usage, as there is no bus service within walking distance of the project site. Therefore, the project would not represent a significant demand for, or local adverse effect to, transit service.

3.5.5 Regional Transportation Impact Mitigation Fee

The project would be responsible for payment of the San Benito County Regional Transportation Impact Mitigation Fee (TIMF), which would represent the project's fair share contribution towards countywide roadway improvements funded by the fee program. San Benito County will determine the project's TIMF fee.

The Project will be a convenience retail facility serving passing traffic on US 101 and SR 129 as well as the nearby residential and industrial areas as well as Anzar High School. It will provide a service to the local area. The Project will provide the only retail, food, and gas facility within 3 miles. It will thus eliminate the need for the local land uses to travel the greater distances they must currently travel for these goods and services. Nevertheless, the Project will be required to pay the TIMF although it will represent little or no impact on TIMF improvement locations and possibly reduce vehicle miles travelled in the region.

4 CUMULATIVE WITHOUT PROJECT CONDITIONS

This chapter describes Cumulative Conditions which represent traffic operations at buildout of the San Benito County general plan, or the Year 2035.

4.1 Cumulative Without Project Traffic Volumes

Exhibit 11 depicts the Cumulative Without Project condition traffic volumes at the study intersections. These traffic volumes were derived by applying a 10% growth factor over Existing condition volumes. This is based on a review of the San Benito County general plan forecasts for SR 129 west of US 101 which forecasts a net volume growth of 6.4% between Year 2009 and Year 2035. To be conservative, this growth rate was increased to 10% for use in this analysis.

4.2 Cumulative Without Project Traffic Conditions

4.2.1 Vehicle Circulation

Exhibit 4A summarizes the levels of service of the study intersections under Cumulative Without Project conditions. Recommended intersection improvements are summarized on **Exhibit 4B**. **Appendix E** contains the level of service calculations under Cumulative Without Project conditions.

All of the study intersections under Cumulative Without Project conditions would continue to operate at or better than their respective level of service standards.

4.2.2 Pedestrian Circulation

Due to the rural location of the project and minimal amount of anticipated pedestrian traffic, sidewalks will not be required in the project vicinity.

4.2.3 Bicycle Circulation

According to the *San Benito County Bicycle and Pedestrian Master Plan*, Alta Planning + Design, December 2009, no new bicycle infrastructure improvements are proposed in the study area.

4.2.4 Transit Circulation

There are no planned expansions to bus service in the study area.

5 CUMULATIVE PLUS PROJECT CONDITIONS

This section describes anticipated traffic conditions with the addition of Project traffic to Cumulative Without Project traffic volumes.

5.1 Derivation of Cumulative Plus Project Condition Traffic Volumes

The total project traffic assignment depicted on **Exhibit 9** was combined with the Cumulative Without Project volumes (**Exhibit 11**) to forecast Cumulative Plus Project volumes, which are depicted on **Exhibit 12**.

5.2 Cumulative Plus Project Traffic Conditions

5.2.1 Vehicle Circulation

Cumulative Plus Project AM, PM and Friday PM intersection levels of service are summarized on **Exhibit 4A**. Recommended intersection improvements are summarized on **Exhibit 4B**. The LOS calculation sheets for Cumulative Plus Project traffic conditions can be found in **Appendix F**.

Most of the study intersections under Cumulative Plus Project conditions would continue to operate at or better than their respective level of service standards. However, the following intersection would operate at deficient levels of service under Cumulative Plus Project conditions:

1. Intersection 2: US 101 Southbound Ramps / State Route 129 – Overall LOS E (AM, PM)

Below is a discussion of the recommended improvements at the study intersections operating with deficient operations under Cumulative Plus Project conditions. These improvements would be necessary to improve operations to acceptable or better level of service.

1. Intersection 2 – US 101 Southbound Ramps / State Route 129:

The overall level of service would be a deficient LOS E (AM and PM), compared to LOS C (AM and PM) without the Project. The Project would add 132 AM and 110 PM primary trips to the intersection, as well as a net 222 AM and 184 PM pass-by and diverted link trips. This intersection would also meet the Caltrans peak hour signal warrant, based on the warrant analysis in **Appendix G**. Per the significance criteria in Section 1.6, the Project would result in a local adverse effect at this intersection.

- Recommendation: Signalize the US 101 Southbound Ramps / State Route 129 intersection. Caltrans also requires consideration of a roundabout as an alternative traffic control improvement.
- Operations after Implementation of Improvement:

Travelers Station Traffic Impact Analysis

- Signal: Overall LOS C (AM), LOS B (PM).
- Roundabout: Overall LOS A (AM, PM).
- Responsibility for Improvement: Payment of fair-share contribution towards cost of implementing improvement. As discussed under “Section 3.5.5 - Regional Transportation Impact Mitigation Fee,” the project will not impact any locations that will be funded by the TIMF. In fact, the project will reduce regional trips by providing goods and services in an area of the County where they are not currently provided. Also, the Southbound US 101 Ramps / State Route 129 intersection is the intersection of two state highways and serves regional traffic between US 101 and western San Benito County as well as southern Santa Cruz County. This intersection should be included in the TIMF program. The project’s fair share contribution to the improvements at the Southbound US 101 Ramps / State Route 129 intersection should be credited toward the project’s TIMF.
- Determination of Improvement Alternative: Prior to implementation, an Intersection Control Evaluation (ICE) should be completed, per Caltrans requirements. The results of this evaluation will determine which of the improvement alternatives – signal or roundabout – is ultimately implemented at this intersection.
- Due to the close proximity of Intersection 1 – Seale Road / State Route 129 – to the US 101 southbound ramps, it is recommended that the “KEEP CLEAR” pavement markings for eastbound SR 129 at Searle Road be implemented. This will prevent any additional eastbound vehicle queues associated with the traffic control change at the US 101 Southbound Ramps / State Route 129 intersection from blocking traffic at Searle Road from entering the intersection. This improvement should be incorporated into the ICE analysis. It will also require design approval by Caltrans.

7.2.2 Pedestrian Circulation

The Project will add minimal pedestrian activity above levels expected under Cumulative Without Project conditions. Therefore, the Project would not represent a significant contribution to Cumulative Plus Project local adverse effects to pedestrian circulation.

7.2.3 Bicycle Circulation

The Project will add minimal bicycle activity above levels expected under Cumulative Without Project conditions. Therefore, the Project would not represent a significant contribution to Cumulative Plus Project local adverse effects to bicycle circulation.

7.2.4 Transit Circulation

The Project will add minimal transit demand above levels expected under Cumulative Plus Project conditions. The Project would therefore not represent a significant contribution to Cumulative Plus Project transit demand.

8 VEHICLE QUEUING

Exhibit 13 summarizes the vehicle queuing analysis at the Searle Road / SR 129 intersection, specifically in the northbound Searle Road left and right turn lanes and the westbound SR 129 left turn lane. These queue lengths were estimated using the Highway Capacity Manual methodology. **Appendix H** contains the queuing calculations summarized in **Exhibit 13**.

The available turn lane lengths will be able to accommodate all of the vehicle queues. The only exception is the northbound Searle right turn queue would exceed the current storage capacity under Cumulative Plus Project conditions. It is therefore recommended that the northbound Searle right turn lane at SR 129 be extended to at least 75 feet in storage length. This improvement will require Caltrans and San Benito County encroachment permits. The design should be incorporated into project frontage improvements described in "Section 9 – Site Access and Internal Circulation."

9 SITE ACCESS AND INTERNAL CIRCULATION

This section summarizes the site access and internal circulation analysis, including operations of the Project driveway operations.

9.1 Site Access

9.1.1 Project Access Operations

The project site plan included on **Exhibit 2** proposes three separate driveways on Searle Road, referred to in this document as North, Central and South.. The Central and Southern Driveways are proposed to be full access driveways, while the North Driveway will only allow right turns exiting the project site. The Central and South Driveways have flares to accommodate large truck turning movements.

Exhibit 14 depicts the AM and PM peak hour volumes under Cumulative Plus Project conditions at all three project driveways, as well as the delays and level of service for the side-street stop operations. All three driveways will operate at LOS A under Cumulative Plus Project conditions, which is better than the San Benito County LOS D standard.

Appendix G contains southbound left turn warrant evaluations at the project driveways along Searle Road. A left turn lane will not be warranted at the South Driveway due to the low left turn volumes at this location. A left turn lane will not be required at the North Driveway, because southbound left turns into this driveway will be prohibited. However, a left turn lane will be warranted at the Central Driveway. It appears feasible to construct a 100-foot long southbound left turn lane on Searle Road at both the North Driveway immediately south of a 75-foot long northbound left turn lane at the SR 129 intersection. This will require widening of Searle Road along the project frontage. In addition to a County encroachment permit, a Caltrans encroachment permit will be required to implement this improvement, because the improvement will extend into the State Route 129 right-of-way.

9.1.2 Project Access Sight Distance

The vehicle sight distance adequacy was evaluated at all three project driveways on Searle Road. All three driveways will be located on the inside of a horizontal curve. There is no signed speed limit on Searle Road, nor any advisory speed signs for the roadway curvature along the project frontage. Based on Google Earth, the radius of the curve is approximately 400 feet, which is equivalent to a 35-mph vehicle speed per the Caltrans Highway Design Manual. This is immediately north of a 500-foot radius curve that creates an S-curve along Searle Road. A design speed of 40 mph was thus used for this evaluation.

Sight distance standards for intersections and driveways in California are referenced from the Caltrans Highway Design Manual. The project driveways must only comply with the stopping sight distance standards. For a design speed of 40 mph, Caltrans sight distance

standards require a minimum stopping sight distance of 300 feet. This standard applies to all three project driveways.

Exhibit 15 summarizes the available sight distance to the north (northbound) and south (southbound) at the three project driveways. **Appendix I** contains the sight distance calculations. Details regarding the available sight distance at each driveway, how that compares to the Caltrans standard, and any necessary improvements are described below.

9.1.3 North Driveway

At the North Driveway, the available sight distance towards the south is 300 feet, which is equal to the 300-foot standard. This sight distance is adequate.

The North Driveway will only allow vehicles to turn right onto Searle Road, hence only northbound Seale traffic (approaching from the south of the driveway) would conflict with traffic exiting the North Driveway. Therefore, evaluation of available sight distance to the north (i.e. southbound Searle Road traffic) is not necessary at this driveway.

9.1.4 Central Driveway

At the Central Driveway, the available sight distance is 300 feet to the north and 320 feet to the south. The available sight distance in both directions meets or exceeds the sight distance standard of 300 feet. No improvements are required.

9.1.5 South Driveway

At the South Driveway, the available sight distance is 390 feet to the north and 560 feet to the south. The available sight distance in both directions meets or exceeds the sight distance standard of 300 feet. No improvements are required.

9.2 Internal Circulation

The internal street circulation will be more than adequate for the projected traffic demand. The three project driveways on Searle Road provide good access to the standard automobile gas pumps, the truck diesel pumps and the convenience market. A total of 34 automobile and 2 truck parking spaces are provided, allowing passenger vehicles and trucks to park onsite when shopping at the convenience market.

The fast food/convenience store has a drive-through lane that circulates counter-clockwise around the building. It has a queuing capacity of 11 vehicles between the service window and the entrance to the drive-through lane. Overflow of several more vehicles can occur without affecting on-site circulation in the parking lot. This should be adequate for most fast food restaurant brands.

It is recommended that all trucks using the truck diesel pumps circulate through the project site by entering the project site at the South Driveway and exit via one of the other two driveways. "Truck Entrance Only" signs should be added at the South Driveway to encourage this.

Travelers Station Traffic Impact Analysis

Two truck parking spaces are proposed immediately to the south of South Project Driveway.

9.3 Project Frontage Improvements

Landscaping adjacent to Searle Road should be limited to ground cover to minimize the effects on vehicle sight distance at the driveways. No trees or shrubbery should be added, as these plants require regular maintenance to ensure that their branches and leaves do not block the available sight distance.

On-street parking should be prohibited on both sides of Searle Road along the project frontage through the installation of regulatory signs. Searle Road does not currently have shoulders, thus any parked vehicle or truck could extend into the vehicle travel lanes, blocking through traffic. Such parked vehicles could also block sight distance at the project driveways. The project would be responsible for implementation of this improvement.

The curvature of Searle Road adjacent to the project site appears to require vehicles to slow to 35 mph. However, there are no speed limit or curve warning signs on Searle Road warning advising drivers of these travel speeds. It is therefore recommended that San Benito County add both speed limit and curve warning signs (with supplementary speed plaque) in both directions on Searle Road near the project site.

10 PROJECT VEHICLE MILES TRAVELED

This section summarizes the calculation of the total vehicle miles traveled by Project traffic.

As described in Section 1.5.1 of this report, SB 743 changed the CEQA Guidelines statewide beginning on July 1, 2020. The changes to CEQA guidelines have replaced congestion-based metrics, such as auto delay and level of service, with Vehicle Miles Traveled (VMT) as the basis for determining significant impacts under the California Environmental Quality Act (CEQA), unless the guidelines provide specific exceptions.

San Benito County has not established a VMT standard nor significance criteria for VMT evaluations in the county. As a result, this analysis uses state guidance with regards to analysis and significance criteria.

Per the publication *Technical Advisory on Evaluating Transportation Impacts in CEQA*, State of California Governor's Office of Planning and Research, December 2018, VMT evaluations for commercial projects should determine whether or not the project would increase the current commercial VMT for the region as a whole. For the purposes of this evaluation, "region" is defined as San Benito County.

Travelers Station will result in gasoline and convenience market good and services being more readily available to drivers on US 101 in San Benito County. Currently, the nearest gasoline stations to the US 101 corridor in San Benito County are located in San Juan Bautista (on Monterey Street just north of State Route 156 and an approved but not yet constructed facility at the southeast corner of The Alameda and State Route 156 intersection), at the US 101 / San Juan Road interchange in northern Prunedale, and at the US 101 / Monterey Street interchange in southern Gilroy. The Prunedale and Gilroy facilities are both outside of San Benito County (in Monterey and Santa Clara Counties, respectively) and the San Juan Bautista facilities are located more than two miles east of US 101. By adding a gas station and convenience market directly adjacent to US 101, vehicles will not be required to travel as far from US 101 in search of such a facility, thereby lowering diversions off of US 101 (and thus VMT) for these trips.

The majority of the project trips – 56% – would be either pass-by or diverted link trips, i.e., existing traffic normally passing by the project site on the surrounding roadways that diverts into the project while on their way to a different destination. Depending on the roadway from which they are diverting, these pass-by and diverted link trips would only add less than 0.5 miles for these drivers' total trips. Overall, this will have a minimal, if not insignificant, effect on overall county VMT for commercial projects.

The more direct trips – the remaining 44% of the project trips – would primarily be from the local area, such as San Juan Bautista, Aromas and elsewhere in northwestern San Benito County. These trips would also be relatively short, 4 to 6 miles on average, compared to the 6 to 15 miles required to travel to other gasoline and convenience facilities in the area. This would actually reduce vehicle miles travelled.

Page 12 of the OPR guidelines provide screening thresholds in the project description that indicate whether a project may have a significant impact. "Screening thresholds" to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. If it is determined that the Project characteristics

Pages 16-17 states, "Because new retail development typically redistributes shopping trips rather than creating new trips,³⁰ estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts.

By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less-than-significant.

Many cities and counties define local-serving and regional-serving retail in their zoning codes. Lead agencies may refer to those local definitions when available, but should also consider any project-specific information, such as market studies or economic impacts analyses that might bear on customers' travel behavior. Because lead agencies will best understand their own communities and the likely travel behaviors of future project users, they are likely in the best position to decide when a project will likely be local serving. Generally, however, retail development including stores larger than 50,000 square feet might be considered regional-serving, and so lead agencies should undertake an analysis to determine whether the project might increase or decrease VMT."

Travelers Station is only 4,000 square feet, so it is well below the 50,000-square foot threshold that a retail facility might be considered regional-serving. The project is therefore below the OPR threshold where it might represent a significant impact.

Therefore, the project would not represent a significant transportation impact under CEQA.

11 SUMMARY OF IMPROVEMENT RESPONSIBILITIES

11.1 Summary of Project Responsibilities

1. Pay the San Benito County Regional Transportation Impact Mitigation Fee (TIMF). San Benito County will determine the Project's TIMF fee. As discussed under "Section 3.5.5 - Regional Transportation Impact Mitigation Fee," the project will not impact any locations that will be funded by the TIMF. The project will actually reduce regional trips by providing goods and services in an area of the County where they are not currently provided. Also, the Southbound US 101 Ramps / State Route 129 intersection is the intersection of two state highways and serves regional traffic between US 101 and western San Benito County as well as southern Santa Cruz County. This intersection should be included in the TIMF program. The project's fair share contribution to the improvements at the Southbound US 101 Ramps / State Route 129 intersection should be credited toward the project's TIMF.
2. If not implemented prior by Caltrans (see Responsibility #18 in Section 11.3), add "KEEP CLEAR" pavement markings on eastbound State Route 129 at Searle Road under Cumulative Plus Project conditions. This improvement will require design approval by Caltrans if implemented by the project applicant.
3. Pay a fair share of the cost to install a future traffic signal or roundabout at the US 101 Southbound Ramps / State Route 129 intersection. An Intersection Control Evaluation (ICE) analysis will be required prior to any change in traffic control, per Caltrans policy.
4. Extend the northbound Searle right turn lane at State Route 129 to at least 75 feet in storage length. This improvement will require design approval by San Benito County and Caltrans, as well as a Caltrans encroachment permit prior to construction.
5. Add a 100-foot southbound left turn lane on Searle Road at the Central Driveway. This will require a Caltrans encroachment permit to implement and possibly an additional shoulder on northbound Searle Road north of the Central Driveway.
6. Narrow the three project driveway widths as much as possible, considering truck turning requirements.
7. Provide "Truck Entrance Only" signing indicating the South Project Driveway.
8. Add pavement striping arrows and signs surrounding the convenience market drive-through to indicate the proper circulation direction for the drive-through.

Travelers Station Traffic Impact Analysis

9. Limit landscaping along the Searle Road frontage to ground cover only. Trees and other large shrubbery that requires regular maintenance shall not be planted in this area.
10. Install "No Parking" signs along both sides of Searle Road in the immediate vicinity of the project site.

11.2 Summary of San Benito County Responsibilities

1. San Benito County should add both speed limit and curve warning signs (with speed plaques) on Searle Road in the vicinity of the project site.
2. San Benito County will be responsible for constructing a traffic signal or roundabout at the Southbound US 101 Ramps / State Route 129 intersection.

11.3 Summary of Caltrans Responsibilities

Under Existing conditions, Caltrans should consider adding "KEEP CLEAR" pavement markings on eastbound State Route 129 at Searle Road.

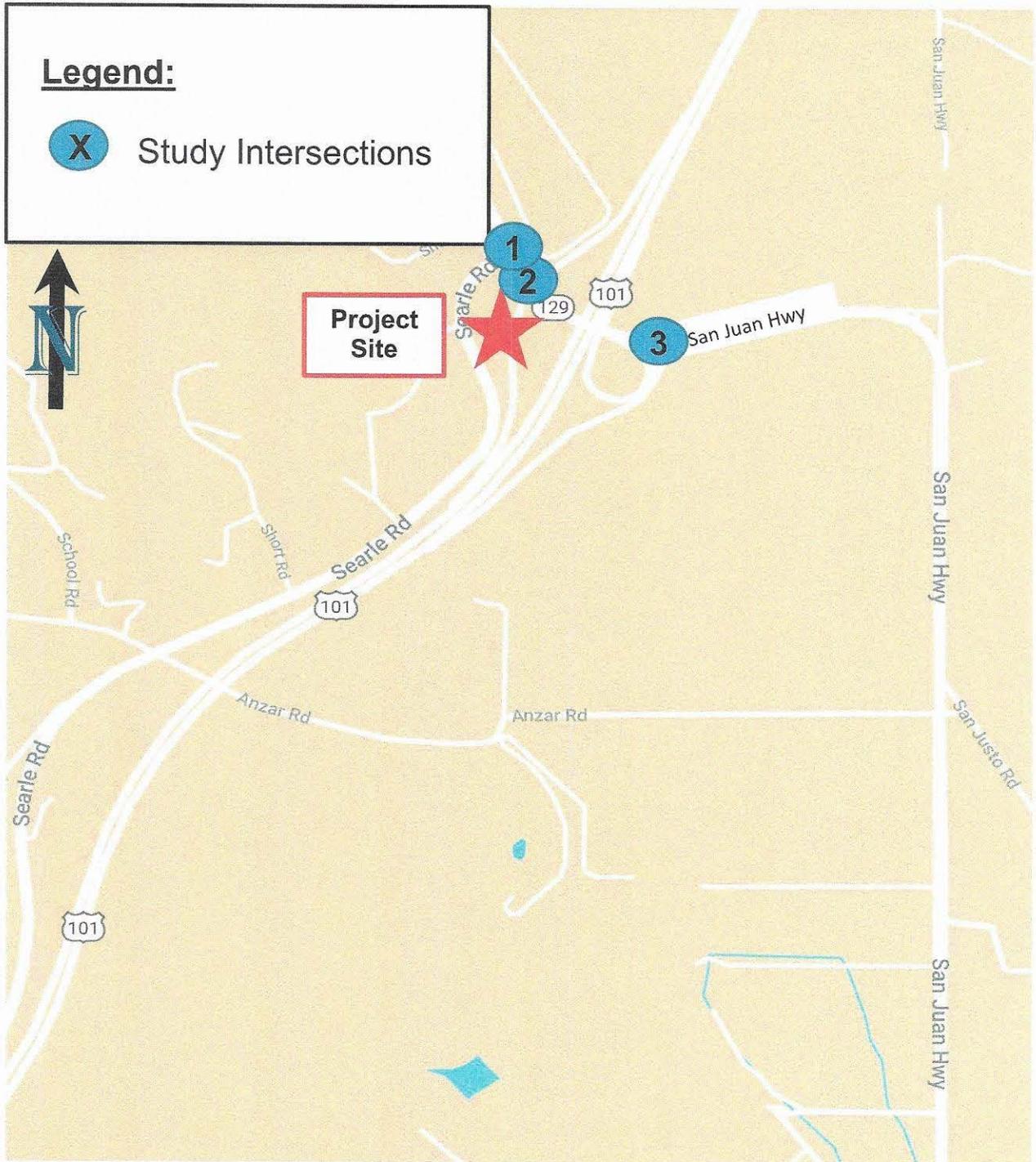
12 REFERENCES

12.1 List of References

1. *2010 Highway Capacity Manual*, Transportation Research Board, 2010.
2. *2035 San Benito County General Plan Update Revised Draft Environmental Impact Report*, EMC Planning Group, March 16, 2015.
3. *Guide for the Preparation of Traffic Impact Studies*, California Department of Transportation (Caltrans), December 2002.
4. *Highway Design Manual*, California Department of Transportation, Updated December 2018.
5. *San Benito County Bicycle and Pedestrian Master Plan*, Alta Planning + Design, December 2009.
6. San Benito County Express web site, <http://www.sanbenitocountyexpress.org/>. Accessed June 16, 2020.
7. *Regional Transportation Impact Mitigation Fee Nexus Study*, Michael Baker International, January 2016.
8. *Trip Generation Manual*, 10th Edition, Institute of Transportation Engineers, 2017.
9. *Technical Advisory on Evaluating Transportation Impacts in CEQA*, State of California Governor's Office of Planning and Research, December 2018.

12.2 List of Contacts

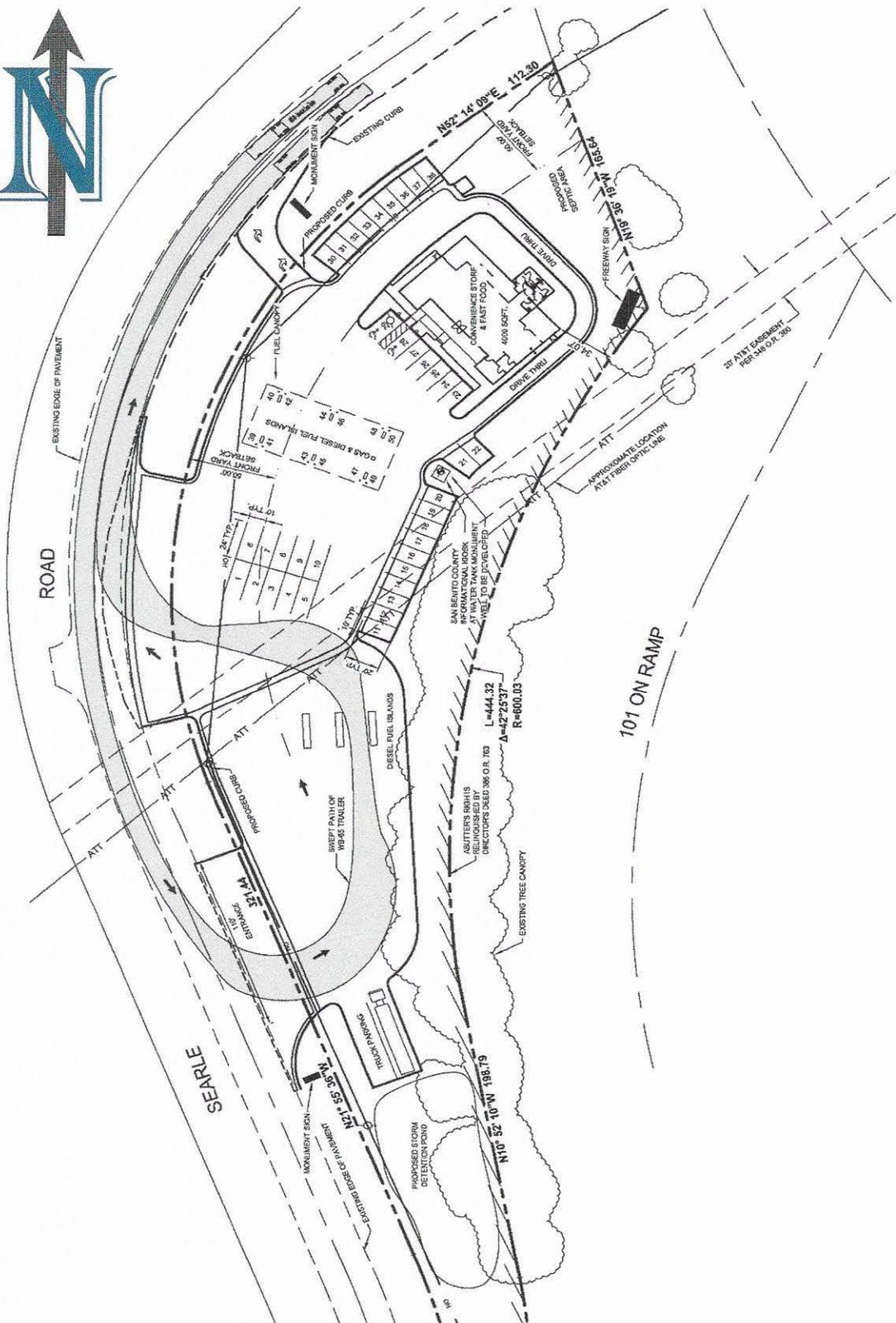
1. Geary Coats, Coasts Consulting, Carmel, California.
2. Matt Kelley, Kelley Engineering and Surveying, Hollister, California.
3. Arielle Goodspeed, San Benito County Resource Management Agency, Hollister, California.



Basemap Source: Google Maps, 2020.

Keith Higgins
Traffic Engineer

Exhibit 1
Project Location Map
and Study Area

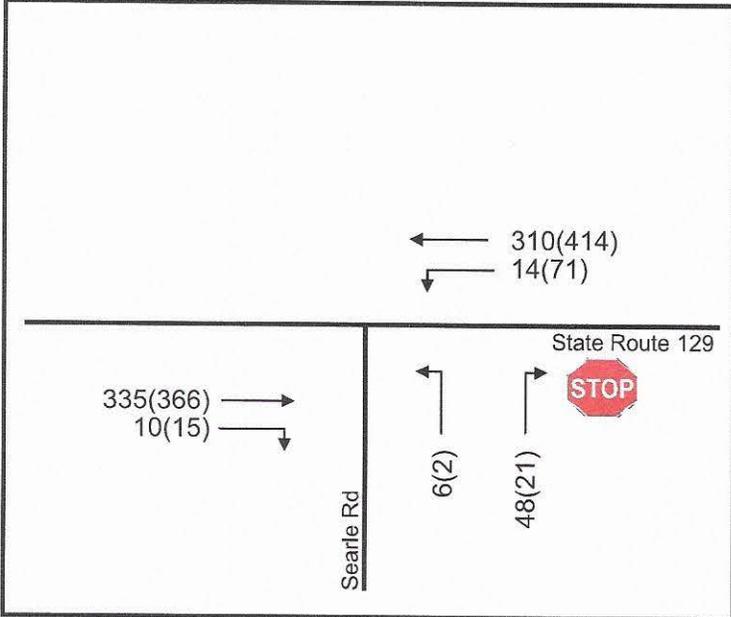


Source: Kelley Engineering & Surveying, September 2020.

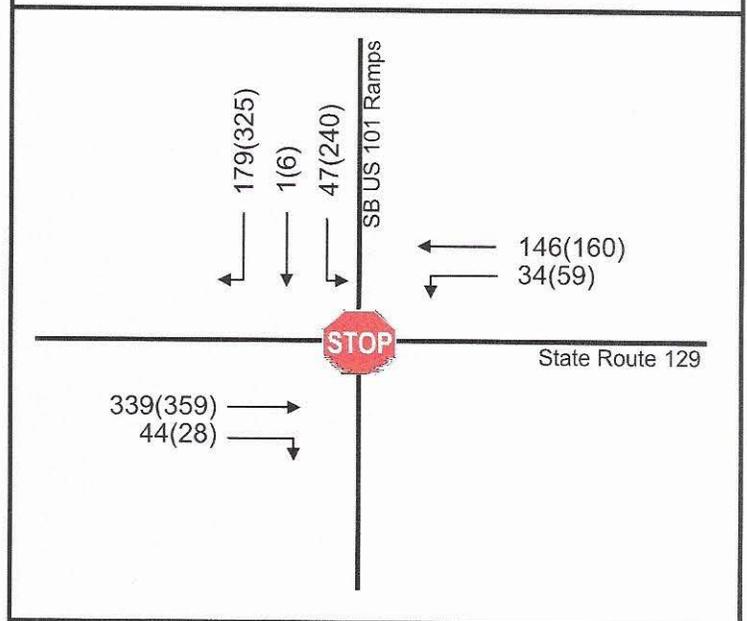
Keith Higgins
Traffic Engineer

Exhibit 2
Project Site Plan

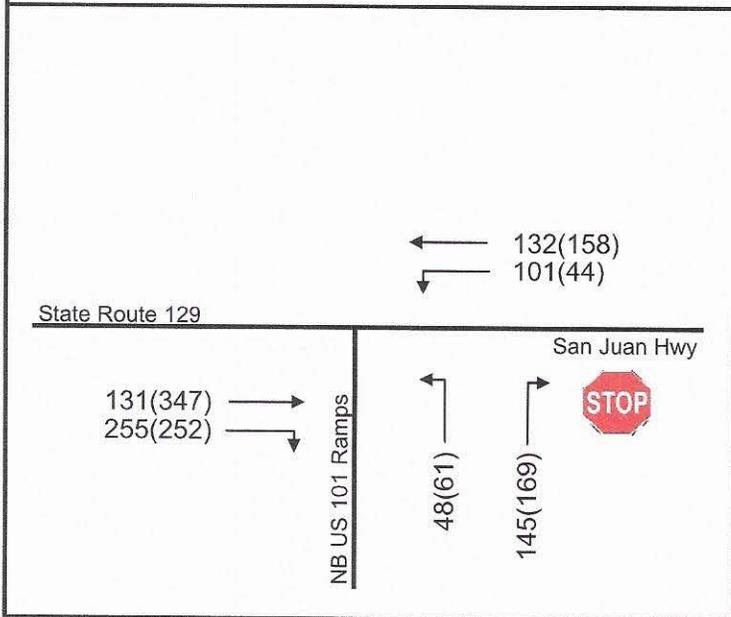
1. Searle Road / State Route 129



2. Southbound US 101 Ramps / State Route 129



3. Northbound US 101 Ramps / State Route 129 - San Juan Highway



	N-S Street	E-W Street	Jurisdiction	Existing Lane Configuration	Existing Intersection Control	LOS Standard	Peak Hour	Existing Conditions		Existing Plus Project Conditions		Cumulative Without Project Conditions		Cumulative Plus Project Conditions	
								Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Searle Road	State Route 129	Caltrans	NB 1-L, 1-R EB 1-T, 1-R WB 1-L, 1-T	One-Way Stop	D	AM	12.2	B	19.8	C	12.9	B	22.1	C
							PM	11.1	B	16.3	C	11.8	B	17.8	C
2	Southbound US 101 Ramps	State Route 129	Caltrans	SB 1-L/T, 1-R EB 1-T, 1-R WB 1-L, 1-T	All-Way Stop	D	AM	14.8	B	29.2	D	17.3	C	40.3	E
							PM	18.0	C	31.7	D	22.4	C	43.7	E
							<i>With Improvement Alternative 1 (Signal)</i>	AM						20.4	C
							<i>Alternative 2 (Roundabout)</i>	PM						19.7	B
								AM						8.5	A
	PM						8.2	A							
3	Northbound US 101 Ramps	State Route 129 - San Juan Highway	Caltrans	NB 1-L/R EB 1-T, 1-R WB 1-L, 1-T	One-Way Stop	D	AM	12.8	B	19.3	C	13.8	B	22.6	C
							PM	15.3	C	21.6	C	17.5	C	26.9	D

Notes:

- L, T, R = Left, Through, Right.
- NB, SB, EB, WB = Left, Through, Right, Northbound, Southbound, Eastbound, Westbound.
- * = Delay exceeds 3000 seconds
- Overall and side-street level of service standard for San Benito County is LOS D. Overall Caltrans level of service standard is the transition between LOS C and LOS D, abbreviated as "LOS C-D". However, due to San Benito County General Plan Policy C-1.12, the San Benito County level of service standard is also applied to Caltrans facilities.
- For signalized and all-way stop intersection analysis, delay is average overall delay in seconds per vehicle (sec/veh).
For one- and two-way stop intersections, delays are side-street approach operations, also in seconds per vehicle (sec/veh).
- Analysis performed using 2010 Highway Capacity Manual methodologies.
- Level of service calculations can be found in **Appendices C - F**.
- LOS highlighted in red indicates intersection operating below level of service standard.
- LOS with a thick black border represents a significant local adverse effect. Resulting levels of service with recommended improvements noted under "With Improvements". A list of applied improvements can be found on **Exhibit 4B**.

Keith Higgins
Traffic Engineer

Exhibit 4A
Intersection
Levels of Service

	N-S Street	E-W Street	Jurisdiction	Existing Conditions	Existing Plus Project Conditions	Cumulative Without Project Conditions	Cumulative Plus Project Conditions
1	Searle Road	State Route 129	Caltrans	Consider Adding "KEEP CLEAR" Striping	Consider Adding "KEEP CLEAR" Striping	Consider Adding "KEEP CLEAR" Striping	Add "KEEP CLEAR" Striping
2	Southbound US 101 Ramps	State Route 129	Caltrans	None Required	None Required	None Required	1. Signalize Intersection; OR 2. Convert to Roundabout
3	Northbound US 101 Ramps	State Route 129 - San Juan Highway	Caltrans	None Required	None Required	None Required	None Required

Notes:

1. L, T, R = Left, Through, Right.
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound.

Keith Higgins
Traffic Engineer

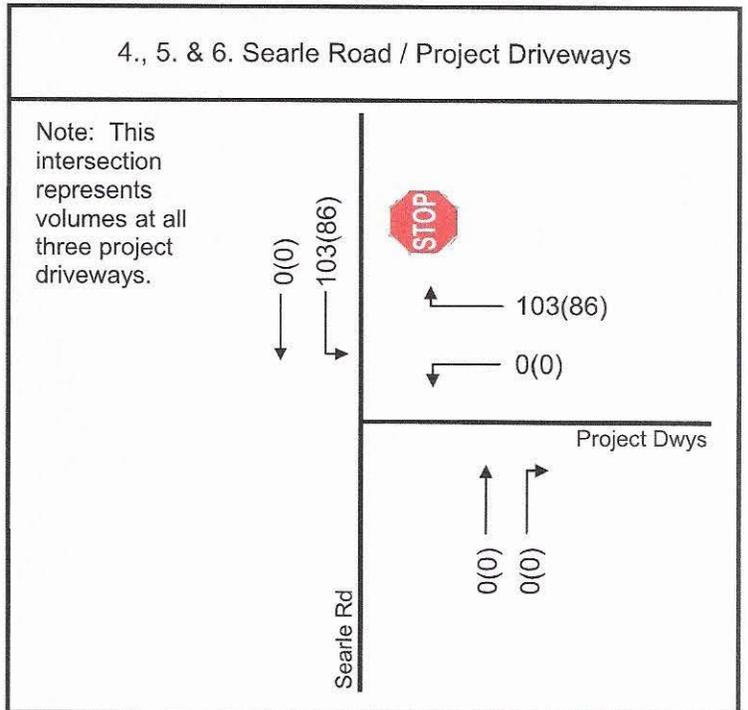
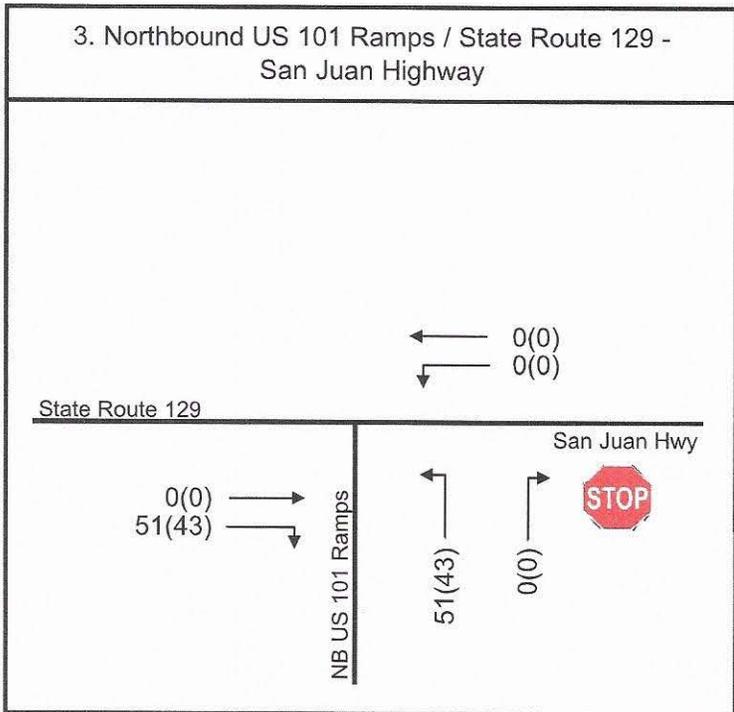
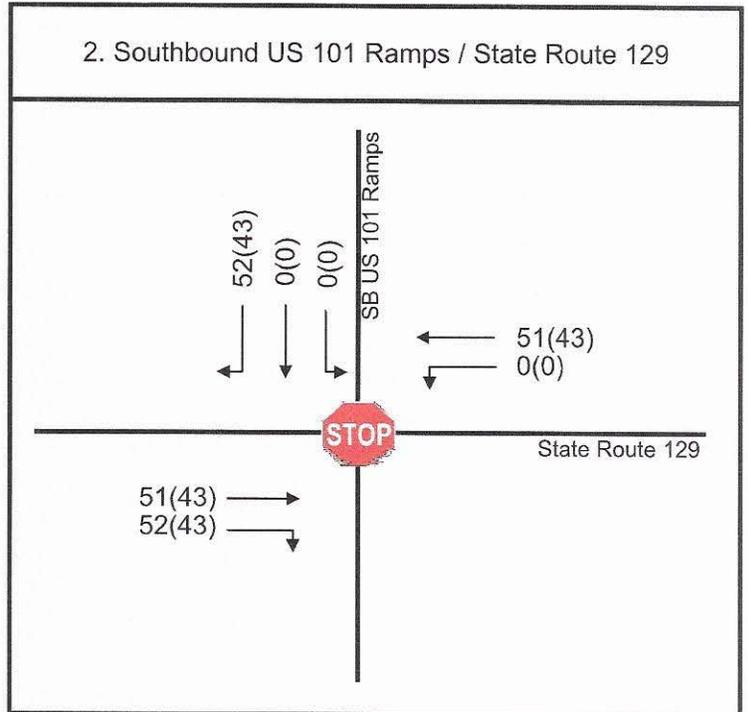
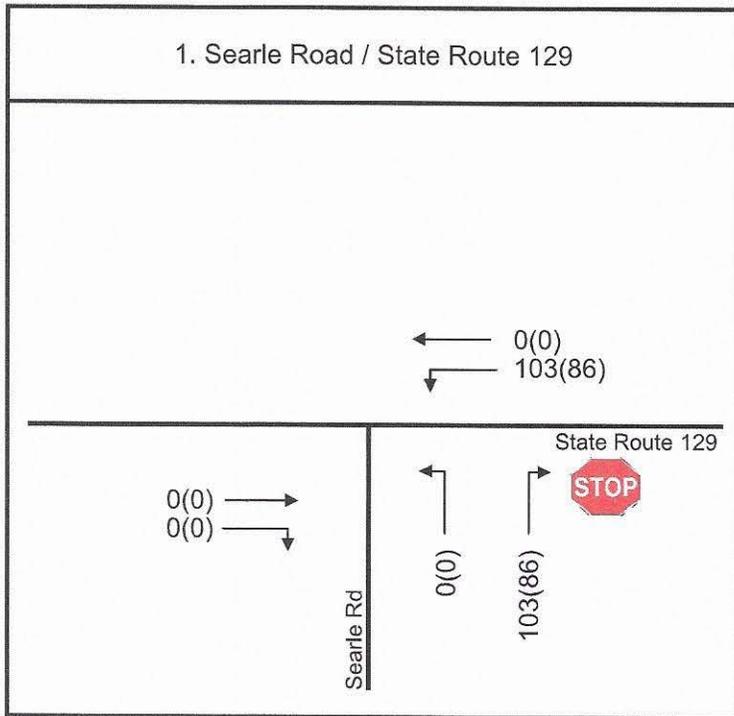
Exhibit 4B
Recommended
Intersection Improvements

TRIP GENERATION RATES	ITE LAND USE CODE	WEEEKDAY									
		DAILY TRIP RATE	AM PEAK HOUR				PM PEAK HOUR				
			PEAK HOUR RATE	% OF ADT	% IN	% OUT	PEAK HOUR RATE	% OF ADT	% IN	% OUT	
Super Convenience Market/Gas Station (based on fueling positions)	960	230.52	28.08	12%	50%	50%	22.96	10%	50%	50%	
Super Convenience Market/Gas Station (based on gross floor area)	960	837.58	83.14	10%	50%	50%	69.28	8%	50%	50%	
Truck Fueling (fueling positions)	944 (Modified)	28.67	2.575	9%	51%	49%	3.50	12%	51%	49%	

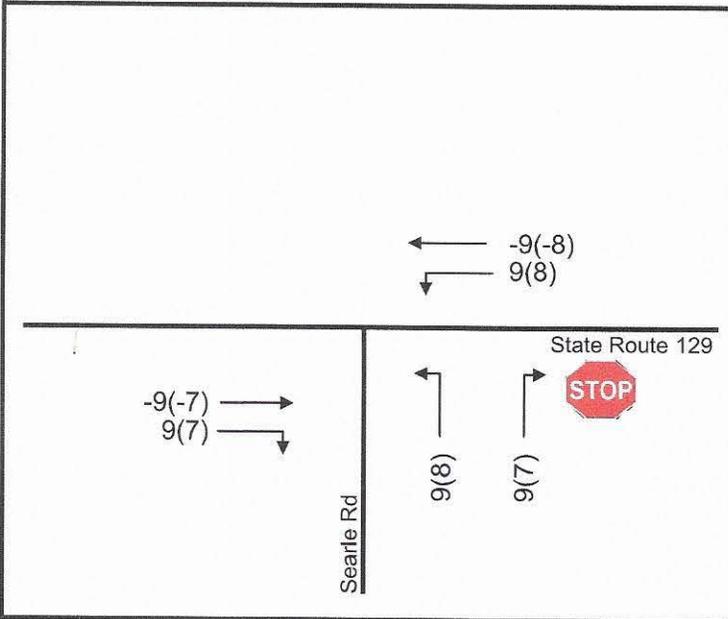
PROPOSED USE	PROJECT SIZE	WEEEKDAY									
		DAILY TRIPS	AM PEAK HOUR				PM PEAK HOUR				
			PEAK HOUR TRIPS	% OF ADT	TRIPS IN	TRIPS OUT	PEAK HOUR TRIPS	% OF ADT	TRIPS IN	TRIPS OUT	
Super Convenience Market/Gas Station (based on fueling positions)	16 positions	3,688	449	12%	225	224	367	10%	184	183	
Super Convenience Market/Gas Station (based on gross floor area)	4,000 S.F.	3,350	333	10%	167	166	277	8%	139	138	
Truck Fueling (fueling positions)	4 positions	115	10	9%	5	5	14	12%	7	7	
Gross Total		3,803	459	12%	230	229	381	10%	191	190	
Internal Reduction (20% of Truck Fueling)		-23	-2	9%	-1	-1	-3	12%	-1	-1	
Driveway Total		3,780	457	12%	229	228	378	10%	190	189	
Total Passby Trips (56% of Total)		2,117	256		128	128	212		106	106	
Primary Trips		1,663	201		101	100	166		83	83	
Passby Trip Breakdown											
Passby from San Juan Highway (4% of Total Passby)		85	10		5	5	8		4	4	
Passby from Searle Road (2% of Passby)		42	5		3	3	4		2	2	
Passby from SR 129 West of US 101 Southbound Ramp (14% of Passby)		296	36		18	18	30		15	15	
Passby from US 101 (80% of Total Passby)		1,693	205		103	102	169		85	84	

Notes:

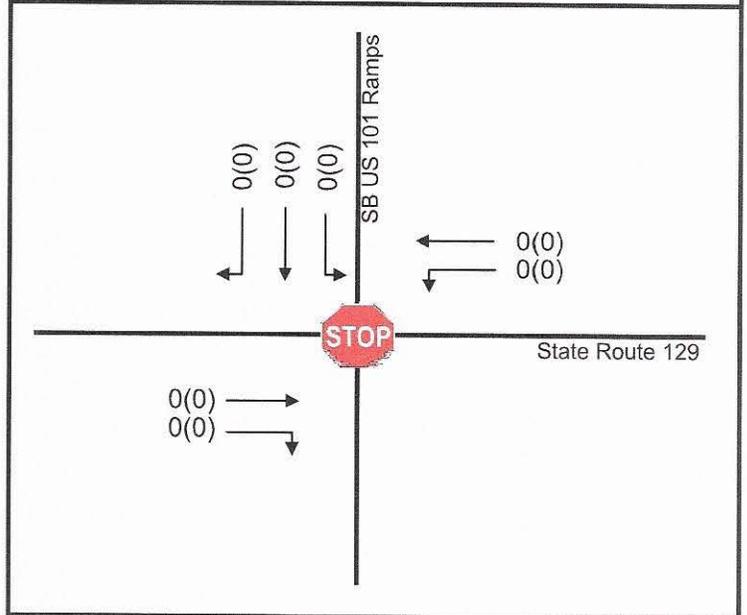
1. Trip generation rates published by Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017.
2. sq. ft. = square feet
3. Based on Gasoline/Service Station with Convenience Market (ITE Land Us Code 945), Passby and Diverted Linked Trips estimated to represent 56% of Driveway volumes. No credit is given for Diverted Linked Trips, which comprise an additional 30% of Project traffic.
4. Project trips based on fueling positions, which is more conservative than estimates based on gross floor area.



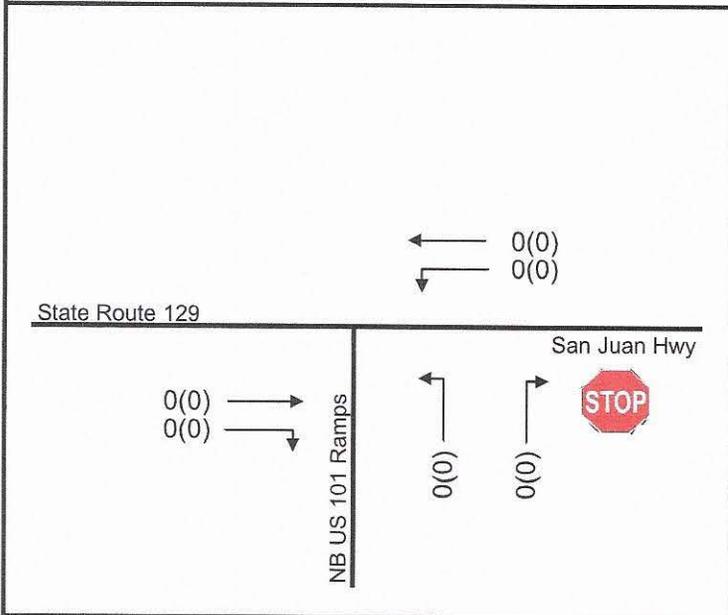
1. Searle Road / State Route 129



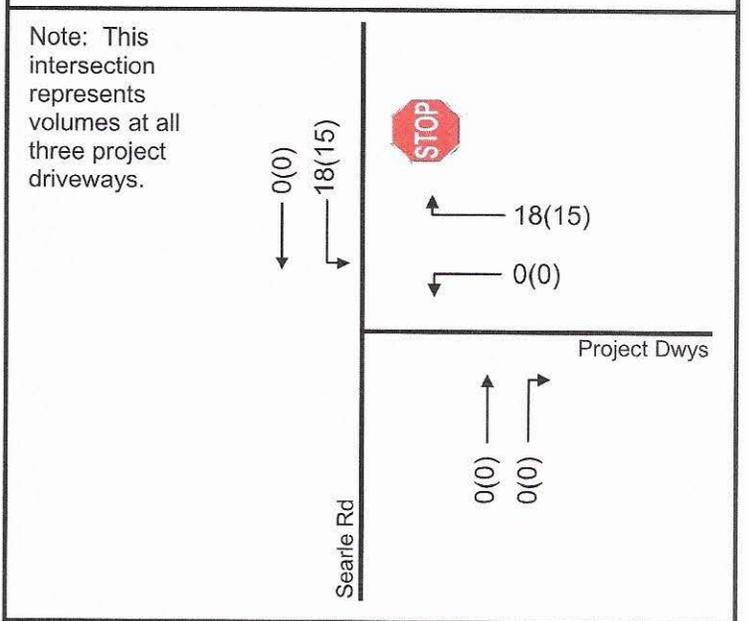
2. Southbound US 101 Ramps / State Route 129



3. Northbound US 101 Ramps / State Route 129 - San Juan Highway

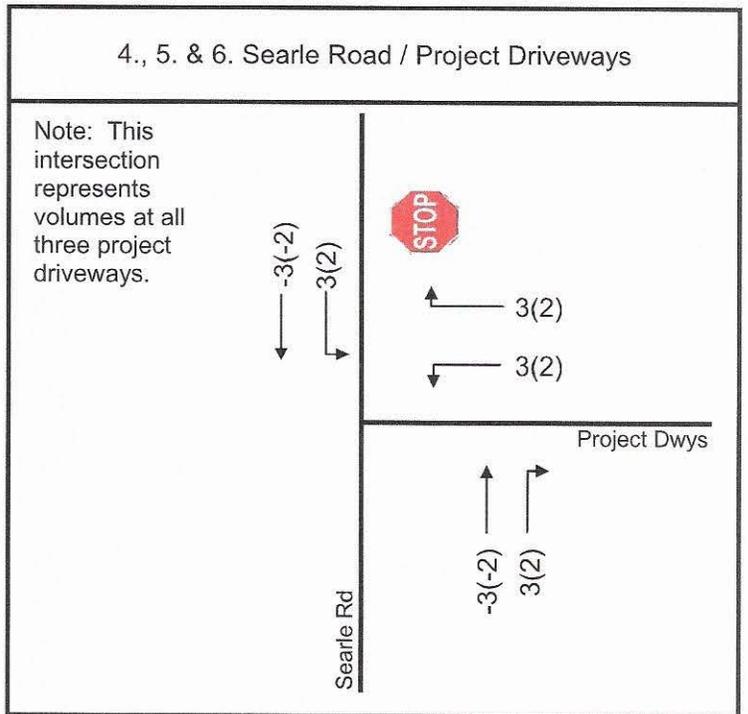
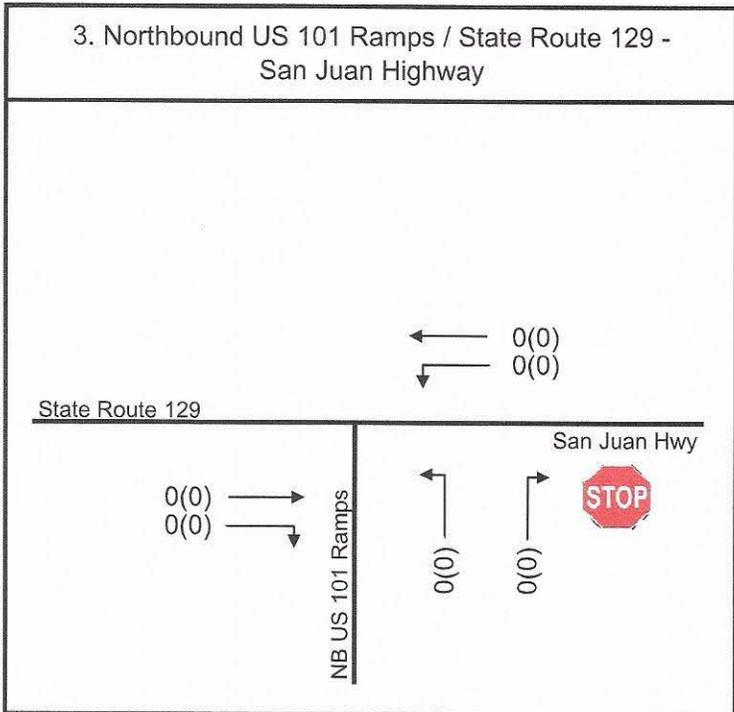
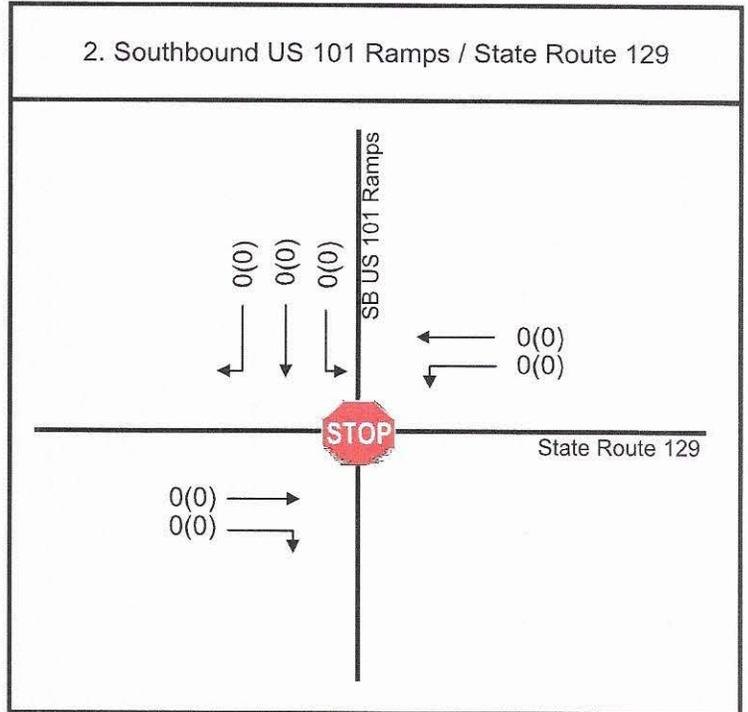
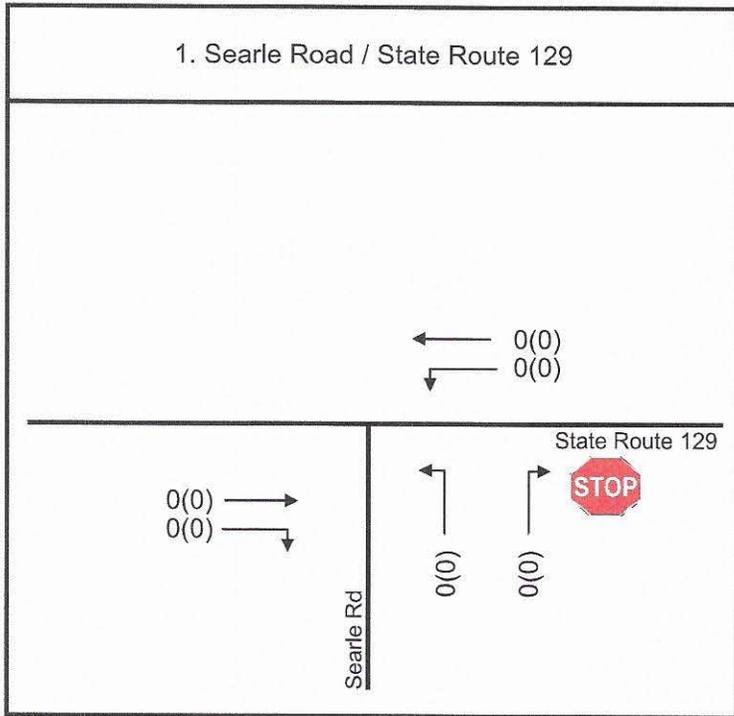


4., 5. & 6. Searle Road / Project Driveways



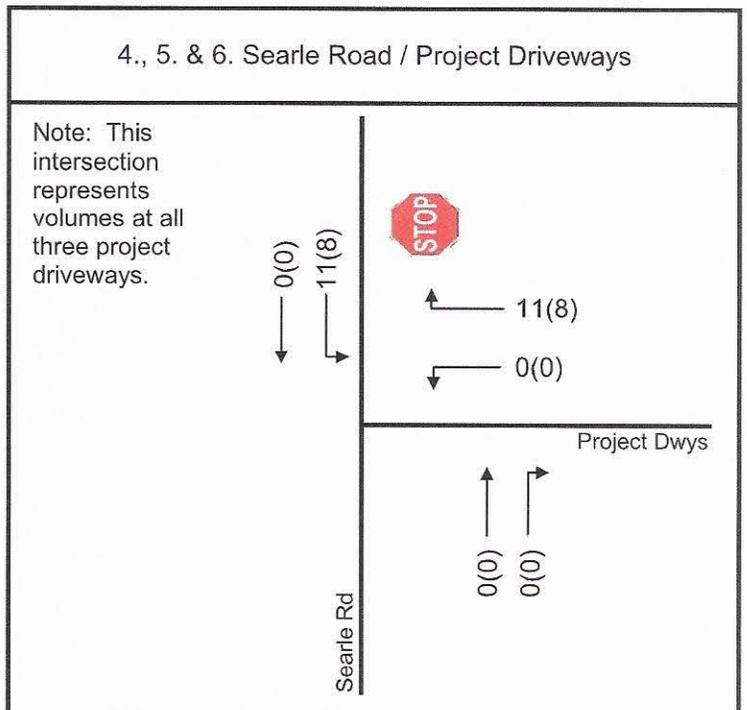
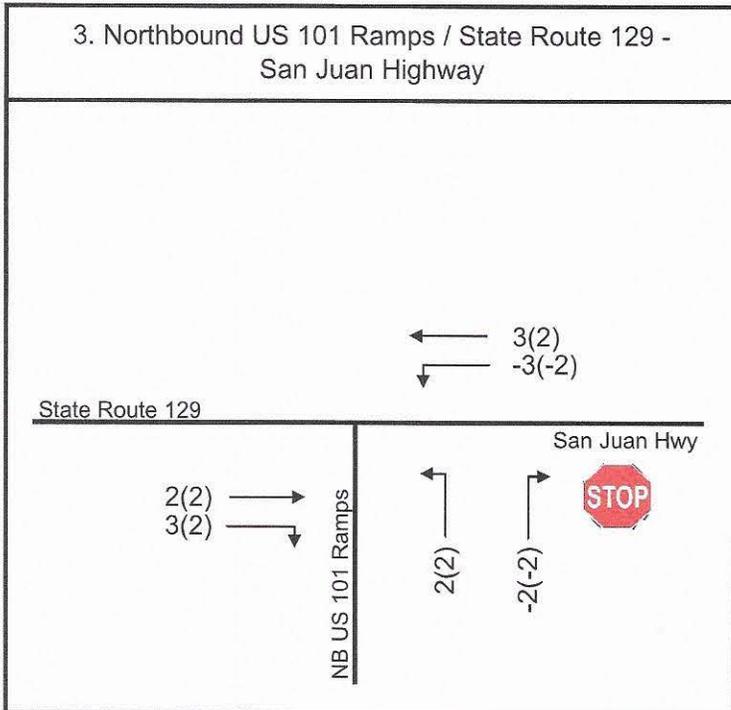
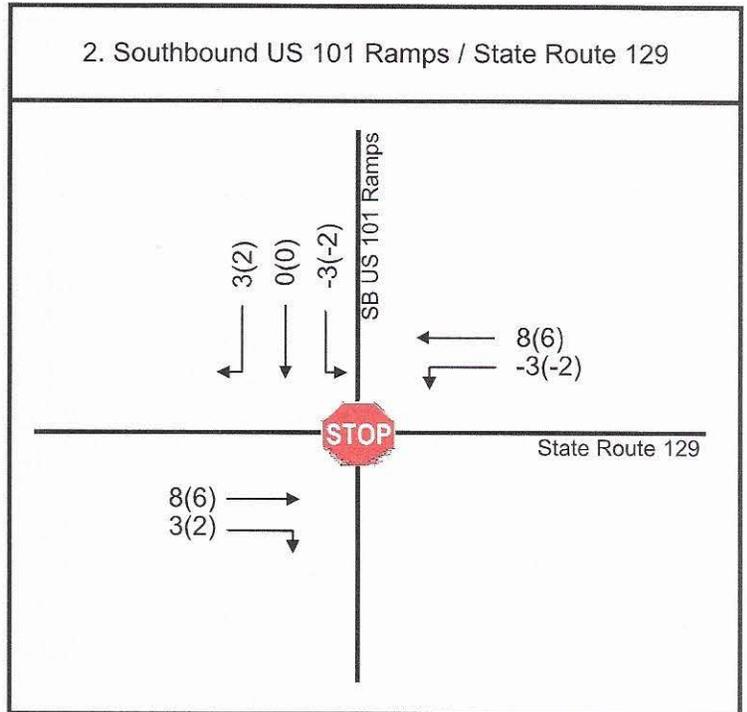
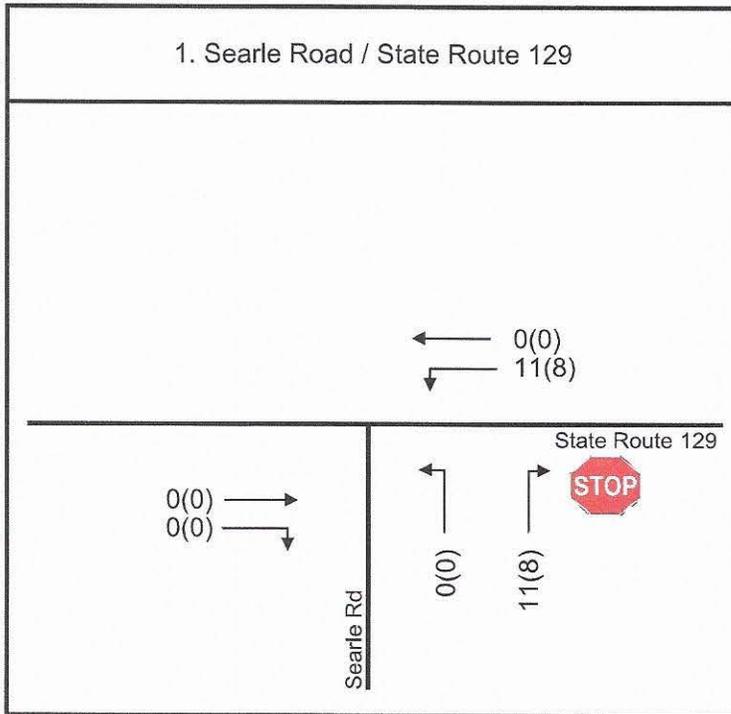
Keith Higgins
Traffic Engineer

Exhibit 6B
State Route 129 (West)
Passby Trips
AM & PM Peak Hour Volumes



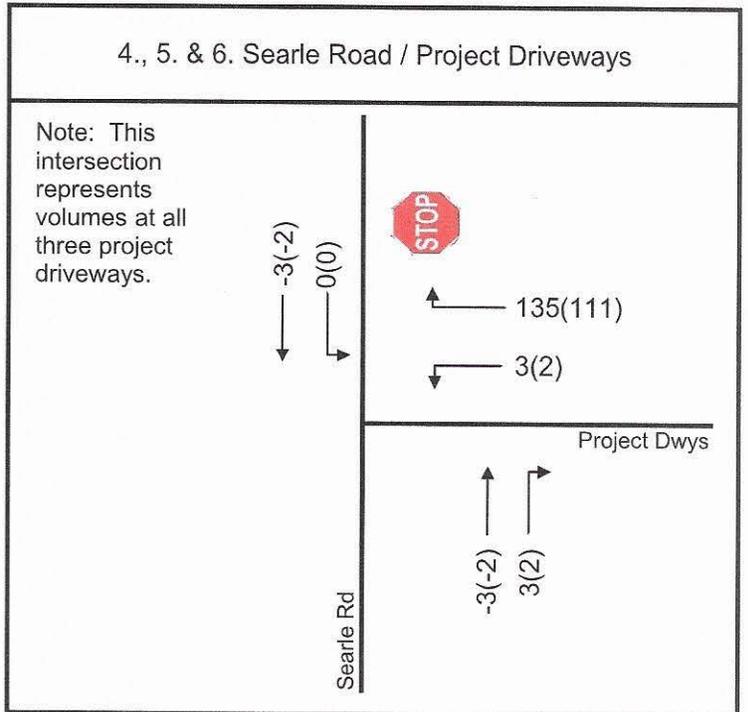
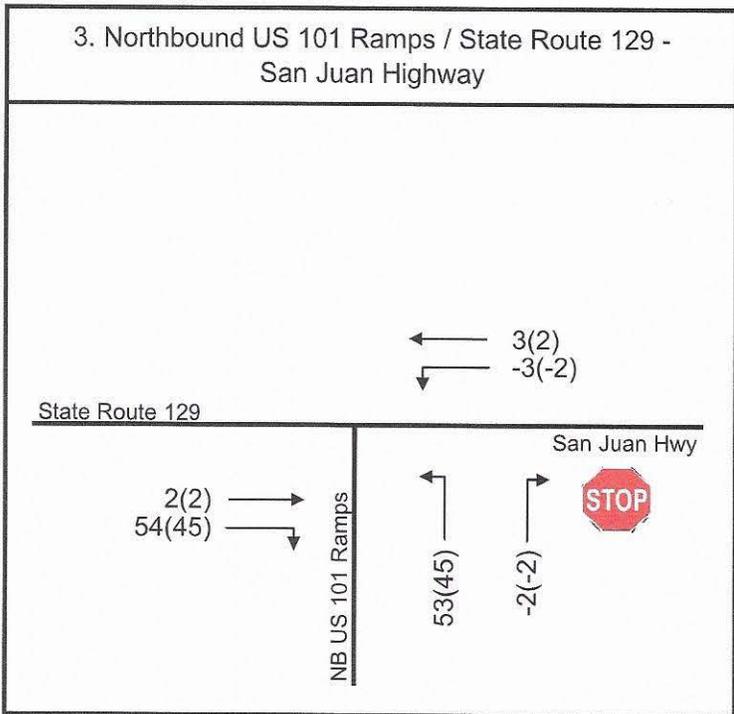
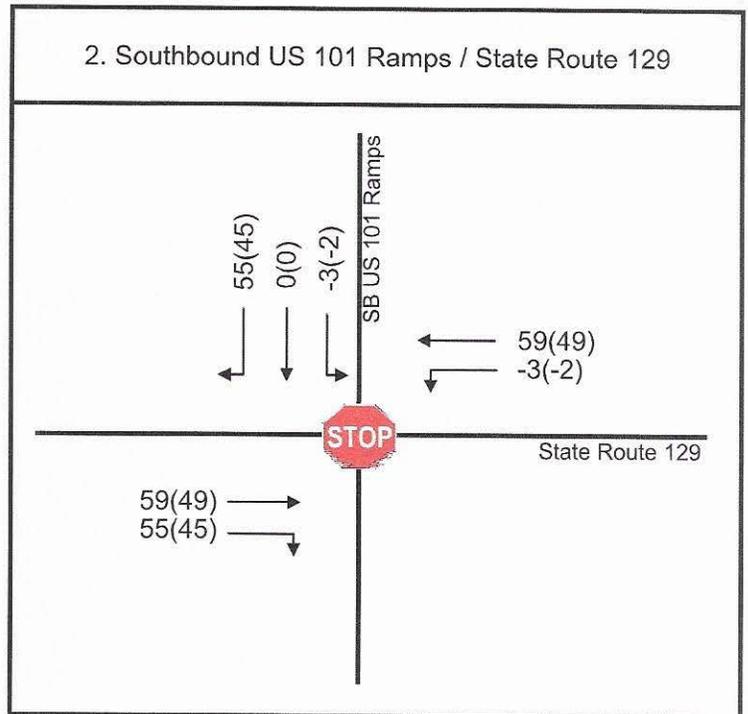
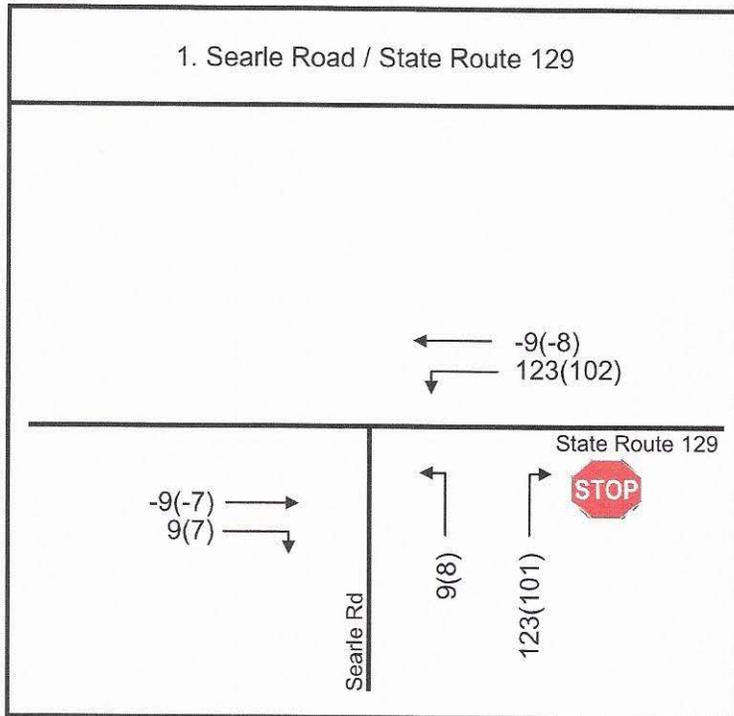
Keith Higgins
Traffic Engineer

Exhibit 6C
Searle Road
Passby Trips
AM & PM Peak Hour Volumes



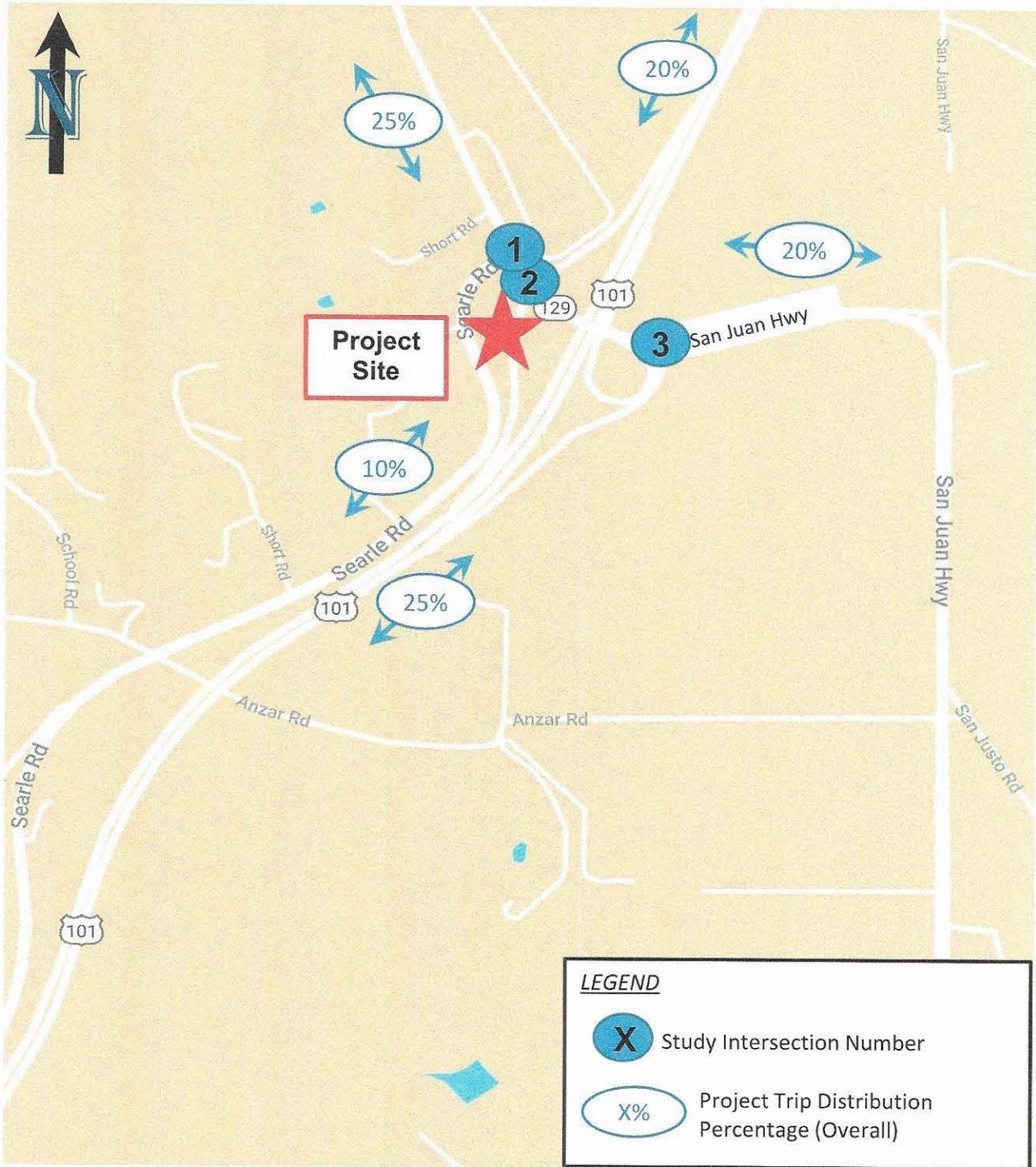
Keith Higgins
Traffic Engineer

Exhibit 6D
San Juan Highway
Passby Trips
AM & PM Peak Hour Volumes

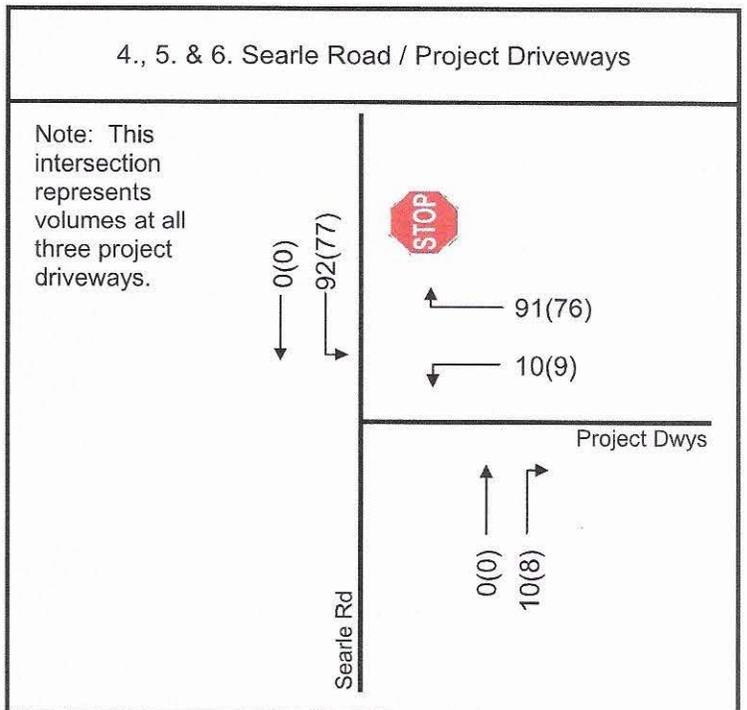
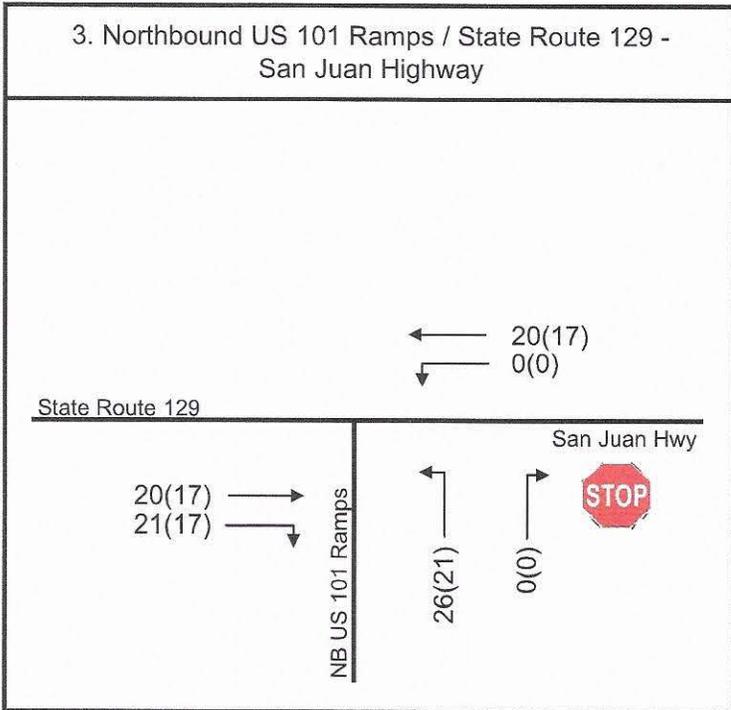
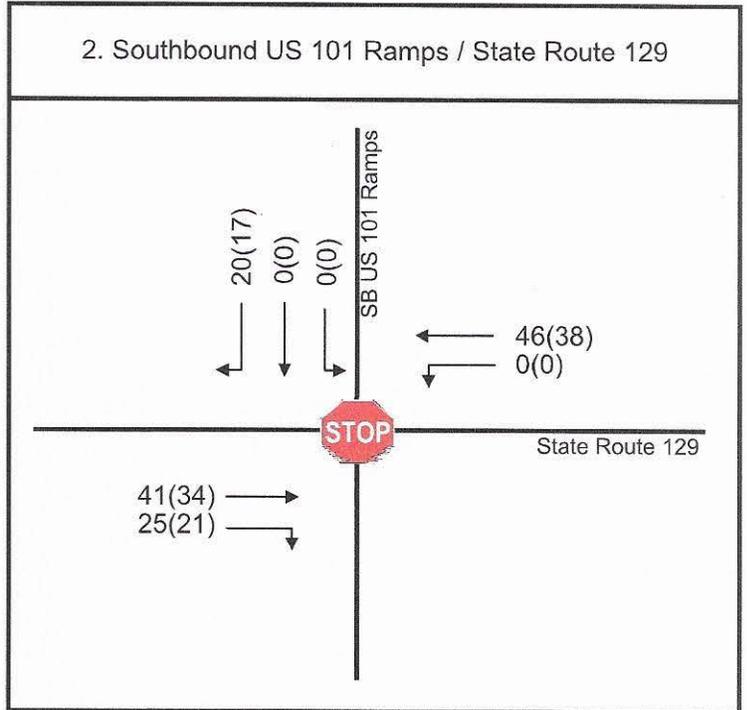
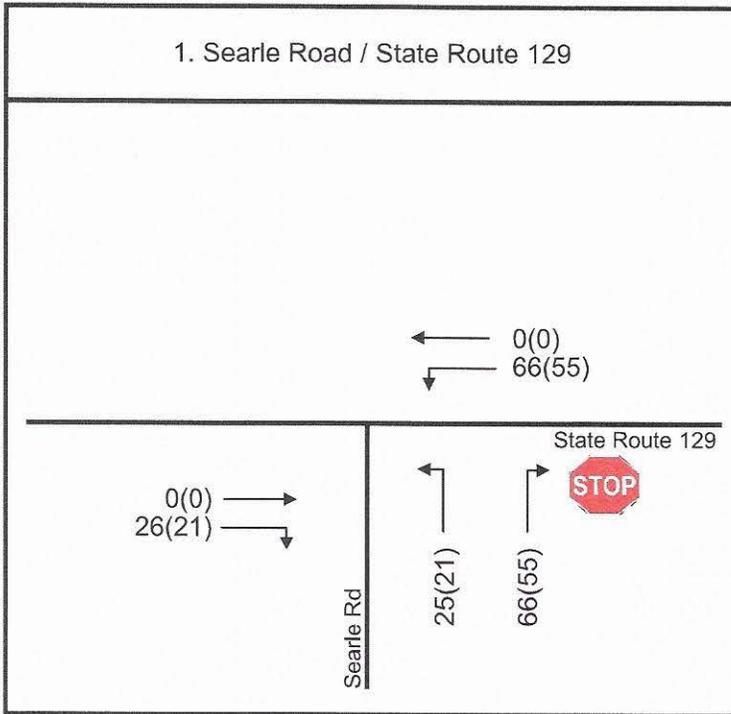


Keith Higgins
Traffic Engineer

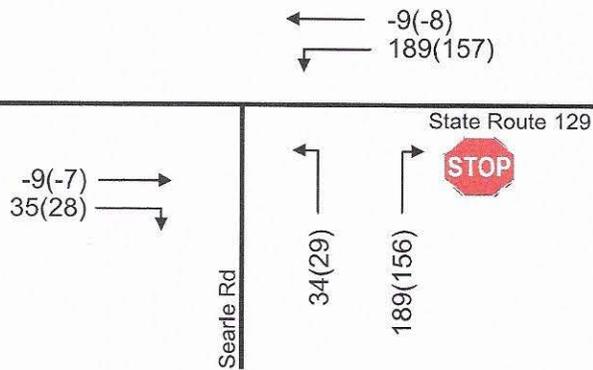
Exhibit 6E
Total Project
Passby Trip Assignment
AM & PM Peak Hour Volumes



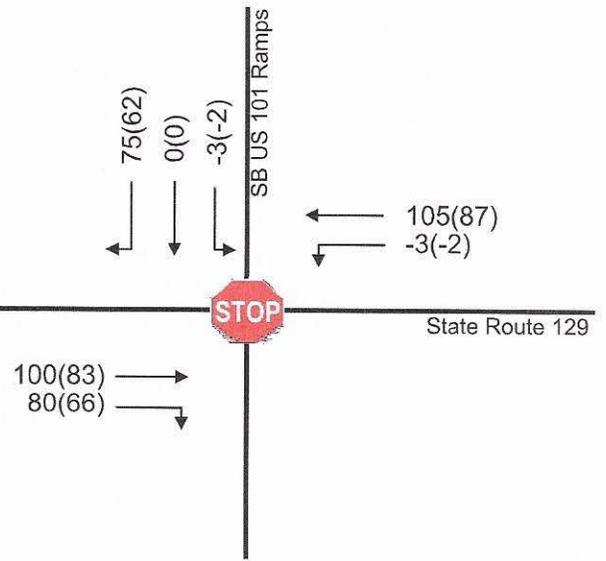
Basemap Source: Google Maps, 2020.



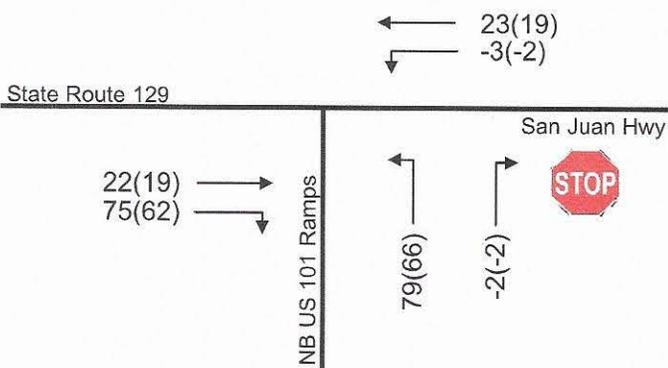
1. Searle Road / State Route 129



2. Southbound US 101 Ramps / State Route 129

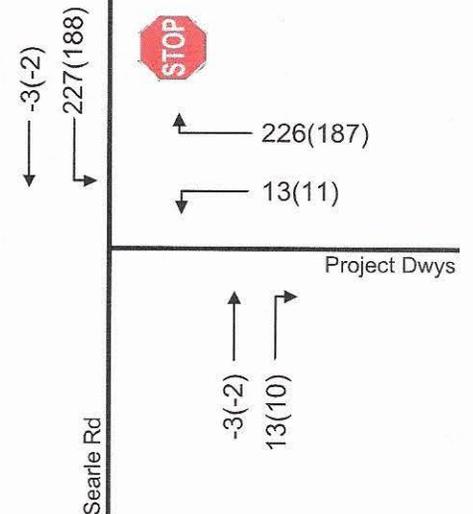


3. Northbound US 101 Ramps / State Route 129 - San Juan Highway

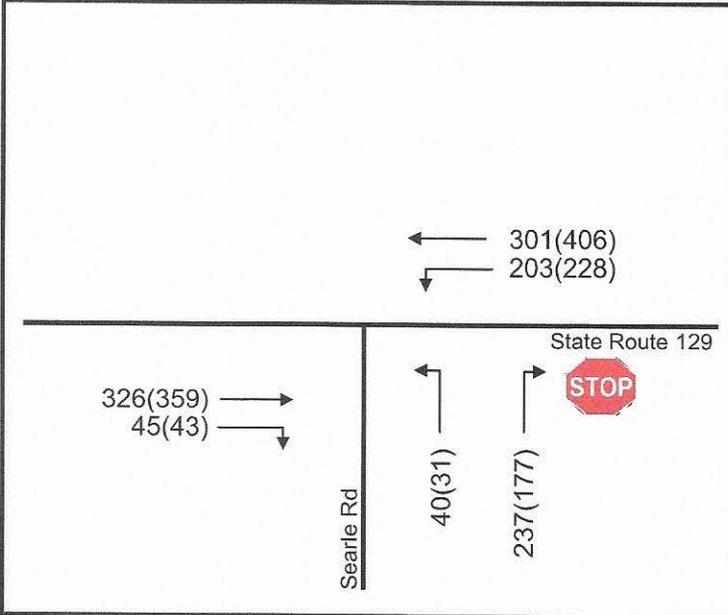


4., 5. & 6. Searle Road / Project Driveways

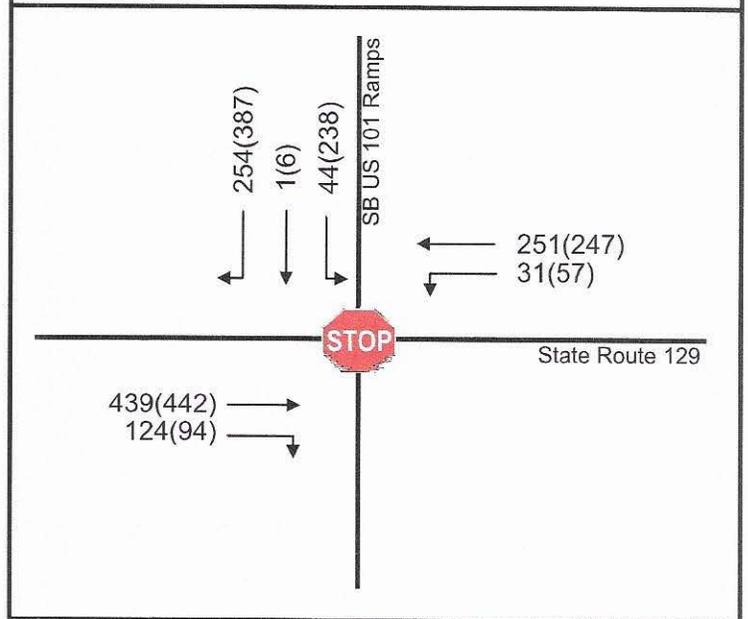
Note: This intersection represents volumes at all three project driveways.



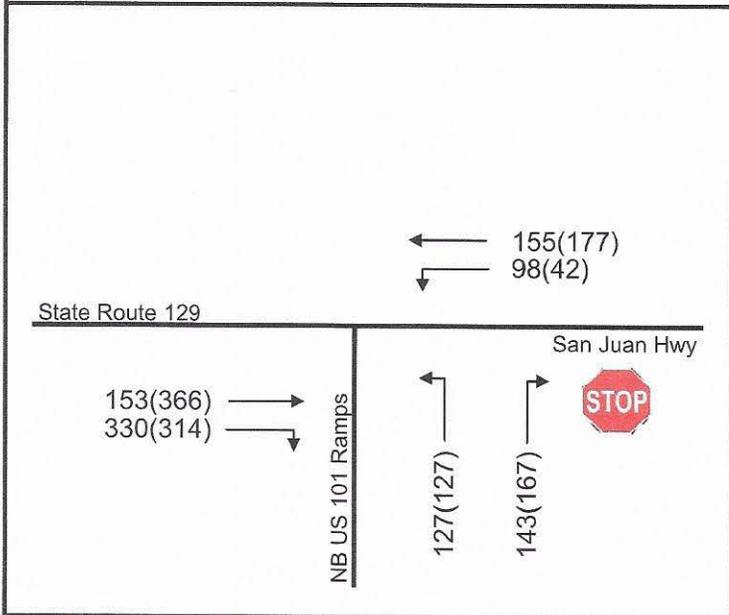
1. Searle Road / State Route 129



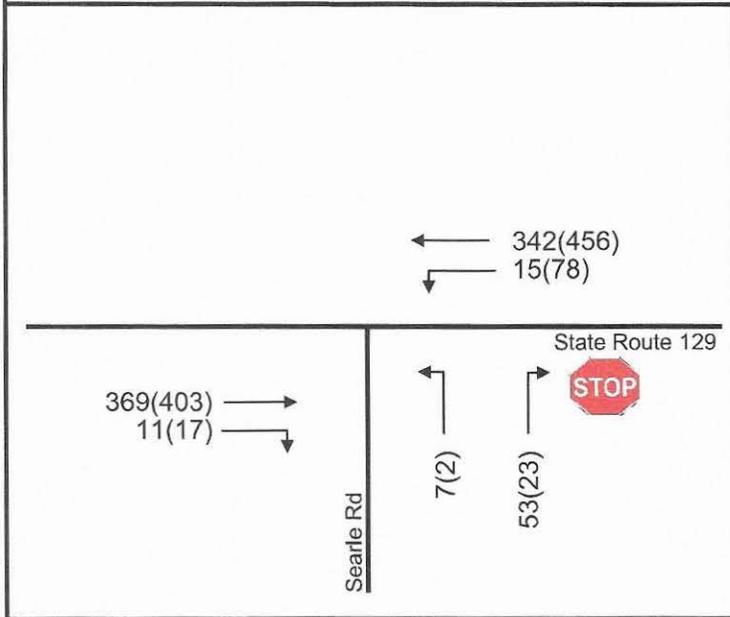
2. Southbound US 101 Ramps / State Route 129



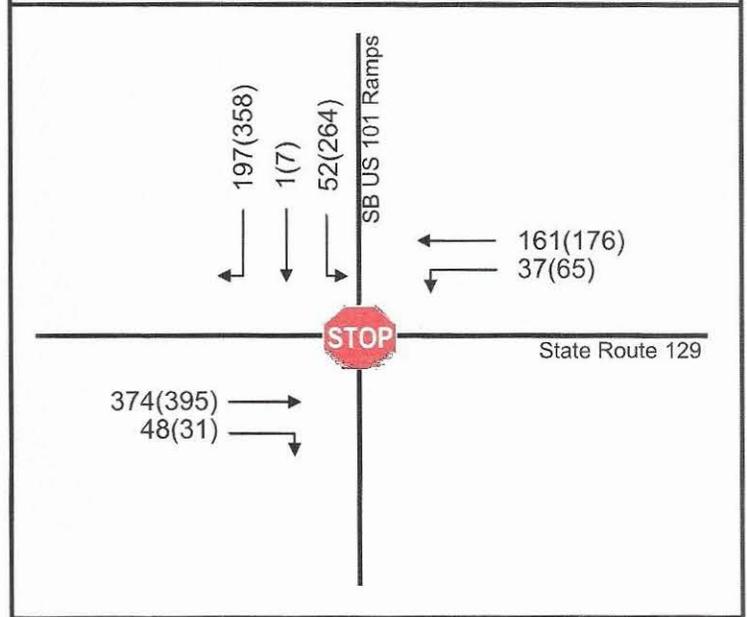
3. Northbound US 101 Ramps / State Route 129 - San Juan Highway



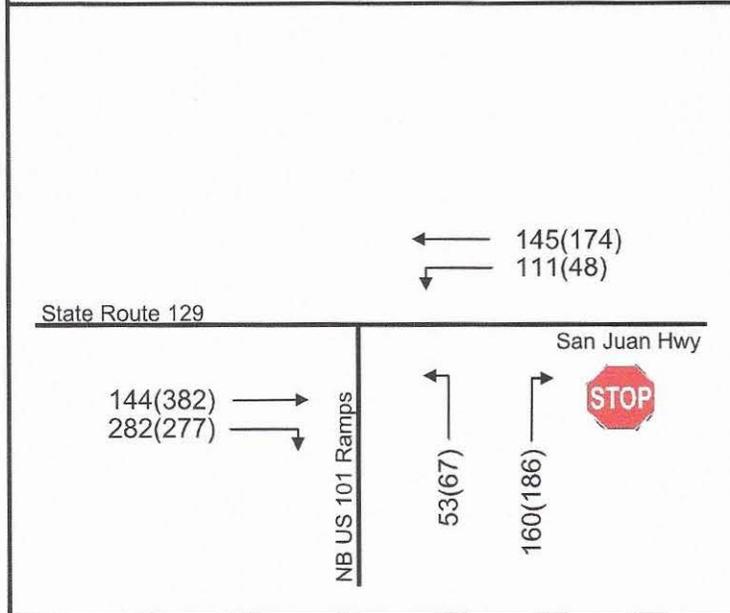
1. Searle Road / State Route 129



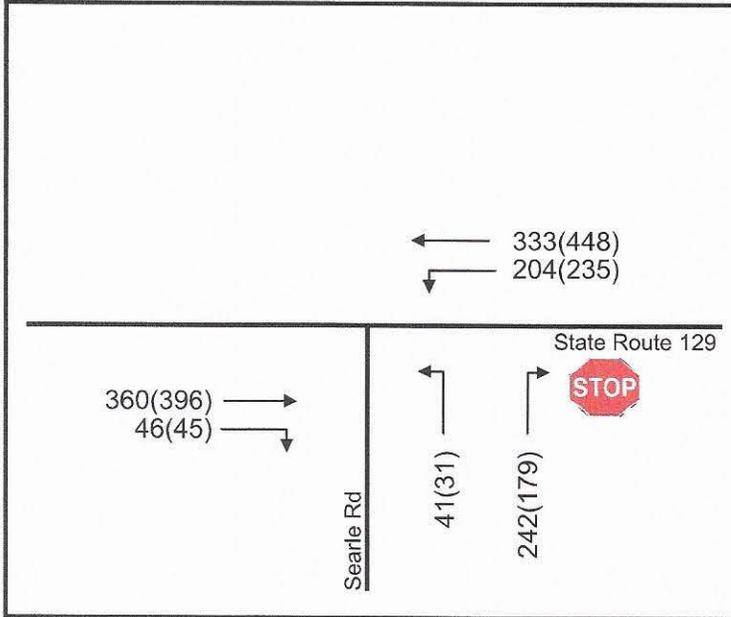
2. Southbound US 101 Ramps / State Route 129



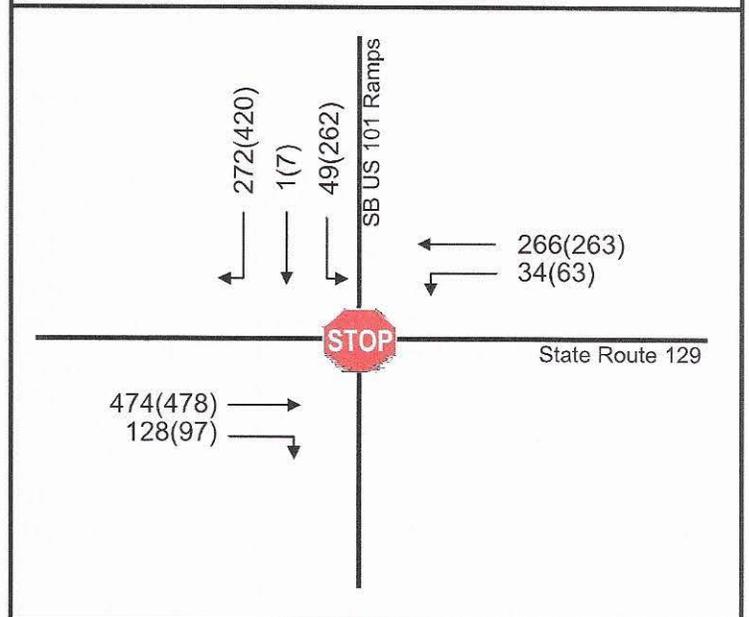
3. Northbound US 101 Ramps / State Route 129 - San Juan Highway



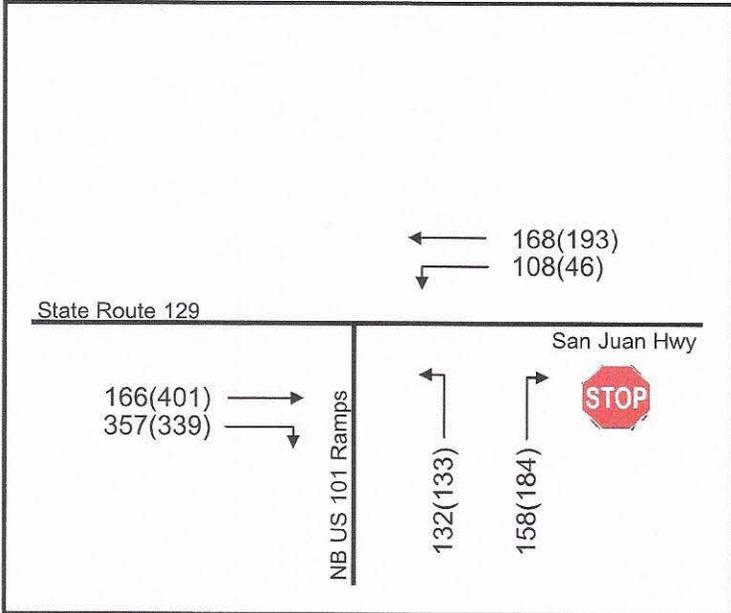
1. Searle Road / State Route 129



2. Southbound US 101 Ramps / State Route 129



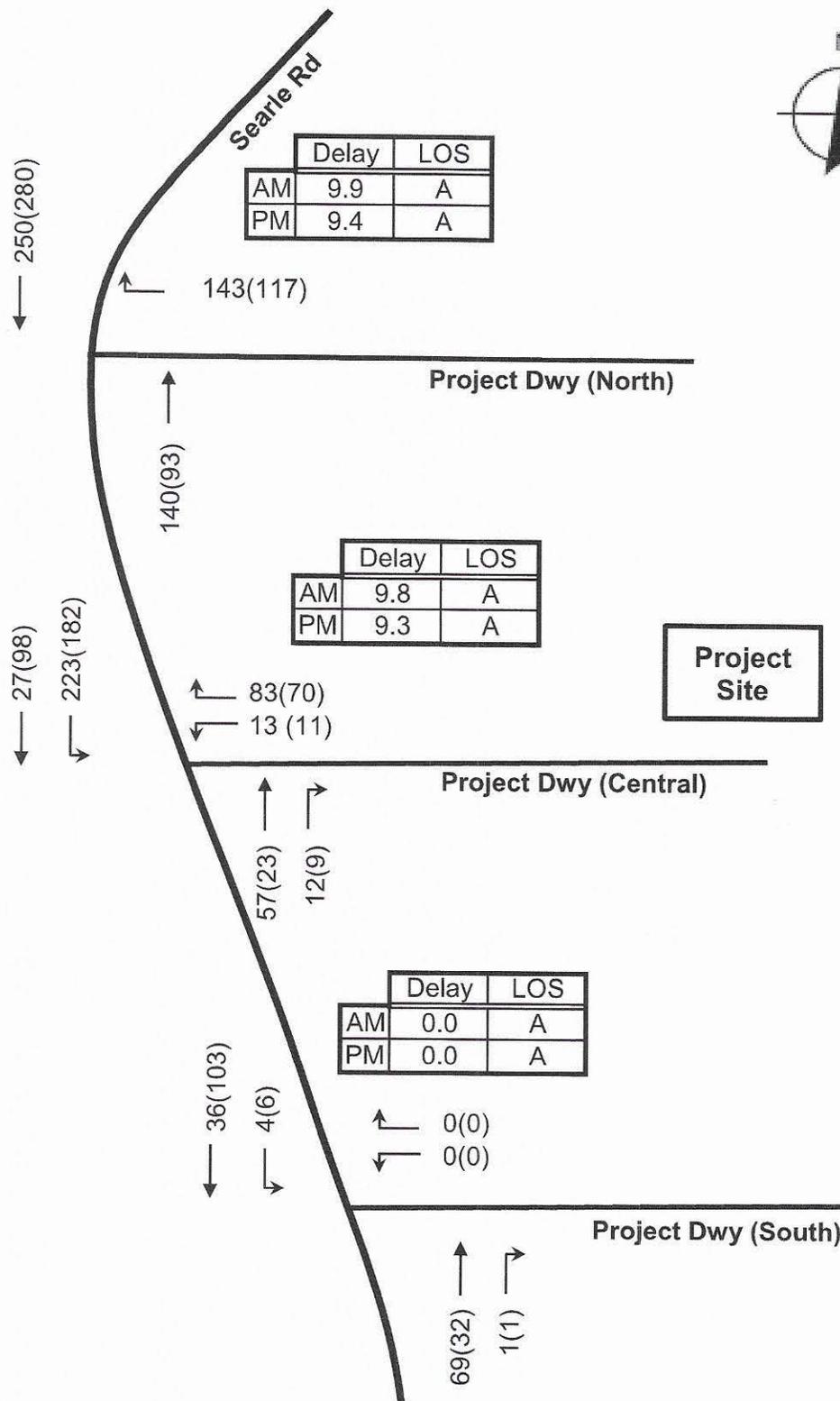
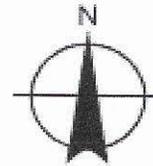
3. Northbound US 101 Ramps / State Route 129 - San Juan Highway



	N-S Street	E-W Street	Jurisdiction	Existing Lane Configuration	Intersection Control	Peak Hour	Existing Conditions			Existing Plus Project Conditions			Cumulative Without Project Conditions			Cumulative Plus Project Conditions		
							95th Percentile (Design) Queue Lengths (feet)											
							NB L	NB R	WB L	NB L	NB R	WB L	NB L	NB R	WB L	NB L	NB R	WB L
1	Searle Road	State Route 129	Caltrans	NB 1-L, 1-R EB 1-T, 1-R WB 1-L, 1-T	One-Way Stop	AM	25	25	25	50	50	25	25	25	25	50	75	25
						PM	25	25	25	25	50	25	25	25	25	25	50	50
Available Storage (feet)							280	50	140	280	50	140	280	50	140	280	50	140

Notes:

1. L, T, R = Left, Through, Right.
2. NB, SB, EB, WB = Left, Through, Right, Northbound, Southbound, Eastbound, Westbound.
3. The 95th Percentile (Design) vehicle queue lengths represent the maximum queue lengths in each peak hour for use in roadway design.
4. Vehicle queue calculations can be found in **Appendix H**. These queue calculations assume a typical vehicle length of 25 feet.
5. Queues highlighted in red indicates queues longer than available storage lengths (including block lengths).
6. Northbound Searle Road left turn lane length is the distance to the northernmost project driveway, or approximately 305 feet.



Notes:

1. XX (YY) = AM (PM) peak hour volumes.
2. Drawing not to scale.

	N-S Street	E-W Street	Jurisdiction	Mainline Speed	Direction	Sight Distance Standards (feet)		Available Sight Distance (feet)	Limiting Factors
						Corner	Stopping		
1	Project Driveway (North)	Searle Road	San Benito County	30 (SB) - 40 (NB) mph	Northbound	N/A	200	200	Adjacent monument sign ⁸
					Southbound		300	300	Curvature of Roadway
2	Project Driveway (Central)	Searle Road	San Benito County	40 mph	Northbound	N/A	300	300	Curvature of Roadway
					Southbound		580	320	Curvature of Roadway
3	Project Driveway (South)	Searle Road	San Benito County	40 mph	Northbound	N/A	300	390	Curvature of Roadway
					Southbound		300	560	Trees on Adjacent Property

Notes:

1. Mainline Speed refers to travel speed on Searle Road. Travel speeds account for reduced speed due to roadway curvature and proximity to existing intersections.
2. Sight Distance Standards are the two Caltrans sight distance standards -- corner and stopping -- as documented in the *Highway Design Manual*, 6th Edition.
At a minimum, the stopping sight distance standard must be met.
3. N/A = Not Applicable. The corner sight distance standard does not apply to driveways, per Caltrans requirements.
4. Sight distance calculations can be found in **Appendix I**.
5. Available sight distances highlighted in **red** are shorter than the applicable standard.
6. Limiting Factor are restricting factors on available sight distance.
7. Southbound - Driver exiting Project looking north at southbound Searle Road traffic; Northbound - Driver exiting Project looking south at northbound Searle Road traffic.
8. Line of sight will be provided under elevated sign.