Partially Recirculated Draft
Environmental Impact Report

Fresno Costco Commercial Center Project

State Clearinghouse No. 2021100443

Prepared for:

City of FRESNO

Planning and Development Department

November 2025









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LIST OF ABBREVIATIONS

ACC	Advanced Clean Cars
ACF	Advanced Clean Fleet
ACT	Advanced Clean Trucks
ATCM	Airborne Toxic Control Measure
ATP	Active Transportation Plan
BAU	Business As-Usual
BPS	Best Performance Standards
CAA	Clean Air Act
CalEPA	California Environmental Protection Agency
CAP	criteria air pollutant
CARB	California Air Resources Board
CAT	Climate Action Team
CCAP	Comprehensive Climate Action Plan
CEC	California Energy Commission
CH_4	methane
CNRA	California Natural Resources Agency
CO_2	carbon dioxide
CPUC	California Public Utilities Commission
DOE	US Department of Energy
EO	Executive Order
F	Fahrenheit
Fresno COG	Fresno Council of Governments
GAMAQ	Guidance for Assessing and Mitigating Air Quality Impacts
GHG	greenhouse gas
GHGRP	greenhouse gas reduction plan
HFC	hydrofluorocarbon
IPCC	Intergovernmental Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LEV	Low-Emission Vehicle
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
MT	metric tons
MWELO	Model Water Efficient Landscape Ordinance
N_2O	nitrous oxide
NHTSA	National Highway Traffic Safety Administration
PCAP	Priority Climate Action Plan
PFC	perfluorocarbon
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
SAFE	Safer Affordable Fuel-Efficient
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SJVAPCD	San Joaquin Valley Air Pollution Control District
TRU	transportation refrigeration unit
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
VMT	vehicle miles traveled
ZEV	zero emission vehicles

1 INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT AND BACKGROUND

In accordance with the California Environmental Quality Act (CEQA), the City of Fresno (City), as Lead Agency, has prepared a Partial Recirculated Draft Environmental Impact Report (PR-DEIR) for the Costco Commercial Center proposed to be located at West Herndon Avenue and North Riverside Drive. The PR-DEIR is intended to comply with the Fresno County Superior Court's (Court) ruling issued in July 2025 in Fresno County Superior Court Case No. 24CECG02208, *Herndon-Riverside Coalition for Responsible Planning and Development v. City of Fresno et al.* (Lawsuit) and the requirements of CEQA.

Prior to commencement of the Lawsuit, the City prepared a DEIR for the project and circulated it for public comment through August 28, 2023. The City provided responses to all comments received and published the Final EIR on February 9, 2024. The City's City Council certified the EIR and approved the project on April 18, 2024. These documents are referred to herein as the 2024 EIR.

Based on the Court's ruling in the Lawsuit, this Section 3.7, "Greenhouse Gas Emissions and Climate Change," has been revised and is being recirculated. This section of the 2024 EIR evaluates potential impacts associated with greenhouse gas (GHG) emissions and climate change policy and is the only substantive section of the 2024 EIR included in this PR-DEIR. The 2024 EIR was upheld in the Lawsuit as to the other challenged issue, the alternatives analysis. No sections of the 2024 EIR other than the analyses of GHG emissions and climate change and alternatives were challenged in the Lawsuit.

Because the recirculation is limited to a single revised topical section, pursuant to CEQA Guidelines Section 15088.5, subdivision (c), the rest of the 2024 EIR is not being recirculated for public review and comment. Subdivision (c) provides that "[i]f the revision is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified." State CEQA Guidelines Section 15088.5 subdivision (a) provides that a limited portion of the Draft EIR must be recirculated for public review and comment prior to certification when significant new information is added to an EIR. Recirculation provides the public with an opportunity to comment on the new or revised sections of the Draft EIR, and only on such sections. Comments from reviewers must be limited to the contents of the PR-DEIR only and may not address matters not included in the PR-DEIR. Pursuant to CEQA Guidelines Section 15088.5, subdivision (f)(2)(ii), written responses will be prepared only to comments received regarding the PR-DEIRs sections. Responses to comments received during the review period regarding the environmental analysis in this PR-DEIR will be provided in a separate response to comments document. The Final EIR that the City will consider certifying and will thereafter apply will consist of the following elements:

1. The 2024 EIR certified by the City Council on April 18, 2024 without Section 3.7, "Greenhouse Gas Emissions and Climate Change";
2. This PR-DEIR, which includes a new, substitute Section 3.7, "Greenhouse Gas Emissions and Climate Change," and which alters the Greenhouse Gas Emissions and Climate Change entry in Table ES-1 of the Executive Summary and the cumulative impact discussion; and
3. The comments submitted on this PR-DEIR during the public comment period and the responses to those comments.

1.1.1 Reason for Partial Recirculation

The PR-DEIR has been prepared pursuant to an Order After Hearing issued by the Court on July 17, 2025 ("Order"), granting the Petition for Writ of Mandate ("Petition") in the Lawsuit. The Court granted the Petition in part to the extent as set forth in the Court's Order with regard to the First Cause of Action (non-CEQA challenge alleging

violations of the Fresno Municipal Code) and Second Cause of Action (alleging violation of CEQA pertaining to GHG emissions analysis in the EIR) and denied the Petition in part with regard to the Third Cause of Action (alleging violation of CEQA pertaining to the Alternatives analysis in the EIR).

With respect to GHG emissions and climate change analysis included in the EIR, the Order in pertinent part stated as follows:

> The modeling presented within the EIR is substantial evidence of the anticipated emissions of the Project.
>
> The EIR's conclusion that the Project will have a less than significant impact on climate change is based upon a comparison of the Project's anticipated emissions with the application of the mitigation measures and implementation of clean vehicle regulations and the 2021 [City of Fresno Greenhouse Gas Reduction Plan ("GHGRP")]. Following the certification of the EIR, the [2021] GHGRP was set aside and the 2014 GHGRP was adopted. As a result, the EIR conclusion that the Project will have a less than significant impact on climate [is] now without foundation.

For context, the Court's reference to the 2021 GHGRP being set aside pertains to the Fifth District Circuit Court of Appeal's unpublished August 6, 2024 decision in the *South Fresno Community Alliance v. City of Fresno* matter (case no. F086180), where the Court of Appeal directed that the City be compelled to set aside its Program Environmental Impact Report (PEIR) for the continued implementation of the City's 2014 General Plan (including the 2021 GHGRP) that the City had certified in 2021.

In accordance with the Court of Appeal's ruling, the City adopted Resolution No. 2025-69, rescinding its certification of the PEIR and vacating its approval of the 2021 GHGRP. Resolution No. 2025-69 provided as follows:

> The Master Environmental Impact Report, which was certified in connection with the City's adoption of its 2014 General Plan in 2014, is the environmental review document for the City's 2014 General Plan, subject to the requirements of CEQA (Public Resource Code §§21000, *et seq*.) and the CEQA Guidelines (California Code of Regulations, Title 14, §15000 *et seq*.). The 2014 Greenhouse Gas Reduction Plan, adopted concurrently with the Master Environmental Impact Report, is the Greenhouse Gas Reduction Plan for the City, subject to the requirements of CEQA and the CEQA Guidelines.

In effect, under Resolution 2025-69, the City reverted to the pre-2021 status quo making the City's 2014 GHGRP its most current and only operable GHGRP. Consistent with the Court's ruling, Section 3.7, "Greenhouse Gas Emissions and Climate Change," has been revised to eliminate reference to the City's 2021 GHGRP.

1.2 DOCUMENT FORMAT

Consistent with the requirements of PRC Section 21168.9(b), this PR-DEIR contains only the information required to comply with the Court's decision. All such information is considered significant new information based on Section 15088.5(a) of the State CEQA Guidelines. No other chapters or portions of the 2024 EIR are addressed in this PR-DEIR because no new information or new circumstances exist that would warrant revision of these other chapters or sections.

This PR-DEIR is organized into the following sections. All chapter and section numbering is consistent with the chapter and section numbering outline in the 2024 EIR.

- Chapter 1, "Introduction," supplements the introduction chapter in the 2024 EIR and describes the purpose and legal requirements of this PR-DEIR, as well as its intended uses. This chapter also revises the 2024 EIR's Executive Summary and cumulative impact discussion to reflect the revised Greenhouse Gas Emissions and Climate Change section.
- Section 3.7, "Greenhouse Gas Emissions and Climate Change," responds to the Court ruling that required revaluation of GHG emissions because the 2021 GHGRP has been set aside and is no longer applicable to the project. The section replaces the 2024 EIR's GHG emissions analysis in its entirety.

1.3 ADDITIONAL REVISIONS TO THE 2024 EIR

1.3.1 Executive Summary

Table ES-1 of the Executive Summary for the 2024 EIR provides a matrix of all impact statements in the Draft EIR, a brief description of the analysis, the impact significance before mitigation, any applicable mitigation measures, and the impact significance after mitigation. As described above, the threshold of significance for the analysis of GHG emissions is modified in this PR-DEIR. To more accurately reflect the analysis presented in this PR-DEIR the portion of Table ES-1 that appears on page ES-15 of the Draft EIR summarizing the GHG emissions and climate change analysis is revised as follows:

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
Greenhouse Gas Emissions and Climate Change			
Impact 3.7-1: Generate GHG Emissions That Would Have a Significant Impact on the Environment While the project would result in an increase in GHG emissions when compared to the existing conditions (i.e., vacant site with no development), the project would be consistent with applicable state and local plans and would not conflict with or impede the state's ability to meet its GHG reduction goals. Therefore, there is no cumulatively considerable contribution to GHG emissions	LTS	No mitigation is required for this impact.	LTS
Impact 3.7-2: Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of GHGs The project would comply with all laws and regulations governing GHG reduction, and would not conflict with an applicable plan, policy or regulation adopted to reduce GHG emissions. Therefore, this impact would be less than significant.	LTS	No mitigation is required for this impact.	LTS
Impact 4-7: Cumulative Greenhouse Gas Emissions and Climate Change Impacts There is an existing substantial adverse impact related to greenhouse gas (GHG) emissions and global climate change. However, the project's contribution to this cumulatively significant impact would not be cumulatively considerable. Cumulative impacts would be less than significant.	LTS	No mitigation is required for this impact.	LTS

1.3.2 Section 4.3 Analysis of Cumulative Impacts

Chapter 4, "Cumulative Impacts," of the 2024 EIR includes a discussion of the project's contribution to GHG emissions and global climate change. To promote consistency with the Court's decision, the analysis of cumulative GHG emissions on page 4-11 of the 2024 EIR is revised as follows to remove reference to the now vacated 2021 GHGRP.

Impact 4-7: Cumulative Greenhouse Gas Emissions and Climate Change Impacts

There is an existing substantial adverse impact related to greenhouse gas (GHG) emissions and global climate change. However, the project's contribution to this cumulatively significant impact would not be cumulatively considerable. Cumulative impacts would be **less than significant**.

The geographic scope of the cumulative impact analysis for GHG emissions and climate change is global. Climate change is an inherently cumulative issue and relates to development in the region, California, and, most of all, the world. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more carbon dioxide (CO_2) is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. The combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts.

Therefore, the impacts discussed in Section 3.7, "Greenhouse Gas Emissions and Climate Change," are also the cumulative effects of the project. As described therein, the project would not conflict with or impede the state's ability to meet its GHG reduction goals. Therefore, the project would not make a considerable contribution to the cumulative condition. Cumulative impacts would be **less than significant**.

1.4 PUBLIC REVIEW PROCESS

The City of Fresno is soliciting comments from responsible agencies, trustee agencies, public agencies, organizations, and members of the public regarding the PR-DEIR. In accordance with the time limits established by CEQA, the PR-DEIR will begin November 21, 2025, and end on January 5, 2026. The PR-DEIR will be circulated to state agencies for review through the State Clearinghouse, a division of the Governor's Office of Land Use and Climate Innovation and via email.

1.4.1 Document Availability

The PR-DEIR can be reviewed at the following websites: https://ceqanet.opr.ca.gov. A hard copy of the PR-DEIR can also be reviewed at the following locations during business hours (Monday through Friday 8:00 a.m.–5:00 p.m.):

i) City of Fresno Planning and Development Department
2600 Fresno Street Third Floor, Room 3043, Fresno, CA 93721

ii) Fresno County Public Library
2420 Mariposa Street Fresno, CA 93721

1.4.2 Written Comments on the Partial Recirculated Draft EIR

Please provide your written/typed comments (including name, affiliation, telephone number, and contact information) via US mail or email to the address shown below by 5:00 p.m. on January 5, 2026:

> ATTN: Steven Martinez, City of Fresno – Planning and Development Department
> 2600 Fresno Street, Room 3043, Fresno, CA 93721
> Email: PublicCommentsPlanning@fresno.gov

1.4.3 Limitation on Public Review Comments

The City requests that commenters not make new comments on matters not included in the PR-DEIR and limit their written comments to the new material presented in the PR-DEIR, which consists of Section 3.7, "Greenhouse Gas Emissions and Climate Change," (and corresponding changes to the cumulative discussion and Executive Summary) only.

This request is made pursuant to State CEQA Guidelines Section 15088.5(f)(2), which states that:

> When the EIR is revised only in part and the lead agency is recirculating only the revised chapters or portions of the EIR, the lead agency may request that reviewers limit their comments to the revised chapters or portions of the recirculated EIR. The lead agency need only respond to (i) comments received during the initial circulation period that relate to chapters or portions of the document that were not revised and recirculated, and (ii) comments received during the recirculation period that relate to the chapters or portions of the earlier EIR that were revised and recirculated. The lead agency's request that reviewers limit the scope of their comments shall be included either within the text of the revised EIR or by an attachment to the revised EIR.

1.5 USE OF THIS DOCUMENT

This PR-DEIR will be combined with the 2024 EIR, which will be considered by the City's City Council at a future City Council meeting. The Final EIR will include the comments received on this PR-DEIR, along with the written responses to those comments.

The City Council will consider certifying the Final EIR prior to completing its deliberations on the project. If it approves the project, then the City Council will adopt the findings, statement of overriding considerations, and mitigation monitoring and reporting program that are required by CEQA.

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3.7 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

This section was prepared by Ramboll Americas Engineering Solutions, Inc., experts in the fields of air quality and greenhouse gas (GHG) emissions science and policy. This section presents a summary of regulations applicable to GHG emissions; a summary of climate change science and GHG sources in California; and a quantification of project-generated GHGs and discussion about their contribution to global climate change. Prior to initiation of the 2024 EIR, the City released a notice of preparation on October 22, 2021. No comments were received in response to the notice of preparation that specifically address GHG emissions or climate change. Effects related to pollution and air quality concerns are addressed in Section 3.3, "Air Quality," of the 2024 EIR.

3.7.1 Regulatory Setting

FEDERAL

Clean Air Act

In April 2007, in *Massachusetts v. EPA*, the U.S. Supreme Court directed the Administrator of the US Environmental Protection Agency (EPA) to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA Administrator was directed to follow the language of Section 202(a) of the Clean Air Act (CAA). In December 2009, the Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the CAA:

- Elevated concentrations of GHGs— carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."
- The combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the CAA.

Endangerment Finding and Cause or Contribute Finding

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under CAA Section 202(a) (42 United States Code Section 7521).

- Endangerment Finding: The Administrator found that the current and projected concentrations of the six key well-mixed GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) in the atmosphere threaten the public health and welfare of current and future generations. On July 29, 2025, EPA announced a proposal to rescind the Endangerment Finding and repeal all GHG emission standards for light-duty, medium-duty, and heavy-duty vehicles and engines pursuant to CAA section 202(a). As of the writing this PR-DEIR, EPA has not adopted this proposal.[1] The proposed rule would remove GHG-related provisions from 40 CFR part 600 without affecting provisions related to Corporate Average Fuel Economy (CAFE) standards and fuel economy labeling. In general, the proposed rule would remove model year (MY) 2012 and later GHG emission standards for passenger cars and light trucks, and MY 2014 and later GHG emission standards for medium-duty vehicles.[2] As of the writing of this PR-DEIR, EPA has

[1] EPA. 2025. Proposed Rule: Reconsideration of 2009 Endangerment Finding and Greenhouse Gas Vehicle Standards. Available: https://www.epa.gov/regulations-emissions-vehicles-and-engines/proposed-rule-reconsideration-2009-endangerment-finding. Accessed October 2025.

[2] Ibid.

not adopted this proposal, and CARB has provided no guidance on how to address this issue in emissions modeling.[3]

- Cause or Contribute Finding: The Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

Federal Plan to Reduce GHG Emissions by 2025

In 2015, President Obama signed Executive Order (EO) 13693, which was intended to reduce the federal government's GHG emissions by 40 percent by 2025 by requiring the following:

- Ensuring that 25 percent of total energy consumption is from clean energy sources.
- Reducing energy use in federal buildings by 2.5 percent per year between 2015 and 2025.
- Reducing per-mile GHG emissions from federal fleets by 30 percent (from 2014 levels) by 2025 and increasing the percentage of zero-emissions and plug-in hybrid vehicles in federal fleets.
- Reducing water intensity in federal buildings by 2 percent per year through 2025.

This executive order was revoked by President Trump's EO 13834 in May 2018. President Biden's EO 13990 revoked EO 13834 except for sections 6 (Duties of the Federal Chief Sustainability Officer), 7 (Duties of Heads of Agencies), and 11 (General Provisions).[4]

On January 20, 2025, President Trump announced the recission of EO 13990.[5]

Executive Order 14008

On January 27, 2021, President Biden issued the Executive Order on Tackling the Climate Crisis at Home and Abroad (EO 14008).[6] Part I of the order highlighted putting the climate crisis at the center of United States foreign policy and national security. As stated in EO 14008, addressing the climate crisis will require significant short-term global reductions in GHG emissions and net-zero global emissions by mid-century or sooner. The executive order also stated the United States will pursue green recovery efforts and initiatives to advance the clean energy transition.

Part II of the order relayed the government-wide approach to the climate crisis, which involves reducing climate pollution in every sector of the economy, especially through innovation, commercialization, and deployment of clean energy technologies and infrastructure. A National Climate Task Force was established to focus on addressing the climate crisis through key federal actions to reduce climate change impacts. A 100 percent carbon pollution-free electricity sector was targeted by no later than 2035 and a net-zero emissions economy was to be achieved by no later than 2050. Offshore wind was aimed to be doubled by 2030. Opportunities for federal funding of clean energy technology and infrastructure were to be identified. Federal permitting decisions were required to consider the effects of GHG emissions and climate change.

On January 20, 2025, President Trump announced the recission of EO 14008.[7]

[3] Ibid.

[4] White House Briefing Room. 2021. *Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*. January 20. Available at: https://bidenwhitehouse.archives.gov/briefing-room/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/. Accessed: August 2025.

[5] The White House. 2025. Initial Rescissions of Harmful Executive Orders and Actions. January 20. Available at: https://www.whitehouse.gov/presidential-actions/2025/01/initial-rescissions-of-harmful-executive-orders-and-actions/. Accessed: August 2025.

[6] White House Briefing Room. 2021. Executive Order on Tackling the Climate Crisis at Home and Abroad. January 27. Available at: https://bidenwhitehouse.archives.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/. Accessed: August 2025.

[7] The White House. 2025. Initial Rescissions of Harmful Executive Orders and Actions. January 20. Available at: https://www.whitehouse.gov/presidential-actions/2025/01/initial-rescissions-of-harmful-executive-orders-and-actions/. Accessed: August 2025.

Paris Climate Agreement

On June 1, 2017, President Trump withdrew the United States from the Paris Agreement.[8] The Paris Agreement was negotiated within the United Nations Framework Convention on Climate Change in 2015 to reduce GHG emissions internationally. The goal of the Paris Agreement was to keep the global temperature rise this century to below 2 degrees Celsius above pre-industrial standards, with efforts to limit temperature increase even further to 1.5 degrees Celsius. The Paris Agreement became effective on November 4, 2016. As of October 5, 2016, 155 of 197 parties had ratified the Paris Agreement.[9] On January 20, 2021, President Biden signed an executive order formally rejoining the United States to the Paris Agreement.[10] On January 20, 2025, upon his return to office, President Trump once again began the process to withdraw the United States from the Paris Climate Agreement.[11] The withdrawal will take effect for the United States on January 27, 2026.[12]

Federal Vehicle Standards

In response to the *Massachusetts v. EPA* decision discussed above, in 2007, President Bush directed the EPA, the Department of Transportation (USDOT), and the Department of Energy (DOE) to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency for and GHG emissions from cars and light-duty trucks for model year 2011; and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Obama issued a memorandum directing the same federal agencies to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model year 2017-2025 light-duty vehicles. The proposed standards are projected to achieve 163 grams/mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021.

In August 2017, the EPA asked for additional information and data relevant to assessing whether the GHG emissions standards for model years 2022-2025 remain appropriate. In early 2018, the EPA Administrator announced that the midterm evaluation for the GHG emissions standards for cars and light-duty trucks for model years 2022-2025 was completed and stated his determination that the current standards should be revised in light of recent data. Subsequently, in 2018, the EPA and NHTSA proposed to amend certain existing CAFE standards and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and establish new standards, covering model years 2021-2026. Compared to maintaining the post-2020 standards, the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks proposal was anticipated to increase U.S. fuel consumption.[13] California and other states announced their intent to challenge federal actions that would delay or eliminate GHG reductions. In April 2020, NHTSA and EPA amended the CAFE and GHG emissions standards for passenger cars and light trucks and established new less stringent standards, covering model years 2021 through 2026.

[8] EPA. 2017. Administrator Scott Pruitt Speech on Paris Accord, As Prepared. June 1. Available at: https://archive.epa.gov/epa/speeches/administrator-scott-pruitt-speech-paris-accord-prepared.html. Accessed August 2025.

[9] United Nations Framework Convention on Climate Change. 2017. The Paris Agreement. July 27. Available at: http://unfccc.int/paris_agreement/items/9485.php. Accessed: January 2022.

[10] White House Briefing Room. 2021. Paris Climate Agreement. January 20. Available at: https://bidenwhitehouse.archives.gov/briefing-room/statements-releases/2021/01/20/paris-climate-agreement/. Accessed: August 2025.

[11] The White House. 2025. Putting America First in International Environmental Agreements. January 20. Available at: https://www.whitehouse.gov/presidential-actions/2025/01/putting-america-first-in-international-environmental-agreements/. Accessed: August 2025.

[12] Congress.gov. 2025. U.S. Withdrawal from the Paris Agreement: Process and Potential Effects. April 14. Available at: https://www.congress.gov/crs-product/R48504. Accessed: October 2025.

[13] Federal Register. 2018. The Safer Affordable Fuel-Efficient (SAFE) Vehicles Final Rule for Model Years 2021-2026 Passenger Cars and Light Trucks. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/safer-affordable-fuel-efficient-safe-vehicles-final-rule. Accessed: August 2025.

On September 27, 2019, the EPA and NHTSA published the SAFE Rule (Part One).[14] The SAFE Rule (Part One) went into effect in November 2019, and revoked California's authority to set its own GHGs standards and set zero emission vehicle mandates in California. The SAFE Rule (Part One) froze new zero emission vehicle (ZEV) sales at model year 2020 levels for year 2021 and beyond, and was expected to likely result in a lower number of future ZEVs and a corresponding greater number of future gasoline internal combustion engine vehicles. In response to the EPA's adoption of the SAFE Rule (Part One), the California Air Resources Board (CARB) issued guidance regarding the adjustment of vehicle emissions factors to account for the rule's implications on criteria air pollutant and greenhouse gas emissions.[15,16] The SAFE Rule was subject litigation and on February 8, 2021, the D.C. Circuit Court of Appeals granted the Biden Administration's motion to stay litigation over Part 1 of the SAFE Rule. On April 22 and April 28, 2021, respectively, NHTSA and EPA formally announced their intent to reconsider the Safe Rule (Part One).[17,18] The NHTSA finalized the Corporate Average Fuel Economy Pre-emption rulemaking to withdraw its portions of the SAFE I Rule on December 21, 2021.[19] On March 9, 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate and entirely rescinded the SAFE Rule (Part One).

In December 2021, the EPA finalized federal GHG emissions standards for passenger cars and light trucks for Model Years 2023-2026. These standards are the strongest vehicle emissions standards ever established for the light-duty vehicle sector and are based on sound science and grounded in a rigorous assessment of current and future technologies.[20] The updated standards will result in avoiding more than 3 billion tons of GHG emissions through 2050.[21]

In April 2023, the EPA proposed a new more ambitious proposed standards for national GHG emission standards from light-duty and medium-duty vehicles starting with 2027 model year vehicles.[22] On March 20, 2024, EPA finalized these standards, which will phase-in over model years 2027-2032. These standards build upon existing rules, and leverage advances in clean car technology to realize benefits to Americans such as the improvement of public health through reduction of criteria air pollutant (CAP) and GHG emissions from vehicles.[23]

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018-2027 for certain trailers, and model years 2021-2027 for semi-trucks, large pickup trucks, vans and all types

[14] EPA and NHTSA. 2019. Federal Register, Vol. 84, No. 188, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. September 27. Available at: https://www.govinfo.gov/content/pkg/FR-2019-09-27/pdf/2019-20672.pdf. Accessed: August 2025.

[15] CARB. 2019. EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One. November 20. Available at: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf. Accessed: August 2025.

[16] CARB. 2020. EMFAC Off-Model Adjustment Factors for Carbon Dioxide Emissions to Account for the SAFE Vehicles Rule Part One and the Final SAFE Rule. June 26. Available at: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf. Accessed: August 2025.

[17] NHTSA. 2021. NHTSA Advances Biden-Harris Administration's Climate & Jobs Goals. April 22. Available at: https://www.nhtsa.gov/press-releases/nhtsa-advances-biden-harris-administrations-climate-jobs-goals. Accessed: January 2022.

[18] EPA. 2021. Federal Register, Vol. 86, No. 80, California State Motor Vehicle Pollution Control Standards; Advanced Clean Car Program; Reconsideration of a previous Withdrawal of a Waiver of Preemption; Opportunity for Public Hearing and Public Comment. April 28. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/notice-reconsideration-previous-withdrawal-waiver. Accessed: January 2022.

[19] NHTSA. Available at: https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy. Accessed: May 2022.

20 EPA. 2021. Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revise-existing-national-ghg-emissions. Accessed: January 2022.

[21] Ibid.

[22] United States Environmental Protection Agency. 2023. Proposed Rule: Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/proposed-rule-multi-pollutant-emissions-standards-model. Accessed: August 2025.

[23] United States Environmental Protection Agency. 2023. Final Rule: Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-multi-pollutant-emissions-standards-model. Accessed: August 2025.

of sizes of buses and work trucks. The final standards are expected to lower carbon dioxide emissions by approximately 1.1 billion metric tons (MT) and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.[24]

On August 5, 2021, EPA announced plans to reduce GHG emissions and other harmful air pollutants from heavy-duty trucks through a series of rulemakings over the next 3 years. The first rulemaking of this Clean Trucks Plan was the Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, signed on December 20, 2022, which focuses on reducing emissions that form smog and soot and will apply to heavy-duty engines and vehicles beginning in model year 2027. Two additional rulemakings, Phase 3 GHG rule for heavy-duty engines and the multi-pollutant emissions standards for light-duty and medium-duty vehicles were signed in March 2024, and marked the completion of the Clean Trucks Plan.[25]

On January 20, 2025, newly re-elected President Trump issued EO 14148, entitled the Initial Rescissions of Harmful Executive Orders and Actions, which revokes a Biden era EO 14037 that directed the EPA and the Secretary of Transportation to consider beginning work on rulemakings to establish vehicle emissions standards and fuel economy standards for vehicles with model years 2027 and later. EO 14148 directed NHTSA to commence review and reconsideration of all existing fuel economy standards for vehicle model years 2022 and later.[26]

Energy Independence and Security Act

The Energy Independence and Security Act of 2007 facilitated the reduction of national GHG emissions by requiring the following:

- increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard that required fuel producers to use at least 36 billion gallons of biofuel by 2022;
- prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances; and
- requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014 and requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020.

While superseded by the EPA and NHTSA actions described above, the act also established a miles per gallon target for cars and light trucks and directed the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of the Energy Independence and Security Act addressed energy savings in government and public institutions, promoted research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."

STATE

The State of California considers GHG emissions and the impacts of climate change to be a serious threat to the public health, environment, economic well-being, and natural resources of California, and has taken an aggressive stance to reduce the State's impact on climate change through the adoption of policies and legislation. CARB is responsible for the coordination and oversight of State and local air pollution control programs in California.

[24] EPA and NHTSA, 2016. Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium and Heavy-Duty Engines and Vehicles – Phase 2. Available at: https://www.gpo.gov/fdsys/pkg/FR-2016-10-25/pdf/2016-21203.pdf. Accessed: August 2025.

[25] EPA. Regulations for Emissions from Vehicles and Engines. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-commercial-trucks. Accessed: August 2025.

[26] US Department of Transportation, 2025. Memorandum to Office of the Administrator of the National Highway Traffic Safety Administration (NHTSA), Office of the Assistant Secretary of Policy (OST-P) AND Office of the General Counsel (OGC), Subject: Fixing the CAFÉ Program. January 28, 2025. Available at: https://www.transportation.gov/sites/dot.gov/files/2025-01/Signed%20Secretarial%20Memo%20re%20Fixing%20the%20CAFE%20Program.pdf. Accessed: August 2025.

California has numerous regulations aimed at reducing the State's GHG emissions. Some of the major initiatives are summarized below.

Executive Order S-3-05

In 2005, Governor Schwarzenegger issued EO S-3-05, which identifies Statewide GHG emission reduction targets to achieve long-term climate stabilization as follows.

- reduce GHG emissions to 1990 levels by 2020; and
- reduce GHG emissions to 80 percent below 1990 levels by 2050.

In response to EO S-3-05, California Environmental Protection Agency (CalEPA) created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report").[27] The 2006 CAT Report identified a recommended list of strategies that the State could pursue to reduce GHG emissions. These are strategies that could be implemented by various State agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with the existing authority of the State agencies. The strategies include, but are not limited to, the reduction of passenger and light-duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture.

Assembly Bill 32

Assembly Bill (AB) 32 (Nunez 2006), the California Global Warming Solutions Act of 2006, was enacted after considerable study and expert testimony before the Legislature. The heart of AB 32 is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020. In order to achieve this reduction mandate, AB 32 requires CARB to employ an open public process to adopt rules and regulations that achieve the maximum technologically feasible and cost-effective GHG reductions.

In 2007, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline. CARB's adoption of this limit was in accordance with Health & Safety Code Section 38550, as codified through enactment of AB 32.

Per Health & Safety Code Section 38561(b), CARB also is required to prepare, approve and amend a scoping plan that identifies and makes recommendations on "direct emission reduction measures, alternative compliance mechanisms, market-based compliance mechanisms, and potential monetary and nonmonetary incentives for sources and categories of sources that [CARB] finds are necessary or desirable to facilitate the achievement of the maximum feasible and cost-effective reductions of greenhouse gas emissions by 2020."

In 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (2008 Scoping Plan) in accordance with Health & Safety Code Section 38561. During the development of the 2008 Scoping Plan, CARB created a planning framework that is comprised of eight emissions sectors: (1) transportation; (2) electricity; (3) commercial and residential; (4) industry; (5) recycling and waste; (6) high global warming potential (GWP) gases; (7) agriculture; and (8) forest net emissions. The 2008 Scoping Plan established an overall framework for the measures to be adopted to reduce California's GHG emissions from the eight emissions sectors to 1990 levels by 2020.

In the 2011 *Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document* (2011 Final Supplement), CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations.

In 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (2014 First Update).[28] The stated purpose of the 2014 First Update was to "highlight […] California's success to date in reducing its GHG emissions and lay […] the foundation for establishing a broad framework for continued emission reductions

[27] California Environmental Protection Agency (CalEPA), March 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature. Available at: https://downloads.regulations.gov/FWS-R8-ES-2020-0074-0003/attachment_9.pdf. Accessed: January 2022.

[28] Health & Safety Code Section 38561(h) requires CARB to update the Scoping Plan every five years.

beyond 2020, on the path to 80 percent below 1990 levels by 2050."[29] The 2014 First Update found that California was on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals.[30]

In November 2017, CARB published *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan), which was subsequently adopted by CARB's Board in December 2017.[31] The 2017 Scoping Plan identified CARB's strategy for achieving the State's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below). The strategy included continuation of the Cap-and-Trade Program through 2030, and incorporated a Mobile Source Strategy that included strategies targeted to increase zero emission vehicle fleet penetration and a more stringent target for the Low Carbon Fuel Standard by 2030. The 2017 Scoping Plan also incorporated approaches to cutting short-lived climate pollutants under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), and acknowledged the need for reducing emissions in agriculture and highlighted the work underway to ensure that California's natural and working lands increasingly sequester carbon.

CARB adopted the *Final 2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) on December 16, 2022, which is the current Scoping Plan relevant for statewide planning efforts.[32] The 2022 Scoping Plan assesses progress towards achieving the SB 32 2030 target and lays out a path to achieve carbon neutrality no later than 2045. It aims to reduce anthropogenic emissions to 85 percent below 1990 levels by 2045 using technically feasible and cost-effective solutions. The 2022 Scoping Plan focuses on electrification of transportation, homes and buildings, and phasing out fossil fuels. In hard-to-electrify sectors, new solutions such as renewable hydrogen and biomethane are forecasted to be leveraged to achieve emissions reductions.

The 2022 Scoping Plan developed a table of priority GHG reduction strategies that can be utilized by local governments. This is Table 1 in Appendix D of the 2022 Scoping Plan Update.[33] The three main priority areas addressed in this table are "Transportation Electrification," "VMT Reduction," and "Building Decarbonization." These measures represent the core strategies that local jurisdictions in California can implement to reduce GHGs in alignment with State goals. When discussing Table 1 of Appendix D, the 2022 Scoping Plan notes:

> To assist local jurisdictions with developing local climate plans, measures, policies, and actions aligned with the State's climate goals, Table 1 presents a non-exhaustive list of impactful GHG reduction strategies that can be implemented by local governments. The strategies in Table 1 are not applicable to all local jurisdictions, nor are they the only strategies that local governments can adopt, but they represent the core strategies that most jurisdictions in California can implement to reduce GHG emissions regardless of whether they have developed a CEQA-qualified CAP [climate action plan]. Reaching the outcomes of these priority GHG reduction strategies requires a locally appropriate, comprehensive adoption of policies in support of these objectives. When developing local climate plans, measures, policies, and actions, local jurisdictions should incorporate the recommendations described in Table 1 to the extent appropriate to ensure alignment with State climate goals.

As explained by the 2022 Scoping Plan Update, the state does not expect each individual project to result in net zero with no increase in GHG emissions.[34] Rather, GHG reduction planning must understand that the population and land use/economic sectors in California will continue to grow and, therefore, decisions should balance growth that includes GHG increases with effective GHG reduction strategies.

[29] CARB, First Update to the Climate Change Scoping Plan: Building on the Framework (May 2014), p. 4.
[30] Id. at p. 34.
[31] CARB. 2017. California's 2017 Climate Change Scoping Plan. November. Available at: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed: August 2025.
[32] CARB. 2022. Final 2022 Scoping Plan Update and Appendices. December. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed: August 2025.
[33] CARB. 2022. Final 2022 Scoping Plan Update and Appendices. December. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed: August 2025.
[34] CARB. 2022. 2022 Scoping Plan Appendix D: Local Actions. November. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf. Accessed: August 2025.

SB 605 - Short-lived Climate Pollutants

Short-lived climate pollutants (i.e., black carbon, fluorinated gases, and methane) are powerful climate forcers that remain in the atmosphere for a much shorter period of time than longer-lived climate pollutants. Their relative potency, when measured in terms of how they heat the atmosphere, can be tens, hundreds, or even thousands of times greater than that of CO_2. The impacts of short-lived climate pollutants are especially strong over the short term. Reducing these emissions can make an immediate beneficial impact on climate change.[35] Governor Brown signed SB 605 on September 21, 2014, directing CARB to develop a Short-Lived Climate Pollutant Strategy by January 1, 2016. On May 7, 2015, CARB released a concept paper for reducing emissions of these substances. In September 2015, CARB released a draft of its Short-Lived Climate Pollutant Strategy. Several updates to the draft have been made since September 2015, with the most current version dated March 2017. The strategy aims for a 40 percent reduction in methane and HFC emissions below 2013 levels by 2030 and a 50 percent reduction in anthropogenic emissions of black carbon below 2013 levels by 2030.[36]

In September 2016, Governor Brown set methane reduction targets for California through SB 1383 in an effort to reduce SLCPs.[37] Landfills are the third largest source of methane in California, and so the targets focused on ways in which the State can fight climate change through recycling organic waste.[38] The targets in SB 1383 must:

- reduce organic waste disposal 75 percent by 2025, and
- send at least 20 percent of surplus, fresh food to Californians in need by 2025.

Cap-and-Trade Program

California's Cap-and-Trade Program (Cal. Code Regs., tit. 17, §§ 95800-96022) regulates the emissions of large electric power plants, large industrial plants, and fuel distributors (including transportation fuel and natural gas). These sources are responsible for about 80 percent of the State's total GHG emissions inventory. [39] As described by CARB:

> "The Cap-and-Trade Regulation establishes a declining limit on major sources of GHG emissions throughout California, and it creates a powerful economic incentive for significant investment in cleaner, more efficient technologies… CARB creates allowances equal to the total amount of permissible emissions (i.e., the "cap"). One allowance equals one metric ton of carbon dioxide equivalent emissions (using the 100-year GWP). Each year, fewer allowances are created and the annual cap declines. An increasing annual auction reserve (or floor) price for allowances and the reduction in annual allowances creates a steady and sustained carbon price signal to prompt action to reduce GHG emissions. All covered entities in the Cap-and-Trade Program are still subject to existing air quality permit limits for criteria and toxic air pollutants."[40]

In the Cap-and-Trade Program, the State regulates the quantity of emissions by determining, in advance, how many allowances to issue—i.e., setting the "cap." Each allowance is essentially a permit issued by the State authorizing a certain quantity of GHG emissions. There are only a finite number of allowances, ensuring that covered entities may only lawfully emit a certain quantity of GHGs. If a covered entity wishes to emit carbon, it must obtain allowances to authorize those emissions.

Importantly, the Cap-and-Trade Program has been designed to provide a firm cap, ensuring that the 2020 statewide emissions limit identified by CARB in the 2008 Scoping Plan will *not* be exceeded.[41] Thus, for the emission sources covered by the program, which are nearly all of the sources associated with land use development projects, compliance with AB 32's 2020 mandate is assured by the Cap-and-Trade Program.

[35] CARB. 2016. Reducing Short-Lived Climate Pollutants in California. Available at: https://www.arb.ca.gov/cc/shortlived/shortlived.htm. Accessed: January 2022.
[36] CARB. 2017. Short-Lived Climate Pollutant Reduction Strategy. Available at: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf. Accessed: January 2022.
[37] CalRecycle. California's Short-Lived Climate Pollutant Reduction Strategy. Available at: https://calrecycle.ca.gov/organics/slcp/. Accessed: August 2025.
[38] Ibid.
[39] CARB, Cap-and-Trade Program. Available at: http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm. Accessed: August 2025.
[40] Ibid.
[41] CARB, 2008. Climate Change Scoping Plan: A Framework for Change (December 2008), pp. 30-31.

AB 398 (2017) extended the statutorily defined horizon year of the Cap-and-Trade Program to December 31, 2030, thereby facilitating continued reliance on the Cap-and-Trade Program for purposes of achieving SB 32's 2030 statewide reduction target.

In June 2023, CARB proposed to amend the Cap-and-Trade regulation and since then has hosted numerous workshops on the potential amendments.[42] In April 2024, CARB published a Standardized Regulatory Impact Assessment of the potential amendments, which outline changes to the regulation such as revision of future allowances, updates to industrial allowance allocations, and other changes that are intended to align the Cap-and-Trade Program with updated statewide GHG reduction targets in the 2022 Scoping Plan Update.[43] These updated statewide targets include a 48 percent reduction of anthropogenic GHG emissions below 1990 levels by 2030, an 85 percent reduction of GHG emissions below 1990 levels by 2045, and achieving carbon neutrality by 2045.[44]

The project did not specifically quantify a benefit from the Cap-and-Trade program.

Executive Order B-30-15

In April 2015, Governor Brown signed EO B-30-15, which established the following GHG emission reduction goal for California: by 2030, reduce GHG emissions to 40 percent below 1990 levels. This executive order also directed all State agencies with jurisdiction over GHG-emitting sources to implement measures designed to achieve the interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05 (see discussion above). Additionally, the executive order directed CARB to update its Scoping Plan to address the 2030 goal (CARB has done so; see discussion under "Assembly Bill 32," above).

Senate Bill 32 and Assembly Bill 197

Enacted in 2016, SB 32 (Pavley 2016) codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030.

SB 32 was coupled with a companion bill: AB 197 (Garcia, 2016). Designed to improve the transparency of CARB's regulatory and policy-oriented processes, AB 197 created the Joint Legislative Committee on Climate Change Policies, a committee with the responsibility to ascertain facts and make recommendations to the Legislature concerning statewide programs, policies, and investments related to climate change. AB 197 also requires CARB to make certain GHG emissions inventory data publicly available on its web site; consider the social costs of GHG emissions when adopting rules and regulations designed to achieve GHG emission reductions; and include specified information in all Scoping Plan updates for the emission reduction measures contained therein.

Executive Order B-55-18

In September 2018, Governor Brown signed EO B-55-18, which established a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." This executive order directed CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal."

In January 2019, CARB kicked off workshops regarding carbon neutrality in California,[45] during which CARB staff explained that the definitional parameters and meaning of the term – carbon neutrality – were still being explored. CARB held additional workshops throughout 2019 and 2020 to explore specific topics related to the pursuit of carbon neutrality, engage with other experts in the field and stakeholders, and conduct research to ensure that any path to carbon neutrality balances scientific, economic and social justice principles.

[42] CARB. Cap-and-Trade Meetings & Workshops. Available here: https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/cap-and-trade-meetings-workshops. Accessed: August 2025.

[43] CARB. 2022. Final 2022 Scoping Plan Update and Appendices. December. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed: August 2025.

[44] CARB. 2024. Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms 2024 Amendments Standardized Regulatory Impact Assessment (SRIA). April 9. Available here: https://ww2.arb.ca.gov/sites/default/files/2024-04/nc-Cap-and-Trade_SRIA2024.pdf. Accessed: August 2025.

[45] CARB. Carbon Neutrality in California Context Webinar. January 2019. Available at: https://www.arb.ca.gov/cc/scopingplan/meetings/012319/cneutrality_ca_script.pdf. Accessed: January 2022.

Assembly Bill 1279

In September 2022, the California Legislature passed AB 1279, which established that the State must achieve carbon neutrality as soon as possible, but no later than 2045, and maintain net negative GHG emissions thereafter. Additionally, AB 1279 required that by 2045 statewide anthropogenic GHG emissions be reduced at least 85 percent below 1990 levels.[46]

Energy Sources

Renewables Portfolio Standard

As most recently amended by SB 100 (2018), California's Renewables Portfolio Standard requires retail sellers of electric services and local publicly owned electric utilities to increase procurement from eligible renewable energy resources to 50 percent of total retail sales by 2026, and 60 percent of total retail sales by 2030. SB 100 also established a State policy goal to achieve 100 percent renewables by 2045.

In March 2021, California Energy Commission (CEC), California Public Utilities Commission (CPUC), and CARB released a joint-agency report evaluating the current feasibility of achieving the energy resource and GHG reductions goals of SB 100. The report found that SB 100 is technically feasible when analyzed under scenarios of varying timelines, advancements in energy generation technology, and energy source portfolios. Under the SB 100 Core Scenario, it is anticipated that California will need to triple its current electricity power capacity.[47]

To further support the State's goals, SB 1020 establishes interim targets for the State's 100 percent clean energy goal in 2045.[48] The bill requires 90 percent renewable and zero-carbon electricity by 2035, 95 percent by 2040, and 100 percent by 2045.[49]

Building Energy Efficiency Standards

Title 24, Part 6 of the California Code of Regulations regulates the design of building shells and building components. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

The CEC's 2022 Building Energy Efficiency Standards (2022 Building Standards), which became effective January 1, 2023, are the currently applicable version of these standards.[50] However, due to the date of the building permit application submission of the Costco (i.e., prior to January 1, 2023), the CEC's 2019 Building Energy Efficiency Standards (2019 Building Standards), which became effective January 1, 2020, are the applicable version of these standards for the project. In general, single-family homes built to the 2019 standards are anticipated to use about 7 percent less energy due to energy efficiency measures than those built to the 2016 standards, and nonresidential buildings built to the 2019 standards will use an estimated 30 percent less energy than those built to the 2016 standards.[51]

In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CalGreen, and establishes voluntary and mandatory standards pertaining to the planning and design of sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. Like Part 6 of Title 24, the CalGreen standards are periodically updated, with increasing energy savings and efficiencies associated with each code update.

[46] California Legislature Information. 2022. Assembly Bill 1279. September 16. Available at: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB1279. Accessed: August 2025.

[47] CEC. 2021. 2021 SB 100 Joint Agency Report, Achieving 100 Percent Clean Electricity in California: An Initial Assessment. Available at: https://www.energy.ca.gov/publications/2021/2021-sb-100-joint-agency-report-achieving-100-percent-clean-electricity. Accessed: January 2022.

[48] California Legislature Information. 2022. Senate Bill No. 1020. September 16. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB1020. Accessed: October 2025.

[49] Ibid.

[50] CEC. 2022 Building Energy Efficiency Standards. Available at: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency. Accessed: August 2025.

[51] CEC. 2018. 2019 Building Energy Efficiency Standards – Frequently Asked Questions. Available at: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf. Accessed: January 2022.

At the time of this writing, the CEC has adopted the 2025 Energy Code, which improves upon the 2022 standards for construction of residential and non-residential buildings. The standards will be effective on January 1, 2026. However, as noted above, the project will be subject to the 2019 Building Standards based upon the date of the building permit application submission.[52]

Appliance Standards

The CEC periodically amends and enforces Appliance Efficiency Regulations contained in Title 20 of the California Code of Regulations. The regulations establish water and energy efficiency standards for both federally regulated appliances and non-federally regulated appliances. The regulations cover numerous categories of appliances (e.g., refrigerators; plumbing fixtures; dishwashers; clothes washer and dryers; televisions) and apply to appliances offered for sale in California.[53]

Mobile Sources

Sustainable Communities Strategy Plans

SB 375 (Steinberg, 2008), the Sustainable Communities and Climate Protection Act, coordinates land use planning, regional transportation plans, and funding priorities to reduce GHG emissions from passenger vehicles through better-integrated regional transportation, land use, and housing planning that provides easier access to jobs, services, public transit, and active transportation options. SB 375 specifically requires the Metropolitan Planning Organization relevant to the project area (here, the Fresno Council of Governments [Fresno COG]) to include a Sustainable Communities Strategy (SCS) in its Regional Transportation Plan (RTP) that, if implemented, will achieve GHG emission reduction targets set by CARB by reducing vehicle miles traveled (VMT) from light-duty vehicles through the development of more compact, complete, and efficient communities.

For the area under Fresno COG's jurisdiction, including the project site in the city, CARB originally adopted regional targets for reduction of mobile source-related GHG emissions of 5 percent for 2020 and 10 percent for 2035. The targets are expressed as a percentage change in per capita passenger vehicle GHG emissions relative to 2005 emissions levels. These original targets were in place through September 30, 2018. In March 2018, CARB approved updated regional targets of 6 percent for 2020 and 13 percent for 2035 for Fresno COG, which apply to RTP/SCS planning cycles beginning October 1, 2018.[54] Since the 2022 RTP/SCS for Fresno County was approved by the Fresno COG Policy Board on July 28, 2022, the relevant targets utilized in the plan were 6 percent for 2020 and 13 percent for 2035.

Senate Bill 743

Public Resources Code Section 21099(c)(1), as codified through enactment of SB 743 (Steinberg 2013), authorized the Governor's Office of Planning and Research to establish "alternative metrics to the metrics used for traffic levels of service for transportation impacts outside transit priority areas." SB 743 reflects a legislative policy to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHG emissions. As finalized in December 2018, amendments to the State CEQA Guidelines adopted in furtherance of SB 743 establish VMT as the new metric for transportation analysis (in lieu of level of service).

Pavley Regulations

AB 1493 (Pavley 2002) required CARB to adopt regulations to reduce GHG emissions from non-commercial passenger vehicles and light-duty trucks for model years 2009–2016. CARB obtained a waiver from the EPA that allows for implementation of these regulations notwithstanding possible federal pre-emption concerns.

[52] CEC. 2022 Building Energy Efficiency Standards. Available at: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency. Accessed: January 2022.

[53] CEC. Title 20 Appliance Efficiency Program. Available at: https://www.energy.ca.gov/rules-and-regulations/appliance-efficiency-regulations-title-20. Accessed: January 2022.

[54] CARB. Regional Plan Targets. Available at: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: January 2022.

Low Carbon Fuel Standard

EO S-1-07, as issued by Governor Schwarzenegger, called for a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California regulated by CARB by 2020.[55] In response, CARB approved the Low Carbon Fuel Standard (LCFS) regulations in 2009, which became fully effective in April 2010. Thereafter, a lawsuit was filed challenging CARB's adoption of the regulations; and in 2013, a court order was issued compelling CARB to remedy substantive and procedural defects of the LCFS adoption process under CEQA.[56] However, the court allowed implementation of the LCFS to continue pending correction of the identified defects. In September 2015, CARB re-adopted the LCFS regulations. The most recent amendments to the LCFS regulation were adopted on November 8, 2024. These amendments are projected to reduce GHG emissions by reducing the carbon intensity of transportation fuels used in California by at least 30 percent in 2030 and 90 percent in 2045, as compared to the 2010 baseline.[57]

Advanced Clean Cars Program

In 2012, CARB approved the Advanced Clean Cars (ACC) program, a new emissions-control program for non-commercial passenger vehicles and light-duty trucks for model years 2017-2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero emission vehicles. The Low-Emission Vehicle (LEV) III program GHG component was developed in in coordination with the EPA and NHTSA for One National Program to harmonize GHG and fuel economy standard.

In 2022, CARB approved the Advanced Clean Cars II (ACC II) regulations which "will seek to reduce criteria and greenhouse gas emissions from new light- and medium-duty vehicles beyond the 2025 model year, and increase the number of ZEVs for sale."[58] In October 2023, CARB launched a new effort to consider potential amendments to the ACC II regulations, including updates to the tailpipe GHG emission standard and limited revisions to the Low-emission Vehicle and ZEV regulations. On December 18, 2024, EPA granted a waiver for California's ACC II regulation.[59]

In May 2025, the United States Congress voted to disapprove California's Clean Air Act waiver for ACC II regulation using the Congressional Review Act. In response to this action, CARB stated that they "will pursue every available remedy to challenge these actions"[60] and Governor Newson announced that California would join a 11-state coalition to advance clean cars.[61]

Zero Emission Vehicles

ZEVs include hydrogen fuel cell electric vehicles and plug-in electric vehicles, such as battery electric vehicles and plug-in hybrid electric vehicles.

In 2012, Governor Brown issued EO B-16-2012, which calls for the increased penetration of ZEVs into California's vehicle fleet in order to help California achieve a reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050. In furtherance of that statewide target for the transportation sector, the executive order also calls upon CARB, the CEC, and the CPUC to establish benchmarks that will: (1) allow over 1.5 million ZEVs to be on California roadways by 2025, and (2) provide the State's residents with easy access to ZEV infrastructure. EO B-

[55] Carbon intensity is a measure of the GHG emissions associated with the various production, distribution, and use steps in the "lifecycle" of a transportation fuel.

[56] *POET, LLC v. CARB* (2013) 217 Cal.App.4th 1214.

[57] CARB. 2024. Low Carbon Fuel Standard Amendments SCH# 2023020330. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2024/lcfs2024/nod.pdf. Accessed: August 2025.

[58] Advanced Clean Cars II Program. Available at: https://ww2.arb.ca.gov/advanced-clean-cars-ii-meetings-workshops. Accessed: August 2025.

[59] U.S. EPA. 2024. EPA Grants Waiver for California's Advanced Clean Cars II Regulations. December 18. Available at: https://www.epa.gov/newsreleases/epa-grants-waiver-californias-advanced-clean-cars-ii-regulations. Accessed: August 2025.

[60] CARB. 2025. CARB Chair Liane Randolph responds to illegal and unconstitutional approval of Congressional Review Act resolutions by the U. S. Senate. May 22. Available at: https://ww2.arb.ca.gov/news/carb-chair-liane-randolph-responds-illegal-and-unconstitutional-approval-congressional-review. Accessed: August 2025.

[61] Governor Gavin Newson. 2025. Following illegal Senate vote, California and 10 other states launch Affordable Clean Cars Coalition. May 23. Available at: https://www.gov.ca.gov/2025/05/23/following-illegal-senate-vote-california-and-10-other-states-launch-affordable-clean-cars-coalition/. Accessed: August 2025.

16-2012 specifically directed California to "encourage the development and success of zero-emission vehicles to protect the environment, stimulate economic growth, and improve the quality of life in the State."[62]

In 2018, Governor Brown also issued EO B-48-18, which launched an 8-year initiative to accelerate the sales of ZEVs through a mix of rebate programs and infrastructure improvements. The EO also sets a new target of five million ZEVs in California by 2030 and includes funding for multiple state agencies to increase electric vehicle (EV) charging infrastructure and provide purchase rebates/incentives.

In September 2018, the Governor's Interagency Working Group on Zero-Emission Vehicles published the *2018 ZEV Action Plan Priorities Update*.[63] This update was the result of Governor Brown's directive to update the 2016 Zero-Emission Vehicle Action Plan to help expand private investment in zero-emission vehicle infrastructure, particularly in low income and disadvantaged communities. The 2018 Priorities Update served three fundamental purposes: 1) provide direction to state agencies on the most important actions to be executed in 2018 to enable progress toward the 2025 targets and 2030 Vision; 2) give stakeholders transparency into the actions state agencies plan to take (or are taking) to further the ZEV market; and 3) create a platform for stakeholder engagement, feedback, and collaboration.

In February 2021, the Governor's Office of Business and Economic Development ZEV Team published the 2021 Strategy Document.[64] The 2021 Strategy is centered around four market pillars:

1) Vehicles: Transitioning California's economy to zero-emission mobility requires a wide range of vehicles. The Vehicles Pillar encompasses light-, medium-, and heavy-duty vehicles and equipment powered by battery electric and hydrogen fuel cell electric technologies. As of March 2025, over 2 million ZEVs have been sold and there were approximately 18,473 medium-heavy duty ZEVs in California.

2) Infrastructure: This pillar focuses on fueling infrastructure to support ZEVs including EV charging and hydrogen fueling stations, catenary systems, and the energy systems that supply them to drive charging and fueling value for end users and the grid. As of March 2025, there have been 178,549 battery electric chargers and 60 hydrogen stations open.

3) End Users: End users of ZEVs include consumers, riders, fleet operators, transportation network companies, car dealers, drivers, transportation planning agencies, program administrators, ports, regional and local governments and communities, trucking companies, fuel providers, and more. As ZEV adoption increases, the state is working with stakeholders to understand barriers, find solutions, and improve the overall end user experience. As of March 2025, 615,355 ZEVs were incentivized through Clean Cars 4 All in priority communities and over 8,000 vouchers were issued for zero-emission trucks, buses and off-road equipment through the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project and Clean Off-Road Equipment Voucher Incentive Project.

4) Workforce: California is at the forefront of ZEV production in the United States. As the state strives to achieve its renewable energy objectives, it aims to boost the ZEV and battery manufacturing sectors, both part of the Clean Economy designation in the Jobs First Economic Blueprint. This sector is anticipated to expand by approximately 2.9 percent over the next 8 years. The ZEV workforce encompasses various roles, including design, manufacturing, sales, installation, servicing, and maintenance of ZEVs and their infrastructure, like charging stations and distribution systems. As of June 2025, 55 ZEV-related manufacturing companies were based in California and over 26,100 California jobs were in ZEV-related manufacturing.

Advanced Clean Trucks

In June 2020, CARB approved the Advanced Clean Trucks (ACT) regulation, which has requirements for manufacturer ZEV sales and a one-time reporting requirement for large entities and fleets.[65] The Advanced Clean Truck Regulation is part of a holistic approach to accelerate a large-scale transition of zero-emission medium-and heavy-duty vehicles

[62] Executive Order B-16-2012. Available at: https://www.ca.gov/archive/gov39/2012/03/23/news17472/. Accessed: August 2025.

[63] Governor's Interagency Working Group on Zero-emission Vehicles. 2018. Available at: https://static.business.ca.gov/wp-content/uploads/2019/12/2018-ZEV-Action-Plan-Priorities-Update.pdf. Accessed: August 2025.

64 GO-Biz ZEV Team. 2021. California Zero-Emission Vehicle Market Development Strategy. Available at: https://business.ca.gov/industries/zero-emission-vehicles/zev-strategy-2/. Accessed: August 2025.

[65] CARB. 2020. Advanced Clean Trucks. Available at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks. Accessed: August 2025.

from Class 2b to Class 8. Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines are required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales need to be 55 percent of Class 2b – 3 truck sales, 75 percent of Class 4 – 8 straight truck sales, and 40 percent of truck tractor sales. Large employers including retailers, manufacturers, brokers, and others are required to report information about shipments and shuttle services. Fleet owners with 50 or more trucks are required to report about their existing fleet operations. This information helps to identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs. In May 2025, the United States Congress voted to disapprove California's Clean Air Act waiver for the Heavy-Duty Omnibus Regulation using the Congressional Review Act. In response to this action, CARB stated that they "will pursue every available remedy to challenge these actions."[66]

Executive Order N-79-20

On September 23, 2020, California Governor Gavin Newsom issued Executive Order N-79-20, which orders the following actions:

- all new passenger vehicles sold in California be zero-emission by 2035,
- all medium- and heavy-duty vehicles be zero-emission where feasible by 2045, and
- all off-road vehicles and equipment be zero-emission where feasible by 2035.

Governor Newsom ordered extensive inter-agency efforts to support the executive order, including evaluations of technological feasibility and cost effectiveness, expansion of EV charging options and affordable fueling, as well as identification of near-term strategies to increase zero-emission public transportation options.

The executive order was generally aimed at transitioning away from fossil fuel dependence in the state, with emphasis on transportation initiatives. However, Governor Newsom addressed efforts to repurpose oil production facilities and extraction sites while continuing the State's existing goals to reduce the carbon intensity of fuels.[67]

Advanced Clean Fleets

In October 2022, CARB approved the Advanced Clean Fleets (ACF) regulation, which has requirements for fleets to phase-in the use of ZEV from 2024 to 2042 and beyond. The fleets required to comply with the regulation include state and local government agency fleets, high priority and federal fleets, and drayage fleets. The regulation also includes a requirement for manufacturers to only sell zero emission trucks starting in 2036. The ACF regulation is meant to complement the ACT regulation and will contribute to meeting the goals set out in Governor Newsom's EO N-79-20. On January 13, 2025, California withdrew its request for a waiver and authorization for the ACF regulation.[68] CARB is not enforcing the existing portions of the ACF regulation that require a federal waiver or authorization. This includes the high priority and drayage fleet portions of the ACF regulation. Note, the state and local government fleets portion of the ACF remain unaffected as CARB does not require a federal waiver or authorization.[69]

Airborne Toxic Control Measure (ATCM): Transportation Refrigeration Unit

This ATCM applies to transportation refrigeration units (TRUs), which are commonly found on various transported containers, including truck vans, semi-truck trailers, shipping containers and railcars. TRUs are temperature control systems powered by small (typically 9 to 36 horsepower) diesel internal combustion engines. Despite their small individual size, TRUs are often active in dense congregations around distribution centers, truck stops, and other facilities, resulting in a significantly greater combined loading. This ATCM focused on the reduction of diesel particulate emissions as a toxic in order to improve air quality around these centers. Additionally, transitioning diesel TRUs to zero

[66] United States. 2025. Public Law 119-15: Providing Congressional Disapproval of the EPA Rule Relating to California Motor Vehicle Pollution Standards. Available at: https://www.congress.gov/bill/119th-congress/house-joint-resolution/87. Accessed: October 2025.

[67] State of California. 2020. Executive Order N-79-20. Available at: https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf. Accessed: January 2022.

[68] CARB. 2025. Withdrawal of California's Request for a Waiver, Pursuant to Clean Air Act Section 209(b), and Request for Authorization, Pursuant to Clean Air Act Section 209(e)(2), for the Advanced Clean Fleets (ACF) Regulation, Docket ID EPA-HQ-OAR-2023-0589. January 13. Available at: https://www.epa.gov/system/files/documents/2025-01/ca-acf-carb-withdrawal-ltr-2025-1-13.pdf. Accessed: August 2025.

[69] CARB. 2025. Advanced Clean Fleets. Available at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets. Accessed: August 2025.

emissions technologies is a priority because of Executive Order N-79-20, which set a goal of 100 percent zero emission off-road vehicles and equipment in California by 2035. On January 3, 2025, EPA partially granted California Clean Air Act authorization of its TRU Regulation. In its action, EPA did not act on the Zero Emission TRU requirements for the turnover of at least 15 percent of [the] diesel-fueled truck TRU fleet to zero emissions by December 31, 2023 (and each year thereafter) within the 2022 TRU Amendments. On January 13, 2025, CARB withdrew its request for the requirements of the TRU Regulation that were not acted on and is evaluating next steps.[70]

Water

In January 2014, Governor Brown signed EO B-29-15, which directed the State Water Resources Control Board to impose restrictions to reduce residential potable urban water usage; to implement water efficiency measures at commercial, industrial, and institutional properties; and to prohibit irrigation with potable water for certain uses. In addition, this order directed the California Department of Water Resources to lead a statewide initiative to replace lawns and ornamental turfs with drought tolerant landscapes.

- Pursuant to EO B-29-15, water-related standards were adopted as amendments to the 2013 CalGreen Code and carried over into subsequent updates.
- Following EO-B-29-15, Governor Brown signed EO-B-37-16 in May 2016 to promote more conscious consumer water use and to improve agricultural water use efficiency and drought planning.
- Following EO-37-16, Governor Brown signed EO B-40-17 in April 2017, which directed state agencies to continue to implement measures aimed at conserving water and advances measures that improve water management practices.

Solid Waste Diversion

The California Integrated Waste Management Act of 1989, as modified by AB 341 (Chesbro 2011), requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995, through source reduction, recycling, and composting activities; (2) diversion of 50 percent of all solid waste on and after January 1, 2000; and (3) source reduction, recycling and composting of 75 percent of all solid waste on or after 2020, and annually thereafter. CalRecycle is required to develop strategies, including source reduction, recycling, and composting activities, to achieve the 2020 goal.

CalRecycle published a discussion document, entitled *California's New Goal: 75 Percent Recycling,* which identified concepts that would assist the State in reaching the 75 percent goal by 2020. Subsequently, in August 2015, CalRecycle released the *AB 341 Report to the Legislature*, which identified five priority strategies for achievement of the 75 percent goal: (1) moving organics out of landfills; (2) expanding recycling/ manufacturing infrastructure; (3) exploring new approaches for State and local funding of sustainable waste management programs; (4) promoting State procurement of post-consumer recycled content products; and (5) promoting extended producer responsibility. In July 2024, CalRecycle published the *Baseline Report for the Zero Waste Plan: Report to the California Legislature*, which evaluates the effectiveness of existing programs at CalRecycle and identifies changes needed to improve these programs, consistent with the Budget Act of 2023 .[71] The report recommends the state do the following to improve current program and reach zero waste: (1) reach and surpass existing waste and emission reduction mandates and goals; (2) identify and address gaps and overlaps to make current waste management systems more sustainable, effective, and cohesive; (3) improve understanding of the full lifecycle of materials management to reduce loss and discourage disposal within a closed loop economy; (4) combat environmental health and justice issues associated with the lifecycle of material production, consumption, and waste generation; (5) maximize environmental, social, and economic benefits of a circular economy; and (6) stimulate growth of the state's circular economy.

[70] CARB. 2025. RE: Withdrawal of Elements of California's Request for Authorization, Pursuant to Clean Air Act Section 209(e)(2), of the Zero-Emission Truck TRU Requirements of the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate (TRU ATCM), Docket ID EPA-HQ-OAR2024-0030. January 13. Available at: https://www.epa.gov/system/files/documents/2025-01/ca-tru-carb-withdrawal-ltr-2025-1-13.pdf. Accessed: June 2025.

71 CalRecycle. 2024. Baseline Report for the Zero Waste Plan: Report to the California Legislature. Jul. Available at: https://www2.calrecycle.ca.gov/Publications/Details/1741. Accessed: August 2025.

Climate Adaptation Strategy

The 2022 California Climate Adaptation Strategy Implementation Report outlines the State's key climate resilience priorities, includes specific and measurable steps, and serves as a framework for action across sectors and regions in California.[72]

The priorities outlined in the Strategy are as follows: 1) Strengthen Protections for Climate Vulnerable Communities, 2) Bolster Public Health and Safety in Light of Increasing Climate Risks, 3) Build a Climate Resilient Economy, 4) Accelerate Nature-Based Climate Solutions and Strengthen Climate Resilience of Natural Systems, 5) Make Decisions based on the Best Available Climate Science, and 6) Partner and Collaborate to Leverage Resources.

The next iteration of the California Climate Adaptation Strategy is already underway, with a draft available for review (the period for public comments closed on July 12, 2024).[73]

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San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the primary agency responsible for addressing air quality concerns in Fresno County. Its role is discussed further in Section 3.3, "Air Quality," of the 2024 EIR. SJVAPCD also recommends methods for analyzing project-generated GHGs in CEQA analyses and offers multiple potential GHG reduction measures for land use development projects. SJVAPCD developed thresholds of significance to provide a uniform scale to measure the significance of GHG emissions from land use and stationary source projects in compliance with CEQA and AB 32.[74] SJVAPCD's goals in developing GHG thresholds include ease of implementation, use of standard analysis tools, and emissions mitigation consistent with AB 32. However, SJVAPCD has not developed new thresholds since the passage of SB 32, which mandates a statewide emissions target of 40 percent below 1990 levels by 2030.

City of Fresno General Plan

The current City of Fresno General Plan, adopted originally in 2014, has a Resource Conservation and Resilience section that addresses both air quality and GHG emissions. The City's greenhouse gas reduction plan (GHGRP) adopted in 2014 lists out General Plan policies that align with the strategies of the GHGRP. These General Plan policies are listed below, and a discussion on whether the project conflicts with any of these policies is described in detail in the "Environmental Impacts and Mitigation Measures" section.

- **Policy RC-2-a:** Link Land Use to Transportation. Promote mixed-use, higher density infill development in multi-modal corridors. Support land use patterns that make more efficient use of the transportation system and plan future transportation investments in areas of higher-intensity development. Discourage investment in infrastructure that would not meet these criteria.
- **Policy UF-1-c:** Legible City Structure. Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of prominent east west and north-south transit-oriented, mixed-use corridors with distinctive and strategically located Activity Centers; and in existing and new neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.
- **Policy UF-12-b:** Activity Centers. Mixed-use designated areas along BRT and/or transit corridors are appropriate for more intensive concentrations of urban uses. Typical uses could include Chapter 3: Urban Form, Land Use, and Design commercial areas; employment centers; schools; compact residential development; religious

[72] California Natural Resources Agency. 2022. California Climate Adaptation Strategy: 2022 Implementation Report. Available at: https://climateresilience.ca.gov/overview/docs/20240405-Climate_Adpatation_Strategy_Report_2023.pdf. Accessed: June 2025.

[73] California Natural Resources Agency. 2024. Draft California Climate Adaptation Strategy. May. Available at: https://climateresilience.ca.gov/overview/docs/20240514-Draft_CA_Climate_Adaptation_Strategy_2024.pdf. Accessed: June 2025.

[74] San Joaquin Valley Air Pollution Control District. 2009. Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. December. Available at: https://www.valleyair.org/media/dnsnicdv/3-ccap-final-lu-guidance-dec-17-2009.pdf. Accessed: June 2025.

institutions; parks; and other gathering points where residents may interact, work, and obtain goods and services in the same place.

- **Policy LU-2-a:** Infill Development and Redevelopment. Promote development of vacant, underdeveloped, and redevelopable land uses within the City Limits where urban services are available by establishing and implementing supportive regulations and programs.
- **Policy LU-2-b:** Infill Development for Affordable Housing. Consider a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.
- **Policy LU-3-b:** Mixed-Use Urban Corridors that Connect the Downtown Planning Area. Support the development of mixed-use urban corridors that connect the Downtown Planning Area with the greater Fresno-Clovis Metropolitan Area with functional, enduring, and desirable urban qualities along the Blackstone Avenue, Shaw Avenue, California Avenue, and Ventura Avenue/Kings Canyon corridors, as shown on Figure LU-1: General Plan Land Use Diagram.
- **Policy LU-3-c:** Zoning for High Density on Major Transit Corridors. Encourage adoption of supportive zoning regulations for compact development along BRT corridors leading to the Downtown Core that will not diminish long-term growth and development potential for Downtown.
- **Policy LU-5-f:** High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT corridors, affordable housing and walkable access to transit stops.
- **Policy RC-2-b:** Provide Infrastructure for Mixed-Use and Infill. Promote investment in the public infrastructure needed to allow mixed-use and denser infill development to occur in targeted locations, such as expanded water and wastewater conveyance systems, complete streetscapes, parks and open space amenities, and trails. Discourage investment in infrastructure that would not meet these criteria.
- **Policy UF-12-d:** Appropriate Mixed-Use. Facilitate the development of vertical and horizontal mixed-uses to blend residential, commercial, and public land uses on one or adjacent sites. Ensure land use compatibility between mixed-use districts in Activity Centers and the surrounding residential neighborhoods.
- **Policy UF-12-f:** Mixed-Use in Activity Centers. Update the Development Code to include use regulations and standards to allow for mixed uses and shared parking facilities, including multi-story and underground parking facilities, within Activity Centers.
- **Policy UF-12-e:** Access to Activity Centers. Promote adoption and implement standards supporting pedestrian activities and bicycle linkages from surrounding land uses and neighborhoods into Activity Centers and to transit stops. Provide for priority transit routes and facilities to serve the Activity Centers.
- **Policy UF-14-a:** Design Guidelines for Walkability. Use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.
- **Policy UF-14-b:** Local Street Connectivity. Design local roadways to connect throughout neighborhoods and large private developments with adjacent major streets and pathways of existing adjacent development. Create access for pedestrians and bicycles where a local street must dead end or be designed as a cul-de-sac to adjoining uses that provide services, shopping, and connecting pathways for access to the greater community area.
- **Policy UF-14-c:** Block Length. Create development standards that provide desired and maximum block lengths in residential, retail, and mixed-use districts order to enhanced walkability.
- **Policy D-3-c:** Local Streets as Urban Parkways. Develop local streets as "urban parkways," where appropriate, with landscaping and pedestrian spaces.
- **Policy D-4-b:** Incentives for Pedestrian-Oriented Anchor Retail. Consider adopting and implementing incentives for new pedestrian-friendly anchor retail at intersections within Activity Centers and along corridors to attract retail clientele and maximize foot traffic.

- **Policy MT-1-h:** Update Standards for Complete Streets. Update the City's Engineering and Street Design Standards to ensure that roadway and streetscape design specifications reflect the Complete Streets concept, while also addressing the needs of through traffic, transit stops, bus turnouts, passenger loading needs, bike lanes, and short and long-term parking.
- **Policy UF-12-a:** BRT Corridors. Design land uses and integrate development site plans along BRT corridors, with transit-oriented development that supports transit ridership and convenient pedestrian access to bus stops and BRT station stops.
- **Policy MT-8-a:** Street Design Coordinated with Transit. Coordinate the planning, design, and construction of the major street network with transit operators to facilitate efficient direct transit routing throughout the Planning Area.
- **Policy MT-8-b:** Transit Serving Residential and Employment Nodes. Identify the location of current and future residential and employment concentrations and Activity Centers throughout the transit service area in order to facilitate planning and implementation of optimal transit services for these uses. Work with California State University, Fresno to determine locations within the campus core for bus stops.
- **Policy MT-8-g:** High Speed Train. If the State moves forward with HST, ensure it is constructed through Fresno in a manner that minimizes impacts to surrounding property owners and creates the most opportunity for redevelopment around the HST station.
- **Policy MT-4-a:** Bicycle, Pedestrian and Trails Master Plan. To the extent consistent with this General Plan, continue to implement and periodically update the Bicycle, Pedestrian, and Trails Master Plan to meet State standards and requirements for recommended improvements and funding proposals as determined appropriate and feasible.
- **Policy MT-4-b:** Bikeway Improvements. Establish and implement property development standards to assure that projects adjacent to designated bikeways provide adequate right-of-way and that necessary improvements are constructed to implement the planned bikeway system shown on Figure MT-2 to provide for bikeways, to the extent feasible, when existing roadways are reconstructed; and alternative bikeway alignments or routes where inadequate right-of-way is available.
- **Policy MT-4-c:** Bikeway Linkages. Provide linkages between bikeways, trails and paths, and other regional networks such as the San Joaquin River Trail and adjacent jurisdiction bicycle systems wherever possible.
- **Policy MT-5-a:** Sidewalk Development. Pursue funding and implement standards for development of sidewalks on public streets, with priority given to meeting the needs of persons with physical and vision limitations; providing safe routes to school; completing pedestrian improvements in existing neighborhoods with lower vehicle ownership rates; or providing pedestrian access to public transportation routes.
- **Policy MT-6-a:** Link Residences to Destinations. Design a pedestrian and bicycle path network that links residential areas with Activity Centers, such as parks and recreational facilities, educational institutions, employment centers, cultural sites, and other focal points of the city environment.
- **Policy MT-6-g:** Path and Trail Development in Subdivisions. Require all subdivision maps to incorporate planned multi-purpose path and trail development standards and corridor linkages consistent with the General Plan, applicable law and case-by-case determinations as a condition of tentative map approval.
- **Policy POSS-7-h:** Interlink City and San Joaquin River Parkway Trail Networks. Strive to connect the parkway trail network to other trails in the vicinity, in order to create a community and regional trail system that offers a variety of different route combinations and enhances public access to the parkway.
- **Policy MT-10-c:** Transportation Demand Management Guidelines. Establish transportation demand management guidelines to allow for reduced off-street parking requirements.
- **Policy MT-10-a:** Updating Parking Standards. Update off-street parking standards to reflect the context and location within activity areas of multiple uses and reductions appropriate for mixed residential and non-residential uses and proximity to existing or planned transit service.

- **Policy MT-10-b:** Shared Parking. Establish a strategy to promote the sharing of excess parking between uses within Activity Centers and BRT corridors, including specific provisions for this in the Development Code.
- **Policy MT-10-d:** Parking Maximums. Explore maximum off-street parking limits within Activity Centers proximate to BRT corridors, if such an Activity Center is determined compatible with promotion of a healthy and vigorous business environment.
- **Policy MT-10-f:** Parking Benefit Districts. Establish parking benefit districts to fund consolidated public parking where supported by local businesses.
- **Policy RC-8-j:** Alternative Fuel Network. Support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development.
- **Policy RC-8-a:** Existing Standards and Programs. Continue existing beneficial energy conservation programs, including adhering to the California Energy Code in new construction and major renovations.
- **Policy RC-8-b:** Energy Reduction Targets. Strive to reduce per capita residential electricity use to 1,800 kWh per year and nonresidential electricity use to 2,700 kWh per year per capita by developing and implementing incentives, design and operation standards, promoting alternative energy sources, and cost-effective savings.
- **Policy RC-8-c:** Energy Conservation in New Development. Consider providing an incentive program for new buildings that exceed California Energy Code requirements by fifteen percent.
- **Policy RC-8-d:** Incentives. Establish an incentive program for residential developers who commit to building all of their homes to ENERGY STAR performance guidelines.
- **Policy RC-8-e:** Energy Use Disclosure. Promote compliance with State law mandating disclosure of a building's energy data and rating of the previous year to prospective buyers and lessees of the entire building or lenders financing the entire building.
- **Policy RC-7-i:** PACE Financing. Develop a residential Property Assessed Clean Energy (PACE) program, if it is determined to be a feasible option, to help finance water efficiency and energy efficiency upgrades for property owners.
- **Policy RC-8-h:** Solar Assistance. Identify and publicize information about financial mechanisms for private solar installations and provide over-the-counter permitting for solar installations meeting specified standards, which may include maximum size (in kV) of units that can be so approved.
- **Policy RC-6-d:** Recycled Water. Prepare, adopt, and implement a City of Fresno Recycled Water Master Plan.
- **Policy RC-7-a:** Water Conservation Program and 2035 Target. Maintain a comprehensive conservation program that reduces per capita water usage in the city's water service area to 243 gallons per capita per day (gpcd) by 2020 and 190 gpcd by 2035, by adopting conservation standards and implementing a program of incentives, design and operation standards, and user fees.
    - Support programs that result in decreased water demand, such as landscaping standards that require drought-tolerant plants, rebates for water conserving devices and systems, turf replacement, xeriscape landscape for new homes, irrigation controllers, commercial/industrial/institutional water conserving programs, prioritized leak detection program, complete water system audit, landscape water audit and budget program, and retrofit upon resale ordinance.
    - Implement the U.S. Bureau of Reclamation Best Management Practices for water conservation as necessary to maintain the City's surface water entitlements.
    - Adopt and implement policies in the event an artificial lake is proposed for development.
    - Work cooperatively toward effective uniform water conservation measures that would apply throughout the Planning Area.

- Expand efforts to educate the public about water supply issues and water conservation techniques.

- **Policy RC-7-d:** Update Standards for New Development. Continue to refine water saving and conservation standards for new development.
- **Policy RC-7-f:** Implementation and Update Conservation Program. Continue to implement the City of Fresno Water Conservation Program, as may be updated, and periodically update restrictions on water uses, such as lawn and landscape watering and the filling of fountains and swimming pools, and penalties for violations. Evaluate the feasibility of a 2035 conservation target of 190 gpcd in the next comprehensive update of the City's Water Conservation Program.
- **Policy RC-7-h:** Landscape Water Conservation Standards. Refine landscape water conservation standards that will apply to new development installed landscapes, building on the State Model Water Efficient Landscape Ordinance and other State regulations.
  - Evaluate and apply, as appropriate, augmented xeriscape, "water-wise," and "green gardening" practices to be implemented in public and private landscaping design and maintenance.
  - Facilitate implementation of the State's Water Efficient Landscape Ordinance by developing alternative compliance measures that are easy to understand and observe.
- **Policy PU-9-a:** New Techniques. Continue to collaborate affected stakeholders and partners to identify and support programs and new techniques of solid waste disposal, such as recycling, composting, waste to energy technology, and waste separation, to reduce the volume and toxicity of solid wastes that must be sent to landfill facilities.
- **Policy PU-9-b:** Compliance with State Law. Continue to pursue programs to maintain conformance with the Solid Waste Management Act of 1989 or as otherwise required by law and mandated diversion goals.
- **Policy RC-11-a:** Waste Reduction Strategies. Maintain current targets for recycling and re-use of all types of waste material in the city and enhance waste and wastewater management practices to reduce natural resource consumption, including the following measures:
  - Continue to require recyclable material collection and storage areas in all residential development.
  - Establish recycling collection and storage area standards for commercial and industrial facilities to size the recycling areas according to the anticipated types and amounts of recyclable material generated.
  - Provide educational materials to residents on how and what to recycle and how to dispose of hazardous waste.
  - Provide recycling canisters and collection in public areas where trash cans are also provided.
  - Institute a program to evaluate major waste generators and identify recycling opportunities for their facilities and operations.
  - Continue to partner with the California Integrated Waste Management Board on waste diversion and recycling programs and the CalMax (California Materials Exchange) program.
  - Evaluate the feasibility of a residential, restaurant and institutional food waste segregation and recycling program, to reduce the amount of organic material sent to landfill and minimize the emissions generated by decomposing organic material.
  - Evaluate the feasibility of "carbon footprinting" for the City's wastewater treatment facilities, biomass and composting operations, solid waste collection and recycling programs.
  - Expand yard waste collection to divert compostable waste from landfills.
  - Study the feasibility and cost-benefit analysis of a municipal composting program to collect and compost food and yard waste, using the resulting compost matter for City park and median maintenance.

- **Policy RC-4-i:** Methane Capture. Continue to pursue opportunities to reduce air pollution by using methane gas from the old City landfill and the City's wastewater treatment process.
- **Policy RC-11-b:** Zero Waste Strategy. Create a strategic and operations plan for fulfilling the City Council resolution committing the City to a Zero Waste goal.
- **Policy PU-7-a:** Reduce Wastewater. Identify and consider implementing water conservation standards and other programs and policies, as determined appropriate, to reduce wastewater flows.
- **Policy PU-7-d:** Wastewater Recycling. Pursue the development of a recycled water system and the expansion of beneficial wastewater recycling opportunities, including a timely technical, practicable, and institutional evaluation of treatment, facility siting, and water exchange elements.
- **Policy RC-7-g:** Educate on State Requirements. Educate the residents and businesses of Fresno on the requirements of the California Water Conservation Act of 2009.
- **Policy RC-8-k:** Energy Efficiency Education. Provide long-term and ongoing education of homeowners and businesses as to the value of energy efficiency and the need to upgrade existing structures on the regular basis as technology improves and structures age.
- **Policy RC-7-c:** Best Practices for Conservation. Require all City facilities and all new private development to follow U.S. Bureau of Reclamation Best Management Practices for water conservation, as warranted and appropriate.
- **Policy RC-7-e:** Retrofit City Facilities, and Consider Incentives Programs for to Encourage Retrofitting of Other Existing Public and Private Residential and Non-Residential Facilities and Sites. Reduce water use in municipal buildings and City operations by developing a schedule and budget for the retrofit of existing municipal buildings with water conservation features, such as auto shut-off faucets and water saving irrigation systems. Prepare a comprehensive incentive program for other existing public and private residential and non-residential buildings and irrigation systems.
- **Policy RC-8-f:** City Heating and Cooling. Reduce energy use at City facilities by updating heating and cooling equipment and installing "smart lighting" where feasible and economically viable.
- **Policy RC-8-g:** Revolving Energy Fund. Create a City Energy Fund which uses first year savings and rebates from completed City-owned energy efficiency projects to provide resources for additional energy projects. Dedicate this revolving fund to the sole use of energy efficiency projects that will pay back into the fund.
- **Policy POSS-1-g:** Regional Urban Forest. Maintain and implement incrementally, through new development projects, additions to Fresno's regional urban forest to delineate corridors and the boundaries of urban areas, and to provide tree canopy for bike lanes, sidewalks, parking lots, and trails.

City of Fresno Climate Action Plan

The City adopted its first GHGRP in 2014 in connection with the certification of the Master Environmental Impact Report for the City's 2014 General Plan.[75] The City updated its GHGRP in 2021 concurrently with its certification of the Program Environmental Impact Report (PEIR) for the City's 2014 General Plan.

As explained in Chapter 1, "Introduction," of this PR-DEIR, in 2024 the Fifth District Court of Appeal directed that the City be compelled to set aside its approval of the PEIR, including the 2021 GHGRP. The City complied with this direction and adopted Resolution No. 2025-69 on March 13, 2025, which vacated its approval of the 2021 GHGRP and explained that the 2014 GHGRP is now the GHGRP for the City.

The 2014 GHGRP outlines comprehensive development strategies from the General Plan to reduce GHG from all sources within the City's ability to control or influence. The 2014 GHGRP outlines criteria for individual development projects to qualify for CEQA streamlining and to demonstrate that a project will not result in significant GHG impacts. The 2014 GHGRP also collates and lists all pertinent General Plan policies related to GHG emissions and strategies.

[75] City of Fresno. 2014. General Plan and Development Code Update – Greenhouse Gas Reduction Plan. July. Available here: https://www.fresno.gov/wp-content/uploads/2023/03/F-2-Greenhouse-Gas-Reduction-Plan.pdf. Accessed: August 2025.

Fresno Council of Governments Regional Plans and Strategies

Regional Transportation Plan/Sustainable Communities Strategy

As described above, SB 375 requires Fresno COG to incorporate an SCS into its RTP that achieves the GHG emission reduction targets set by CARB. Fresno COG's SCS was first included in the 2014 RTP/SCS, which was adopted by Fresno COG in June 2014. The original plan has since been superseded by the RTP/SCSs adopted by Fresno COG in July 2018, and more recently in July 2022.

In general, the goals and policies of the SCS are to improve mobility, accessibility, reliability, efficiency, livability, sustainability, and equity. The RTP/SCS adopted by Fresno COG is expected to reduce per capita passenger vehicle greenhouse gas emissions by 6 percent by 2020 and by 13 percent by 2035, relative to 2005 baseline levels.

In July 2018, CARB accepted Fresno COG's determination that the 2018 RT/SCS would meet the region's GHG reduction targets per Government Code Section 65080(b)(2)(J)(ii), as memorialized in CARB's Resolution 2018-26.[76] As of August 2025, CARB has not yet performed this review of the 2022 Fresno COG RTP/SCS.[77]

Regional Climate Action Plan: Priority Climate Action Plan and Comprehensive Climate Action Plan

The EPA's Climate Pollution Reduction Grants program provides grants to states, local governments, tribes, and territories to develop and implement ambitious plans for reducing GHG emissions and other harmful air pollution.[78] The program provides both noncompetitive planning grants and competitive implementation grants.[79] To obtain the competitive implementation grant, the Fresno COG must conduct a comprehensive climate action planning process and prepare a Regional Climate Action Plan for the Fresno County region.[80] The Regional Climate Action Plan will cover the 15 incorporated cities in Fresno County and the unincorporated Fresno County areas. The Priority Climate Action Plan (PCAP) is the first component of the Regional Climate Action Plan and it includes a GHG inventory, identification and quantification of priority GHG emissions reduction measures, a benefit analysis for low-income and disadvantaged communities, and identification of implementation authorities. The Final PCAP[81] was approved by the Fresno COG Policy Board on February 29, 2024 and was successfully submitted to the EPA.[82] The Comprehensive Climate Action Plan (CCAP) will be the second component of the Regional Climate Action Plan. The CCAP will aim to expand on the foundational work established in the PCAP by creating a roadmap outlining the actions to reduce GHG emissions and achieve climate goals, encompassing sectors such as energy, transportation, waste, and water, and reflecting local contexts. Extensive public outreach efforts will be conducted to support the development of the CCAP to ensure that the CCAP reflects the priorities of the local community. As of October 2025, the draft CCAP has been published for public review and has not been adopted.[83]

[76] CARB. Executive Order G-19-092. Fresno Council of Governments (FCOG) 2018 Sustainable Communities Strategy CARB Acceptance of GHG Quantification Determination. Available at: https://ww2.arb.ca.gov/sites/default/files/2020-06/FCOG_2018_SCS_ARB_Acceptance_of_GHG_Quantification_Determination_Executive_Order.pdf. Accessed: August 2025.

[77] California Air Resources Board. Fresno Council of Governments (FCOG) - Sustainable Communities and Climate Protection Program: Regional Plans & Evaluations. Available here: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plans-evaluations/fresno-council. Accessed: August 2025.

[78] EPA. 2025. Climate Pollution Reduction Grants. February 13. Available at: https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants. Accessed: October 2025.

[79] Ibid.

[80] Fresno COG. Climate Action Planning. Available at: https://www.fresnocog.org/climate-action-planning-2/. Accessed: August 2025.

[81] Fresno COG. 2024. Priority Climate Action Plan. March/ Available at: https://www.fresnocog.org/wp-content/uploads/2024/07/Fresno-COG-PCAP_030124_-FINAL-reduced-size-file.pdf. Accessed: August 2025.

[82] Fresno COG. Climate Pollution Reduction Grants - CCAP. Available at: https://publicinput.com/fresnocprg. Accessed: August 2025.

[83] Fresno COG. 2025. Comprehensive Climate Action Plan: Public Review Draft. October. Available at: https://www.dropbox.com/scl/fo/huqscjmidukx2e9v1gtn0/AHuk7FJ74CHAZCqmJe9lK-Q?e=3&preview=Fresno+County+CCAP+101025.docx.pdf&rlkey=ndqti0k2n7wf1lng4d1kmcf45&st=5vxf3zi1&dl=0. Accessed: October 2025.

3.7.2 Environmental Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from the earth as low-frequency infrared radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Prominent GHGs contributing to the greenhouse effect are CO_2, CH_4, N_2O, HFCs, and PFCs, and SF_6. Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. The Intergovernmental Panel on Climate Change (IPCC) prepares comprehensive Assessment Reports on the causes, potential impacts, and response options regarding climate change.[84] The Sixth Assessment Report contains the IPCC's strongest warnings to date on the causes and impacts of climate change.

Importantly, the report notes that, in terms of solutions, "We need transformational change operating on processes and behaviors at all levels: individual, communities, business, institutions, and governments. We must redefine our way of life and consumption."

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent are estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remain stored in the atmosphere.[85]

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is considered to be enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) observes that: "It is widely recognized that no single project could generate sufficient GHG emissions to noticeably change global climate temperature. However, the combination of GHG emissions from past, present, and future projects could contribute substantially to global climate change. Thus, project specific GHG emissions should be evaluated in terms of whether or not they would result in a cumulatively significant impact on global climate change." From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative as no one project is responsible for the global impact of climate change; rather, the emissions of all past, present, and future projects determine the degree of climate change severity.

EFFECTS OF CLIMATE CHANGE ON THE ENVIRONMENT

The global average temperature is expected to increase by 3 to 7 degrees Fahrenheit (°F) by the end of the century, depending on future GHG emission scenarios.[86] According to California's Fourth Climate Change Assessment,

[84] Intergovernmental Panel on Climate Change. Reports. Available at: https://www.ipcc.ch/reports/. Accessed: October 2025.

[85] Intergovernmental Panel on Climate Change. 2013. Chapter 6, Carbon and Other Biogeochemical Cycles. Pages 465–570 in Climate Change 2013: The Physical Science Basis. Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Available at: http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf. Accessed: August 2025.

[86] Intergovernmental Panel on Climate Change. 2007. AR4 Climate Change 2007: The Physical Science Basis. Available at: https://www.ipcc.ch/report/ar4/wg1/. Accessed: August 2025.

depending on future GHG emissions scenarios, average annual maximum daily temperatures in California are projected to increase between 3.6 and 5.8°F by 2050 and by 5.6 to 8.8°F by 2100.[87]

Other environmental resources could be indirectly affected by the accumulation of GHG emissions and resulting rise in global average temperature. In recent years, California has been marked by extreme weather and its effects. Climate model projections for California demonstrate that impacts will vary throughout the state and show a tendency for the northern part of the state to become wetter and the southern portion of California to become drier.[88] According to California Natural Resources Agency's (CNRA's) report, Safeguarding California Plan: 2018 Update,[89] California experienced the driest 4-year statewide precipitation on record in California from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second smallest Sierra snowpack on record in 2015 and 2014. Climate model projections included in California's Fourth Climate Change Assessment demonstrate that seasonal summer dryness in California may be prolonged due to earlier spring soil drying and would last longer into the fall and winter rainy season. Increases in temperature are also predicted to result in changes to California's snowpack. Based on climate model projections, the mean snow water equivalent, a common measurement which indicates the amount of water contained within snowpack, in California is anticipated to decline to two-thirds of its historic average by 2050 and between less than half and less than one-third of historic average by 2100, depending on future emissions scenarios.[90,91,92]

Climate model projections demonstrate that California will experience variation in precipitation patterns as well. The Northern Sierra Nevada range experienced its wettest year on record in 2016.[93] As temperatures increase, the increase in precipitation falling as rain rather than snow also could lead to increased potential for floods because water that would normally be held in the snowpack of the Sierra Nevada and Cascade mountains until spring will flow into the Central Valley concurrently with winter rainstorm events. This scenario will place more pressure on California's levee/flood control system.[94] As the climate continues to warm, extreme precipitation events in California will increase and could, subsequently, increase the probability of "mega-flood" events.[95]

Climate change is also projected to result in tertiary impacts on energy infrastructure throughout California. Changes in temperature, precipitation patterns, extreme weather events, and sea-level rise have the potential to affect and decrease the efficiency of thermal power plants and substations, decrease the capacity of transmission lines, disrupt electrical demand, and threaten energy infrastructure with the increased risk of flooding.[96]

According to California's Fourth Climate Change Assessment, climate change will create impacts on the State's transportation network that will have "ripple effects" including direct and indirect impacts on inter-dependent infrastructure networks as well as negative impacts on the economy. Without appropriate adaptation strategies for roadway materials (i.e., asphalt and pavement), researchers estimate that the median total cost to California for 2040-

[87] Governor's Office of Planning and Research, California Energy Commission, and California Natural Resources Agency. 2018. California's Fourth Climate Change Assessment. August. Available at: https://www.climateassessment.ca.gov/. Accessed: August 2025.

[88] Pierce, D. W., J. F. Kalansky, and D. R. Cayan. 2018. Climate, Drought, and Sea Level Rise Scenarios for California's Fourth Climate Change Assessment. California Energy Commission. Available at: https://www.energy.ca.gov/sites/default/files/2019-11/Projections_CCCA4-CEC-2018-006_ADA.pdf. Accessed: August 2025.

[89] California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update. January. Available at: http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf. Accessed: August 2025.

[90] Governor's Office of Planning and Research, California Energy Commission, and California Natural Resources Agency. 2018. California's Fourth Climate Change Assessment. August. Available at: https://www.climateassessment.ca.gov/. Accessed: August 2025.

[91] California Energy Commission. 2018. 2019 Building Energy Efficiency Standards: Frequently Asked Questions. March. Available at: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf. Accessed: August 2025.

[92] California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update. January. Available at: http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf. Accessed: August 2025.

[93] Ibid.

[94] California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update. January. Available at: http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf. Accessed: August 2025.

[95] Polade, S. D., A. Gershunov, D. R. Cayan, M. D. Dettinger, and D. W. Pierce. 2017. Precipitation in a Warming World: Assessing Projected Hydro-Climate Changes in California and Other Mediterranean Climate Regions. Scientific Reports 7, article number 10783. Available at: https://www.nature.com/articles/s41598-017-11285-y. Accessed: August 2025.

[96] California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update. January. Available at: http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf . Accessed: August 2025.

2070 will be between $1 billion and $1.25 billion.[97,98,99] The California Department of Transportation (Caltrans) owns and operates more than 51,000 miles along 265 highways, as well as three of the busiest passenger rail lines in the nation. Sea level rise, storm surge, and coastal erosion are imminent threats to highways, roads, bridge supports, airports, transit systems and rail lines near sea level and seaports. Shifting precipitation patterns, increased temperatures, wildfires, and increased frequency in extreme weather events also threaten transportation systems across the state. Temperature extremes and increased precipitation can increase the risk of road and railroad track failure, decrease transportation safety, and increase maintenance costs.[100] Modeling for flood events in California demonstrates that approximately 370 miles of highways are susceptible to flooding in a 100-year storm event by the year 2100.[101,102,103]

Water availability and changing temperatures affect the prevalence of pests, disease, and species, which will directly impact crop development, forest health, and livestock production. Other environmental concerns include decline in water quality, groundwater security, and soil health.[104] Vulnerabilities of water resources also include risks to degradation of watersheds, alteration of ecosystems and loss of habitat.[105,106,107]

California's Fourth Climate Change Assessment also identifies the impacts climate change will have on public health and social systems. Average temperature increases in California are estimated to have impacts on human mortality, with 6,700 to 11,300 additional annual deaths in 2050, depending on higher or lower emissions scenarios.[108] Studies have also shown that impacts from climate change can also have indirect impacts on public health, such as increased vector-borne diseases, and stress and mental trauma due to extreme events, economic disruptions, and residential displacement.[109,110.111]

The CNRA released an updated 2021 Strategy, which builds upon the successful elements of the previous strategies.[112] The updates:

1. organize the State's climate adaptation efforts around six outcome-based resilience priorities, and increases the ability to measure progress;
2. break down siloes and unifies collective climate adaptation efforts across all sectors and regions; and
3. make it easier for Californians to understand and contribute to California's climate resilience agenda.

[97] Governor's Office of Planning and Research, California Energy Commission, and California Natural Resources Agency. 2018. California's Fourth Climate Change Assessment. August. Available at: https://www.climateassessment.ca.gov/ . Accessed: August 2025.
[98] California Energy Commission. 2018. 2019 Building Energy Efficiency Standards: Frequently Asked Questions. March. Available at: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf. Accessed: August 2025.
[99] California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update. January. Available at: http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf . Accessed: August 2025.
[100] Ibid.
[101] Governor's Office of Planning and Research, California Energy Commission, and California Natural Resources Agency. 2018. California's Fourth Climate Change Assessment. August. Available at: https://www.climateassessment.ca.gov/ . Accessed: August 2025.
[102] California Energy Commission. 2018. 2019 Building Energy Efficiency Standards: Frequently Asked Questions. March. Available at: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf. Accessed: August 2025.
[103] California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update. January. Available at: http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf. Accessed: August 2025.
[104] Ibid.
[105] Governor's Office of Planning and Research, California Energy Commission, and California Natural Resources Agency. 2018. California's Fourth Climate Change Assessment. August. Available at: https://www.climateassessment.ca.gov/. Accessed: August 2025.
[106] California Energy Commission. 2018. 2019 Building Energy Efficiency Standards: Frequently Asked Questions. March. Available at: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf. Accessed: August 2025.
[107] California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update. January. Available at: http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf. Accessed: August 2025.
[108] Ostro, Bart, Stephen Rauch, and Shelley Green. 2011. Quantifying the Health Impacts of Future Changes in Temperature in California. Available at: https://www.sciencedirect.com/science/article/abs/pii/S001393511100212X. Accessed: August 2025.
[109] Gould, S., and K. Dervin. 2012. Climate Action for Health: Integrating Public Health into Climate Action Planning. California Department of Public Health. Accessed: August 2025.
[110] McMichael, A. J., and E. Lindgren. 2011. Climate Change: Present and Future Risks to Health, and Necessary Responses. Journal of Internal Medicine 270(5):401–413. Accessed: August 2025.
[111] US Global Change Research Program. 2016. The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. Accessed: August 2025.
[112] California Natural Resources Agency. 2021. Available at: https://climateresilience.ca.gov/. Accessed: August 2025.

The latest implementation report was released in 2023, which highlighted the ongoing occurrences of climate change, which included higher temperatures and intensified drought, more intense precipitation events, marine heatwaves and harmful algal blooms, sea level rise, and unprecedented wildfire events.[113]

3.7.3 Statewide and City of Fresno GHG Emissions

As discussed previously, GHG emissions are attributable in large part to human activities. The total GHG inventory for California in 2022 was 371.1 million metric tons of carbon dioxide equivalent ($MMTCO_2e$).[114] Table 3.7-1 summarizes the statewide GHG inventory for California by percentage. As shown in Table 3.7-1, transportation, industry, and in-state electricity generation are the largest GHG emission sectors.

Emissions of CO_2 are byproducts of fossil fuel combustion. Methane, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices, landfills, and forest fires. Nitrous oxide is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water) and are two of the most common processes for removing CO_2 from the atmosphere.

Table 3.7-1 Statewide GHG Emissions by Economic Sector

Sector	$MMTCO_2e$	Percent
Transportation	145	39%
Industrial	85	23%
Electricity (in state)	41	11%
Residential	30	8%
Agriculture	30	8%
Commercial	22	6%
Electricity (Imports)	19	5%
Total	**371.1[1]**	**100%**

Note: $MMTCO_2e$ = million metric tons of carbon dioxide equivalent.

[1] Numbers do not sum to total because of rounding of whole numbers.

Source: CARB 2022 GHG Emissions by Main Economic Sector. Available here: https://ww2.arb.ca.gov/ghg-inventory-graphs. Accessed: August 2025.

A GHG inventory and emissions forecast for the geographic area within the City of Fresno is provided in the City's 2014 GHGRP and summarized in Table 3.7-2.[115] These emissions inventories demonstrate the emissions calculated at the time the GHGRP was prepared, including forecasts if no other statewide or local measures and strategies were adopted and implemented after the GHGRP was adopted in 2014. Similar to statewide emissions trends, the transportation sector was estimated to comprise the greatest GHG emission sector in the city.

In September 2018, ICLEI Local Governments for Sustainability developed an inventory update for the baseline year of 2016 for the City through the Statewide Energy Efficiency Collaborative.[116] This inventory is more recent and captures the GHG reductions from statewide and local measures since 2010 and, therefore, better reflects the current GHG emission levels in the city. The 2016 inventory update also includes agriculture and industrial energy sectors, which are additional to the 2010 baseline inventory. The GHG inventory and emissions forecast for the City of Fresno is

[113] California Natural Resources Agency. 2023. Implementation Report. Available at: https://climateresilience.ca.gov/overview/docs/20250801-2023_Climate_Adpatation_Strategy_Implementation_Report.pdf. Accessed: August 2025.

[114] CARB. 2022 GHG Emissions by Main Economic Sector. Available here: https://ww2.arb.ca.gov/ghg-inventory-graphs. Accessed: August 2025.

[115] The City of Fresno prepared an updated inventory for the 2021 GHGRP.

[116] UCLEI Local Governments for Sustainability, USA. 2018 (September). City of Fresno Inventory Update: Inventory analysis by ICLEI Local Governments for Sustainability USA through the Statewide Energy Efficiency Collaborative.

summarized in Table 3.7-3. The updated emissions inventory shows a decreasing trend in the City's emissions compared to that reported in 2014 for the 2010 baseline year.

Table 3.7-2 City of Fresno 2010 Baseline and GHG Emission Projections (in $MTCO_2e$)

Sector	2010	2020	2035	2050	2056
Motor vehicles	1,899,799	2,383,023	3,107,859	3,832,694	4,122,629
Electricity – residential	327,813	390,488	469,524	548,921	583,447
Electricity – commercial	361,836	415,012	509,781	626,137	679,888
Natural gas – residential	362,832	476,679	573,160	670,082	712,228
Natural gas – commercial	394,417	514,647	632,169	776,459	843,115
Waste	123,945	147,628	177,508	207,525	220,578
Offroad equipment	1,051	1,138	1,314	1,314	1,314
Ozone depleting substance (ODS) substitutes	273,422	576,784	694,734	812,214	863,300
Total	**3,745,116**	**4,905,399**	**6,166,049**	**7,475,346**	**8,026,499**

Notes: Totals may not equal the sum of the numbers because of independent rounding. $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: City of Fresno Greenhouse Gas Reduction Plan (2014). Available here: https://www.fresno.gov/wp-content/uploads/2023/03/F-2-Greenhouse-Gas-Reduction-Plan.pdf. Accessed: August 2025.

Table 3.7-3 City of Fresno 2016 Baseline GHG Emissions (in $MTCO_2e$)

Sector	2016
Transportation (passenger, commercial, and bus gas/diesel)	1,518,997
Commercial Energy (electricity and natural gas)	524,839
Residential Energy (electricity and natural gas)	479,371
Ozone Depleting Substances	251,543
Solid Waste	120,016
Fugitive Emissions (natural gas)	18,588
Industrial Energy	10,055
Off Road Equipment	1,051
Agriculture Energy	20
Total	**2,924,484**

Notes: Totals may not equal the sum of the numbers because of independent rounding. $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: ICLEI Local Governments for Sustainability, USA. 2018 (September). City of Fresno Inventory Update: Inventory analysis by ICLEI Local Governments for Sustainability USA through the Statewide Energy Efficiency Collaborative

3.7.4 Environmental Impacts and Mitigation Measures

METHODOLOGY

The following resources were used for this analysis:

- the California Emissions Estimator Model (CalEEMod) 2020.4.0 Computer Program,[117]

[117] California Air Pollution Control Officers Association. 2021. CalEEMod Users Guides. Available at: https://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/01_user-39-s-guide2020-4-0.pdf. Accessed: August 2025.

- SJVAPCD's Guide to Assessing and Mitigating Air Quality Impacts,[118] and
- the 2025 Greenhouse Gas Technical Report (Ramboll 2025) (included as Appendix F to this EIR).

Regional and local GHG emissions and associated impacts were estimated in accordance with SJVAPCD-recommended methodologies.

CalEEMod modeling was based on project-specific information (e.g., land use type, construction and operational equipment to be used, trip projections) where available, reasonable assumptions based on typical construction activities, and default values in CalEEMod that are based on the project's location and land use type. Construction emissions were estimated using an equipment inventory and usage assumptions and on-road vehicle activity provided by the applicant[119] and default values in CalEEMod that are based on the project's location. Construction activities associated with the project would likely require the use of equipment such as excavators, loaders, backhoes, generators, welders, dump trucks, pavers, and cranes. For the purpose of this quantification, it was assumed that construction of the project would begin in May 2023 and end in November 2023. The construction emissions therefore provide a conservative estimate of emissions, as it is expected that the emissions from the off-road and on-road fleet would reduce over time due to the phase-in of newer, more efficient vehicles and equipment and project construction would take place in 2026 at the earliest.

To assess the climate change impacts that would result from operations of the project, trip rate and trip length information based on analyses conducted by Kittelson were used to calculate an estimation of GHGs that would result from both off-site and on-site operational trips.[120] The most recent available emissions inventory for Fresno County was derived from EMFAC2021v1.0.2 and applied to CalEEMod to derive the fleet mix for light-duty vehicles used for member vehicles and employee vehicles.[121] These trips include worker commute and customer trips to the project site as estimated in the project's traffic study.[122] Market delivery operation (MDO) delivery trucks, fuel delivery trucks, and warehouse delivery trucks were assumed to be diesel-fueled heavy heavy-duty trucks.

Emissions from energy consumption (electricity and natural gas combustion) were estimated using Pacific Gas and Electric Company (PG&E) emissions factors applied to the intensities provided for the land use types proposed for the project scaled to PG&E's requirements to comply with the Renewables Portfolio Standard (RPS). Area-, wastewater-, and solid waste-source emissions were estimated using CalEEMod default values for the proposed land use types (i.e., car wash, commercial center, gas station, and parking lot). Electrical power would be supplied by PG&E and the project will participate in the PG&E "Solar Choice" program, which is PG&E's program to provide 100 percent renewable electricity to customers. While the anticipated indirect emissions from electricity are expected to be zero due to the project's participation in the PG&E "Solar Choice" program, the analysis conservatively models GHG emissions based on PG&E's default utility emission factor.

See Appendix A of this PR-DEIR for a detailed description of modeling assumptions, CalEEMod outputs, and calculations.

THRESHOLDS OF SIGNIFICANCE

State CEQA Guidelines Section 15064 and relevant portions of Appendix G recommend that a lead agency consider a project's consistency with relevant, adopted plans and any conflicts with applicable regional plans, including plans to reduce GHG emissions. An impact on climate change would be significant if implementation of the project would:

- generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment ("Threshold 1"); or

[118] San Joaquin Valley Air Pollution Control District. 2015. Final Draft Guidance for Assessing and Mitigating Air Quality Impacts. Available at: https://archive.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed: August 2025.

[119] Please see the Costco Commercial Center Greenhouse Gas Emissions Technical Appendix Section 2.2.1 for additional details.

[120] Please see the Costco Commercial Center Greenhouse Gas Emissions Technical Appendix Section 2.3.2 for additional details.

[121] Ibid.

[122] Please see the Costco Commercial Center Greenhouse Gas Emissions Technical Appendix Section 2.3.2.1 for additional details.

- conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs ("Threshold 2").

SJVAPCD has adopted guidance documents for assessing and mitigating GHG impacts on global climate change.[123] Rather than establishing specific numeric thresholds of significance (as is the case for criteria pollutant emissions), the SJVAPCD guidance utilizes a tiered approach to assess cumulative impacts on global climate change. Notably, the SJVAPCD establishes that a project can demonstrate compliance with an approved GHG emissions reduction program. Furthermore, SJVAPCD's December 2009 CEQA GHG policies and its 2015 GAMAQI state that a project whose emissions have been reduced or mitigated consistent with the California Global Warming Solutions Act of 2006 (AB 32) should be considered to have a less-than-significant impact on global climate change. The SJVAPCD guidance includes an approach to assess a project against performance-based standards, referred to as Best Performance Standards (BPS), to reduce GHG emissions, and then also an option to assess against a Business-As-Usual (BAU) GHG emissions target. Since the BPS have not yet fully been established, this approach was not used. Furthermore, in the State Supreme Court's ruling in *Center for Biological Diversity v. California Department of Fish and Wildlife and Newhall Land and Farming (2015),*[124] the court indicated that a percentage reduction goal must be substantiated based on local conditions to apply to an individual development project. Since the SJVAPCD has not updated its guidance to address the Supreme Court decision, the BAU approach is not relied upon. SJVAPCD has not otherwise adopted a numerical GHG threshold.

The City of Fresno has not developed a quantitative threshold of significance for GHG emissions. As a result of the Fifth District Circuit Court of Appeal's unpublished August 6, 2024 decision in the *South Fresno Community Alliance v. City of Fresno* matter, the City rescinded its approval of the 2021 GHGRP (and the accompanying PEIR), making the City's 2014 GHGRP the only GHGRP in effect.

In effect, under Resolution 2025-69, the City reverted to the pre-2021 status quo. This makes the City's 2014 GHGRP its most current and only GHGRP in effect. However, the City's 2014 GHGRP relies on reduction targets that are now out of date, and therefore the City has determined that is not prudent to rely solely on the currently effective 2014 GHGRP for CEQA streamlining of GHG emissions analysis for individual development projects. The 2014 GHGRP explains:

> The State has not adopted comprehensive targets or a new Scoping Plan to address emissions after 2020. The GHG Plan includes interim targets for later years (2035 and 2050) pending new legislation that sets later targets similar to AB 32 or adoption of a Scoping Plan Update that addresses these years. Targets after 2020 show the trajectory required to reduce per capita emissions to 80 percent below 1990 by 2050; however, once the State adopts targets for later years, new community targets that match the new state target years will be needed to ensure consistency

In the City of Fresno's 2014 GHGRP, the City developed GHG policies, and a list of requirements to assist CEQA projects in evaluating significance. The State of California adopted a new Scoping Plan in 2022 that addresses emissions after 2020. In the 2022 Scoping Plan, CARB set more aggressive GHG reduction targets than those used in the 2014 GHGRP. Therefore, use of the 2014 GHGRP as the sole gauge of project significance would not be consistent with the most recent state guidance and more aggressive GHG reduction strategies.

Accordingly, this PR-DEIR takes a conservative approach of analyzing the project's GHG emissions in connection with the State of California's 2022 Scoping Plan, Fresno COG's 2022 RTP/SCS, and Fresno COG's PCAP, as well as the policies of the 2014 GHGRP and the pertinent policies of the Fresno General Plan.

This PR-DEIR, relative to Threshold 1, quantifies the project's GHG emissions during operation and construction for disclosure. In the absence of a numerical GHG significance threshold, the project will be evaluated by whether it would conflict with or impede the ability of the State to meet its GHG reduction goals, consistent with the State Supreme Court's ruling in *Center for Biological Diversity v. California Department of Fish and Wildlife and Newhall*

[123] San Joaquin Valley Air Pollution Control District. 2009. Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. December. Available at: https://www.valleyair.org/media/dnsnicdv/3-ccap-final-lu-guidance-dec-17-2009.pdf. Accessed: June 2025.

[124] Center for Biological Diversity v. California Dept. of Fish & Wildlife, 62 Cal. 4th 204 (2015)

Land and Farming (2015).[125] This PR-DEIR, relative to Threshold 2, evaluates whether the project would conflict with applicable plans related to GHG emissions at the state, regional, and local levels.

These analyses include evaluation of the GHG emissions generated by the project's VMT. As shown in Tables 3.7-2 and 3.7-3, above, mobile source emissions (i.e., transportation emissions from VMT) are a substantial component of the City's overall GHG inventory and projections. However, there are many other sources of GHG emissions. The City uses VMT as a threshold of significance to evaluate transportation impacts (see Section 3.13, "Transportation and Circulation," in the 2024 EIR), consistent with CEQA Guidelines Section 15064.3(b). By contrast, CEQA Guidelines Section 15064.4(b) provides lead agencies with guidance to apply discretion in developing thresholds to evaluate GHG emissions impacts. Further, a significant VMT impact does not equate to a significant GHG impact because VMT alone does not account for vehicle characteristics, fuel type, emission standards, and fleet-level standards, all of which directly influence GHG emissions. For example, all-electric vehicles generate VMT while resulting in no tailpipe GHG emissions. Thus, while the GHG analysis does incorporate information regarding VMT, the assessment of GHG impacts is based on the significance thresholds described above (i.e., if the project is found not to conflict with or impede the ability of the state to meet its GHG reduction goals [Threshold 1] and not to conflict with applicable plans related to GHG emissions at the state, regional, and local levels [Threshold 2]).

TOPICS NOT DISCUSSED FURTHER

All issues pertaining to climate change are evaluated in this analysis.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Generate GHG Emissions That Would Have a Significant Impact on the Environment

While the project would result in an increase in GHG emissions when compared to the existing conditions (i.e., vacant site with no development), the project would not conflict with or impede the state's ability to meet its GHG reduction goals. Therefore, there is no cumulatively considerable contribution to GHG emissions. This impact would be **less than significant**.

The project would generate GHG emissions from project construction and operation. Construction-related activities would generate GHG emissions from the use of heavy-duty off-road equipment, materials transport, and worker commutes. Based on modeling conducted for the project, construction is estimated to generate a total of 1,050 $MTCO_2e$. These emissions are amortized over a typical project lifetime of 30 years, which is an industry standard approach, and included in the total emissions evaluated below.[126]

Operation of the project would also generate GHG emissions from vehicle trips (member vehicles, employee vehicles, and delivery trucks) accessing the project site, on-site natural gas combustion, and solid waste and wastewater generation. While the anticipated indirect emissions from electricity are expected to be zero due to the project's participation in the PG&E "Solar Choice" program, the analysis also conservatively models GHG emissions based on PG&E's default utility emission factor. For the first year of operation, the project's emissions would total 22,428 $MTCO_2e$/year (Table 3.7-4).[127]

[125] Center for Biological Diversity v. California Dept. of Fish & Wildlife, 62 Cal. 4th 204 (2015)

[126] This approach to one-time construction GHG emissions is based on the SCAQMD GHG Threshold Working Group Meeting #13 Minutes from August 26, 2009. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-13/ghg-meeting-13-minutes.pdf. Accessed: October 2025.

[127] Please see Table 2-7 of the Costco Commercial Center Greenhouse Gas Emissions Technical Appendix for additional details.

Table 3.7-4 Summary of Project GHG Emissions

Emissions Category[1]	GHG Emissions[2] (MT CO_2e/yr)
Area Sources	0.02
Energy Usage	334
Mobile[3]	21,482
Water	38
Waste Disposed	540
Operational Sub-Total	**22,393**
Construction Amortized[4]	35
Total[5]	**22,428**

[1] One-time emissions (i.e., construction) and operational emissions were calculated using CalEEMod.

[2] Emissions are presented as CO_2e, which includes CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[3] Total mobile emissions include emissions from on-road vehicles and TRUs. On-road mobile emissions were estimated using CalEEMod default trip lengths, EMFAC2021 emission factors, and project-specific vehicle trip rates provided by Kittelson & Associates. TRU emissions were estimated using OFFROAD2021 emission factors.

[4] One-time emissions from construction were amortized over a 30-year period.

[5] Sum of annualized one-time emissions and operational emissions.

This quantified inventory is expected to be conservative. While the project does generate an increase in VMT (see Section 3.13, "Transportation and Circulation," in the 2024 EIR), the VMT analysis does not take into account the Costco trips "replacing" existing trips currently going to other retailers. Furthermore, the project would allow customers to have multiple needs served in one trip, including but not limited to: eye exams, purchase of household goods and groceries, furniture store, appliance store, liquor store, car washes, and refueling at a gas station. Given these factors, it is possible that Costco members make fewer total retail shopping trips in a month or a year when they have the option of shopping at the proposed expanded Costco than they would make if they did not have a Costco nearby. The VMT modeling does not measure the benefit of one Costco trip potentially replacing multiple trips, which makes the quantified inventory conservative.

In the absence of a numerical GHG threshold, the significance of these emissions is judged by whether the project would conflict with or impede the ability of the state to meet its GHG reduction goals. This is evaluated by considering whether the project would conflict with pertinent laws, regulations, and policies adopted to achieve the state's GHG reduction goals. The project will comport with all applicable laws and regulations discussed above and otherwise enacted to address GHG reduction. These include requirements related to building design, supply of EV charging facilities for customer vehicles, limitations on truck idling times, and purchasing vehicle fleets that meet applicable standards. In addition to legal requirements, as explained above, GHG reduction plans have been adopted at the state, regional, and local levels. The analysis below evaluates whether the project would conflict with the key plans at each level.

Statewide Emissions Reduction Targets (2022 Scoping Plan)

The 2022 Scoping Plan has priority GHG reduction strategies that are the focus for the state to achieve its statewide emission reduction targets. The three main priorities areas are "Transportation Electrification," "VMT Reduction," and "Building Decarbonization." These measures represent the core strategies that local jurisdictions in California can implement to reduce GHGs in alignment with State goals.

The project would not conflict with the state's GHG reduction goals as discussed in the 2022 Scoping Plan. The project would serve the needs of consumers in California and provide an effective and efficient means to shop at the warehouse, fill up a gasoline vehicle, and get a car wash all in the same location. The project's emissions sources are regulated (and are foreseeably expected to continue to be regulated in the future) in furtherance of the State's environmental policy objectives. Costco has a focus on sustainability, with specific measures being implemented to manage energy use across its warehouses. Costco continues to improve the design and construction of its buildings,

as technological advancements in these areas and building materials improve. Improved engineering and design has resulted in the use of less materials than earlier designs. For example, the proposed buildings would be constructed of metal to use the maximum amount of recycled material.

For the purposes of determining whether the project would conflict with the 2022 Scoping Plan, the project features were evaluated against the measures listed in Table 1 from Appendix D: Local Actions of the 2022 Scoping Plan. [128] While not all of these measures are directly applicable to an individual commercial development, the analysis evaluates whether the project would conflict or cause any impairment of such policies.

As demonstrated in Table 3.7-5, the project would not conflict with applicable 2022 Scoping Plan priority strategies for the reduction of GHG emissions.

Table 3.7-5 2022 Scoping Plan Priority GHG Reduction Strategy Consistency Evaluation Summary

Priority Areas[1]	Priority GHG Reduction Strategies[1]	Does it Conflict?
Transportation Electrification	Convert local government fleets to ZEVs and provide EV charging at public sites	**Does Not Conflict.** Although this goal is not the responsibility of an individual commercial development project, the project would include 10 DC Fast chargers and 1 Level 2 charger, which run on 100% clean energy provided by PG&E and would also provide Costco members with convenient EV charging at a lower cost. The total power usage for the system is 1,800 kW, which is greater than both the mandatory requirement (1,172 kW) and the Tier 1 voluntary requirement (1,758 kW) by the CalGreen Building Code 2025.
	Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans)	
VMT Reduction	Reduce or eliminate minimum parking standards	**Does Not Conflict.** Although this goal is not the responsibility of an individual commercial development project, the project would implement neighborhood design improvements. The project includes modifications to the transportation network consistent with the City's Complete Streets Policy. Such improvements include constructing sidewalk along the project frontage, construction of bicycle facilities along its western, southern, and northern frontages, constructing a multi-use path, and installing striping to better delineate the roadway cross section for different users. These facilities would be consistent with the City's Active Transportation Plan. The project also includes a redesignation of Herndon Avenue from Expressway Area to Superarterial, which allows for multiple modes of travel traffic, including pedestrian and bikes. This could lead to further development of these types of non-vehicular facilities, including bike lanes and sidewalks, which are not currently allowed under the Expressway Area designation. The project site is largely surrounded by existing development. The project would increase the development density of the area and would be located near transit facilities, such as the NW Herndon-Hayes transit stop, and therefore would increase the density of development near transit.
	Implement Complete Streets policies and investments, consistent with general plan circulation element requirements	
	Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, microtransit, etc.	
	Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking	
	Implement parking pricing or transportation demand management pricing strategies	
	Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing the allowable density of a neighborhood)	
	Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements)	

[128] CARB. 2022. 2022 Scoping Plan Appendix D: Local Actions. November. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf. Accessed: August 2025.

Priority Areas[1]	Priority GHG Reduction Strategies[1]	Does it Conflict?
		Through implementation of Mitigation Measure 3.13-2, the project would encourage employee commute trip reduction through a variety of strategies. The project would provide carpool incentives, partner with local agencies to provide vanpool services, subsidize transit passes and provide bicycle storage and locker rooms for employees who bike to work. This would reduce the employee VMT and provide incentives for employees to commute to work in alternative ways. Furthermore, the Project would allow customers to have multiple needs served in one trip, including eye exams, purchase of household goods and groceries, furniture store, appliance store, liquor store, car washes, and refueling at gas station. Costco members may make fewer total retail shopping trips in a month or a year than they would make if they did not have a Costco nearby. This may result in VMT reduction that is not captured in the VMT modeling.
Building Decarbonization	Adopt all-electric new construction reach codes for residential and commercial uses	**Does Not Conflict.** Although this goal is not the responsibility of an individual commercial development project, the Project would use PG&E's Solar Choice program, which provides 100% solar energy to customers. The project would meet the 2019 California Green Building Standards Code, based on the building permit application submission (i.e., prior to January 1, 2023), which would include a number of energy saving requirements. The project would also use all-electric forklifts, scrubbers, and pallet jacks.
	Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers)	
	Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances	
	Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing)	
	Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings)	

[1] Priority areas and GHG reduction strategies obtained from 2022 CARB Scoping Plan Update, Appendix D, Local Actions. Available online at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf. Accessed: August 2025.

Abbreviations:

CalGreen - California Green Building Standards Code
CARB - California Air Resources Board
DC - Direct Current
EV - electric vehicle
GHG - greenhouse gas
PG&E - Pacific Gas & Electric
VMT - vehicle miles traveled
ZEV - zero emission vehicle

Fresno COG RTP/SCS

The project will not conflict with the state's GHG reduction goals and strategies as discussed in the Fresno COG's 2022 RTP/SCS[129] (the current RTP/SCS for the region), which contains four key elements:

1. Policy Element– Sets forth Fresno COG's transportation goals, objectives, and policies for each transportation mode. The project's consistency with the policy element is evaluated in Table 3.7-6.
2. Sustainable Communities Strategy – Integrates land use and transportation planning efforts to meet Fresno County's GHG emission reduction targets, and improve accessibility to major employment and other regional activity centers. The SCS is based on information about reasonably foreseeable growth and approved development obtained from the local jurisdiction. Growth projections are developed that reflect a GHG-efficient buildout pattern. The proposed project is located on an infill lot that has been designated for commercial development by the City. Although the project includes an amendment to alter the existing land use designation of the site from Community Commercial to General Commercial to accommodate the proposed car wash, the size and type of use proposed is otherwise consistent with the existing designation. In addition, the number of employees for the project (a maximum of 300 employees) is a very small percentage (<1%) of the overall jobs assumed in the 2022 RTP/SCS and the relocation of these employees from the existing Costco on West Shaw Avenue to the proposed location would not be inconsistent with the growth modeled in the plan. For these reasons, the project would not conflict with the growth forecast used to develop the SCS.
3. Action Element – Describes the existing transportation system, discusses recent accomplishments, provides a transportation needs assessment, and proposes short-term and long-term actions for both transportation planning and actual transportation project improvements. The project would not affect regional transportation planning and includes several transportation infrastructure improvements that are consistent with the City's adopted plans.
4. Financial Element – Identifies both existing and anticipated revenue sources as well as the financing techniques available for the region's planned transportation investments, ongoing operations, and maintenance. The transportation infrastructure improvements included in the project include pedestrian improvements and road connections. Implementation of these improvements as part of the project would not affect the financing of other regional transportation investments.

The RTP/SCS is based on an analysis that considers the entire County and includes all projects involving changes in regional growth and land use in Fresno County, as well as the countywide vehicle traffic projections. Cumulative GHG emissions analyzed in the RTP were compared to regional GHG thresholds and analyzed under statewide plans and regulations. The RTP/SCS concluded that there would be a decrease in GHG emissions from existing conditions to 2046, which would primarily be due to addressing new requirements for reducing GHG emissions, focusing growth in developed areas, moderately increasing residential densities, encouraging infill development, protecting open space and agricultural land, and providing alternatives to single-occupancy vehicle trips.

As shown in Table 3.7-6, the project would not conflict with applicable Fresno COG strategies for the reduction of GHG emissions.

[129] Fresno COG. 2022 Regional Transportation Plan and Sustainable Communities Strategy. Available at: https://www.planfresno.com/sustainable-communities-strategies-fall-outreach/. Accessed: October 2025.

Table 3.7-6 RTP/SCS Policy Consistency Evaluation

Goal[1]	Policy[1]	Does it Conflict?
1 Improved mobility and accessibility for all	Encourage and prioritize full, fair, and equitable participation by all affected communities in transportation decision-making and planning processes.	**Does Not Conflict.** Although this goal is not the sole responsibility of an individual commercial development project, the project would provide additional retail options accessible by nearby residences and local businesses. In addition, the project would implement neighborhood design improvements such as pedestrian network improvements and bikeway facilities as part of the project, which would be located in close proximity to transit stops (e.g., NW Herndon-Hayes transit stop).
	Actively work to ensure equitable distribution of the benefits and burdens of transportation projects.	
	Promote the improvement and expansion of accessible transportation options to serve the needs of all residents, especially those who have historically faced disproportionate transportation burdens.	
2 Vibrant communities that are accessible by sustainable transportation options	Encourage alternatives to single-occupancy vehicles that reduce vehicle miles traveled (VMT) and greenhouse gas emissions.	**Does Not Conflict.** Although this goal is not the sole responsibility of an individual commercial development project, the project includes a redesignation of Herndon Avenue from Expressway Area to Superarterial, which allows for multiple modes of travel traffic, including pedestrian and bikes. This could lead to further development of these types of non-vehicular facilities, including bike lanes and sidewalks, which are not currently allowed under the Expressway Area designation. In addition, the project would implement neighborhood design improvements such as pedestrian network improvements and bikeway facilities as part of the project. The project would be located near transit facilities such as the NW Herndon-Hayes transit stop, allowing for alternatives to single-occupancy vehicle trips to the project site. This would support efforts to improve air quality and minimize pollutants from transportation. Through implementation of Mitigation Measure 3.13-2, the Project would encourage employee commute trip reduction through a variety of strategies. The project would provide carpool incentives, partner with local agencies to provide vanpool services, subsidize transit passes and provide bicycle storage and locker rooms for employees who bike to work. This would reduce the employee VMT and provide incentives for employees to commute to work in alternative ways. The project would not conflict with efforts to minimize the loss of farmland, environmentally sensitive areas, and natural resources. Section 3.5, Biological Resources," of the 2024 EIR indicates that the project site does not contain any sensitive natural communities or protected wetlands. Project activities would include ground disturbance, tree removal, and other vegetation removal, which could result in disturbance, injury, or mortality of several special-status wildlife species (if present), reduced breeding productivity of these species, and loss of species habitat. This impact would be reduced to a less-than-significant level with implementation of Mitigation Measures 3.5-1a and 3.5-1b that require preconstruction surveys for burrowing owl, Swainson's hawk, white-tailed kite, other common raptors, and other native birds, and implementation of protective measures for active nests. Further, as explained in Section 3.2, "Agricultural and Forestry Resources," of the 2024 EIR, no agricultural land use or zoning is present within or adjacent to the site.
	Support investment in and promotion of active transportation and transit to improve public health and mobility, especially in historically underinvested areas.	
	Encourage sustainable development that focuses growth near activity centers and mobility options that achieve greater location efficiency.	
	Support local jurisdictions' efforts to minimize the loss of farmland, environmentally sensitive areas, and natural resources	
	Support local jurisdictions' efforts to facilitate the development of diverse housing choices for all income groups.	
	Facilitate and promote interagency coordination and consistency across planning efforts.	
	Incentivize and support efforts to improve air quality and minimize pollutants from transportation.	

Goal[1]	Policy[1]	Does it Conflict?
3 A safe, well-maintained, efficient, and climate-resilient multimodal transportation network	Prioritize investment in and promote multimodal safety measures to reduce traffic fatalities and incidents in the region.	**Does Not Conflict.** As described in Section 3.13, "Transportation and Circulation," of the 2024 EIR the project would be consistent with the applicable plans, policies, and programs and would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. The project would implement strategies to reduce commute VMT through implementation of Mitigation Measure 3.13-2. The project would provide carpool incentives, partner with local agencies to provide vanpool services, subsidize transit passes and provide bicycle storage and locker rooms for employees who bike to work. The project would also implement neighborhood design improvements such as pedestrian network improvements and bikeway facilities as part of the project. In addition, the project would be located near transit stops and would allow for utilization of existing transit facilities to visit the project site.
	Promote enhanced Transportation Systems Management (TSM) and Transportation Demand Management (TDM) strategies to reduce congestion and vehicle miles traveled.	
	Encourage improvements in travel connections across all modes to create an integrated, accessible, and seamless transportation network.	
	Maximize the cost-effectiveness of transportation improvements.	
	Encourage investments that increase the system's resilience to extreme weather events, natural disasters, and pandemics.	
	Preserve and maintain existing multimodal transportation assets in a state of good repair	
4 A transportation network that supports a sustainable and vibrant economy	Support local and regional economic development by leveraging planning and transportation funds that foster public and private investment.	**Does Not Conflict.** Although this goal is not the sole responsibility of an individual commercial development project, the Project would facilitate goods movement to the Fresno area.
	Facilitate efficient, reliable, resilient, and sustainable goods movement.	
5 A region embracing clean transportation, technology, and innovation	Support innovative mobility solutions that are accessible, affordable, reduce greenhouse gas emissions, and improve air quality.	**Does Not Conflict.** Although this goal is not applicable to an individual commercial development project, the project would not conflict with regional efforts to embrace innovative mobility solutions. The project would implement strategies to reduce commute VMT through implementation of Mitigation Measure 3.13-2. In addition, the Project would include 10 DC Fast chargers and 1 Level 2 charger, which run on 100% clean energy provided by PG&E and would also provide Costco members with convenient EV charging at a lower cost. The total power usage for the system is 1,800 kW, which is greater than both the mandatory requirement (1,172 kW) and the Tier 1 voluntary requirement (1,758 kW) by the CalGreen Building Code 2025.
	Support efforts to expand broadband access throughout the region.	**Not Applicable.** The project does not affect broadband access.

[1] Goal and policies obtained from Chapter 4: Implementing the Plan of Fresno Council of Government's 2022 Regional Transportation Plan, available at: http://www.planfresno.com/planfresno/uploads/2022/06/Chapter-4-Implementing-The-Plan-Final-Draft.pdf. Accessed: August 2025.

Abbreviations:

DC - Direct Current
EV - electric vehicle
NW - northwest
TDM - Transportation Demand Management
TSM - Transportation Systems Management
VMT - vehicle miles traveled

Fresno COG Priority Climate Action Plan

The project would not conflict with the priority GHG emission reductions measures listed in the Fresno COG PCAP[130], which contains four main sectors of priority GHG reduction measures:

1) Transportation Sector
2) Building Energy Sector
3) Solid Waste and Wastewater Sector
4) Agriculture Sector

As described above, the PCAP was adopted in February 2024 and is based on an analysis that considers the entire county, including the 15 incorporated cities in Fresno County and the unincorporated Fresno County areas. Each GHG reduction measure in the PCAP was quantified to evaluate the potential GHG emission reductions from the implementation of the measures for each sector. The second phase of the Regional Climate Action Plan, the CCAP has been released for public review. However, this analysis does not evaluate consistency with it because it is still in draft form.

As shown in Table 3.7-7, the project would not conflict with applicable Fresno COG PCAP measures for the reduction of GHG emissions.

Table 3.7-7 PCAP Consistency Evaluation

Sector	Measure	Description	Does it Conflict?
Transportation	Measure 1 - EV Strategy	Develop a robust public electric vehicle charging network in Fresno County, including in the disadvantaged communities, to increase electric vehicle adoption in Fresno County. (Implementing measures could include a neighborhood electric vehicle (NEV) network)	**Does Not Conflict.** The project would include 10 DC Fast chargers and 1 Level 2 charger, which run on 100% clean energy provided by PG&E and will also provide Costco members with convenient EV charging at a lower cost. The total power usage for the system is 1,800 kW, which is greater than both the mandatory requirement (1,172 kW) and the Tier 1 voluntary requirement (1,758 kW) by the CalGreen Building Code 2025.
	Measure 2 - Municipal Fleet Conversion	Continue to convert the municipal fleet (including transit) into zero emission vehicles and provide a sustainable and reliable support system for such zero-emission fleet which could include, but not limited to maintenance, charging facilities, training of personnel, etc. (Implementing measures could include fleet electrification, installation of electric vehicle charging infrastructure, etc.)	**Not Applicable.** The project does not include municipal uses.
	Measure 3 - Bike and Pedestrian Network	Build a well-connected bike and pedestrian system that provides alternative transportation options including micromobility such as shared e-bike and e-scooter. (Implementing measures could include pedestrian network improvements, bike parking, expanded bikeway networks, electric bikeshare program, scooter share program, dedicate land for bike trails)	**Does Not Conflict.** The project would implement neighborhood design improvements such as pedestrian network improvements and bikeway facilities. The project also includes a redesignation of Herndon Avenue from Expressway Area to Superarterial, which allows for multiple modes of travel traffic, including pedestrian and bikes. This could lead to further development of these types of nonvehicular facilities, including bike lanes and

[130] Fresno COG. Priority Climate Action Plan. Available at: https://www.epa.gov/system/files/documents/2024-03/fresno-cog-pcap.pdf. Accessed: August 2025.

Sector	Measure	Description	Does it Conflict?
	Measure 4 - Public Transportation	Enhance the public transportation system by maintaining/expanding the existing transit system and implementing other transit strategies such as micro transit.	sidewalks, which are not currently allowed under the Expressway Area designation. The project's off-site improvements include construction of bicycle facilities along its western, southern, and northern frontages (North Riverside Drive, West Herndon Avenue, and Spruce Avenue, respectively), thereby providing connections to existing bicycle facilities on those roads. These improvements would be consistent with the City of Fresno Active Transportation Plan (ATP) Program. Trail improvements provided by the proposed project would include Class I bicycle facilities along the project's frontage on West Herndon Avenue and North Riverside Drive, which is consistent with future facilities identified in the City of Fresno's ATP adjacent to the proposed project site. Development of the project would not physically obstruct access to existing recreational opportunities, including the trails along the San Joaquin River that connect to Riverbottom Park. Moreover, the project would facilitate multi-modal access to these existing facilities because it would include through construction of 12-foot-wide pedestrian and bicycle paths along the project's frontage with West Herndon Avenue and North Riverside Drive. These paths would be consistent with the City's ATP and would support General Plan Policies POSS-3-c and POSS-7-h regarding linking city pathways with parks and the San Joaquin Parkway Trail Networks. The project would not preclude access to existing or planned recreational facilities.
	Measure 5 - Carpool/Vanpool and Other Shared Mobility Options	Provide incentives for carpool and vanpool, and other shared mobility options. (Implementation measures could include commute trip reduction programs, end-of trip facilities, car-sharing program, employer-sponsored vanpool/shuttle, priced workplace parking, and/or employee parking "cash-out" programs.)	**Does Not Conflict.** Through implementation of Mitigation Measure 3.13-2, the Project would encourage employee commute trip reduction through a variety of strategies. The project would provide carpool incentives, partner with local agencies to provide vanpool services, subsidize transit passes and provide bicycle storage and locker rooms for employees who bike to work.
Building Energy	Measure 1 - Incentive Programs for the Purchase of Certified Energy-Efficient Appliances	Incentive programs for the purchase of certified energy-efficient appliances, heating and cooling equipment, lighting, and building products to replace inefficient products. (Implementation could include air distribution system updates such as right-sizing fan system equipment and converting to a variable-air-volume system, heating and cooling system upgrades, reductions in supplemental energy load consumption by installing ENERGY STAR equipment, window films, and adding insulation or reflective roof coating and/or installation of energy-efficient lighting.)	**Does Not Conflict.** The project would meet the 2019 California Green Building Standards Code, based on the building permit application submission (i.e., prior to January 1, 2023), which would include energy saving requirements. Renewable energy would be obtained through PG&E's Solar Choice program. The buildings would include restroom fixtures that are high efficiency to reduce water use. In addition, mechanical heat from refrigeration systems would be captured to preheat hot water tanks. Wash water used for the car wash would be recycled and the car wash would comply with all regulations pertaining to water conservation and run-off.

Sector	Measure	Description	Does it Conflict?
	Measure 2 - Incorporate Water Efficiency Measures	Incorporate water efficiency measures that reduce water heating energy consumption by installing alternative types of water heaters in place of gas storage tank heaters in residences.	The irrigation system would be a water efficient low flow, point source system designed to provide adequate watering to support plant growth and ensure deeply rooted plant material while avoiding excess water application. The system would be programmable and would interface with a weather based sensor that would adjust the amount of water applied to the plant material based on daily weather conditions. Landscape irrigation would comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO).
	Measure 3 - Bundle On-Site Renewable Energy Generation	Bundle on-site renewable energy generation with energy efficiency improvements in residences and commercial buildings. (Implementation could include establishment of on-site renewable energy systems such as solar power with fuel cells and battery storage, biomass combustion, and/or wind power, limitations on non-renewable energy sources.)	
Solid Waste And Wastewater	Measure 1 - Programs and Incentives to Reduce or Divert Waste	Programs and incentives to reduce or divert waste (including food and/or yard waste) through improved production practices, improved collection services, and increased reuse or recycling rates. (Implementation measures could include organics diversion program, educational programs to inform residents about reuse, recycling, composting, waste to energy, and zero waste programs. Local recycling and composting initiatives at the neighborhood level, expansion of local business recycling and composting efforts.)	**Does Not Conflict.** The project would recycle construction and demolition waste. Structures would be constructed of recycled metal. Recycling canisters would be provided in public areas where trashcans are also provided.
	Measure 2 - Wastewater Treatment Facility Efficiency	Installation of renewable energy and energy efficiency measures at wastewater treatment facilities.	**Not Applicable.** The project does not include new or expanded wastewater treatment facilities.
Agriculture	Measure 1 - Manure Management	Programs and incentives to reduce GHG emissions associated with manure management from livestock and poultry operations.	**Not Applicable.** The project does not propose agricultural use and is not located on property currently designated for agricultural uses.
	Measure 2 - Agricultural Burning	Programs and incentives to reduce GHG emissions associated with agricultural burning, including orchards and vineyards, through chipping and use for soil incorporation, on-site land application on agricultural land, off-site beneficial re-use, or other approved methods. (Implementation measures could include additional funding or outreach support for existing programs available through the San Joaquin Valley Air Pollution Control District (SJVAPCD) and USDA-NRCS, educational programs, or other direct funding opportunities for projects proposed as part of PCAP development.)	

Sector	Measure	Description	Does it Conflict?
	Measure 3 - Agricultural Equipment Reductions	Programs and incentives to reduce GHG emissions associated with the operation of various agricultural equipment, such as tractors, harvesting equipment, utility terrain vehicles, dairy feed mixing electrification and agricultural pumps through zero-emission replacement as well as the installation of charging or re-fueling stations to support deployment. (Implementation measures could include additional funding or outreach support for existing programs available through USDA-NRCS and the SJVAPCD, educational programs, or other direct funding opportunities for projects proposed as part of PCAP development.)	

[1] Relevant measures obtained from the Fresno Council of Governments Priority Climate Action Plan (March 2024).

Abbreviations:

ATP - Active Transportation Plan
e-bike - electric bike
e-scooter - electric scooter
EV - Electric Vehicle
GHG - greenhouse gas
MWELO - Model Water Efficient Landscape Ordinance
NEV - neighborhood electric vehicle
PCAP - Priority Climate Action Plan
PG&E - Pacific Gas and Electric
SJVAPCD - San Joaquin Valley Air Pollution Control District
USDA-NRCS - United States Department of Agriculture Natural Resources Conservation Service
VMT - Vehicle Miles Traveled

City of Fresno GHG Reduction Plan (2014)

As previously discussed in Section 3.7.4, "Thresholds of Significance," the Court of Appeal rescinded its approval of the 2021 GHGRP, making the 2014 GHGRP the applicable GHGRP at the time of this report. Due to the age of the City's 2014 GHGRP, the City has analyzed consistency with the State's 2022 Scoping Plan and with the RTP/SCS in considering GHG emissions of proposed projects. Those topics are addressed above. Although compliance with the City's 2014 GHGRP alone would not demonstrate how the project relates to the State's ability to meet its climate emissions targets, the City adopted the 2014 GHGRP to include policies that would be protective of the environment. Therefore, to further ensure a complete and robust analysis, the discussion below considers project consistency with the 2014 GHGRP as part of its analysis of environmental impacts.

The GHGRP sets forth criteria for determining whether a development project within the City of Fresno is consistent with the GHGRP so as to be deemed to have a less than significant GHG impact.[131]. Projects that are not consistent with the GHGRP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions, and apply appropriate GHG reduction mitigation measures.

The GHGRP first (in Section 6.2.1) lists criteria for determining GHGRP consistency that apply to all projects subject to CEQA review. These are:

1. Review General Plan Policies listed in the GHG Plan to determine applicability to the project.
2. Incorporate design features or mitigation measures into the project as needed to demonstrate consistency.
    a. Street and pedestrian design complies with complete streets concepts.
    b. Review project against Development Code for mandatory design features required for the project.

[131] While the 2014 GHGRP refers to a checklist for use in evaluating project consistency with the GHGRP, the City retired that checklist program under the 2014 GHGRP because the CalGreen Building Code superseded most of the items addressed in that former program.

c. Consider alternative energy generation (solar) if appropriate for the project and site. (The State is working towards zero net energy development that will require increasing efficiency and self-generation over time).

d. Review water conservation building and landscape design features for compliance with City water conservation standards.

3. Implement project design features suitable for the development type and location.

   a. Projects within core/center areas and BRT corridors should meet minimum density and design requirements to ensure pedestrian and transit orientation is met.

   b. Maintain and enhance connections to regional bikeways and trail system.

4. Complete the latest version of the Fresno Green Residential or Non-Residential Checklist.

   a. Meet the Fresno Green checklist point requirements.

   b. Alternatively, meet the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Programs, or qualify for Build It Green's GreenPoint rating system for residential building.

Item 1 in Section 6.2.1 of the GHGRP requires review of the General Plan policies listed in the GHGRP to determine applicability to the project. As shown in Table 3.7-8, the project would be consistent with applicable City of Fresno GHG General Plan policies listed in the GHGRP (Section 5.1).

Table 3.7-8 2014 General Plan Policy Consistency Evaluation

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
Land Use and Transportation	Land Use Strategies	**Policy RC-2-a: Link Land Use to Transportation**. Promote mixed-use, higher density infill development in multi-modal corridors. Support land use patterns that make more efficient use of the transportation system and plan future transportation investments in areas of higher-intensity development. Discourage investment in infrastructure that would not meet these criteria.	**Does Not Conflict.** The project provides convenient access to an array of Costco services. The project would allow customers to have multiple needs served in one trip, including eye exams, purchase of household goods and groceries, car washes, and refueling. The project would intensify development adjacent to an established transportation corridor. The project includes a redesignation of Herndon Avenue from Expressway Area to Superarterial, which allows for multiple modes of travel traffic, including pedestrian and bikes. This could lead to further development of these types of non-vehicular facilities, including bike lanes and sidewalks, that are not currently allowed under the Expressway Area designation. Additionally, the project would be located near transit facilities, such as the NW Herndon-Hayes transit stop. The project implements pedestrian, bicycle, and transit linkages to surrounding land uses and neighborhoods consistent with Fresno's General Plan and Active Transportation Plan. The project is also approximate to the growing commercial area near State Route 99, between West Herndon Avenue and North Veterans Boulevard. Under the General Plan, the project site has long been designated for commercial use. The project's requested zoning change from Community
	Compact and Infill Development	**Policy UF-1-c: Legible City Structure**. Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of prominent east west and north-south transit-oriented, mixed-use corridors with distinctive and strategically located Activity Centers; and in existing and new neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.	

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
			Commercial to General Commercial is to allow a car wash.
		Policy UF-12-b: Activity Centers. Mixed-use designated areas along BRT and/or transit corridors are appropriate for more intensive concentrations of urban uses. Typical uses could include Chapter 3: Urban Form, Land Use, and Design commercial areas; employment centers; schools; compact residential development; religious institutions; parks; and other gathering points where residents may interact, work, and obtain goods and services in the same place.	**Not Applicable.** The project site is not in a mixed-use designated area.
		Policy LU-2-a: Infill Development and Redevelopment. Promote development of vacant, underdeveloped, and redevelopable land uses within the City Limits where urban services are available by establishing and implementing supportive regulations and programs.	**Does Not Conflict.** The project would develop vacant, underdeveloped land uses within City limits.
		Policy LU-2-b: Infill Development for Affordable Housing. Consider a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.	**Not Applicable.** The project does not include housing.
		Policy LU-3-b: Mixed-Use Urban Corridors that Connect the Downtown Planning Area. Support the development of mixed-use urban corridors that connect the Downtown Planning Area with the greater Fresno-Clovis Metropolitan Area with functional, enduring, and desirable urban qualities along the Blackstone Avenue, Shaw Avenue, California Avenue, and Ventura Avenue/Kings Canyon corridors, as shown on Figure LU-1: General Plan Land Use Diagram.	**Not Applicable.** The project site is not on any of the listed roads.
		Policy LU-3-c: Zoning for High Density on Major Transit Corridors. Encourage adoption of supportive zoning regulations for compact development along BRT corridors leading to the Downtown Core that will not diminish long-term growth and development potential for Downtown.	**Not Applicable.** The project site is not in a BRT corridor.
		Policy LU-5-f: High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT corridors, affordable housing and walkable access to transit stops.	**Not Applicable.** The policy relates to residential uses.

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
	Mixed-Use Development	**Policy RC-2-b: Provide Infrastructure for Mixed-Use and Infill.** Promote investment in the public infrastructure needed to allow mixed-use and denser infill development to occur in targeted locations, such as expanded water and wastewater conveyance systems, complete streetscapes, parks and open space amenities, and trails. Discourage investment in infrastructure that would not meet these criteria.	**Does Not Conflict.** Although this policy is not directly applicable to commercial development projects, the project would generally invest in the types of public infrastructure that are needed to support mixed us and infill development in the area. For example, the project is required to provide neighborhood design improvements, such as pedestrian network improvements and bikeway facilities. The project also includes a redesignation of Herndon Avenue from Expressway Area to Superarterial, which allows for multiple modes of travel, including pedestrian and bikes. This could lead to further development of these types of non-vehicular facilities, including bike lanes and sidewalks, which are not currently allowed under the Expressway Area designation.
		Policy UF-12-d: Appropriate Mixed-Use. Facilitate the development of vertical and horizontal mixed-uses to blend residential, commercial, and public land uses on one or adjacent sites. Ensure land use compatibility between mixed-use districts in Activity Centers and the surrounding residential neighborhoods.	**Does Not Conflict.** The project site is located within walking distance to nearby residences and will provide retail and jobs near a housing-rich area. A mixed-use alternative was evaluated in the 2024 EIR and found to be infeasible.
		Policy UF-12-f: Mixed-Use in Activity Centers. Update the Development Code to include use regulations and standards to allow for mixed uses and shared parking facilities, including multi-story and underground parking facilities, within Activity Centers.	**Not Applicable.** This policy relates to the City enacting zoning and development standards and does not apply to commercial sites.
	Pedestrian Oriented Development	**Policy UF-12-e: Access to Activity Centers.** Promote adoption and implement standards supporting pedestrian activities and bicycle linkages from surrounding land uses and neighborhoods into Activity Centers and to transit stops. Provide for priority transit routes and facilities to serve the Activity Centers.	**Does Not Conflict.** To provide transportation facilities based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes, the project would include construction of 12-foot-wide pedestrian and bicycle paths along the project's frontage with West Herndon Avenue and North Riverside Drive. These facilities would be consistent with the City's Active Transportation Plan (ATP). Trail improvements provided by the proposed project would include Class I bicycle facilities along the project's frontage on West Herndon Avenue and North Riverside Drive, which is consistent with future facilities identified in the City of Fresno's ATP adjacent to the project site. The project also involves the construction of West Spruce Avenue along the northern project site boundary. The City has identified the construction of Spruce Avenue, including Class II bicycle facilities, as a condition of approval, which would be consistent with the City of Fresno's ATP. The project's off-site improvements include construction of bicycle facilities along its western, southern, and northern frontages (North
		Policy UF-14-a: Design Guidelines for Walkability. Use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.	
		Policy UF-14-b: Local Street Connectivity. Design local roadways to connect throughout neighborhoods and large private developments with adjacent major streets and pathways of existing adjacent development. Create access for pedestrians and bicycles where a local street must dead end or be designed as a cul-de-sac to adjoining uses that provide services, shopping, and	

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
		connecting pathways for access to the greater community area.	Riverside Drive, West Herndon Avenue, and Spruce Avenue, respectively) and would be consistent with the City of Fresno's ATP. The project also includes a redesignation from of Herndon Avenue from Expressway Area to Superarterial, which allows for multiple modes of travel, including pedestrian and bikes. This could lead to further development of these types of non-vehicular facilities, including bike lanes and sidewalks, which are not currently allowed under the Expressway Area designation.
		Policy UF-14-c: Block Length. Create development standards that provide desired and maximum block lengths in residential, retail, and mixed-use districts order to enhanced walkability.	**Not Applicable.** Although this policy is not the responsibility of an individual commercial development project, the project includes pedestrian network improvements to attract nearby residents and to maximize foot traffic.
		Policy D-3-c: Local Streets as Urban Parkways. Develop local streets as "urban parkways," where appropriate, with landscaping and pedestrian spaces.	**Does Not Conflict.** The project will include landscaping and pedestrian walkways.
		Policy D-4-b: Incentives for Pedestrian-Oriented Anchor Retail. Consider adopting and implementing incentives for new pedestrian-friendly anchor retail at intersections within Activity Centers and along corridors to attract retail clientele and maximize foot traffic.	**Not Applicable.** The policy is related to the City's adoption of an incentive program. The project has not participated in an incentive program but includes pedestrian network improvements to attract nearby residents and to maximize foot traffic.
		Policy MT-1-h: Update Standards for Complete Streets. Update the City's Engineering and Street Design Standards to ensure that roadway and streetscape design specifications reflect the Complete Streets concept, while also addressing the needs of through traffic, transit stops, bus turnouts, passenger loading needs, bike lanes, and short and long-term parking.	**Not Applicable.** Although this policy is not the responsibility of an individual commercial development project, to provide transportation facilities based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes, the project would include construction of 12-foot-wide pedestrian and bicycle paths along the project's frontage with West Herndon Avenue and North Riverside Drive. These facilities would be consistent with the City's ATP. Trail improvements provided by the project would include Class I bicycle facilities along the project's frontage on West Herndon Avenue and North Riverside Drive, which is consistent with future facilities identified in the City of Fresno's ATP adjacent to the project site. The project also includes the construction of West Spruce Avenue along the northern boundary of the project site. The City has identified the construction of Spruce Avenue, including Class II bicycle facilities, as a condition of approval, which would be consistent with the City of Fresno's ATP. The asphalt roadway would include curb, gutter, sidewalk, Class II bicycle facilities, and streetlights.

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
	Transit Oriented Development	**Policy UF-12-a: BRT Corridors**. Design land uses and integrate development site plans along BRT corridors, with transit-oriented development that supports transit ridership and convenient pedestrian access to bus stops and BRT station stops.	**Not Applicable.** The project would not be located in a BRT corridor. Although this policy is not applicable, the project includes neighborhood design improvements such as pedestrian network improvements and constructing bikeway facilities, and would be located near transit facilities such as the NW Herndon-Hayes transit stop.
Transportation Facilities Strategies	Transit Facilities	**Policy MT-8-a: Street Design Coordinated with Transit.** Coordinate the planning, design, and construction of the major street network with transit operators to facilitate efficient direct transit routing throughout the Planning Area.	**Does Not Conflict.** Although these policies are not the responsibility of an individual commercial development project, the project will be located near transit facilities such as the NW Herndon-Hayes transit stop, allowing for alternatives to single-occupancy vehicle visits to the project site that would support efforts to improve air quality and minimize pollutants from transportation. Additionally, the project is designed to not interfere with the future High Speed Rail.
		Policy MT-8-b: Transit Serving Residential and Employment Nodes. Identify the location of current and future residential and employment concentrations and Activity Centers throughout the transit service area in order to facilitate planning and implementation of optimal transit services for these uses. Work with California State University, Fresno to determine locations within the campus core for bus stops.	
		Policy MT-8-g: High Speed Train. If the State moves forward with HST, ensure it is constructed through Fresno in a manner that minimizes impacts to surrounding property owners and creates the most opportunity for redevelopment around the HST station.	
	Bicycle and Pedestrian Infrastructure	**Policy MT-4-a: Bicycle, Pedestrian and Trails Master Plan.** To the extent consistent with this General Plan, continue to implement and periodically update the Bicycle, Pedestrian, and Trails Master Plan to meet State standards and requirements for recommended improvements and funding proposals as determined appropriate and feasible.	**Does Not Conflict.** The project includes neighborhood design improvements such as pedestrian network improvements and bikeway facilities. The project also includes a redesignation of Herndon Avenue from Expressway Area to Superarterial, which allows for multiple modes of travel traffic, including pedestrian and bikes. This could lead to further development of these types of non-vehicular facilities, including bike lanes and sidewalks, which are not currently allowed under the Expressway Area designation. Trail improvements provided by the project would include Class I bicycle facilities along the project's frontage on West Herndon Avenue and North Riverside Drive, which is consistent with future facilities identified in the City of Fresno's ATP adjacent to the project site. Development of the project would not physically obstruct access to existing recreational opportunities, including the trails along the San Joaquin River that connect to Riverbottom Park. Moreover, the project would facilitate multi-modal access to these existing facilities through construction of 12-foot-wide
		Policy MT-4-b: Bikeway Improvements. Establish and implement property development standards to assure that projects adjacent to designated bikeways provide adequate right-of-way and that necessary improvements are constructed to implement the planned bikeway system shown on Figure MT-2 to provide for bikeways, to the extent feasible, when existing roadways are reconstructed; and alternative bikeway alignments or routes where inadequate right-of-way is available.	
		Policy MT-4-c: Bikeway Linkages. Provide linkages between bikeways, trails and paths, and other regional networks such as the San	

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
		Joaquin River Trail and adjacent jurisdiction bicycle systems wherever possible.	pedestrian and bicycle paths along the project's frontage with West Herndon Avenue and North Riverside Drive. These paths would be consistent with the City's ATP.
		Policy MT-5-a: Sidewalk Development. Pursue funding and implement standards for development of sidewalks on public streets, with priority given to meeting the needs of persons with physical and vision limitations; providing safe routes to school; completing pedestrian improvements in existing neighborhoods with lower vehicle ownership rates; or providing pedestrian access to public transportation routes.	
		Policy MT-6-a: Link Residences to Destinations. Design a pedestrian and bicycle path network that links residential areas with Activity Centers, such as parks and recreational facilities, educational institutions, employment centers, cultural sites, and other focal points of the city environment.	**Does Not Conflict.** The project includes neighborhood design improvements such as pedestrian network improvements and bikeway facilities that would be constructed as part of the project would improve connectivity between other nearby land uses and the project site, providing more convenient access to Costco services. Trail improvements provided by the project would include Class I bicycle facilities along the project's frontage on West Herndon Avenue and North Riverside Drive, which is consistent with future facilities identified in the City of Fresno's ATP adjacent to the project site. Development of the project would not physically obstruct access to existing recreational opportunities, including the trails along the San Joaquin River that connect to Riverbottom Park. Moreover, the project would facilitate multi-modal access to these existing facilities through construction of 12-foot-wide pedestrian and bicycle paths along the project's frontage with West Herndon Avenue and North Riverside Drive. These paths would be consistent with the City's ATP.
		Policy MT-6-g: Path and Trail Development in Subdivisions. Require all subdivision maps to incorporate planned multi-purpose path and trail development standards and corridor linkages consistent with the General Plan, applicable law and case-by-case determinations as a condition of tentative map approval.	
		Policy POSS-7-h: Interlink City and San Joaquin River Parkway Trail Networks. Strive to connect the parkway trail network to other trails in the vicinity, in order to create a community and regional trail system that offers a variety of different route combinations and enhances public access to the parkway.	
Transportation Demand Strategies	Transportation Demand Management	**Policy MT-10-c: Transportation Demand Management Guidelines.** Establish transportation demand management guidelines to allow for reduced off-street parking requirements.	**Not Applicable.** These policies relate to the development of parking guidelines and standards by the city. The project complies with all adopted and applicable parking standards.
	Parking Measures	**Policy MT-10-a: Updating Parking Standards.** Update off-street parking standards to reflect the context and location within activity areas of multiple uses and reductions appropriate for mixed residential and non-residential uses and proximity to existing or planned transit service.	
		Policy MT-10-b: Shared Parking. Establish a strategy to promote the sharing of excess parking between uses within Activity Centers and BRT corridors, including specific provisions for this in the Development Code.	

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
		Policy MT-10-d: Parking Maximums. Explore maximum off-street parking limits within Activity Centers proximate to BRT corridors, if such an Activity Center is determined compatible with promotion of a healthy and vigorous business environment.	
		Policy MT-10-f: Parking Benefit Districts. Establish parking benefit districts to fund consolidated public parking where supported by local businesses.	
Transportation Demand Strategies *(Continued)*	Electric Vehicle Charging Stations	**Policy RC-8-j: Alternative Fuel Network.** Support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development.	**Not Applicable.** Although this policy is not the responsibility of an individual commercial development project, the project includes 10 DC Fast chargers and 1 Level 2 charger, that would run on 100% clean energy provided by PG&E and would also provide Costco members with convenient EV charging at a lower cost. This development would add to the network of chargers available in the city.
Energy Conservation Strategies for New and Existing Buildings	Energy Efficiency in New Buildings	**Policy RC-8-a: Existing Standards and Programs.** Continue existing beneficial energy conservation programs, including adhering to the California Energy Code in new construction and major renovations.	**Not Applicable.** Although this policy is not applicable to an individual commercial development project, the project would meet the 2019 California Green Building Standards Code, based on the building permit application submission (i.e., prior to January 1, 2023), which includes a number of energy saving requirements. Power would be obtained through PG&E's Solar Choice program, which provides 100% solar energy to customers.
		Policy RC-8-b: Energy Reduction Targets. Strive to reduce per capita residential electricity use to 1,800 kWh per year and nonresidential electricity use to 2,700 kWh per year per capita by developing and implementing incentives, design and operation standards, promoting alternative energy sources, and cost-effective savings.	
		Policy RC-8-c: Energy Conservation in New Development. Consider providing an incentive program for new buildings that exceed California Energy Code requirements by fifteen percent.	
		Policy RC-8-d: Incentives. Establish an incentive program for residential developers who commit to building all of their homes to ENERGY STAR performance guidelines.	**Not Applicable.** The policy directs the development of an incentive program specific to residential development.
		Policy RC-8-e: Energy Use Disclosure. Promote compliance with State law mandating disclosure of a building's energy data and rating of the previous year to prospective buyers and lessees of the entire building or lenders financing the entire building.	**Not Applicable.** The project proposes new construction. This new structure would be more energy efficient than the existing Costco on Shaw Avenue, which is in a structure that is approximately 40 years old.
	Energy Efficiency in Existing Buildings	**Policy RC-7-i: PACE Financing.** Develop a residential Property Assessed Clean Energy (PACE) program, if it is determined to be a feasible option, to help finance water efficiency and energy efficiency upgrades for property owners.	**Not Applicable.** The policy directs the development of an incentive program specific to residential development.

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
	Self Generation using Solar Panels and Solar Hot Water Systems	**Policy RC-8-h: Solar Assistance.** Identify and publicize information about financial mechanisms for private solar installations and provide over-the-counter permitting for solar installations meeting specified standards, which may include maximum size (in kV) of units that can be so approved.	**Not Applicable.** The policy directs the development of a program to support solar installation.
	Water Conservation Strategies	**Policy RC-6-d: Recycled Water.** Prepare, adopt, and implement a City of Fresno Recycled Water Master Plan.	**Not Applicable.** The policy directs the development of a recycled water plan for the City.
		Policy RC-7-a: Water Conservation Program and 2035 Target. Maintain a comprehensive conservation program that reduces per capita water usage in the city's water service area to 243 gallons per capita per day (gpcd) by 2020 and 190 gpcd by 2035, by adopting conservation standards and implementing a program of incentives, design and operation standards, and user fees. Support programs that result in decreased water demand, such as landscaping standards that require drought-tolerant plants, rebates for water conserving devices and systems, turf replacement, xeriscape landscape for new homes, irrigation controllers, commercial/industrial/institutional water conserving programs, prioritized leak detection program, complete water system audit, landscape water audit and budget program, and retrofit upon resale ordinance. Implement the U.S. Bureau of Reclamation Best Management Practices for water conservation as necessary to maintain the City's surface water entitlements. Adopt and implement policies in the event an artificial lake is proposed for development. Work cooperatively toward effective uniform water conservation measures that would apply throughout the Planning Area. Expand efforts to educate the public about water supply issues and water conservation techniques.	**Not Applicable.** Although these policies are not applicable to an individual commercial development project, the project meets the mandatory outdoor and indoor water use measures. The buildings would include restroom fixtures that are high efficiency to reduce water use. In addition, mechanical heat from refrigeration systems would be captured to preheat hot water tanks. The irrigation system would have water efficient low flow and would be a point source system designed to provide adequate watering to support plant growth and ensure deeply rooted plant material while avoiding excess water application. The system would be programmable and would interface with a weather-based sensor that adjusts the amount of water applied to the plant material based on daily weather conditions. Landscape irrigation would comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO). Lastly, wash water used for the car wash would be recycled and the car wash shall comply with all regulations pertaining to water conservation and run-off.
		Policy RC-7-d: Update Standards for New Development. Continue to refine water saving and conservation standards for new development.	

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
		Policy RC-7-f: Implementation and Update Conservation Program. Continue to implement the City of Fresno Water Conservation Program, as may be updated, and periodically update restrictions on water uses, such as lawn and landscape watering and the filling of fountains and swimming pools, and penalties for violations. Evaluate the feasibility of a 2035 conservation target of 190 gpcd in the next comprehensive update of the City's Water Conservation Program.	
		Policy RC-7-h: Landscape Water Conservation Standards. Refine landscape water conservation standards that will apply to new development installed landscapes, building on the State Model Water Efficient Landscape Ordinance and other State regulations. Evaluate and apply, as appropriate, augmented xeriscape, "water-wise," and "green gardening" practices to be implemented in public and private landscaping design and maintenance. Facilitate implementation of the State's Water Efficient Landscape Ordinance by developing alternative compliance measures that are easy to understand and observe.	**Not Applicable.** Although this policy is not applicable to an individual commercial development project, to the extent applicable to the project, the project would meet the 2019 California Green Building Standards Code, based on the building permit application submission (i.e., prior to January 1, 2023), which would include mandatory outdoor water use measures.The irrigation system would be a water efficient, low flow point source system designed to provide adequate watering to support plant growth and ensure deeply rooted plant material while avoiding excess water application. The system would be programmable and would interface with a weather-based sensor that would adjust the amount of water applied to the plant material based on daily weather conditions. Landscape irrigation would comply with the California Department of Water Resources MWELO.
Waste Diversion and Recycling and Energy Recovery	Waste Diversion and Recycling and Energy Recovery	**Policy PU-9-a: New Techniques.** Continue to collaborate affected stakeholders and partners to identify and support programs and new techniques of solid waste disposal, such as recycling, composting, waste to energy technology, and waste separation, to reduce the volume and toxicity of solid wastes that must be sent to landfill facilities.	**Does Not Conflict.** The project would recycle construction and demolition waste. Recycled metal would be used in building construction. Additionally, the project would provide recycling canisters in public areas where trashcans are also provided and would recycle pallets.
		Policy PU-9-b: Compliance with State Law. Continue to pursue programs to maintain conformance with the Solid Waste Management Act of 1989 or as otherwise required by law and mandated diversion goals.	
		Policy RC-11-a: Waste Reduction Strategies. Maintain current targets for recycling and re-use of all types of waste material in the city and enhance waste and wastewater management practices to reduce natural resource consumption, including the following measures: ▶ Continue to require recyclable material collection and storage areas in all residential development.	

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
		▶ Establish recycling collection and storage area standards for commercial and industrial facilities to size the recycling areas according to the anticipated types and amounts of recyclable material generated. ▶ Provide educational materials to residents on how and what to recycle and how to dispose of hazardous waste. ▶ Provide recycling canisters and collection in public areas where trash cans are also provided. ▶ Institute a program to evaluate major waste generators and identify recycling opportunities for their facilities and operations. ▶ Continue to partner with the California Integrated Waste Management Board on waste diversion and recycling programs and the CalMax (California Materials Exchange) program. ▶ Evaluate the feasibility of a residential, restaurant and institutional food waste segregation and recycling program, to reduce the amount of organic material sent to landfill and minimize the emissions generated by decomposing organic material. ▶ Evaluate the feasibility of "carbon footprinting" for the City's wastewater treatment facilities, biomass and composting operations, solid waste collection and recycling programs. ▶ Expand yard waste collection to divert compostable waste from landfills. ▶ Study the feasibility and cost-benefit analysis of a municipal composting program to collect and compost food and yard waste, using the resulting compost matter for City park and median maintenance.	
		Policy RC-4-i: Methane Capture. Continue to pursue opportunities to reduce air pollution by using methane gas from the old City landfill and the City's wastewater treatment process.	**Not Applicable.** The policy is specific to landfill and wastewater treatment facilities.
		Policy RC-11-b: Zero Waste Strategy. Create a strategic and operations plan for fulfilling the City Council resolution committing the City to a Zero Waste goal.	**Does Not Conflict.** The project would recycle construction and demolition waste. Recycled metal would be used in building construction. Additionally, the project would provide recycling canisters in public areas where trashcans are also provided and would recycle pallets.

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
	Wastewater	**Policy PU-7-a: Reduce Wastewater.** Identify and consider implementing water conservation standards and other programs and policies, as determined appropriate, to reduce wastewater flows.	**Not Applicable.** Although this policy is not applicable to an individual commercial development project, the wash water used for the car wash would be recycled. The project would install water efficient systems, including restroom fixtures and would also implement water conservation techniques, such as capturing the mechanical heat from refrigeration systems to preheat hot water tanks. Due to this, the project would conserve water and therefore the wastewater flows will be reduced.
		Policy PU-7-d: Wastewater Recycling. Pursue the development of a recycled water system and the expansion of beneficial wastewater recycling opportunities, including a timely technical, practicable, and institutional evaluation of treatment, facility siting, and water exchange elements.	
	Community Involvement and Outreach	**Policy RC-7-g: Educate on State Requirements.** Educate the residents and businesses of Fresno on the requirements of the California Water Conservation Act of 2009.	**Not Applicable.** These policies relate to the City's community outreach.
		Policy RC-8-k: Energy Efficiency Education. Provide long-term and ongoing education of homeowners and businesses as to the value of energy efficiency and the need to upgrade existing structures on the regular basis as technology improves and structures age.	
Municipal Strategies	Municipal Strategies	**Policy RC-7-c: Best Practices for Conservation.** Require all City facilities and all new private development to follow U.S. Bureau of Reclamation Best Management Practices for water conservation, as warranted and appropriate.	**Does Not Conflict.** The project would implement project design features that are consistent with the U.S. Bureau of Reclamation Best Management Practices for water conservation. The project would install water efficient systems, including restroom fixtures. The project would also implement water conservation techniques, such as capturing the mechanical heat from refrigeration systems to preheat hot water tanks. The project would also install efficient landscape irrigation. The irrigation system will be a water efficient low flow, point source system designed to provide adequate watering to support plant growth and ensure deeply rooted plant material while avoiding excess water application. The system would be programmable and would interface with a weather-based sensor that would adjust the amount of water applied to the plant material based on daily weather conditions. Landscape irrigation would comply with the California Department of Water Resources MWELO. The Project would also recycle and reuse water the wash water used for the car wash. Last, the project would meet the 2019 California Green Building Standards Code, based on the building permit application submission (i.e., prior to January 1, 2023), which would include mandatory outdoor water use measures.

GHG Plan Strategy Category	Sub-Category	Key or Relevant General Plan Policies[1]	Does it Conflict?
		Policy RC-7-e: Retrofit City Facilities, and Consider Incentives Programs for to Encourage Retrofitting of Other Existing Public and Private Residential and Non-Residential Facilities and Sites. Reduce water use in municipal buildings and City operations by developing a schedule and budget for the retrofit of existing municipal buildings with water conservation features, such as auto shut-off faucets and water saving irrigation systems. Prepare a comprehensive incentive program for other existing public and private residential and non-residential buildings and irrigation systems.	**Not Applicable.** The project would not include the retrofit of existing building(s).
		Policy RC-8-f: City Heating and Cooling. Reduce energy use at City facilities by updating heating and cooling equipment and installing "smart lighting" where feasible and economically viable.	**Not Applicable.** Although this policy is not applicable to an individual commercial development project, to the extent applicable to the project, the project would meet the 2019 California Green Building Standards Code, based on the building permit application submission (i.e., prior to January 1, 2023), which would include a number of energy saving requirements.
		Policy RC-8-g: Revolving Energy Fund. Create a City Energy Fund which uses first year savings and rebates from completed City-owned energy efficiency projects to provide resources for additional energy projects. Dedicate this revolving fund to the sole use of energy efficiency projects that will pay back into the fund.	**Not Applicable.** The project is not related to City funding.
	Regional Urban Forestry Program	**Policy POSS-1-g: Regional Urban Forest.** Maintain and implement incrementally, through new development projects, additions to Fresno's regional urban forest to delineate corridors and the boundaries of urban areas, and to provide tree canopy for bike lanes, sidewalks, parking lots, and trails.	**Does Not Conflict.** The project would include landscaping near pedestrian walkways. The project's preliminary Landscape Plan proposes 130,535 square feet of landscape area, which is 13% of the total Costco site area and is greater than the landscape area required (98,162 square feet or 10% of the total Costco site area). The plan also includes 354 trees on-site, which is greater than the required number of trees (121 trees). Additionally, the project would provide 51.3% parking lot shading at 15 years, which is greater than the required 50% parking lot shading at 15 years.

[1] Key or relevant General Plan policies for the City of Fresno GHG Plan Strategy obtained from City of Fresno's 2014 Greenhouse Gas Reduction Plan.

Abbreviations:

ATP - Active Transportation Plan
BRT - Bus Rapid Transit
CalMax - California Materials Exchange
D - Design Element
EV - Electric Vehicle
GHG - greenhouse gas
gpcd - gallons per capita per day
HST - High Speed Train
kV - kilovolt
kWh - kilowatt-hour
LU - Land Use Element
MT - Transportation Element
MWELO - Model Water Efficient Landscape Ordinance
PACE - Property Assessed Clean Energy
PG&E - Pacific Gas and Electric
POSS - Park and Open Space
PU - Public Utilities
RC - Resource Conservation
U.S. - United States
UF - Urban Form Element
VMT - Vehicle Miles Traveled

Item 2 in Section 6.2.1 directs that a project incorporate design features or mitigation measures into the project as needed to demonstrate consistency. The project's compliance with these elements is described below in detail.

For Item 2a, the project incorporates street and pedestrian design that complies with complete streets concepts. To provide transportation facilities based upon a complete streets concept that facilitates the balanced use of all viable travel modes, the project would include construction of 12-foot-wide pedestrian and bicycle paths along the project's frontage with West Herndon Avenue and North Riverside Drive. These facilities would be consistent with the City's Active Transportation Plan (ATP). Trail improvements provided by the proposed project would include Class I bicycle facilities along the project's frontage on West Herndon Avenue and North Riverside Drive, which is consistent with future facilities identified in the City of Fresno's ATP (City of Fresno 2016) adjacent to the project site. The proposed project also involves the construction of West Spruce Avenue along the northern project site boundary. The City has identified the construction of Spruce Avenue, including Class II bicycle facilities, as a condition of approval (City of Fresno 2022), which would be consistent with the City of Fresno's ATP.

Additionally, project's off-site improvements include construction of bicycle facilities along its western, southern, and northern frontages (North Riverside Drive, West Herndon Avenue, and Spruce Avenue, respectively) and would be consistent with the City of Fresno ATP.

Lastly, applicant would extend West Spruce Avenue from North Riverside Drive to the intersection with North Sandrini Avenue. The connection would be consistent with the City of Fresno ATP. The asphalt roadway would include curb, gutter, sidewalk, Class II bicycle facilities, and streetlights.

For Item 2b, the building design will comply with the design requirements included in the City of Fresno Development Code. These include, but are not limited to, the use of enhanced cornices to achieve building articulation requirements, using consistent materials and massing around the entire building and selecting material terminations at intentional locations along the façade instead of at building corners.

Item 2c focuses on alternative energy generation. The project would incorporate renewable energy from PG&E's "Solar Choice" program, supplying the project with 100 percent renewable energy.

Item 2d focuses on compliance with City water conservation standards. The project would comply with all mandatory indoor/outdoor water use measures implemented by the City and State. The irrigation system would be a water efficient low flow, point source system designed to provide adequate watering to support plant growth and ensure deeply rooted plant material while avoiding excess water application. The system would be programmable, allowing operation during late night and or early morning hours, with multiple start times and cycles. The system would interface with a weather-based sensor that would adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site would be selected on the basis of durability and ease of maintenance. Landscape irrigation would comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance. Additionally, the project would implement high-efficiency restroom fixtures that would reduce water use and the car wash comply with all regulations pertaining to water conservation and run-off.

Item 3 in Section 6.2.1 concerns implementing project design features suitable for the development type and location, such as enhancing connections to regional bikeways and trail systems. The project's off-site improvements include construction of bicycle facilities along its western, southern, and northern frontages (North Riverside Drive, West Herndon Avenue, and Spruce Avenue, respectively), thereby providing connections to existing bicycle facilities on those roads. These improvements would be consistent with the City of Fresno ATP.

Trail improvements provided by the project would include Class I bicycle facilities along the project's frontage on West Herndon Avenue and North Riverside Drive, which is consistent with future facilities identified in the City of Fresno's ATP adjacent to the project site.[132] Development of the project would not physically obstruct access to existing recreational opportunities, including the trails along the San Joaquin River that connect to Riverbottom Park. Moreover, the project would facilitate multi-modal access to these existing facilities through construction of 12-foot-

132 City of Fresno. 2016. Active Transportation Plan. December. Available at: https://www.fresno.gov/wp-content/uploads/2023/07/170022FresnoATPFinal2017Amended042022_compressed-1.pdf. Accessed: August 2025.

wide pedestrian and bicycle paths along the project's frontage with West Herndon Avenue and North Riverside Drive. These paths would be consistent with the City's ATP and would support General Plan Policies POSS-3-c and POSS-7-h regarding linking city pathways with parks and the San Joaquin Parkway Trail Networks. The project would not preclude access to existing or planned recreational facilities.

The applicant would extend West Spruce Avenue from North Riverside Drive to the intersection with North Sandrini Avenue. The connection would be consistent with the City of Fresno ATP. The asphalt roadway would include curb, gutter, sidewalk, Class II bicycle facilities, and streetlights.

The project also includes a redesignation of Herndon Avenue from Expressway Area to Superarterial, which allows for multiple modes of travel traffic, including pedestrian and bikes. This could lead to further development of these types of non-vehicular facilities, including bike lanes and sidewalks, which are not currently allowed under the Expressway Area designation.

Item 4 in Section 6.2.1 notes that a project must either fill out the Fresno Green checklist point requirements or meet the U.S. Green Building Council's LEED Program. While this item refers to the Fresno Green checklist for use in evaluating project consistency with the GHGRP, the City retired this checklist program under the 2014 GHGRP. This is because the CalGreen Building Code superseded most of the items addressed in that former program. The project would meet all applicable elements of the CalGreen Building Code in effect at the time of building permit application. Therefore, the project would meet this last requirement under Section 6.2.1.

As the project includes a General Plan amendment, the project would also be subject to the requirements of "Section 6.2.2 – New Discretionary Development requiring a General Plan Amendment."

The requirements of Section 6.2.2 are as follows[133]:

1. Comply with all of the measures listed above [in Section 6.2.1] for ministerial and discretionary projects.
2. Ensure that change in land use designation would not result in a significant increase in GHG emissions compared to the existing designation (would require a GHG technical study to quantify GHG emissions and benefits of project design features).
3. Projects currently designated for residential or commercial development that increase development densities and intensities and comply with all other relevant General Plan policies and City design standards are considered to have less than significant GHG impacts.
4. Emissions from stationary sources for new industrial projects are not considered in the significance determination; however, emissions from motor vehicles trips generated by the project and energy efficiency of the building are considered.
5. Projects that propose decreases in development densities or intensities requiring a General Plan will require analysis to determine the impacts on the General Plan land use strategy and must identify mitigation measures to reduce greenhouse gas emissions beyond those required by regulation if needed.

Item 1 of Section 6.2.2 mandates the project to comply with all measures listed in Section 6.2.1 for ministerial and discretionary projects. Those have been addressed above.

Item 2 of the list in Section 6.2.2. notes that the project must ensure the change in land use designation would not result in a significant increase in GHG emissions compared to the existing designation, and notes this requires a GHG technical study to quantify the GHG emissions and benefits of project design features. A GHG technical study was conducted to quantify the GHG emissions and address the benefits of project design features. This study included the emissions from motor vehicle trips, as required by **Item 4** of Section 6.2.2. Such study is reflected in this section as well as in the details set forth in Appendix F. The project proposes a change in the General Plan land use designation;

[133] City of Fresno. 2014. General Plan and Development Code Update – Greenhouse Gas Reduction Plan. July. Available here: https://www.fresno.gov/wp-content/uploads/2023/03/F-2-Greenhouse-Gas-Reduction-Plan.pdf. Accessed: August 2025.

however, the purpose of such change is merely to allow a car wash on the project site. Such change to accommodate the car wash would not itself significantly increase vehicle trips and related GHG emissions.

Item 3 under Section 6.2.2 notes that projects currently designated for commercial development densities and that increase development densities but comply with all other relevant General Plan policies and City design standards are considered to have less than significant GHG impacts. The project includes an amendment to alter the existing designation from Community Commercial to General Commercial. Based on the allowable floor-to-area ratio anticipated under these two designations, the General Commercial designation has the potential to allow development that would generate greater emissions than the Community Commercial zoning designation. As the proposed project would increase allowable development densities and intensities (though the purpose of the amendment in the context of the project is merely to allow the car wash use), compliance with relevant General Plan policies and City design standards is evaluated to determine whether the project will have less than significant GHG impacts, consistent with Item 3 under Section 6.2.2. Per the discussion above and Table 3.7-8 evaluating General Plan policies related to GHG reduction, as well as the discussion in the Land Use section of the 2024 EIR (Impact 3.10.1), the project will be consistent with relevant General Plan policies and design standards. Thus, under the standards of the GHGRP, the project would result in less than significant GHG impacts.

Summary

Based on the analysis provided above, the project would not conflict with or impede the state's ability to meet its GHG reduction goals and, therefore, the project's GHG emissions will be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.7-2: Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of GHGs

The project would comply with all laws and regulations governing GHG reduction, and would not conflict with an applicable plan, policy or regulation adopted to reduce GHG emissions. Therefore, this impact would be **less than significant**.

The project would comply with all laws and regulations governing the reduction of GHG emissions. The project aligns with Federal Vehicle Standards, which regulate fuel efficiency and GHG emissions from motor vehicles. Additionally, the project would comply with Title 24 of the California Code of Regulations, which establishes energy efficiency standards for residential and non-residential buildings, contributing to GHG emission reductions. Finally, the project would comply with the California Renewables Portfolio Standards and the Low Carbon Fuel Standard, and would not conflict with the ability of these policies to reduce the carbon intensity of electricity and fuels used in California.

The project would not conflict with applicable state, regional, or local plans and policies adopted to reduce GHG emissions. Such applicable plans and policies are listed in Impact 3.7-1, and are as follows: 2022 Scoping Plan, Fresno COG RTP/SCS, Fresno COG PCAP, and City of Fresno GHGRP. As discussed in Impact 3.7-1, the project would not conflict with applicable plans adopted for the purpose of reducing GHG emissions. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

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Appendix A

Greenhouse Gas Emissions Technical Report

Prepared for
Ascent Environmental, Inc.
Sacramento, California

Project Number
1690023335

Date
November 2025

COSTCO COMMERCIAL CENTER GREENHOUSE GAS EMISSIONS TECHNICAL APPENDIX

FRESNO, CALIFORNIA

RAMBOLL

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ATTACHMENTS

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
AB	Assembly Bill
ACC	Advanced Clean Cars
AP-42	United States Environmental Protection Agency's Compilation of Air Pollutant Emission Factors
CalEEMod®	California Emission Estimator Model®
CalRecycle	California Department of Resources Recycling and Recovery
CAMX	California and Mexico
CARB	California Air Resources Board
CEC	California Energy Commission
CFCs	Chlorofluorocarbons
CH_4	Methane
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
EF	emission factor
EIR	Environmental Impact Report
EMFAC	EMission FACtors model
GHG	greenhouse gas
GWP	global warming potential
HFCs	hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
lbs	Pounds
MDO	Market delivery operation
MSW	Municipal solid waste
MT	metric tons
N_2O	nitrogen dioxide
NHTSA	National Highway Traffic Safety Administration
OFFROAD	Off-road Emissions Inventory Program model
PG&E	Pacific Gas and Electric
RPS	Renewables Portfolio Standards
SAFE	Safer Affordable Fuel-Efficient
SCAQMD	South Coast Air Quality Management District
TRU	transportation refrigeration unit
USEPA	United States Environmental Protection Agency
VMT	vehicle miles traveled

1. INTRODUCTION

Ramboll US Consulting, Inc. (Ramboll) was retained to assist in preparing the Greenhouse Gas Emissions and Climate Change section of the Draft Environmental Impact Report (EIR) along with this accompanying Greenhouse Gas (GHG) Emissions Appendix for the proposed Costco warehouse and gasoline dispensing facility in Fresno, California (Project).

This GHG Emissions Technical Appendix discusses and documents the methodology used to evaluate GHG emissions related to both construction and operation of the Project.

2. PROJECT GHG EMISSIONS INVENTORY

This section describes the methodology that Ramboll used to develop the GHG emission inventories associated with the Project, which include one-time emissions (construction emissions and emissions due to vegetation changes) and operational emissions. Sub-categories of GHG operational emissions include: **area sources, energy use**, **water supply and wastewater**, **solid waste,** and **mobile sources**. The emissions inventory reflects the reasonably foreseeable change based on the discontinued operation of the Costco Warehouse located at 4500 W Shaw Avenue. For purposes of this analysis, 4500 W Shaw Avenue is assumed to be backfilled by another retail use within the existing shopping center.

2.1 Measurement, Resources and Baseline Condition

2.1.1 Units of Measurement: Tonnes of CO_2 and CO_2e

In this report, the term "GHGs" includes gases that contribute to the natural greenhouse effect, such as carbon dioxide ($CO_{2)}$, methane (CH_4), nitrogen dioxide (N_2O), and water, as well as gases that are only man-made and that are emitted through the use of modern industrial products, such as hydrofluorocarbons (HFCs) and chlorofluorocarbons (CFCs). GHG emissions are typically measured in terms of mass of carbon dioxide equivalent (CO_2e). CO_2e are calculated as the product of the mass of a given GHG and its specific global warming potential (GWP). GWPs of 25 and 298 were used for CH_4 and N_2O, respectively, for this analysis. In many sections of this report, including **Section 2.4**, emissions are presented in units of CO_2e either because the GWPs of CH_4 and N_2O were accounted for explicitly, or the CH_4 and N_2O are assumed to contribute a negligible amount of GWP when compared to the CO_2 emissions from that particular emissions category.

In this report, a tonne refers to 1,000 kilograms or a metric ton (MT). Additionally, exact totals presented in all tables and report sections may not equal the sum of components due to independent rounding of numbers.

2.1.2 Resources

2.1.2.1 CalEEMod® Methodology

Ramboll primarily utilized the California Emissions Estimator Model (CalEEMod®) version 2020.4.0[1] methodology to assist in quantifying the GHG emissions in the inventories presented in this report for the Project. CalEEMod® provides methodology to calculate both construction emissions and operational emissions from a land use development project. It calculates total or annual GHG emissions. Specifically, the model methodology aids the user in the following calculations:

- One-time short-term construction emissions associated with demolition, site preparation, grading, building, and paving from off-road construction equipment, and on-road mobile equipment associated with workers, vendors, and hauling.
- One-time vegetation sequestration changes, such as permanent vegetation land use changes and new tree plantings.

[1] SCAQMD. 2021. California Emissions Estimator Model®. Available at: https://www.aqmd.gov/caleemod/. Accessed: August 2025.

- Operational emissions associated with the fully built out land use development, such as on-road mobile vehicle traffic generated by the land uses, off-road emissions from landscaping equipment, natural gas usage in the buildings, electricity usage in the buildings, water usage by the land uses, and solid waste disposal by the land uses.

CalEEMod® is a statewide program designed to calculate both criteria pollutant and GHG emissions from development projects in California. It was developed under the auspices of the South Coast Air Quality Management District (SCAQMD), with input from other California air districts, and is currently supported by numerous lead agencies for use in quantifying the emissions associated with development projects undergoing environmental review. CalEEMod® utilizes widely accepted models for emission estimates combined with appropriate default data that can be used if site-specific information is not available. These models and default estimates use sources such as the United States Environmental Protection Agency (USEPA) AP-42 emission factors,[2] California Air Resources Board (CARB)'s on-road and off-road equipment emission models such as the EMission FACtor model (EMFAC) and the Off-road Emissions Inventory Program model (OFFROAD), and studies commissioned by California agencies such as the California Energy Commission (CEC) and California Department of Resources Recycling and Recovery (CalRecycle).

As mentioned above, CalEEMod® is based upon the CARB-approved OFFROAD and EMFAC models. OFFROAD[3] is an emission factor model used to calculate emission rates from off-road mobile sources (e.g., construction equipment, agricultural equipment). The off-road diesel emission factors used by CalEEMod® are based on the CARB OFFROAD2011 program. EMFAC is an emission factor model used to calculate emissions rates from on-road vehicles (e.g., passenger vehicles). CalEEMod® 2020.4.0 contains EMFAC2017 emission factors. The latest version of EMFAC at the time of analysis was the CARB EMFAC2021v1.0.2 model.[4]

In addition, CalEEMod® contains default values and existing regulation methodologies to use in each specific local air district region. Appropriate statewide default values can be utilized if regional default values are not defined. Ramboll used default factors for the Fresno County area (within the San Joaquin Valley Air Pollution Control District's jurisdiction) for the emissions inventory, unless otherwise noted in the methodology descriptions below.

Details regarding the specific methodologies used by CalEEMod® can be found in the CalEEMod® User's Guide and associated appendices.[5]

[2] The USEPA maintains a compilation of Air Pollutant Emission Factors and process information for several air pollution source categories. The data is based on source test data, material balance studies, and engineering estimates. Available at: https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors. Accessed: August 2025.

[3] CARB. 2011. Off Road Mobile Source Emission factors. Available at: https://ww2.arb.ca.gov/our-work/programs/msei/road-categories/road-diesel-models-and-documentation. Accessed: August 2025.

[4] CARB. 2021. EMFAC2021. Available at: https://arb.ca.gov/emfac/. Accessed: August 2025.

[5] SCAQMD. 2021. California Emissions Estimator Model User's Guide. Version 2020.4.0. Available at: https://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/01_user-39-s-guide2020-4-0.pdf. Accessed: August 2025.

2.1.2.2 OFFROAD2017

The latest version of OFFROAD at the time of analysis was OFFROAD2017. The exhaust emission factors for each equipment at each horsepower range were back-calculated from total daily emissions reported in the model output files and annual usage in terms of horsepower-hours for each equipment type in the specified region and calendar year. These emission factors are then used in the calculation of Project emissions for each type of equipment utilized within the Project.

2.1.2.3 Other Resources

Ramboll directly or indirectly relied on emissions estimation guidance from government sponsored organizations, government-commissioned studies of energy use patterns, Project-specific studies (e.g., Kittelson's Fresno Costco Relocation Transportation Impact Analysis),[6] and emission estimation software as described above. In cases noted below, third-party studies were also relied upon to support analyses and assumptions made outside of the approach described above.

2.1.3 Indirect GHG Emissions from Electricity Use

Project-related electricity use results in indirect emissions, due to electricity generation activities occurring at off-site power plant locations. For the Project, electrical power will be supplied by Pacific Gas and Electric Company (PG&E) and the Project will participate in the PG&E "Solar Choice" program, which is PG&E's program to provide 100% solar electricity to customers. While the anticipated indirect emissions from electricity are expected to be zero due to the Project's participation in the PG&E "Solar Choice" program, the analysis conservatively models GHG emissions based on PG&E's default utility emission factor. The indirect GHG emissions created as a result of Project-related electricity use are calculated through application of the following methodology.

For purposes of electricity use, intensity factors are GHG emission rates from a given source relative to the energy generation activities, and are expressed in terms of the amount of GHG released per megawatt of energy produced. The default electricity intensity factors for PG&E in CalEEMod® for CO_2, CH_4, and N_2O are 203.983, 0.033, and 0.004 pounds (lbs) of GHG per megawatt-hour, respectively. The CalEEMod® CO_2 default factor is based on the emission factor provided to Sacramento Metro Air Quality Management District by PG&E. The CH_4 and N_2O default factors are based on E-Grid values for the Western Electricity Coordinating Council California and Mexico (CAMX) region. PG&E's Power/Utility Protocol reports show that renewable energy sources do not result in any new CO_2 emissions.

While CalEEMod®'s emission factors for CH_4 and N_2O conservatively were used for this Project, CalEEMod®'s CO_2 intensity factor was modified based on PG&E's 2019 Corporate Sustainability Report, to account for the Renewables Portfolio Standard's (RPS) requirement for 2030 (i.e., 60 percent RPS). The 2017 and 2018 mix of renewable and non-renewable energy sources in PG&E's energy supply were both used to calculate the intensity factors for PG&E's non-renewable energy (for disclosure purposes, PG&E's 2020 RPS is 30.6 percent).[7] The PG&E data provides the basis for the estimate of the intensity factors for the non-renewable energy; and this data is used to project what the intensity factors will be

[6] Kittelson & Associates, Inc. 2023. Fresno Costco Relocation Transportation Impact Analysis. May.

[7] PG&E. 2021 Corporate Responsibility and Sustainability Report. Available at: https://www.pgecorp.com/corp_responsibility/reports/2021/pf04_renewable_energy.html. Accessed: August 2025.

when the Project reaches build-out. The intensity factor for CO_2 is calculated by multiplying the percentage of energy delivered by PG&E from non-renewable energy resources with the intensity factor for non-renewable energy as calculated (see **Section 2.3.4** below).

2.2 One-Time Emissions

One-time emissions are those emissions that are not reoccurring over the life of the Project. This includes emissions associated with construction and emissions associated with land use changes.

2.2.1 Construction Emissions

This section describes the estimation of GHG emissions from construction activities at the Project site. While the exact construction schedule and equipment mix may vary from the current analysis, the GHG emissions are not expected to be higher than that calculated given the conservative assumptions included in this analysis.

The major construction phases included in this analysis are:

- Demolition: involves removing buildings or structures.
- Site Preparation: involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.
- Grading: involves the cut and fill of land to ensure the proper base and slope for the construction foundation.
- Building Construction: involves the construction of structures and buildings.
- Paving: involves the laying of concrete or asphalt such as in parking lots or roads.
- Architectural Coating: involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.

GHG emissions from these construction phases are attributable to fuel use from construction equipment usage onsite and from on-road worker, vendor, and hauling trips.

Ramboll primarily used CalEEMod® to quantify the construction emissions. The modeled construction schedule is shown in **Table 2-1**. As shown in **Table 2-1**, it was assumed that construction of the Project would begin in May 2023 and end in November 2023. The construction off-road equipment list is a Project-specific estimate; the off-road equipment specifications are based on CalEEMod® model defaults.

The construction-related equipment mix assumptions are shown in **Table 2-2. Table 2-3** presents the material handling volumes which are anticipated to be imported and exported. **Table 2-4** includes the Project-specific demolition assumptions.

2.2.1.1 Emissions from On-Road Construction Trips

Construction generates on-road vehicle GHG emissions from personal vehicles for worker and vendor commuting, and trucks for soil and material hauling. These emissions are based on the number of trips and vehicle miles traveled (VMT), along with emission factors from EMFAC. Default model trip rates were used for construction. The emissions from mobile

sources were calculated in CalEEMod® with the trip rates, trip lengths, and emission factors for running exhaust from EMFAC as follows:[8]

$$\text{Emissions}_{\text{pollutant}} = \text{VMT} * \text{EF}_{\text{running, pollutant}}$$

Where:

$\text{Emissions}_{\text{pollutant}}$ = emissions from vehicle running for each pollutant

VMT = vehicle miles traveled

$\text{EF}_{\text{running, pollutant}}$ = emission factor for running emissions

On-road construction trip emissions are presented in the CalEEMod® output in **Attachment A**.

2.2.1.2 Emissions from Construction Equipment

The emissions associated with construction equipment are from off-road equipment engine use based on the equipment list and phase length, and on-road vehicle trips and phase length.

Since the majority of the off-road construction equipment used for construction projects are diesel-fueled, CalEEMod® assumes all of the equipment operates on diesel fuel. The calculations include the running exhaust emissions from off-road equipment. Since the equipment is assumed to be diesel, there are no starting emissions associated with the equipment, as these are *de minimis* for diesel-fueled equipment. The exhaust emissions are calculated based on CARB's OFFROAD2011 methodology using the equation presented below.[9]

$$\text{Emissions}_{\text{Diesel}} = \sum_{i} \left(\text{EF}_i \times \text{Pop}_i \times \text{AvgHP}_i \times \text{Load}_i \times \text{Activity}_i\right)$$

Where:

EF = Emission factor in grams per horsepower-hour (g/bhp-hr) as processed from OFFROAD2011

Pop = Population, or the number of pieces of equipment

AvgHp = Maximum rated average horsepower

Load = Load factor

Activity = Hours of operation

i = equipment type

Emissions for off-road construction equipment for each phase of construction are detailed in **Attachment A**.

[8] SCAQMD. 2021. California Emissions Estimator Model® User's Guide, Appendix A. Available at: https://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/appendix-a2020-4-0.pdf. Accessed: August 2025.

[9] SCAQMD. 2021. California Emissions Estimator Model® User's Guide, Appendix A. Available at: https://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/appendix-a2020-4-0.pdf. Accessed: August 2025.

2.2.1.3 Total Construction Emissions

The Project construction emissions were run within CalEEMod® to generate the annual emissions. The total emissions from construction from all phases for off-road and on-road emissions in 2023 are summarized in **Attachment A**.

2.2.2 Vegetation Changes

Vegetation changes that occur as a result of land use development constitute a one-time change in the carbon sequestration capacity of a project site. In this case, the land the Project will occupy is vacant/unvegetated and the new landscaping is conservatively not included.

2.3 Annual Operational Emissions

This section describes the estimation of GHG emissions from operational activities at the Project site. The operational emissions were calculated with CalEEMod® and separately for mobile source emissions. Operational GHG emissions are calculated for landscaping, natural gas and electricity usage, on-road mobile trips, water usage, and solid waste generated. Operational emissions are evaluated for the first year of Project Operation in 2023.

2.3.1 Area Sources

Area sources are direct sources of GHG emissions, such as emissions from landscaping activities. The area source GHG emissions included in this analysis are landscaping-related fuel combustion sources, such as lawn mowers.

2.3.2 Mobile Sources

The GHG emissions associated with on-road mobile sources are generated from employees' vehicles, members vehicles, and delivery trucks visiting the site. The GHG emissions associated with on-road mobile sources include running and starting exhaust emissions. Running emissions are dependent on VMT. Starting emissions are associated with the number of starts or time between vehicle uses and the assumptions used in determining these values are described below. Ramboll calculated mobile source emissions using trip rates and trip length information based on analyses conducted by Kittelson.

The analysis includes the benefit of reductions from some adopted regulatory programs, which are accounted within EMFAC2021 as follows:

- Assembly Bill (AB) 1493 ("the Pavley Standard") required CARB to adopt regulations by January 1, 2005, to reduce GHG emissions from non-commercial passenger vehicles and light-duty trucks of model year 2009 and thereafter. EMFAC2021 includes emission reductions for non-commercial passenger vehicles and light-duty trucks of model year 2017 – 2025.
- The Advanced Clean Cars (ACC) program adopted by CARB, introduced in 2012, combines the control of smog, soot causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2015 through 2025. EMFAC2021 includes reductions associated with this regulation that are represented in this analysis.

- The USEPA/National Highway Traffic Safety Administration (NHTSA) advanced fuel economy and GHG standards (Phase 1) were adopted in 2011 for medium and heavy-duty trucks for model years 2014-2018.[10] This Heavy-Duty National Program is intended to reduce fuel use and GHG emissions from medium- and heavy-duty vehicles, semi-trucks, pickup trucks and vans, and all types and sizes of work trucks and buses in between. EMFAC2021 includes reductions associated with this regulation that are represented in this analysis.
- The USEPA/NHTSA advanced fuel economy and GHG standards (Phase 2) were adopted in 2016 for medium- and heavy-duty trucks for model years 2018 and beyond.[11] The Phase 2 program includes technology-advancing standards that substantially reduce GHG emissions and fuel consumption resulting in an ambitious, yet achievable, program that will allow manufacturers to meet the applicable standards over time, at reasonable cost, through a mix of different technologies. The Phase 2 program's standards will be phased in, beginning with model year 2021 and culminating with model year 2027.[12]

In June 2020, CARB released EMFAC off-model adjustment factors to account for the Final Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule.[13] The SAFE Rule has been incorporated into this analysis as it is incorporated in EMFAC2021.

2.3.2.1 Estimating Mobile Source Emissions

Mobile source emissions calculation requires trip rates and trip lengths for each different trip type in the Project (e.g., employee vehicles member vehicles, and delivery trucks).

The following sections describe the methodology to derive the necessary inputs.

Trip Generation Rates

The trip generation rates for the Project were based on Kittelson data. The trips for the northeast corner of W. Herndon Ave. and N. Riverside Dr (Herndon/Riverside) and 4500 W Shaw Ave are shown in **Attachment B** in **Table B-1a** and **Table B-1b**.

Trip Lengths

The Project trip lengths were based on the Kittelson analysis, other than the market delivery operation (MDO) delivery truck trip length, which was based on the average routed round trip length for Fresno MDO deliveries. These trip lengths for Herndon/Riverside and 4500 W Shaw Ave are represented in **Attachment B, Table B-1a** and **Table B-1b**, respectively.

[10] USEPA, Office of Transportation and Air Quality. 2011. Available at: https://www.gpo.gov/fdsys/pkg/FR-2011-09-15/pdf/2011-20740.pdf. Accessed: August 2025.

[11] USEPA, Office of Transportation and Air Quality. 2016. Available at: https://www.gpo.gov/fdsys/pkg/FR-2016-10-25/pdf/2016-21203.pdf. Accessed: August 2025.

[12] The emission reductions attributable to Phase 2 of the regulations for medium- and heavy-duty trucks were not included in the Project's emissions inventory due to the difficulty in quantifying the reductions. Excluding these reductions results in a more conservative (i.e., higher) estimate of emissions for the Project.

[13] CARB. 2020. EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO2) Emissions to Account for the SAFE Vehicles Rule Part One and the Final SAFE Rule. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-02/emfac_off_model_co2_adjustment_factors_06262020-final.pdg. Accessed: August 2025.

Fleet Mix

The fleet mixes derived based on CalEEMod® and EMFAC2021 were used to determine the mix of light-duty vehicles used for member vehicles and employee vehicles. The MDO delivery trucks, fuel delivery trucks, and warehouse delivery trucks were assumed to be diesel-fueled heavy-heavy-duty trucks. The fleet mixes for the operational mobile trips are shown in **Table B-2** of **Attachment B**.

Transport Refrigeration Units

The Project includes Transport Refrigeration Units (TRUs), which are refrigeration systems powered by diesel internal combustion engines designed to refrigerate or heat perishable products that are transported in various containers, including truck vans, semi-truck trailers, shipping containers, and railcars. These TRUs account for approximately 15% of the warehouse delivery trucks. This analysis assumes that TRUs are plugged in at the loading dock. OFFROAD2021 has emission factors for TRUs, which were obtained for Fresno County in 2023. Emissions of CO_2 from TRUs were estimated, as shown in **Table 2-6**.

2.3.2.2 Mobile Source Emissions

The weighted emission factors from running exhaust for each vehicle type are presented in **Attachment B, Table B-3**. Starting exhaust emission factors for each vehicle type are displayed in **Attachment B, Table B-4**. Idling emission factors for passenger vehicles and delivery trucks are presented in **Attachment B, Table B-5**. The overall mobile source emissions from running, starting, and idling are shown in **Attachment B, Table B-6a** and **B-6b**, along with the VMT, trips, and idling durations.

2.3.3 Water Supply, Treatment and Distribution

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute the Project's water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. Additionally, direct CH_4 and N_2O emissions result from the treatment of wastewater. Water demand and wastewater generation values were based on CalEEMod® defaults.

The water usage and associated GHG emissions are shown in **Attachment A**.

2.3.4 Energy Use

Energy usage within buildings (e.g., electricity and natural gas fueled equipment) contribute to the facility's GHG inventory. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions.

To estimate GHG emissions from the natural gas and electricity usage for the Project, Ramboll utilized CalEEMod® default assumptions, which incorporate Title 24 2019 Standards. **Table 2-5** identifies the emission factors for electricity (i.e., pounds of CO_2 per megawatt-hour delivered) used in this analysis. As illustrated in **Table 2-5**, a PG&E-specific emission factor that accounts for interpolation between the 33 percent RPS required by 2020 and 60 percent RPS required by 2030, as discussed in **Section 2.1.3**, was calculated based on 41.1 percent RPS in 2023. The Project will participate in the PG&E "Solar Choice" program, which is PG&E's program to provide 100% solar electricity to customers. Therefore, the anticipated indirect emissions from electricity are expected to be zero. The reported GHG

emissions from energy are conservative represented based on the default utility emission factor.

The annual natural gas and electricity use and corresponding GHG emissions for the Project are shown in **Attachment A**.

2.3.5 Solid Waste

Municipal solid waste (MSW) is the amount of material that is disposed of by landfilling, recycling, or composting. CalEEMod® calculates the indirect GHG emissions associated with waste that is disposed of at a landfill. The program uses annual waste disposal rates from the CalRecycle data for individual land uses. CalEEMod® uses the overall California Waste Stream composition to generate the necessary types of different waste disposed into landfills. The program quantifies the GHG emissions associated with the decomposition of the waste, which generates methane based on the total amount of degradable organic carbon. The program quantifies the CO_2 emissions associated with the combustion of methane, if applicable. Default landfill gas concentrations were used as reported in Section 2.4 of AP-42. The Intergovernmental Panel on Climate Change (IPCC) has a similar method to calculate GHG emissions from MSW in its 2006 Guidelines for National Greenhouse Gas Inventories.

Solid waste generation associated with the Project is based on default values for waste generation in CalEEMod®**.** The Project's solid waste generation and GHG emissions associated with solid waste are provided in **Attachment A.**

2.4 Total Annual Operational Emissions

As shown in **Table 2-7**, the Project emissions are projected to be 22,428 MT CO_2e per year. The total GHG emissions from Project construction are forecast to be 1,047 MT CO_2e and are summarized in **Attachment A** for construction off-road equipment and mobile trips. When amortized over a period of 30 years, the emission estimates for the Project construction become 35 MT CO_2e/yr.[14] The total GHG emissions of 22,428 MT CO2e per year includes the amortized construction emissions.

[14] This approach to one-time construction and vegetation change GHG emissions is based on the GHG Threshold Working Group Meeting #13 Minutes from August 26, 2009. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-13/ghg-meeting-13-minutes.pdf. Accessed: August 2025.

TABLES

Table 2-1. Construction Schedule
Costco Commercial Center
Fresno, California

CalEEMod® Phase Type[1]	Start Date[1]	End Date[1]	Phase Duration[2] (days)
Demolition	5/1/2023	5/8/2023	7
Site Preparation	5/1/2023	5/8/2023	7
Grading	5/9/2023	6/12/2023	30
Grading/BC Overlap	6/13/2023	7/5/2023	20
Building Construction	7/6/2023	11/10/2023	110
Paving	7/29/2023	9/13/2023	40
Architectural Coating	9/14/2023	11/10/2023	50

Notes:
[1] Construction phases and duration are based on Project-specific estimates.
[2] The construction work week was assumed to be 6 days per week.

Abbreviations:
CalEEMod® - California Emissions Estimator Model

Table 2-2. Construction Equipment
Costco Commercial Center
Fresno, California

Phase Name	Offroad Equipment Type[1]	Number of Equipment[1]	Usage Hours[2] (hours/day)	Equipment Horsepower[2] (hp)	Equipment Load Factor[2]
Demolition	Concrete/Industrial Saws	1	8	81	0.73
	Excavators	3	8	158	0.38
	Rubber Tired Dozers	2	8	247	0.4
Site Preparation	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Graders	3	8	187	0.41
	Other Construction Equipment	2	8	401	0.42
	Paving Equipment	1	8	132	0.36
	Rubber Tired Dozers	4	8	247	0.4
	Scrapers	2	8	367	0.48
	Surfacing Equipment	1	8	263	0.3
	Tractors/Loaders/Backhoes	2	8	97	0.37
Grading/BC Overlap	Excavators	3	8	158	0.38
	Rough Terrain Forklifts	2	8	100	0.4
	Rubber Tired Dozers	3	8	247	0.4
	Tractors/Loaders/Backhoes	3	8	97	0.37
Building Construction	Excavators	3	8	158	0.38
	Rough Terrain Forklifts	2	8	100	0.4
	Rubber Tired Dozers	3	8	247	0.4
	Tractors/Loaders/Backhoes	3	7	97	0.37
Paving	Rough Terrain Forklifts	1	8	100	0.4
	Rubber Tired Dozers	2	8	247	0.4
	Tractors/Loaders/Backhoes	2	8	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48

Notes:

[1] Number and type of offroad equipment for the Grading, Grading/BC Overlap, Building Construction, and Paving phases based on Project-specific data. Equipment used in the Demolition and Architectural Coating phases are based on CalEEMod® default values.

[2] Equipment usage hours, horsepower, and load factor are based on CalEEMod® defaults, with the exception of the horsepower value for "Other Construction Equipment" during the Grading phase. The "Other Construction Equipment" represents soil compactors and is based is based on project-specific data.

Abbreviations:

CalEEMod® - California Emissions Estimator Model

hp - horsepower

Table 2-3. Construction Material Movement
Costco Commercial Center
Fresno, California

Phase Name	Material Imported[1] (yd^3)	Material Exported[1] (yd^3)
Grading	60,000	0
Grading/BC Overlap	0	3,000

Notes:

[1] Soil import and export quantities based on project-specific data.

Abbreviations:

yd^3 - cubic yard

Table 2-4. Construction Demolition Assumptions
Costco Commercial Center
Fresno, California

Phase Name	Size Metric	Unit Amount[1]
Demolition/Site Prep	Tons of Debris	10

Notes:

[1] Square-footage quantity based on project-specific data.

Table 2-5. Utility GHG Emission Factor Associated with Renewable Portfolio Standard
Costco Commercial Center
Fresno, California

Energy Delivered [MWh]				
	2017	**2018**	**Average**	**Units**
CO_2 Intensity Factor per Total Energy Delivered[1]	210	206	208	lbs CO_2/MWh delivered
% of Total Energy From Renewables[2]	33.0%	38.9%	36.0%	
CO_2 Intensity Factor per Total Non-Renewable Energy[3]	314	338	325	lbs CO_2/MWh delivered

Calculated Intensity Factors for Total Energy Delivered[4]				
2020 RPS (33%)	210.4	226.2	218.0	lbs CO_2/MWh delivered
2030 RPS (60%)	125.6	135.1	130.1	lbs CO_2/MWh delivered
2023 RPS[5]	185.0	198.9	191.6	lbs CO_2/MWh delivered

Year	**Emission Factors (lb/MWh)**			
	CO_2	**CH_4**	**N_2O**	**CO_2e**
2018	208.4	0.033	0.004	210.4
2023	191.61	0.033	0.004	193.6

Notes:

[1]2017 and 2018 intensity factors per total energy delivered available at: https://www.theclimateregistry.org/our-members/cris-public-reports/. Accessed: September 2021.

[2]Percent of total energy from RPS-eligible renewables are from the PG&E 2018 and 2019 Corporate Responsibility Reports. Available at: http://www.pgecorp.com/corp_responsibility/reports/2018/assets/PGE_CRSR_2018.pdf and http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf. Accessed: September 2021.

[3] The emissions metric presented here is calculated based on the total CO_2 emissions divided by the energy delivered from non-renewable sources.

[4] The intensity factors for default RPS assumption are calculated by multiplying the percentage of energy delivered from non-renewable energy by the CO_2 emissions per total non-renewable energy metric calculated above. The emission factors presented here are 33% RPS for 2020 and 60% RPS for 2030. The estimate provided here and the PUP reports issued by PG&E assume that renewable energy sources do not result in any CO_2 emissions.

[5]The RPS percentage for the 2023 future year is interpolated from the goals of 33% RPS in 2020 and 60% RPS in 2030. Emission factors for 2023 are estimated using values from 2017 and 2018, as these were the most recent emission factors available at the time of analysis.

Abbreviations:
CO_2 - carbon dioxide
GHG - greenhouse gases
lbs - pounds
MT - metric tonnes
MWh - megawatt-hour
PG&E - Pacific Gas and Electric
PUP - Power/Utility Protocol
RPS - Renewable Portfolio Standards

GWP	
CH_4	**N_2O**
25	298

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Table 2-6. TRU Greenhouse Gas Emission Calculations
Costco Commercial Center
Fresno, California

CO_2 Emission Factor[1] (g/bhp-hr)	Number of Round Trips with TRUs[2]	Annual Average CO_2 Emissions (MT/year)
	Herndon/Riverside	Herndon/Riverside
410	712	57.5

Notes:

[1] Emission factors obtained from OFFROAD2021 emissions output for Calendar Year 2023, Transportation Refrigeration Unit - Instate Trailer and Transportation Refrigeration Unit - Out-Of-State Trailer in Fresno County.

[2] Approximately 15% of warehouse delivery trucks are equipped with TRUs.

[3] Horsepower is based on SJVAPCD Guidance for Air Dispersion Modeling, section 2.3.1 Transportation Refrigeration unit (TRU), Modeling Parameters.

[4] Load factor obtained from CARB Draft 2019 Update to Emissions Inventory for Transport Refrigeration Units, for TRUs Over 25 hp, 2013 and newer. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/cold-storage/documents/hra_emissioninventory2019.pdf. Accessed: January 2022.

[5] TRU Cycle Duration is based on 2 hours of off-site loading time plus the duration of the on-site and off-site transit. It is assumed that loading/unloading will occur while the TRU is plugged in, so no emissions are estimated for this time period. Assumptions based on Table II.G.1 of CARB Proposed Amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/appi.pdf. Accessed: May 2022.

Abbreviations:

bhp-hr - brake horsepower hour
CARB - California Air Resources Board
CO_2 - Carbon Dioxide equivalents
g - gram
MT - metric tonnes
SJVAPCD - San Joaquin Valley Air Pollution Control District
TRU - Transportation Refrigeration unit

Constants:

Horsepower [3]	50	bhp
Load Factor [4]	0.38	
TRU Cycle Duration [5]	622	minutes
Density of Diesel	3,221	g/gal

Conversion Factors:

453.592	g/lb
1000000	g/MT
60	min/hr
365	day/year
2000	lb/ton

Table 2-7. Summary of GHG Emissions
Costco Commercial Center
Fresno, California

Emissions Category[1]	GHG Emissions[2,3] (MT CO_2e/yr)
Area Sources	0.02
Energy Usage	334
Mobile[4]	21,482
Water	38
Waste Disposed	540
Operational Sub-Total	***22,393***
Construction Amortized[5]	35
Total[6]	**22,428**

Notes:

[1] One-time emissions (i.e., construction) and operational emissions were calculated using CalEEMod®. See Attachment A for details

[2] Emissions are presented as CO_2e, which include CO_2, CH_4, and N_2O emissions, weighted by their respective global warming potentials.

[3] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

[4] Total mobile emissions include emissions from on-road vehicles and TRUs. On-road mobile emissions were estimated using CalEEMod® default trip lengths, EMFAC2021 emission factors, and Project-specific vehicle trip rates provided by Kittelson & Associates, See Attachment B for details. TRU emissions were estimated using OFFROAD2021 emission factors.

[5] One-time emissions from construction were amortized over a 30-year period.

[6] Sum of annualized one-time emissions and operational emissions.

Abbreviations:

CalEEMod® - CALifornia Emissions Estimator MODel

CH_4 - methane

CO_2 - carbon dioxide

CO_2e - carbon dioxide equivalents

EMFAC - EMission FACtors model

MT - metric tonnes

TRU - Transportation Refrigeration unit

ATTACHMENT A
CALEEMOD® OUTPUT

Costco Fresno Mitigated Construction Run - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Costco Fresno Mitigated Construction Run

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	889.00	Space	15.55	355,600.00	0
Automobile Care Center	4.80	1000sqft	0.11	4,800.00	0
Discount Club	241.34	1000sqft	5.54	241,340.00	0
Gasoline/Service Station	32.00	Pump	1.33	4,517.60	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	191.61	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project-specific information (RPS Emission Factor)

Land Use - Project-specific information

Construction Phase - Project-specific information

Off-road Equipment -

Off-road Equipment - Project-specific information

Off-road Equipment -

Off-road Equipment - Project-specific information

Off-road Equipment - Project-specific information

Off-road Equipment - Project-specific information

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment -

Trips and VMT - Project-specific information

Demolition - Project-specific information

Grading - Project-specific information

Vehicle Trips - Unmitigated Construction Run

Consumer Products - Unmitigated Construction Run

Area Coating - Unmitigated Construction Run

Landscape Equipment - Unmitigated Construction Run

Energy Use - Unmitigated Construction Run

Water And Wastewater - Unmitigated Construction Run

Solid Waste - Unmitigated Construction Run

Construction Off-road Equipment Mitigation - Water 2x/day to comply with SJVAPCD Rule 8021. All construction equipment >50 hp mitigated to Tier 3 + Level 3 DPF.

Vehicle Emission Factors -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	125329	0
tblAreaCoating	Area_Nonresidential_Interior	375986	0
tblAreaCoating	Area_Parking	21336	0
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	50.00
tblConstructionPhase	NumDays	370.00	110.00
tblConstructionPhase	NumDays	20.00	7.00
tblConstructionPhase	NumDays	35.00	30.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	4/11/2025	11/10/2023
tblConstructionPhase	PhaseEndDate	2/14/2025	11/10/2023
tblConstructionPhase	PhaseEndDate	5/26/2023	5/8/2023
tblConstructionPhase	PhaseEndDate	7/28/2023	6/12/2023
tblConstructionPhase	PhaseEndDate	9/15/2023	7/5/2023
tblConstructionPhase	PhaseEndDate	3/14/2025	9/13/2023
tblConstructionPhase	PhaseEndDate	6/9/2023	5/8/2023
tblConstructionPhase	PhaseStartDate	3/15/2025	9/14/2023
tblConstructionPhase	PhaseStartDate	9/16/2023	7/6/2023
tblConstructionPhase	PhaseStartDate	6/10/2023	5/9/2023
tblConstructionPhase	PhaseStartDate	7/29/2023	6/13/2023
tblConstructionPhase	PhaseStartDate	2/15/2025	7/29/2023
tblConstructionPhase	PhaseStartDate	5/27/2023	5/1/2023
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	2.70	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	2.70	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	T24E	1.75	0.00
tblEnergyUse	T24E	1.91	0.00
tblEnergyUse	T24E	1.75	0.00
tblEnergyUse	T24NG	16.86	0.00
tblEnergyUse	T24NG	8.53	0.00
tblEnergyUse	T24NG	16.86	0.00
tblGrading	MaterialExported	0.00	3,000.00
tblGrading	MaterialImported	0.00	60,000.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LotAcreage	8.00	15.55
tblLandUse	LotAcreage	0.10	1.33
tblOffRoadEquipment	HorsePower	172.00	401.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblProjectCharacteristics	CO2IntensityFactor	203.98	191.61
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	18.34	0.00
tblSolidWaste	SolidWasteGenerationRate	1,037.93	0.00
tblSolidWaste	SolidWasteGenerationRate	17.25	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	HaulingTripNumber	1.00	2.00
tblVehicleTrips	ST_TR	23.72	0.00
tblVehicleTrips	ST_TR	53.75	0.00
tblVehicleTrips	ST_TR	182.17	0.00
tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	33.67	0.00
tblVehicleTrips	SU_TR	166.88	0.00
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	41.80	0.00
tblVehicleTrips	WD_TR	172.01	0.00
tblWater	IndoorWaterUseRate	451,589.32	0.00
tblWater	IndoorWaterUseRate	17,876,662.33	0.00
tblWater	IndoorWaterUseRate	425,020.45	0.00
tblWater	OutdoorWaterUseRate	276,780.55	0.00
tblWater	OutdoorWaterUseRate	10,956,664.01	0.00
tblWater	OutdoorWaterUseRate	260,496.40	0.00

2.0 Emissions Summary

Costco Fresno Mitigated Construction Run - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	2.2806	4.5511	3.7117	0.0113	0.9356	0.1729	1.1085	0.3872	0.1595	0.5467	0.0000	1,026.9395	1,026.9395	0.1854	0.0533	1,047.4410
Maximum	**2.2806**	**4.5511**	**3.7117**	**0.0113**	**0.9356**	**0.1729**	**1.1085**	**0.3872**	**0.1595**	**0.5467**	**0.0000**	**1,026.9395**	**1,026.9395**	**0.1854**	**0.0533**	**1,047.4410**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	2.0686	3.9074	4.6415	0.0113	0.5786	0.0294	0.6080	0.2169	0.0291	0.2459	0.0000	1,026.9388	1,026.9388	0.1854	0.0533	1,047.4403
Maximum	**2.0686**	**3.9074**	**4.6415**	**0.0113**	**0.5786**	**0.0294**	**0.6080**	**0.2169**	**0.0291**	**0.2459**	**0.0000**	**1,026.9388**	**1,026.9388**	**0.1854**	**0.0533**	**1,047.4403**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**9.30**	**14.14**	**-25.05**	**0.00**	**38.16**	**82.99**	**45.15**	**43.99**	**81.76**	**55.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Costco Fresno Mitigated Construction Run - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2023	7-31-2023	3.2883	2.7515
2	8-1-2023	9-30-2023	2.0410	1.7429
		Highest	3.2883	2.7515

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2023	5/8/2023	6	7	
2	Site Preparation	Site Preparation	5/1/2023	5/8/2023	6	7	
3	Grading	Grading	5/9/2023	6/12/2023	6	30	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Grading/BC Overlap	Grading	6/13/2023	7/5/2023	6	20	
5	Building Construction	Building Construction	7/6/2023	11/10/2023	6	110	
6	Paving	Paving	7/29/2023	9/13/2023	6	40	
7	Architectural Coating	Architectural Coating	9/14/2023	11/10/2023	6	50	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 165

Acres of Paving: 15.55

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 375,986; Non-Residential Outdoor: 125,329; Striped Parking Area: 21,336 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	3	8.00	187	0.41
Grading	Other Construction Equipment	2	8.00	401	0.42
Grading	Paving Equipment	1	8.00	132	0.36
Grading	Rubber Tired Dozers	4	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Surfacing Equipment	1	8.00	263	0.30
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading/BC Overlap	Excavators	3	8.00	158	0.38
Grading/BC Overlap	Rough Terrain Forklifts	2	8.00	100	0.40
Grading/BC Overlap	Rubber Tired Dozers	3	8.00	247	0.40
Grading/BC Overlap	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Excavators	3	8.00	158	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Rough Terrain Forklifts	2	8.00	100	0.40
Building Construction	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving	Rough Terrain Forklifts	1	8.00	100	0.40
Paving	Rubber Tired Dozers	2	8.00	247	0.40
Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	2.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	15	38.00	0.00	7,500.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading/BC Overlap	11	28.00	0.00	375.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	230.00	99.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	46.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1000e-004	0.0000	1.1000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.9400e-003	0.0752	0.0688	1.4000e-004		3.4900e-003	3.4900e-003		3.2500e-003	3.2500e-003	0.0000	11.8972	11.8972	3.3300e-003	0.0000	11.9805
Total	**7.9400e-003**	**0.0752**	**0.0688**	**1.4000e-004**	**1.1000e-004**	**3.4900e-003**	**3.6000e-003**	**2.0000e-005**	**3.2500e-003**	**3.2700e-003**	**0.0000**	**11.8972**	**11.8972**	**3.3300e-003**	**0.0000**	**11.9805**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0567	0.0567	0.0000	1.0000e-005	0.0593
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7700e-003	1.0000e-005	6.5000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5083	0.5083	1.0000e-005	1.0000e-005	0.5126
Total	**2.1000e-004**	**2.8000e-004**	**1.8000e-003**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**6.8000e-004**	**1.7000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5650**	**0.5650**	**1.0000e-005**	**2.0000e-005**	**0.5719**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2400e-003	0.0641	0.0864	1.4000e-004		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	11.8972	11.8972	3.3300e-003	0.0000	11.9805
Total	**3.2400e-003**	**0.0641**	**0.0864**	**1.4000e-004**	**5.0000e-005**	**4.5000e-004**	**5.0000e-004**	**1.0000e-005**	**4.5000e-004**	**4.6000e-004**	**0.0000**	**11.8972**	**11.8972**	**3.3300e-003**	**0.0000**	**11.9805**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0567	0.0567	0.0000	1.0000e-005	0.0593
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7700e-003	1.0000e-005	6.5000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5083	0.5083	1.0000e-005	1.0000e-005	0.5126
Total	**2.1000e-004**	**2.8000e-004**	**1.8000e-003**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**6.8000e-004**	**1.7000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5650**	**0.5650**	**1.0000e-005**	**2.0000e-005**	**0.5719**

Costco Fresno Mitigated Construction Run - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1200e-003	0.0215	0.0312	4.0000e-005		1.0600e-003	1.0600e-003		9.8000e-004	9.8000e-004	0.0000	3.8302	3.8302	1.2400e-003	0.0000	3.8612
Total	**2.1200e-003**	**0.0215**	**0.0312**	**4.0000e-005**	**0.0000**	**1.0600e-003**	**1.0600e-003**	**0.0000**	**9.8000e-004**	**9.8000e-004**	**0.0000**	**3.8302**	**3.8302**	**1.2400e-003**	**0.0000**	**3.8612**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.1800e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3389	0.3389	1.0000e-005	1.0000e-005	0.3417
Total	**1.4000e-004**	**1.0000e-004**	**1.1800e-003**	**0.0000**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3389**	**0.3389**	**1.0000e-005**	**1.0000e-005**	**0.3417**

Costco Fresno Mitigated Construction Run - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0600e-003	0.0243	0.0328	4.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.8302	3.8302	1.2400e-003	0.0000	3.8612
Total	**1.0600e-003**	**0.0243**	**0.0328**	**4.0000e-005**	**0.0000**	**2.6000e-004**	**2.6000e-004**	**0.0000**	**2.6000e-004**	**2.6000e-004**	**0.0000**	**3.8302**	**3.8302**	**1.2400e-003**	**0.0000**	**3.8612**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.1800e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3389	0.3389	1.0000e-005	1.0000e-005	0.3417
Total	**1.4000e-004**	**1.0000e-004**	**1.1800e-003**	**0.0000**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3389**	**0.3389**	**1.0000e-005**	**1.0000e-005**	**0.3417**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4522	0.0000	0.4522	0.2086	0.0000	0.2086	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1079	1.1479	0.7006	1.9600e-003		0.0465	0.0465		0.0428	0.0428	0.0000	172.1647	172.1647	0.0557	0.0000	173.5567
Total	**0.1079**	**1.1479**	**0.7006**	**1.9600e-003**	**0.4522**	**0.0465**	**0.4987**	**0.2086**	**0.0428**	**0.2514**	**0.0000**	**172.1647**	**172.1647**	**0.0557**	**0.0000**	**173.5567**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-003	0.4693	0.0990	2.2100e-003	0.0642	4.4300e-003	0.0686	0.0177	4.2400e-003	0.0219	0.0000	212.4374	212.4374	1.3900e-003	0.0334	222.4289
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-003	1.6100e-003	0.0192	6.0000e-005	7.0900e-003	3.0000e-005	7.1200e-003	1.8800e-003	3.0000e-005	1.9100e-003	0.0000	5.5190	5.5190	1.3000e-004	1.4000e-004	5.5650
Total	**0.0103**	**0.4709**	**0.1182**	**2.2700e-003**	**0.0713**	**4.4600e-003**	**0.0757**	**0.0195**	**4.2700e-003**	**0.0238**	**0.0000**	**217.9564**	**217.9564**	**1.5200e-003**	**0.0336**	**227.9939**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2035	0.0000	0.2035	0.0939	0.0000	0.0939	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0480	0.9363	1.0751	1.9600e-003		5.6200e-003	5.6200e-003		5.6200e-003	5.6200e-003	0.0000	172.1645	172.1645	0.0557	0.0000	173.5565
Total	**0.0480**	**0.9363**	**1.0751**	**1.9600e-003**	**0.2035**	**5.6200e-003**	**0.2091**	**0.0939**	**5.6200e-003**	**0.0995**	**0.0000**	**172.1645**	**172.1645**	**0.0557**	**0.0000**	**173.5565**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-003	0.4693	0.0990	2.2100e-003	0.0642	4.4300e-003	0.0686	0.0177	4.2400e-003	0.0219	0.0000	212.4374	212.4374	1.3900e-003	0.0334	222.4289
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-003	1.6100e-003	0.0192	6.0000e-005	7.0900e-003	3.0000e-005	7.1200e-003	1.8800e-003	3.0000e-005	1.9100e-003	0.0000	5.5190	5.5190	1.3000e-004	1.4000e-004	5.5650
Total	**0.0103**	**0.4709**	**0.1182**	**2.2700e-003**	**0.0713**	**4.4600e-003**	**0.0757**	**0.0195**	**4.2700e-003**	**0.0238**	**0.0000**	**217.9564**	**217.9564**	**1.5200e-003**	**0.0336**	**227.9939**

Costco Fresno Mitigated Construction Run - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Grading/BC Overlap - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1967	0.0000	0.1967	0.1011	0.0000	0.1011	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0329	0.3343	0.3036	5.7000e-004		0.0151	0.0151		0.0139	0.0139	0.0000	50.3819	50.3819	0.0163	0.0000	50.7893
Total	**0.0329**	**0.3343**	**0.3036**	**5.7000e-004**	**0.1967**	**0.0151**	**0.2118**	**0.1011**	**0.0139**	**0.1149**	**0.0000**	**50.3819**	**50.3819**	**0.0163**	**0.0000**	**50.7893**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-004	0.0235	4.9500e-003	1.1000e-004	3.2100e-003	2.2000e-004	3.4300e-003	8.8000e-004	2.1000e-004	1.0900e-003	0.0000	10.6219	10.6219	7.0000e-005	1.6700e-003	11.1215
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1300e-003	7.9000e-004	9.4400e-003	3.0000e-005	3.4800e-003	2.0000e-005	3.5000e-003	9.2000e-004	1.0000e-005	9.4000e-004	0.0000	2.7111	2.7111	6.0000e-005	7.0000e-005	2.7337
Total	**1.5300e-003**	**0.0243**	**0.0144**	**1.4000e-004**	**6.6900e-003**	**2.4000e-004**	**6.9300e-003**	**1.8000e-003**	**2.2000e-004**	**2.0300e-003**	**0.0000**	**13.3329**	**13.3329**	**1.3000e-004**	**1.7400e-003**	**13.8551**

Costco Fresno Mitigated Construction Run - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Grading/BC Overlap - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0885	0.0000	0.0885	0.0455	0.0000	0.0455	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0141	0.2857	0.3759	5.7000e-004		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	50.3819	50.3819	0.0163	0.0000	50.7892
Total	**0.0141**	**0.2857**	**0.3759**	**5.7000e-004**	**0.0885**	**2.1800e-003**	**0.0907**	**0.0455**	**2.1800e-003**	**0.0477**	**0.0000**	**50.3819**	**50.3819**	**0.0163**	**0.0000**	**50.7892**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-004	0.0235	4.9500e-003	1.1000e-004	3.2100e-003	2.2000e-004	3.4300e-003	8.8000e-004	2.1000e-004	1.0900e-003	0.0000	10.6219	10.6219	7.0000e-005	1.6700e-003	11.1215
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1300e-003	7.9000e-004	9.4400e-003	3.0000e-005	3.4800e-003	2.0000e-005	3.5000e-003	9.2000e-004	1.0000e-005	9.4000e-004	0.0000	2.7111	2.7111	6.0000e-005	7.0000e-005	2.7337
Total	**1.5300e-003**	**0.0243**	**0.0144**	**1.4000e-004**	**6.6900e-003**	**2.4000e-004**	**6.9300e-003**	**1.8000e-003**	**2.2000e-004**	**2.0300e-003**	**0.0000**	**13.3329**	**13.3329**	**1.3000e-004**	**1.7400e-003**	**13.8551**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1776	1.8072	1.6238	3.0900e-003		0.0814	0.0814		0.0748	0.0748	0.0000	271.4578	271.4578	0.0878	0.0000	273.6527
Total	**0.1776**	**1.8072**	**1.6238**	**3.0900e-003**		**0.0814**	**0.0814**		**0.0748**	**0.0748**	**0.0000**	**271.4578**	**271.4578**	**0.0878**	**0.0000**	**273.6527**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6200e-003	0.2227	0.0698	1.0000e-003	0.0327	1.3900e-003	0.0340	9.4400e-003	1.3300e-003	0.0108	0.0000	95.4877	95.4877	5.3000e-004	0.0144	99.7859
Worker	0.0511	0.0357	0.4263	1.3400e-003	0.1573	7.3000e-004	0.1580	0.0418	6.7000e-004	0.0425	0.0000	122.4820	122.4820	2.9000e-003	3.1900e-003	123.5038
Total	**0.0567**	**0.2584**	**0.4961**	**2.3400e-003**	**0.1899**	**2.1200e-003**	**0.1920**	**0.0512**	**2.0000e-003**	**0.0532**	**0.0000**	**217.9697**	**217.9697**	**3.4300e-003**	**0.0176**	**223.2896**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0758	1.5354	2.0193	3.0900e-003		0.0116	0.0116		0.0116	0.0116	0.0000	271.4575	271.4575	0.0878	0.0000	273.6524
Total	**0.0758**	**1.5354**	**2.0193**	**3.0900e-003**		**0.0116**	**0.0116**		**0.0116**	**0.0116**	**0.0000**	**271.4575**	**271.4575**	**0.0878**	**0.0000**	**273.6524**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6200e-003	0.2227	0.0698	1.0000e-003	0.0327	1.3900e-003	0.0340	9.4400e-003	1.3300e-003	0.0108	0.0000	95.4877	95.4877	5.3000e-004	0.0144	99.7859
Worker	0.0511	0.0357	0.4263	1.3400e-003	0.1573	7.3000e-004	0.1580	0.0418	6.7000e-004	0.0425	0.0000	122.4820	122.4820	2.9000e-003	3.1900e-003	123.5038
Total	**0.0567**	**0.2584**	**0.4961**	**2.3400e-003**	**0.1899**	**2.1200e-003**	**0.1920**	**0.0512**	**2.0000e-003**	**0.0532**	**0.0000**	**217.9697**	**217.9697**	**3.4300e-003**	**0.0176**	**223.2896**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0356	0.3745	0.2593	5.4000e-004		0.0168	0.0168		0.0154	0.0154	0.0000	47.0096	47.0096	0.0152	0.0000	47.3896
Paving	0.0204					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0559**	**0.3745**	**0.2593**	**5.4000e-004**		**0.0168**	**0.0168**		**0.0154**	**0.0154**	**0.0000**	**47.0096**	**47.0096**	**0.0152**	**0.0000**	**47.3896**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.3000e-004	8.7600e-003	3.0000e-005	3.2300e-003	1.0000e-005	3.2500e-003	8.6000e-004	1.0000e-005	8.7000e-004	0.0000	2.5174	2.5174	6.0000e-005	7.0000e-005	2.5384
Total	**1.0500e-003**	**7.3000e-004**	**8.7600e-003**	**3.0000e-005**	**3.2300e-003**	**1.0000e-005**	**3.2500e-003**	**8.6000e-004**	**1.0000e-005**	**8.7000e-004**	**0.0000**	**2.5174**	**2.5174**	**6.0000e-005**	**7.0000e-005**	**2.5384**

Costco Fresno Mitigated Construction Run - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0131	0.2697	0.3271	5.4000e-004		2.0600e-003	2.0600e-003		2.0600e-003	2.0600e-003	0.0000	47.0095	47.0095	0.0152	0.0000	47.3896
Paving	0.0204					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0335**	**0.2697**	**0.3271**	**5.4000e-004**		**2.0600e-003**	**2.0600e-003**		**2.0600e-003**	**2.0600e-003**	**0.0000**	**47.0095**	**47.0095**	**0.0152**	**0.0000**	**47.3896**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.3000e-004	8.7600e-003	3.0000e-005	3.2300e-003	1.0000e-005	3.2500e-003	8.6000e-004	1.0000e-005	8.7000e-004	0.0000	2.5174	2.5174	6.0000e-005	7.0000e-005	2.5384
Total	**1.0500e-003**	**7.3000e-004**	**8.7600e-003**	**3.0000e-005**	**3.2300e-003**	**1.0000e-005**	**3.2500e-003**	**8.6000e-004**	**1.0000e-005**	**8.7000e-004**	**0.0000**	**2.5174**	**2.5174**	**6.0000e-005**	**7.0000e-005**	**2.5384**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.8169					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7900e-003	0.0326	0.0453	7.0000e-005		1.7700e-003	1.7700e-003		1.7700e-003	1.7700e-003	0.0000	6.3831	6.3831	3.8000e-004	0.0000	6.3927
Total	**1.8217**	**0.0326**	**0.0453**	**7.0000e-005**		**1.7700e-003**	**1.7700e-003**		**1.7700e-003**	**1.7700e-003**	**0.0000**	**6.3831**	**6.3831**	**3.8000e-004**	**0.0000**	**6.3927**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6500e-003	3.2500e-003	0.0388	1.2000e-004	0.0143	7.0000e-005	0.0144	3.8000e-003	6.0000e-005	3.8600e-003	0.0000	11.1347	11.1347	2.6000e-004	2.9000e-004	11.2276
Total	**4.6500e-003**	**3.2500e-003**	**0.0388**	**1.2000e-004**	**0.0143**	**7.0000e-005**	**0.0144**	**3.8000e-003**	**6.0000e-005**	**3.8600e-003**	**0.0000**	**11.1347**	**11.1347**	**2.6000e-004**	**2.9000e-004**	**11.2276**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.8169					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4900e-003	0.0339	0.0458	7.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	6.3831	6.3831	3.8000e-004	0.0000	6.3927
Total	**1.8184**	**0.0339**	**0.0458**	**7.0000e-005**		**3.6000e-004**	**3.6000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**6.3831**	**6.3831**	**3.8000e-004**	**0.0000**	**6.3927**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6500e-003	3.2500e-003	0.0388	1.2000e-004	0.0143	7.0000e-005	0.0144	3.8000e-003	6.0000e-005	3.8600e-003	0.0000	11.1347	11.1347	2.6000e-004	2.9000e-004	11.2276
Total	**4.6500e-003**	**3.2500e-003**	**0.0388**	**1.2000e-004**	**0.0143**	**7.0000e-005**	**0.0144**	**3.8000e-003**	**6.0000e-005**	**3.8600e-003**	**0.0000**	**11.1347**	**11.1347**	**2.6000e-004**	**2.9000e-004**	**11.2276**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
Discount Club	0.00	0.00	0.00		
Gasoline/Service Station	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	14.70	6.60	6.60	33.00	48.00	19.00	21	51	28
Discount Club	14.70	6.60	6.60	16.70	64.30	19.00	45	40	15
Gasoline/Service Station	14.70	6.60	6.60	2.00	79.00	19.00	14	27	59

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.510058	0.053037	0.175964	0.161396	0.026773	0.007006	0.013819	0.022114	0.000717	0.000291	0.024206	0.001529	0.003090
Discount Club	0.510058	0.053037	0.175964	0.161396	0.026773	0.007006	0.013819	0.022114	0.000717	0.000291	0.024206	0.001529	0.003090
Gasoline/Service Station	0.510058	0.053037	0.175964	0.161396	0.026773	0.007006	0.013819	0.022114	0.000717	0.000291	0.024206	0.001529	0.003090
Parking Lot	0.510058	0.053037	0.175964	0.161396	0.026773	0.007006	0.013819	0.022114	0.000717	0.000291	0.024206	0.001529	0.003090

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Costco Fresno Mitigated Construction Run - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Discount Club	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Costco Fresno Mitigated Construction Run - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Discount Club	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000
Discount Club	0	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000
Discount Club	0	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Costco Fresno Mitigated Construction Run - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Discount Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Discount Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000
Discount Club	0	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000
Discount Club	0	0.0000	0.0000	0.0000	0.0000
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number

11.0 Vegetation

Costco Fresno (Project) Operation - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Costco Fresno (Project) Operation

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	889.00	Space	8.00	355,600.00	0
Automobile Care Center	4.80	1000sqft	0.11	4,800.00	0
Discount Club	241.34	1000sqft	5.54	241,340.00	0
Gasoline/Service Station	32.00	Pump	0.10	4,517.60	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	191.61	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project-specific values (RPS emission factor)

Land Use - Project-specific values

Construction Phase - Operational run

Off-road Equipment - Operational run

Vehicle Trips - Project-specific values, mobile emissions calculated seperately

Consumer Products - Updated emission factor for consumer products to refine the VOC emissions based on recent CARB regulations.

Table Name	Column Name	Default Value	New Value
tblConsumerProducts	ROG_EF	2.14E-05	1.62E-05

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	203.98	191.61
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	23.72	0.00
tblVehicleTrips	ST_TR	53.75	0.00
tblVehicleTrips	ST_TR	182.17	0.00
tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	33.67	0.00
tblVehicleTrips	SU_TR	166.88	0.00
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	41.80	0.00
tblVehicleTrips	WD_TR	172.01	0.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9467	1.0000e-004	0.0107	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0209	0.0209	5.0000e-005	0.0000	0.0222
Energy	0.0149	0.1350	0.1134	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	330.8528	330.8528	0.0345	6.5300e-003	333.6620
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	217.9149	0.0000	217.9149	12.8784	0.0000	539.8748
Water						0.0000	0.0000		0.0000	0.0000	5.9496	12.3158	18.2653	0.6132	0.0147	37.9717
Total	**0.9616**	**0.1351**	**0.1241**	**8.1000e-004**	**0.0000**	**0.0103**	**0.0103**	**0.0000**	**0.0103**	**0.0103**	**223.8644**	**343.1895**	**567.0539**	**13.5261**	**0.0212**	**911.5307**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9467	1.0000e-004	0.0107	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0209	0.0209	5.0000e-005	0.0000	0.0222
Energy	0.0149	0.1350	0.1134	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	330.8528	330.8528	0.0345	6.5300e-003	333.6620
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	217.9149	0.0000	217.9149	12.8784	0.0000	539.8748
Water						0.0000	0.0000		0.0000	0.0000	5.9496	12.3158	18.2653	0.6132	0.0147	37.9717
Total	**0.9616**	**0.1351**	**0.1241**	**8.1000e-004**	**0.0000**	**0.0103**	**0.0103**	**0.0000**	**0.0103**	**0.0103**	**223.8644**	**343.1895**	**567.0539**	**13.5261**	**0.0212**	**911.5307**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2023	4/30/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 8

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
Discount Club	0.00	0.00	0.00		
Gasoline/Service Station	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	14.70	6.60	6.60	33.00	48.00	19.00	21	51	28
Discount Club	14.70	6.60	6.60	16.70	64.30	19.00	45	40	15
Gasoline/Service Station	14.70	6.60	6.60	2.00	79.00	19.00	14	27	59
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.510058	0.053037	0.175964	0.161396	0.026773	0.007006	0.013819	0.022114	0.000717	0.000291	0.024206	0.001529	0.003090
Discount Club	0.510058	0.053037	0.175964	0.161396	0.026773	0.007006	0.013819	0.022114	0.000717	0.000291	0.024206	0.001529	0.003090
Gasoline/Service Station	0.510058	0.053037	0.175964	0.161396	0.026773	0.007006	0.013819	0.022114	0.000717	0.000291	0.024206	0.001529	0.003090
Parking Lot	0.510058	0.053037	0.175964	0.161396	0.026773	0.007006	0.013819	0.022114	0.000717	0.000291	0.024206	0.001529	0.003090

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	183.9160	183.9160	0.0317	3.8400e-003	185.8520
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	183.9160	183.9160	0.0317	3.8400e-003	185.8520
NaturalGas Mitigated	0.0149	0.1350	0.1134	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	146.9368	146.9368	2.8200e-003	2.6900e-003	147.8100
NaturalGas Unmitigated	0.0149	0.1350	0.1134	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	146.9368	146.9368	2.8200e-003	2.6900e-003	147.8100

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	99360	5.4000e-004	4.8700e-003	4.0900e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.3022	5.3022	1.0000e-004	1.0000e-004	5.3337
Discount Club	2.56062e+006	0.0138	0.1255	0.1054	7.5000e-004		9.5400e-003	9.5400e-003		9.5400e-003	9.5400e-003	0.0000	136.6443	136.6443	2.6200e-003	2.5100e-003	137.4563
Gasoline/Service Station	93514.3	5.0000e-004	4.5800e-003	3.8500e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	4.9903	4.9903	1.0000e-004	9.0000e-005	5.0199
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0149**	**0.1350**	**0.1134**	**8.1000e-004**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**146.9368**	**146.9368**	**2.8200e-003**	**2.7000e-003**	**147.8100**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	99360	5.4000e-004	4.8700e-003	4.0900e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.3022	5.3022	1.0000e-004	1.0000e-004	5.3337
Discount Club	2.56062e+006	0.0138	0.1255	0.1054	7.5000e-004		9.5400e-003	9.5400e-003		9.5400e-003	9.5400e-003	0.0000	136.6443	136.6443	2.6200e-003	2.5100e-003	137.4563
Gasoline/Service Station	93514.3	5.0000e-004	4.5800e-003	3.8500e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	4.9903	4.9903	1.0000e-004	9.0000e-005	5.0199
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0149**	**0.1350**	**0.1134**	**8.1000e-004**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**146.9368**	**146.9368**	**2.8200e-003**	**2.7000e-003**	**147.8100**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	41328	3.5919	6.2000e-004	7.0000e-005	3.6297
Discount Club	1.91141e+006	166.1263	0.0286	3.4700e-003	167.8751
Gasoline/Service Station	38896.5	3.3806	5.8000e-004	7.0000e-005	3.4162
Parking Lot	124460	10.8172	1.8600e-003	2.3000e-004	10.9310
Total		**183.9160**	**0.0317**	**3.8400e-003**	**185.8520**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	41328	3.5919	6.2000e-004	7.0000e-005	3.6297
Discount Club	1.91141e+006	166.1263	0.0286	3.4700e-003	167.8751
Gasoline/Service Station	38896.5	3.3806	5.8000e-004	7.0000e-005	3.4162
Parking Lot	124460	10.8172	1.8600e-003	2.3000e-004	10.9310
Total		**183.9160**	**0.0317**	**3.8400e-003**	**185.8520**

6.0 Area Detail

6.1 Mitigation Measures Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9467	1.0000e-004	0.0107	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0209	0.0209	5.0000e-005	0.0000	0.0222
Unmitigated	0.9467	1.0000e-004	0.0107	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0209	0.0209	5.0000e-005	0.0000	0.0222

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1817					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7641					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.9000e-004	1.0000e-004	0.0107	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0209	0.0209	5.0000e-005	0.0000	0.0222
Total	**0.9467**	**1.0000e-004**	**0.0107**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0209**	**0.0209**	**5.0000e-005**	**0.0000**	**0.0222**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1817					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7641					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.9000e-004	1.0000e-004	0.0107	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0209	0.0209	5.0000e-005	0.0000	0.0222
Total	**0.9467**	**1.0000e-004**	**0.0107**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0209**	**0.0209**	**5.0000e-005**	**0.0000**	**0.0222**

7.0 Water Detail

7.1 Mitigation Measures Water

Costco Fresno (Project) Operation - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	18.2653	0.6132	0.0147	37.9717
Unmitigated	18.2653	0.6132	0.0147	37.9717

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.451589 / 0.276781	0.4398	0.0148	3.5000e-004	0.9144
Discount Club	17.8767 / 10.9567	17.4115	0.5845	0.0140	36.1967
Gasoline/Service Station	0.42502 / 0.260496	0.4140	0.0139	3.3000e-004	0.8606
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**18.2653**	**0.6132**	**0.0147**	**37.9717**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.451589 / 0.276781	0.4398	0.0148	3.5000e-004	0.9144
Discount Club	17.8767 / 10.9567	17.4115	0.5845	0.0140	36.1967
Gasoline/Service Station	0.42502 / 0.260496	0.4140	0.0139	3.3000e-004	0.8606
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**18.2653**	**0.6132**	**0.0147**	**37.9717**

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	217.9149	12.8784	0.0000	539.8748
Unmitigated	217.9149	12.8784	0.0000	539.8748

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	18.34	3.7229	0.2200	0.0000	9.2232
Discount Club	1037.93	210.6904	12.4515	0.0000	521.9766
Gasoline/Service Station	17.25	3.5016	0.2069	0.0000	8.6751
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**217.9149**	**12.8784**	**0.0000**	**539.8748**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	18.34	3.7229	0.2200	0.0000	9.2232
Discount Club	1037.93	210.6904	12.4515	0.0000	521.9766
Gasoline/Service Station	17.25	3.5016	0.2069	0.0000	8.6751
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**217.9149**	**12.8784**	**0.0000**	**539.8748**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number

11.0 Vegetation

ATTACHMENT B
OPERATIONAL MOBILE SOURCE EMISSIONS CALCULATIONS

Table B-1a. Trip Lengths and Vehicle Miles Traveled by Operational Mobile Sources (Herndon/Riverside)
Costco Commercial Center
Fresno, California

Trip Type		Average One-Way Trip Length[1,2]	Peak Daily Trips (one-way trips/day)[3]	Peak Daily VMT[4]	Annual Average Trips (one-way trips/yr)	Annual Average VMT
Member Vehicles	Primary	17.3	10,046	173,528	3,666,790	63,337,720
	Diverted	1.0	4,038	4,119	1,473,870	1,503,435
	Pass-By	0.1	3,788	379	1,382,620	138,262
Warehouse, Fuel Station, and Car Wash Employee Vehicles	Primary	30.7	300	9,210	109,500	3,361,650
MDO Driver and Warehouse Employee Vehicles	Primary	30.7	136	4,175	49,640	1,523,875
MDO Delivery Trucks	Primary	81.5	20	1,630	7,300	594,950
Fuel Delivery Trucks	Primary	125.0	14	1,750	5,110	638,750
Warehouse Delivery Trucks	Primary	125.0	26	3,250	9,490	1,186,250

Notes:

[1] Average trip lengths for primary and diverted trip types are based on Project-specific data provided by Kittelson & Associates. Pass-by trip length for member vehicles is assumed to be equal to the CalEEMod® default trip length of 0.1 miles.

[2] Average trip length for MDO delivery trucks provided by Costco. The average routed round trip length for Fresno MDO delivery trucks is 163 miles.

[3] Peak daily trips are based on Project-specific data provided by Kittelson & Associates.

[4] Peak daily VMT based on Project-specific data provided by Kittelson & Associates or estimated as a product of average trip length and number of trips presented in this table.

Abbreviations:

CalEEMod® - CALifornia Emissions Estimator MODel
MDO - market delivery operation
VMT - vehicle miles traveled

Table B-1b. Trip Lengths and Vehicle Miles Traveled by Operational Mobile Sources (4500 W. Shaw Avenue)
Costco Commercial Center
Fresno, California

Trip Type		Peak Daily Trips (one-way trips/day)[1]	Peak Daily VMT[2]	Annual Average Trips (one-way trips/yr)	Annual Average VMT
Passenger Vehicles	Primary	1,363	58,264	497,495	21,266,360
	Pass-by	48	0	17,520	0
	Diverted	2,099	3,442	766,135	1,256,330

Notes:

[1] Peak daily trips are based on Project-specific data provided by Kittelson & Associates.

[2] Peak daily VMT based on Project-specific data provided by Kittelson & Associates or estimated as a product of average trip length and number of trips presented in this table.

Abbreviations:

CalEEMod® - CALifornia Emissions Estimator MODel

MDO - market delivery operation

VMT - vehicle miles traveled

Table B-2. Operational Mobile Source Fleet Mixes
Costco Commercial Center
Fresno, California

Vehicle Category	Fuel Type	Fleet Mix CalEEMod® Default[1]	EMFAC VMT Output[2] (miles/day)	Employee Vehicle Fleet Mix[3]	Member Vehicle Fleet Mix[4]
LDA	Gas	51.0%	12,057,533	52.8%	55.0%
	Phe		351,337	1.54%	1.6%
	Elec		514,390	2.25%	0%
	Dsl		22,675	0.10%	0%
LDT1	Gas	5.3%	1,013,826	5.88%	5.9%
	Phe		1,027	0.01%	0.0%
	Elec		1,049	0.01%	0%
	Dsl		250	0.00%	0%
LDT2	Gas	17.6%	5,488,159	19.29%	19.4%
	Phe		39,774	0.14%	0.1%
	Elec		17,710	0.06%	0%
	Dsl		14,595	0.05%	0%
MDV	Gas	16.1%	4,629,686	17.47%	17.8%
	Phe		29,118	0.11%	0.1%
	Elec		19,405	0.07%	0%
	Dsl		71,606	0.27%	0%
LHD1	All	2.7%	--	--	--
LHD2	All	0.7%	--	--	--
MHD	All	1.4%	--	--	--
HHDT	All	2.2%	--	--	--
OBUS	All	0.1%	--	--	--
UBUS	All	0.0%	--	--	--
MCY	All	2.4%	--	--	--
SBUS	All	0.2%	--	--	--
MH	All	0.3%	--	--	--

Notes:

[1] CalEEMod® default for Fresno County calendar year 2023.

[2] Data obtained from EMFAC2021 for default emissions activity.

[3] Fleet mix for employee vehicles estimated based on the ratio of the vehicle classes in CalEEMod® default fleet mix and the EMFAC2021 VMT output.

[4] Fleet mix for member vehicles visiting the Costco Gas Station are estimated based on the ratio of the vehicle classes in CalEEMod® default fleet mix and the EMFAC2021 VMT output. Vehicles are assumed to be gasoline or plug-in hybrid.

Abbreviations:

CalEEMod® - CALifornia Emissions Estimator MODel
EMFAC - EMission FACtors model
HHDT - Heavy heavy-duty truck
LDA - light duty automobiles
LDT - light-duty trucks
LHD - light heavy-duty trucks
MCY - motorcycles
MDV - medium-duty vehicle
MH - motor homes
MHD - medium heavy-duty trucks
OBUS - other buses
SBUS - school buses
UBUS - urban buses
VMT - vehicle miles traveled

Table B-3. Operational Mobile Source GHG Emission Factors - Running Exhaust
Costco Commercial Center
Fresno, California

EMFAC Vehicle Class	Fuel	EMFAC VMT Output[1] (miles/day)	EMFAC Emissions Output[1]		
			CO_2	N_2O	CH_4
Passenger Vehicles					
LDA	Gas	12,057,533	3,843	0.06	0.03
LDA	Phe	351,337	53	0.00	0.00
LDA	Elec	514,390	0	0.00	0.00
LDA	Dsl	22,675	6	0.00	0.00
LDT1	Gas	1,013,826	388	0.01	0.01
LDT1	Phe	1,027	0	0.00	0.00
LDT1	Elec	1,049	0	0.00	0.00
LDT1	Dsl	250	0	0.00	0.00
LDT2	Gas	5,488,159	2,188	0.04	0.02
LDT2	Phe	39,774	6	0.00	0.00
LDT2	Elec	17,710	0	0.00	0.00
LDT2	Dsl	14,595	5	0.00	0.00
MDV	Gas	4,629,686	2,265	0.05	0.02
MDV	Phe	29,118	4	0.00	0.00
MDV	Elec	19,405	0	0.00	0.00
MDV	Dsl	71,606	32	0.01	0.00
Delivery Trucks[2]					
HHDT	Dsl	2,030,441	3,590	0.57	0.00

EMFAC Vehicle Class	Fuel	Running Exhaust Emission Factors[3] (grams/mile)		
		CO_2	N_2O	CH_4
Passenger Vehicles				
LDA	Gas	289	0.005	0.002
LDA	Phe	136	0.001	0.000
LDA	Elec	0	0.000	0.000
LDA	Dsl	231	0.036	0.001
LDT1	Gas	347	0.013	0.009
LDT1	Phe	124	0.001	0.000
LDT1	Elec	0	0.000	0.000
LDT1	Dsl	401	0.063	0.012
LDT2	Gas	362	0.007	0.003
LDT2	Phe	129	0.001	0.000
LDT2	Elec	0	0.000	0.000
LDT2	Dsl	307	0.048	0.001
MDV	Gas	444	0.009	0.005
MDV	Phe	136	0.001	0.000
MDV	Elec	0	0.000	0.000
MDV	Dsl	412	0.065	0.001

Table B-3. Operational Mobile Source GHG Emission Factors - Running Exhaust
Costco Commercial Center
Fresno, California

EMFAC Vehicle Class	Fuel	Running Exhaust Emission Factors[3] (grams/mile)		
		CO_2	N_2O	CH_4
Member Vehicle Emission Factor[4]		**331**	**0.006**	**0.003**
Employee Vehicle Emission Factor[4]		**324**	**0.006**	**0.003**
Delivery Trucks[2]				
HHDT	Dsl	1604.00	0.25	0.00

Notes:

[1] Data obtained from EMFAC2021 for default emissions activity.

[2] Delivery trucks are assumed to be diesel-fueled.

[3] Emission factors for EMFAC vehicle classes are estimated as a ratio of the EMFAC emissions output and EMFAC VMT output.

[4] Emission factors for EMFAC vehicle classes are weighted based on the project-specific fleet mix in Table B-2 to estimate trip-based emission factors for passenger vehicles.

Abbreviations:

CH_4 - methane
CO_2 - carbon dioxide
Dsl - Diesel
Elec - Electric
EMFAC - EMission FACtors model
LDA - Light Duty Automobile
LDT - Light-Duty Truck
HHDT - Heavy-Heavy Duty truck
MDV - medium-duty vehicle
N_2O - nitrous oxide
Phe - Plug-in hybrid
VMT - vehicle miles traveled

Conversion Factor:

907184.74 grams per ton

Table B-4. Operational Mobile Source GHG Emission Factors - Starting Exhaust
Costco Commercial Center
Fresno, California

EMFAC Vehicle Class	Fuel	EMFAC Vehicle Trips Output[1] (trips/day)	EMFAC Emissions Output[1] (tons/day)		
			CO_2	N_2O	CH_4
Passenger Vehicles					
LDA	Gas	1,459,129	115.4	0.1	0.119
LDA	Phe	31,224	2.29	0.0	0.001
LDA	Elec	56,838	0	0	0
LDA	Dsl	3,207	0	0	0
LDT1	Gas	135,565	13.9	0.0	0.021
LDT1	Phe	83	0.0066	0.000	0.0
LDT1	Elec	118	0	0	0
LDT1	Dsl	62	0	0	0
LDT2	Gas	657,946	66.5	0.0	0.067
LDT2	Phe	3,337	0.290	0.0	0.000
LDT2	Elec	2,516	0	0	0
LDT2	Dsl	1,661	0	0	0
MDV	Gas	598,810	75.1	0.0	0.081
MDV	Phe	2,568	0.3	0.0	0.000
MDV	Elec	2,761	0	0	0
MDV	Dsl	8,640	0	0	0
Delivery Trucks[2]					
HHDT	Dsl	237,288	0.0	0.0	0.0

Vehicle Class	Fuel	Starting Exhaust Emission Factors[3] (grams/trip)		
		CO_2	N_2O	CH_4
Passenger Vehicles				
LDA	Gas	71.73	0.03	0.0742
LDA	Phe	66.44	0.02	0.0416
LDA	Elec	0	0	0
LDA	Dsl	0	0	0
LDT1	Gas	93.34	0.04	0.1408
LDT1	Phe	72.34	0.02	0.0416
LDT1	Elec	0	0	0
LDT1	Dsl	0	0	0
LDT2	Gas	91.64	0.04	0.0925
LDT2	Phe	78.85	0.02	0.0416
LDT2	Elec	0	0	0
LDT2	Dsl	0	0	0
MDV	Gas	113.71	0.05	0.1229
MDV	Phe	99.36	0.02	0.0416
MDV	Elec	0	0	0
MDV	Dsl	0	0	0
Member Vehicle Weighted Emission Factor[4]		**84**	**0.038**	**0.090**
Employee Vehicle Weighted Emission Factor[4]		**82**	**0.037**	**0.087**

Table B-4. Operational Mobile Source GHG Emission Factors - Starting Exhaust
Costco Commercial Center
Fresno, California

Vehicle Class	Fuel	Starting Exhaust Emission Factors[3] (grams/trip)		
		CO_2	N_2O	CH_4
Delivery Trucks[2]				
HHDT	Dsl	0.0	0.0	0.0

Notes:

[1] Data obtained from EMFAC2021 for default emissions activity.

[2] Delivery trucks are assumed to be diesel-fueled.

[3] Emission factors for EMFAC vehicle classes are estimated as a ratio of the EMFAC emissions output and EMFAC VMT output.

[4] Emission factors for EMFAC vehicle classes are weighted based on the project-specific fleet mix in Table B-2 to estimate trip-based emission factors for passenger vehicles.

Abbreviations:

CH_4 - methane
CO_2 - carbon dioxide
Dsl - Diesel
Elec - Electric
EMFAC - EMission FACtors model
LDA - Light Duty Automobile
LDT - Light-Duty Truck
HHDT - Heavy-Heavy Duty truck
MDV - medium-duty vehicle
N_2O - nitrous oxide
Phe - Plug-in hybrid
VMT - vehicle miles traveled

Conversion Factor:

907184.74 grams per ton

Table B-5. Operational Mobile Source GHG Emission Factors - Idling Exhaust
Costco Commercial Center
Fresno, California

EMFAC Vehicle Class	Fuel	Idling Emission Factors[1] (grams/idle-minute)		
		CO_2	N_2O	CH_4
Passenger Vehicles				
LDA	Gas	27.7	0	0.0007
LDA	Phe	17.1	0	0.0002
LDA	Elec	0.0	0	0.0000
LDA	Dsl	25.1	0	0.0006
LDT1	Gas	33.2	0	0.0023
LDT1	Phe	15.5	0	0.0002
LDT1	Elec	0.0	0	0.0000
LDT1	Dsl	43.0	0	0.0023
LDT2	Gas	34.9	0	0.0009
LDT2	Phe	16.1	0	0.0002
LDT2	Elec	0.0	0	0.0000
LDT2	Dsl	32.9	0	0.0005
MDV	Gas	43.1	0	0.0013
MDV	Phe	16.9	0	0.0002
MDV	Elec	0.0	0	0.0000
MDV	Dsl	41.6	0	0.0004
Member Vehicle Weighted Emission Factor[2]		32.0	0	0.0009
Employee Vehicle Weighted Emission Factor[2]		31.3	0	0.0009
Delivery Trucks[3]				
HHDT	Dsl	224.0	0	0.0021

Notes:

[1] Data obtained from EMFAC2021 project-level output. Passenger vehicle emission rates are equivalent to the running exhaust emission rate in grams per mile at 5 mph, multiplied by the speed correction factor of 2.5 mph.

[2] Emission factors for EMFAC vehicle classes are weighted based on the project-specific fleet mix in Table B-2 to estimate trip-based emission factors for passenger vehicles.

[3] Delivery trucks are assumed to be diesel-fueled.

Abbreviations:

CH_4 - methane
CO_2 - carbon dioxide
Dsl - Diesel
Elec - Electric
EMFAC - EMission FACtors model
LDA - Light Duty Automobile
mph - miles per hour
LDT - Light-Duty Truck
HHDT - Heavy-Heavy Duty truck
MDV - medium-duty vehicle
N_2O - nitrous oxide
Phe - Plug-in hybrid
VMT - vehicle miles traveled

Conversion Factor:

60 minutes per hour

Table B-6a. Greenhouse Gas Emission Estimates for Operational Mobile Sources (Herndon/Riverside)
Costco Commercial Center
Fresno, California

Mobile Source Activity	Trip Type	Trip Distance[1] (miles)	Annual Average Trips[1] (one-way trips/year)	Annual Average VMT[1] (miles/year)	Idle Duration[2,3] (minutes/ year)	GHG Emissions[4] (MT/yr)			
						CO_2	N_2O	CH_4	CO_2e[5]
Member Vehicles	Primary	17.3	3,666,790	63,337,720	--	21,293	0.54	0.54	21,468.0
	Diverted	1.0	1,473,870	1,503,435	--	622.32	0.07	0.14	645.2
	Pass-By	0.10	1,382,620	138,262	--	162.36	0.05	0.12	181.3
Warehouse, Fuel Station, and Car Wash Employee Vehicles	Primary	30.7	109,500	3,361,650	--	1,099	0.03	0.02	1,106.9
MDO Driver and Warehouse Employee Vehicles	Primary	30.70	49,640	1,523,875	--	498	0.01	0.01	501.8
MDO Delivery Trucks	Primary	81.5	7,300	594,950	18,250	958	0.15	0.00	1,003.2
Fuel Delivery Trucks	Primary	125.0	5,110	638,750	12,775	1,027	0.16	0.00	1,075.5
Warehouse Delivery Trucks	Primary	125.0	9,490	1,186,250	23,725	1,908	0.30	0.00	1,997.4
Member Vehicle Idling at Gasoline Dispensing Facility	Primary	--	--	--	33,638,400	1,076	0.00	0.03	1,076.5
					Total Emissions	**28,643**	**1.31**	**0.86**	**29,056**

Notes

[1] Data obtained from Table B-1a.

[2] Idle duration for passenger vehicles visiting the gas station is estimated using a maximum queue length of 3 vehicles per queue lane and a transaction time of 4 minutes per vehicle. The queue is assumed to stay constant while the gas station is open (6 AM to 10 PM), 7 days/week. Queue length is based on Saturday midday peak hour average queue length projections from existing Costco facilities provided by Kittelson & Associates.

[3] Delivery truck idle duration is 5 minutes based on the CARB Air Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling/about. Accessed: September 2021. For GDF idling this is actually idling duration in units of minutes per year.

[4] GHG emissions include running exhaust, starting exhaust, and idling exhaust. Emissions were estimated using emission factors from Tables B-3, B-4, and B-5 along with annual VMT, annual trips, and idle duration.

[5] CO_2e was estimated using the global warming potentials of CO_2, CH_4, and N_2O, which are 1, 25, and 298 respectively.

Abbreviations:

CH_4 - methane
CO_2 - carbon dioxide
MT - metric tonnes
N_2O - nitrous oxide
VMT - vehicle miles traveled
yr - year

Table B-6b. Greenhouse Gas Emission Estimates for Operational Mobile Sources (4500 W. Shaw Avenue)
Costco Commercial Center
Fresno, California

Mobile Source Activity	Trip Type	Annual Average Trips[1] (one-way trips/year)	Annual Average VMT[1] (miles/year)	GHG Emissions[2] (MT/yr)			
				CO_2	N_2O	CH_4	CO_2e[3]
Passenger Vehicles	Primary	497,495	21,266,360	7,087	0.15	0.11	7,136
	Pass-by	17,520	0	1.48	0.00	0.00	1.7
	Diverted	766,135	1,256,330	481	0.04	0.07	494
Total Emissions				**7,570**	**0.19**	**0.19**	**7,632**

Notes

[1] Data obtained from Table B-1b.

[2] GHG emissions include running exhaust and starting exhaust. Emissions were estimated using emission factors from Tables B-3 and B-4 along with annual VMT and annual trips.

[3] CO_2e was estimated using the global warming potentials of CO_2, CH_4, and N_2O, which are 1, 25, and 298, respectively.

Abbreviations:

CH_4 - methane
CO_2 - carbon dioxide
MT - metric tonnes
N_2O - nitrous oxide
VMT - vehicle miles traveled
yr - year