

**TRAFFIC OPERATIONS ANALYSIS**

**FOR**

**ARCO AM/PM GAS STATION & CONVENIENCE MARKET SITE**

**Capitol Expressway at Quimby Road**

San Jose, CA

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# ARCO AM/PM GAS STATION & CONVENIENCE MARKET SITE TRAFFIC OPERATIONS ANALYSIS

## 1 - INTRODUCTION

### 1.1 Study Purpose and Objectives

This study evaluates the traffic impact associated with the proposed redevelopment of the existing ARCO gas station in the northwest quadrant of the Capitol Expressway / Quimby Road intersection in San Jose (Figure 1). The existing site consists of an eight-pump gas station with a smog testing business in the two service bays at the back of the station building. The proposed project consists of a 16-pump gas station with a 3,054 gross square foot convenience store and 971 square foot car wash.

The objective of this study is to analyze the operational characteristics adjacent to and at the project site. Strategies will be suggested for mitigating any on-site or site access impacts of this project.

The project is within the Evergreen East Hills Development Area (EEHDA). The EEHDA policy authorizes 500 new residential units, 500,000 square feet of new retail development and 75,000 square feet of new commercial development. As projects come on line they are applied to the authorized figures above. The primary purpose of the EEHDA Policy is to provide a comprehensive framework for new development within the area. The primary reason for adopting an Area Development Policy is to manage the traffic congestion associated with near term development in the Evergreen-East Hills area and simultaneously promote development consistent with the General Plan goals and neighborhood visions. This policy allows continued development of the area while balancing the community's needs for amenities and transportation mobility. In exchange for an exceeded LOS standard, the Policy provides a mechanism to construct transportation system improvements and desired neighborhood amenities funded by private development beyond the City's typical scope for such improvements.

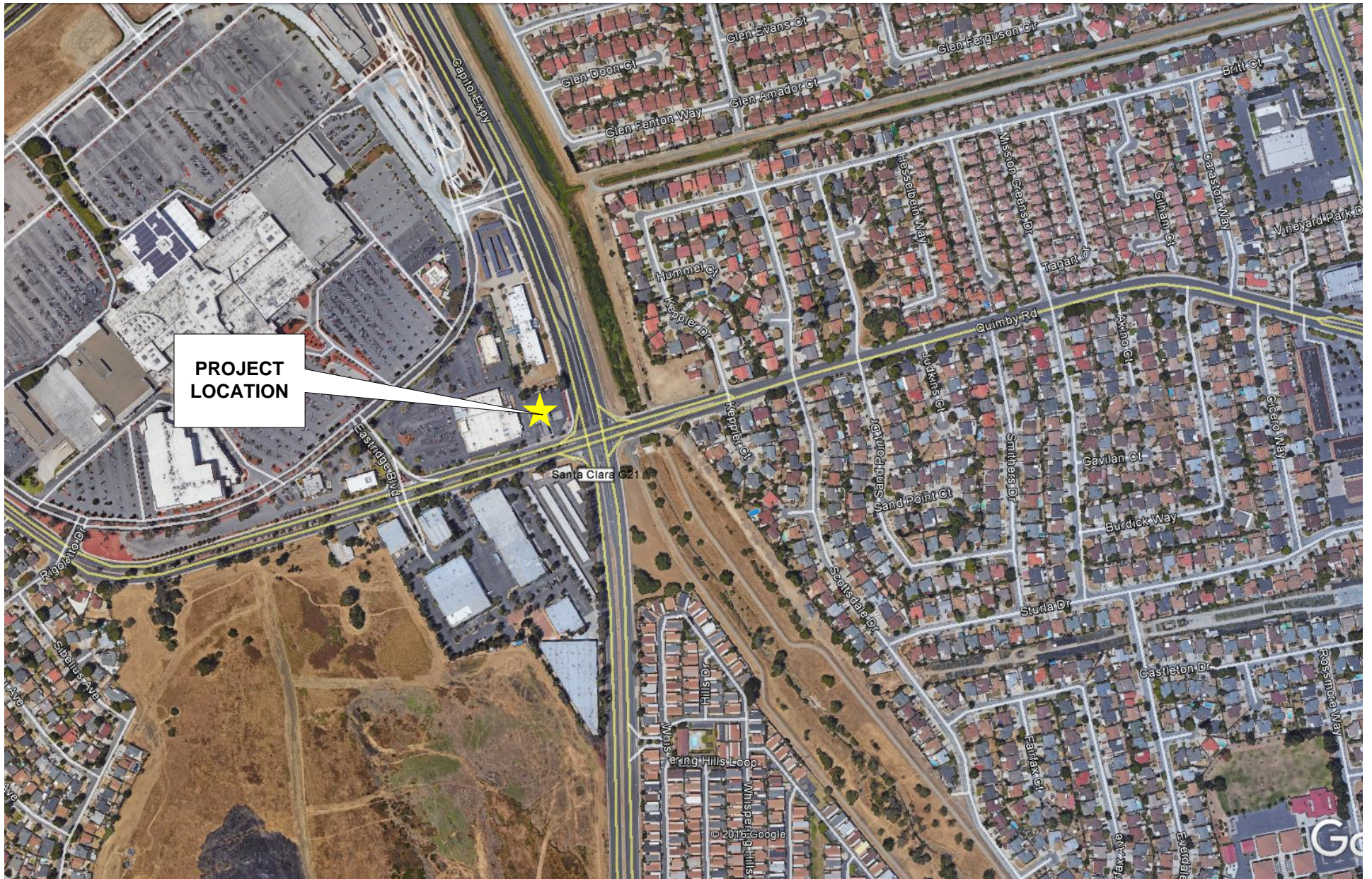
Currently, there is a surplus of available trips associated with the area; i.e. the authorized development noted above has not been exceeded; therefore, the project can "use" a portion of these available trips. Because of this availability, a Traffic Impact Analysis is not required. However, the project is responsible for paying the EEHDA Traffic Impact Fees based on the commercial square footage of the project.

### 1.2 Project Description

The Capitol Expressway / Quimby Road ARCO gas station project will remove the existing 8-pump gas station and replace it with a 16-pump gas station with a 3,054 gross square foot convenience store with a 971 square foot car wash. The site layout is shown in Figure 2. The fueling positions will be reoriented from east-west access to north-south access with the

southerly fueling positions located about 45 feet from the back of sidewalk, about 53 feet from the face of curb. Access to the site will be from the existing westerly driveway. The existing easterly driveway adjacent to Capitol Expressway will be removed as part of the project. The existing westerly driveway provides joint access to the gas station and adjacent businesses. Access to the Fresco supermarket, directly west of the gas station will continue to be allowed from this driveway as will access to the office buildings north of the site.

KDA



VICINITY MAP



## 2 - EXISTING SETTING

The site is located in the northwest quadrant of the Capitol Expressway / Quimby Road intersection. An 8-fueling position ARCO gas station with two service bays is currently located on the project site; the service bays are used for smog testing only.

Capitol Expressway is a north-south divided 8-lane arterial roadway, with the outside lane in each direction reserved for high occupancy vehicles (HOV) during peak periods. Quimby Road is an east-west four-lane divided arterial roadway. The Capitol Expressway / Quimby Road intersection includes the following geometrics:

- |                                 |                            |
|---------------------------------|----------------------------|
| - Northbound Capitol Expressway | - Eastbound Quimby Road    |
| ○ Two left turn lanes           | ○ One left turn lane       |
| ○ Two through lanes             | ○ Two through lanes        |
| ○ One free right turn lane      | ○ One free right turn lane |
| <br>                            |                            |
| - Southbound Capitol Expressway | - Westbound Quimby Road    |
| ○ Two left turn lanes           | ○ Two left turn lanes      |
| ○ Two through lanes             | ○ Two through lanes        |
| ○ One free right turn lane      | ○ One free right turn lane |

Right turning vehicles along Capitol Expressway use the HOV lane to begin and end right turns. The southbound free right turn lane merges with westbound Quimby Road traffic at the existing easterly ARCO driveway.

A field review was conducted at the site and the adjacent Capitol Expressway / Quimby Road intersection on February 28 and March 1, 2017. The field visits were conducted during a.m. and p.m. peak hours to observe the operation of the intersection and the project's driveways. The Capitol Expressway / Quimby Road intersection appeared to operate acceptably with a drive-through of the intersection being completed during both peak hours. Few pedestrians and bicycles were observed as the area does not appear conducive to these travel modes, given the high-speed roadway. Additionally, other than the Eastridge Transit Center, there is little commerce along Capitol Expressway between Quimby Road and Tully Road. The northwest quadrant of the Capitol Expressway / Quimby Road intersection relative to the operation of the gas station driveways is discussed in the section "Site Analysis".

### **2.1 Public Transit**

Santa Clara Valley Transit Authority (VTA) operates buses throughout the East San Jose area. The Eastridge Transit Center is located about ¼ mile north of the project site. The transit center serves seven local bus routes, one community bus route, two express routes and one rapid route. Table 1 identifies the routes that pass the project site, including the times of operation and approximate headways. Figure 3 illustrates the bus routes in the project vicinity.

**TABLE 1  
VTA BUS ROUTES**

Route	Description	Hours of Operation*		
		Midweek	Saturday	Sunday
31	Evergreen College to Eastridge Transit Center	6:05 a.m. – 10:25 p.m.	7:10 a.m. – 6:55 p.m.	9:05 a.m. – 6:00 p.m.
	approximate headway	30 minutes	1 hour	1 hour
39	The Villages to Eastridge Transit Center	6:35 a.m. – 8:05 p.m.	8:30 a.m. – 7:10 p.m.	9:30 a.m. – 6:15 p.m.
	approximate headway	30 minutes – peak / 1 hour off-peak	1 hour	1 hour
70	Capitol LRT to Great Mall/Main Transit Center	5:10 a.m. – 11:25 p.m.	6:10 a.m. – 11:20 p.m.	6:10 a.m. – 11:20 p.m.
	approximate headway	15 minutes	20-40 minutes	20-40 minutes
71	Eastridge Transit Center to Mall/Main Transit Center via White Rd	5:40 a.m. – 10:35 p.m.	6:55 a.m. – 9:25 p.m.	6:55 a.m. – 9:25 p.m.
	approximate headway	15-30 minutes	30 minutes	45 minutes
77	Eastridge Transit Center to Mall/Main Transit Center via King Rd	5:55 a.m. – 9:55 p.m.	6:40 a.m. – 7:55 p.m.	6:40 a.m. – 7:55 p.m.
	approximate headway	15-20 minutes	30 minutes	30 minutes

\*rounded to nearest 5 minute



## **2.2 Bicycle and Pedestrian Facilities**

There are four distinct types of bicycle facilities in California. These include:

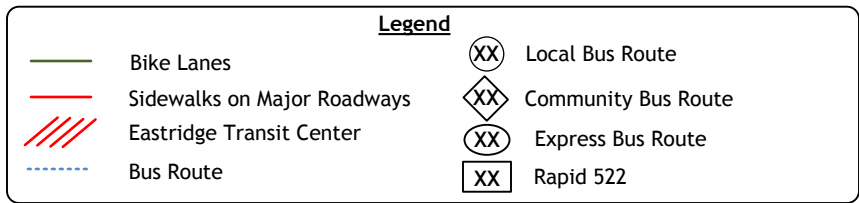
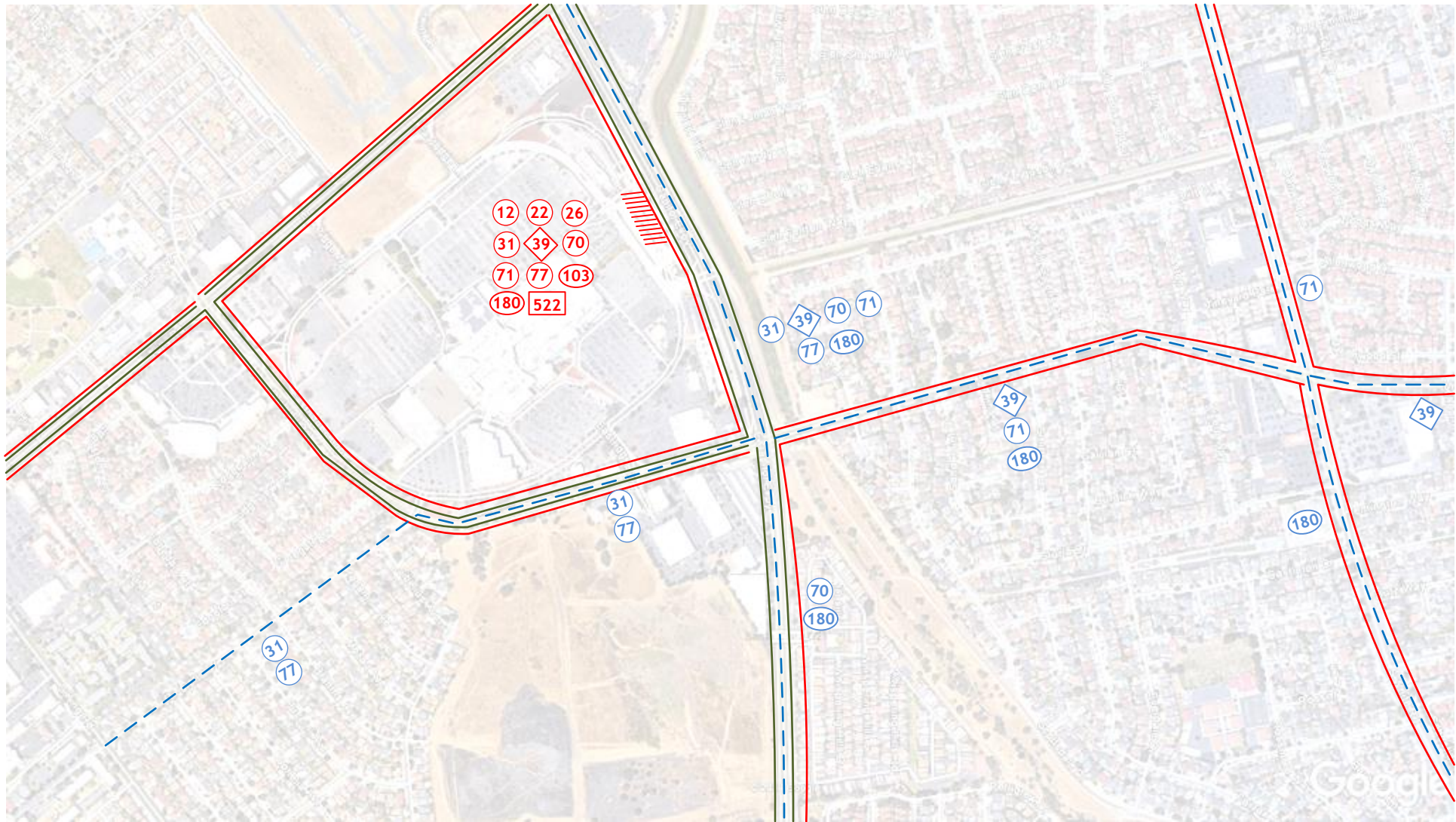
- Bike paths or shared use paths, also referred to as “Class 1 bikeways,” which provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with crossflows by motorists minimized.
- Bike lanes, also referred to as “Class 2 bikeways,” which provide a restricted 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.
- Bike routes, also referred to as “Class 3 bikeways,” which provide a right-of-way on-street or off-street, designated by signs or permanent markings and shared with pedestrians and motorists.
- Cycle tracks or separated bikeways, also referred to as “Class 4 bikeways,” which promote active transportation and provide a right-of-way designated exclusively for bicycle travel adjacent to a roadway and which are separated from vehicular traffic. Types of separation include, but are not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

Class 2 bike lanes are present along Capitol Expressway in both northbound and southbound directions. Bike lanes are also present along Quimby Road west of Capitol Expressway. The bike lanes include buffer zones, totaling about 8’ in width. The bike lanes are dropped prior to the intersection due to the free right turn lanes on all approaches. The lanes begin along the departure legs after the weave area for through and side street right turning traffic. The westbound bike lane along Quimby Road begins on the west side of the existing easterly driveway, within the merge for westbound Quimby Road traffic and southbound to westbound right turning Capitol Expressway traffic.

Sidewalk is present along both north and south sides of Quimby Road east and west of Capitol Expressway. Sidewalk is present along the east side of Capitol Expressway south of Quimby Road and along the west side of Capitol Expressway north of Quimby Road. Pedestrians walking along Capitol Expressway, therefore, have to cross the street at this intersection. Figure 3 illustrates the bicycle and pedestrian facilities in the project vicinity.

## **2.3 Existing Lane Configurations**

As noted in Section 2.1 Quimby Road is an east-west road. The eastbound approach includes a left turn lane, a through lane and a shared through-right lane. The westbound approach includes dual left turn lanes, a through lane and a shared through-right lane. Both approaches along Capitol Expressway include dual left turn lanes, three through lanes and an HOV lane that allows free right turn movements for all turning vehicles.



### 3 - PROJECT CONDITIONS

#### 3.1 Trip Generation

The development of this project will attract additional traffic to the project site. The amount of additional traffic on a particular section of the street network is dependent upon two factors:

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

Trip generation is determined by identifying the type and size of land use being developed. Recognized sources of trip generation data may then be used to calculate the total number of trip ends. An 8-vehicle fueling position (VFP) gas station currently exists on the site and will be replaced by a 16 VFP gas station with convenience store and car wash.

The trip generation of the project was computed using trip generation rates published in *Trip Generation* (Institute of Transportation Engineers, 9th Edition, 2012) based on the existing and projected uses of the site. City of San Jose staff indicated that project trip generation should be based on the combination of Land Use 853, Convenience Store with Gas Pumps and Land Use 948, Automated Car Wash.

Table 2 displays the a.m. and p.m. peak hour trip generation for the proposed project. The project is expected to generate 265 a.m. peak hour trips and 319 p.m. peak hour trips. Based on *Trip Generation* the existing 8 VFP site generates 97 a.m. peak hour trips and 111 p.m. peak hour trips.

Trips generated by commercial projects fit into two categories. Some trips will be made by patrons who would not otherwise be on the local street system and who go out of their way to reach the site. These are “new” trips. Other trips will be made by patrons who are already in the roadway network, and are therefore not adding “new” trips to the overall system.

“Pass-by” trips would be made by motorists who are already driving by the site as part of another trip. Peak hour pass-by trips are common on commuter routes as motorists stop inbound and outbound. They are made by patrons who are already driving by the site and simply interrupt a trip already being made to other destinations. An example of this type of trip is stopping to refuel a vehicle.

ITE research has suggested typical “pass-by” percentages for various land uses where appreciable background traffic occurs. The share of project trips falling into each category varies over the day. Table 2 also presents the “pass-by” reductions used for this study. Application of these rates yields a total of 168 ‘pass-by’ a.m. peak hour trips and 202 ‘pass-by’ p.m. peak hour trips for the new project and 57 a.m. trips and 48 p.m. trips under current conditions. After accounting for pass-by traffic, the project is expected to generate 57 ‘new’ a.m. peak hour trips and 54 ‘new’ p.m. peak hour trips.

#### 3.2 Trip Distribution

The distribution of project traffic was developed based on existing traffic counts, the travel patterns in the area and the proximity to commute routes, residential housing, employment

centers and schools. Table 3 and Figure 4 present the projected trip distribution percentages for the project. Based on the driveway location relative to the site layout all traffic is expected to enter and exit onto Quimby Road.

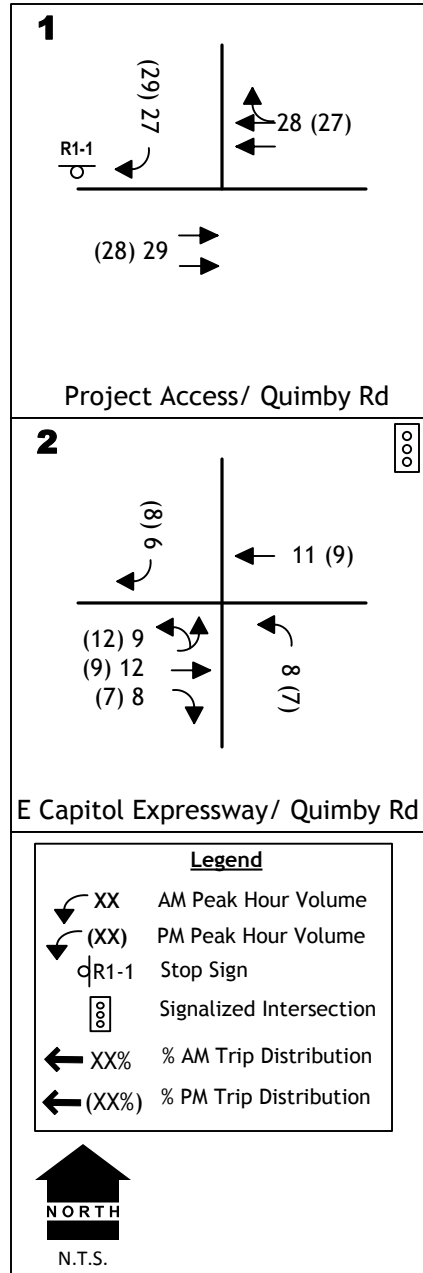
**TABLE 2  
PROJECT TRIP GENERATION**

Land Use	Amount	Trip Rate				Trips			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
<b>Projected Trips at Project Site</b>									
Convenience Store with Gas Pumps (LU 853)	16 VFP	16.57		19.07		265		305	
Automated Car Wash (LU 948)	0.971 KSF	N/A		14.12		N/A		14	
Total Trips						265		319	
		<b>In</b>	<b>Out</b>	<b>Out</b>	<b>In</b>	<b>Out</b>	<b>In</b>	<b>Out</b>	<b>In</b>
		50%	50%	50%	50%	133	133	160	160
Pass-By Trip Reduction – Gas Station <sup>1</sup>						84	84	101	101
<b>New Trips – Proposed Site</b>						49	49	59	59
<b>Existing Trips at Project Site</b>									
Gas Station (LU 944)	8 VFP	12.16		13.87		97		111	
		<b>In</b>	<b>Out</b>	<b>In</b>	<b>Out</b>	<b>In</b>	<b>Out</b>	<b>In</b>	<b>Out</b>
		51%	49%	50%	50%	50	48	56	56
Pass-By Trip Reduction – Gas Station <sup>2</sup>						(29)	(28)	(24)	(24)
<b>Existing Trips – Existing Site</b>						21	20	32	32
<b>Net New Trips</b>						<b>28</b>	<b>29</b>	<b>27</b>	<b>27</b>

Notes: <sup>1</sup> Pass-by rates, ITE Trip Generation Handbook – 63% AM, 66% PM (LU 853)  
<sup>2</sup> Pass-by rates, ITE Trip Generation Handbook – 58% AM, 42% PM (LU 944)  
VFP – vehicle fueling position; KSF – thousand square feet  
Numbers may not match due to rounding  
N/A – data not available

**TABLE 3  
PROJECT TRIP DISTRIBUTION**

Route	% of Total Trips	
	AM	PM
To / from Capitol Expressway - north	23%	28%
To / from Capitol Expressway - south	28%	25%
To / from Quimby Road – east	40%	32%
To / from Quimby Road - west	9%	15%
Total	100%	100%



PROJECT TRIP DISTRIBUTION/ASSIGNMENT RETURN  
NET NEW TRIPS

## 4 - SITE DESIGN REVIEW

This section provides an analysis of the project site. Existing conditions were reviewed, specifically relative to the two driveways currently used to enter and depart the site. The proposed site will remove the easterly driveway and re-orient the fueling positions.

The site is located in the northwest quadrant of the Capitol Expressway / Quimby Road intersection in San Jose. Access to the current gasoline station is provided by two driveways along Quimby Road providing right-in, right-out only access. The easterly driveway is located at the edge of the curb return of the northwest quadrant of the intersection while the westerly driveway is located about 110 feet centerline to centerline from the east driveway.

### 4.1 Existing Conditions

Site visits were conducted on February 28 and March 1 and showed that the flow of traffic through the fueling positions (pumps) is almost entirely east to west. Vehicles were observed entering the easterly driveway and positioning themselves into one of the four fueling position lines. The site layout does not allow for significant queuing between the pumps and Quimby Road. When vehicles queue in this area overflow vehicles tend to proceed to the westerly driveway, enter the site and circle clockwise around the back of the service station to enter the fuel pump lines from the north. It was noted that some vehicles would queue in the driveway and on Quimby Road, although those motorists queuing along the road tended to move as close to the curb so as not to block the free right turn lane.

Traffic using the westerly driveway has multiple options once they turn into the site as highlighted in Figure 5. Motorists can make an immediate left turn upon entering the driveway which allows them to access the adjacent Fresco supermarket without having to travel to the next intersection. The proceeding intersection provides access to the Eastridge Mall Shopping Center's internal roadway network (Eastridge Loop) which provides access to the supermarket. Motorists entering the ARCO driveway can also proceed around the service station as described previously or they can use this driveway to head north to office buildings whose primary access is via Eastridge Loop. Traffic entering Quimby Road from this driveway comes from all three directions. Westerly inbound right turns frequently were observed turning slowly into the driveway. This appeared to be due to outbound vehicles queued at the driveway while waiting for gaps in traffic along westbound Quimby Road. Inbound motorists appeared to have to negotiate a narrow width created by the queued vehicles and the driveway curb.

Motorists entering the gas station from the free right turn lane along southbound Capitol Expressway tended to enter the easterly driveway and do so with a 180° right hand turn. This turn is made at a slow speed, at about 5 mph; additionally, these motorists were typically overtopping the curb adjacent to the driveway. The queues that were observed as a result of these entries were generally a single car queue, and there is adequate sight distance to observe a stopped car from Capitol Expressway.

#### **4.1.1 Issues with Current Access**

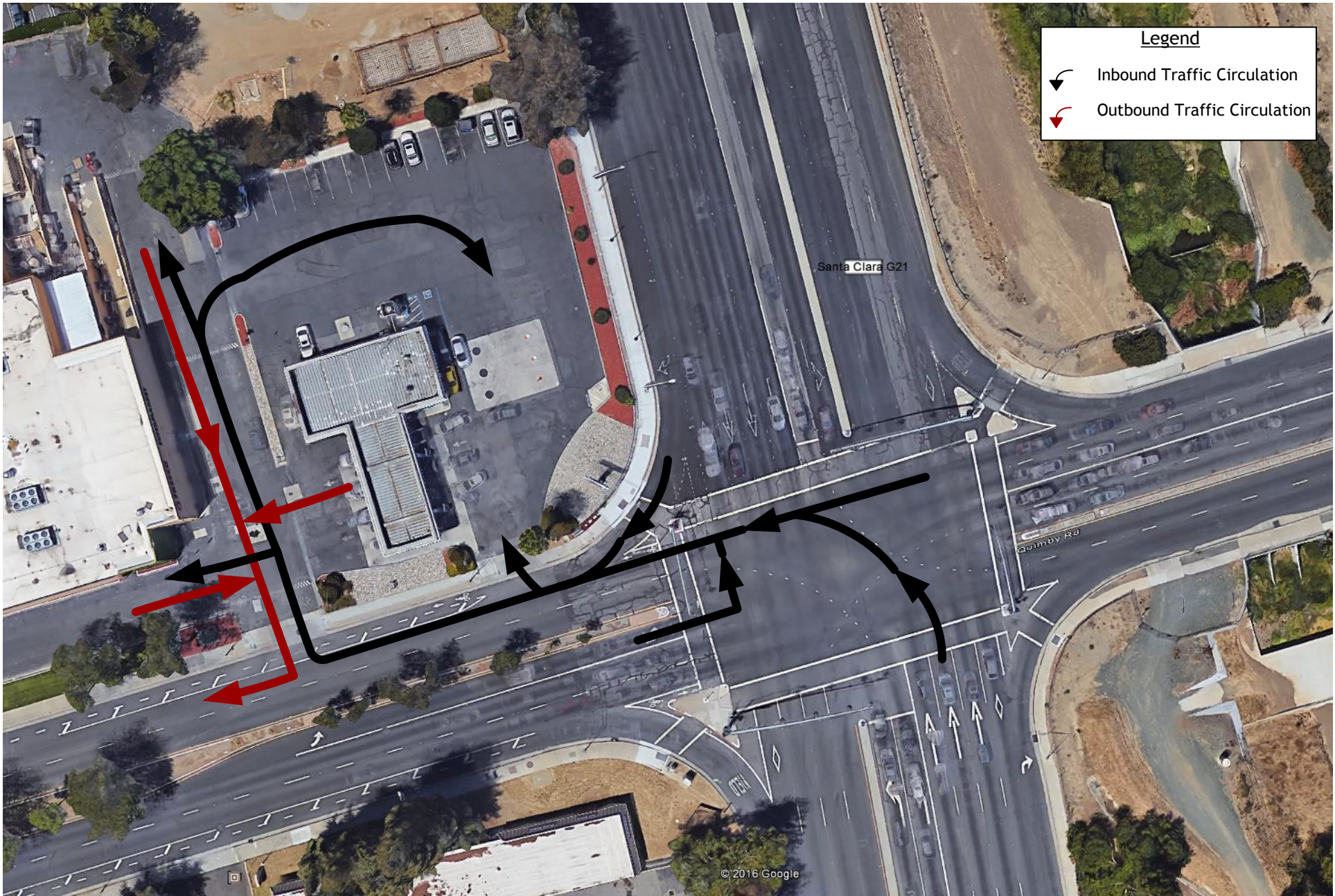
The current access appears to have several design issues which impede traffic flow into the site. These include:

- The driveway location directly adjacent to Capitol Expressway requiring a 180° right turn from southbound Capitol Expressway;
- The location of the fuel pumps located about 18 feet from the back of sidewalk (about 26 feet from the curb face);
- The flow of vehicles on-site from east to west;
- The ability of supermarket traffic to access the site at the west driveway.

#### **4.1.2 Inbound Driveway Queues**

During the site visits queuing of traffic turning into the site was observed for the peak a.m. and p.m. two-hour periods. Queuing was considered to include vehicles behind a turning vehicle that stopped or slowed to less than about 15 mph.

Table 4 presents all observed queues at both driveways during each 15-minute period in both the a.m. and p.m. peak 2-hour periods. There are more vehicles queued entering the east driveway due to the direction of vehicles from east to west at the fuel pumps. The maximum number of vehicles queued were five vehicles in the morning and four vehicles in the evening at the east driveway and six vehicles in the morning and five vehicles in the evening at the west driveway. The queues along Quimby Road at the west driveway appear to be related to vehicles turning to enter the site while waiting for outbound vehicles to exit; the six-vehicle queue observed in the morning was due to a semi-trailer truck entering the driveway to make a delivery to the supermarket adjacent to the project site. The queues at the east driveway are related to the 180° right turn and the minimum vehicle storage between the street and the fuel pumps.



**EXISTING SITE CIRCULATION PLAN**



**TABLE 4  
OBSERVED DRIVEWAY QUEUES**

Period	Vehicles Queued AM		Period	Vehicles Queued PM	
	East Driveway	West Driveway		East Driveway	West Driveway
7:00 – 7:15	1	0	4:00 – 4:15	1 2 1 1 3	3
7:15 – 7:30	2	0	4:15 – 4:30	1 1 1	1 1
7:30 – 7:45	2 1 2 1 2	2	4:30 – 4:45	1 3 1 1 1 1	0
7:45 – 8:00	1 1	0	4:45 – 5:00	2 1 3 1 1	0
8:00 – 8:15	1 3 3 3	2 2 <b>6*</b>	5:00 – 5:15	<b>4</b> 1 1 1 1 1	2
8:15 – 8:30	1 3 4	0	5:15 – 5:30	2 1 1	1 3 <b>5</b> 1
8:30 – 8:45	2 2 1 1	0	5:30 – 5:45	1 2 1 1 2	0
8:45 – 9:00	<b>5</b> 2 3 1 1 3†	0	5:45 – 6:00	1 2 1 2	0

\* semi-trailer turning to enter adjacent supermarket

† semi-trailer entering gas station

Bold indicates maximum observed queue

## **5 - EXISTING PLUS PROJECT OPERATIONS ANALYSIS**

### **5.1 Project Description**

The proposed project will remove the existing 8 pump gas station and replace it with a 16-pump gas station with a 3,054 gross square foot convenience store with car wash. The site layout is shown in Figure 2. The fueling positions will be reoriented from east-west access to north-south access with the southerly fueling positions located about 45 feet from the back of sidewalk, about 53 feet from the curb. Access to the site will be from the existing westerly driveway with the easterly driveway adjacent to Capitol Expressway being removed as part of the project. Access to the supermarket will continue to be allowed from this driveway as will access to the office buildings north of the site.

### **5.2 Project Access and On-Site Circulation**

The proposed project will eliminate the east driveway and maintain the west driveway as the primary access to the new gas station and convenience store; secondary access from Eastridge Loop will remain. The convenience store and car wash will be situated at the north side of the site with the fueling positions oriented north-south. The fueling positions will be situated with the southerly most positions about 53 feet from the Quimby Road curb, double what currently exists.

The primary issues with the current configuration include the east driveway's proximity to the Capitol Expressway / Quimby Road intersection. The southbound right turn along Capitol Expressway is a free right turn and customers entering through this driveway can block the free right turn movement if customers cannot enter the site due to congestion. It was observed that customers who did use the east driveway periodically caused vehicles to queue behind the entering vehicle as the customer has to make a 180° turn. The queues tended to be one vehicle and were short in duration. The removal of this driveway will require all customers to use the west driveway. This driveway is situated about 155 feet west of the crosswalk at Capitol Expressway. The roadway configuration along Quimby Road includes two through lanes and a bike lane with buffer. Few bicyclists were observed in this segment and it is expected that customers will use the bike lane to complete the turn into the driveway. Based on the distance available between Capitol Expressway and the driveway motorists traveling behind customers preparing to enter the driveway will be able to change lanes as necessary.

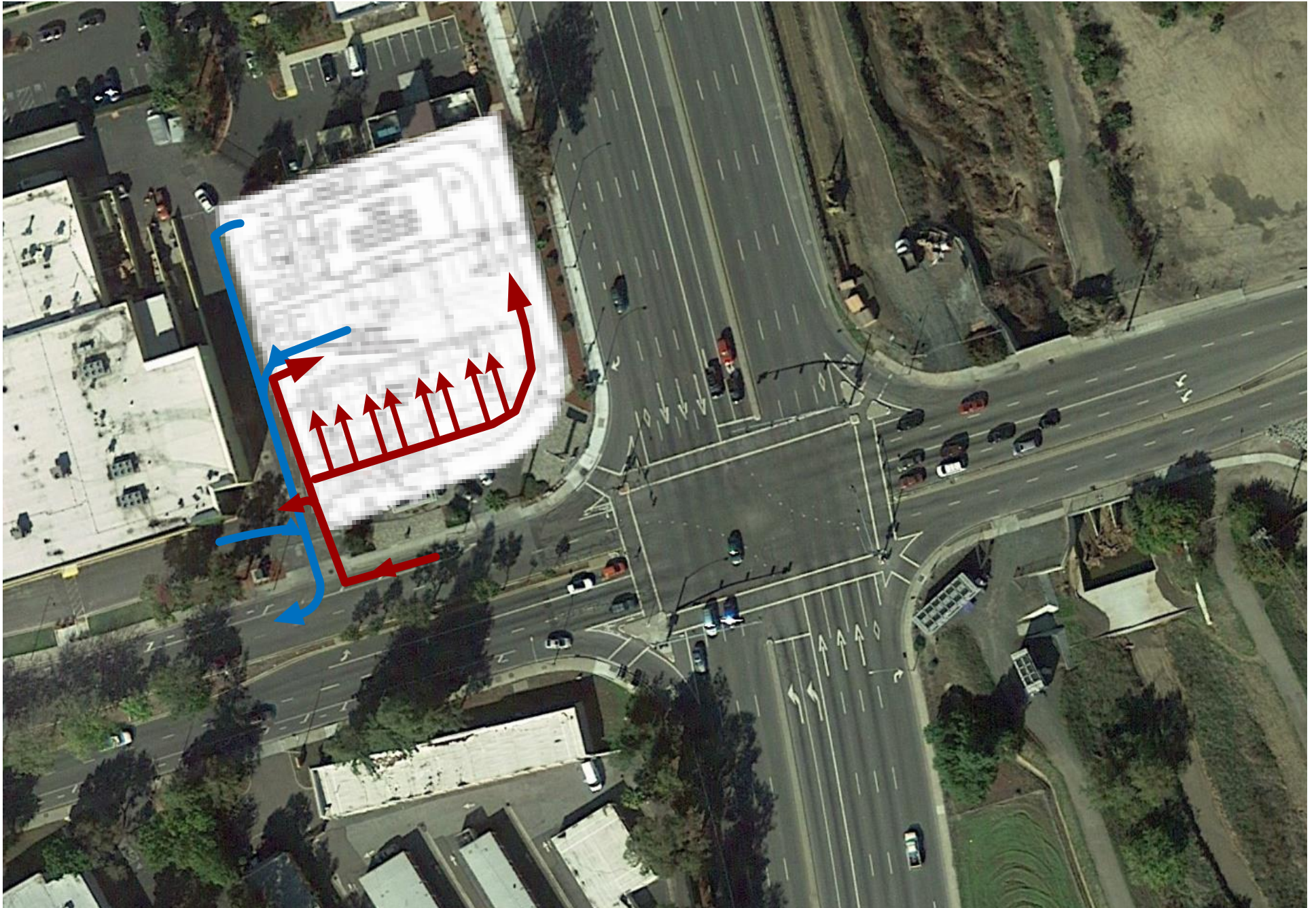
The driveway configuration and placement of the fuel pumps will also improve access into the site. As noted previously, customers currently entering the site have little room between the first gas pump aisle and the street. Additionally, the general flow of traffic in the gas station is east to west. These conditions create disarray on the site as customers were observed to compete for position in line. The proposed layout will allow customers to enter the site and choose an aisle after having cleared the driveway. The flow of gasoline customer traffic should be south to north. Exiting customers will circle back to the south between the fuel pumps and the convenience store, and this should not interfere with inbound traffic. Traffic heading to the convenience store will most likely proceed down the drive aisle past the fueling positions to enter the parking area. The additional fueling positions with the larger queuing area should

alleviate queuing that currently can back up onto Quimby Road as customers should be able to find available pumps quicker. Car wash traffic is likely to approach the car wash by either traveling along the southern and eastern perimeter of the site or be traversing past the convenience store, depending on where customers can pay for a car wash. Figure 6 illustrates the on-site traffic flow.

Overall, it is expected that queues along Quimby Road will not worsen for vehicles entering the site and proceeding to the gas station or office building; however, as the driveway also provides a drive aisle to the adjacent supermarket queues are likely to continue to develop when an inbound supermarket customer is waiting for a gap in outbound driveway traffic. While more traffic is projected to be generated by the project there is more distance between the driveway and the Capitol Expressway intersection to allow trailing vehicles to bypass those vehicles entering the site.

Fuel truck access will occur via the single driveway located on the west side of the site. The fuel tanks will be located just east of the driveway north of the landscape area adjacent to Quimby Road. Fuel trucks will enter the driveway from the east and make a 180° turn to the fuel tanks. This is illustrated in Figure 2. Upon completion the fuel trucks will circle the site in a counterclockwise direction, pass between the fueling positions and convenience store and head south along the main access driveway where they will exit the site to the west.

Garbage trucks will be able to enter the site from the Quimby Road driveway or through an interior drive aisle on the north side of the Fresco supermarket. The trash enclosure will be located on the west side of the convenience store. It is expected that the garbage trucks will have front end forks for dumpster pick-up. The truck operator may either position the dumpster perpendicular to the drive aisle with the truck facing either north or south or parallel to the drive aisle with the truck facing the convenience store to empty the dumpster. Upon leaving, the truck operator may choose to depart via the Quimby Road driveway or to the north and the Eastridge Loop. The arrival and departure will be based on the operator's route through the area.



## PROPOSED PROJECT SITE CIRCULATION PLAN

## 6 - CITY COUNCIL POLICY 6-10

City Council Policy 6-10 (Criteria for the Review of Drive-through Uses) requires that the following issues be assessed under Section I TRAFFIC for Conditional Use Permit for the drive-thru car wash:

- A. Primary ingress and egress to the drive-through type use parking lots should be from at least a four-lane major street.
- B. The drive-through stacking lane shall be situated so that any overflow from the stacking lane shall not spill out onto public streets or major aisles of any parking lot. Overflow capacity shall be 50 percent of required stacking for overflow restricted to the parking lot and 100 percent of required stacking if the overflow is directed to the street.
- C. No ingress and egress points shall conflict with turning movements of street intersections.
- D. No drive-through use shall be approved with ingress or egress driveways within 300 feet of a signalized intersection operating at a Level of Service D, E, or F unless a traffic analysis demonstrates, to the satisfaction of the Director of Public Works, that vehicles entering or leaving said use will not impair the efficiency or operation of the intersection.
- E. The drive-through stacking lane shall be separated physically from the user's parking lot and shall have a capacity of:
  - 4. Self-Service Car Washes - 5 cars per lane
- F. No pedestrian crossing of the drive-through lane shall be allowed.
- G. Proposed drive-through uses at or near signalized intersections may compound existing traffic congestion and make it intolerable even if the intersection meets the Transportation LOS Policy. In these situations proposed drive-through uses should be discouraged.

Under VII. LOCATION the policies note:

- C. Buildings with drive-through facilities shall be located with a minimum separation of 500 feet from any structure containing a drive-through facility.

Self-service car washes which are proposed in conjunction with existing gasoline service stations may be exempted from this locational criterion provided the traffic criteria in I TRAFFIC above are satisfied.

- A. The project will continue to access to have primary access through a single driveway along Quimby Road which is a four-lane divided roadway.
- B. The project's car wash is located at the far north side of the site, away from the driveway at the south side of the site. Were the drive-through stacking lane overflow there is adequate capacity to queue at least an additional seven vehicles along the east and south frontage before reaching the driveway. This overflow is beyond the 50 percent of required stacking for overflow restricted to the parking lot and beyond the 100 percent of required stacking if the overflow were directed to the street.
- C. Ingress and egress of the car wash drive-through is not adjacent to the driveway and therefore does not conflict with turning movements of the street intersection.

- D. Level of Service was analyzed for the Capitol Expressway / Quimby Road intersection under Existing conditions. Under existing conditions the intersection operates at LOS D (41.2 seconds of delay) in the a.m. peak hour and LOS E (71.2 seconds of delay) in the p.m. peak hour. The driveway access is downstream of the adjacent intersection. Eliminating the easternmost driveway will improve sight visibility for the southbound to westbound free right turn from Capitol Expressway to Quimby Road. The Capitol Expressway / Quimby Road intersection should experience improved operation for westbound departing traffic as customer vehicles that were occasionally observed to queue on Quimby Road at the intersection will be relocated to the driveway 150' from the intersection. The realigned site should allow these vehicles to enter the site and eliminate on-street queuing. The driveway, which exists today, would not affect the operation of the intersection.
- E. The drive-through stacking lane is proposed to be physically separated from the remainder of the site with curbing. For self-service car washes the City has identified that the stacking lane shall accommodate 5 cars per lane. The proposed stacking lane can accommodate five to six vehicles.
- F. The project applicant intends to ask for a variance of this policy. Access to Capitol Expressway is proposed near the car wash entrance, and pedestrians desiring access to the convenience store and other local business will be able to reduce their walk time by using this access point. An access point will also reduce pedestrian travel through the gas station. It is not expected that there will be significant pedestrian traffic. Motor vehicle traffic entering the car wash will do so at low speeds and there will be clear sight distance to the pedestrian crossing.
- G. While the car wash is located adjacent to the Capitol Expressway / Quimby Road intersection the site is currently a gas station. The proposed project will double the fueling positions and adds the convenience store component leading to more trips. The site is a conditional use and a 16 VFP gas station without car wash could be constructed on the site. This would generate more trips than the proposed site. Many trips associated with car washes attached to a gas station site are cars that are internally captured, i.e. the customer has either entered the site to get fuel or stop at the convenience store. It is unlikely that the additional trips that are car wash only would exacerbate existing traffic congestion.
- H. The policy notes that car washes proposed in conjunction with existing service station may be exempted from the locational criteria provided the traffic criteria is met.

## 7 – CONCLUSIONS AND RECOMMENDATIONS

The preceding analysis reviewed the on-site conditions of the existing gas station site in the northwest quadrant of the Capitol Expressway / Quimby Road intersection. The site is highly travelled with almost all vehicles entering the site from Quimby Road from two driveways. The easternmost driveway is adjacent to the curb return at the free right turn for southbound to westbound Capitol Expressway traffic. Currently, traffic can back up into Quimby Road based on the orientation of the gas station fueling positions.

The proposed project will expand the site from 8 to 16 fueling positions, add a 3,054 square foot convenience store and 91 square foot automated car wash. The fueling positions will be oriented north-south, as opposed to the current east-west orientation. Additionally, the eastern driveway will be removed and all Quimby Road traffic will enter at the west side of the site. This should improve visibility for those motorists making the free right turn from southbound Capitol Expressway. The single western driveway location will also provide a longer sight distance to the driveway. The reorientation of the fueling positions and the setback further from Quimby Road will provide additional queuing opportunities on-site as it is expected that gas station customers will orient themselves facing northbound. Convenience store customers will likely use the main drive aisle adjacent to the Fresco market to park at the store. Upon exiting, it is expected that outbound traffic will use the main drive aisle.

With regard to City Council Policy 6-10 the proposed car wash is located at the northmost portion of the site, furthest away from Quimby Road. Car washes on gas station sites are typically ancillary uses with minimal new traffic generated by the use. Most users are either fueling vehicles or visiting the convenience store. The proposed stacking lane is separated from the other on-site uses with five to six cars accommodated.

The following recommendations are made:

- the east driveway should be closed with this project.
- fueling position access should be made in a one-way direction from south to north. Signage and striping should be provided to direct customers to the fueling lanes. This should allow inbound vehicles to clear the Quimby Road driveway and enter a fueling lane. Upon exiting, all vehicles should continue north toward the convenience store and then head back toward the Quimby Road driveway. This should reduce vehicle conflicts at the driveway with those vehicles entering and exiting the Fresco market.