

# Appendix J

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CEQA Analysis

# **EL DORADO COSTCO CEQA ANALYSIS**

**El Dorado County, California**

July 2025



Inside front cover

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# El Dorado Costco CEQA Analysis El Dorado County, CA

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Project Number 26783

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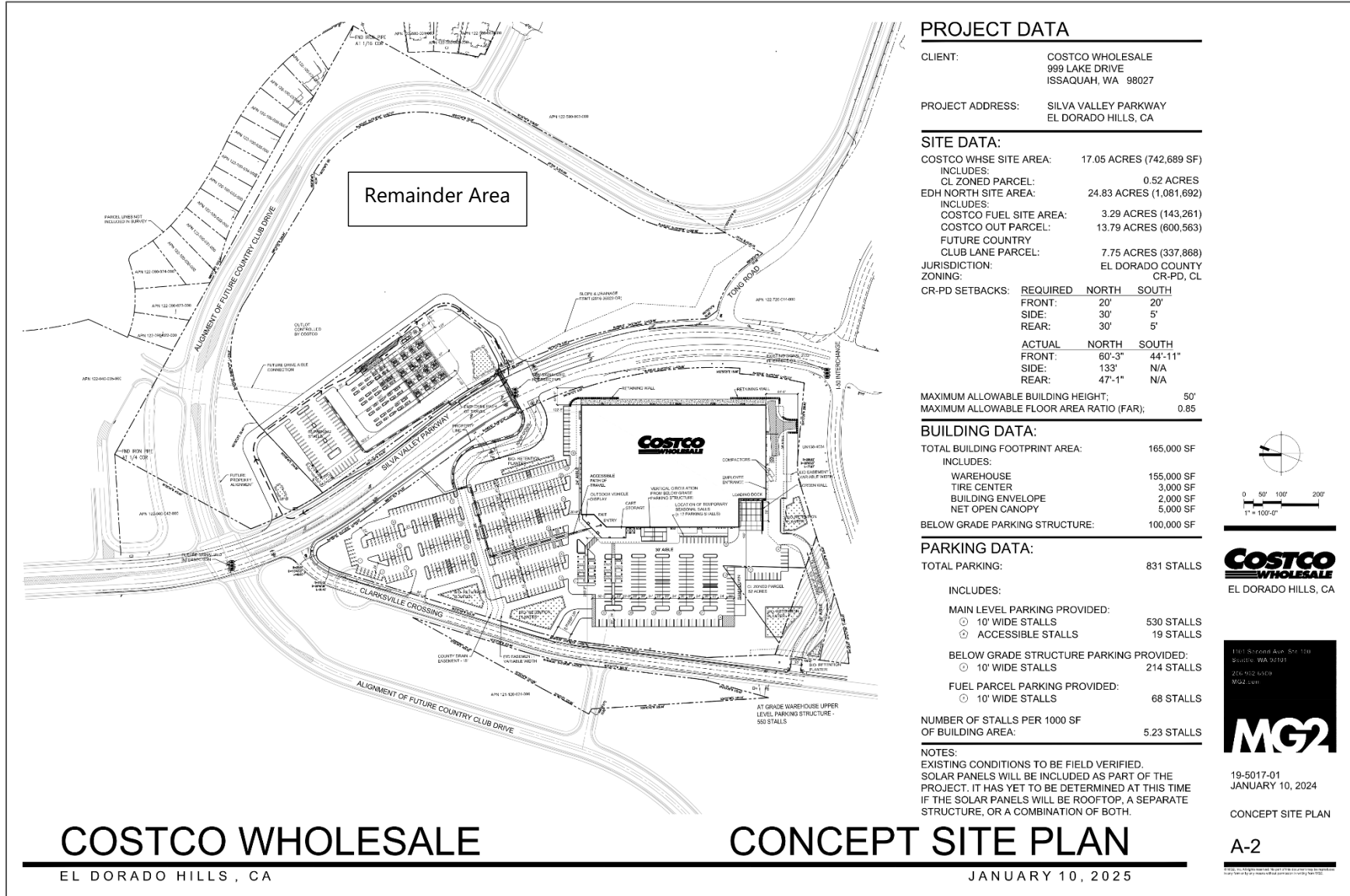
# Introduction

Costco Wholesale (Costco) has proposed to construct an approximately 155,700 square foot warehouse retail facility and 30-fueling position fuel station (Project) in El Dorado County, CA along Silva Valley Parkway and just north of US 50. Silva Valley Parkway bifurcates the development with the warehouse retail building on the south side of the road and adjacent to Clarksville Crossing (South Site), and the fuel facility on the north side of the road (North Site). This report evaluates this Project under the California Environmental Quality Act (CEQA) to determine whether the Project would result in potentially significant impacts. Figure 1 presents the proposed Project site plan.

On the North Site, approximately 3.29 acres would be developed with a Costco members-only fuel facility and an employee parking area. The remainder of the North Site would include a 13.79 acre out-parcel that would remain undeveloped at this time (Remainder Area). Figure 1 presents the Remainder Area.

The Costco project proposes no development for the Remainder Area. However, development of the remainder area would be made more reasonably foreseeable by the proposed annexation of the entire North Site to the El Dorado Irrigation District and the El Dorado Fire District. Since such annexations are assumed to facilitate possible future development of the Remainder Area, even though there is not even a conceptual or contemplated plan for build out of that land, the analysis in this report conservatively assumes that such land would be developed consistent with the General Plan and zoning designations and density. The assumed total potential commercial development of the Remainder Area is approximately 138,000 square feet. This analysis programmatically studies development of the Remainder Area with 138,000 square feet of commercial uses.

Figure 1. Proposed Site Plan



**PROJECT DATA**

CLIENT: COSTCO WHOLESale  
999 LAKE DRIVE  
ISSAQUAH, WA 98027

PROJECT ADDRESS: SILVA VALLEY PARKWAY  
EL DORADO HILLS, CA

**SITE DATA:**

COSTCO WHSE SITE AREA: 17.05 ACRES (742,689 SF)  
INCLUDES:  
CL ZONED PARCEL: 0.52 ACRES  
EDH NORTH SITE AREA: 24.83 ACRES (1,081,692)  
INCLUDES:  
COSTCO FUEL SITE AREA: 3.29 ACRES (143,261)  
COSTCO OUT PARCEL: 13.79 ACRES (600,563)  
FUTURE COUNTRY CLUB LANE PARCEL: 7.75 ACRES (337,868)

JURISDICTION: EL DORADO COUNTY  
ZONING: CR-PD, CL

CR-PD SETBACKS:	REQUIRED	NORTH	SOUTH
FRONT:	20'	20'	
SIDE:	30'	5'	
REAR:	30'	5'	
ACTUAL	NORTH	SOUTH	
FRONT:	60'-3"	44'-11"	
SIDE:	133'	N/A	
REAR:	47'-1"	N/A	

MAXIMUM ALLOWABLE BUILDING HEIGHT: 50'  
MAXIMUM ALLOWABLE FLOOR AREA RATIO (FAR): 0.85

**BUILDING DATA:**

TOTAL BUILDING FOOTPRINT AREA: 165,000 SF  
INCLUDES:  
WAREHOUSE: 155,000 SF  
TIRE CENTER: 3,000 SF  
BUILDING ENVELOPE: 2,000 SF  
NET OPEN CANOPY: 5,000 SF

BELOW GRADE PARKING STRUCTURE: 100,000 SF

**PARKING DATA:**

TOTAL PARKING: 831 STALLS

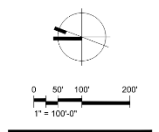
INCLUDES:  
MAIN LEVEL PARKING PROVIDED:  
○ 10' WIDE STALLS: 530 STALLS  
○ ACCESSIBLE STALLS: 19 STALLS

BELOW GRADE STRUCTURE PARKING PROVIDED:  
○ 10' WIDE STALLS: 214 STALLS

FUEL PARCEL PARKING PROVIDED:  
○ 10' WIDE STALLS: 68 STALLS

NUMBER OF STALLS PER 1000 SF OF BUILDING AREA: 5.23 STALLS

NOTES:  
EXISTING CONDITIONS TO BE FIELD VERIFIED.  
SOLAR PANELS WILL BE INCLUDED AS PART OF THE PROJECT. IT HAS YET TO BE DETERMINED AT THIS TIME IF THE SOLAR PANELS WILL BE ROOFTOP, A SEPARATE STRUCTURE, OR A COMBINATION OF BOTH.



19-5017-01  
JANUARY 10, 2024

CONCEPT SITE PLAN

A-2

**COSTCO WHOLESale**  
EL DORADO HILLS, CA

**CONCEPT SITE PLAN**  
JANUARY 10, 2025

# CEQA Background & Significance Criteria

In January 2016, the California Office of Planning and Research (OPR), now the Governor's Office of Land Use and Climate Innovation (OLCI), published for public review and comment a Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, recommending that transportation impacts for projects be measured using a vehicle miles traveled (VMT) metric. In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the section implementing Senate Bill (SB) 743 (section 15064.3). OPR developed a Technical Advisory on Evaluating Transportation Impacts in CEQA, which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The Board of Supervisors of the County of El Dorado adopted its own VMT significance thresholds for analyzing transportation impacts under CEQA, consistent with OPR's guidance, in October 2020 (Resolution 141-2020).<sup>1</sup>

The Project's impact is not considered to be significant unless it would:

- a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- b) Conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).
- c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- d) Result in inadequate emergency access.

Significance criterion "b" is related to the implementation of VMT as the primary performance metric. OPR recommends using a project's total VMT (as opposed to per-capita or per employee VMT) for retail projects because "... retail projects typically re-route travel from other retail destinations. A retail project might lead to increases or decreases in VMT, depending on previously existing retail travel patterns." Therefore, a project is considered to have a significant impact if it results in a net increase in existing regional VMT.

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<https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/transportation/executed-resolution-141-2020.pdf>

# 1. Consistency with Plans and Programs

The County of El Dorado (County) has jurisdiction over County streets and County-operated traffic signals. Caltrans has jurisdiction over State facilities and on- and off-ramp intersections with County streets. Kittelson reviewed the applicable programs, plans, ordinances, and policies that pertain to the Project's potential impacts on the transportation system.

## FEDERAL

No federal plans, policies, regulations, or laws related to transportation and circulation were identified as applicable to the Project.

## STATE

### **Senate Bill 743 (2020)**

Senate Bill (SB) 743, passed in 2013, required the Governor's Office of Planning and Research (OPR) to develop new CEQA guidelines that address transportation metrics under CEQA. As stated in the legislation, upon adoption of the new guidelines, "automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any."

OPR published its proposal for the comprehensive updates to the CEQA Guidelines in November 2017 which included proposed updates related to analyzing transportation impacts pursuant to Senate Bill 743. These updates indicated that vehicle miles traveled (VMT) be the primary metric used to identify transportation impacts. In December of 2018, OPR published the most recent version of the Technical Advisory on Evaluating Transportation Impacts (December 2018) which provides guidance for VMT analysis.

The updated CEQA Guidelines were adopted on December 28, 2018. According to the new CEQA Guidelines (Section 15064.3), VMT replaces congestion as the metric for determining transportation impacts. The guidelines state, "Beginning July 1, 2020, the provisions of this section shall apply statewide."

### **State of California General Plan Guidelines (Governor's Office of Planning and Research 2017)**

The State of California General Plan Guidelines, published in 2017, assists local governments in preparing general plans by providing detailed guidelines which streamline the process of updating general plans. The document provides free online tools and resources, promotes increased use of online data, and includes templates, sample policies and links to more information. The transportation section of this document notes objectives including designing with complete streets, improving safety for all modes, and improving air quality and health.

## REGIONAL

### **2021-24 Metropolitan Transportation Improvement Program (Sacramento Area Council of Governments 2021)**

The Metropolitan Transportation Improvement Program (MTIP) is a comprehensive listing of transportation projects that receive federal funds, require federal action, or are regionally significant. The MTIP includes transit, highway, local roadway, bicycle, and pedestrian investments. Projects in the MTIP are included in the federal TIP and the state TIP. Some features of the MTIP are that it: Addresses the federal requirements as identified in the Fixing America's Surface Transportation Act (FAST Act); covers four years of programming; includes approximately 520 projects total; programs over \$2.4 billion of the over \$3.9 billion of reasonably available federal, state, and local funding during the four-year period.

### **2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (Sacramento Area Council of Governments 2020)**

The 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) lays out a transportation investment and land use strategy to support a prosperous region, with access to jobs and economic opportunity, transportation options, and affordable housing that works for all residents. The plan also lays out a path for improving air quality, preserving open space and natural resources, and helping California achieve its goal to reduce greenhouse gas emissions that contribute to climate change. The Plan has four priority policy areas: build vibrant places for today's and tomorrow's residents; foster the next generation of mobility solutions; modernize the way we pay for transportation infrastructure; build and maintain a safe, reliable and multimodal transportation system.

## COUNTY

### **El Dorado County Active Transportation Plan (El Dorado County Transportation Commission 2020)**

The Active Transportation Plan establishes a long-term vision for improving walking and bicycling in El Dorado County. The plan provides a set of recommended infrastructure improvements and studies paired with education, encouragement, enforcement, and evaluation programs. This document also provides a strategy to ensure implementation of these projects and programs is manageable and fundable.

### **County of El Dorado General Plan (County of El Dorado 2019)**

The El Dorado County General Plan policies and strategic actions that are relevant to the transportation and circulation impacts analyzed in this Project are listed below.

- Goal TC-X: To coordinate planning and implementation of roadway improvements with new development to maintain adequate levels of service on County roads.
  - Policy TC-Xg: Each development project shall dedicate right-of-way, design and construct or fund any improvements necessary to mitigate the effects of traffic from the project. The County shall require an analysis of impacts of traffic from the development project, including impacts from truck traffic, and require dedication of needed right-of-way and construction of road facilities as a condition of the development. This policy shall remain in effect indefinitely unless amended by voters.

- Goal TC-3: To reduce travel demand on the County's road system and maximize the operating efficiency of transportation facilities, thereby reducing the quantity of motor vehicle emissions and the amount of investment required in new or expanded facilities.
  - Policy TC-3c: The County shall encourage new development within Community Regions and Rural Centers to provide appropriate on-site facilities that encourage employees to use alternative transportation modes. The type of facilities may include bicycle parking, shower and locker facilities, and convenient access to transit, depending on the development size and location.
  
- Goal TC-5: to provide safe, continuous and accessible sidewalks and pedestrian facilities as a viable alternative transportation mode.
  - Policy TC-5b: In commercial and research and development subdivisions, curbs and sidewalks shall be required on all roads. Sidewalks in industrial subdivisions may be required as appropriate.

### **Western El Dorado County Short- and Long-Range Transit Plan (El Dorado County Transportation Commission 2019)**

The Western El Dorado County Short- and Long-Range Transit Plan focuses on improving and enhancing public transit services in the coming years. The plan presents detailed, financially constrained improvements for future services and provides a more generalized long-range plan for El Dorado County. The plan includes short- and long-range transit service and capital improvements. Key points in the short-range service plan include establishing a 50 Express service, an El Dorado Hills Wednesday Activity Bus, and extended hours. Key points in the long-range plan include hourly service on the 50 Express Route and greater frequency of local routes.

### **El Dorado County Traffic Impact Mitigation Fee Program (County of El Dorado 2016)**

The County utilizes its Capital Improvement Program (CIP) to identify and prioritize future transportation investments to meet the County's existing and future transportation needs. CIP projects can include roadways, intersections, sidewalks, bicycle lanes, traffic calming treatments, transit service improvement projects, and ongoing administrative costs for transportation monitoring programs, including traffic model update costs, traffic study guideline updates, and updates to the Circulation Element to the County's General Plan. Funding from most CIP projects is provided from a variety of sources including state and/or federal grants, and the County's Traffic Impact Mitigation (TIM) Fee Program. This program is required by General Plan Policy TC-Xb.

The TIM Fee Program is used to fund needed improvements including roadway widening, new roadways, roadway intersection improvements, and transit to deal with future growth during a defined period of time. Major updates to the CIP and TIM Fee Program are made by the County every five years as required by State law and General Plan policies. The most recent update to the Western Slope Roadway CIP and TIM Fee Program was completed and certified by the County Board of Supervisors in 2016, with amendments adopted as recently as June 2018. The current TIM Fee Program is based on 20 years of growth and TIM Fee Program-funded improvements are part of the CIP.

## **El Dorado County Regional Transportation Plan 2035 (El Dorado County Transportation Commission 2015)**

The El Dorado County Transportation Commission is the Regional Transportation Planning Agency (RTPA) for El Dorado County (excluding the Tahoe Basin) and is responsible for the preparation of the El Dorado County Regional Transportation Plan (RTP). The current El Dorado County Regional Transportation Plan 2015 – 2035 was developed to guide the systematic development of a balanced, comprehensive, multi-modal transportation system. The RTP was developed to provide a clear vision of the regional transportation goals, objectives, and policies, complemented by short-term and long-term strategies for implementation. The El Dorado County RTP also serves as the El Dorado County portion of the Sacramento Area Council of Governments (SACOG) MTP.

## **IMPACT FINDING**

**Project Impact.** The Project will develop a warehouse retail facility on an undeveloped parcel within El Dorado County with direct access to existing transportation facilities, including regional routes such as US-50. The proposed Costco facility will provide nearby members with a more convenient option and would benefit the local economy.

The Project will not require substantial modifications to the transportation network and would not explicitly conflict with any program, plan, ordinance, or policy addressing the circulation system, including those relating to transit, bicycle, or pedestrian facilities. Furthermore, the development of the Project will entail development review by the County and compliance with County land development and site access standards and policies. Therefore, the Project impact due to a conflict with existing plans, ordinances, or policies will be less than significant.

**Remainder Area Impact.** The Project proposes no development for the North Site Remainder Area. There are existing Class II bicycle facilities along Silva Valley Parkway. Like the Project, the development of the Remainder Area will entail development review by the County and compliance with County land development and site access standards and policies. Therefore, the Remainder Area impact due to a conflict with existing plans, ordinances, or policies is anticipated to be less than significant.

## 2. Impact to Regional VMT

The potential for an impact due to regional vehicle miles traveled (VMT) is evaluated by comparing the expected future condition (members traveling to/from the new facility) to the existing condition (members traveling to/from other existing facilities). Consistent with OPR's recommendations, this analysis considers a project to have a significant impact if it results in a net increase in existing regional VMT.

### VMT DATA

This section provides an overview of the proprietary Costco membership data, transaction data, and member trip data that were used in this analysis.

#### Trip Generation Estimates

Trip generation estimates for each trip type were developed for the warehouse and fuel facility using trip rates from a database of proprietary Costco traffic data and travel characteristics maintained by Kittelson & Associates, Inc. (Kittelson).

#### **COSTCO TRIP DATABASE**

For more than 20 years, Kittelson has maintained a database of trip data and travel characteristics for Costco Wholesale. The database contains transportation information such as trip rates and trip type percentages for Costco locations throughout the United States as well as Canada and Mexico. The database is updated periodically when new Costco traffic counts or other such information become available to Kittelson. To best evaluate the anticipated transportation characteristics of the proposed warehouse in El Dorado County, Kittelson used the Costco trip database to develop a trip generation estimate as it provides use-specific data that most accurately represents the anticipated transportation characteristics of this unique development type.

The warehouse trip rates summarized herein rely on data collection conducted at Costco sites located across the western region of the United States. The trip studies were completed using industry standard engineering practices consistent with guidance within the Institute of Transportation Engineers (ITE) standard reference, Trip Generation Manual, 11th Edition. These cordon surveys were conducted between 2011 and 2024 and include 24 surveys of Costco warehouses with fuel stations in California, Arizona, Oregon, Utah, and Washington. The Costco buildings surveyed range in size between 115,707 square feet and 235,298 square feet, with an average size of 156,293 square feet. The existing Costco locations all included fuel stations, ranging from 20 to 32 fueling positions. Most Costco warehouses have an attached tire center for tire sales and installation, including the Project. The tire center is an ancillary use to the warehouse, and trips associated with the tire center are captured in the overall trip generation of a site. The data used for analysis of the Project includes trip data for warehouses with tire centers.

Internal (or shared) trip percentages, or the percentage of trips to the site that visit more than one Costco facility (e.g. warehouse *and* fuel facility,) are derived from Costco member transaction data – a trip is considered an internal trip if a member completed a transaction at two Costco facilities on site within one 90-minute window. Primary, pass-by, and diverted trip percentages were derived from member surveys

taken at existing Costco warehouses and fuel facilities. These trip types are described in more detail below.

Table 1 summarizes trip characteristics for weekday AM and PM peak hours, Saturday midday peak hour, and weekday daily. This VMT analysis only considers the weekday daily trip generation.

**Table 1. Costco Warehouse Trip Characteristics**

Land Use / Trip Type	Weekday Daily Trip Rate (per KSF)	Weekday AM Peak Rate			Weekday PM Peak Rate			Saturday Midday Peak Rate		
		Total	In	Out	Total	In	Out	Total	In	Out
Costco Warehouse	94.6	3	55%	45%	8.2	47%	53%	10.9	49%	51%
<i>Internal Trips</i>	14%		14%			13%			14%	
<i>Primary Trips</i>	38%*		10%			38%			46%	
<i>Pass-by Trips</i>	23%*		36%			23%			19%	
<i>Diverted Trips</i>	26%*		40%			26%			21%	

Source: Kittelson & Associates, Inc., 2025

\*No data available for weekday daily primary, pass-by, and diverted trip percentages. Weekday PM peak values are assumed.

## TRIP TYPES

Since travel behaviors and average trip distances (and therefore VMT) may differ between trips made to the warehouse versus trips made to the fuel facility, this analysis separates these trip types and evaluates the contribution of each trip type toward a potential impact to regional VMT. Trip types evaluated in the VMT analysis are described below.

- A **warehouse trip** is a member trip to the Costco *warehouse* facility. These trips may also include a shared trip to another facility within the development (e.g., fuel facility) but are assumed to be driven to the development by the warehouse (*warehouse-only trips + shared warehouse/fuel trips*).
  - A **primary warehouse trip** is a trip that motivates travel in the first place with a destination (i.e., the warehouse) that terminates the travel session. These are trips made to the warehouse or warehouse *and* fuel facility that are assumed to return to their previous location once all purchase transactions are complete. For this Project, these trips may be existing trips that are expected to shift from nearby Costco locations or new trips on the transportation network. The assumption that any trip not shifting from another Costco location is a new trip on the network is a conservative assumption since the analysis intentional avoids attempting to assume trips to existing non-Costco, large format retail facilities would shift to the Project.
  - A **pass-by warehouse trip** is a trip made during the course of an existing primary trip that does not require deviating from the primary trip route and already is passing by the Project site. Since these trips are assumed to have a trip distance of zero miles, they do not affect regional VMT, and thus pass-by trip VMT is not measured in this analysis.
  - A **diverted warehouse trip** is a trip made during the course of a primary trip that requires deviating from the primary trip route. For this analysis, these trips are assumed to originate from primary trips along US-50, from which members deviate from their original path to visit the warehouse or warehouse and fuel facility. They consist of both existing trips that

are expected to shift from nearby Costco locations and new trips on the transportation network.

- A **gas trip** is a member trip made to the Costco *fuel* facility that does not include a visit to the warehouse. These trips are considered separate from warehouse trips since they have unique characteristics that affect VMT (*Gas-only trips*).
  - A **primary gas trip** is a trip that motivates travel in the first place with a destination (i.e., the fuel facility) that terminates the travel session. These are trips made to the fuel facility that are assumed to return to their previous location once the purchase transaction is complete. For this Project, these trips are assumed to be existing trips on the transportation network that would otherwise be made at other Costco fuel facilities or existing non-Costco gas stations and would shift to the new facility. None of these trips are assumed to be new on the roadway network as gas purchasing is motivated by a household's driving behaviors and is not motivated by the mere presence of a gas station (i.e., people who would buy gas at the Costco fuel station already are buying gas somewhere today).
  - A **pass-by gas trip** is a trip made during the course of a primary trip that does not require deviating from the primary trip route. Since these trips are assumed to have a trip distance of zero miles, they do not affect regional VMT, and thus pass-by trip VMT is not measured in this analysis.
  - A **diverted gas trip** is a trip made during the course of a primary trip that requires deviating from the primary trip route. For this analysis, these trips are assumed to originate from primary trips along US-50, from which members deviate from their original path to visit the warehouse or warehouse and fuel facility. They are assumed to be existing trips on the transportation network that would otherwise divert to nearby Costco fuel facilities or non-Costco gas stations.
  
- An **employee trip** is a trip made by an employee to or from the new facility. These trips are assumed to be new primary trips on the transportation network.

Table 2 shows the anticipated weekday daily trip generation for the Project. These values are used to calculate VMT associated with Costco members and employees in subsequent sections of this report. As shown in the table, the Project is expected to generate 14,729 weekday trips, which includes 8,350 total warehouse trips, 5,779 gas-only trips, and 600 employee trips.

Table 3 shows the estimated weekday daily trip generation for the nearby Folsom Costco, since a portion of Project trips are expected to shift from this location. The estimate was developed using driveway counts and fuel facility counts at the Folsom location, as well as member surveys and member transaction data.

**Table 2. Project Daily Trip Generation**

Trip Type	Weekday Daily Trip Ends
<b>Total Trips</b>	<b>14,729</b>
<b>Total Warehouse Trips<sup>1</sup></b>	<b>8,350</b>
Primary Warehouse Trips	5,538
Pass-by Warehouse Trips	1,454
Diverted Warehouse Trips	1,358
<b>Total Gas Trips<sup>2</sup></b>	<b>5,779</b>
Primary Gas Trips	1,667
Pass-by Gas Trips	1,796
Diverted Gas Trips	2,316
<b>Total Employee Trips</b>	<b>600</b>
Primary Employee Trips	600
Pass-by Employee Trips	0
Diverted Employee Trips	0

Source: Kittelson & Associates, Inc., 2025

<sup>1</sup> Shared warehouse/gas trips are included in this value since the warehouse is the primary use of the site and is expected draw these shared trips; these trips share characteristics in terms of travel time and distance that influence VMT

<sup>2</sup> Gas-Only trips

**Table 3. Folsom Costco Daily Trip Generation**

Trip Type	Weekday Daily Trip Ends
<b>Total Trips</b>	<b>15,476</b>
<b>Total Warehouse Trips<sup>1</sup></b>	<b>8,624</b>
Primary Warehouse Trips	5,784
Pass-by Warehouse Trips	1,478
Diverted Warehouse Trips	1,362
<b>Total Gas Trips<sup>2</sup></b>	<b>6,252</b>
Primary Gas Trips	1,803
Pass-by Gas Trips	1,943
Diverted Gas Trips	2,506
<b>Total Employee Trips</b>	<b>600</b>
Primary Employee Trips	600
Pass-by Employee Trips	0
Diverted Employee Trips	0

Source: Kittelson & Associates, Inc., 2025

<sup>1</sup> Shared warehouse/gas trips are included in this value since the warehouse is the primary use of the site and is expected draw these shared trips; these trips share characteristics in terms of travel time and distance that influence VMT

<sup>2</sup> Gas-Only trips

## Costco Member/Transaction Data

To understand how Costco member VMT in the region may change with the addition of the Project, the following data regarding Costco members, market areas, and transactions were compiled.

- Aggregated home locations of Costco members who shopped at an existing Costco facility in the Project area during September 2024, grouped into 1-square-mile zones.
  - Folsom Costco – located approximately 4 miles southwest of the Project at 1800 Cavitt Drive in Folsom, CA
- Number of visits to the existing Folsom Costco in September 2024 made by members in each 1-square-mile zone, separated into warehouse-only visits, gas-only visits, and shared warehouse/gas visits. A member visit was assumed to be a shared warehouse/gas visit if transactions were made at both the warehouse and the fuel facility within a 90-minute period.
- Market areas of the existing Folsom Costco and proposed El Dorado Costco locations

## VMT ASSESSMENT

This section presents the VMT analysis methodology and findings for each trip type provided in Table 2.

### Warehouse Trip VMT

Warehouse trip VMT refers to the daily miles traveled by members to and from the warehouse. Warehouse trip VMT includes trips made to the warehouse *only* as well as trips made to both the warehouse and on-site fuel facility and includes both primary and diverted trips.

#### **PRIMARY WAREHOUSE TRIPS**

Primary warehouse trips made by members to the Project site are expected to either 1) replace existing warehouse trips to the Folsom Costco or 2) be new trips made on the transportation network. This section assesses VMT associated with primary warehouse trips.

#### **SHIFT FROM EXISTING COSTCO LOCATIONS**

The first component of the VMT analysis evaluates how the VMT associated with Costco members making primary trips to an existing Costco warehouse may change with the addition of a new location in El Dorado County. The new location provides another option for existing Costco members and results in lower average trip lengths for members who choose to shift their existing trip to a more convenient location.

A spatial analysis was conducted to determine which Costco members would likely shift their existing trips and to derive the associated effect to regional VMT. ArcGIS Online software was used to calculate average trip distances to the existing Folsom Costco and the proposed new facility for two scenarios: without and with the new facility. The software determined the most convenient routes between each 1-square-mile zone and the existing Folsom Costco. Average trip distances were calculated using proprietary Costco transaction data from September 2024. This analysis was then conducted assuming the presence of the new El Dorado facility and assuming members would visit the Costco location most convenient to them

(i.e., the one located within the shortest travel time from their homes). The following provides more details regarding the methodology and assumptions of this analysis:

- The center of each 1-square-mile zone was used for the starting/ending point of member trips (see Figure 2).
- The data provided by Costco includes information regarding warehouse-only and shared warehouse/gas visits at the existing Folsom Costco in September 2024. The member transactions were limited to those made by members who live within Costco's pre-defined market areas for the Folsom and El Dorado locations. This subset is used as a proxy for primary trips; transactions made by members whose homes are far from the site and were likely associated with pass-by or diverted trips (instead of primary trips beginning and ending at members' homes) are eliminated from the dataset.
- Each transaction is assumed to correspond to two one-way trips between the members' homes and the Costco facility (i.e., one roundtrip).
- To calculate the average primary trip lengths to the existing Folsom Costco, trip distances between each 1-square-mile zone and the existing facility were determined using ArcGIS online software. Trips were routed based on minimum travel time (as opposed to shortest distance recognizing shorter distances along low-speed streets can result in longer travel times). These distances were then multiplied by the number of transactions made at facility by members within each 1-square-mile zone to calculate the total one-way miles traveled by members to the Folsom Costco. This value divided by the average daily visits provides the average one-way trip length. Table 4 shows the average existing trip lengths.
- To calculate the average primary trip length when the new warehouse opens in El Dorado County, first it was determined which existing Costco members would shift their trips to the new facility. For this analysis, it was assumed that if the travel time from a 1-square mile zone to the new location was less than the travel time to the existing Folsom location, all members within that zone would choose to shop at the new location. In other words, all trips currently made from that zone to an existing Costco location are assumed to shift to the new location. For zones that are closer (by travel time) to the Folsom Costco, no shift was made, and trips by members in those zones were assumed to remain as they are today. Figure 2 shows the approximate home locations of existing Costco members whose primary warehouse trips are assumed to shift from the Folsom Costco to the El Dorado Costco.
- The proprietary transaction data is used to calculate 1) the average trips lengths for the existing and proposed conditions and 2) the percentage of existing trips expected to shift to the new facility. The transaction data is *not* used to estimate trip generation; a separate trip generation estimate based on trip generation data collected at other Costco warehouse retail facilities with fuel stations (as previously described) is used to compute VMT.

Table 4 provides the average primary warehouse trip distances for the existing and Project conditions (8.90 miles and 7.20 miles, respectively), as well as the portion of existing primary warehouse trips expected to shift from the Folsom warehouse (55%). Table 5 shows how these values are used in combination with the trip generation estimates presented in Table 2 and Table 3 to determine how the shifting of primary warehouse trips affects regional VMT.

**Table 4. Average Primary Warehouse Trip Distances - Existing vs. Proposed**

Costco Location	Existing			Proposed (after El Dorado location opens)		
	Daily Transactions	Total One-Way Distance (vehicle miles)	Average One-Way Trip Distance (mi)	Daily Transactions	Total One-Way Distance (vehicle miles)	Average One-Way Trip Distance (mi)
Folsom	3,828	34,071	8.90	1,733	6,748	3.89
El Dorado	-	-	-	2,095	20,817	9.94
<b>Total</b>	<b>3,828</b>	<b>34,071</b>	<b>8.90</b>	<b>3,828</b>	<b>27,565</b>	<b>7.20</b>

Source: Kittelson & Associates, Inc., 2025

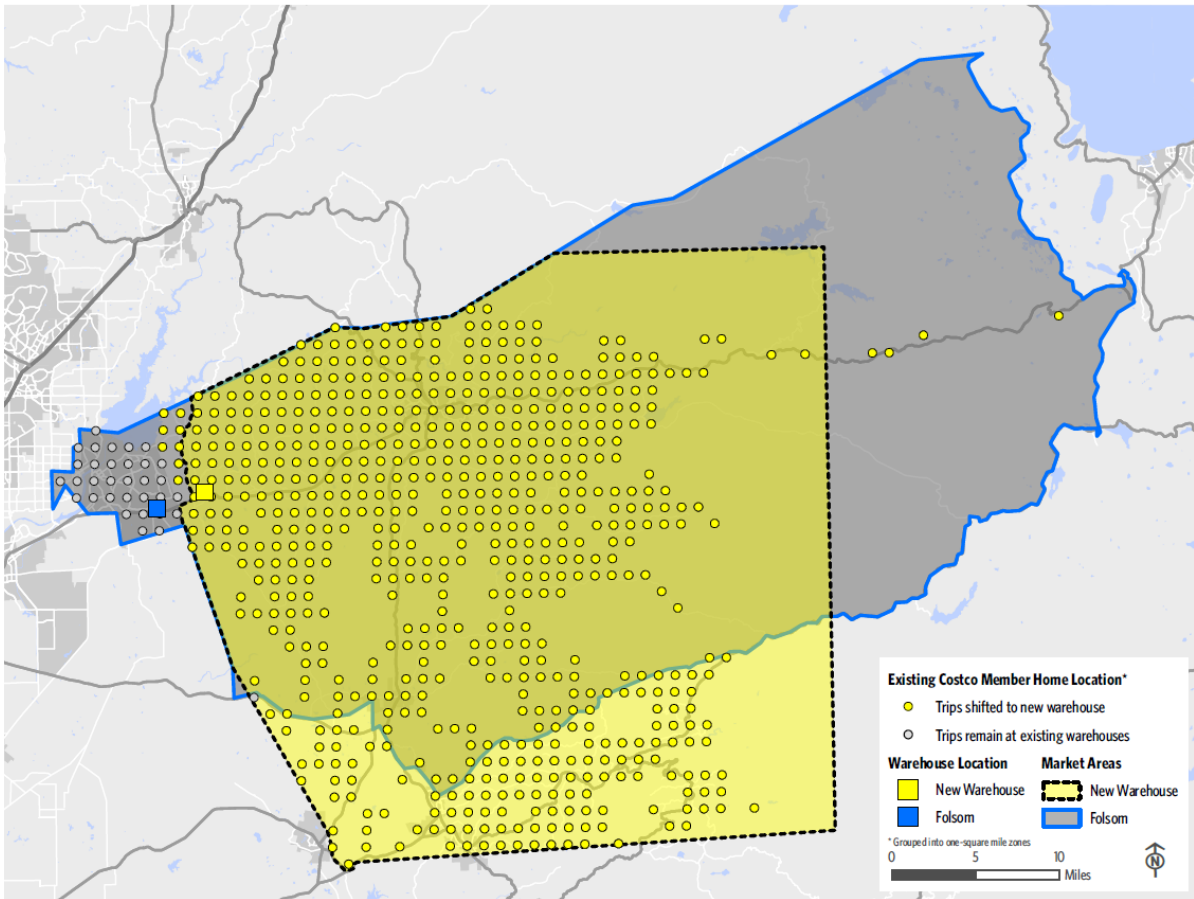
**Table 5. Primary Warehouse Trip VMT – Shifting Existing Trips from Folsom Costco**

Scenario / Location	Primary Warehouse Trip Length (mi)	Primary Warehouse Trips	Primary Warehouse Trip VMT
<b>Existing Conditions</b>	<b>8.90</b>	<b>5,784</b>	<b>51,478</b>
Folsom	8.90	5,784	51,478
<b>Future Conditions</b>	<b>7.20</b>	<b>5,784</b>	<b>41,648</b>
Folsom	3.89	2,619	10,188
El Dorado	9.94	3,165	31,460
<b>Change in Regional VMT</b>			<b>-9,830</b>

Source: Kittelson & Associates, Inc., 2025

As shown in Table 5, the opening of the new warehouse in El Dorado County is expected to result in 3,165 daily existing primary warehouse trips to the Folsom Costco to shift to the new facility. This shift will result in a decrease in regional VMT of 9,830 miles.

Figure 2. VMT Analysis – Existing Primary Warehouse Trips Shifted to New Warehouse



### **NEW PRIMARY WAREHOUSE TRIPS**

As shown in Table 5, 3,165 of the estimated 5,538 primary warehouse trips are expected to shift from the nearby Folsom Costco. The remaining 2,373 trips are assumed to be new trips on the network, made by existing or new members who previously would not have made a trip to a Costco location.

Table 6 presents the VMT associated with new primary warehouse trips. Assuming a trip length of 9.94 (developed through the previous analysis and presented in Tables 3 and 4), new primary warehouse trips are expected to generate approximately 23,588 daily vehicle miles.

**Table 6. Primary Warehouse Trip VMT - New Trips**

Primary Warehouse Trip Length (mi)	New Primary Warehouse Trips	New Primary Warehouse Trip VMT
9.94	2,373	<b>+23,588</b>

Source: Kittelson & Associates, Inc., 2025

### **DIVERTED WAREHOUSE TRIPS**

The Project is expected to generate 1,358 daily diverted warehouse trips, which are assumed to originate from US-50. Since the Folsom Costco is located in close proximity to the Project (about 4 miles to the west) and currently generates diverted trips off US-50, a portion of the Project's diverted warehouse trips are expected to replace existing trips to the Folsom Costco. The remaining trips are assumed to be new diversions made on the transportation network. This section assesses VMT associated with diverted warehouse trips.

### **SHIFT FROM EXISTING COSTCO LOCATIONS**

Based on the GIS exercise completed for the primary warehouse trip VMT assessment, approximately 55% of Folsom Costco's diverted warehouse trips are expected to shift to the new location in El Dorado County. To determine how this shift will affect the VMT associated with these trips, average diversion distances were calculated for both the existing Folsom and proposed El Dorado warehouses. Trip distances reflect the average distance traveled to divert from the original path (US-50) to visit the facility (inbound) and to return to the original path, minus any progress made toward the original trip (outbound). Table 7 presents the diverted warehouse trip distances for the Folsom and El Dorado warehouses.

**Table 7. Diverted Warehouse Trip Distances**

Diversion Route	Trip Distance to Folsom Warehouse (mi)	Trip Distance to El Dorado Warehouse (mi)
US-50 Westbound	0.33	0.13
US-50 Eastbound	0.43	0.23
<b>Average</b>	<b>0.38</b>	<b>0.18</b>

Source: Kittelson & Associates, Inc., 2025

Table 8 presents the VMT associated with shifting existing diverted warehouse trips from the Folsom Costco. As shown in the table, Project trips are expected to replace 745 of the existing trips to Folsom, resulting in a decrease in regional VMT of 150 miles.

**Table 8. Diverted Warehouse Trip VMT – Shifting Existing Trips from Folsom Costco**

Scenario / Location	Diverted Warehouse Trip Length (mi)	Diverted Warehouse Trips	Diverted Warehouse Trip VMT
<b>Existing Conditions</b>	<b>0.38</b>	<b>1,362</b>	<b>518</b>
Folsom	0.38	1,362	518
<b>Future Conditions</b>	<b>0.27</b>	<b>1,362</b>	<b>368</b>
Folsom	0.38	617	234
El Dorado	0.18	745	134
<b>Change in Regional VMT</b>			<b>-150</b>

Source: Kittelson & Associates, Inc., 2025

**NEW DIVERTED WAREHOUSE TRIPS**

As shown in Table 8, 745 of the estimated 1,358 diverted warehouse Project trips are expected to shift from the nearby Folsom Costco. The remaining 613 trips are assumed to be new trips on the network, made by existing or new members who previously would not have made a diverted trip to a Costco location.

Table 9 presents the VMT associated with new diverted warehouse trips. Assuming a trip length of 0.18 (presented in Table 7), new diverted warehouse trips are expected to generate approximately 110 daily vehicle miles.

**Table 9. Diverted Warehouse Trip VMT – New Trips**

Diverted Warehouse Trip Length (mi)	New Diverted Warehouse Trips	New Primary Warehouse Trip VMT
0.18	613	<b>+110</b>

Source: Kittelson & Associates, Inc., 2025

**Gas Trip VMT**

Gas Trip VMT refers to the daily miles traveled by members to and from the fuel facility. Gas Trip VMT includes primary and diverted trips made to the fuel facility *only* and does not include trips made to both the warehouse and fuel facility<sup>2</sup>. All Project gas trips are assumed to be existing trips on the transportation network that are currently being made at nearby Costco fuel facilities or non-Costco gas stations since people’s demand for gas is based on household driving trends and not on the mere presence of gas stations.

**PRIMARY GAS TRIPS**

Primary gas trips made by members to the Project site are expected to 1) replace existing primary gas trips to the Folsom Costco or 2) replace existing primary gas trips to non-Costco gas stations. This section assesses VMT associated with primary gas trips.

<sup>2</sup> Shared trips are accounted for in the “Warehouse Trip VMT” analysis

**SHIFT FROM EXISTING COSTCO LOCATIONS**

The same spatial analysis conducted for the primary warehouse trips was conducted using data regarding gas trips to determine which Costco members would likely shift their existing trips from the Folsom Costco to the new location. ArcGIS Online software was used to calculate average trip distances to the existing and proposed fuel facilities, without and with the new facility. The data provided by Costco and used in this analysis includes information regarding gas-only visits at the existing Folsom Costco in September 2024.

The methodology and assumptions described in the “Primary Warehouse Trips” section of this report also apply to this analysis with one key difference: for warehouse trips, the pre-defined Costco market areas served as boundaries to determine which member transactions were assumed to be associated with primary trips to the warehouse. However, since gas-only trips are assumed to be relatively short trips of convenience, member gas transactions were limited to those made by member households within a 10-minute drive of each site. This eliminates transactions made by members whose homes are farther from the site and were likely associated with pass-by or diverted trips (instead of primary trips beginning and ending from members’ homes). Figure 3 shows the approximate home locations of members expected to shift their existing gas trips from the Folsom location to the new location in El Dorado County.

Table 10 provides the average trip distances for the existing and proposed conditions (2.30 miles and 2.18 miles, respectively), as well as the portion of existing primary gas trips expected to shift from the Folsom warehouse (8%). Table 11 shows how these values are used (with the trip generation estimates presented in Table 2 and Table 3) to determine how the shifting of primary gas trips affects regional VMT.

**Table 10. Average Primary Gas Trip Distances – Existing vs. Proposed**

Costco Location	Existing			Proposed (after El Dorado location opens)		
	Daily Transactions	Total One-Way Distance (vehicle miles)	Average One-Way Trip Distance (mi)	Daily Transactions	Total One-Way Distance (vehicle miles)	Average One-Way Trip Distance (mi)
Folsom	419	963	2.30	384	827	2.15
El Dorado	-	-	-	35	88	2.50
<b>Total</b>	<b>419</b>	<b>963</b>	<b>2.30</b>	<b>419</b>	<b>915</b>	<b>2.18</b>

Source: Kittelson & Associates, Inc., 2025

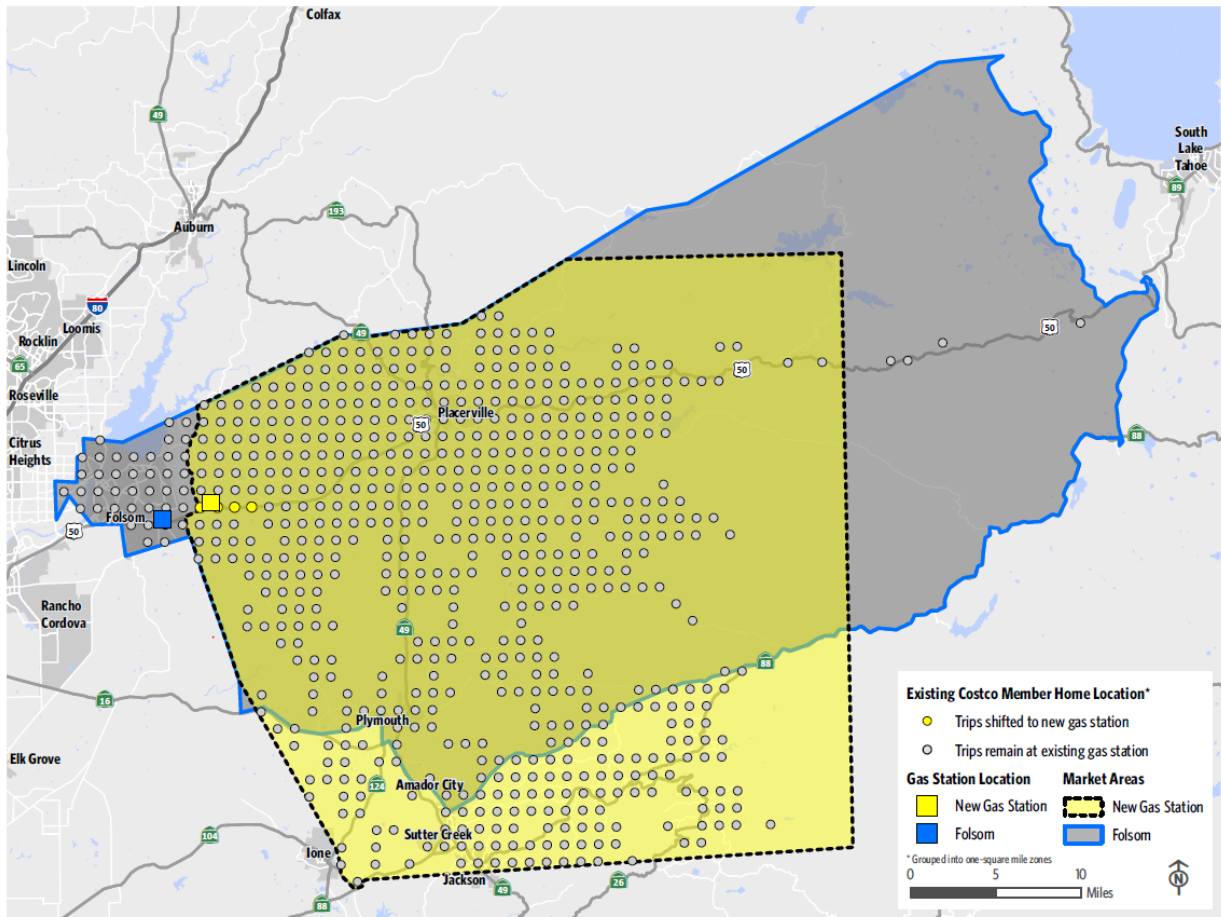
**Table 11. Primary Gas Trip VMT – Shifting Existing Trips from Folsom Costco**

Scenario / Location	Primary Gas Trip Length (mi)	Primary Gas Trips	Primary Gas Trip VMT
<b>Existing Conditions</b>	<b>2.30</b>	<b>1,803</b>	<b>4,147</b>
Folsom	2.30	1,803	4,147
<b>Future Conditions</b>	<b>2.18</b>	<b>1,803</b>	<b>3,929</b>
Folsom	2.15	1,652	3,552
El Dorado	2.50	151	378
<b>Change in Regional VMT</b>			<b>-218</b>

Source: Kittelson & Associates, Inc., 2025

As shown in Table 11, the opening of the new warehouse in El Dorado County is expected to result in 151 daily existing primary gas trips to the Folsom Costco to shift to the new facility. This shift will result in a decrease in regional VMT of 218 miles.

Figure 3. VMT Analysis – Existing Primary Gas Trips Shifted to New Warehouse



**SHIFT FROM EXISTING NON-COSTCO GAS STATIONS**

As shown in Table 11, 151 of the estimated 1,667 primary gas trips are expected to shift from the nearby Folsom Costco. The remaining 1,516 trips are assumed to be existing trips shifted from non-Costco as stations in the vicinity of the Project.

To determine how these trips will affect regional VMT, a similar GIS exercise to the one previously described was completed to understand the difference in average trip lengths between 1) members’ homes and the new Costco fuel facility and 2) members’ homes and the closest non-Costco gas station.

- For all member households within 10 minutes of the new facility, the average distance to the new Costco fuel facility (when accounting for minimal travel time) is 3.76 miles.
- For these same households, the average distance to their nearest non-Costco gas station is 1.92 miles. This value was determined using ArcGIS online to route each member household 1-square-mile zone to the nearest gas station, using a shapefile consisting of all gas stations in California provided by the California Energy Commission<sup>3</sup>.

Table 12 shows the change in VMT associated with 1,516 existing primary gas trips shifting from non-Costco gas stations to the new facility. As shown in the table, the average trip distance for these trips is expected to increase from 1.92 miles to 3.76 miles, increasing regional VMT by about 2,789 miles.

**Table 12. Primary Gas Trip VMT - Shifting Existing Trips from Non-Costco Gas Stations**

	Primary Gas Trips	Average Trip Distance (mi)	VMT
<b>Existing Conditions</b> <i>Non-Costco Gas Stations</i>	1,516	1.92	2,911
<b>Future Conditions</b> <i>Costco Fuel Facility</i>	1,516	3.76	5,700
<b>Change in Regional VMT</b>			<b>+2,789</b>

Source: Kittelson & Associates, Inc., 2025

**DIVERTED GAS TRIPS**

Of the 5,779 daily gas trips anticipated at the El Dorado Costco fuel facility, 2,316 are expected to be diverted trips. Similar to primary gas trips, all diverted gas trips are assumed to replace existing trips on the network, shifting from either the nearby Folsom Costco or a non-Costco gas station. This section assesses VMT associated with diverted gas trips.

**SHIFT FROM EXISTING COSTCO LOCATIONS**

Based on the GIS exercise completed for the primary gas trip VMT assessment, approximately 8% of Folsom Costco’s diverted gas trips are expected to shift to the new location in El Dorado County. The diverted trip distances calculated for warehouse trips (presented in Table 7) remain valid for gas trips, since both trip types are expected to divert from/to the same location (US-50).

<sup>3</sup> <https://hub.arcgis.com/datasets/ec575b2693f64199866bc18744d232fe/explore>

Table 13 presents the VMT associated with shifting existing diverted gas trips from the Folsom Costco. As shown in the table, Project trips are expected to replace 209 of the existing trips to Folsom, resulting in a decrease in regional VMT of 41 miles.

**Table 13. Diverted Gas Trip VMT – Shifting Existing Trips from Folsom Costco**

Scenario / Location	Diverted Gas Trip Length (mi)	Diverted Gas Trips	Diverted Gas Trip VMT
<b>Existing Conditions</b>	-	<b>2,506</b>	<b>952</b>
Folsom	0.38	2,506	952
<b>Future Conditions</b>	-	<b>2,506</b>	<b>911</b>
Folsom	0.38	2,297	873
El Dorado	0.18	209	38
<b>Change in Regional VMT</b>			<b>-41</b>

Source: Kittelson & Associates, Inc., 2025

### SHIFT FROM NON-COSTCO GAS STATIONS

The remaining 2,107 daily diverted gas trips that are not expected to shift from the Folsom Costco are assumed to be existing trips that would shift from nearby non-Costco gas stations. Given the numerous non-Costco gas stations present near US-50 off-ramps and the minimal trip distances associated with these trips, this analysis conservatively assumes a length of zero miles.

Table 14 presents the change in regional VMT associated with these 2,107 diverted gas trips. As shown in the table, they are anticipated to increase regional VMT by about 379 miles.

**Table 14. Diverted Gas Trip VMT – Shifting Existing Trips from Non-Costco Gas Stations**

	Diverted Gas Trips	Average Diverted Gas Trip Distance (mi)	VMT
<b>Existing Conditions</b> <i>Non-Costco Gas Stations</i>	2,107	0	0
<b>Future Conditions</b> <i>Costco Fuel Facility</i>	2,107	0.18	379
<b>Change in Regional VMT</b>			<b>+379</b>

Source: Kittelson & Associates, Inc., 2025

### Employee Trip VMT

Employee Trip VMT was estimated using the 2018 countywide home-based work VMT per employee of 12.75, provided on El Dorado County’s map server<sup>4</sup>. This VMT rate was multiplied by the estimated number of employees for the new facility (300) to calculate total daily employee VMT. As presented in Table 15, the expected daily employee VMT for the new Costco facility is 3,825 miles.

<sup>4</sup> [https://www.arcgis.com/home/webmap/viewer.html?url=https%3A%2F%2Fsee-eldorado.edcgov.us%2Farcgis%2Frest%2Fservices%2FHosted%2FEDC\\_TAZs%20with%20a%20Total%20VMT%20per%20Service%20Population%20below%20the%20Countywide%20Average%2FFeatureServer%2F6&source=sd](https://www.arcgis.com/home/webmap/viewer.html?url=https%3A%2F%2Fsee-eldorado.edcgov.us%2Farcgis%2Frest%2Fservices%2FHosted%2FEDC_TAZs%20with%20a%20Total%20VMT%20per%20Service%20Population%20below%20the%20Countywide%20Average%2FFeatureServer%2F6&source=sd)

**Table 15. Employee Trip VMT**

Employees	El Dorado County VMT per Employee	Employee Trip VMT
300	12.75	<b>+3,825</b>

Source: Kittelson & Associates, Inc., 2025; El Dorado County

## Latent Demand VMT

The existing Folsom Costco is expected to become less crowded with the opening of the new warehouse in El Dorado County after some existing members shift their trips to the new warehouse. As Costco has observed at other warehouses when a new location opens in the same market area, this latent demand could result in an increase in trip frequency to existing warehouses by existing members who continue to shop at their same warehouse. To estimate the number of additional trips expected at the Folsom warehouse, Costco transaction data from representative warehouses in California were analyzed.

The analysis demonstrated that existing members tend to purchase more products at existing warehouses (increased sales) after a new warehouse is opened, but the increase in visit frequency (trips) to the existing warehouse is relatively minor. Table 16 shows the average annual change in member trip frequency (4.5%) at three California Costco warehouse locations after another warehouse opened in the same market area. As shown in the table, the existing Costco warehouse locations see an average of 1.5 additional trips per member per year as a result of latent demand.

**Table 16. Change in Member Frequency Associated with New Warehouse Opening**

Costco Location	New Costco Opening	Average Annual Visit Frequency (Trips per Year)			
		Before	After	Change	% Change
Visalia	New Hanford	34.5	35.5	1	2.9%
Garden Grove	Huntington Beach	44	45.5	1.5	3.4%
South Sacramento	Elk Grove	27.5	29.5	2	7.3%
<b>Average</b>				<b>1.5</b>	<b>4.5%</b>

Source: Kittelson & Associates, Inc., 2025

Table 17 presents the change in VMT associated with an increase in trip frequency to the existing warehouses after a new warehouse opens (i.e. latent demand trips). As shown in the table, daily regional VMT is expected to increase by 671 miles.

**Table 17. Latent Demand VMT**

	<b>Folsom Warehouse Trips</b>	<b>Folsom Gas Trips</b>	<b>All Folsom Trips</b>
Future Primary Trips	2,619	1,652	4,271
Primary Trips Added (4.5%)	118	74	192
Primary Trip Length (mi)	3.89	2.15	-
<b>Primary Trip VMT</b>	<b>460</b>	<b>160</b>	<b>620</b>
Future Diverted Trips	617	2,297	2,914
Diverted Trips Added (4.5%)	28	103	131
Diverted Trip Length (mi)	0.38	0.38	-
<b>Diverted Trip VMT</b>	<b>11</b>	<b>40</b>	<b>51</b>
<b>Total Added VMT</b>	<b>471</b>	<b>200</b>	<b>+671</b>

Source: Kittelson & Associates, Inc., 2025

## Change in Regional Total VMT

Table 18 presents the change in regional daily VMT associated with the new Costco facility. The change in total regional daily VMT is calculated by comparing the existing VMT by Costco members in the Project area and VMT by members and employees after the new facility is opened. As presented in the table, the change in total regional daily VMT with the new facility is estimated to be a net increase of 21,123 miles.

**Table 18. Change in Regional Total VMT, Costco Development**

Trip Type	Change in Regional Daily VMT
<b>Warehouse Trips</b>	<b>13,718</b>
Primary Warehouse Trips	13,758
<i>Shifted from Folsom Costco</i>	-9,830 <sup>1</sup>
<i>New Primary Warehouse Trips</i>	23,588 <sup>2</sup>
Diverted Warehouse Trips	-40
<i>Shifted from Folsom Costco</i>	-150 <sup>3</sup>
<i>New Diverted Warehouse Trips</i>	110 <sup>4</sup>
<b>Gas Trips</b>	<b>2,909</b>
Primary Gas Trips	2,571
<i>Shifted from Folsom Costco</i>	-218 <sup>5</sup>
<i>Shifted from Non-Costco Gas Stations</i>	2,789 <sup>6</sup>
Diverted Gas Trips	338
<i>Shifted from Folsom Costco</i>	-41 <sup>7</sup>
<i>Shifted from Non-Costco Gas Stations</i>	379 <sup>8</sup>
<b>Employee Trips</b>	<b>3,825<sup>9</sup></b>
<b>Latent Demand at Folsom Warehouse</b>	<b>671<sup>10</sup></b>
<b>All Trips</b>	<b>21,123</b>

Source: Kittelson & Associates, Inc., 2025

<sup>1</sup> Table 5. Primary Warehouse Trip VMT – Shifting Existing Trips from Folsom Costco

<sup>2</sup> Table 6. Primary Warehouse Trip VMT – New Trips

<sup>3</sup> Table 8. Diverted Warehouse Trip VMT – Shifting Existing Trips from Folsom Costco

<sup>4</sup> Table 9. Diverted Warehouse Trip VMT – New Trips

<sup>5</sup> Table 11. Primary Gas Trip VMT – Shifting Existing Trips from Folsom Costco

<sup>6</sup> Table 12. Primary Gas Trip VMT – Shifting Existing Trips from non-Costco Gas Stations

<sup>7</sup> Table 13. Diverted Gas Trip VMT – Shifting Existing Trips from Folsom Costco

<sup>8</sup> Table 14. Diverted Gas Trip VMT – Shifting Existing Trips from Non-Costco Gas Stations

<sup>9</sup> Table 15. Employee Trip VMT

<sup>10</sup> Table 17. Latent Demand VMT

## North Site Remainder Area VMT

North Site Remainder Area VMT was estimated using land use, daily trips, and average trip length information for year 2040 in the current approved version of the El Dorado County travel forecast model. The traffic analysis zone (TAZ) in the model encompassing the Project and Remainder Area represents 24 acres, which is approximately the total acreage of the Project site and Remainder Area. The Remainder Area is 13.79 acres or 57% of the acreage assumed for the TAZ in the model. The model generates 4,427 daily trips by commercial uses in the TAZ. For this analysis, it is assumed the Remainder Area when developed with 138,000 SF of commercial uses would generate 57% of the daily trips generated by the TAZ in the model, or 2,536 daily trips. The travel forecast model provides an average trip length of 4.52

miles for all trip types in the model. VMT for the Remainder Area was computed by multiplying daily trips by this average trip length.

Table 19 presents the VMT for the Remainder Area. As shown in the table, the change in total regional daily VMT with development of 138,00 SF of commercial uses in the Remainder Area is estimated to be a net increase of 11,463 miles.

**Table 19: North Site Remainder Area VMT**

Daily trips	Average Trip Length	VMT
2,536	4.52	<b>+11,463</b>

Source: Kittelson & Associates, Inc., 2025

## IMPACT FINDING

With operation of the Costco warehouse, regional daily VMT is estimated to increase by 21,123 miles. When the Remainder Area develops, regional daily VMT is estimated to increase by 11,463 miles. Therefore, the Project impact due to VMT will be significant, and the future Remainder Area impact to VMT is anticipated to be significant.

### VMT Mitigation

The California Air Pollution Control Officers Association (CAPCOA) first published a handbook in 2010 titled *Quantifying Greenhouse Gas Mitigation Measures Handbook* (GHG Handbook). The GHG Handbook was updated by the Sacramento Metropolitan Air Quality Management District and adopted by CAPCOA in December 2021. The GHG Handbook is provided as a planning resource for agencies and developers. It includes a transportation section that discusses solutions to mitigate VMT by shifting modes of travel from single-occupancy vehicles to shared or active modes of transportation.

Table 20 provides trip reduction programs/measures from the GHG Handbook aimed at reducing VMT associated with the Project. The table provides only measures that could reasonably be considered for the Costco Project, given the implementation scale, nature of the proposed Project, and/or limited jurisdictional authority of Costco to implement particular measures.

**Table 20: Trip Reduction Programs for Employees (Project/Site)**

#	VMT Mitigation Measure	Percent Reduction	Notes
T-7	Commute Trip Reduction Marketing	Up to 4%	
T-8	Provide Ridesharing Program	Up to 8%	Designated parking spaces for rideshare vehicles; Designated passenger loading and unloading and waiting areas.
T-10	Provide End-of-Trip Bicycle Facilities	Up to 4.4%	
T-18	Provide Pedestrian Network Improvement	Up to 6.4%	

Source: GHG Handbook, 2021

## **PROPOSED VMT MITIGATION MEASURES**

Costco Wholesale's business model involves the sale of large items and the sale of items in bulk. As such, walking or biking to a Costco warehouse typically is not a viable method of travel for members as they would have difficulty transporting their goods home with them. Therefore, VMT mitigation measures that Costco can implement are geared toward reducing employee trips. Employee trips account for 600 daily trips (about 4% of total daily trips) and 3,825 VMT (approximately 18% of daily VMT). Thus, VMT reductions from TDM measures are not expected to fully mitigate the VMT impact and the Project VMT impact will remain significant.

To encourage Costco employees to shift their trips from automobiles to active modes of transportation, Costco intends to provide the following mitigation measures on the Project site and within its immediate vicinity.

- **Commute Trip Reduction Marketing [T-7]** (up to 4% employee VMT reduction): Costco will implement a marketing strategy to promote Costco's commute reduction program. Information sharing and marketing promote and educate employees about their travel choices to the employment location beyond driving such as carpooling, walking, and biking. The following features (or similar alternatives) will be provided: on-site or online commuter information services, employee transportation coordinators, and guaranteed ride home service.
- **Provide Ridesharing Program [T-8]** (up to 8% employee VMT reduction): Costco will develop and implement a ridesharing program. Ridesharing encourages carpooled vehicle trips in place of single-occupied vehicle trips. The following strategies provide examples of a multifaceted approach for promoting a rideshare program:
  - Designating a certain percentage of desirable parking spaces for ridesharing vehicles
  - Designating adequate passenger loading and unloading and waiting areas for ridesharing vehicles
  - Providing an app or website for coordinating rides
- **Provide End-of-Trip Bicycle Facilities [T-10]** (up to 4.4% employee VMT reduction): Costco will install and maintain end-of-trip facilities for employee use. End-of-trip facilities include elements such as bike parking, bike lockers, showers, and personal lockers. The provision and maintenance of secure bike parking and related facilities encourages commuting by bicycle.
- **Provide Pedestrian Network Improvement [T-18]** (up to 6.4% employee VMT reduction): Costco will provide a pedestrian network improvement near the site, constructing sidewalk along the Project frontage on Clarksville Crossing and Silva Valley Parkway. Additionally, the Project will construct sidewalk north of the Project frontage on the east side of Silva Valley Parkway to connect to existing sidewalk near Oak Meadow Elementary School, thereby providing connectivity with the surrounding neighborhood.

Table 21 provides the potential employee VMT reduction associated with these proposed mitigation measures. As shown in the table, employee VMT is anticipated to decrease by 872 miles; however, employee VMT (and regional VMT) is expected to remain a net positive as a result of the Project. Therefore, the Project impact due to VMT would remain significant.

**Table 21. Reduction in VMT Associated with Proposed TDM Mitigation Measures**

<b>Employee VMT Mitigation Measures</b>	<b>Maximum Reduction</b>	<b>VMT</b>
<b>Employee Trip VMT</b>	-	3,825
<i>Commuter Trip Reduction Marketing</i>	4%	(153)
<i>Ridesharing Program</i>	8%	(306)
<i>End-of-Trip Bicycle Facilities</i>	4.4%	(168)
<i>Pedestrian Network Improvement</i>	6.4%	(245)
Total Employee Trip VMT Reduction	22.8% <sup>1</sup>	(872)
<b>Employee Trip VMT (with mitigation)</b>	-	<b>2,953</b>

Source: Kittelson & Associates, Inc., 2025

<sup>1</sup> For illustrative purposes only, the maximum reductions were summed to demonstrate that, even with the most generous assumption of VMT reductions, Project VMT would not be reduced to a less-than-significant level with implementation of all feasible mitigation measures.

## 3. Potential Hazards

The Project is a land development composed of commercial uses and ancillary parking on land zoned for these types of uses. All site accesses and traffic controls will comply with County design standards and policies. Similarly, the Remainder Area as represented in this programmatic analysis comprises 13.59 acres with anticipated future development of 138,000 SF of commercial uses. All proposed developments within the Remainder Area would be subject to County development review and would be required to comply with County standards and policies.

### **IMPACT FINDING**

The Project does not propose any geometric design features or incompatible uses that would substantially increase hazards. Therefore, the Project impact due to hazards will be less than significant. The Remainder Area would be subject to County development review and would be required to comply with County standards and policies. Therefore, the Remainder Area impact due to hazards is anticipated to be less than significant.

## 4. Emergency Access

Emergency response to the site is accommodated through the Project access points on Silva Valley Parkway and Clarksville Crossing. The Project will comply with all applicable El Dorado County Fire Protection District design standards for emergency access. Adequate emergency access is required per the local fire code, and site plans will be reviewed by local fire officials as part of the site development design review process. Similarly, future development of the Remainder Area would be subject to County development review and would be required to comply with County standards and policies for emergency access.

### **IMPACT FINDING**

The Project will comply with all applicable El Dorado County Fire Protection District design standards for emergency access. Therefore, the Project impact due to emergency access will be less than significant. The Remainder Area would be subject to County development review and would be required to comply with County standards and policies. Therefore, the Remainder Area impact due to emergency access is anticipated to be less than significant.

# Conclusion

This CEQA compliance analysis resulted in the following impact findings:

- Consistency with Plans, Policies, and Programs – Neither the Project nor the anticipated Remainder Area development would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bike, and pedestrian facilities. Therefore, both the Project impact and Remainder Area impact would be **less than significant**.
- Change in Regional VMT – The Project is expected to increase regional daily VMT by 21,123 vehicle miles traveled. The anticipated Remainder Area is expected to increase regional daily VMT by 11,463 miles. Therefore, both the Project impact and Remainder Area impact would be **significant**. Proposed TDM mitigation measures could reduce employee VMT by approximately 872 miles; however, the Project impact would remain significant.
- Potential Hazards – The Project’s proposed on-site and off-site improvements would not result in sharp curves, dangerous intersections, or other hazards. The anticipated Remainder Area would be subject to County review and would comply with County standards and policies for land development, thus not resulting in sharp curves, dangerous intersections, or other hazards. Therefore, the Project impact and the anticipated Remainder Area impact would be **less than significant**.
- Emergency Access – The Project provides emergency access to and within the site and is not expected to result in inadequate emergency vehicle access. The anticipated Remainder Area would be subject to County review and would comply with County standards and policies for land development and emergency access. Therefore, the Project impact and the anticipated Remainder Area impact would be **less than significant**.