Ontario International Airport Connector Project

APPENDIX K

GREENHOUSE GAS EMISSIONS TECHNICAL REPORT

October 2024

Prepared by:

San Bernardino County Transportation Authority
1170 West Third Street, Second Floor
San Bernardino, CA 92410-1715

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

FIGURES

TABLES

APPENDIX

ABBREVIATIONS AND ACRONYMS

%	percent
AB	Assembly Bill
ADA	Americans with Disabilities Act
Bio-CO_2	biologically generated CO_2
CAFE	Corporate Average Fuel Economy
CalEPA	California Environmental Protection Agency
CalEEMod	California Emissions Estimator Model
CALGreen Code	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAP	Community Climate Action Plan
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	methane
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
EIR	Environmental Impact Report
EMFAC	Emission Factors
EO	Executive Order
EPACT92	Energy Policy Act of 1992
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GHG	greenhouse gas
GWP	Global Warming Potential
I-10	Interstate 10
I-15	Interstate 15
IPCC	Intergovernmental Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LEED	Leadership in Energy and Environmental Design
MEP	mechanical, electrical, and plumbing
MM	Mitigation Measures
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
mpg	miles per gallon

MPO	Metropolitan Planning Organization
MSF	Maintenance and Storage Facility
$MTCO_2e$	metric tons of carbon dioxide equivalent
MT/yr	metric tons per year
N_2O	nitrous oxide
Nbio-CO_2	nonbiologically generated CO_2
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
OIAA	Ontario International Airport Authority
ONT	Ontario International Airport
OPR	Governor's Office of Planning and Research
Project	Ontario International Airport Connector Project
ROW	right-of-way
RTP/ SCS	Regional Transportation Plan and Sustainable Communities Strategy
SANBAG	San Bernardino Associated Governments
SB	Senate Bill
SBCTA	San Bernardino County Transportation Authority
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCRRA	Southern California Regional Rail Authority
TBM	tunnel boring machine
TDM	Transportation Demand Management
UPRR	Union Pacific Railroad
USC	United States Code
USEPA	United States Environmental Protection Agency
Vent shaft	Ventilation shaft
VMT	vehicle miles traveled
Working Group	GHG CEQA Significance Threshold Working Group
ZE	zero emission

1 INTRODUCTION

San Bernardino County Transportation Authority (SBCTA), in cooperation with the Federal Transit Administration (FTA), proposes to construct a 4.2-mile-long transit service tunnel directly connecting the Southern California Regional Rail Authority (SCRRA) Cucamonga Metrolink Station to the Ontario International Airport (ONT). The proposed SBCTA ONT Connector Project (Project) is to expand access options to ONT by providing a direct transportation connection from Cucamonga Metrolink Station to ONT. The proposed Project is subject to federal and state environmental review requirements pursuant to National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). FTA is the lead agency for NEPA, while SBCTA is the lead agency under CEQA. Partner agencies include the Ontario International Airport Authority (OIAA), Omnitrans, the City of Ontario and the City of Rancho Cucamonga.

ONT is located approximately 2 miles east of downtown Ontario in San Bernardino County. The airport services more than 25 major cities via 10 commercial carriers. ONT is owned and operated under a joint powers agreement between the City of Ontario and San Bernardino County. OIAA provides overall direction, management, operations, and marketing for ONT. In 2014, the San Bernardino Associated Governments (SANBAG), now SBCTA, prepared the Ontario Airport Rail Access Study (SANBAG 2014), which identified the need for a direct rail-to-airport connection to ONT to support its projected growth. ONT is one of the fastest growing commercial airports forecasted to serve 14 million annual passengers by 2045 (OIAA 2019).

The purpose of this technical report is to evaluate potential environmental impacts/effects of greenhouse gas (GHG) that the Project may have within the Project area. This technical report describes existing setting, applicable regulatory settings, methodology, and potential impacts from construction and operation of the proposed Project and the No Project Alternative. The information contained in this technical report will be used to prepare the required environmental documents under CEQA.

2 PROJECT DESCRIPTION

2.1 PROJECT PURPOSE AND OBJECTIVES

The purpose of the proposed Project is to expand access options to ONT by providing a direct transportation connection from Cucamonga Metrolink Station to ONT. This new connection would increase mobility and connectivity for transit patrons, improve access to existing transportation services, provide a connection to future Brightline West service to/from ONT, and support the use of clean, emerging technology for transit opportunities between Cucamonga Metrolink Station and ONT. More specifically, the proposed Project's objectives are as follows:

- Expand access options to ONT by providing a convenient and direct connection between ONT and the Metrolink network, and other transportation services at the Cucamonga Station.
- Reduce roadway congestion by encouraging a mode shift to transit from single-occupancy vehicles and provide reliable trips to and from ONT.
- Support autonomous electric vehicle technology usage for transit projects.

2.2 PROJECT NEED

The proposed Project need includes:

- Lack of direct transit connection coinciding with Metrolink trains and peak airport arrival and departure schedules. The lack of a direct transit connection between Cucamonga Metrolink Station and ONT creates mobility challenges for air passengers accessing ONT. In many cases, the lack of a last-mile connection between the Metrolink system and ONT forces airport passengers to use rideshare services or private single-occupancy vehicles, adding congestion to the local roads between the Cucamonga Metrolink Station and ONT. This congestion results in delays for the public to reach their destination, community services, and facilities.
- Roadway congestion affecting trip reliability and causing traffic delays. ONT travelers using rideshare services or private single-occupancy vehicles adds traffic volumes and increasing congestion on the local roads between Cucamonga Metrolink Station and ONT. Increases in future traffic volumes and roadway congestion affects trip reliability for travelers and commuters to and from ONT.
- Increasing vehicle miles traveled (VMT) resulting from ONT travelers and lack of a direct transit connection.
- Increased greenhouse gas emissions within communities surrounding ONT from single-occupancy vehicle travel to and from ONT.

2.3 ALTERNATIVES EVALUATED

2.3.1 No Project Alternative

CEQA requires that existing conditions and the proposed Project be evaluated against a No Project Alternative in an Environmental Impact Report (EIR). The No Project Alternative represents the Project area if the proposed Project is not constructed, and additional municipal projects would still be developed in the area. The No Project Alternative is used for comparison purposes to assess the relative benefits and impacts of constructing a new transit project versus only constructing projects which are already funded and planned for in local and regional plans.

The No Project Alternative would result in no new direct electrically powered, on-demand fixed transit guideway connection from the Cucamonga Metrolink Station to ONT. Omnitrans currently operates a limited-service bus route to ONT, known as ONT Connect or Route 380, which would remain operational under the No Project Alternative. ONT Connect currently operates Monday through Sunday, with bi-directional (northbound and southbound) service frequencies ranging from 35-60 minutes. However, ONT Connect travels with general/mixed traffic on existing roadways. The No Project Alternative assumes that the existing roadway system near ONT (such as the Interstate 10 [I-10] and Interstate 15 [I-15]) will implement some planned expansion and improvement projects and undergo routine maintenance activities. The SBCTA and California Department of Transportation (Caltrans) propose to construct Express Lanes, including tolled facilities, in both directions of I-15. In addition, Caltrans is proposing to improve I-10 by constructing freeway lane(s) and other improvements through all or a portion of the 33-mile-long segment of I-10 from the Los Angeles/San Bernardino County line to Ford Street in San Bernardino County.

A detailed list of the planned projects included in the No Project Alternative is found in the Cumulative Impacts Technical Report (SBCTA 2024a).

2.3.2 Proposed Project

The proposed Project includes a 4.2-mile tunnel alignment, three passenger stations, a maintenance and storage facility (MSF), and an access and ventilation shaft (vent shaft) in the cities of Rancho Cucamonga and Ontario within San Bernardino County (see Figure 2-1). The proposed Project would include autonomous electric vehicles that would be grouped and queued at their origin station and depart toward the destination station once boarded with passengers. The following sections provide additional details on the proposed Project location and land uses, and on the proposed design, construction, and operation, as applicable, for these project elements.

2.3.2.1 Project Location

The proposed Project is located in the City of Rancho Cucamonga and in the City of Ontario within San Bernardino County. Figure 2-1 illustrates the proposed Project site's regional location and vicinity. The proposed Project alignment is a reversed L-shaped alignment consisting of the Cucamonga Metrolink

Station, Milliken Avenue, East Airport Drive, and ONT. Figure 2-2 illustrates the proposed Project area. Cucamonga Metrolink Station is located at 11208 Azusa Court in the City of Rancho Cucamonga and serves the Metrolink San Bernardino Line commuter rail. ONT is located at 1923 East Aviation in the City of Ontario and provides international airport service with over 10 different airline partners. Information related to the proposed Project Design is found in Section 2.3.2.3.

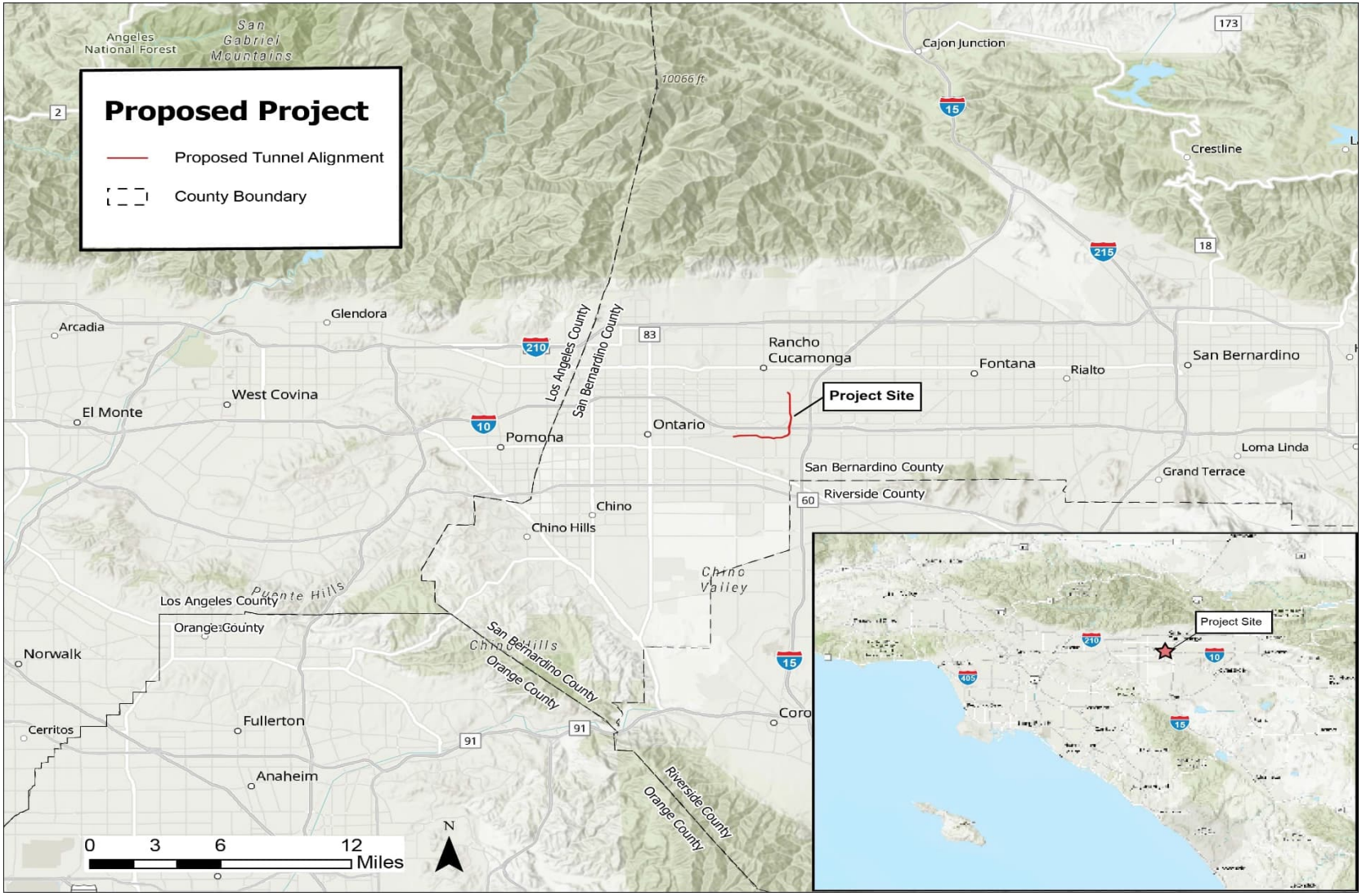
2.3.2.2 Existing Land Uses

The northwestern portion of the proposed Project alignment includes the Cucamonga Metrolink Station. There are 980 standard parking stalls and 24 Americans with Disabilities Act (ADA) compliant stalls at the Cucamonga Metrolink Station (Metrolink 2022).

From the northwestern portion of the proposed Project site, the tunnel alignment travels under Milliken Avenue, which is a major north-south arterial roadway. Milliken Avenue consists of three travel lanes north of Inland Empire Boulevard and four travel lanes south of Inland Empire Boulevard. From Milliken Avenue, the alignment travels south crossing under the existing I-10. I-10 is an east-west cross-country highway and has six lanes in each direction at the proposed Project site. The alignment eventually connects to East Airport Drive, which is an east-west arterial roadway with three travel lanes in each direction.

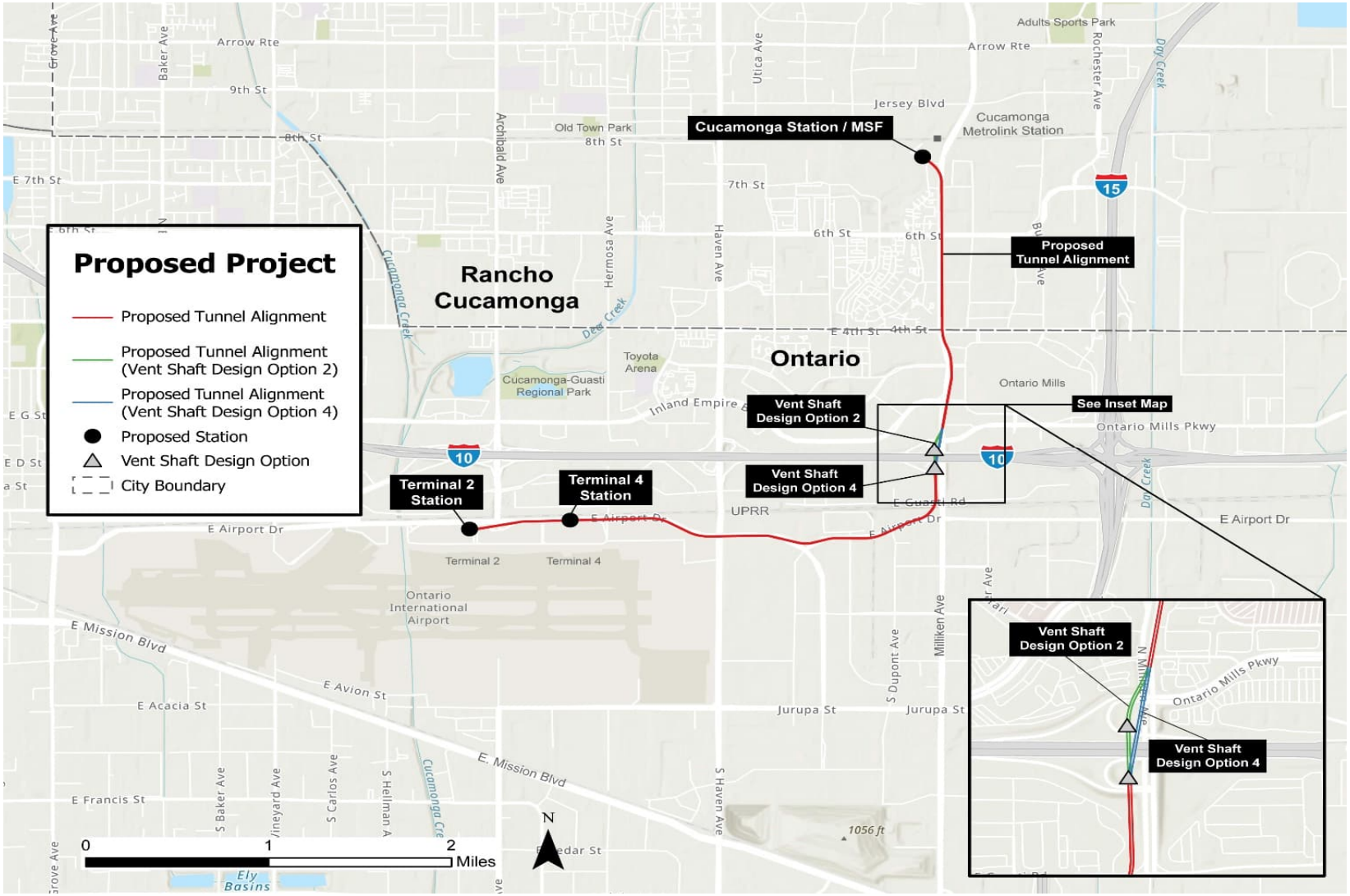
The southwestern portion of the proposed Project tunnel alignment terminates at ONT. Parking Lots 2 through 5 are located on the northern side of ONT. Parking Lots 2, 3, and 4 are surface lots that provide general parking and are a short walk away from the terminals at ONT. Parking Lot 5 is a surface economy lot at which a shuttle service is available.

Figure 2-1: Regional Location Map



Source: AECOM 2024

Figure 2-2: Proposed Project Site



Source: AECOM 2024

2.3.2.2.1 Surrounding Land Uses

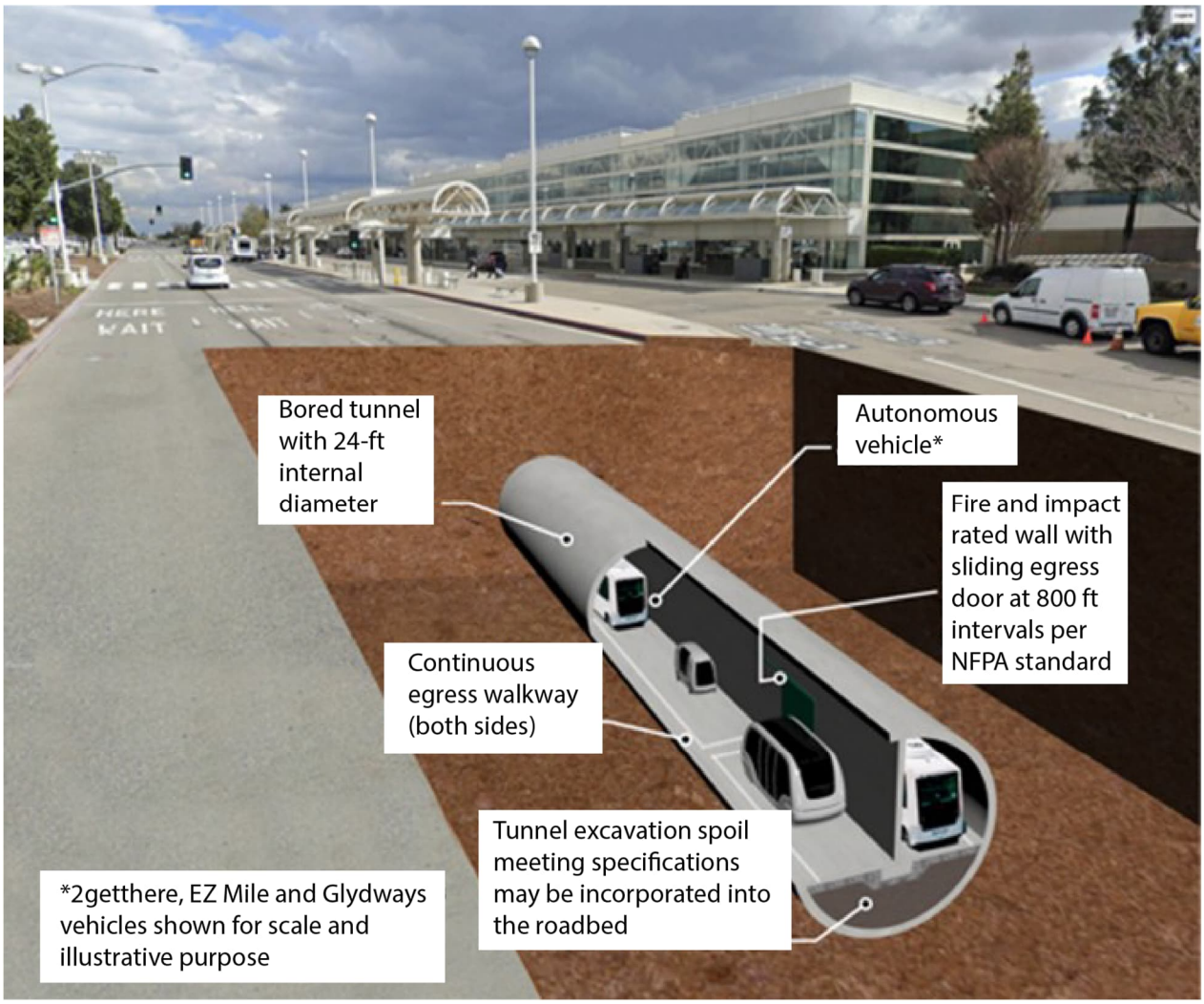
Development in the immediate vicinity of the proposed Project site includes a mix of industrial, commercial, manufacturing, transportation, office, multi-family residential, hotel, and airport related land uses. The proposed Project site's surrounding land uses are located within the City of Rancho Cucamonga and City of Ontario. Immediately adjacent uses include the following:

- North: Railroad tracks, industrial and manufacturing uses, trucking facilities, surface parking lots, Rancho Cucamonga Fire Station Number 174, and All Risk Training Center for the Rancho Cucamonga Fire Protection District.
- South: Industrial and manufacturing uses, along with trucking facilities, rental car facilities, parking lots, hotel uses, and other airport related uses. ONT includes two passenger terminals, general aviation facilities, air freight buildings, parking lots, and numerous airport and aircraft maintenance and support services.
- East: The eastern side of Milliken Avenue from 5th Street south to 4th Street consists primarily of hotel uses. Concentrated areas of commercial uses and restaurants are located along Milliken Avenue from 4th Street south to I-10, including Ontario Mills, which is a regional shopping mall complex. Hotel uses are also located adjacent to the Ontario Mills shopping mall.
- West: The western side of Milliken Avenue from approximately 7th Street south to 4th Street consists primarily of multi-family residential uses. Concentrated areas of large retail, commercial uses, restaurants, hotels, and the Toyota Arena are located along Milliken Avenue from 4th Street south to I-10.

2.3.2.3 Proposed Project Design

The proposed Project includes construction of transit facilities, including three at-grade passenger stations, one MSF, and one emergency access and vent shaft. The proposed alignment would run primarily within a 4.2-mile single underground tunnel (24-foot inner diameter bi-directional tunnel) alignment that begins at the Cucamonga Metrolink Station and travels south along Milliken Avenue and crosses beneath 6th Street and 4th Street, I-10, and the Union Pacific Railroad (UPRR), before traveling west beneath East Airport Drive to connect to Terminals 2 and 4 at ONT. A tunnel configuration has been identified as the proposed Project based on technical analysis, evaluation, and stakeholder input. Figure 2-3 depicts a typical transit tunnel section. Please see the Alternatives Considered Report for additional background on the development and refinement of the proposed Project design.

Figure 2-3: Typical Transit Tunnel Section View



Source HNTB 2024

The three proposed at-grade stations would be constructed to serve Cucamonga Metrolink Station, ONT Terminal 2, and ONT Terminal 4. The MSF would be located adjacent to Cucamonga Metrolink Station and would support operations for the proposed Project by storing, maintaining, and cleaning autonomous electric transit vehicles, and it would also include employee amenities and parking. The access and vent shaft would be constructed to provide a means of emergency passenger egress and first responder access.

The proposed Project would include autonomous electric vehicles that would transport passengers on demand between Cucamonga Metrolink Station and ONT. The autonomous electric vehicles would run on rubber tires, and the vehicles are proposed to travel on a dedicated asphalt guideway within the proposed tunnel. The tunnel will include access ramps for the transit vehicles to surface to grade and provide access to the three proposed at-grade stations for passenger boarding and alighting.

2.3.2.3.1 Stations

The proposed Project includes three passenger stations. One station would be located in the northwestern corner of the existing Cucamonga Metrolink Station parking lot, which is owned and maintained by the City of Rancho Cucamonga. The other two proposed stations would be located within two of the existing parking lots at ONT, specifically Parking Lot 2 and Parking Lot 4, which are located across from Terminals 2 and 4. These proposed stations would be located at-grade and would connect to their associated tunnel portals along Terminal Way at ONT. Stations are proposed to be one to two stories and up to approximately 40 feet in height. All three stations would be connected to the bored tunnel via a cut-and-cover structure and an at-grade guideway. The guideway would be enclosed by fencing, and the walls would be buffered with landscaping. A pedestrian walkway would be provided bordering the outside of the guideway. Figure 2-4 and Figure 2-5 illustrate the overview of the proposed station footprint.

The proposed at-grade station Cucamonga Station would be approximately 8,000 square-feet and would be located at the northwest corner of the existing Cucamonga Metrolink Station parking lot. The existing Cucamonga Metrolink Station parking lot is owned and maintained by the City of Rancho Cucamonga. Approximately 180 parking stalls would be permanently removed from the existing Cucamonga Metrolink Station parking lot to accommodate the proposed Cucamonga Station. Two other stations, each approximately 10,000 square-feet, would be located at-grade within two of the existing parking lots at ONT Terminal 2 and Terminal 4. The Cucamonga Station also includes the proposed Project's MSF.

The two airport-serving stations would connect to their associated tunnel portals along Terminal Way via an at-grade connection. The proposed stations would be entirely located within the ONT right-of-way (ROW). Approximately 80 parking stalls would be permanently removed to accommodate the ONT Terminal 2 station, and approximately 115 spaces would be permanently removed to accommodate the ONT Terminal 4 station.

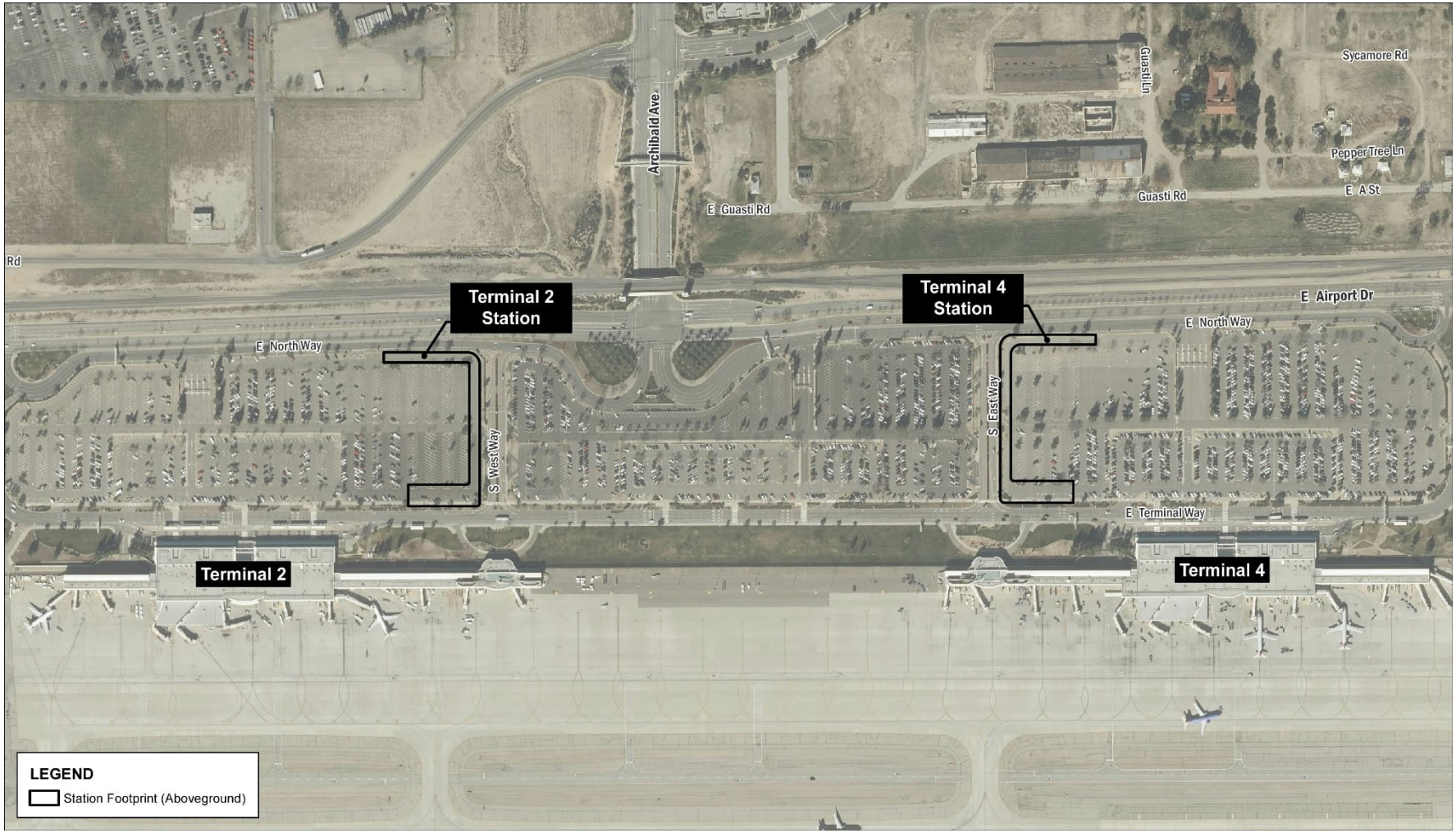
2.3.2.3.2 Maintenance and Storage Facility

The proposed Cucamonga Station would include an adjacent maintenance and storage facility with enclosed bays to store, clean, and maintain vehicles. The MSF would be approximately 11,000 square feet, with an additional 5,000 square feet second story and would contain an operations control center with lockers, breakrooms, and restrooms. Employee parking for the facility would be provided at the existing parking lot owned by SBCTA, in the southeastern quadrant of the Milliken Avenue/Azusa Court intersection.

Figure 2-4: Cucamonga Station

Source: HNTB 2024

Figure 2-5: Ontario International Airport - Terminal 2 Station and Terminal 4 Station



Source: HNTB 2024

2.3.2.3.3 Description of Vent Shaft Design Options

A vent shaft would be constructed to provide a means of emergency passenger egress and first responder access to and from the tunnel. Two locations are being considered west of Milliken Avenue on the north and south sides of I-10, as shown in Figure 2-6. A final decision about the location of the vent shaft would be made after the completion of the CEQA and NEPA environmental processes, and consideration of operational needs, environmental impacts, and stakeholder coordination.

The location option on the north side of I-10 would be in the ROW for the westbound off-ramp and would provide surface ground access from the Milliken Avenue/I-10 westbound off ramp intersection or from the westbound off ramp right lane near the ramp termini or directly from Milliken Avenue. The location option on the south side of I-10 would be in the ROW for the eastbound on-ramp and would provide surface ground access from Milliken Avenue near the eastbound on-ramp.

The vent shaft would consist of both underground and above ground structures. The underground shaft would extend to the tunnel level and the surface structures would consist of a one-(1) story structure above ground.

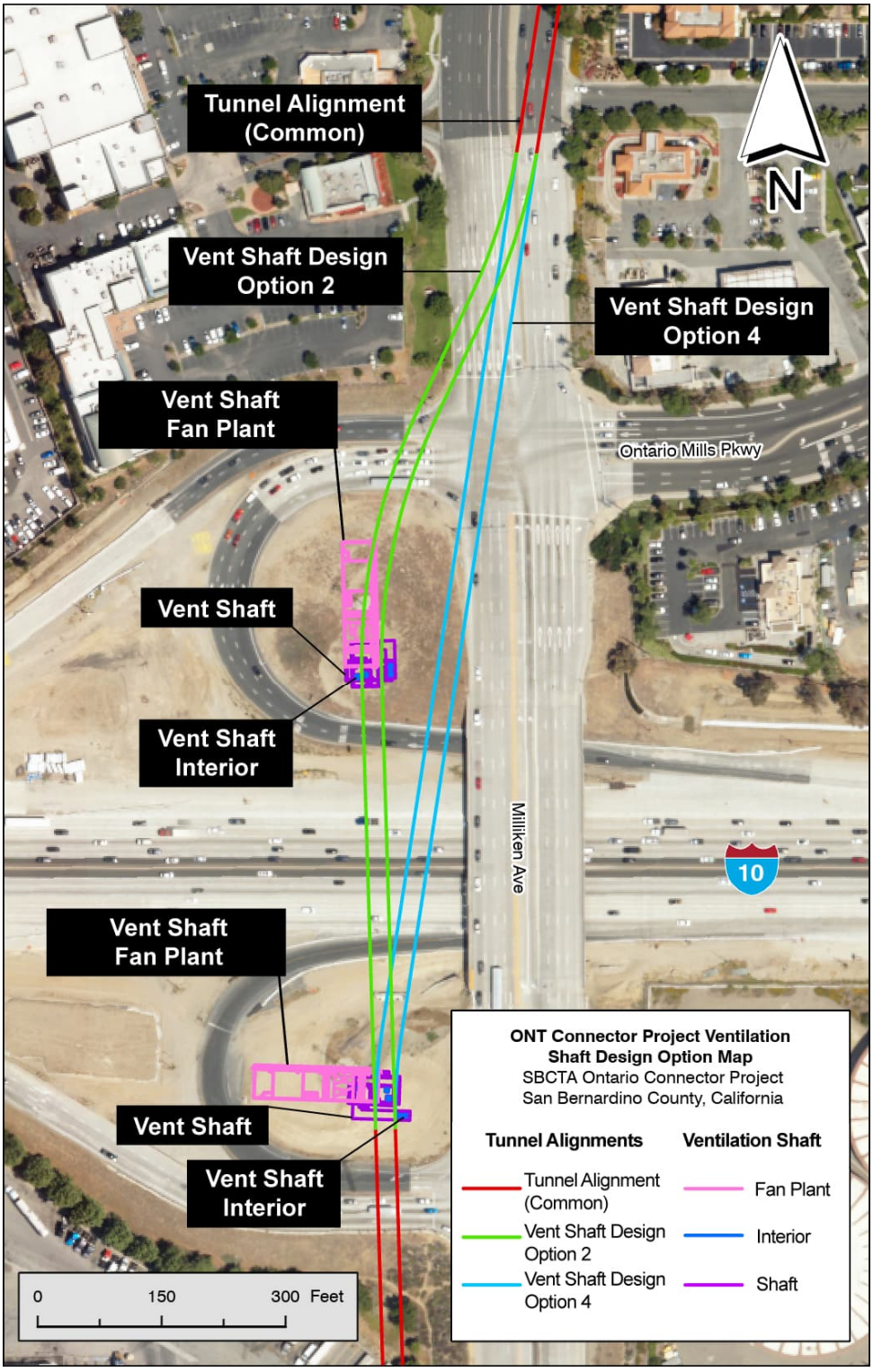
Access points would include underground, surface, and road access for emergencies to and from the tunnel. The proposed vent shaft would include associated electrical and ventilation equipment, and access would be controlled via a lock and key.

2.3.2.4 Proposed Operations

The proposed Project includes operation of autonomous electric vehicles to transport passengers to and from the proposed stations. The autonomous electric vehicles would be grouped and queued at their origin station and would depart toward the destination station once boarded with passengers. After the group of vehicles arrives at the destination station and passengers deboard, new passengers would board, and the group of vehicles would return to its origin station. If no new passengers are present, empty vehicles would be returned to the origin station to pick up new passengers. The proposed Project would provide a peak one-way passenger throughput of approximately a minimum of 100 passengers per hour. Operations would be managed by Omnitrans, with on-demand service provided daily from 4:00 a.m. to 11:30 p.m., including weekends and holidays.

Fleet size and capacity of the vehicles will be up to the Operating System Provider and Design-Builder to determine to provide an initial operating system capable of transporting a minimum of 100 passengers per hour per direction and scalable to meet ridership demand. Based on the initial operating requirements and preliminary vehicle capacities, SBCTA is anticipating initial fleet sizes of between 7 and 60 vehicles to be required. Vehicles are rubber-tired electric autonomous vehicles.

Figure 2-6: Vent Shaft Design Option 2 and Vent Shaft Design Option 4



Source: HNTB 2024

2.3.2.5 Proposed Construction

This section describes the construction approach for the proposed Project. Overall construction of the proposed Project would last approximately 56 months, with project elements varying in their specific construction duration. Construction is projected to start in 2025 and is anticipated to be completed in 2031. The Construction Methods Technical Report provides additional details regarding the construction approach and process for the key project elements (stations, MSF, tunnel construction, and vent shaft) associated with the proposed Project (SBCTA 2024b).

2.3.2.5.1 Stations and Maintenance and Storage Facility Construction

A construction staging area would be required at each of the three proposed Project stations, which includes the MSF at Cucamonga Station, and at the vent shaft location. Construction staging areas would be used to store building materials and construction equipment, assemble the tunnel boring machine (TBM), temporarily store excavated materials, and serve as temporary field offices for the contractor. Heavy-duty, steel, track-out grates (i.e., rumble plates) would be staged at the entrance of the construction staging areas to capture dirt and soil debris from the wheels of trucks and construction equipment. Best management practices would minimize a public nuisance that can result from soil and mud tracks on the public roadway. For security purposes, construction staging areas would be equipped with fences, lighting, security cameras, and guards to prevent vandalism and theft.

Cut-and-cover sites would occur at each proposed station location. Cut-and-cover activities involve the excavation of a shallow underground guideway from the existing street surface. During the construction phase, the cut-and-cover sites at Cucamonga Metrolink Station and Terminal 2 at ONT would be used as the TBM launching and receiving pits. Ultimately, the station cut-and-cover sites would serve as the vehicle ramps for the proposed Project's operations where the underground guideway would transition to at-grade.

Following the mass excavation and grading, the stations would require the installation of the waterproof membrane around the station box. The construction sequence for the station structures would typically commence with construction of the foundation base slab, followed by installation of exterior walls any interior column elements, and pouring of the station roof. Once station structure work is complete, the station excavation would be backfilled, and the permanent roadway would be constructed. Decking removal and surface restoration would then occur. Stations are proposed to be 1 to 2 stories, up to approximately 40 feet in height.

Generally, stations would be built simultaneously with or following guideway construction. However, construction of the Cucamonga Station may need to occur after the completion of all excavation and in-tunnel work. Truck haul routes, described in Table 2-1, would be designated for each staging site to transport excavated material from the staging sites. Additional construction details for the proposed

stations and MSF are described in Table 2-1 and in the Construction Methods Technical Report. Table 2-2 provides an overview of the typical sequencing for transit construction activities (SBCTA 2024b).

2.3.2.5.1.1 Construction Details for Cucamonga Station and Maintenance and Storage Facility

Construction at the proposed Cucamonga Station would require a mass excavation and the TBM would be launched from the invert of the Cucamonga Station and retrieved from the ONT Terminal 2 Station construction site. Construction at the proposed Cucamonga Station would require approximately 3.2 acres. Approximately 170 parking stalls would be temporarily unavailable at the Cucamonga Metrolink Station parking lot. Construction at the Cucamonga Station would occur for up to 37 months. No road closures are anticipated for staging at the Cucamonga Station. Equipment needs would include the following: excavators, backhoes, a vertical conveyor system, a gantry crane, a crawler crane, concrete trucks, haul trucks, a wheel loader, Foamplant, cooling towers, a tunnel fan grout plant, segment cars, and flatcars.

Additionally, construction would not interrupt Metrolink service at the Cucamonga Metrolink Station, as construction activities and staging would occur within the existing Cucamonga Station parking lot. SBCTA will coordinate construction at Cucamonga Station with SCRRA, prior to the start of construction and throughout the construction period, to maintain station access and to coordinate station parking, as needed.

The proposed Cucamonga Station includes a MSF to store, clean, and maintain vehicles. The MSF would be approximately 11,000 square feet, with an additional 5,000 square feet second story and would contain an operations control center with lockers, breakrooms, and restrooms. The MSF would be constructed adjacent to the Cucamonga Station and would include enclosed bays.

2.3.2.5.1.2 Construction Details for ONT Terminal 2 Station

Construction staging at the proposed ONT Terminal 2 station would require approximately 3.4 acres within the existing ONT Terminal 2 parking lot. Approximately 300 parking stalls would be temporarily unavailable at the ONT Terminal 2 parking lot. Construction at the ONT Terminal 2 Station would occur for up to 27 months. No road closures are anticipated for staging at the ONT Terminal 2 Station. Equipment needs would include the following: a piling rig, a gantry crane, a crawler crane, excavators, concrete trucks, muck trucks, a wheel loader, Foamplant, cooling towers, a tunnel fan, a grout plant, segment cares, and flatcars.

Table 2-1: Stations, Maintenance and Storage Facility Construction Details

Proposed	Construction Area	Duration	Haul Route
Cucamonga Station and MSF	Would require approximately 3.2 acres within the existing Cucamonga Metrolink Station parking lot. Approximately 170 parking stalls would be temporarily unavailable from the existing Metrolink parking lot.	Construction at the Cucamonga Station would occur for up to 37 months.	Haul trucks are needed to support removal and transport of materials from the mass excavation for each construction site (for the stations and vent shaft) and from tunnel boring activities. Haul trucks would collect excavated material from the construction sites and transport it away from the sites, utilizing designated haul routes. Haul trucks would exit the staging area, travel north along Milliken Avenue, and turn right on Foothill Boulevard to access I-15. No road closures are anticipated for staging at the Cucamonga Station.
ONT Terminal 2 Station	Would require approximately 3.4 acres within the existing ONT Terminal 2 parking lot. Approximately 300 parking stalls would be temporarily unavailable from the ONT parking lot.	Construction at ONT Terminal 2 would occur for up to 27 months.	Haul trucks are needed to support removal and transport of materials from the mass excavation for each construction site (for the stations and vent shaft) and from tunnel boring activities. Haul trucks would collect excavated material from the construction sites and transport it away from the sites, utilizing designated haul routes. Haul trucks would exit the staging area, travel east along Terminal Way, and turn left on Haven Avenue to access I-10. No road closures are anticipated for staging at the Terminal 2 Station.
ONT Terminal 4 Station	Would require approximately 3.2 acres within the existing ONT Terminal 4 parking lot. Approximately 300 parking stalls would be temporarily unavailable from the ONT parking lot.	Construction at ONT Terminal 4 would occur for up to 15 months.	Haul trucks are needed to support removal and transport of materials from the mass excavation for each construction site (for the stations and vent shaft) and from tunnel boring activities. Haul trucks would collect excavated material from the construction sites and transport it away from the sites, utilizing designated haul routes. Haul trucks would exit the staging area, travel east along Terminal Way, and turn left on Haven Avenue to access I-10. No road closures are anticipated for staging at the Terminal 4 Station.

Table 2-2: Typical Sequencing of Transit Construction Activities

At Grade or Underground	Activity	Typical Duration (Total Months)	Description
At Grade Construction Activities	Utility Relocation	7-14	Relocate utilities from temporary and permanent elements related to the construction and/or operation of the Project.
At Grade Construction Activities	Construction Staging Laydown Yard	3-6	Prepare existing lots to store construction equipment and materials, including the TBM, office space.
At Grade Construction Activities	Roadway	6-18	Reconfigure roadway, demolition of existing roadway installation of curb and gutter and other public ROW improvements.
At Grade Construction Activities	At-grade Guideway	6-18	Install asphalt and striping for guideway.
At Grade Construction Activities	Station Construction (overall)	24-48	Install mechanical, electrical, and plumbing (MEP), canopies, faregates, ticketing, finishes, stairs, and walkways.
At Grade Construction Activities	Parking	3-6	Restoring existing parking stalls temporarily unavailable due to construction, as applicable.
At Grade Construction Activities	MSF	8-12	Install MEP, fencing, enclosed bays, specialized washing equipment, and rebar installation, and concrete pours.
Underground Construction Activities	Utility Relocation	7-14	Relocate and hang underground utilities from temporary and permanent elements related to the construction and operation of the Project.
Underground Construction Activities	Open Cut and Cut and Cover Construction	18-24	Supports the construction of the TBM launching and receiving pit, and of the access ramps connecting the tunnel with the at-grade stations. Install soldier piles for beam and lag support of excavation and excavation. Cover excavation with temporary decking.
Underground Construction Activities	Bored Tunnel	16-24	Underground guideway construction.
Underground Construction Activities	Ventilation and Emergency Access Shaft	6-8	Install ventilation and emergency access shaft.
Underground Construction Activities	Underground Guideway	12-18	Install asphalt and striping for guideway.

2.3.2.5.1.3 Construction Details for ONT Terminal 4 Station

Construction Staging at the proposed ONT Terminal 4 station would require approximately 3.2 acres within the existing ONT Terminal 4 parking lot. Approximately 300 parking stalls would be temporarily unavailable at the ONT Terminal 4 parking lot. Construction at the ONT Terminal 4 Station would occur for up to 15 months. No road closures are anticipated for staging at the ONT Terminal 4 Station. Equipment needs would include the following: a piling rig, a crawler crane, concrete trucks, muck trucks, a compressor, a generator, a water treatment plant, a wheel wash, a wheel loader, backhoes, and excavators.

2.3.2.5.2 Tunnel Construction

The proposed Project will travel in a below grade tunnel configuration for most of its proposed alignment. A TBM will be utilized in the construction of the tunnel. TBM are typically used in the construction of infrastructure projects to build deep underground tunnels by boring, or excavating, through soil, rocks, and/or other subsurface materials. The TBM would be launched from the Cucamonga Metrolink Station to construct the tunnel. Additional details regarding the underground construction process for the proposed Project are included in the Construction Methods Technical Report (SBCTA 2024b).

The TBM would be launched from the invert of the Cucamonga Station and retrieved from the ONT Terminal 2 Station construction site. A large crane would be used to assemble and disassemble the TBM from the excavation and receiving pits OIAA height limits at ONT and Rancho Cucamonga, 135 feet and 160 feet, respectively, would restrict crane heights. The TBM would operate six days a week, with maintenance occurring each Sunday. Construction of the entire tunnel would take approximately 22 months. Both ends of the tunnel would need to be constructed via direct excavation (cut and cover) to launch or retrieve the TBM. After mining is completed and tunnel boring machine (TBM) logistics are demobilized, both ends of the tunnel would be utilized to build the invert roadway, walkways, center wall and MEP systems, etc.

Vehicle ramps connecting to the tunnel would be constructed via direct excavation, as well. Equipment at the TBM launch site would include trucks, a crane, excavators, a grout plant, a compressor plant, a tunnel fan, and cooling towers. The launch area would also store tunnel construction materials (rail, pipe, ducts, etc.) and stockpile excavated material.

Truck haul routes at the proposed launch site at Cucamonga Station and the proposed retrieval site at ONT Terminal 2 Station are described in Table 2-1. The Construction Methods Technical Report includes additional details on the overall construction approach for the proposed tunnel (SBCTA 2024b).

2.3.2.5.3 Vent Shaft Construction

Two vent shaft design options with different access points are being considered for the proposed Project. Vent shaft design option 2 would be located west of Milliken Avenue on the westbound off-ramp of the I-10. Vent shaft design option 4 would be located west of Milliken Avenue on the eastbound on-ramp of the I-10. The vent shaft will consist of both underground and above ground structures. The underground

shaft will extend to the tunnel level and the surface structure will consist of a one-(1) story structure above ground. One vent shaft would be constructed along the tunnel alignment.

The vent shaft could be constructed before or after the construction of the tunnel and would be installed using a similar construction methodology to that of the tunnel and take approximately 6 months to complete. A drill rig would install up to 5 piles deep per day, each 70 feet deep. Piles would be drilled (i.e., no impact driving). The access shaft would then be excavated. The excavation would be supported by an internal bracing system. The vent shaft would require a construction staging area approximately 0.62-acres (27,000 square feet). Anticipated equipment at the location would include haul trucks, a drill rig, a crane, an excavator, a wheel loader, a compressor, and a ventilation fan. The staging area would include material storage, stockpiles of excavated material, water treatment, a workshop, a construction office, and an employee parking. Additional details regarding the construction process for vent shaft are included in the Construction Methods Technical Report (SBCTA 2024b).

2.3.2.5.4 Utilities

Utility relocations are anticipated at the launch and retrieval locations at the Cucamonga Metrolink Station site, ONT, and ventilation/emergency access shaft. Multiple utilities would be relocated to allow for the construction of the access shaft, including: potential electric underground distribution cables owned and operated by Southern California Edison; landscape irrigation line owned and operated by the City of Ontario; and Caltrans fiber optic duct bank. In a future project phase, coordination with the existing utility service providers prior to utility relocation would be conducted to reduce potential impacts to utility service and minimize disruptions. Relocations of existing utilities would be coordinated with utility service providers and would be in previously disturbed areas or established ROW close to their existing locations and would stay within the evaluated Project footprint.

2.3.2.6 Proposed Project Easements

The proposed Project would require easements from 19 properties. This includes the need for 12 permanent subsurface easements, two permanent surface easements, and five parcel acquisitions for both subsurface and surface easements. Seven of the easements would be for the three stations and would total approximately 2 acres. SBCTA would require these easements for construction and/or operation of the proposed Project. There are two locations that are options for the location of the Vent Shaft, both belonging to Caltrans. This document evaluates the impacts for both options without selection of a preferred site. The decision of the preferred site will depend in part on the CEQA and NEPA processes, including any potential input from the public. The final decision as to which option is preferred may occur after the completion of the CEQA/NEPA process. Land uses for the parcels where these easements would be required include industrial, transportation facilities, utilities, and commercial. The owners of these parcels include SBCTA and City of Rancho Cucamonga (Cucamonga Metrolink Station west and east parking lots), OIAA, a utility service provider, and some private owners. No relocations of businesses and residences would be required to construct the proposed Project.

3 REGULATORY SETTING

The term "greenhouse gas" is used to describe atmospheric gases that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. These gases include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and water vapor, among others. A growing body of research attributes long-term changes in temperature, precipitation, and other elements of the Earth's climate to large increases in GHG emissions since the mid-19th century, particularly from human activity related to fossil fuel combustion. Anthropogenic GHG emissions of particular interest include CO_2, CH_4, N_2O, and fluorinated gases.

GHGs differ in how much heat each gas traps in the atmosphere (i.e., global warming potential, or GWP). CO_2 is the most important GHG as it is the leading contributor to global warming, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The GWP of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2. For example, the 2021 Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report calculates the GWP of CH_4 as ranging from 27 to 30 and the GWP of N_2O as 273 over a 100-year time horizon (IPCC 2021). Generally, estimates of all GHGs are summed to obtain total CO_2e emissions for a project or given time period, usually expressed in metric tons ($MTCO_2e$), or million metric tons ($MMTCO_2e$).

As evidence has mounted for the relationship of climate change to rising GHGs, federal and State governments have established numerous policies and goals targeted to improving energy efficiency and fuel economy and reducing GHG emissions. Nationally, transportation is the largest source of GHG emissions, followed by electricity generation. Transportation is also the largest contributor to GHGs in California.

3.1 FEDERAL

The following sections describe federal regulations that are applicable to the proposed Project.

3.1.1 National Environmental Policy Act (42 USC Sections 4321 et seq.)

NEPA (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project. To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

3.1.2 Federal Transit Administration Climate Considerations Program

The FTA has established a Climate Considerations program that includes resources on transit and climate change mitigation and adaptation. The FTA recognizes that public transportation can facilitate compact development, conserving land and decreasing travel demand, as well as reducing fuel use and GHG

emissions that contribute to climate change. Included as part of the program is the FTA's *Greenhouse Gas Emissions for Transit Projects: Programmatic Assessment* (FTA 2017) that serves to: (1) report on whether certain types of proposed transit projects merit detailed analysis of their GHG emissions at the project level, and (2) be a source of data and analysis for the FTA and its grantees to reference in future environmental documents for projects in which detailed, project-level GHG analysis is not vital. Additional resources include the FTA's Transit Greenhouse Gas Emission Estimator spreadsheet (FTA 2016), and two reports (FTA 2011, 2014) related to potential future impacts of climate change on transit systems and adaptation strategies.

3.1.3 Federal Legislation

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

- Energy Policy Act of 1992 (EPACT92; 102nd Congress H.R.776.ENR [1991-1992]): EPACT92 was passed by Congress and set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 consists of 27 titles detailing various measures designed to lessen the nation's dependence on imported energy, provide incentives for clean and renewable energy, and promote energy conservation in buildings. Title III of EPACT92 addresses alternative fuels. It gave the United States Department of Energy administrative power to regulate the minimum number of light-duty alternative-fuel vehicles required in certain federal fleets beginning in fiscal year 1993. The primary goal of the program was to cut petroleum use in the United States by 2.5 billion gallons per year by 2020.

- Energy Policy Act of 2005 (109th Congress H.R.6 [2005–2006]): The Energy Policy Act of 2005 set forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Indian energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

- Energy Policy and Conservation Action of 1975 and Corporate Average Fuel Standards: The Energy Policy and Conservation Act of 1975 (42 USC Section 6201 [1975]) establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy (CAFE) program on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

- Executive Order (EO) 13514, Federal Leadership in Environmental, Energy, and Economic Performance, 74 Federal Register 52117 (October 8, 2009): This federal EO set sustainability goals for federal agencies and focuses on making improvements in their environmental, energy, and economic performance. It instituted as policy of the United States that federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities.

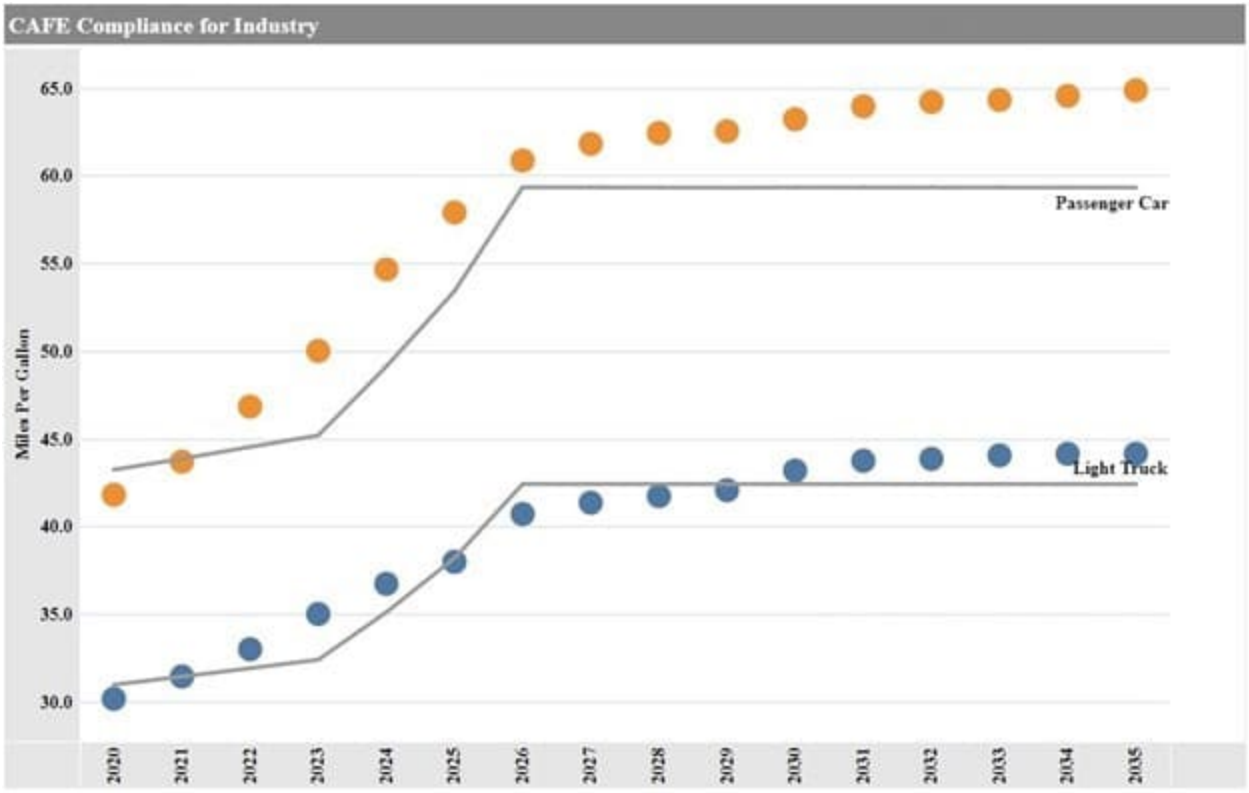
- EO 13693, Planning for Federal Sustainability, 80 Federal Register 15869 (March 2015): This EO reaffirmed the policy of the United States that federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities. It set sustainability goals for all agencies to promote energy conservation, efficiency, and management by reducing energy consumption and GHG emissions. It builds on the adaptation and resiliency goals in EO 13693 to ensure agency operations and facilities prepare for the impacts of climate change. This EO revoked EO 13514.

The United States Environmental Protection Agency (USEPA)'s authority to regulate GHG emissions stems from the United States Supreme Court decision in Massachusetts v. USEPA (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, USEPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and USEPA's assessment of the scientific evidence that form the basis for USEPA's regulatory actions.

USEPA, in conjunction with the National Highway Traffic Safety Administration (NHTSA), issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010 and significantly increased the fuel economy of all new passenger cars and light trucks sold in the United States. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon (mpg) by 2016. In August 2012, the federal government adopted the second rule that increases fuel economy for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 and beyond to average fuel economy of 54.5 mpg by 2025. On March 31, 2022, the NHTSA finalized the CAFE standards for model years 2024–2026, which require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8 percent (%) annually for model years 2024 and 2025, and 10% annually for model year 2026.

Figure 3-1 shows the CAFE standards from 2020 through 2035. Presidential EO 13783, Promoting Energy Independence and Economic Growth, of March 28, 2017, orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of CO_2, N_2O, and CH_4.

Figure 3-1: NHTSA CAFE Standards Over Time



Source: NHTSA Corporate Average Fuel Economy. Website: www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy

3.2 STATE

The following sections describe State regulations that are applicable to the proposed Project.

3.2.1 California Environmental Quality Act (Sections 21000 et seq.) and CEQA Guidelines (Sections 15000 et seq.)

CEQA (California Public Resources Code Sections 21000 et seq.) and the *CEQA Guidelines* (California Code of Regulations Sections 15000 et seq.) require State and local agencies to identify the significant environmental impacts of their actions, including potential significant air quality and climate change impacts, and to avoid or mitigate those impacts when feasible. The CEQA Amendments of December 30, 2009, specifically require lead agencies to address GHG emissions in determining the significance of environmental impacts caused by a project and to consider feasible means to mitigate the significant impacts of GHG emissions.

3.2.2 California Legislation

With the passage of legislation including State Senate Bills (SBs), State Assembly Bills (ABs), and EOs, California has been innovative and proactive in addressing GHG emissions and climate change.

- AB 1493, Pavley Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (CARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009 model year.
- EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) 2000 levels by 2010, (2) 1990 levels by 2020, and (3) 80% below 1990 levels by 2050. This goal was further reinforced with the passage of AB 32 in 2006 and SB 32 in 2016.
- AB 32, Chapter 488, 2006: Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals as outlined in EO S-3-05 while further mandating that CARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The State Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code Section 38551[b]). The law requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020. The Scoping Plan was first approved by CARB in 2008 and must be updated every 5 years. CARB approved the first update to the Climate Change Scoping Plan on May 22, 2014; the second on December 14, 2017; and the third on December 15, 2022. The 2022 Scoping Plan sets a target of a 48 percent reduction of GHG emissions below 1990 levels by 2030. By 2045, it sets targets of reducing fossil fuel consumption (liquid petroleum) to less than one-tenth of current consumption, cuts GHG emissions to 85% below 1990 levels, and reduces smog-forming air pollution by 71% (CARB 2022a).

The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions. CARB is responsible for maintaining and updating California's GHG inventory per Health and Safety Code Section 39607.4.

- EO S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and State agencies with regard to climate change.
- EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10% by the year 2020. CARB re-adopted the LCFS regulation in September 2015, and

the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

- SB 97, Chapter 185, 2007, Greenhouse Gas Emissions: This bill requires the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the *CEQA Guidelines* for addressing GHG emissions. The amendments became effective on March 18, 2010.
- AB 197: A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment of a legislative committee to make recommendations about CARB programs to the legislature.
- AB 75: AB 75 was passed in 1999 and mandates that State agencies develop and implement an integrated waste management plan to reduce GHG emissions related to solid waste disposal. In addition, the bill mandates that community service districts providing solid waste services report the disposal and diversion information to the appropriate city, county, or regional jurisdiction. The bill requires diversion of at least 50% of the solid waste from landfills and transformation facilities, and submission to the California Department of Resources Recycling and Recovery (CalRecycle; formerly known as the California Integrated Waste Management Board) of an annual report describing the diversion rates.
- AB 341: The State legislature enacted AB 341 (California Public Resources Code Section 42649.2), increasing the diversion target to 75% statewide. AB 341 requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. The final regulation was approved by the Office of Administrative Law on May 7, 2012, and went into effect on July 1, 2012.
- SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires CARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.
- SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under AB 32.
- EO B-16-12 (March 2012): This EO orders State entities under the direction of the Governor, including CARB, the California Energy Commission (CEC), and the California Public Utilities Commission (CPUC), to support the rapid commercialization of zero-emission (ZE) vehicles. It directs these entities to achieve various benchmarks related to ZE vehicles.

- EO B-30-15 (April 2015): This EO establishes an interim statewide GHG emissions reduction target of 40% below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80% below 1990 levels by 2050. It further orders all State agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reduction targets. It also directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$. Finally, it requires the Natural Resources Agency to update the State's climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.
- SB 32, Chapter 249, 2016: SB 32 codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40% below 1990 levels by 2030.
- AB 1279: AB 1279 was signed in September of 2022, and codifies the State goals of achieving net carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter. This bill also requires California to reduce statewide GHG emissions by 85% compared to 1990 levels by 2045 and directs CARB to work with relevant state agencies to achieve these goals.

3.3 REGIONAL AND LOCAL

The Southern California Association of Governments (SCAG) is an MPO representing six counties (including San Bernardino County) and 191 cities (including Rancho Cucamonga and Ontario). SCAG's regional council adopted the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), also referred to as Connect SoCal, and the addendum to the Connect SoCal Program EIR (RTP/SCS or Plan) on September 3, 2020. The RTP/SCS is a State- and federally-required long-range plan for regional transportation and land use that aims to achieve a more sustainable growth pattern and includes Transportation Demand Management (TDM) strategies throughout the region to reduce the number of drive-alone trips and overall VMT. The RTP/SCS plans for more than $639 billion in transportation system investments through 2045. It is anticipated that implementation of the RTP/SCS would result in a 19% reduction in GHG emissions per capita by 2035, compared with 2005 levels (SCAG 2020). Amendment #1 to the RTP/SCS was approved by the SCAG Regional Council on November 4, 2021, and Amendment #2 was approved by the SCAG Regional Council on October 6, 2022. Amendment #1 included the 2021 Federal Transportation Improvement Program (FTIP) Consistency Amendment #21-05. Amendment #2 serves as a concurrent amendment to the 2023 FTIP, allowing for changes to major State and transit projects in the RTP/SCS and in the FTIP that will be carried forward as part of the 2023 FTIP.

3.3.1 San Bernardino County General Plan

The San Bernardino County General Plan, Natural Resources Element, sets forth goals and policies that provide direction regarding preserving, protecting, conserving, reusing, replenishing, and efficiently using the San Bernardino County's natural resources (San Bernardino County 2020) The following goal and policies are applicable to the proposed Project:

- Goal NR-1: Addresses improvements in locally-generated emissions.
- Policy NR-1.1: Encourages compact and transit-oriented development to minimize vehicle miles traveled and greenhouse gas emissions.
- Policy NR-1.7: Sets greenhouse gas reduction targets.

3.3.2 San Bernardino County Transportation Authority Regional Greenhouse Gas Reduction Plan

As a response to the 2006 AB 32 law, a project partnership led by SANBAG, the predecessor agency to the SBCTA, has compiled an inventory of GHG emissions and developed reduction measures that was adopted by the 21 Partnership Cities of San Bernardino County. The regional GHG reduction plan serves as the basis for cities in San Bernardino County to develop more detailed community-level climate action plans. This study was last updated in March 2021.

3.3.3 City of Rancho Cucamonga General Plan

The City of Rancho Cucamonga General Plan, Resource Conservation Element, sets forth goals and policies that provide direction regarding preserving, protecting, conserving, reusing, replenishing, and efficiently using the City of Rancho Cucamonga's limited natural resources (City of Rancho Cucamonga, 2021a). The following goal and policies are applicable to the proposed Project:

- Goal RC-6: A resilient community that reduces its contributions to a changing climate and is prepared for the health and safety risks of climate change.
- Policy RC-6.9: Require pedestrian, vehicle, and transit connectivity of streets, trails, and sidewalks, as well as between complementary adjacent land uses.
- Policy RC-6.10: Encourage sustainable building and site design that meets the standards of Leadership in Energy and Environmental Design (LEED), Sustainable Sites, Living Building Challenge, or similar certification.
- Policy RC-6.11: Encourage alternative building types that are more sensitive to and designed for passive heating and cooling within the arid environment found in Rancho Cucamonga.
- Policy RC-6.14: When reviewing development proposals, encourage applicants to consider stormwater control strategies and systems for sensitivity to changes in precipitation regimes and consider adjusting those strategies to accommodate future precipitation regimes.
- Policy RC-6.15: Require heat island reduction strategies in new developments such as light-colored paving, permeable paving, right-sized parking requirements, vegetative cover and planting, substantial tree canopy coverage, and south and west side tree planting.
- Policy RC-6.17: Allow the use of creative mitigation efforts such as off-site mitigation and in lieu fee programs as mechanisms for reducing project-specific GHG emissions.

3.3.4 City of Rancho Cucamonga Climate Action Plan

The City of Rancho Cucamonga adopted its Climate Action Plan (CAP) in December 2021 (City of Rancho Cucamonga 2021). It is a companion to the City's General Plan, which articulates the City's vision and lays out a set of strategies to achieve the community's vision for the future. The General Plan envisions a community, in part, as one that reduces its contributions to a changing climate and commits the City to doing so through preparing, maintaining, and implementing the CAP. The City's CAP is consistent with San Bernardino County Regional Greenhouse Gas Reduction Plan.

3.3.5 City of Ontario General Plan

The City of Ontario General Plan, Air Quality Element sets forth goals and policies which aims to reduce GHG within the City of Ontario (City of Ontario 2022a). The following goal and policies are applicable to the proposed Project:

- Policy ER-4.1: The City reduces GHG and other local pollutant emissions through compact, mix use, and transit-oriented development and development that improves the regional jobs-housing balance.
- Policy ER-4.3: The City reduces GHG emission in accordance with regional, state, and federal regulations. The City of Ontario's Climate Action Plan is further discussed in Section 3.7.3.4.5.

3.3.6 City of Ontario Community Climate Action Plan

The City of Ontario adopted its original Community Climate Action Plan (CCAP) in November 2014 and an updated CCAP in August 2022 (City of Ontario 2022). The primary purpose of the City's CCAP is to design a feasible strategy to establish the long-term framework for action on climate change to ensure GHG pollution is reduced while boosting low-carbon innovation.

The updated CCAP includes specific targets for GHG reductions for 2030, 2040, and 2050. The targets are consistent with broader State and federal reduction targets and reflect contemporary scientific understanding of GHG reductions required by 2050. The 2022 Ontario CCAP is consistent with San Bernardino County Regional Greenhouse Gas Reduction Plan.

4 METHODOLOGY

4.1 RESOURCE STUDY AREA

Consistent with the Traffic Technical Report prepared for this proposed Project, the proposed Project is estimated to have no adverse effect on adjacent surface transportation and roadway systems, excluding the two termini of the proposed Project. Therefore, it is estimated that only the adjacent intersections of the two termini would be affected by the proposed Project. Thus, the following existing intersections have been evaluated:

Intersections Adjacent to ONT:

1. East Terminal Way [West]/Airport Drive (City of Ontario)
2. Archibald Avenue – Terminal Way/Airport Drive (City of Ontario)
3. East Terminal Way [East]/Airport Drive (City of Ontario)
4. Rental Car Road/Airport Drive (City of Ontario)

Intersections Adjacent to the Cucamonga Metrolink Station:

1. Milliken Avenue/Azusa Court (City of Rancho Cucamonga)
2. Milliken Avenue/7th Street (City of Rancho Cucamonga)

4.2 PROJECT EMISSION ESTIMATION METHODS

The GHG analysis includes estimating emissions associated with long-term operation of the proposed Project. Traffic changes based on the Project operations would be based on the *Transportation Technical Report* (SBCTA 2024d). Construction emissions were estimated for each year of construction activity based on the annual construction equipment profile and other factors determined as needed to complete all phases of construction by the target completion year. As such, each year of construction activity has varying quantities of GHG emissions. Per South Coast Air Quality Management District (SCAQMD) guidance, total construction GHG emissions resulting from the proposed Project are amortized over 30 years and added to operational GHG emissions.

The GHG emissions impacts analysis considers direct GHG emissions and indirect GHG emissions. Direct emissions include the release of GHGs from construction and operation; indirect emissions include those emissions from the production of electricity used by the proposed Project, the conveyance and treatment of water used by the proposed Project, and the disposal of solid waste associated with the proposed Project.

While the proposed Project provides transit ridership, this is not a roadway capacity-increasing project, and a qualitative discussion of GHG emissions has been prepared for the operational GHG emissions.

Construction-related GHG emissions were estimated using the planned construction information (e.g., schedule, equipment) combined with OFFROAD 2021 and Emission Factors (EMFAC) 2021 data documented in the Air Quality Technical Report prepared for the proposed Project (SBCTA 2024c). The Air Quality Technical Report includes details on construction equipment and activity assumptions that were used to estimate GHG emissions.

Long-term maintenance of the airport transit system would occur under the proposed Project. The California Emissions Estimator Model (CalEEMod) was used to estimate the GHG emissions associated with the MSF. The CalEEMod land use of "Automobile Care Center" was used as the best representative land use type included in CalEEMod. The building was specified as 10,000 square feet without any landscaping. It was assumed that there would be 30 employees who would each drive two trips per day (to work and to home) and that there would be five deliveries of supplies per day. The default CalEEMod trip lengths of 24.2 miles for home-to-work, 9.9 miles for work-to-other, and 7.0 miles for other-to-other trips, along with the default trip type percentages, were used.

The proposed Project would result in nominal area-source emissions, which would be generated due to an increased demand for natural gas associated with the development of the proposed Project. The primary use of area-source emissions by the Project would be for consumer products, architectural coating, and landscaping.

The proposed Project would also result in indirect emissions of GHG from energy consumption, water use, and solid waste disposal. Energy consumption emissions would occur at the various electrical generating stations from which the proposed Project would draw. Water use emissions would occur at the various water delivery and processing facilities the proposed Project would utilize. Solid waste emissions would occur at the landfill.

4.3 EVALUATION OF IMPACTS UNDER CEQA

Impacts related to GHG emissions are evaluated based on consistency with established statewide GHG reduction goals, including the goals set forth in AB 32 and SB 32. AB 32 required California to reduce GHG emissions to 1990 levels by 2020, and SB 32 continues that timeline and requires greater reduction in GHG emissions. The GHG reduction goals are based on scientific consensus on the GHG emissions reduction needed to avert the worst effects of climate change. The *State CEQA Guidelines* provide that a Lead Agency may consider a project's consistency with the State's long-term climate goals or strategies in determining the significance of impacts (*State CEQA Guidelines,* Section 15064.4).

4.3.1 CEQA Significance Thresholds

State CEQA Guidelines Section 15064(b) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further, states that an "ironclad definition

of significant effect is not always possible because the significance of an activity may vary with the setting."

In accordance with Appendix G of the 2024 State CEQA Guidelines, the proposed Project would have a significant impact related to GHG emissions if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Currently, there is no statewide GHG emissions threshold used to determine the potential GHG emissions impacts of a project. Threshold methodology and thresholds are still being developed and revised by air districts in California.

The cities of Ontario and Rancho Cucamonga both have a CAP; however, neither CAP is a qualified CAP, meaning that neither CAP meets the requirements for tiering and streamlining under Section 15183.5 of the State CEQA Guidelines. Therefore, consistency with the cities' CAP goals and policies will be demonstrated solely for informational purposes.

To provide guidance to local Lead Agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group) in 2008. This Working Group proposed a tiered approach for evaluating GHG emissions for development projects where the SCAQMD is not the Lead Agency (SCAQMD 2008). Tier 1 is for projects exempt from GHG impact analysis requirements and Tier 2 is for projects covered by a qualified CAP, neither of which apply to this Project. Thus, the applicable tier for this Project is Tier 3, which states that if GHG emissions are less than 3,000 $MTCO_2e$ per year, project-level and cumulative GHG emissions would be less than significant.

While SCAQMD's Tier 3 threshold of 3,000 $MTCO_2e$ per year was proposed by SCAQMD more than a decade ago and was adopted as an interim policy, it is based on substantial evidence as provided in the *Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold* (2008) document and subsequent Working Group meetings (latest of which occurred in 2010). SCAQMD has not withdrawn its support of the interim threshold, and all documentation supporting the interim threshold remains on the SCAQMD website. SCAQMD has stated this threshold "uses the Executive Order S-3-05 goal [80 percent below 1990 levels by 2050] as the basis for deriving the screening level." Therefore, this threshold is valid for use in 2024.

5 EXISTING CONDITIONS

In the United States, approximately 28% of GHG emissions were associated with transportation and about 25% were associated with electricity generation in 2021 (USEPA, 2021).

CARB performs statewide GHG inventories, which have been divided into seven broad sectors: agriculture, commercial and residential, electric power, industrial, high GWP, recycling and waste, and transportation. Emissions are quantified in $MMTCO_2e$. Table 5-1 shows the estimated statewide GHG emissions for the years 2000, 2010, and 2021.

Table 5-1: California Greenhouse Gas Emissions by Sector ($MMTCO_2e$)

Sector	2000	2010	2021
Transportation	175.7 (38%)	162.91 (37%)	145.7 (38%)
Electric Power	104.7 (23%)	90.3 (20%)	62.5 (16%)
Industrial	93.0 (20%)	87.8 (20%)	73.5 (19%)
Commercial and Residential	44.2 (10%)	46.0 (10%)	38.93 (10%)
Agriculture	30.8 (7%)	33.6 (8%)	30.9 (8%)
High GWP	6.3 (1%)	13.5 (3%)	21.4 (6%)
Recycling and Waste	7.1 (2%)	8.1 (2%)	8.4 (2%)
TOTAL	461.8	442.2	381.3

Source: CARB 2022b. California Greenhouse Gas Emission Inventory - 2022 Edition. Data available at: www.arb.ca.gov/ghg-inventory-data

As shown in Table 5-1, statewide GHG emissions totaled 461.8 $MMTCO_2e$ in 2000, 442.2 $MMTCO_2e$ in 2010, and 381.3 $MMTCO_2e$ in 2021. Transportation-related emissions consistently contribute the most GHG emissions, followed by industrial emissions and electricity generation.

A San Bernardino County regional emissions inventory was prepared as part of the Regional Greenhouse Gas Reduction Plan. The 2016 emissions inventory for the cities of Rancho Cucamonga and Ontario is duplicated in Table 5-2. The largest portion of Rancho Cucamonga's 2016 emissions were from transportation (47%), building energy (natural gas and electricity) (45%), and waste (5%). The largest portion of Ontario's 2016 emissions were from transportation (41%), building energy (natural gas and electricity) (34%), and agriculture/off-road equipment (18%). Similar to the statewide emissions, transportation related GHG emissions contributed the most in the cities of Rancho Cucamonga and Ontario.

Table 5-2: Cities of Rancho Cucamonga and Ontario
2016 Community Greenhouse Gas Inventory ($MTCO_2e$)

Sector	Rancho Cucamonga	Ontario
Natural Gas	307,321 (21%)	267,637 (13%)
Transportation	707,753 (47%)	858,558 (41%)
Agriculture/Off-Road Equipment	21,227 (1%)	378,492 (18%)
Electricity	360,734 (24%)	449,056 (21%)
Waste	79,716 (5%)	118,949 (6%)
Water (Transport, Distribution, and Treatment)	18,935 (1%)	19,274 (1%)
TOTAL	1,495,686	2,091,966

Source: SBCTA 2021. San Bernardino County Regional Greenhouse Gas Reduction Plan – Appendices. Data available at: www.gosbcta.com/plan/regional-greenhouse-gas-reduction-plan/

6 IMPACT EVALUATION

Estimation of GHG emissions in the future does not account for all changes in technology that may reduce such emissions; therefore, the estimates are based on existing performance measures for GHG emissions generated from mobile sources (e.g., cars, trucks, and buses) and represent a scenario that is worse than that which is likely to be encountered (after energy-efficient technologies have been implemented). While information is presented in this section to assist the public and decision-makers in understanding the proposed Project's potential contribution to climate change impacts, the information available is not sufficiently detailed to allow a direct comparison between particular characteristics of the proposed Project and particular climate change impacts or between any particular proposed mitigation measure and any reduction in climate change impacts.

6.1 GENERATE GREENHOUSE GAS EMISSIONS

6.1.1 No Project Alternative

6.1.1.1 Construction Impacts

While the proposed Project would not be constructed under the No Project Alternative, the No Project Alternative includes planned expansion, improvement projects, and routine maintenance activities for the existing roadway system and transit facilities. Construction of these projects is anticipated to result in temporary increases in GHG emissions; however, these planned projects would be subject to separate environmental review and, in an effort to reduce construction-related emissions, would be required to comply with existing GHG regulations, similar to those listed in Section 3.

6.1.1.2 Operational Impacts

The No Project Alternative would not result in a net decrease in GHG emissions associated with the Project because the GHG-emitting vehicles driving the last portion of their route would not be replaced with electric shuttles between the Cucamonga Metrolink Station and ONT. While the Project would not be constructed under the No Project Alternative, the No Project Alternative includes operation of planned expansion and improvement projects for the existing roadway system and transit facilities. Operation of these projects may result in GHG emissions; however, these planned projects would be subject to separate environmental review and, in an effort, to reduce operation-related emissions, would be required to comply with existing GHG regulations, similar to those listed in Section 3.

6.1.2 Proposed Project

Direct Project-related GHG emissions include emissions from construction activities and, once operational, from area sources and mobile sources, while indirect sources only occur after construction and include emissions from energy consumption, water demand, and solid waste generation. The most

recent version of CalEEMod, version 2022.1.1.5, was used to calculate direct and indirect proposed Project-related GHG emissions.

6.1.2.1 Construction Impacts

Construction activities associated with the proposed Project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment, haul trucks, and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The SCAQMD does not provide a separate GHG significance threshold for construction emissions; rather, its guidance specifies that construction emissions should be amortized over 30 years (a typical project lifetime), added to the proposed Project's operational emissions (see Table 6-2), and that total compared to the GHG significance threshold. Construction GHG emissions were estimated, and the results are presented in Table 6-1. Consistent with the Project Description, construction was assumed to begin in 2025 and to be concluded in 2031. Construction activities for the MSF, vent shaft design option 2 or vent shaft design option 4, and passenger stations would occur in Year 2 (2028) and Year 4 (2030). Construction activities for tunnel boring would occur in Year 3, Year 4, and Year 5. GHG emissions were calculated utilizing the EMFAC2021 and OFFROAD models with a methodology consistent with the Air Quality Technical Report completed for the proposed Project (SBCTA 2024c).

Table 6-1: Construction Greenhouse Gas Emissions

Year	Total Emissions per Year ($MTCO_2e$)
Year 1	0
Year 2	662
Year 3	5,023
Year 4	2,027
Year 5	4,316
Total Emissions for the Entire Construction Process	12,029
Total Construction Emissions Amortized over 30 Years	401

Source: Compiled by LSA (December 2022)

Table 6-1 shows that 12,029 $MTCO_2e$ would be emitted during construction of the Project. These emissions amortized over a 30-year period would result in the emission of 401 $MTCO_2e$ annually as a result of construction of the Project.

Construction of the vent shaft design options 2 or 4, passenger stations, and MSF would result in temporary increases in GHG emissions. As previously described, the SCAQMD does not provide a separate GHG significance threshold for construction emissions. However, compliance with existing GHG regulations and equipment specifications would ensure that construction GHG emissions associated with the proposed Project would be reduced to comply with the SCAQMD project threshold.

6.1.2.2 Operational Impacts

Long-term GHG emissions are typically generated from mobile sources (e.g., cars, trucks, and buses), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution). Mobile-source GHG emissions would include worker commute vehicle and delivery truck trips to and from the proposed Project. Area-source emissions would be associated with activities such as landscaping and maintenance on the proposed Project site. Waste-source emissions generated by the proposed Project include energy generated by landfilling and other methods of disposal related to transporting and managing proposed Project-generated waste. Table 6-2 shows the estimated operational GHG emissions.

Table 6-2: Long-Term Operational Greenhouse Gas Emissions

Source	Pollutant Emissions (MT/yr)					
	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e
Proposed Operational Emissions						
Area	<1	<1	<1	<1	<1	<1
Energy	<1	38	38	<1	<1	38
Mobile	<1	90	90	<1	<1	92
Waste	3	0	3	<1	0	12
Water	<1	1	1	<1	<1	2
Total Proposed Project Emissions	4	129	130	<1	<1	487
Construction Emissions Amortized over 30 Years[1]						401
Total Project-Related GHG Emissions						888
SCAQMD Threshold						3,000
GHG Emissions Exceed Threshold?						No

Source: Compiled by LSA (December 2022)
[1] Construction emissions amortized over 30 years described in Section 6.2.2.
Bio-CO_2 = biologically generated CO_2 MT/yr = metric tons per year
CH_4 = methane N_2O = nitrous oxide
CO_2 = carbon dioxide Nbio-CO_2 = nonbiologically generated CO_2
CO_2e = carbon dioxide equivalent SCAQMD = South Coast Air Quality Management District
GHG = greenhouse gas

The purpose of the proposed Project is to reduce the amount of fossil-fuel powered vehicles used by ONT airport passengers by providing a mode shift to autonomous vehicles from single-occupancy vehicles between the Cucamonga Metrolink Station and ONT terminals. Once operational, there would be a reduction in GHG emissions from the proposed Project area due to this mode shift. The proposed Project is comprised of three key components: stations, tunnel, and emergency access and vent shaft.

For the purposes of this GHG analysis, the station operations and the MSF at the Cucamonga Metrolink Station would result in direct GHG area emissions from landscape maintenance, building heating, and would generate indirect GHG emissions from electricity generation. Similarly, the station operations at ONT would result in direct GHG area emissions from landscape maintenance and would generate indirect GHG emissions from electricity generation. The tunnel would not generate any GHG directly, but the shuttles operating within would consume electricity, thus generating indirect GHG emissions from energy generation. Similarly, the vent shaft design option 2 or vent shaft design option 4 would not generate any GHG directly, but the ventilation equipment would consume electricity from the operation of mechanical equipment. As shown in Table 6-2, the proposed Project operations would result in approximately 888 $MTCO_2e$ per year. This is less than SCAQMD's threshold of 3,000 $MTCO_2e$ per year. The proposed Project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment.

6.2 CONSISTENCY WITH APPLICABLE PLANS, POLICIES, AND REGULATIONS RELATED TO EMISSIONS OF GREENHOUSE GASES

6.2.1 No Project Alternative

6.2.1.1 Construction Impacts

While the proposed Project would not be constructed under the No Project Alternative, the No Project Alternative includes planned expansion, improvement projects, and routine maintenance activities for the existing roadway system and transit facilities. Construction of these projects is anticipated to result in temporary increases in GHG emissions; however, these planned projects would be subject to separate environmental review and, in an effort to reduce construction-related emissions, would be required to comply with applicable plans, policies, and regulations related to emissions of GHGs.

6.2.1.2 Operational Impacts

The No Project Alternative would not result in a net decrease in GHG emissions associated with the proposed Project because the GHG-emitting vehicles driving the last portion of their route would not be replaced with electric shuttles between the Cucamonga Metrolink Station and ONT. While the proposed Project would not be constructed under the No Project Alternative, the No Project Alternative includes operation of planned expansion and improvement projects for the existing roadway system and transit facilities. Operation of these projects may result in GHG emissions; however, these planned projects

would be subject to separate environmental review and, in an effort, to reduce operation-related emissions, would be required to comply with existing GHG regulations, similar to those listed in Section 3.

6.2.2 Proposed Project

The GHG plan consistency analysis for this proposed Project is based on the proposed Project's consistency with the City of Ontario's General Plan and CAP, the City of Rancho Cucamonga's General Plan and CAP, and SCAG's RTP/SCS. The RTP/SCS is a regional growth management strategy that targets per-capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The RTP/SCS incorporates local land use projections and circulation networks in city and county general plans.

6.2.2.1 Consistency with Greenhouse Gas Emissions Reduction Plans

Table 6-3 identifies the GHG reduction strategies from the City of Ontario's 2022 CCAP with potential applicability to the proposed Project. Strategies that would not apply (e.g., residential strategies) have not been included in Table 6-3.

Table 6-3: Ontario Community Climate Action Plan GHG Reduction Strategies

Strategy Number	Strategy Name	Strategy Language	Project Consistency
10	Increase Transportation Ridership	Ensure a reliable and responsive transit system with dedicated and secure funding and resources to support increased ridership.	Consistent: The proposed Project would enhance the City's overall transit system by providing reliable and responsive service between key City destinations. The proposed Project has adequate funding and resources to support ridership.
12	Community Vehicle Electrification	Promote and incentivize the adoption of electric vehicles citywide, including light-duty and heavy-duty vehicles, for municipal, commercial, and residential uses.	Consistent: The proposed Project includes use of electric shuttles.
13	Active Transportation Networks	Work with transit agencies, school districts, and employers to facilitate an interconnected transportation system that allows a shift in travel from private passenger vehicles to alternative modes, including public transit, ride sharing, car sharing, bicycling, and walking.	Consistent: The proposed Project purpose is to provide an alternative to private passenger vehicles between the Cucamonga Metrolink Station and ONT.
15	Parking Policy and Event Parking	Adopt a comprehensive parking policy that encourages carpooling and the use of alternative transportation, including providing parking stalls for car-share vehicles at convenient locations with access to public transportation.	Consistent: The proposed Project purpose is to provide alternative transportation to private passenger vehicles, and access to public transportation.
22	Water Efficient Landscapes	Promote drought-tolerant and fire-wise landscaping. Encourage increased use of	Consistent: The proposed Project would include drought-resistant landscaping.

Table 6-3: Ontario Community Climate Action Plan GHG Reduction Strategies

Strategy Number	Strategy Name	Strategy Language	Project Consistency
	and Water Recycling	reclaimed water for landscape irrigation, agricultural, and industrial use.	

The City of Rancho Cucamonga adopted its CAP in December 2021. It is a companion to the City's General Plan, which articulates the City's vision and lays out a set of strategies to achieve the community's vision for the future. Table 6-4 identifies the GHG reduction strategies with potential applicability to the proposed Project. Strategies that would not apply (e.g., residential strategies) have not been included in Table 6-4.

Table 6-4: Rancho Cucamonga's CAP GHG Reduction Strategies

Goals and Strategies	Project Consistency
Goal 1: Zero Emissions and Clean Fuels. A community that uses zero-emission vehicles and clean vehicles to move people and goods.	Consistent: The proposed Project is a transit system to uses zero-emissions shuttles.
Goal 8: Water Conservation. A community that conserves and recycles water.	Consistent: The proposed Project would include drought-resistant landscaping.
Goal 11: Regional Mobility Hub. A multimodal transportation hub that connects regional and local destinations through a symbiotic relationship with regional partners.	Consistent: The proposed Project is a transit system that connects local destinations.
Goal 12: Active Transportation. A first-class pedestrian and bicycle network that fosters safe and connected access to non-motorized travel and recreation.	Consistent: The proposed Project consists of non-motorized electric shuttles.
Goal 13: Sustainable Transportation. A transportation network that adapts to changing mobility needs while preserving sustainable community values.	Consistent: The proposed Project is a transit system that is to adapt to changing mobility needs.

Source: Rancho Cucamonga Climate Action Plan (December 2021)

The proposed Project would not conflict with any of these local strategies. Further, the proposed Project is subject to California Building Code requirements. New buildings must achieve the 2021 Building and Energy Efficiency Standards and the 2021 California Green Building Standards Code (CALGreen Code) requirements, which include water conservation measures. Overall, the proposed Project would not conflict with the goals and policies of the City of Ontario CCAP or the City of Rancho Cucamonga CAP.

6.2.2.2 Consistency with the SCAG 2020–2045 RTP/SCS

On September 3, 2020, the Regional Council of SCAG formally adopted the 2020–2045 RTP/SCS. The RTP/SCS includes performance goals that were adopted to help focus future investments on the

best-performing projects, as well as different strategies to preserve, maintain, and optimize the performance of the existing transportation system. Table 6-5, Consistency with the 2020-2045 RTP/SCS Goals, shows the proposed Project's consistency with these nine strategies found within the RTP/SCS. As shown therein, the proposed Project would be consistent with the GHG emission reduction strategies contained in the RTP/SCS.

Table 6-5: Consistency with the 2020–2045 RTP/SCS Goals

SCAG Measure	Project Consistency Analysis
Goal 1: Align the plan investments and policies with improving regional economic development and competitiveness.	Not Applicable: This is not a project-specific policy and is therefore not applicable for the proposed Project's land uses.
Goal 2: Maximize mobility and accessibility for all people and goods in the region.	Consistent: One of the main purposes of the proposed Project is to increase mobility and connectivity for transit patrons, and improve access to existing transportation services.
Goal 3: Ensure travel safety and reliability for all people and goods in the region.	Consistent: All modes of transit in Ontario and Rancho Cucamonga are required to follow safety standards set by corresponding regulatory documents. Pedestrian walkways and bicycle routes must follow safety precautions and standards established by local (e.g., City of Ontario, City of Rancho Cucamonga, San Bernardino County) and regional (e.g., SCAG, Caltrans) agencies. Roadways for motorists must follow safety standards established for the local and regional plans. The proposed Project would be consistent with ingress and egress to public streets from the proposed Project site, including crosswalks and pedestrian walkways. Additionally, the proposed Project would include one vent shaft to provide a means of emergency for passenger egress and first responder access and to comply with National Fire Protection Association Code 130 requirements.
Goal 4: Preserve and ensure a sustainable regional transportation system.	Consistent: All new roadway developments and improvements to the existing transportation network must be assessed with some level of traffic analysis (e.g., traffic assessments, traffic impact studies) to determine how the developments would impact existing traffic capacities and to determine the needs for improving future traffic capacities. The proposed Project would encourage mode shift from automobiles to transit which would reduce VMT on the roadway network.
Goal 5: Maximize the productivity of our transportation system.	Consistent: The local and regional transportation system would be improved by the proposed Project encouraging a mode shift to transit from single-occupancy vehicles using the surrounding road network.

Table 6-5: Consistency with the 2020–2045 RTP/SCS Goals

SCAG Measure	Project Consistency Analysis
Goal 6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).	Consistent: The reduction of energy use, improvement of air quality, and promotion of more environmentally sustainable developments are encouraged through alternative transportation methods, green design techniques for buildings, and other energy reducing techniques. For example, development projects are required to comply with the provisions of the California Building and Energy Efficiency Standards and the CALGreen Code. The proposed Project would maximize the protection of the environment and improvement of air quality by encouraging and improving the use of the region's public transportation system (e.g., bus, bicycle) for residents, visitors, and workers and would enhance pedestrian networks.
Goal 7: Actively encourage and create incentives for energy efficiency, where possible.	Consistent: This is not a project-specific policy and is therefore not applicable. However, the proposed Project would be consistent with the energy-efficiency requirements of Title 24.
Goal 8: Encourage land use and growth patterns that facilitate transit and non-motorized transportation.	Consistent: See response to RTP/SCS Goal 6.
Goal 9: Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	Consistent: The proposed Project would be designed to provide a safe, secure, and comfortable transit system consistent with current Omnitrans operating rules and FTA regulatory requirements, and would incorporate safety improvements, warning systems, and barrier systems to enhance safety.

Source: Compiled by LSA (December 2022)
CALGreen Code = California Green Building Standards Code
Caltrans = California Department of Transportation
RTP/SCS = Regional Transportation Plan/Sustainable Communities Strategy
SCAG = Southern California Association of Governments

6.2.2.2.1 Construction Impacts

There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is AB 32 and SB 32, the California Global Warming Solutions Act of 2006. The quantitative goal of AB 32 was to reduce GHG emissions to 1990 levels by 2020. SB 32 requires further reductions of 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. Statewide plans and regulations are being implemented at the statewide level, and compliance on a project-specific level is not addressed. However, as previously discussed, SCAQMD applies a screening threshold of 3,000 $MTCO_2e$ per year to comply with the reduction goals of AB 32 and SB 32. The proposed Project's increase in GHG emissions would be less than the SCAQMD's threshold; therefore, the proposed Project would be consistent with AB 32 and SB 32.

Construction of the vent shaft design option 2 or vent shaft design option 4, passenger stations, and MSF, would result in temporary increases in GHG emissions. However, compliance with the goals and policies of the City of Ontario CCAP or the City of Rancho Cucamonga CAP and GHG emission reduction strategies contained in the RTP/SCS would ensure that construction related GHG emissions associated with the proposed Project would be reduced. Therefore, construction of the proposed Project would be consistent with applicable plans, policies, and regulations related to emissions of GHG.

6.2.2.2.2 Operational Impacts

The proposed Project would not conflict with the goals and policies of City of Ontario CCAP or the City of Rancho Cucamonga CAP and would be consistent with the GHG emission reduction strategies contained in the 2020-2045 RTP/SCS. Therefore, the proposed Project would not conflict with an applicable plan, policy or regulation related to emissions of GHGs.

The proposed Project would introduce a mode shift to autonomous vehicles from single-occupancy vehicles between the Cucamonga Metrolink Station and ONT terminals. As demonstrated in the Transportation Technical Report, the proposed Project would result in a reduction in regional VMT and associated GHG emissions, which would directly contribute to the goals of SCAG's RTP/SCS that focus on increasing transit opportunities and decreasing transportation related GHG emissions. The proposed Project would increase transit opportunities and reduce single-passenger automobile use, which is consistent with several adopted State and local policies and regulations in reducing GHG emissions. Therefore, implementation of the proposed Project would not conflict with an applicable plan, policy, or regulation related to emissions of GHGs.

As described in Section 6.1, operation of the vent shaft design option 2 or vent shaft design option 4, passenger stations, and MSF would result in direct GHG area emissions from landscape maintenance and building heating, and would generate indirect GHG emissions from electricity generation and operation of mechanical equipment. However, compliance with the goals and policies of the City of Ontario CCAP or the City of Rancho Cucamonga CAP and GHG emission reduction strategies contained in the RTP/SCS would ensure that operation related GHG emissions associated with the proposed Project would be reduced. Therefore, operation of the proposed Project would be consistent with applicable plans, policies, and regulations related to emissions of GHGs.

7 MITIGATION MEASURES AND IMPACTS AFTER MITIGATION

7.1 MITIGATION MEASURES FOR GHG

No mitigation measure would be required for the implementation of the No Project Alternative or the proposed Project.

7.2 CEQA SIGNIFICANCE CONCLUSION

7.2.1 Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

7.2.1.1 No Project Alternative

While the proposed Project would not be constructed under the No Project Alternative, the No Project Alternative includes planned expansion, improvement projects, and routine maintenance activities for the existing roadway system and transit facilities. Construction and operation of these projects is anticipated to result in GHG emissions; however, these planned projects would be subject to separate environmental review and, in an effort, to reduce GHG emissions, would be required to comply with existing GHG regulations, similar to those listed in Section 3. Therefore, under the No Project Alternative, GHG emissions may be generated either directly or indirectly during construction and operation and the impact would be less than significant impact.

7.2.1.2 Proposed Project

7.2.1.2.1 Construction Impacts

The SCAQMD does not provide a separate GHG significance threshold for construction emissions. The proposed Project would result in 401 $MTCO_2e$ amortized over 30 years. As shown in Table 6-2, when construction GHG emissions are considered with operations GHG emissions, construction of the proposed Project would not generate GHG emissions in exceedance of the SCAQMD thresholds. Therefore, construction impacts would be less than significant.

Construction of the vent shaft design option 2 or vent shaft design option 4, passenger stations, and one MSF would result in temporary increases in GHG emissions. As previously described, the SCAQMD does not provide a separate GHG significance threshold for construction emissions. However, compliance with existing GHG regulations and equipment specifications would ensure that construction related GHG emissions associated with the proposed Project would be reduced to comply with the SCAQMD project threshold. Therefore, construction of the proposed Project would result in less than significant GHG impacts.

7.2.1.2.2 Operation Impacts

Operation of the vent shaft design options 2 or 4, passenger stations, and MSF would result in direct GHG emissions from landscape maintenance, building heating, and would generate indirect GHG emissions from electricity generation. However, Project operations would result in approximately 888 $MTCO_2e$ per year, less than SCAQMD's threshold of 3,000 $MTCO_2e$ per year. Additionally, the purpose of the proposed Project is to reduce the amount of fossil-fuel powered vehicles used by ONT airport passengers by providing a mode shift to autonomous vehicles from single-occupancy vehicles between the Cucamonga Metrolink Station and ONT terminals. Once operational, there would be a reduction in GHG emissions from the proposed Project due to this mode shift. As shown in Table 6-2, the proposed Project would not generate GHG emissions in exceedance of SCAQMD thresholds. Therefore, operational impacts would be less than significant.

As described in Section 6.1, operation of vent shaft design option 2 or vent shaft design option 4, passenger stations, and MSF would not generate any GHG emissions directly, but the ventilation equipment would consume electricity from the operation of mechanical equipment. However, compliance with existing GHG regulations, as listed in Section 3, and equipment specifications, would ensure that operational GHG emissions associated with the proposed Project would be reduced to comply with the SCAQMD project threshold. Therefore, operation of the proposed Project would result in less than significant GHG impacts.

7.2.2 Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

7.2.2.1 No Project Alternative

While the proposed Project would not be constructed under the No Project Alternative, the No Project Alternative includes planned expansion, improvement projects, and routine maintenance activities for the existing roadway system and transit facilities. Construction and operation of these projects is anticipated to result in GHG emissions; however, these planned projects would be subject to separate environmental review and, in an effort, to reduce GHG emissions, would be required to comply with applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs. Therefore, with compliance with applicable plans, policies, or regulations adopted for the purpose of reducing emissions of GHGs, the No Project Alternative would result in less than significant impacts.

7.2.2.2 Proposed Project

7.2.2.2.1 Construction Impacts

Construction of the proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. SCAQMD applies a screening threshold of 3,000 $MTCO_2e$ per year to comply with the reduction goals of AB 32 and SB 32. The proposed Project's increase in GHG emissions during construction would be less than the SCAQMD's threshold (see Table 6-2);

therefore, the proposed Project would be consistent with AB 32 and SB 32, and construction impacts would be less than significant.

Construction of the vent shaft design option 2 or vent shaft design option 4, passenger stations, and MSF would result in temporary increases in GHG emissions. However, compliance with the goals and policies of the City of Ontario CCAP or the City of Rancho Cucamonga CAP and GHG emission reduction strategies contained in the RTP/SCS would ensure that construction related GHG emissions associated with the proposed Project would be reduced. Therefore, construction of the proposed Project would be consistent with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions and would result in less than significant GHG impacts.

7.2.2.2.2 Operation Impacts

As described in Section 6.1, operation of the proposed Project would result in direct GHG area emissions from landscape maintenance and would generate indirect GHG emissions from electricity generation through operation of mechanical equipment. The proposed Project would increase transit opportunities and reduce single-passenger automobile use, which is consistent with several adopted State and local policies and regulations in reducing GHG emissions. The proposed Project would not conflict with the goals and policies of City of Ontario CCAP or the City of Rancho Cucamonga CAP and would be consistent with the GHG emission reduction strategies contained in the 2020-2045 RTP/SCS. Therefore, the proposed Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. No impact would occur.

As described in Section 6.1, operation of the vent shaft design option 2 or vent shaft design option 4, passenger stations, and MSF would indirectly generate GHG emissions through operation of mechanical equipment. However, compliance with the goals and policies of the City of Ontario CCAP and the City of Rancho Cucamonga CAP and GHG emission reduction strategies contained in the RTP/SCS would ensure that operation related GHG emissions associated with the proposed Project would be reduced. Therefore, operation of the proposed Project would be consistent with applicable plans, policies, and regulations related to emissions of GHGs and no impact would occur.

8 REFERENCES

California Air Resources Board (CARB). 2022a. *Final 2022 Scoping Plan Update*. December. Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan (accessed March 2024).

_____. 2022b. *2000-2021 GHG Inventory (2023 Edition)*. Website: www.arb.ca.gov/ghg-inventory-data (accessed March 2024).

Federal Transit Administration (FTA). 2011. Flooded Bus Barns and Bucked Rails: Public Transportation and Climate Change Adaptation. August.

_____. 2014. Transit and Climate Change Adaptation: Synthesis of FTA-Funded Pilot Project. August.

_____. 2016. Transit Greenhouse Gas Emissions Estimator.

_____. 2017. Greenhouse Gas Emissions from Transit Projects: Programmatic Assessment. January.

City of Ontario. 2022. Community Climate Action Plan. August. Website: www.ontarioca.gov/OntarioPlan (accessed March 2024)

City of Rancho Cucamonga. 2021. Climate Action Plan. December. Website: www.cityofrc.us/GeneralPlanprocess (accessed March 2024).

Intergovernmental Panel on Climate Change (IPCC). 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Website: www.ipcc.ch/report/ar6/wg1/ (accessed March 2024).

Ontario International Airport Authority (OIAA). 2019. Strategic Assessment Ontario International Airport Final Report.

_____. 2022. Ontario International Airport Calendar May YTD. Website: https://www.flyontario.com/sites/default/files/ont_airport_statistics_-_may_2022.pdf (accessed March 2024).

San Bernardino Associated Governments (SANBAG). 2014. Ontario Airport Rail Access Study.

San Bernardino Council of Governments (SBCOG). 2021. San Bernardino Regional GHG Reduction Plan. March. Website: www.gosbcta.com/plan/regional-greenhouse-gas-reduction-plan/ (accessed March 2024).

San Bernardino County Transportation Authority (SBCTA). 2024a. *SBCTA Ontario International Airport Connector Project. Cumulative Impacts Technical Report.*

_____. 2024b. *SBCTA Ontario International Airport Connector Project. Construction Methods Technical Report.*

_____. 2024c. *SBCTA Ontario International Airport Connector Project. Air Quality Technical Report*.

_____. 2024d. *SBCTA Ontario International Airport Connector Project. Transportation Technical Report.*

South Coast Air Quality Management District (SCAQMD). 2008. Greenhouse Gases (GHG) CEQA Significance Thresholds. Website: www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds/ (accessed March 2024).

Southern California Association of Governments (SCAG). 2020. *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy.* September. Website: scag.ca.gov/read-plan-adopted-final-connect-socal-2020 (accessed March 2024).

United States Environmental Protection Agency (USEPA). 2020. Sources of Greenhouse Gas Emissions. Retrieved from: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions (accessed March 2024).

THIS PAGE INTENTIONALLY LEFT BLANK

Ontario International Airport Connector Project

APPENDIX K: GREENHOUSE GAS EMISSIONS TECHNICAL REPORT (APPENDIX A)

October 2024

Prepared for:

San Bernardino County Transportation Authority
1170 West Third Street, Second Floor
San Bernardino, California 92410-1715

THIS PAGE INTENTIONALLY BLANK

RC Tunnel Boring Machine - Off Road Equipment

Equipment Emissions Factors https://goo.gl/maps/BSVtDazZVQfuJxWk9

Equipment	Equipment Description	HP[1.]	Fuel Consumption (gal/hp-hr)	Load Factor	Usage Factor	Factor (g/hp-hr) CO_2
Bobcat T650	Tractors/Loaders/Backhoes	74.3	0.019	0.37	0.70	194.4212
CAT 200	Excavator	118	0.020	0.38	0.70	201.5985
CAT 308 Excavator	Excavator	69.5	0.020	0.38	0.70	203.8905
CAT 320	Excavator	172	0.020	0.38	0.70	201.5985
CAT 350	Excavator	414	0.020	0.38	0.70	201.3185
CAT 963D	Tractors/Loaders/Backhoes	189	0.019	0.37	0.70	194.4147
CAT CS44B 1[2.]	Roller	100.6	0.019	0.38	0.70	198.1089
CAT D4	Rubber Tired Dozer	130	0.019	0.40	0.70	190.4557
CAT M322F Wheel Excavator	Excavator	169	0.020	0.38	0.70	201.5985
Concrete Trucks[3.]	Off-Highway Trucks	400	0.020	0.38	0.70	202.0881
Doosan XP825-HP750	Air Compressor	266	0.016	0.48	0.70	164.9749
Generac MLT4060MV-STD 6kW[4.]	Generator Sets	12.2	0.042	0.74	0.70	420.5477
Genie GTH-1056 Telehandler	Forklift	121	0.010	0.20	0.70	106.0205
Genie GTH-5519 Telehandler	Forklift	74	0.010	0.20	0.70	104.6385
Liebherr LB36	Bore/Drill Rig	523	0.026	0.50	0.70	261.8643
Linkbelt LS248H	Crane	270	0.015	0.29	0.70	151.9901
MQ Power Whisperwatt	Generator Sets	300	0.016	0.74	1	164.9749
Muck Trucks[4.]	Other Construction Equipment	5.5	0.024	0.42	0.70	244.8642
Skyjack SJ86T Manlift	Aerial Lift	74	0.016	0.31	0.70	162.6890
Takeuchi TB235-2	Excavator	24.4	0.022	0.38	0.70	223.8902
Trucks for material[3.]	Off-Highway Trucks	400	0.020	0.38	0.70	202.0881
Volvo L50 Wheel Loader	Tractors/Loaders/Backhoes	90	0.019	0.37	0.70	195.1959
Yanmar ViO55	Excavator	48.4	0.022	0.38	0.70	224.1851

Cells with this contain equipment in a double shift. [accounted for in count]

Notes:

1. Horsepowers are gathered through an internet search as well as emails with clients
2. Even though it does go over the speed bin, the horsepower is so close to 100 we assume it is 100.
3. Assumed to be one vehicle
4. Lower hp bin unavailable since no hourly data, went with closest available bin

Equipment Schedule (daily counts per month of construction)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29
Bobcat T650																							0.5	1	1	1	1	0.5	
CAT 200																													
CAT 308 Excavator																									0.5	1	1	0.5	
CAT 320																											1.5	3	3
CAT 350																													
CAT 963D																											0.5	1	1
CAT CS44B 1																													
CAT D4																													
CAT M322F Wheel Excavator																							0.5	1	1	1	1	0.5	
Concrete Trucks																													
Doosan XP825-HP750																													
Generac MLT4060MV-STD 6kW																													
GenieGTH-1056 Telehandler																							0.5	1	0.5				
Genie GTH-5519 Telehandler																													
Liebherr LB36																									0.5	1	1	0.5	
Linkbelt LS248H																											0.5	1	1
MQ Power Whisperwatt																													
Muck Trucks																													
Skyjack SJ86T Manlift																									0.5	1	1	0.5	
Takeuchi TB235-2																											1	2	2
Trucks for material																							0.5	1	1	1	1.5	1.5	1
Volvo L50 Wheel Loader																							0.5	1	0.5				
Yanmar ViO55																							0.5	1	0.5				

Pollution based on Schedule (tons/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29
CO_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.2	12.4	18.8	25.2	35.1	32.5	19.9

Pollution based on Schedule (lbs/day)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29
CO_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	479.9	959.9	1456.8	1953.8	2724.6	2518.5	1541.6

Diesel Use based on Schedule (gallons/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	550	1101	1670	2240	3124	2888	1768

Diesel Use based on Schedule (gallons/day)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	43	65	87	121	112	69

RC Tunnel Boring Machine - Off Road Equipment

Month																												
M30	M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
																1	1	1	4	4	4	4	4	4						
																1	1	0.5												
3	3	3	1.5																											
																									1	0.5				
1	1	1	0.5																											
																1	1	0.5							1	0.5				
	1	2	2	2	2	2	2	2	2	2	2	2	2	2					2	2	2	2	2	2						
	1	2	2	2	2	2	2	2	2	2	2	2	2	2					2	2	2	2	2	2						
	3	6	6	6	6	6	6	6	6	6	6	6	6	6					10	10	10	10	10	10						
																			2	2	2	2	2	2						
	1	2	2	2	2	2	2	2	2	2	2	2	2	2																
1	2	3	2.5	2	2	2	2	2	2	2	2	2	2	2					2	2	2	2	2	2						
	1	2	2	2	2	2	2	2	2	2	2	2	2	2					2	2	2	2	2	2						
2	2	2	1																											
1	2	3	2.5	2	2	2	2	2	2	2	2	2	2	2		1	1	1	2	2	2	2	2	2	1	0.5				
																1	1	0.5	2	2	2	2	2	2	1	0.5				
																1	1	1							1	0.5				

Month																												
M30	M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
19.9	51.7	83.5	73.5	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	0.0	12.6	12.6	10.3	73.8	73.8	73.8	73.8	73.8	73.8	16.0	8.0	0.0	0.0	0.0	0.0

Month																												
M30	M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
1541.6	4005.5	6469.5	5698.7	4927.9	4927.9	4927.9	4927.9	4927.9	4927.9	4927.9	4927.9	4927.9	4927.9	4927.9	0.0	976.8	976.8	798.5	5724.2	5724.2	5724.2	5724.2	5724.2	5724.2	1243.6	621.8	0.0	0.0	0.0	0.0

Month																												
M30	M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
1768	4598	7429	6545	5661	5661	5661	5661	5661	5661	5661	5661	5661	5661	5661	0	1120	1120	916	6582	6582	6582	6582	6582	6582	1426	713	0	0	0	0

Month																												
M30	M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
69	178	288	254	219	219	219	219	219	219	219	219	219	219	219	0	43	43	35	255	255	255	255	255	255	55	28	0	0	0	0

Vent Shaft - Off Road

Equipment Emissions Factors https://goo.gl/maps/99ETThasr2tBhu7A6

Equipment	Equipment Description	HP[1.]	Fuel Consumption (gal/hp-hr)	Load Factor	Usage Factor	Factor (g/hp-hr) CO_2
Bobcat T650	Tractors/Loaders/Backhoes	74.3	0.019	0.37	0.70	194.4212
CAT 200	Excavator	118	0.020	0.38	0.70	201.5985
CAT 308 Excavator	Excavator	69.5	0.020	0.38	0.70	203.8905
CAT 320	Excavator	172	0.020	0.38	0.70	201.5985
CAT 350	Excavator	414	0.020	0.38	0.70	201.3185
CAT 963D	Tractors/Loaders/Backhoes	189	0.019	0.37	0.70	194.4147
CAT CS44B 1[2.]	Roller	100.6	0.019	0.38	0.70	198.1089
CAT D4	Rubber Tired Dozer	130	0.019	0.40	0.70	190.4557
CAT M322F Wheel Excavator	Excavator	169	0.020	0.38	0.70	201.5985
Concrete Trucks[3.]	Off-Highway Trucks	400	0.020	0.38	0.70	202.0881
Doosan XP825-HP750	Air Compressor	266	0.016	0.48	0.70	164.9749
Generac MLT4060MV-STD 6kW[4.]	Generator Sets	12.2	0.042	0.74	0.70	420.5477
Genie GTH-1056 Telehandler	Forklift	121	0.010	0.20	0.70	106.0205
Genie GTH-5519 Telehandler	Forklift	74	0.010	0.20	0.70	104.6385
Liebherr LB36	Bore/Drill Rig	523	0.026	0.50	0.70	261.8643
Linkbelt LS248H	Crane	270	0.015	0.29	0.70	151.9901
MQ Power Whisperwatt	Generator Sets	300	0.016	0.74	1	164.9749
Muck Trucks[4.]	Other Construction Equipment	5.5	0.024	0.42	0.70	244.8642
Skyjack SJ86T Manlift	Aerial Lift	74	0.016	0.31	0.70	162.6890
Takeuchi TB235-2	Excavator	24.4	0.022	0.38	0.70	223.8902
Trucks for material[3.]	Off-Highway Trucks	400	0.020	0.38	0.70	202.0881
Volvo L50 Wheel Loader	Tractors/Loaders/Backhoes	90	0.019	0.37	0.70	195.1959
Yanmar ViO55	Excavator	48.4	0.022	0.38	0.70	224.1851

Cells with this contain equipment in a double shift. [accounted for in count]

Notes:

1. Horsepowers are gathered through an internet search as well as emails with clients
2. Even though it does go over the speed bin, the horsepower is so close to 100 we assume it is 100.
3. Assumed to be one vehicle
4. Lower hp bin unavailable since no hourly data, went with closest available bin

Equipment Schedule (daily counts per month of construction)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33
Bobcat T650																													1	1	0.5		2
CAT 200																																	
CAT 308 Excavator																														1	0.5		
CAT 320																															1	2	
CAT 350																													1				
CAT 963D																															1	2	
CAT CS44B 1																																	
CAT D4																																	
CAT M322F Wheel Excavator																													1	1	0.5		2
Concrete Trucks																																	2
Doosan XP825-HP750																																	2
Generac MLT4060MV-STD 6kW																																	10
GenieGTH-1056 Telehandler																													1				2
Genie GTH-5519 Telehandler																																	
Liebherr LB36																														1	0.5		
Linkbelt LS248H																															1	2	2
MQ Power Whisperwatt																																	2
Muck Trucks																																	
Skyjack SJ86T Manlift																														1	0.5		
Takeuchi TB235-2																															1	2	
Trucks for material																													1	1	1.5	2	2
Volvo L50 Wheel Loader																													1				2
Yanmar ViO55																													1				2

Pollution based on Schedule (tons/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33
CO_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.7	25.2	26.8	28.5	78.5

Pollution based on Schedule (lbs/day)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33
CO_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1448.6	1953.8	2079.8	2205.8	6086.1

Diesel Use based on Schedule (gallons/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1661	2240	2385	2529	6996

Diesel Use based on Schedule (gallons/day)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	87	92	98	271

Vent Shaft - Off Road

Month

M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
2	2																	2	2	2	1	0.5				
																					1	0.5				
2	2																	2	2	2						
2	2																	2	2	2						
2	2																	2	2	2						
10	10																	10	10	10						
2	2																	2	2	2						
2	2																	2	2	2						
2	2																	2	2	2						
2	2																	2	2	2	1	0.5				
2	2																	2	2	2	1	0.5				
2	2																	2	2	2	1	0.5				

Month

M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
78.5	78.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	78.5	78.5	78.5	10.4	5.2	0.0	0.0	0.0	0.0

Month

M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
6086.1	6086.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6086.1	6086.1	6086.1	803.6	401.8	0.0	0.0	0.0	0.0

Month

M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
6996	6996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6996	6996	6996	921	461	0	0	0	0

Month

M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
271	271	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	271	271	271	36	18	0	0	0	0

ONT T4 - Off Road

Equipment Emissions Factors https://goo.gl/maps/Wh7RuhJoetaHh1u88

Equipment	Equipment Description	HP[1.]	Fuel Consumption (gal/hp-hr)	Load Factor	Usage Factor	Factor (g/hp-hr) CO_2
Bobcat T650	Tractors/Loaders/Backhoes	74.3	0.019	0.37	0.70	194.4212
CAT 200	Excavator	118	0.020	0.38	0.70	201.5985
CAT 308 Excavator	Excavator	69.5	0.020	0.38	0.70	203.8905
CAT 320	Excavator	172	0.020	0.38	0.70	201.5985
CAT 350	Excavator	414	0.020	0.38	0.70	201.3185
CAT 963D	Tractors/Loaders/Backhoes	189	0.019	0.37	0.70	194.4147
CAT CS44B 1[2.]	Roller	100.6	0.019	0.38	0.70	198.1089
CAT D4	Rubber Tired Dozer	130	0.019	0.40	0.70	190.4557
CAT M322F Wheel Excavator	Excavator	169	0.020	0.38	0.70	201.5985
Concrete Trucks[3.]	Off-Highway Trucks	400	0.020	0.38	0.70	202.0881
Doosan XP825-HP750	Air Compressor	266	0.016	0.48	0.70	164.9749
Generac MLT4060MV-STD 6kW[4.]	Generator Sets	12.2	0.042	0.74	0.70	420.5477
Genie GTH-1056 Telehandler	Forklift	121	0.010	0.20	0.70	106.0205
Genie GTH-5519 Telehandler	Forklift	74	0.010	0.20	0.70	104.6385
Liebherr LB36	Bore/Drill Rig	523	0.026	0.50	0.70	261.8643
Linkbelt LS248H	Crane	270	0.015	0.29	0.70	151.9901
MQ Power Whisperwatt	Generator Sets	300	0.016	0.74	1	164.9749
Muck Trucks[4.]	Other Construction Equipment	5.5	0.024	0.42	0.70	244.8642
Skyjack SJ86T Manlift	Aerial Lift	74	0.016	0.31	0.70	162.6890
Takeuchi TB235-2	Excavator	24.4	0.022	0.38	0.70	223.8902
Trucks for material[3.]	Off-Highway Trucks	400	0.020	0.38	0.70	202.0881
Volvo L50 Wheel Loader	Tractors/Loaders/Backhoes	90	0.019	0.37	0.70	195.1959
Yanmar ViO55	Excavator	48.4	0.022	0.38	0.70	224.1851

Cells with this contain equipment in a double shift. [accounted for in count]

Notes:

1. Horsepowers are gathered through an internet search as well as emails with clients
2. Even though it does go over the speed bin, the horsepower is so close to 100 we assume it is 100.
3. Assumed to be one vehicle
4. Lower hp bin unavailable since no hourly data, went with closest available bin

Equipment Schedule (daily counts per month of construction)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33
Bobcat T650																													1	1	1		
CAT 200																																	
CAT 308 Excavator																															1		
CAT 320																																4	4
CAT 350																																	
CAT 963D																																2	2
CAT CS44B 1																																	
CAT D4																																	
CAT M322F Wheel Excavator																													1	1	1		
Concrete Trucks																																	
Doosan XP825-HP750																																	
Generac MLT4060MV-STD 6kW																																	
GenieGTH-1056 Telehandler																													1	1			
Genie GTH-5519 Telehandler																																	
Liebherr LB36																															1		
Linkbelt LS248H																																2	2
MQ Power Whisperwatt																																	
Muck Trucks																																	
Skyjack SJ86T Manlift																															1		
Takeuchi TB235-2																																4	4
Trucks for material																													1	1	1	2	2
Volvo L50 Wheel Loader																													1	1			
Yanmar ViO55																													1	1			

Pollution based on Schedule (tons/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33
CO_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	12.4	25.2	34.5	34.5

Pollution based on Schedule (lbs/day)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33
CO_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	959.9	959.9	1953.8	2676.6	2676.6

Diesel Use based on Schedule (gallons/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1101	1101	2240	3069	3069

Diesel Use based on Schedule (gallons/day)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	43	87	119	119

ONT T4 - Off Road

Month																								
M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
																1	1	1	0.5							
																4	4									
																					1	0.5				
																2	2									
																					1	0.5				
																					1	0.5				
2	2																	2	2	2						
2	2																	2	2	2						
10	10																	10	10	10						
2	2																	2	2	2						
2	2															2	2	2	2	2						
2	2																	2	2	2						
																4	4									
2	2															3	3	3	2.5	2	1	0.5				
																					1	0.5				
																1	1	1	0.5		1	0.5				

Month																								
M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
67.0	67.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	42.5	75.0	71.0	67.0	18.0	9.0	0.0	0.0	0.0	0.0

Month																								
M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
5193.6	5193.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3296.7	3296.7	5813.8	5503.7	5193.6	1396.5	698.2	0.0	0.0	0.0	0.0

Month																								
M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
5973	5973	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3780	3780	6684	6329	5973	1601	801	0	0	0	0

Month																								
M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
232	232	0	0	0	0	0	0	0	0	0	0	0	0	0	0	147	147	259	245	232	62	31	0	0	0	0

ONT T2 - Off Road

Equipment Emissions Factors https://goo.gl/maps/Jnmf9fKSYmd11xGf8

Equipment	Equipment Description	HP[1.]	Fuel Consumption (gal/hp-hr)	Load Factor	Usage Factor	Factor (g/hp-hr) CO_2
Bobcat T650	Tractors/Loaders/Backhoes	74.3	0.019	0.37	0.70	194.4212
CAT 200	Excavator	118	0.020	0.38	0.70	201.5985
CAT 308 Excavator	Excavator	69.5	0.020	0.38	0.70	203.8905
CAT 320	Excavator	172	0.020	0.38	0.70	201.5985
CAT 350	Excavator	414	0.020	0.38	0.70	201.3185
CAT 963D	Tractors/Loaders/Backhoes	189	0.019	0.37	0.70	194.4147
CAT CS44B 1[2.]	Roller	100.6	0.019	0.38	0.70	198.1089
CAT D4	Rubber Tired Dozer	130	0.019	0.40	0.70	190.4557
CAT M322F Wheel Excavator	Excavator	169	0.020	0.38	0.70	201.5985
Concrete Trucks[3.]	Off-Highway Trucks	400	0.020	0.38	0.70	202.0881
Doosan XP825-HP750	Air Compressor	266	0.016	0.48	0.70	164.9749
Generac MLT4060MV-STD 6kW[4.]	Generator Sets	12.2	0.042	0.74	0.70	420.5477
Genie GTH-1056 Telehandler	Forklift	121	0.010	0.20	0.70	106.0205
Genie GTH-5519 Telehandler	Forklift	74	0.010	0.20	0.70	104.6385
Liebherr LB36	Bore/Drill Rig	523	0.026	0.50	0.70	261.8643
Linkbelt LS248H	Crane	270	0.015	0.29	0.70	151.9901
MQ Power Whisperwatt	Generator Sets	300	0.016	0.74	1	164.9749
Muck Trucks[4.]	Other Construction Equipment	5.5	0.024	0.42	0.70	244.8642
Skyjack SJ86T Manlift	Aerial Lift	74	0.016	0.31	0.70	162.6890
Takeuchi TB235-2	Excavator	24.4	0.022	0.38	0.70	223.8902
Trucks for material[3.]	Off-Highway Trucks	400	0.020	0.38	0.70	202.0881
Volvo L50 Wheel Loader	Tractors/Loaders/Backhoes	90	0.019	0.37	0.70	195.1959
Yanmar ViO55	Excavator	48.4	0.022	0.38	0.70	224.1851

Cells with this contain equipment in a double shift. [accounted for in count]

Notes:

1. Horsepowers are gathered through an internet search as well as emails with clients
2. Even though it does go over the speed bin, the horsepower is so close to 100 we assume it is 100.
3. Assumed to be one vehicle
4. Lower hp bin unavailable since no hourly data, went with closest available bin

Equipment Schedule (daily counts per month of construction)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30
Bobcat T650																							1	2	2	2	2	2		
CAT 200																														
CAT 308 Excavator																							1	2	2	2	2	2		
CAT 320																							2	4	4	4	4	4		
CAT 350																														
CAT 963D																							1	2	2	2	2	2		
CAT CS44B 1																														
CAT D4																														
CAT M322F Wheel Excavator																							1	2	2	2	2	2		
Concrete Trucks																							1	2	2	2	2	2		
Doosan XP825-HP750																							1	2	2	2	2	2		
Generac MLT4060MV-STD 6kW																							8	16	16	16	16	16		
GenieGTH-1056 Telehandler																							1	2	2	2	2	2		
Genie GTH-5519 Telehandler																														
Liebherr LB36																							1	2	2	2	2	2		
Linkbelt LS248H																							1	2	2	2	2	2		
MQ Power Whisperwatt																							1	2	2	2	2	2		
Muck Trucks																							1	2	2	2	2	2		
Skyjack SJ86T Manlift																							1	2	2	2	2	2		
Takeuchi TB235-2																							2	4	4	4	4	4		
Trucks for material																							1	2	2	2	2	2		
Volvo L50 Wheel Loader																							1	2	2	2	2	2		
Yanmar ViO55																														

Pollution based on Schedule (tons/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30
CO_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.0	130.1	130.1	130.1	130.1	130.1	0.0	0.0

Pollution based on Schedule (lbs/day)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30
CO_2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5042.0	10083.9	10083.9	10083.9	10083.9	10083.9	0.0	0.0

Diesel Use based on Schedule (gallons/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5796	11591	11591	11591	11591	11591	0	0

Diesel Use based on Schedule (gallons/day)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	225	449	449	449	449	449	0	0

ONT T2 - Off Road

Month																														
M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
																1	1	1	0.5										
																1	1	1											
																								1	0.5				
																1	1	1						1	0.5				
																								1	0.5				
																					2	2	2						
																					2	2	2						
																					10	10	10						
																					2	2	2						
																					2	2	2						
																					2	2	2						
																1	1	1	0.5		2	2	2	1	0.5				
																1	1	1						1	0.5				
																1	1	1	0.5					1	0.5				

Month																														
M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.6	12.6	12.6	4.0	0.0	67.0	67.0	67.0	18.0	9.0	0.0	0.0	0.0	0.0

Month																														
M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	976.8	976.8	976.8	310.1	0.0	5193.6	5193.6	5193.6	1396.5	698.2	0.0	0.0	0.0	0.0

Month																														
M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1120	1120	1120	356	0	5973	5973	5973	1601	801	0	0	0	0

Month																														
M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	43	43	14	0	232	232	232	62	31	0	0	0	0

RC TBM - On Road

Vehicle Emissions Factors https://goo.gl/maps/BSVtDazZVQfuJxWk9

Vehicle Type	Fuel Type	Miles Driven	RUNEX Emission Factor (MT/VMT)[a]		
			CO_2	CH_4	N_2O
Worker Vehicles	Mix	14.7	2.78E-04	2.67E-09	4.80E-09
Construction Trucks - T7 Single Dump Class 8	Mix	20	1.61E-03	6.62E-10	2.54E-07
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	Mix	20	2.38E-05	1.29E-11	3.74E-09

Vehicle Type	STREX Emission Factor (MT/trip)[b]		
	CO_2	CH_4	N_2O
Worker Vehicles	6.76E-05	6.36E-08	3.10E-08
Construction Trucks - T7 Single Dump Class 8	0.00E+00	0.00E+00	0.00E+00
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	0.00E+00	0.00E+00	0.00E+00

a. Emissions includes: g/mile for RUNEX

b. Emissions includes: g/trip for STREX. Assume 2 trips per vehicle per day for STREX.

Global Warming Potential Factors	
Carbon Dioxide (CO_2)	1
Methane (CH_4)	29.8
Nitrous Oxide (N_2O)	273

Source: 2021 IPCC Sixth Assessment Report 6
IPCC = Intergovernmental Panel on Climate Change

Vehicle Type	Fuel Type	Miles Driven	Average MPG
Worker Vehicles	Gasoline	14.7	30.99
	Diesel	14.7	42.03
Construction Trucks - T7 Single Dump Class 8	Diesel	20	5.99
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	Diesel	20	8.93

Quantity Schedule (daily counts per month of construction)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
Worker Vehicles																							230	230	230	230	230	230	230	230	230
Construction Trucks - T7 Single Dump Class 8																							100	100	100	100	100	100	100	100	100
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8																							10	10	10	10	10	10	10	10	10

Pollution based on Schedule (MT/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
CO_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	108	108	1.08E+02	1.08E+02	1.08E+02
CH_4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N_2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CO_2e	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112	112	112	112	112	112	112	112	112

Fuel Use based on Schedule (gallons/month)

Fuel	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2815	2815	2815	2815	2815	2815	2814.95	2814.95	2814.95
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159	35159	35159	35159	35159	35159	35159.1	35159.1	35159.1

RC TBM - On Road

Month																											
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
230	230	230	230	230	230	230	230	230	230	230	230	230		230	230	230	230	230	230	230	230	230	230	230				
100	100	100	100	100	100	100	100	100	100	100	100	100		100	100	100	100	100	100	100	100	100	100	100				
10	10	10	10	10	10	10	10	10	10	10	10	10		10	10	10	10	10	10	10	10	10	10	10				

Month																											
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
1.08E+02	1.08E+02	1.08E+02	1.08E+02	108	108	108	108	108	108	108	108	108	0	108	108	108	108	108	108	1.08E+02	1.08E+02	1.08E+02	1.08E+02	1.08E+02	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	112	112	112	112	112	112	112	112	112	112	112	112	0	112	112	112	112	112	112	112	112	112	112	112	0	0	0	0

Month																											
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
2814.95	2814.95	2814.95	2814.95	2815	2815	2815	2815	2815	2815	2815	2815	2815	0	2815	2815	2815	2815	2815	2815	2814.95	2814.95	2814.95	2814.95	2814.95	0	0	0	0
35159.1	35159.1	35159.1	35159.1	35159	35159	35159	35159	35159	35159	35159	35159	35159	0	35159	35159	35159	35159	35159	35159	35159.1	35159.1	35159.1	35159.1	35159.1	0	0	0	0

Vent Shaft - On Road

Vehicle Emissions Factors https://goo.gl/maps/99ETThasr2tBhu7A6

Vehicle Type	Fuel Type	Miles Driven	RUNEX Emission Factor (MT/VMT)[a]		
			CO_2	CH_4	N_2O
Worker Vehicles	Mix	14.7	2.78E-04	2.67E-09	4.80E-09
Construction Trucks - T7 Single Dump Class 8	Mix	20	1.61E-03	6.62E-10	2.54E-07
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	Mix	20	2.38E-05	1.29E-11	3.74E-09

Vehicle Type	STREX Emission Factor (MT/trip)[b]		
	CO_2	CH_4	N_2O
Worker Vehicles	6.76E-05	6.36E-08	3.10E-08
Construction Trucks - T7 Single Dump Class 8	0.00E+00	0.00E+00	0.00E+00
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	0.00E+00	0.00E+00	0.00E+00

a. Emissions includes: g/mile for RUNEX

b. Emissions includes: g/trip for STREX. Assume 2 trips per vehicle per day for STREX.

Global Warming Potential Factors	
Carbon Dioxide (CO_2)	1
Methane (CH_4)	29.8
Nitrous Oxide (N_2O)	273

Source: 2021 IPCC Sixth Assessment Report 6
IPCC = Intergovernmental Panel on Climate Change

Vehicle Type	Fuel Type	Miles Driven	Average MPG
Worker Vehicles	Gasoline	14.7	30.99
	Diesel	14.7	42.03
Construction Trucks - T7 Single Dump Class 8	Diesel	20	5.99
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	Diesel	20	8.93

Quantity Schedule (daily counts per month of construction)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
Worker Vehicles																													230	230	230
Construction Trucks - T7 Single Dump Class 8																													100	100	100
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8																													10	10	10

Pollution based on Schedule (tons/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
CO_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.08E+02	1.08E+02	1.08E+02
CH_4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N_2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CO_2e	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112	112	112

Fuel Use based on Schedule (gallons/month)

Fuel	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2814.95	2814.95	2814.95
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159.1	35159.1	35159.1

Vent Shaft - On Road

Month																										
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
230	230	230	230																	230	230	230	230	230				
100	100	100	100																	100	100	100	100	100				
10	10	10	10																	10	10	10	10	10				

Month																										
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
1.08E+02	1.08E+02	1.08E+02	1.08E+02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.08E+02	1.08E+02	1.08E+02	1.08E+02	1.08E+02	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	112	112	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112	112	112	112	112	0	0	0	0

Month																										
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
2814.95	2814.95	2814.95	2814.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2814.95	2814.95	2814.95	2814.95	2814.95	0	0	0	0
35159.1	35159.1	35159.1	35159.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159.1	35159.1	35159.1	35159.1	35159.1	0	0	0	0

ONT T4 - On Road

Vehicle Emissions Factors https://goo.gl/maps/Wh7RuhJoetaHh1u88

Vehicle Type	Fuel Type	Miles Driven	RUNEX Emission Factor (MT/VMT)[a]		
			CO_2	CH_4	N_2O
Worker Vehicles	Mix	14.7	2.78E-04	2.67E-09	4.80E-09
Construction Trucks - T7 Single Dump Class 8	Mix	20	1.61E-03	6.62E-10	2.54E-07
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	Mix	20	2.38E-05	1.29E-11	3.74E-09

Vehicle Type	STREX Emission Factor (MT/trip)[b]		
	CO_2	CH_4	N_2O
Worker Vehicles	6.76E-05	6.36E-08	3.10E-08
Construction Trucks - T7 Single Dump Class 8	0.00E+00	0.00E+00	0.00E+00
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	0.00E+00	0.00E+00	0.00E+00

a. Emissions includes: g/mile for RUNEX, PMBW and PMTW

b. Emissions includes: g/trip for STREX. Assume 2 trips per vehicle per day for STREX.

Global Warming Potential Factors	
Carbon Dioxide (CO_2)	1
Methane (CH_4)	29.8
Nitrous Oxide (N_2O)	273

Source: 2021 IPCC Sixth Assessment Report 6
IPCC = Intergovernmental Panel on Climate Change

Vehicle Type	Fuel Type	Miles Driven	Average MPG
Worker Vehicles	Gasoline	14.7	30.99
	Diesel	14.7	42.03
Construction Trucks - T7 Single Dump Class 8	Diesel	20	5.99
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	Diesel	20	8.93

Quantity Schedule (daily counts per month of construction)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
Worker Vehicles																													230	230	230
Construction Trucks - T7 Single Dump Class 8																													100	100	100
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8																													10	10	10

Pollution based on Schedule (tons/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
CO_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.08E+02	1.08E+02	1.08E+02
CH_4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N_2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CO_2e	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112	112	112

Fuel Use based on Schedule (gallons/month)

Fuel	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2814.95	2814.95	2814.95
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159.1	35159.1	35159.1

ONT T4 - On Road

Month																											
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
230	230	230	230															230	230	230	230	230	230	230				
100	100	100	100															100	100	100	100	100	100	100				
10	10	10	10															10	10	10	10	10	10	10				

Month																											
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
1.08E+02	1.08E+02	1.08E+02	1.08E+02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	1.08E+02	1.08E+02	1.08E+02	1.08E+02	1.08E+02	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	112	112	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112	112	112	112	112	112	112	0	0	0	0

Month																											
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
2814.95	2814.95	2814.95	2814.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2815	2815	2814.95	2814.95	2814.95	2814.95	2814.95	0	0	0	0
35159.1	35159.1	35159.1	35159.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159	35159	35159.1	35159.1	35159.1	35159.1	35159.1	0	0	0	0

ONT T2 - On Road

Vehicle Emissions Factors https://goo.gl/maps/Jnmf9fKSYmd11xGf8

Vehicle Type	Fuel Type	Miles Driven	RUNEX Emission Factor (MT/VMT)[a]		
			CO_2	CH_4	N_2O
Worker Vehicles	Mix	14.7	2.78E-04	2.67E-09	4.80E-09
Construction Trucks - T7 Single Dump Class 8	Mix	20	1.61E-03	6.62E-10	2.54E-07
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	Mix	20	2.38E-05	1.29E-11	3.74E-09

Vehicle Type	STREX Emission Factor (MT/trip)[b]		
	CO_2	CH_4	N_2O
Worker Vehicles	6.76E-05	6.36E-08	3.10E-08
Construction Trucks - T7 Single Dump Class 8	0.00E+00	0.00E+00	0.00E+00
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	0.00E+00	0.00E+00	0.00E+00

a. Emissions includes: g/mile for RUNEX, PMBW and PMTW

b. Emissions includes: g/trip for STREX. Assume 2 trips per vehicle per day for STREX.

Global Warming Potential Factors	
Carbon Dioxide (CO_2)	1
Methane (CH_4)	29.8
Nitrous Oxide (N_2O)	273

Source: 2021 IPCC Sixth Assessment Report 6
IPCC = Intergovernmental Panel on Climate Change

Vehicle Type	Fuel Type	Miles Driven	Average MPG
Worker Vehicles	Gasoline	14.7	30.99
	Diesel	14.7	42.03
Construction Trucks - T7 Single Dump Class 8	Diesel	20	5.99
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8	Diesel	20	8.93

Quantity Schedule (daily counts per month of construction)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
Worker Vehicles																							230	230	230	230	230	230			
Construction Trucks - T7 Single Dump Class 8																							100	100	100	100	100	100			
Ancillary Delivery Trucks -T6 Instate Delivery/T7 Tractor Class 8																							10	10	10	10	10	10			

Pollution based on Schedule (tons/month)

Equipment	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
CO_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	108	108	0.00E+00	0.00E+00	0.00E+00
CH_4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N_2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CO_2e	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112	112	112	112	112	112	0	0	0

Fuel Use based on Schedule (gallons/month)

Fuel	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2815	2815	2815	2815	2815	2815	0	0	0
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159	35159	35159	35159	35159	35159	0	0	0

ONT T2 - On Road

Month																										
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
															230	230	230	230		230	230	230	230	230				
															100	100	100	100		100	100	100	100	100				
															10	10	10	10		10	10	10	10	10				

Month																												
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	0	1.08E+02	1.08E+02	1.08E+02	1.08E+02	1.08E+02	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112	112	112	112	0	112	112	112	112	112	0	0	0	0

Month																												
M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2815	2815	2815	2815	0	2814.95	2814.95	2814.95	2814.95	2814.95	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159	35159	35159	35159	0	35159.1	35159.1	35159.1	35159.1	35159.1	0	0	0	0

GHG Emissions - Cucamonga Metrolink Station and TBM Retrieval (MT/month)

	Month																													
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27	Feb-27	Mar-27	Apr-27	May-27	Jun-27	Jul-27	Aug-27	Sep-27	Oct-27	Nov-27	Dec-27	Jan-28	Feb-28	Mar-28	Apr-28	May-28	Jun-28	Jul-28
Cucamonga Metrolink Station and TBM Retrieval (MT/month)																															
CO_2	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	0.00	0.00	0.00	0.00	0.00	0.00	118.35	124.54	130.95	137.36	147.30	144.65	132.04	132.04	163.83
Vent Shaft (MT/month)																															
CO_2	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	130.84	137.36	138.99
Ontario Airport T4 Station (MT/month)																															
CO_2	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	124.54	124.54	137.36
Ontario Airport T2 Station (MT/month)																															
CO_2	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	0.00	0.00	0.00	0.00	0.00	0.00	177.20	242.24	242.24	242.24	242.24	242.24	0.00	0.00	0.00
Total Project (MT/month)																															
CO_2	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	0.00	0.00	0.00	0.00	0.00	0.00	295.54	366.78	373.19	379.60	389.54	386.88	387.43	393.94	440.17

Year	GHG	
2026	0	(M1 - M12)
2027	662	(M13 - M24)
2028	5,023	(M25 - M36)
2029	2,027	(M37 - M48)
2030	4,316	(M49 - M60)
Total	12,029	
Amortized	401	

Fuel Usage - Cucamonga Metrolink Station and TBM Retrieval (gal/month)

	Month																													
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31
Cucamonga Metrolink Station and TBM Retrieval (gal/month)																															
Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05
Vent Shaft (gal/month)																															
Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2814.954	2814.954	2814.954
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159.05	35159.05	35159.05
Ontario Airport T4 Station (gal/month)																															
Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2814.954	2814.954	2814.954
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159.05	35159.05	35159.05
Ontario Airport T2 Station (gal/month)																															
Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	0	0	0
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	0	0	0
Total Project (gal/month)																															
Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5629.908	5629.908	5629.908	5629.908	5629.908	5629.908	8444.862	8444.862	8444.862
Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70318.11	70318.11	70318.11	70318.11	70318.11	70318.11	105477.2	105477.2	105477.2

Year	Gas	Diesel	
2026	0	0	(M1 - M12)
2027	11,260	140,636	(M13 - M24)
2028	84,449	1,054,772	(M25 - M36)
2029	36,594	457,068	(M37 - M48)
2030	76,004	949,294	(M49 - M60)
Total	208,307	2,601,770	

M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60	Total
Aug-28	Sep-28	Oct-28	Nov-28	Dec-28	Jan-29	Feb-29	Mar-29	Apr-29	May-29	Jun-29	Jul-29	Aug-29	Sep-29	Oct-29	Nov-29	Dec-29	Jan-30	Feb-30	Mar-30	Apr-30	May-30	Jun-30	Jul-30	Aug-30	Sep-30	Oct-30	Nov-30	Dec-30	
195.61	185.67	175.73	175.73	175.73	175.73	175.73	175.73	175.73	175.73	175.73	175.73	175.73	0.00	124.76	124.76	122.46	186.00	186.00	186.00	186.00	186.00	186.00	128.20	120.18	0.00	0.00	0.00	0.00	5,282
140.61	190.67	190.67	190.67	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	190.67	190.67	190.67	122.52	117.34	0.00	0.00	0.00	0.00	1,932
146.68	146.68	179.15	179.15	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	154.68	154.68	187.15	183.15	179.15	130.17	121.16	0.00	0.00	0.00	0.00	2,148
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	124.76	124.76	124.76	116.16	0.00	179.15	179.15	179.15	130.17	121.16	0.00	0.00	0.00	0.00	2,668
482.91	523.02	545.55	545.55	175.73	175.73	175.73	175.73	175.73	175.73	175.73	175.73	175.73	0.00	124.76	249.52	247.21	310.76	456.84	340.68	742.97	738.97	734.97	511.06	479.84	0.00	0.00	0.00	0.00	12,029

M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60	Total
2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	0	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	0	0	0	0	92,893
35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	0	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	0	0	0	0	1,160,249
2814.954	2814.954	2814.954	2814.954	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2814.954	2814.954	2814.954	2814.954	2814.954	0	0	0	0	33,779
35159.05	35159.05	35159.05	35159.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159.05	35159.05	35159.05	35159.05	35159.05	0	0	0	0	421,909
2814.954	2814.954	2814.954	2814.954	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	0	0	0	0	39,409
35159.05	35159.05	35159.05	35159.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	0	0	0	0	492,227
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2814.954	2814.954	2814.954	2814.954	0	2814.954	2814.954	2814.954	2814.954	2814.954	0	0	0	0	42,224
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35159.05	35159.05	35159.05	35159.05	0	35159.05	35159.05	35159.05	35159.05	35159.05	0	0	0	0	527,386
8444.862	8444.862	8444.862	8444.862	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	2814.954	0	2814.954	5629.908	5629.908	5629.908	8444.862	5629.908	11259.82	11259.82	11259.82	11259.82	11259.82	0	0	0	0	208,307
105477.2	105477.2	105477.2	105477.2	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	35159.05	0	35159.05	70318.11	70318.11	70318.11	105477.2	70318.11	140636.2	140636.2	140636.2	140636.2	140636.2	0	0	0	0	2,601,770

Source: EMFAC2021 (v1.0.2) Emission Rates https://arb.ca.gov/emfac/emissions-inventory/6dde440e3ce4f7e51faa86b7085eaa7b4bb418e2
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2026

Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar	Vehicle Category	Model	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
South Coas	2026	All Other Buses	Aggreg	Aggregate	Diesel	2309.456	122741.1	122741.1	0	20554.16	1060.081993	619.8189127	0	0.004209698	0.00439494	0	0.16701635	0.097652722	0
South Coas	2026	LDA	Aggreg	Aggregate	Gasoline	5339380	2.12E+08	2.12E+08	0	24814667	273.7633396	0	66.33927811	0.002222747	0	0.060540581	0.004229102	0	0.030490993
South Coas	2026	LDA	Aggreg	Aggregate	Diesel	12657.42	379516.8	379516.8	0	52708.76	240.4710502	0	0	0.001416458	0	0	0.037886312	0	0
South Coas	2026	LDT1	Aggreg	Aggregate	Gasoline	490237.7	17704193	17704193	0	2158650	329.0636437	0	83.38551076	0.007580142	0	0.099092329	0.010159831	0	0.03745687
South Coas	2026	LDT1	Aggreg	Aggregate	Diesel	139.4949	2544.265	2544.265	0	386.2099	431.4655763	0	0	0.014607215	0	0	0.067977577	0	0
		Worker Vehicles									278.3352335	0	67.62432358	0.002670836	0	0.063642858	0.004801189	0	0.031008715
South Coas	2026	LDT2	Aggreg	Aggregate	Gasoline	2657372	1.09E+08	1.09E+08	0	12497507	332.4098509	0	81.36482153	0.002906903	0	0.069554468	0.00544073	0	0.0338162
South Coas	2026	LDT2	Aggreg	Aggregate	Diesel	9157.43	388862.4	388862.4	0	43895.05	305.5419426	0	0	0.000744758	0	0	0.048138257	0	0
South Coas	2026	LHD1	Aggreg	Aggregate	Gasoline	204848.6	8107334	8107334	0	3051938	590.8539304	116.776647	25.64182945	0.003870692	0.109792588	0.029932115	0.007081463	0.002966741	0.048877236
South Coas	2026	LHD1	Aggreg	Aggregate	Diesel	114397.5	4788282	4788282	0	1438977	486.3507637	127.3678371	0	0.003793525	0.005098128	0	0.076624761	0.020066855	0
South Coas	2026	LHD2	Aggreg	Aggregate	Gasoline	31704.6	1171103	1171103	0	472351.3	679.6527833	136.1915259	25.07846142	0.0026597	0.109601973	0.030111738	0.007759965	0.00287383	0.048210219
South Coas	2026	LHD2	Aggreg	Aggregate	Diesel	51571.61	2127544	2127544	0	648705.9	574.4667912	204.1309834	0	0.003734135	0.005098128	0	0.090507477	0.03216092	0
South Coas	2026	MCY	Aggreg	Aggregate	Gasoline	256960	1634904	1634904	0	513919.9	191.7714072	0	44.54576904	0.165158767	0	0.158491035	0.037684702	0	0.007088917
South Coas	2026	MDV	Aggreg	Aggregate	Gasoline	1648729	63617996	63617996	0	7635291	408.7788469	0	100.5661356	0.004011376	0	0.085910366	0.007144858	0	0.037366593
South Coas	2026	MDV	Aggreg	Aggregate	Diesel	20681.45	802434.1	802434.1	0	96431.71	412.6692827	0	0	0.000694769	0	0	0.065016214	0	0
South Coas	2026	MH	Aggreg	Aggregate	Gasoline	28184.21	273211	273211	0	2819.548	1769.947895	0	30.90151558	0.009023924	0	0.035971766	0.019877753	0	0.047721577
South Coas	2026	MH	Aggreg	Aggregate	Diesel	12562.51	122889.1	122889.1	0	1256.251	1006.144746	0	0	0.00287168	0	0	0.158518514	0	0
South Coas	2026	Motor Coach	Aggreg	Aggregate	Diesel	897.2884	115810.3	115810.3	0	20619.69	1714.873455	10117.86963	0	0.00061679	0.185531388	0	0.270179011	1.59407448	0
South Coas	2026	OBUS	Aggreg	Aggregate	Gasoline	5109.355	198678.3	198678.3	0	102228	1636.886658	375.1820224	30.81865352	0.009530121	0.194142897	0.034192607	0.01931127	0.005092536	0.029523858
South Coas	2026	PTO	Aggreg	Aggregate	Diesel	0	247821.9	247821.9	0	0	1997.646393	0	0	0.000930234	0	0	0.314730003	0	0
South Coas	2026	SBUS	Aggreg	Aggregate	Gasoline	2958.886	132619.4	132619.4	0	11835.54	893.3574101	2595.309174	55.91817271	0.012542637	2.42923574	0.070509625	0.026777777	0.08119783	0.065949531
South Coas	2026	SBUS	Aggreg	Aggregate	Diesel	3214.904	64660.44	64660.44	0	46551.8	1260.858649	2316.929066	0	0.006818362	0.007490048	0	0.198648794	0.365033118	0
South Coas	2026	T6 CAIRP Class 4	Aggreg	Aggregate	Diesel	57.37664	3787.342	3787.342	0	1318.515	1079.164669	579.1701331	0	0.000362667	0.002438088	0	0.170022833	0.09124849	0
South Coas	2026	T6 CAIRP Class 5	Aggreg	Aggregate	Diesel	75.50484	5208.606	5208.606	0	1735.101	1081.062696	583.1497062	0	0.000273339	0.002310952	0	0.170321868	0.091875474	0
South Coas	2026	T6 CAIRP Class 6	Aggreg	Aggregate	Diesel	262.8004	13476.93	13476.93	0	6039.154	1061.191858	564.6886079	0	0.000292677	0.002362125	0	0.167191209	0.08896692	0
South Coas	2026	T6 CAIRP Class 7	Aggreg	Aggregate	Diesel	426.9898	85818.81	85818.81	0	9812.226	989.319464	567.941815	0	0.000254153	0.002293716	0	0.155867684	0.089479464	0
South Coas	2026	T6 Instate Delivery Class 4	Aggreg	Aggregate	Diesel	7691.011	257513.2	257513.2	0	109750.7	1077.353162	2027.720057	0	0.001225488	0.010043638	0	0.169737429	0.319468121	0
South Coas	2026	T6 Instate Delivery Class 5	Aggreg	Aggregate	Diesel	7444.154	250712.5	250712.5	0	106228.1	1083.789866	2013.119869	0	0.000647507	0.008799386	0	0.170751535	0.317167855	0
South Coas	2026	T6 Instate Delivery Class 6	Aggreg	Aggregate	Diesel	23540.26	790204.7	790204.7	0	335919.5	1079.662104	2019.541886	0	0.000653742	0.008758475	0	0.170101204	0.318179647	0
South Coas	2026	T6 Instate Delivery Class 7	Aggreg	Aggregate	Diesel	4790.726	257593.4	257593.4	0	68363.66	1072.960227	2074.128066	0	0.000389671	0.008046178	0	0.169045321	0.326779721	0
South Coas	2026	T6 Instate Other Class 4	Aggreg	Aggregate	Diesel	10243.17	422788	422788	0	118411	1085.053394	2198.536451	0	0.001157569	0.012134342	0	0.170950604	0.346380313	0
South Coas	2026	T6 Instate Other Class 5	Aggreg	Aggregate	Diesel	23786.44	1012740	1012740	0	274971.2	1091.739538	2174.979756	0	0.000389176	0.008838343	0	0.172004009	0.342668946	0
South Coas	2026	T6 Instate Other Class 6	Aggreg	Aggregate	Diesel	20054.07	844493.5	844493.5	0	231825	1085.733347	2182.91013	0	0.000705566	0.010367025	0	0.171057731	0.34391838	0
South Coas	2026	T6 Instate Other Class 7	Aggreg	Aggregate	Diesel	10053.07	452309.2	452309.2	0	116213.4	1067.181855	2227.274918	0	0.000407899	0.009375501	0	0.168134936	0.35090807	0
South Coas	2026	T6 Instate Tractor Class 6	Aggreg	Aggregate	Diesel	216.424	10947.23	10947.23	0	2501.861	1083.956079	2181.044504	0	0.000577089	0.010448567	0	0.170777722	0.34362445	0
South Coas	2026	T6 Instate Tractor Class 7	Aggreg	Aggregate	Diesel	4507.233	262673.3	262673.3	0	52103.61	1011.953333	2225.377462	0	0.000387583	0.008763575	0	0.15943366	0.350609125	0
South Coas	2026	T6 OOS Class 4	Aggreg	Aggregate	Diesel	34.08289	2236.526	2236.526	0	783.2248	1059.284777	571.7112237	0	0.00050868	0.002602467	0	0.166890748	0.090073336	0
South Coas	2026	T6 OOS Class 5	Aggreg	Aggregate	Diesel	44.61571	3068.111	3068.111	0	1025.269	1062.718022	576.1603393	0	0.000304829	0.002329584	0	0.167431657	0.090774296	0
South Coas	2026	T6 OOS Class 6	Aggreg	Aggregate	Diesel	156.859	8017.063	8017.063	0	3604.619	1036.593904	554.0612004	0	0.000379975	0.002441151	0	0.163315792	0.087292568	0
South Coas	2026	T6 OOS Class 7	Aggreg	Aggregate	Diesel	230.7414	58294.01	58294.01	0	5302.437	979.6019849	563.2673349	0	0.000256032	0.002293465	0	0.154336692	0.088742998	0
South Coas	2026	T6 Public Class 4	Aggreg	Aggregate	Diesel	1018.929	35731.48	35731.48	0	5227.103	1081.758306	3348.877557	0	0.00120664	0.012637536	0	0.170431462	0.527617023	0
South Coas	2026	T6 Public Class 5	Aggreg	Aggregate	Diesel	916.6234	32778.7	32778.7	0	4702.278	1090.129073	3352.507932	0	0.000988384	0.012097523	0	0.171750279	0.52818899	0
South Coas	2026	T6 Public Class 6	Aggreg	Aggregate	Diesel	1117.748	39450.68	39450.68	0	5734.047	1088.623191	3240.012469	0	0.001695017	0.017276336	0	0.171513027	0.510465284	0
South Coas	2026	T6 Public Class 7	Aggreg	Aggregate	Diesel	3473.066	155554.7	155554.7	0	17816.83	1086.592194	3229.145597	0	0.001531777	0.016339329	0	0.171193043	0.508753204	0
South Coas	2026	T6 Utility Class 5	Aggreg	Aggregate	Diesel	1110.578	44771.86	44771.86	0	14215.39	1046.828352	1590.417091	0	0.000235459	0.00632582	0	0.164928233	0.25057086	0
South Coas	2026	T6 Utility Class 6	Aggreg	Aggregate	Diesel	209.7919	8428.552	8428.552	0	2685.336	1042.598815	1587.746697	0	0.000216797	0.00631402	0	0.164261868	0.250150139	0
South Coas	2026	T6 Utility Class 7	Aggreg	Aggregate	Diesel	235.9139	11667	11667	0	3019.698	1042.54963	1590.418062	0	0.000188893	0.006301767	0	0.164254119	0.250571013	0
South Coas	2026	T6TS	Aggreg	Aggregate	Gasoline	24387.12	1296722	1296722	0	487937.5	1607.978184	534.9546003	44.2412491	0.007645326	0.26655455	0.043082987	0.016048999	0.007637039	0.032018926
South Coas	2026	T7 CAIRP Class 8	Aggreg	Aggregate	Diesel	14549.36	2975779	2975779	0	334344.3	1479.978239	23335.45002	0	0.00053344	0.484631836	0	0.233171174	3.676509653	0
South Coas	2026	T7 NNOOS Class 8	Aggreg	Aggregate	Diesel	13192.63	3608316	3608316	0	303166.7	1432.669007	27947.56649	0	0.000522811	0.601496755	0	0.225717586	4.403150481	0
South Coas	2026	T7 NOOS Class 8	Aggreg	Aggregate	Diesel	5619.233	1310320	1310320	0	129130	1458.466481	28493.70925	0	0.000543089	0.601494487	0	0.229781988	4.489195496	0
South Coas	2026	T7 POAK Class 8	Aggreg	Aggregate	Diesel	1.467441	114.839	114.839	0	24.00733	1720.045143	8133.386011	0	0.000447069	0.158784187	0	0.270993813	1.281418278	0
South Coas	2026	T7 POLA Class 8	Aggreg	Aggregate	Diesel	16487.81	2083289	2083289	0	269740.6	1632.537707	8332.626706	0	0.000512184	0.158784187	0	0.257206981	1.312808731	0
South Coas	2026	T7 Public Class 8	Aggreg	Aggregate	Diesel	5512.1	221819.5	221819.5	0	28277.08	1668.355858	3279.795146	0	0.003229118	0.05324054	0	0.262850145	0.516733061	0
South Coas	2026	T7 Single Concrete/Transit Mi	Aggreg	Aggregate	Diesel	2663.383	181978.6	181978.6	0	25089.07	1581.727613	4255.61746	0	0.000379282	0.086539859	0	0.24920183	0.670474264	0
South Coas	2026	T7 Single Dump Class 8	Aggreg	Aggregate	Diesel	5097.201	285058.6	285058.6	0	48015.64	1610.962724	4645.638847	0	0.00066203	0.087292933	0	0.253807833	0.731922292	0
South Coas	2026	T7 Single Other Class 8	Aggreg	Aggregate	Diesel	13095.01	690843.7	690843.7	0	123355	1585.414746	4404.165395	0	0.000501331	0.086991314	0	0.249782739	0.693878052	0
South Coas	2026	T7 SWCV Class 8	Aggreg	Aggregate	Diesel	1572.599	102091.6	102091.6	0	7233.957	3760.084075	3975.929582	0	0.000100805	0.044409564	0	0.592402777	0.626409325	0
South Coas	2026	T7 Tractor Class 8	Aggreg	Aggregate	Diesel	28944.62	2091215	2091215	0	420565.4	1513.021097	8147.352449	0	0.000604844	0.160458082	0	0.23837709	1.283618696	0
South Coas	2026	T7 Utility Class 8	Aggreg	Aggregate	Diesel	832.0203	36127.25	36127.25	0	10649.86	1597.304044	1570.092529	0	0.000432958	0.029512521	0	0.251655903	0.247368717	0
South Coas	2026	T7IS	Aggreg	Aggregate	Gasoline	47.2059	3830.689	3830.689	0	944.4956	2028.181694	0	54.39829116	0.11091056	0	0.000127039	0.162014871	0	0.011302079
South Coas	2026	UBUS	Aggreg	Aggregate	Gasoline	893.8376	96943.51	96943.51	0	3575.35	1220.234961	0	72.96665032	0.00290974	0	0.082287921	0.011746712	0	0.07234678
South Coas	2026	UBUS	Aggreg	Aggregate	Diesel	11.14254	1412.947	1412.947	0	44.57018	1488.059755	0	0	0.003800059	0	0	0.23444442	0	0
		Ancillary Delivery Trucks									23.83940813	85.1248377	0	1.28808E-05	0.001322517	0	0.00374366	0.013367716	0

OFFROAD2021 Emissions Inventory

Model Output: OFFROAD2021 (v1.0.3) Emissions Inventory
Region Type: Air Basin
Model Output: OFFROAD2021 (v1.0.3) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2026
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2021 Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Year	Vehicle Category	Model Year	Horsepower Bin	Fuel	CO2_tpd	Fuel Consumption	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy	CO2_g/hp-hr
South Coast	2026	Construction and Mining - Bore/Drill Rigs	Aggregate	100	Diesel	3.460448685	112270.4466	53081.0193	126.3117574	4342682.3	263.8522
South Coast	2026	Construction and Mining - Bore/Drill Rigs	Aggregate	175	Diesel	4.385213922	142273.4363	36448.54676	111.7373238	5454335.487	266.2167
South Coast	2026	Construction and Mining - Bore/Drill Rigs	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Bore/Drill Rigs	Aggregate	300	Diesel	6.293886727	204198.2234	37812.21143	112.7089527	7893550.839	264.0176
South Coast	2026	Construction and Mining - Bore/Drill Rigs	Aggregate	50	Diesel	0.604168774	19601.59051	16944.4781	46.15237288	658549.5561	303.7779
South Coast	2026	Construction and Mining - Bore/Drill Rigs	Aggregate	600	Diesel	8.711748106	282643.073	28706.80146	88.41823016	11015782.34	261.8643
South Coast	2026	Construction and Mining - Bore/Drill Rigs	Aggregate	75	Diesel	0.254628219	8261.132158	4890.186226	14.08861909	332798.8699	253.3442
South Coast	2026	Construction and Mining - Bore/Drill Rigs	Aggregate	750	Diesel	7.611998903	246962.9213	14940.20018	24.77653702	9433633.881	267.1813
South Coast	2026	Construction and Mining - Bore/Drill Rigs	Aggregate	9999	Diesel	3.262888183	105860.8137	2193.198716	2.914886708	4080321.123	264.7855
South Coast	2026	Construction and Mining - Cranes	Aggregate	100	Diesel	4.415130974	143244.0621	108994.1502	233.0745574	9637661.719	151.6905
South Coast	2026	Construction and Mining - Cranes	Aggregate	175	Diesel	12.72166834	412740.5189	187494.9306	401.4739758	27649116.63	152.3523
South Coast	2026	Construction and Mining - Cranes	Aggregate	25	Diesel	0.011541161	374.4402596	904.4978687	1.830428461	22612.44672	169.0006
South Coast	2026	Construction and Mining - Cranes	Aggregate	300	Diesel	21.81986689	707921.5509	216886.7974	444.7941161	47536039.83	151.9901
South Coast	2026	Construction and Mining - Cranes	Aggregate	50	Diesel	0.186856095	6062.340219	8797.643816	19.52457025	364361.0526	169.8094
South Coast	2026	Construction and Mining - Cranes	Aggregate	600	Diesel	39.38278634	1277731.13	234507.2499	460.0476866	85814722.93	151.9606
South Coast	2026	Construction and Mining - Cranes	Aggregate	75	Diesel	0.102243697	3317.184152	3243.394186	9.152142306	223619.0512	151.3959
South Coast	2026	Construction and Mining - Cranes	Aggregate	750	Diesel	0.769919973	24979.20559	2649.502898	6.101428204	1678291.961	151.9023
South Coast	2026	Construction and Mining - Cranes	Aggregate	9999	Diesel	2.147656085	69678.33646	4991.275202	9.762285127	4682633.279	151.8661
South Coast	2026	Construction and Mining - Crawler Tractors	Aggregate	100	Diesel	26.34745808	854814.261	438954.9528	904.3355497	38487701.35	226.6747
South Coast	2026	Construction and Mining - Crawler Tractors	Aggregate	175	Diesel	29.18664197	946928.4553	285932.8766	611.3741531	42744081.48	226.0968
South Coast	2026	Construction and Mining - Crawler Tractors	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Crawler Tractors	Aggregate	300	Diesel	30.4996012	989525.9717	217597.5482	468.954842	44667750.93	226.0926
South Coast	2026	Construction and Mining - Crawler Tractors	Aggregate	50	Diesel	0.606113387	19664.68131	19063.46803	54.15182933	800319.6211	250.7707
South Coast	2026	Construction and Mining - Crawler Tractors	Aggregate	600	Diesel	106.8061537	3465208.03	406044.722	832.855135	156177047.5	226.4464
South Coast	2026	Construction and Mining - Crawler Tractors	Aggregate	75	Diesel	0.415945325	13494.88799	8011.710554	25.99287808	590004.1892	233.4358
South Coast	2026	Construction and Mining - Crawler Tractors	Aggregate	750	Diesel	1.341166231	43512.66133	3204.046093	7.039737812	1973790.665	224.9924
South Coast	2026	Construction and Mining - Crawler Tractors	Aggregate	9999	Diesel	6.215415492	201652.3106	9278.396771	16.2455488	8985602.837	229.0389
South Coast	2026	Construction and Mining - Excavators	Aggregate	100	Diesel	31.06795833	1007965.693	630042.2876	941.4129566	51296327.99	200.5454
South Coast	2026	Construction and Mining - Excavators	Aggregate	175	Diesel	66.36642139	2153185.452	745717.703	1221.395139	109005257.2	201.5985
South Coast	2026	Construction and Mining - Excavators	Aggregate	25	Diesel	0.004863819	157.801242	287.7322934	1.085202255	7193.307335	223.8902
South Coast	2026	Construction and Mining - Excavators	Aggregate	300	Diesel	84.56214756	2743525.749	634350.5991	1052.646188	138814384.1	201.7102
South Coast	2026	Construction and Mining - Excavators	Aggregate	50	Diesel	24.2332951	786222.5714	999542.3441	1324.489353	35792498.03	224.1851
South Coast	2026	Construction and Mining - Excavators	Aggregate	600	Diesel	148.7154237	4824908.14	726512.5315	1098.224683	244601285.4	201.3185
South Coast	2026	Construction and Mining - Excavators	Aggregate	75	Diesel	0.344022066	11161.41705	7713.143678	14.10762932	558696.1881	203.8905
South Coast	2026	Construction and Mining - Excavators	Aggregate	750	Diesel	3.548056182	115112.7754	9493.247466	15.7354327	5796336.039	202.6858
South Coast	2026	Construction and Mining - Excavators	Aggregate	9999	Diesel	4.181988803	135680.0211	5698.378219	8.139016916	6778552.104	204.283
South Coast	2026	Construction and Mining - Graders	Aggregate	100	Diesel	3.578432747	116098.3095	62046.87503	146.1300595	5532506.894	214.1693
South Coast	2026	Construction and Mining - Graders	Aggregate	175	Diesel	40.51117467	1314340.447	417376.6349	872.9635269	61832347.37	216.9429
South Coast	2026	Construction and Mining - Graders	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Graders	Aggregate	300	Diesel	83.37591352	2705039.692	594886.0202	762.8207209	128008826.5	215.6687
South Coast	2026	Construction and Mining - Graders	Aggregate	50	Diesel	0.133669066	4336.74564	5273.325774	14.17679681	184905.6632	239.3685
South Coast	2026	Construction and Mining - Graders	Aggregate	600	Diesel	5.663123557	183733.807	26701.39221	30.53463929	8748245.38	214.349
South Coast	2026	Construction and Mining - Graders	Aggregate	75	Diesel	0.077213325	2505.101287	1822.243438	5.452614159	111085.742	230.1549
South Coast	2026	Construction and Mining - Graders	Aggregate	9999	Diesel	2.90009514	94090.39295	2459.000577	3.271568496	4449000.928	215.8421
South Coast	2026	Construction and Mining - Misc - Bore/Drill Rigs	Aggregate	15	Diesel	2.15049E-06	55.55084449	0	10.65224678	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Bore/Drill Rigs	Aggregate	25	Diesel	1.27014E-05	258.7497971	0	40.70993663	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Cement And Mortar Mix	Aggregate	15	Diesel	1.48284E-05	383.0416905	0	325.0271189	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Cement And Mortar Mix	Aggregate	25	Diesel	3.66653E-06	74.75328268	0	28.9324258	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Concrete/Industrial Saw	Aggregate	25	Diesel	2.51394E-06	51.21322386	0	10.71066634	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Concrete/Industrial Saw	Aggregate	50	Diesel	0.534401316	17833.9	12921	22.25	426393	414.9959
South Coast	2026	Construction and Mining - Misc - Dumpers/Tenders	Aggregate	25	Diesel	1.81448E-06	36.96399349	0	14.94062488	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Excavators	Aggregate	25	Diesel	1.29552E-05	263.9202253	0	23.46043228	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Other	Aggregate	15	Diesel	3.26955E-05	844.5803124	0	194.8418193	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Other	Aggregate	25	Diesel	6.77678E-06	138.0545567	0	30.8825025	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Pavers	Aggregate	25	Diesel	3.41715E-06	69.61305804	0	9.270348709	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Paving Equipment	Aggregate	25	Diesel	5.7779E-06	117.7057673	0	22.93850911	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Plate Compactors	Aggregate	15	Diesel	1.27554E-05	329.4947129	0	204.8161052	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Rollers	Aggregate	15	Diesel	4.62505E-05	1194.727936	0	437.6017269	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Rollers	Aggregate	25	Diesel	4.06076E-05	827.2457724	0	181.9950476	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Rubber Tired Loaders	Aggregate	25	Diesel	2.37221E-06	48.32586176	0	6.085346956	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Signal Boards	Aggregate	15	Diesel	0.000199405	5150.971952	0	1790.969369	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Signal Boards	Aggregate	50	Diesel	0.236217894	7884	4777.85	8.92	176780.45	442.4507
South Coast	2026	Construction and Mining - Misc - Skid Steer Loaders	Aggregate	25	Diesel	0.000664796	13545.39016	0	2401.640083	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Tractors/Loaders/Backhc	Aggregate	25	Diesel	6.19756E-05	1262.548803	0	172.3686139	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Trenchers	Aggregate	15	Diesel	1.82773E-05	472.1343942	0	145.2107428	0	#DIV/0!
South Coast	2026	Construction and Mining - Misc - Trenchers	Aggregate	25	Diesel	6.036E-05	1229.637102	0	123.3134998	0	#DIV/0!
South Coast	2026	Construction and Mining - Off-Highway Tractors	Aggregate	100	Diesel	7.575838742	245789.7447	138247.3088	193.8072406	10864354.12	230.8943
South Coast	2026	Construction and Mining - Off-Highway Tractors	Aggregate	175	Diesel	10.91354063	354077.8067	99281.99483	140.2693288	15716503.22	229.9302
South Coast	2026	Construction and Mining - Off-Highway Tractors	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Off-Highway Tractors	Aggregate	300	Diesel	9.204444993	298628.0809	62102.74354	92.62058734	13262915.57	229.7973
South Coast	2026	Construction and Mining - Off-Highway Tractors	Aggregate	50	Diesel	10.02224632	325160.7442	345438.1516	508.0747826	13000111.39	255.2727
South Coast	2026	Construction and Mining - Off-Highway Tractors	Aggregate	600	Diesel	30.90051748	1002533.259	124468.5701	175.0689715	44590303.77	229.4625
South Coast	2026	Construction and Mining - Off-Highway Tractors	Aggregate	75	Diesel	5.249922381	170327.9499	107342.3046	175.6043506	7585294.676	229.1747
South Coast	2026	Construction and Mining - Off-Highway Tractors	Aggregate	750	Diesel	1.289679797	41842.24067	2938.707174	4.283032941	1869677.931	228.4028
South Coast	2026	Construction and Mining - Off-Highway Tractors	Aggregate	9999	Diesel	1.627443698	52800.61847	1495.851162	2.676895588	2345114.192	229.7885
South Coast	2026	Construction and Mining - Off-Highway Trucks	Aggregate	100	Diesel	1.034262192	33555.49779	19721.18818	14.32240142	1703950.394	200.9833
South Coast	2026	Construction and Mining - Off-Highway Trucks	Aggregate	175	Diesel	22.81557149	740226.0902	237148.0849	163.3814681	37546336.53	201.2103
South Coast	2026	Construction and Mining - Off-Highway Trucks	Aggregate	25	Diesel	0.046548039	1510.199854	2752.927597	2.121837248	68823.18991	223.951
South Coast	2026	Construction and Mining - Off-Highway Trucks	Aggregate	300	Diesel	46.72773372	1516029.859	366089.3626	278.4911388	77001273.85	200.9385
South Coast	2026	Construction and Mining - Off-Highway Trucks	Aggregate	50	Diesel	0.923701155	29968.46671	47428.61682	28.11434353	1374045.065	222.5957
South Coast	2026	Construction and Mining - Off-Highway Trucks	Aggregate	600	Diesel	200.8247115	6515536.594	876194.8443	624.8810695	329050616.7	202.0881
South Coast	2026	Construction and Mining - Off-Highway Trucks	Aggregate	75	Diesel	0.094197899	3056.14709	2090.949775	1.591377936	152270.5263	204.8386
South Coast	2026	Construction and Mining - Off-Highway Trucks	Aggregate	750	Diesel	68.48523326	2221927.97	168759.9625	133.1452873	112297908.7	201.935
South Coast	2026	Construction and Mining - Off-Highway Trucks	Aggregate	9999	Diesel	120.7366014	3917166.065	155592.9174	106.6223217	199907465.6	199.9845
South Coast	2026	Construction and Mining - Other	Aggregate	100	Diesel	16.2187265	526198.7195	298327.9179	639.308612	24506573.61	219.1394
South Coast	2026	Construction and Mining - Other	Aggregate	175	Diesel	9.268608411	300709.7923	92212.98101	216.4463509	14015617.31	218.972
South Coast	2026	Construction and Mining - Other	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Other	Aggregate	300	Diesel	12.46957732	404561.7035	85080.57804	202.1925668	18780460.26	219.8527
South Coast	2026	Construction and Mining - Other	Aggregate	50	Diesel	5.423690533	175965.6662	192459.7912	392.2430212	7334252.644	244.8642
South Coast	2026	Construction and Mining - Other	Aggregate	600	Diesel	48.72877782	1580951.531	189762.9777	409.6643129	73492882.85	219.5465
South Coast	2026	Construction and Mining - Other	Aggregate	75	Diesel	0.778152562	25246.30289	16332.67401	51.73595704	1186728.397	217.12
South Coast	2026	Construction and Mining - Other	Aggregate	750	Diesel	6.989093063	226753.4273	17076.08627	34.31466538	10528562.29	219.8053
South Coast	2026	Construction and Mining - Other	Aggregate	9999	Diesel	2.991355896	97051.24766	4928.294489	10.03044065	4520140.63	219.1303
South Coast	2026	Construction and Mining - Pavers	Aggregate	100	Diesel	5.422969554	175942.2749	101467.3736	253.1082628	8221204.94	218.4178
South Coast	2026	Construction and Mining - Pavers	Aggregate	175	Diesel	8.774458513	284677.6431	83827.33074	210.7470473	13234536.1	219.5321

South Coast	2026	Construction and Mining - Pavers	Aggregate	25	Diesel	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Pavers	Aggregate	300	Diesel	6.849421708	222221.944	46644.09215	100.6078869	10335142.11	219.444
South Coast	2026	Construction and Mining - Pavers	Aggregate	50	Diesel	0.664172091	21548.33203	23258.39965	63.5418233	900344.8973	244.2632
South Coast	2026	Construction and Mining - Pavers	Aggregate	600	Diesel	1.260867876	40907.46965	5283.277079	11.64933427	1906160.935	219.0263
South Coast	2026	Construction and Mining - Pavers	Aggregate	75	Diesel	0.97240848	31548.72223	20588.36982	53.48103461	1475713.916	218.189
South Coast	2026	Construction and Mining - Pavers	Aggregate	750	Diesel	0.256901143	8334.874675	516.6591971	1.059030388	387494.3978	219.5265
South Coast	2026	Construction and Mining - Paving Equipment	Aggregate	100	Diesel	3.419588628	110944.787	67817.71962	140.6245312	6042540.74	187.3875
South Coast	2026	Construction and Mining - Paving Equipment	Aggregate	175	Diesel	3.75763458	121912.3157	45994.69263	97.27411182	6642114.319	187.3245
South Coast	2026	Construction and Mining - Paving Equipment	Aggregate	25	Diesel	0.001960893	63.61902471	124.5962146	0.528663651	3114.905366	208.4469
South Coast	2026	Construction and Mining - Paving Equipment	Aggregate	300	Diesel	2.421454694	78561.4308	18653.92227	39.12111019	4271399.757	187.7122
South Coast	2026	Construction and Mining - Paving Equipment	Aggregate	50	Diesel	0.824877611	26762.24564	37900.29955	77.71355672	1312665.63	208.0759
South Coast	2026	Construction and Mining - Paving Equipment	Aggregate	600	Diesel	2.79377423	90640.92811	12503.23014	25.37585526	4944219.804	187.1026
South Coast	2026	Construction and Mining - Paving Equipment	Aggregate	75	Diesel	0.118264306	3836.955171	3054.476202	8.98728207	209380.3565	187.0269
South Coast	2026	Construction and Mining - Paving Equipment	Aggregate	750	Diesel	0.497844761	16152.02499	1381.149039	2.643318256	881510.4312	187.0048
South Coast	2026	Construction and Mining - Paving Equipment	Aggregate	9999	Diesel	0.242702266	7874.207737	508.3525557	1.057327302	428548.6802	187.5254
South Coast	2026	Construction and Mining - Rollers	Aggregate	100	Diesel	21.17472685	686990.693	405460.1017	1184.661386	35391602.61	198.1089
South Coast	2026	Construction and Mining - Rollers	Aggregate	175	Diesel	22.03087984	714767.6336	256360.0777	692.822659	36867497.57	197.8675
South Coast	2026	Construction and Mining - Rollers	Aggregate	25	Diesel	0.002132698	69.19302368	128.3690623	0.544671902	3209.226557	220.0469
South Coast	2026	Construction and Mining - Rollers	Aggregate	300	Diesel	3.76355596	122104.4283	28854.15598	90.41553568	6288883.41	198.1578
South Coast	2026	Construction and Mining - Rollers	Aggregate	50	Diesel	13.63842474	442483.6708	573699.9529	1606.237438	20507647.5	220.2088
South Coast	2026	Construction and Mining - Rollers	Aggregate	600	Diesel	2.020181206	65542.55439	9528.193648	30.5016265	3370600.696	198.4583
South Coast	2026	Construction and Mining - Rollers	Aggregate	75	Diesel	0.136128413	4416.536432	3209.226557	13.61679754	227726.7165	197.9343
South Coast	2026	Construction and Mining - Rough Terrain Forklifts	Aggregate	100	Diesel	54.75025589	1776311.756	885982.875	3047.905859	85267598.76	212.6123
South Coast	2026	Construction and Mining - Rough Terrain Forklifts	Aggregate	175	Diesel	11.41307332	370284.5946	140763.4128	491.5368904	17814362.27	212.1381
South Coast	2026	Construction and Mining - Rough Terrain Forklifts	Aggregate	25	Diesel	0.009620263	312.1188405	539.9733106	1.885691395	13499.33277	235.9723
South Coast	2026	Construction and Mining - Rough Terrain Forklifts	Aggregate	300	Diesel	0.905305988	29371.65577	6664.85576	25.77111574	1412690.351	212.1948
South Coast	2026	Construction and Mining - Rough Terrain Forklifts	Aggregate	50	Diesel	0.68464218	22212.46155	20044.19446	71.02770923	959965.1855	236.1536
South Coast	2026	Construction and Mining - Rough Terrain Forklifts	Aggregate	600	Diesel	0.297793286	9661.575204	1161.424076	4.399946589	464369.6401	212.3427
South Coast	2026	Construction and Mining - Rough Terrain Forklifts	Aggregate	75	Diesel	0.023088733	749.0885015	579.2306295	2.514255194	35878.96734	213.0819
South Coast	2026	Construction and Mining - Rough Terrain Forklifts	Aggregate	750	Diesel	0.056023019	1817.605165	139.9930805	0.628563798	87495.67533	212.0148
South Coast	2026	Construction and Mining - Rubber Tired Dozers	Aggregate	100	Diesel	1.933979989	62745.85084	36073.23278	40.93810422	3033527.081	211.1011
South Coast	2026	Construction and Mining - Rubber Tired Dozers	Aggregate	175	Diesel	2.592063968	84096.6608	28247.6868	35.75606571	4111939.47	208.7302
South Coast	2026	Construction and Mining - Rubber Tired Dozers	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Rubber Tired Dozers	Aggregate	300	Diesel	3.054112936	99087.33069	21645.28311	30.5740272	4840731.886	208.9106
South Coast	2026	Construction and Mining - Rubber Tired Dozers	Aggregate	50	Diesel	0.601334984	19509.6513	20817.2347	21.24635789	858202.5611	232.0134
South Coast	2026	Construction and Mining - Rubber Tired Dozers	Aggregate	600	Diesel	30.13237801	977611.8197	129305.6213	172.0436785	47395267.85	210.5158
South Coast	2026	Construction and Mining - Rubber Tired Dozers	Aggregate	75	Diesel	0.731554235	23734.47148	15923.44418	19.17354248	1160751.66	208.6861
South Coast	2026	Construction and Mining - Rubber Tired Dozers	Aggregate	750	Diesel	1.127421501	36577.94896	2686.882742	2.591019254	1789024.235	208.6683
South Coast	2026	Construction and Mining - Rubber Tired Loaders	Aggregate	100	Diesel	46.10933096	1495966.463	937475.7446	987.3492741	80618927.5	189.3818
South Coast	2026	Construction and Mining - Rubber Tired Loaders	Aggregate	175	Diesel	109.3711706	3548427.178	1268448.717	1308.183776	190149471.7	190.4557
South Coast	2026	Construction and Mining - Rubber Tired Loaders	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Rubber Tired Loaders	Aggregate	300	Diesel	154.1953204	5002697.356	1296137.205	1190.976559	267988480.4	190.5204
South Coast	2026	Construction and Mining - Rubber Tired Loaders	Aggregate	50	Diesel	1.892785832	61409.35178	70870.3604	79.93856267	2943226.1	212.9434
South Coast	2026	Construction and Mining - Rubber Tired Loaders	Aggregate	600	Diesel	211.2930675	6855170.878	1110499.836	1089.432979	366802200.8	190.7391
South Coast	2026	Construction and Mining - Rubber Tired Loaders	Aggregate	75	Diesel	0.004626936	150.1158356	127.2975417	0.540125423	8019.745128	191.0378
South Coast	2026	Construction and Mining - Rubber Tired Loaders	Aggregate	750	Diesel	17.73364575	575348.6062	47597.82382	47.53103726	30819683.07	190.5269
South Coast	2026	Construction and Mining - Rubber Tired Loaders	Aggregate	9999	Diesel	14.17602374	459925.4781	25623.72217	21.06489151	24523315.23	191.4087
South Coast	2026	Construction and Mining - Scrapers	Aggregate	100	Diesel	1.650889286	53561.28477	23708.48613	41.12149939	2139752.896	255.4704
South Coast	2026	Construction and Mining - Scrapers	Aggregate	175	Diesel	20.93197283	679114.806	161476.735	347.1295403	27057665.91	256.157
South Coast	2026	Construction and Mining - Scrapers	Aggregate	25	Diesel	0.004843345	157.1370033	226.5562872	0.534045447	5663.907179	283.1494
South Coast	2026	Construction and Mining - Scrapers	Aggregate	300	Diesel	24.06791448	780856.9792	139867.0412	336.4486314	31343187.62	254.2621
South Coast	2026	Construction and Mining - Scrapers	Aggregate	50	Diesel	0.038549314	1250.690029	1183.7566	3.20427268	45846.81132	278.4158
South Coast	2026	Construction and Mining - Scrapers	Aggregate	600	Diesel	299.9333054	9731005.777	924048.8352	1872.363336	389287292.1	255.1178
South Coast	2026	Construction and Mining - Scrapers	Aggregate	75	Diesel	0.309263476	10033.71289	5930.74014	12.28304527	401467.7051	255.0729
South Coast	2026	Construction and Mining - Scrapers	Aggregate	750	Diesel	6.667362273	216315.2262	14151.58675	27.77036323	8682357.28	254.2745
South Coast	2026	Construction and Mining - Scrapers	Aggregate	9999	Diesel	6.981159544	226496.033	5685.304162	13.88518161	9080375.99	254.5717
South Coast	2026	Construction and Mining - Skid Steer Loaders	Aggregate	100	Diesel	0.019396151	629.286754	389.8533381	1.654153698	33007.58262	194.5755
South Coast	2026	Construction and Mining - Skid Steer Loaders	Aggregate	175	Diesel	0.370473012	12019.58887	4148.039517	14.88738328	630398.6955	194.5932
South Coast	2026	Construction and Mining - Skid Steer Loaders	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Skid Steer Loaders	Aggregate	300	Diesel	0.344318401	11171.03133	2853.076679	9.37353762	585889.1399	194.5947
South Coast	2026	Construction and Mining - Skid Steer Loaders	Aggregate	50	Diesel	10.3107455	334520.7825	361198.468	1112.142669	15739372.26	216.9147
South Coast	2026	Construction and Mining - Skid Steer Loaders	Aggregate	600	Diesel	0.099383507	3224.38842	357.3655599	1.102769132	168962.4367	194.7648
South Coast	2026	Construction and Mining - Skid Steer Loaders	Aggregate	75	Diesel	54.77155105	1777002.654	1320010.265	3587.307986	93102548.38	194.7959
South Coast	2026	Construction and Mining - Skid Steer Loaders	Aggregate	9999	Diesel	0.134529281	4364.654377	229.3637139	1.102769132	229363.7139	194.2131
South Coast	2026	Construction and Mining - Surfacing Equipment	Aggregate	100	Diesel	0.618658467	20071.69263	14116.45061	48.52131878	1276613.673	160.4641
South Coast	2026	Construction and Mining - Surfacing Equipment	Aggregate	175	Diesel	0.463902756	15050.81403	6854.860703	27.51208797	965299.5507	159.1297
South Coast	2026	Construction and Mining - Surfacing Equipment	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Surfacing Equipment	Aggregate	300	Diesel	0.928866796	30136.06023	8589.059704	34.51516491	1929125.052	159.4334
South Coast	2026	Construction and Mining - Surfacing Equipment	Aggregate	50	Diesel	0.095363389	3093.960129	4907.865699	19.50857147	177601.7051	177.7955
South Coast	2026	Construction and Mining - Surfacing Equipment	Aggregate	600	Diesel	3.3643167	109151.5502	17359.67389	59.02593419	7000274.911	159.1359
South Coast	2026	Construction and Mining - Surfacing Equipment	Aggregate	75	Diesel	0.058170212	1887.268481	1876.848953	7.503296719	120489.6945	159.859
South Coast	2026	Construction and Mining - Surfacing Equipment	Aggregate	750	Diesel	1.538123713	49902.72994	4966.222497	16.007033	3205484.563	158.8854
South Coast	2026	Construction and Mining - Surfacing Equipment	Aggregate	9999	Diesel	0.528459339	17145.28126	1249.660735	4.501978031	1099313.581	159.1755
South Coast	2026	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	100	Diesel	326.0101234	10577039.42	6625515.399	10240.75709	553027494.6	195.1959
South Coast	2026	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	175	Diesel	56.9625021	1848085.648	677073.9716	1182.272439	97267551.7	193.9132
South Coast	2026	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	300	Diesel	35.69116948	1157960.687	291482.0294	502.7369499	60788007.05	194.4147
South Coast	2026	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	50	Diesel	20.33239231	659662.0762	830094.4479	1556.477936	31517424.58	213.6112
South Coast	2026	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	600	Diesel	46.48399225	1508121.935	235140.5748	419.7609485	79359021.58	193.9516
South Coast	2026	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	75	Diesel	3.260552648	105785.0398	77295.03066	327.5653913	5553081.39	194.4212
South Coast	2026	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	750	Diesel	1.438711764	46677.41872	3911.180828	7.050248489	2507795.272	189.9626
South Coast	2026	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	9999	Diesel	15.94159866	517207.6121	14662.45453	22.77772589	27131456.23	194.5562
South Coast	2026	Construction and Mining - Trenchers	Aggregate	100	Diesel	4.736997566	153686.6692	70363.01138	204.7335109	5896692.037	265.9996
South Coast	2026	Construction and Mining - Trenchers	Aggregate	175	Diesel	1.125959647	36530.52073	10059.08386	33.63893381	1408121.836	264.7701
South Coast	2026	Construction and Mining - Trenchers	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Construction and Mining - Trenchers	Aggregate	300	Diesel	2.473722348	80257.19727	13585.70927	42.33865807	3088412.639	265.2174
South Coast	2026	Construction and Mining - Trenchers	Aggregate	50	Diesel	7.224562542	234392.9752	202853.407	510.3838233	8095014.941	295.5155
South Coast	2026	Construction and Mining - Trenchers	Aggregate	600	Diesel	3.709671872	120356.2184	11907.14493	31.31900734	4618706.655	265.9509
South Coast	2026	Construction and Mining - Trenchers	Aggregate	75	Diesel	0.442290576	14349.63065	7982.74898	29.57906249	555502.8765	263.6378
South Coast	2026	Construction and Mining - Trenchers	Aggregate	750	Diesel	1.037509647	33660.85788	1952.629609	4.059871322	1295202.731	265.241
South Coast	2026	Construction and Mining - Trenchers	Aggregate	9999	Diesel	0.094197307	3056.127876	136.6909072	0.579981617	117554.1802	265.3302
South Coast	2026	Industrial - Aerial Lifts	Aggregate	100	Diesel	10.31255462	334579.4773	269077.7543	861.3295709	20988243.81	162.6959
South Coast	2026	Industrial - Aerial Lifts	Aggregate	175	Diesel	1.627246179	52794.21018	25393.26184	81.46475219	3312889.807	162.642
South Coast	2026	Industrial - Aerial Lifts	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Industrial - Aerial Lifts	Aggregate	300	Diesel	0.097240626	3154.865019	860.7519731	2.746002883	197972.9538	162.6403
South Coast	2026	Industrial - Aerial Lifts	Aggregate	50	Diesel	15.25922558	495068.7691	605521.7549	1939.59337	27933426.9	180.8817
South Coast	2026	Industrial - Aerial Lifts	Aggregate	600	Diesel	0.069054937	2240.41139	286.9173244	0.915334294	140589.4889	162.6403
South Coast	2026	Industrial - Aerial Lifts	Aggregate	75	Diesel	16.31298917	529256.9681	462838.6324	1488.333562	33201804.55	162.689
South Coast	2026	Industrial - Forklifts	Aggregate	100	Diesel	123.249925	3998708.083	4674557.069	5949.265749	385202103.3	105.9459
South Coast	2026	Industrial - Forklifts	Aggregate	175	Diesel	39.09775769	1268483.69	864116.5547	1117.623743	122109174.3	106.0205
South Coast	2026	Industrial - Forklifts	Aggregate	25	Diesel	0	0	0	0	0	#DIV/0!
South Coast	2026	Industrial - Forklifts	Aggregate	300	Diesel	8.515831467	276286.7734	126491.3218	163.4821964	26557398.99	106.1764
South Coast	2026	Industrial - Forklifts	Aggregate	50	Diesel	10.27007176	333201.1679	679182.652	899.1520804	28811015.51	118.0324
South Coast	2026	Industrial - Forklifts	Aggregate	600	Diesel	2.151409685	69800.11789	18827.02263	25.26543036	6673289.251	106.7504
South Coast	2026	Industrial - Forklifts	Aggregate	75	Diesel	0.448016179	14535.39152	19632.64406	50.53086072	1417713.89	104.6385
South Coast	2026	Industrial - Forklifts	Aggregate	9999	Diesel	0.170302199	5525.267298	604.216075	0.743100893	531710.146	106.0551

OFFROAD2021 Emissions Inventory

South Coast	2026	Industrial - Misc - Aerial Lifts	Aggregate	15	Diesel	2.37505E-05	613.5162679	0	285.910068	0	#DIV/0!
South Coast	2026	Industrial - Misc - Aerial Lifts	Aggregate	25	Diesel	4.30128E-05	876.5770433	0	408.7830037	0	#DIV/0!
South Coast	2026	Industrial - Misc - Other General Industrial Equipment	Aggregate	15	Diesel	1.53303E-05	382.4207542	0	69.91109069	0	#DIV/0!
South Coast	2026	Industrial - Misc - Other General Industrial Equipment	Aggregate	25	Diesel	3.81015E-05	776.1906107	0	72.39749584	0	#DIV/0!
South Coast	2026	Industrial - Misc - Sweepers/Scrubbers	Aggregate	15	Diesel	6.15968E-06	153.6548829	0	32.99025922	0	#DIV/0!
South Coast	2026	Industrial - Misc - Sweepers/Scrubbers	Aggregate	25	Diesel	7.69702E-06	156.8013073	0	25.09290934	0	#DIV/0!
South Coast	2026	Industrial - Other General Industrial Equipment	Aggregate	100	Diesel	4.455825796	144564.3607	104557.7076	127.4865234	8149163.946	181.0512
South Coast	2026	Industrial - Other General Industrial Equipment	Aggregate	175	Diesel	8.281288869	268677.2972	102105.999	118.943612	15187727.02	180.5475
South Coast	2026	Industrial - Other General Industrial Equipment	Aggregate	25	Diesel	0.002345478	76.09645238	154.8773628	0.657147028	3871.93407	200.581
South Coast	2026	Industrial - Other General Industrial Equipment	Aggregate	300	Diesel	8.135565671	263949.4685	69790.83723	84.11481955	14913595.83	180.6308
South Coast	2026	Industrial - Other General Industrial Equipment	Aggregate	50	Diesel	22.08426319	716499.5979	1035500.755	1198.636179	36403243.98	200.8765
South Coast	2026	Industrial - Other General Industrial Equipment	Aggregate	600	Diesel	28.00122217	908468.8153	133363.3483	151.1438164	51372667.92	180.4809
South Coast	2026	Industrial - Other General Industrial Equipment	Aggregate	75	Diesel	13.36024492	433458.4327	344383.7552	395.6025107	24514040.32	180.462
South Coast	2026	Industrial - Other General Industrial Equipment	Aggregate	750	Diesel	2.994212681	97143.93291	8459.401557	9.857205416	5493371.511	180.4804
South Coast	2026	Industrial - Other General Industrial Equipment	Aggregate	9999	Diesel	1.505055339	48829.86296	2372.721198	2.628588111	2761254.295	180.4814
South Coast	2026	Industrial - Other Material Handling Equipment	Aggregate	100	Diesel	11.05386044	358630.3283	188354.9532	236.2091264	17512051.55	209.0082
South Coast	2026	Industrial - Other Material Handling Equipment	Aggregate	175	Diesel	8.103854598	262920.6376	94201.77706	122.9787198	12870992.13	208.4807
South Coast	2026	Industrial - Other Material Handling Equipment	Aggregate	25	Diesel	0.046982946	1524.30995	2682.769055	3.749351213	67069.22639	231.9548
South Coast	2026	Industrial - Other Material Handling Equipment	Aggregate	300	Diesel	12.66890705	411028.7369	85350.22975	110.2309257	20098667.77	208.7172
South Coast	2026	Industrial - Other Material Handling Equipment	Aggregate	50	Diesel	0.985901978	31986.5039	38650.96129	49.49143601	1399547.862	233.2557
South Coast	2026	Industrial - Other Material Handling Equipment	Aggregate	600	Diesel	17.29266469	561041.4614	74892.20216	94.48365056	27441278.54	208.6623
South Coast	2026	Industrial - Other Material Handling Equipment	Aggregate	75	Diesel	0.220605529	7157.303437	4915.758977	7.498702425	351744.3663	207.6709
South Coast	2026	Industrial - Other Material Handling Equipment	Aggregate	750	Diesel	0.509246962	16521.95685	1253.019276	1.499740485	808197.4327	208.6399
South Coast	2026	Industrial - Other Material Handling Equipment	Aggregate	9999	Diesel	1.193374858	38717.73299	1879.528913	2.249610728	1893938.635	208.6399
South Coast	2026	Light Commercial - Misc - Air Compressors	Aggregate	15	Diesel	0.196532007	6459.963009	0	24.41486083	0	#DIV/0!
South Coast	2026	Light Commercial - Misc - Air Compressors	Aggregate	25	Diesel	0.789510992	25876.31235	0	49.03985191	0	#DIV/0!
South Coast	2026	Light Commercial - Misc - Air Compressors	Aggregate	50	Diesel	11.2670242	377004.85	369639.15	454.13	13676648.55	272.7821
South Coast	2026	Light Commercial - Misc - Generator Sets	Aggregate	15	Diesel	11.48524203	377346.297	0	2434.445881	0	#DIV/0!
South Coast	2026	Light Commercial - Misc - Generator Sets	Aggregate	25	Diesel	14.51054906	475565.6944	0	1780.667791	0	#DIV/0!
South Coast	2026	Light Commercial - Misc - Generator Sets	Aggregate	50	Diesel	31.18443781	1038709.7	744037.9	2204.08	24553250.7	420.5477
South Coast	2026	Light Commercial - Misc - Pressure Washers	Aggregate	15	Diesel	0.109341988	3592.38561	0	112.7600909	0	#DIV/0!
South Coast	2026	Light Commercial - Misc - Pressure Washers	Aggregate	25	Diesel	0.03672624	1203.627452	0	25.91401273	0	#DIV/0!
South Coast	2026	Light Commercial - Misc - Pressure Washers	Aggregate	50	Diesel	0.149841518	4960.35	7657.7	52.84	290992.6	170.5048
South Coast	2026	Light Commercial - Misc - Pumps	Aggregate	15	Diesel	7.479961471	245873.2449	0	1828.410399	0	#DIV/0!
South Coast	2026	Light Commercial - Misc - Pumps	Aggregate	25	Diesel	5.864854509	192226.51	0	546.1378259	0	#DIV/0!
South Coast	2026	Light Commercial - Misc - Pumps	Aggregate	50	Diesel	18.25181586	608465.95	388414.75	965.01	14371345.75	420.5281
South Coast	2026	Light Commercial - Misc - Welders	Aggregate	15	Diesel	4.511068974	148282.9082	0	826.540893	0	#DIV/0!
South Coast	2026	Light Commercial - Misc - Welders	Aggregate	25	Diesel	7.219775893	236635.7646	0	727.5641376	0	#DIV/0!
South Coast	2026	Light Commercial - Misc - Welders	Aggregate	50	Diesel	51.78146475	1730355.5	1457510.7	2269.57	67045492.2	255.7355
South Coast	2026	Portable Equipment - Non-Rental Compressor	Aggregate	100	Diesel	5.47050318	177484.451	136352.6692	324.4943426	10979830.51	164.9749
South Coast	2026	Portable Equipment - Non-Rental Compressor	Aggregate	175	Diesel	11.47581189	372320.0785	176456.3955	419.9338552	23033067.61	164.9749
South Coast	2026	Portable Equipment - Non-Rental Compressor	Aggregate	300	Diesel	6.882734975	223302.7563	51427.1313	122.3871396	13814316.71	164.9749
South Coast	2026	Portable Equipment - Non-Rental Compressor	Aggregate	50	Diesel	0.157907671	5123.140492	7077.128161	16.84226692	285087.051	183.4054
South Coast	2026	Portable Equipment - Non-Rental Compressor	Aggregate	600	Diesel	9.41915459	305594.0973	41047.34333	97.68514813	18905156.91	164.9749
South Coast	2026	Portable Equipment - Non-Rental Compressor	Aggregate	75	Diesel	1.703307812	55261.94609	54257.98257	129.1240464	3418703.996	164.9749
South Coast	2026	Portable Equipment - Non-Rental Compressor	Aggregate	750	Diesel	3.084053018	100058.7037	9436.170881	22.45635589	6189993.556	164.9749
South Coast	2026	Portable Equipment - Non-Rental Compressor	Aggregate	9999	Diesel	0.200581229	6507.637086	471.808544	1.122817795	402585.9834	164.9749
South Coast	2026	Portable Equipment - Non-Rental Generator	Aggregate	100	Diesel	22.63577153	734392.6784	491111.5391	350.3191519	45432189.09	164.9749
South Coast	2026	Portable Equipment - Non-Rental Generator	Aggregate	175	Diesel	49.07503743	1592185.543	733519.1577	523.2330923	98498360.32	164.9749
South Coast	2026	Portable Equipment - Non-Rental Generator	Aggregate	300	Diesel	53.67455772	1741411.913	453333.7284	323.3715248	107730043.7	164.9749
South Coast	2026	Portable Equipment - Non-Rental Generator	Aggregate	50	Diesel	0.371110269	12040.26396	14166.67901	10.10536015	670003.7512	183.4054
South Coast	2026	Portable Equipment - Non-Rental Generator	Aggregate	600	Diesel	110.3915997	3581533.877	576111.6131	410.9513128	221566648.4	164.9749
South Coast	2026	Portable Equipment - Non-Rental Generator	Aggregate	75	Diesel	14.20007544	460705.8091	450185.5775	321.1258893	28500928.8	164.9749
South Coast	2026	Portable Equipment - Non-Rental Generator	Aggregate	750	Diesel	27.59323115	895231.9961	83425.99862	59.50934311	55382291.42	164.9749
South Coast	2026	Portable Equipment - Non-Rental Generator	Aggregate	9999	Diesel	180.4123125	5853278.792	299074.3347	213.335381	362105011	164.9749
South Coast	2026	Portable Equipment - Non-Rental Other	Aggregate	100	Diesel	8.189245665	265691.0568	191110.9061	583.8652532	16436610.4	164.9749
South Coast	2026	Portable Equipment - Non-Rental Other	Aggregate	175	Diesel	26.48773585	859365.4185	398760.256	1218.257307	53163455.12	164.9749
South Coast	2026	Portable Equipment - Non-Rental Other	Aggregate	300	Diesel	8.889260386	288402.2635	78281.9673	239.1601902	17841607.84	164.9749
South Coast	2026	Portable Equipment - Non-Rental Other	Aggregate	50	Diesel	0.134920743	4377.354931	5512.814599	16.84226692	243586.3726	183.4054
South Coast	2026	Portable Equipment - Non-Rental Other	Aggregate	600	Diesel	11.69040935	379282.4568	55128.14599	168.4226692	23463785.52	164.9749
South Coast	2026	Portable Equipment - Non-Rental Other	Aggregate	75	Diesel	3.638695778	118053.4772	106581.0822	325.6171604	7303215.374	164.9749
South Coast	2026	Portable Equipment - Non-Rental Other	Aggregate	750	Diesel	5.121026457	166146.0636	15435.88088	47.15834737	10278396.83	164.9749
South Coast	2026	Portable Equipment - Non-Rental Other	Aggregate	9999	Diesel	45.1830161	1465913.197	38957.22316	119.0186862	90686696	164.9749
South Coast	2026	Portable Equipment - Non-Rental Pump	Aggregate	100	Diesel	3.946159856	128028.8106	89498.51773	272.8447241	7920325.603	164.9749
South Coast	2026	Portable Equipment - Non-Rental Pump	Aggregate	175	Diesel	6.889848725	223533.5541	103494.1707	315.5118003	13828594.7	164.9749
South Coast	2026	Portable Equipment - Non-Rental Pump	Aggregate	300	Diesel	5.081723159	164870.9114	44196.79888	134.7381354	10199511.3	164.9749
South Coast	2026	Portable Equipment - Non-Rental Pump	Aggregate	50	Diesel	0.027325208	886.5362721	1104.919972	3.368453384	49333.02373	183.4054
South Coast	2026	Portable Equipment - Non-Rental Pump	Aggregate	600	Diesel	9.612141895	311855.3579	49353.09208	150.4575845	19292501.15	164.9749
South Coast	2026	Portable Equipment - Non-Rental Pump	Aggregate	75	Diesel	2.058106072	66772.98492	60770.59846	185.2649361	4130818.52	164.9749
South Coast	2026	Portable Equipment - Non-Rental Pump	Aggregate	750	Diesel	4.874346759	158142.8125	14732.26629	44.91271178	9783286.751	164.9749
South Coast	2026	Portable Equipment - Non-Rental Pump	Aggregate	9999	Diesel	2.780737265	90217.95812	4419.679888	13.47381354	5581209.418	164.9749
South Coast	2026	Portable Equipment - Rental Compressor	Aggregate	100	Diesel	0.403731021	13098.60835	9891.980443	17.96508471	810327.3208	164.9749
South Coast	2026	Portable Equipment - Rental Compressor	Aggregate	175	Diesel	9.443821766	306394.3967	141578.9701	257.125275	18954666.32	164.9749
South Coast	2026	Portable Equipment - Rental Compressor	Aggregate	300	Diesel	6.03365467	195755.2809	43895.66322	79.72006342	12110130.18	164.9749
South Coast	2026	Portable Equipment - Rental Compressor	Aggregate	50	Diesel	0.149838008	4861.329154	5564.238999	10.10536015	270518.0533	183.4054
South Coast	2026	Portable Equipment - Rental Compressor	Aggregate	600	Diesel	84.93052021	2755477.194	320252.8668	581.6196176	170463792.2	164.9749
South Coast	2026	Portable Equipment - Rental Compressor	Aggregate	75	Diesel	0.434293551	14090.17598	14219.72189	25.82480928	871669.283	164.9749
South Coast	2026	Portable Equipment - Rental Compressor	Aggregate	750	Diesel	8.710321046	282596.7736	28439.44377	51.64961855	17482459.23	164.9749
South Coast	2026	Portable Equipment - Rental Compressor	Aggregate	9999	Diesel	6.400099405	207644.1767	12364.97555	22.45635589	12845620.31	164.9749
South Coast	2026	Portable Equipment - Rental Generator	Aggregate	100	Diesel	36.96997386	1199450.087	800802.0559	533.3384524	74202323.57	164.9749
South Coast	2026	Portable Equipment - Rental Generator	Aggregate	175	Diesel	71.48306127	2319189.198	1006481.742	670.3222234	143473437.7	164.9749
South Coast	2026	Portable Equipment - Rental Generator	Aggregate	300	Diesel	146.0405642	4738125.271	1195302.437	796.0778164	293117578.1	164.9749
South Coast	2026	Portable Equipment - Rental Generator	Aggregate	50	Diesel	0.04632567	1502.985345	1685.899065	1.122817795	83636.52341	183.4054
South Coast	2026	Portable Equipment - Rental Generator	Aggregate	600	Diesel	225.2176471	7306938.527	1112693.383	741.0597444	452033663.5	164.9749
South Coast	2026	Portable Equipment - Rental Generator	Aggregate	75	Diesel	15.7872456	512199.7969	492282.527	327.862796	31686533.26	164.9749
South Coast	2026	Portable Equipment - Rental Generator	Aggregate	750	Diesel	32.6312524	1058685.047	99468.04484	66.24624988	65494088.75	164.9749
South Coast	2026	Portable Equipment - Rental Generator	Aggregate	9999	Diesel	413.9903673	13431461.54	674359.626	449.1271178	830918823.7	164.9749
South Coast	2026	Portable Equipment - Rental Other	Aggregate	100	Diesel	4.632513174	150296.7881	106440.0787	81.96569901	9297903.288	164.9749
South Coast	2026	Portable Equipment - Rental Other	Aggregate	175	Diesel	25.39196734	823814.4161	387850.1499	298.6695334	50964141.44	164.9749
South Coast	2026	Portable Equipment - Rental Other	Aggregate	300	Diesel	16.87656192	547541.4653	142892.1605	110.0361439	33872896.78	164.9749
South Coast	2026	Portable Equipment - Rental Other	Aggregate	50	Diesel	0.188308674	6109.467529	8748.499621	6.736906768	339973.1247	183.4054
South Coast	2026	Portable Equipment - Rental Other	Aggregate	600	Diesel	13.23297174	429329.1945	67071.83043	51.64961855	26559857.86	164.9749
South Coast	2026	Portable Equipment - Rental Other	Aggregate	75	Diesel	8.729479859	283218.3602	246416.0727	189.7562073	17520912.82	164.9749
South Coast	2026	Portable Equipment - Rental Other	Aggregate	750	Diesel	9.500724467	308240.5421	29161.6654	22.45635589	19068875.56	164.9749
South Coast	2026	Portable Equipment - Rental Other	Aggregate	9999	Diesel	8.858501153	287404.314	14580.8327	11.22817795	17779871.08	164.9749
South Coast	2026	Portable Equipment - Rental Pump	Aggregate	100	Diesel	6.20503956	201315.6749	150148.1938	148.2119489	12454116.28	164.9749
South Coast	2026	Portable Equipment - Rental Pump	Aggregate	175	Diesel	10.50161476	340713.3253	147873.2212	145.9663133	21077759.46	164.9749
South Coast	2026	Portable Equipment - Rental Pump	Aggregate	300	Diesel	15.85195018	514299.0658	120573.5496	119.0186862	31816401.63	164.9749
South Coast	2026	Portable Equipment - Rental Pump	Aggregate	50	Diesel	0.03125621	1014.073321	1137.486317	1.122817795	56430.06922	183.4054
South Coast	2026	Portable Equipment - Rental Pump	Aggregate	600	Diesel	22.48546642	729516.1946	120573.5496	119.0186862	45130512.16	164.9749
South Coast	2026	Portable Equipment - Rental Pump	Aggregate	75	Diesel	4.042975481	131169.887	113748.6317	112.2817795	8114643.954	164.9749
South Coast	2026	Portable Equipment - Rental Pump	Aggregate	750	Diesel	2.28408434	74104.60095	6824.917899	6.736906768	4584378.824	164.9749
South Coast	2026	Transportation Refridgeration Unit - Instate Genset	Aggregate	25	Diesel	12.97053	429093.86	911581.21	1166.88	0	#DIV/0!