

3.4 AIR QUALITY

This section of the Draft EIR provides an analysis of the potential impacts on air quality.

3.4-1 Regulatory Framework

Federal, state, regional, and local regulations concerning air quality are described in the following sections, along with the methodology and significance thresholds used for evaluating impacts.

3.4-1.1 Federal Regulations

Clean Air Act (CAA)

The Federal CAA governs air quality at the national level and the U.S. Environmental Protection Agency (USEPA) is responsible for enforcing the regulations provided in the CAA. Under the CAA, the USEPA is authorized to establish National Ambient Air Quality Standards (NAAQS) that set protective limits on concentrations of air pollutants in ambient air. Enforcement of the NAAQS is required under the 1977 CAA and subsequent amendments. The USEPA also regulates emission sources that are under the exclusive authority of the federal government, such as aircrafts, ships, and certain types of locomotives. The USEPA has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California.

Federal Criteria Air Pollutants

In accordance with the provisions of the CAA, USEPA identified six "criteria air pollutants" for which the federal government has established primary and secondary NAAQS to protect public health and environmental quality. The primary federal standards have been set at concentrations designed to prevent environmental exposures that would be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Criteria air pollutants include carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), particulate matter (PM₁₀ and PM_{2.5}), sulfur dioxide (SO₂), and lead (Pb). The properties and associated health effects of exposure to these pollutants are discussed below; also provided are descriptions of ultrafine particulate matter (ultrafine PM), diesel PM and toxic air contaminants (TACs) as pollutants of air quality concern for which air quality standards have not been specifically established.

CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas such as the Project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions; primarily wind speed, topography and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of human health, CO competes with oxygen—often replacing it in the blood—thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue and impairment of central nervous system functions.

O₃ is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG)—which include volatile organic compounds (VOC) and nitrogen oxides (NO_x)—react in the presence of ultraviolet

sunlight. O₃ is not a primary pollutant directly emitted to the atmosphere; it is a secondary pollutant formed by complex interactions involving two or more chemical compounds. Emissions of ROG and NO_x that drive atmospheric O₃ formation are primarily attributed to automobile exhaust and industrial sources. Meteorology and terrain play major roles in O₃ formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and clear skies. Automobile travel serves as the greatest source of ozone-producing gases. Short-term exposure (lasting for a few hours) to O₃ at levels typically observed in Southern California can result in breathing pattern changes, restricted breathing, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

NO₂, like O₃, is formed in the atmosphere through a chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO₂ are collectively referred to as NO_x and are major contributors to O₃ formation. NO₂ also contributes to the formation of PM₁₀ (discussed below). High concentrations of NO₂ can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO₂ and chronic pulmonary fibrosis. Some increase of bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million (ppm).

Particulate matter (PM) comprises very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids and metals. Particulate matter also forms when gases, emitted from industries and motor vehicles, undergo chemical reactions in the atmosphere. PM₁₀ and PM_{2.5} represent fractions of particulate matter classified by particle size: PM₁₀ includes all suspended particulates less than 10 microns in diameter (about 1/7 the thickness of a human hair), and PM_{2.5} comprises a subset of PM₁₀ less than 2.5 microns in diameter (roughly 1/28 the diameter of a human hair). Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. PM_{2.5} results from fuel combustion (e.g., motor vehicles, power generation and industrial facilities), residential fireplaces and wood stoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as SO₂, NO_x and VOC.

PM₁₀ and PM_{2.5} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. PM_{2.5} poses greater risks to human health than large particulate matter. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. Very small particles of substances, such as lead, sulfates and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage throughout the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Ultrafine PM emissions form during engine combustion and in the atmosphere immediately after leaving exhaust pipes as emitted gases. Ultrafine PM emissions then condense and rapidly dilute and cool. Internal combustion engines have been identified as significant sources of ultrafine PM. A significant proportion of diesel emission particles have diameters smaller than 100 nanometer (nm) or 0.1 micrometer (µm). Particles emitted from gasoline-powered engines are generally less than 80 nm (0.08 µm) in diameter. Particles from compressed natural gas fueled engines are smaller than from diesel emissions, with the majority between 20 nm and 60 nm (0.02 µm – 0.06 µm). In laboratory toxicity

studies, a greater inflammatory and oxidative stress response has been elicited from ultrafine particles compared to larger particles at comparable mass doses. Oxidative stress is a term to describe cell, tissue or organ damage caused by reactive oxygen species. After inhalation, ultrafine particles may penetrate rapidly into lung tissue; and some portions may be translocated to other organs of the body. Additionally, ultrafine particles have been found to penetrate cells and subcellular organelles. In cell cultures exposed to ambient particles, ultrafine particles have been found in mitochondria where they induced structural damage.

SO₂ is a colorless, pungent gas that forms primarily through the combustion of sulfur-containing fossil fuels. Main sources of SO₂ emissions are coal and oil used in power plants and industries. Generally, the highest levels of SO₂ are found near large industrial complexes. In recent years, atmospheric SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels. SO₂ is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO₂ can also harm plant leaves and erode iron and steel. Sulfur oxides (SO_x) refer to any of several compounds of sulfur and oxygen, the most important of which is SO₂.

Pb in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline combustion, the manufacture of batteries, paint, ink, ceramics, and ammunition, and secondary lead smelting facilities. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall prevalence of airborne lead by nearly 95%. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities have become emission sources of greater concern. Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Ambient Air Quality Standards

The CAA grants the USEPA authority to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been met on a regional scale. The NAAQS are summarized in Table 3.4-1. As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

The State of California has also developed its own ambient air quality standards that are generally more stringent (protective) than the NAAQS. These standards are referred to as the California Ambient Air Quality Standards (CAAQS) and are also displayed in Table 3.4-1.

Table 3.4-1. Federal and State Ambient Air Quality Standards

| Pollutant | Averaging Time | CAAQS | NAAQS |
|---|-----------------|-----------------------------------|------------------------------------|
| Ozone (O ₃) | 1-Hour | 0.09 ppm (180 µg/m ³) | -- |
| | 8-Hour | 0.07 ppm (137 µg/m ³) | 0.07 ppm (137 µg/m ³) |
| Carbon Monoxide (CO) | 1-Hour | 20 ppm (23 mg/m ³) | 35 ppm (40 mg/m ³) |
| | 8-Hour | 9.0 ppm (10 mg/m ³) | 9.0 ppm (10 mg/m ³) |
| Nitrogen Dioxide (NO ₂) | 1-Hour | 0.18 ppm (339 µg/m ³) | 0.10 ppm (188 µg/m ³) |
| | Annual Average | 0.030 ppm (57 µg/m ³) | 0.053 ppm (100 µg/m ³) |
| Sulfur Dioxide (SO ₂) | 1-Hour | 0.25 ppm (655 µg/m ³) | 0.075 ppm (196 µg/m ³) |
| | 24-Hour | 0.04 ppm (105 µg/m ³) | -- |
| Respirable Particulate Matter (PM ₁₀) | 24-Hour | 50 µg/m ³ | 150 µg/m ³ |
| | Annual Average | 20 µg/m ³ | -- |
| Fine Particulate Matter (PM _{2.5}) | 24-Hour | -- | 35 µg/m ³ |
| | Annual Average | 12 µg/m ³ | 12 µg/m ³ |
| Lead (Pb) | 30-Day Average | 1.5 µg/m ³ | -- |
| | 3-Month Average | -- | 0.15 µg/m ³ |
| Visibility Reducing Particles | 8-Hour | Extinction of 0.23 per kilometer | No National Standard |
| Sulfates | 24-Hour | 25 µg/m ³ | No National Standard |
| Hydrogen Sulfide | 1-Hour | 0.03 ppm (42 µg/m ³) | No National Standard |
| Vinyl Chloride | 24-Hour | 0.01 ppm (26 µg/m ³) | No National Standard |

Source: CARB, 2016a

Toxic Air Contaminants (TACs)

TACs are generally defined as those contaminants that are known or suspected to cause serious health problems but do not have a corresponding ambient air quality standard. These air pollutants may increase a person’s risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors such as the concentration of the chemical and its toxicity, meteorological conditions at the time of release, and the terrain all influence whether the emissions could be hazardous to human health. TACs are emitted by a variety of industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. TACs can exist as PM₁₀ and PM_{2.5} or as vapors (gases), and include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments of 1990, whereby Congress mandated that the USEPA regulate 188 air toxics, also known as hazardous air pollutants. The USEPA has assessed this expansive list in its rule on the Control of Hazardous Air Pollutants from Mobile Sources and identified a group of 93 compounds emitted from mobile sources. In addition, the USEPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-hazardous contributors to cancer risk. These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter.

Diesel exhaust is a pollutant of special concern in the South Coast Air Basin (SCAB). Diesel exhaust is composed of two phases, gas and particle, both of which contribute to human health risk upon exposure. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic hydrocarbons. The particle phase is also composed of many different types of particles by size or composition. Fine and ultrafine diesel particulates are of the greatest health concern and may be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines; the on-road diesel engines of trucks, buses and cars, and the off-road diesel engines that include locomotives, marine vessels and heavy-duty equipment. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil and whether an emission control system is present.

Diesel exhaust causes health effects from both short-term (acute) exposures and long-term (chronic) exposures. The nature and severity of health effects depends upon several factors including the dose and duration of exposure. Individuals also react differently to different levels of exposure. There is limited information on exposure to diesel PM specifically but there is substantial evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects. Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs, some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic inhalation exposure to diesel PM in experimental animal studies has shown a range of dose-dependent lung inflammation and cellular changes in the lung and immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.

3.4-1.2 State Regulations

California Clean Air Act (CCAA)

Air quality in California is also governed by more stringent regulations under the CCAA. The CCAA is administered by the CARB at the state level and by the air districts at the regional and local levels. The CCAA requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest feasible date. The CAAQS are also summarized in Table 3.4-1, above. The CARB, a department of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, designates the CAAQS, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The CARB also establishes emissions standards for motor vehicles sold in California, consumer products (i.e., hair spray, aerosol paints, and charcoal lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

Toxic Air Contaminant Identification and Control Act

The CARB's statewide comprehensive air toxics program was established in the early 1980s. The Toxic Air Contaminant Identification and Control Act created California's program to reduce exposure to air toxics. Under the Toxic Air Contaminant Identification and Control Act, the CARB is required to prioritize the identification and control of air toxics emissions. In selecting substances for review, the CARB must consider criteria relating to the risk of harm to public health, such as the amount or potential amount of

emissions, manner of and exposure to usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community. The Toxic Air Contaminant Identification and Control Act also require CARB to use available information gathered from the Air Toxics Hot Spots Information and Assessment Act to include in the prioritization of compounds.

The CARB classified particulate emissions from diesel-fueled engines (diesel PM) as TACs in August 1998. Following the identification process, the CARB was required by law to determine if there was a need for further control, which led to the risk management phase of the program. For the risk management phase, CARB formed the Diesel Advisory Committee to assist in the development of a risk management guidance document and a risk reduction plan. With the assistance of the Advisory Committee and its subcommittees, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines.

The Diesel Advisory Committee approved these documents on September 28, 2000, paving the way for the next step in the regulatory process: the control measure phase. During the control measure phase, specific statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles have and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

3.4-1.3 Regional Regulations

Southern California Association of Governments (SCAG)

While Southern California is a leader in reducing emissions and ambient levels of air pollutants are improving, the SCAG region continues to have the worst air quality in the nation. The SCAG region encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura) and 191 cities in an area covering more than 38,000 square miles. SCAG is the Metropolitan Planning Organization for the six-county region and is required to prepare an RTP/SCS every four years that provides a comprehensive framework and outlook for guiding growth in population, housing, and employment. The most recent iteration of the SCAG RTP/SCS that has been formally adopted is the *Connect SoCal 2020–2045 RTP/SCS (Connect SoCal)*, which was officially adopted in September 2020 and forecasts regional growth projections through the horizon year of 2045.

Connect SoCal is built on the Connect SoCal Growth Vision, which devised a growth priority hierarchy in order to optimize opportunities for shorter trip distances and drivers to switch to electric vehicles. The Growth Vision directs growth towards specific types of transit-oriented planning areas by the following priority: Transit Priority Areas, Livable Corridors, Job Centers, High Quality Transit Areas, and Neighborhood Mobility Areas. Development in these areas will be guided by the following Connect SoCal strategies to reduce air pollutant emissions: focusing growth near destinations and mobility options; promoting diverse housing choice; leveraging technology innovations; supporting implementation of sustainability policies; and promoting a green region. Connect SoCal builds on previous planning initiatives to promote strategies and policies that will improve mobility, reduce congestion, create more connected communities, and produce co-benefits that will enhance regional air quality.

South Coast Air Quality Management District (SCAQMD)

The SCAQMD was created to coordinate air quality planning efforts throughout Southern California. The SCAQMD is the agency principally responsible for comprehensive air pollution control in the region.

Specifically, the SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and ensuring that new, modified or relocated stationary sources do not create net emission increases.

The SCAQMD monitors air quality within the Project Area. The SCAQMD has jurisdiction over an area of 10,743 square miles, consisting of the SCAB and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin. SCAB is a subregion of the SCAQMD's jurisdiction and covers an area of 6,745 square miles, including all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties. SCAB is bounded by the Pacific Ocean to the west; the San Gabriel Mountains, San Bernardino and San Jacinto Mountains to the north and east; and the San Diego County line to the south.

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources to meet state and federal ambient air quality standards. The agency has fulfilled this requirement by preparing a series of Air Quality Management Plans (AQMP). The most recent of these—the 2022 AQMP—was adopted by the Governing Board of the SCAQMD on December 2, 2022. The 2022 AQMP was prepared to comply with the state and federal CAAs and amendments, to accommodate growth, to reduce the high levels of pollutants in the SCAB, to meet state and federal AAQS, and to minimize the fiscal impact that pollution control measures have on local economies.

The 2016 AQMP represents a thorough analysis of existing and potential regulatory control options, includes available, proven, and cost-effective strategies, and seeks to achieve multiple goals in partnerships with other entities promoting efficiencies in energy use, transportation, and goods movement. The document incorporates projections of regional growth from the Connect SoCal 2020–2045 RTP/SCS pertaining to population, housing, employment, and vehicle travel within the SCAB into its prescriptive approach for reducing regional air pollution. The 2022 AQMP includes both stationary and mobile source strategies to address the challenge of reducing NO_x emissions sufficiently to achieve attainment of the O₃ NAAQS (SCAQMD, 2022). All projects in the SCAQMD jurisdiction are subject to SCAQMD rules and regulations, including, but not limited to the following:

Rule 401 Visible Emissions – This rule prohibits an air discharge that results in a plume that is as dark as or darker than what is designated as No. 1 Ringelmann Chart by the United States Bureau of Mines for an aggregate of three minutes in any one hour.

Rule 402 Nuisance – This rule prohibits the discharge of “such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of people or the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.”

Rule 403 Fugitive Dust – This rule requires that future projects reduce the amount of particulate matter entrained in the ambient air as a result of fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions from any active operation, open storage pile, or disturbed surface area.

Rule 1113 Architectural Coatings – This rule limits VOC in architectural coatings used in the SCAQMD jurisdiction. These limits are application-specific and are updated as availability of low-VOC products expands.

Rule 1166 Volatile Organic Compound Emissions from Decontaminated Soil – This rule sets requirements to control the emission of VOC from excavating, grading, handling, and treating VOC-contaminated soil as a result of leakage from storage or transfer operations, accidental spillage, or other deposition.

Rule 1168 Adhesive and Sealant Applications – This rule reduces emissions of VOCs and eliminates emissions of chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene from the application of adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers.

Rule 1466 Control of Particulate Emissions from Soils with Toxic Air Contaminants – This rule provides best management practices (BMP) to minimize the amount of off-site fugitive dust emissions containing toxic contaminants by reducing particulate emissions in the ambient air as a result of earth-moving activities—such as dredging, excavating, grading, earth-cutting and filling, loading, unloading, handling, mechanized land clearing, treating, stockpiling, transferring, and removing of soil that contains applicable toxic air contaminants—from sites that meet applicability requirements as defined by USEPA (Superfund National Priorities List site), the California Department of Toxic Substances Control (Brownfield or Cleanup Program site), the State Water Resources Control Board or Regional Water Quality Control Board (Site Cleanup Program site), or a county, local or state regulatory agency as a Hazardous Materials Release site.

Regulation XIII New Source Review – This regulation contains Rules 1300 through 1325, which sets forth pre-construction review requirements for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the NAAQS, and that future growth within SCAQMD is not unnecessarily restricted. The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors.

Metro

Approved by the Metro Board of Directors on September 24, 2020, the Moving Beyond Sustainability Plan establishes agency-wide sustainability goals, targets, and strategies for the next ten years. The Plan includes energy, water, emissions and pollution control, materials and construction/operations, climate adaptation and resiliency, livable neighborhoods, equity, and economic and workforce development goals. Metro has also prepared the Climate Action and Adaptation Plan 2019 that commits the agency to reducing greenhouse gas (GHG) emissions by 79% relative to 2017 levels by 2030 and 100% by 2050. The Draft Moving Beyond Sustainability Plan, published in 2020, establishes agency-wide sustainability goals, targets, and strategies for the next ten years. The Plan will include energy, water, emissions and pollution control, materials and construction/operations, climate adaptation and resiliency, livable neighborhoods, equity, and economic and workforce development goals.

Metro recently implemented several policies and plans aimed at improving system-wide sustainability and minimizing detrimental air quality and climate change impacts from operations and new projects, collectively overseen by the Countywide Sustainability Planning Program. These plans and policies constitute the framework for the Metro Climate Action and Adaptation Plan, which is Metro's foundation for its Sustainability Implementation Plan. Strategies for achieving the objectives set forth in the Metro Climate Action and Adaptation Plan were analyzed in the Metro Energy and Resource Report. The Metro policies and plans that most directly apply to reducing emissions of air pollutants that would result from implementation of the Project include the Construction Demolition Debris Recycling and

Reuse Policy, Environmental Policy, and the Green Construction Policy, all of which are incorporated into the Metro Countywide Sustainability Planning Policy and Implementation Plan.

Metro published its Construction and Demolition Debris Recycling and Reuse Policy (GEN 51) to encourage responsible practices that will enhance reliance on recyclable and recycled products and reduce environmental impacts from waste disposal in landfills. The policy dictates that Metro must give preference to recyclable and recycled products in the selection of construction materials to the maximum extent feasible during design and construction of proposed projects, as well as mandating that Metro shall not use any landfill or recycling facility that does not present and maintain acceptable documentation indicating their legitimacy for disposal or diversion purposes. Construction debris or wastes that cannot be recycled or reused on site shall be manifested, transported, and disposed to the most appropriate facility. Metro shall ensure that any material used in the design or construction of all structures would not adversely affect the performance, safety or the environment of the transportation system.

Metro's Environmental Policy was prepared to provide guidance in identifying potential environmental impacts generated by development activities and developing mitigation measures to address those impacts; operating and maintaining Metro vehicles and facilities to minimize negative impacts on the environment; reducing consumption of natural resources; and reducing and/or diverting the amount of solid waste going to landfills. Metro is committed to planning and constructing projects and operating and maintaining facilities and vehicles in a manner that will protect human health and the environment.

Strategies outlined in the Environmental Policy to reduce air quality impacts include, but are not limited to: compliance with all environmental, federal, state, and local laws and regulations; restoration of the environment by providing mitigation, corrective action, and monitoring to ensure that environmental commitments are implemented; avoidance of environmental degradation by minimizing releases to air, water, and land; prevention of pollution and conservation of resources by reducing waste and reusing materials; and ensuring that the planning, design, construction and operation of facilities and services consider environmental protection and sustainable features.

Metro adopted the Green Construction Policy in 2011 to reduce environmental impacts from construction activities associated with Metro projects. The policy provides requirements for identifying and mitigating air emission impacts on human health, the environment, and the climate of on-road and off-road construction equipment and generators used in construction and development activities; implementing appropriate BMPs to complement equipment mitigations; and implementing strategies to ensure compliance with applicable rules and regulations. The Green Construction Policy includes requirements for off-road construction equipment to meet Tier 4 off-road emission standards where feasible or be outfitted with Best Available Control Technology devices certified by CARB; on-road heavy-duty diesel trucks or equipment with a gross vehicle weight rating of 19,500 pounds or greater to comply with USEPA 2007 on-road emission standards for PM and NO_x; and for the utilization of grid-based electric power at any construction site where feasible.

Best Management Practices in the Green Construction policy include, but are not limited to: maintaining equipment according to manufacturer's specifications; restricting idling of construction equipment and on-road heavy-duty trucks to a maximum of five minutes when not in use; use of diesel particulate traps or Best Available Control Technology as feasible; configuration of haul routes to conform to local requirements to minimize traversing through congested streets, near sensitive receptor areas, and during peak traffic periods; and limiting traffic speeds on unpaved roads to less than 15 miles per hour.

3.4-1.4 Local Regulations

City of Lawndale

The City of Lawndale General Plan contains goals, policies, and programs that focus on air quality described in the following section. The AQMP, a subsection of the Resource Management chapter of the General Plan, was developed to address air pollution levels, reduce the health and economic impacts of air pollution, comply with the requirements of the AQMP for the SCAB, increase awareness of local responsibility for air quality conservation and emissions reduction, and coordinate local efforts that impact air quality both locally and in the region. The goals, policies, and programs contained within the AQMP that apply to the Project are shown in Table 3.4-2.

Table 3.4-2. City of Lawndale – Relevant Air Quality Goals, Policies, and Programs

| Goal/Policy/Program | Description |
|---|--|
| City of Lawndale Air Quality Management Plan | |
| Goal 3 | The City shall participate in the efficient management of transportation facilities and improvements to transportation system infrastructure, using cost-effective system management and innovative demand-management techniques. |
| Goal 3a | Policy 3a states that transit improvements and facility development (such as light rail transit) will accompany the City's TDM measures. |
| Goal 6 | Solutions to air pollution problems must be coordinated among the local, regional, county, and state governments. |
| Policy 6a | The City shall implement air quality policies in cooperation with the Environmental Protection Agency (EPA), the SCAQMD and SCAG. The City shall also participate in the development and update of the regional air quality management plans required under federal and state law. |
| Implementation Program 1 | Efficient Land Use |
| Program 1.6 | The City shall encourage growth to occur in an around activity centers, transportation node corridors, underutilized infrastructure systems, and areas needing redevelopment. |
| Program 1.9 | The City shall adopt ordinances that ensure sensitive receptor facilities are sited away from significant sources of air pollution. |
| Implementation Program 3 | Improved Transportation Management |
| Program 3.3 | The City shall support the extension of light rail, trolley and other mass transit services. The City shall also influence rail transit alignment and bus station locations for maximum commuter access to shopping centers and work districts and to minimize local air pollutant impacts at seriously congested intersections. |
| Program 3.4 | The City shall restrict construction to off-peak hours to improve traffic flow and reduce vehicle delays and shall provide city traffic officers to manage traffic flow during major construction projects. |
| Implementation Program 4 | Increased Energy Efficiency |
| Program 4.7 | The City shall encourage, through zoning regulations or modifications to the Building code, the use of building materials and methods that minimize the emissions of Reactive Organic Gases, particulates, and ozone layer-depleting chemicals. |
| Implementation Program 6 | Promote Inter-agency Communications |
| Program 6.2 | The City shall coordinate with SCAQMD, SCAG, CARB, and other local, state, and national agencies in efforts to plan and implement clean air strategies for the South Coast Air Basin. |
| Program 6.3 | The City shall ensure that all proposed projects comply with the Regional Growth Management and Air Quality Plans. |

Source: City of Lawndale, 1996

City of Redondo Beach

The City of Redondo Beach General Plan contains goals, policies, and programs that focus on air quality described in the following section. The Land Use Element and Transportation and Circulation Element of the General Plan are the two documents designed to regulate air quality within the City. Goals, policies, and programs designed to regulate air quality are shown in Table 3.4-3.

Table 3.4-3. City of Redondo Beach – Relevant Air Quality Goals, Policies, and Programs

| Goal/Policy/Program | Description |
|---|---|
| City of Redondo Beach General Plan, Land Use Element | |
| Goal 1R | The City shall ensure the protection and maintenance of environmental resources. |
| Policy 1.60.4 | The City shall establish local procedures, requirements, and programs as to maintain local and regional environmental quality and mitigate impacts; including air quality management. |
| Implementation Program 1.1 | The City shall ensure the provisions for the compliance of local development projects with regional requirements for air quality (AQMP). |
| City of Redondo Beach General Plan, Transportation and Circulation Element | |
| Goal G6 | The City shall favor development that purposefully integrates itself with surrounding transportation facilities. |
| Policy P1 | The City supports transit-oriented development that reduces automobile trips. |

Source: City of Redondo Beach, 1993a; 2009a; 2009b

City of Torrance

The City of Torrance has established policies and objectives for the regulation of air quality within its General Plan; the Community Resources Element and Circulation and Infrastructure Element contain objectives and policies designed to regulate air quality as shown in Table 3.4-4.

Table 3.4-4. City of Torrance – Relevant Air Quality Objectives and Policies

| Objective/Policy | Description |
|---|--|
| City of Torrance General Plan, Community Resources Element | |
| Objective CR.13 | The City shall contribute to the improvement of local and regional ambient air quality to benefit the health of all. |
| Policy CR.13.1 | The City shall continue to participate in the efforts of the State Air Resources Board and SCAQMD to meet State and federal air quality standards. |
| Policy CR.13.2 | The City shall work with neighboring cities to implement local and regional projects that improve mobility on railways, reduce emissions, and improve air quality. |
| Policy CR.13.5 | The City shall support air quality and energy and resource conservation by encouraging alternative modes of transportation such as transit. |
| Policy CR.13.8 | The City shall promote energy-efficient building construction and operation practices that reduce emissions and improve air quality. |
| City of Torrance General Plan, Circulation, and Infrastructure Element | |
| Objective C1.7 | The City shall expand and optimize the use of local and regional bus and other transit systems as alternatives to the automobile. |
| Policy C1.7.9 | The City shall support light rail usage by providing connection and creating efficient transfer opportunities through the Torrance Transit System. |

Source: City of Torrance, 2010b; 2010c

3.4-2 Methodology

3.4-2.1 Resource Study Area

The resource study area (RSA) for the regional air quality emissions analysis is the extent of the South Coast Air Basin (SCAB), shown in Figure 3.4-1. Per SCAQMD’s guidance, for the localized emissions analysis, the RSA is 500 meters (1,640 feet) from the Project alignment (SCAQMD, 2019b). The localized RSA is shown in Figure 3.4-2 for the Proposed Project, Trench Option, and the Hawthorne Option.

3.4-2.2 Construction Air Quality Methodology

Within the SCAQMD jurisdiction, emissions from individual CEQA projects are evaluated on both regional and localized scales, for which the District has established separate thresholds of significance. The regional-level analysis considers all sources of air pollutant emissions, both on the Project site and at remote or mobile locations, while the localized analysis focused on emissions from on-site sources and how they could affect nearby sensitive receptors. Sources of air pollutant emissions involved in construction of the Project would include heavy-duty construction equipment exhaust, fugitive dust (particulate matter) generated by material movement and ground disturbance, haul truck trips used for material import and off-site disposal trips, and vehicle trips associated with crew workers and vendors delivering materials to and from the construction sites. The 2022 California Emissions Estimator Model (CalEEMod) is the preferred land use development emissions tool for estimating air pollutant emissions under CEQA (CAPCOA, 2022a).

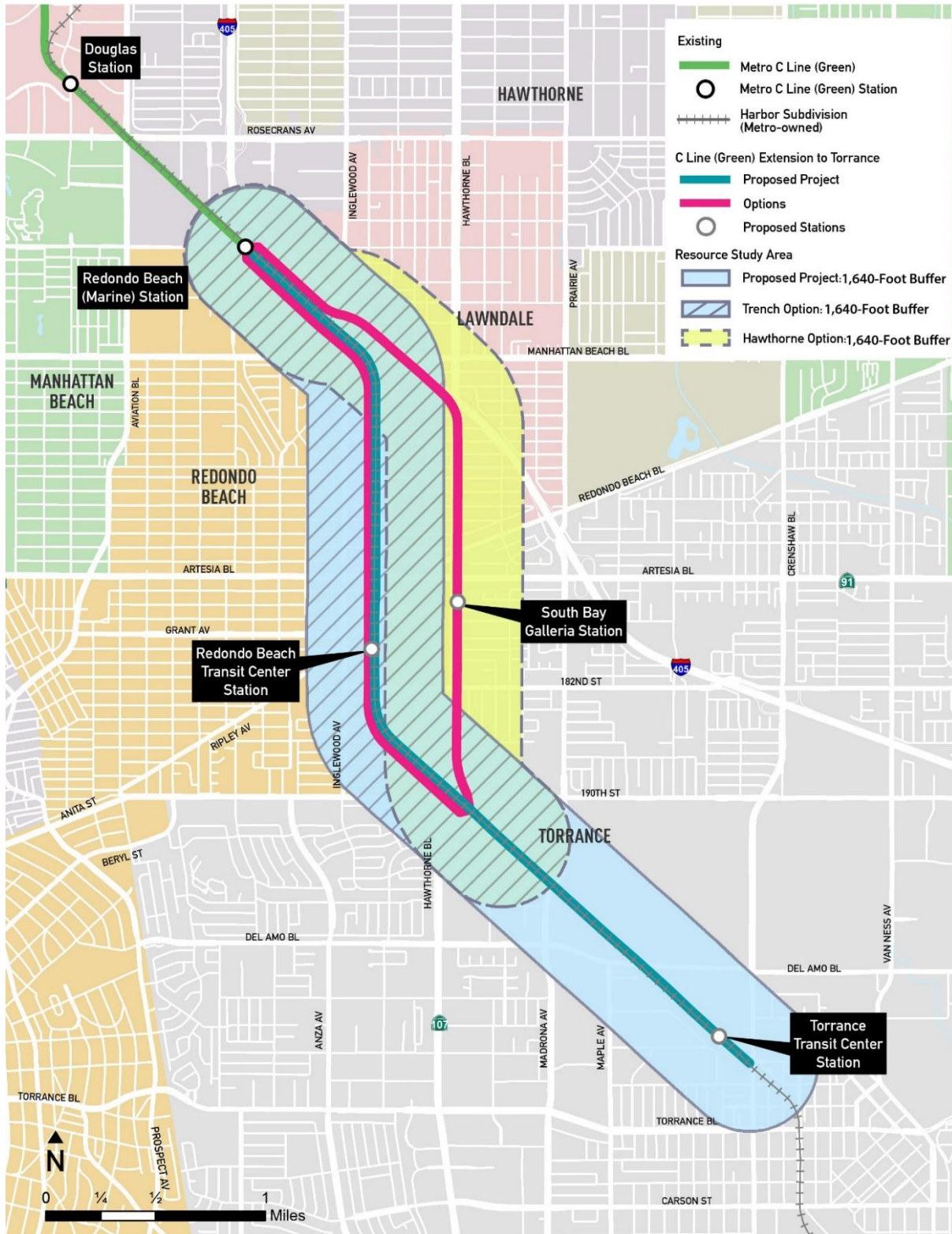
CalEEMod was used to prepare reasonably conservative estimates of the potential maximum daily regional and localized emissions that would be generated by the sources involved in construction activities. The analysis relied on information provided by Metro to characterize daily vehicle and equipment inventories that would be required to complete each phase of construction. Construction activities would generate emissions from off-road equipment usage (through engine exhaust and fugitive dust), on-road vehicle travel (truck hauling, vendor deliveries, and workers commuting), architectural coating, and paving. Table 3.4-5 provides an overview of the sources of air pollutant emissions that are accounted for in CalEEMod during construction. Emissions from sources located on the individual construction sites were analyzed in accordance with the SCAQMD Localized Significance Threshold (LST) methodology based on the regional location and proximity of sensitive land uses.

Table 3.4-5. Construction Emissions Sources

| Phase(s) | Activity | Source(s) | Pollutants |
|-------------------------------------|--------------------------|--------------------------------|---|
| All Phases | Off-Road Equipment Use | Engine Exhaust | VOC, NO _x , CO, SO _x , PM ₁₀ , PM _{2.5} |
| All Phases | On-Road Vehicle Trips | Engine Exhaust | VOC, NO _x , CO, SO _x , PM ₁₀ , PM _{2.5} |
| All Phases | On-Road Vehicle Trips | Engine Evaporative Losses | VOC |
| All Phases | On-Road Vehicle Trips | Brake & Tire Wear | PM ₁₀ , PM _{2.5} |
| All Phases | On-Road Vehicle Trips | Re-Entrained Road Dust | PM ₁₀ , PM _{2.5} |
| Demolition | Mechanical Pulverization | Demolition Debris Dust | PM ₁₀ , PM _{2.5} |
| Demolition/Excavation | Truck Loading | Fugitive Dust | PM ₁₀ , PM _{2.5} |
| Site Clearing, Grading | Ground Disturbance | Fugitive Dust (Dozers/Graders) | PM ₁₀ , PM _{2.5} |
| Roadway Restoration/ Parking Lot | Paving | Off-Gassing (Evaporation) | VOC |

Source: CAPCOA, 2022a

Figure 3.4-2. Resource Study Area (Local)



Source: TAHA, 2022

3.4-2.2.1 Proposed Project Construction

Construction of the Proposed Project would commence in spring 2027 and is anticipated to last for approximately five years—excluding a period of approximately 10 months between Systems Construction and Testing/Commissioning activities during which no equipment would be in use—with operations beginning in early 2033. Table 3.4-6 summarizes the phases comprising the Proposed Project construction schedule and the daily construction crew vehicles and truckloads of material export or import that would be involved during construction of each component. Comprehensive equipment inventories were developed by Metro that contained all equipment that would be required to complete each phase of Proposed Project construction. Throughout the course of construction, the daily activities involving equipment and vehicles would fluctuate, and only a subset of the equipment needed to complete construction would be in use on a daily basis. Construction of the Proposed Project would involve a total of approximately 556,100 CY of total import and export. Maximum daily hauling activity would be approximately 106 truckloads of material being moved, which would occur in fall of 2027.

Table 3.4-6. Proposed Project Construction Activity Summary

| Phase | Approximate Duration (Months) | Daily Crew Vehicle Trips (Round Trips) | Maximum Daily Haul Loads |
|----------------------------|-------------------------------|--|--------------------------|
| Early Utility Relocation | 18 | 40 | 2 |
| Project Start-Up | 6 | 40 | 101 |
| Final Utility Relocations | 15 | 40 | 2 |
| Freight Track Bridges | 10 | 25 | 1 |
| Freight Retaining Walls | 12 | 40 | 60 |
| LRT Retaining Walls | 8 | 40 | 7 |
| Freight At-Grade Crossings | 4 | 25 | 2 |
| LRT Guideway Bridges | 25 | 25 | 6 |
| Freight Trackwork (BNSF) | 4 | 40 | 21 |
| Stations and Access | 18 | 40 | 1 |
| LRT Trackwork | 15 | 40 | 21 |
| Systems Construction | 12 | 20 | 0 |
| Testing/Commissioning | 9 | 15 | 0 |

Source: STV, 2022

LRT = light rail

Based on the construction schedule and forecasted resource allocation, it was conservatively assumed that no more than 40 pieces of equipment would be active on-site on a given day during construction of the Proposed Project. Haul trucks involved in Proposed Project construction would have average capacities of 30 cubic yards (CY) based on design information, and the haul route was assumed to have a one-way length of 35 miles (70 miles roundtrip) based on the anticipated sites where material will be disposed (assumed to be Irwindale, California for this analysis). Additionally, it was assumed that 10% of soil would be contaminated and need to be disposed of at a specialized site. Soil Safe of California Incorporated, in San Bernardino County is approximately 70 miles to the east of the Proposed Project

(140 miles roundtrip); this location was incorporated into the analysis for the disposal of contaminated soils.

Maximum daily hauling truckloads during construction of the Proposed Project would be during overlapping utility relocations, project startup activities, and construction of the freight track bridges, resulting in up to 212 daily one-way truck trips (which includes the return trips for each truckload). Up to 210 construction crew vehicles may be employed on the days of maximum construction activities. The analysis of air quality impacts considered both regional-scale and localized emissions, and daily ground disturbance was estimated in accordance with SCAQMD guidance (SCAQMD, 2019b).

3.4-2.2.2 Trench Option Construction

Construction of the Trench Option would begin in spring 2027 and would be completed in spring 2035, with the primary difference relative to the Proposed Project being the trenching activities that would take place for approximately three years. Trench Option construction would require approximately 642,700 CY of total import and export, approximately 86,600 CY more than the Proposed Project, reflected in the higher numbers of maximum daily haul loads during retaining wall installation and trenching along the alignment. Similar to the Proposed Project, a maximum of 40 pieces of off-road construction equipment would be present onsite during construction of the Trench Option. The magnitude of daily source activity and resulting emissions would fluctuate throughout the construction period, and maximum emissions characterized in this analysis would not occur every day. Maximum daily hauling activities would involve up to approximately 243 truckloads of material being moved (486 truck trips), which would occur during the overlap of light rail guideway trenching, BNSF freight trackwork, construction of stations and access, and light rail trackwork in the summer of 2031 based on the preliminary schedule. Table 3.4-7 summarizes the construction schedule for the Trench Option.

Table 3.4-7. Trench Option Construction Activity Summary

| Phase | Approximate Duration (Months) | Daily Crew Vehicle Trips (Round Trips) | Maximum Daily Haul Loads |
|----------------------------|-------------------------------|--|--------------------------|
| Early Utility Relocation | 18 | 40 | 2 |
| Project Start-Up | 6 | 40 | 35 |
| Final Utility Relocations | 15 | 40 | 2 |
| Freight Track Bridges | 8 | 25 | 2 |
| Freight Retaining Walls | 18 | 40 | 54 |
| LRT Guideway Bridges | 32 | 25 | 4 |
| LRT Retaining Walls | 8 | 40 | 110 |
| Freight At-Grade Crossings | 4 | 25 | 4 |
| LRT Guideway Trench | 36 | 40 | 200 |
| Freight Trackwork (BNSF) | 25 | 40 | 21 |
| Stations and Access | 20 | 40 | 1 |
| LRT Trackwork | 15 | 40 | 21 |
| Systems Construction | 12 | 20 | 0 |
| Testing/Commissioning | 9 | 15 | 0 |

Source: STV, 2022

LRT = light rail

3.4-2.2.3 Hawthorne Option Construction

Construction of the Hawthorne Option would begin in spring 2029 and would be completed in early 2035. Hawthorne Option construction would involve the combined import and export of approximately 564,700 CY of material, approximately 8,600 CY more than the Proposed Project, with average truck trips of 35 miles. Construction of the Hawthorne Option would also involve a maximum 40 total active pieces of equipment onsite during any individual phase or combination of overlapping phases. The emissions analysis for construction of the Hawthorne Option evaluated potential regional and localized air quality impacts in accordance with SCAQMD guidance. Maximum daily hauling activities during construction of the Hawthorne Option are projected to be 75 truckloads of material being moved (150 truck trips) during utility relocations and project startup in fall 2029. Table 3.4-8 summarizes the construction schedule for the Hawthorne Option.

Table 3.4-8. Hawthorne Option Construction Activity Summary

| Phase | Approximate Duration (Months) | Daily Crew Vehicle Trips (Round Trips) | Maximum Daily Haul Loads |
|---------------------------|-------------------------------|--|--------------------------|
| Early Utility Relocation | 18 | 40 | 1 |
| Project Start-Up | 6 | 40 | 73 |
| Final Utility Relocations | 15 | 40 | 1 |
| LRT Guideway Bridges | 35 | 60 | 27 |
| Freight Retaining Walls | 6 | 40 | 35 |
| LRT Retaining Walls | 8 | 40 | 1 |
| Freight Trackwork (BNSF) | 8 | 40 | 21 |
| Stations and Access | 22 | 40 | 1 |
| LRT Trackwork | 14 | 40 | 21 |
| Systems Construction | 12 | 20 | 0 |
| Testing/Commissioning | 9 | 15 | 0 |

Source: STV, 2022

LRT = light rail

3.4-2.3 Operational Air Quality Methodology

The assessment of potential air quality impacts associated with implementation of the Project evaluated both direct and indirect sources of air pollutant emissions during future operation. Air quality impacts are typically characterized by estimates of air pollutant emissions that are analyzed on either daily or annual timescales in terms of pounds per day or tons per year of pollutants emitted, respectively.

Spurred by Senate Bill 743—originally adopted in 2013—the CEQA Guidelines were updated in 2018 to incorporate vehicle miles traveled (VMT) as the preferred metric for analyzing transportation impacts under CEQA. In response to the updated CEQA Guidelines, the Office of Planning and Research (OPR) published a Technical Advisory on Evaluating Transportation Impacts in CEQA in December 2018 (OPR, 2018b) and CEQA Review of Sustainable Transportation Projects Technical Advisory (OPR, 2021), and Caltrans has published guidance for analyzing transportation impacts for state highway system projects under CEQA (Caltrans, 2020c). The OPR guidance relates directly to the Project, while the Caltrans guidance provides insight as to Caltrans approach to establishing a CEQA baseline for long-range transportation projects. OPR considers “sustainable transportation projects” to be those that encourage the use of active transportation, transit, and zero-emission vehicles (ZEVs).

3.4-2.3.1 CEQA Review of Sustainable Transportation Projects

Generally, light rail projects are understood to improve regional connectivity and air quality through induced changes to mobility patterns spurred by the provision of an alternative mode of transportation that replaces and reduces vehicle trips. The OPR guidance recommends streamlining CEQA analyses of potential impacts to transportation and transportation-related emissions for transit and active transportation projects that are widely recognized to reduce on-road VMT and associated vehicle emissions (OPR, 2018b; OPR, 2021). The OPR recommendation is based on programmatic review of public transit and active transportation projects, which consistently demonstrate reductions in pollutant emissions from on-road vehicles through implementation of transit systems. The determination of

potentially significant operational air quality impacts is streamlined for the Proposed Project, as it would not introduce a new substantial permanent source of air pollutant emissions into the Affected Area and would induce changes to regional transportation patterns that would decrease VMT and associated air pollutant emissions.

The OPR recommends streamlining the emissions impact analysis for transit and active transportation projects that displace vehicle trips and reduce on-road VMT; therefore, operational emissions are primarily addressed qualitatively with the exception of changes in regional on-road VMT. Mobile source air pollutant emissions from on-road vehicle traffic were quantified using the CARB EMFAC2021 model to demonstrate the long-term benefits associated with Project implementation. The model is developed using the statewide mobile source emissions inventory and produces emission rates in units of grams of pollutant emitted per VMT based on the year of analysis, regional location, vehicle fleet mix, local meteorology, and speed of travel. Aggregate average emission rates were produced for Los Angeles County in 2042. To estimate daily emissions for the Proposed Project, Trench Option, and Hawthorne Option, the daily VMT reduction corresponding to each operational scenario was multiplied by the corresponding emission factor for each pollutant. The emission factors used in the demonstrative analysis apply to exhaust emissions per VMT, with the exception of particulate matter emission rates that account for brake wear, tire wear, and resuspended road dust.

3.4-2.3.2 Establishing a Future Baseline for CEQA Impacts Assessment of Transportation Projects

Typically, in a CEQA analysis, project-related impacts are compared to existing conditions. However, pursuant to CEQA Guidelines Section 15125(a)(2), a lead agency has the discretion to exclusively use a future conditions baseline for the purposes of determination of significance under CEQA in instances where using an existing conditions baseline would be misleading or without informational value. Use of an existing conditions baseline for operational impacts would be misleading for the Proposed Project because it would fail to account for the regional background—or ambient—growth in population, traffic, and transportation infrastructure that would occur between the existing conditions baseline year of 2021 and the future conditions (i.e., the 2021 existing conditions will be substantially altered by regional growth that will occur independent of the project, which, in turn, would obscure the impacts that are attributable to implementation of the Proposed Project and would not provide the reader with an accurate and meaningful delineation of project-related impacts). Considering such growth is critical when determining future effects for transit projects designed to reduce traffic congestion and associated air quality impacts over time. Isolating the Proposed Project’s impacts from ancillary changes in the environment would result in a misleading analysis. Caltrans recent guidance on CEQA assessments for projects on the state highway system invokes the same rationale about ambient regional growth not being considered in conjunction with project-specific effects (Caltrans, 2020c).

Therefore, for quantification of operational air pollutant emissions, Project emissions are defined as the difference between a Project alternative (2042) and the existing conditions in 2019 adjusted for regional growth that would occur by 2042, pursuant to Section 15125(a)(1)(2) of the State CEQA Guidelines that provides for the use of a projected future conditions (beyond the date of project operations) baseline. For the Project, this “projected future conditions baseline” is 2042 without the Project Conditions. The horizon year (2042) of the regional travel demand Corridor Based Model 2018 (CMB18), which incorporates Metro Measure M projects identified in the Measure M Expenditure Plan, roadway improvements, and other transit improvements anticipated to occur throughout the transit corridor, was selected as the Project design year. Use of this 2042 design year represents a characterization of the holistic, long-term benefits of the Project as transit-oriented development expands within the GSA and throughout the region. Notably, because operations of the Proposed Project and Options would reduce

VMT in any year, operational air quality impacts would be less than significant in all years, including under an existing (2021) baseline. For the reasons described above, however, the use of a future (2042) baseline provides a more accurate assessment of the long-term operational air quality benefits of the Proposed Project and Options.

Project emissions greater than thresholds for a given air pollutant would be considered significant under CEQA.

3.4-2.4 Significance Thresholds

As discussed in the following subsections, the thresholds of significance used to assess the air quality impacts of the Proposed Project, Trench Option, and Hawthorne Option are based on Appendix G of the CEQA Guidelines and SCAQMD's CEQA Air Quality Handbook.

3.4-2.4.1 State CEQA Guidelines

As provided by the Environmental Checklist Form provided in Appendix G of the State CEQA Guidelines, implementation of the Project may have a significant impact on air quality if during temporary construction activities or long-term future operations the Proposed Project would:

- a. Conflict with or obstruct implementation of the applicable air quality plan;
- b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard;
- c. Expose sensitive receptors to substantial pollutant concentrations;
- d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The State CEQA Guidelines delegate authority to set thresholds of significance related to air quality to the regional air quality management and pollution control districts: "the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon" to make significance determinations based on the criteria above. The air quality impacts assessment for the Project addressed each of the criteria listed above using applicable SCAQMD guidance.

3.4-2.4.2 SCAQMD CEQA Air Quality Handbook

The SCAQMD published a CEQA Air Quality Handbook to provide local governments and consultants who prepare environmental documents with guidance for analyzing and mitigating air quality impacts of projects within its jurisdiction (SCAQMD, 2001). SCAQMD methodologies recommend that air pollutant emissions be analyzed in both regional and local contexts. Regional emissions refer to all emissions that would be associated with construction and operation of a project, while localized emissions refer to only those emissions that would be produced by sources located on the project site. The SCAQMD established maximum daily screening threshold values for air pollutant emissions from CEQA projects within the SCAB. The mass daily thresholds were derived using regional emissions modeling techniques to prevent the occurrence of air quality violations that would obstruct implementation of the AQMP and hinder efforts to improve regional air quality. Table 3.4-9 presents the SCAQMD significance thresholds for regional emissions resulting from construction and operations.

Table 3.4-9. SCAQMD Air Quality Significance Thresholds – Regional Mass Daily Thresholds

| Pollutant | Construction (Pounds/Day) | Operations (Pounds/Day) |
|---|---------------------------|-------------------------|
| Volatile Organic Compounds (VOC) | 75 | 55 |
| Nitrogen Oxides (NO _x) | 100 | 55 |
| Carbon Monoxide (CO) | 550 | 550 |
| Sulfur Oxides (SO _x) | 150 | 150 |
| Respirable Particulate Matter (PM ₁₀) | 150 | 150 |
| Fine Particulate Matter (PM _{2.5}) | 55 | 55 |
| Lead (Pb) | 3 | 3 |

Source: SCAQMD, 2019

In addition to regional significance thresholds, SCAQMD has developed specific CEQA LST screening values that apply to only sources of emissions situated on the Project site. According to the SCAQMD, localized emissions at project sites could result in a significant air quality impact if air pollutant concentrations exceeded the following threshold values presented in Table 3.4-10. Since the SCAB is in nonattainment for PM₁₀ and PM_{2.5} under the California standards, the threshold is established as an incremental “allowable change” in concentration as a result of Project implementation.

Table 3.4-10. SCAQMD Air Quality Significance Thresholds – Localized Significance Thresholds

| Pollutants and Averaging Time | Construction ¹ | Operations ¹ |
|--|---------------------------|-------------------------|
| Nitrogen Dioxide (NO ₂) – Annual Average | 0.03 ppm (CAAQS) | 0.03 ppm (CAAQS) |
| Nitrogen Dioxide (NO ₂) – 1-Hour Average | 0.18 ppm (CAAQS) | 0.18 ppm (CAAQS) |
| Carbon Monoxide (CO) – 8-Hour Average | 9.0 ppm (CAAQS) | 9.0 ppm (CAAQS) |
| Carbon Monoxide (CO) – 1-Hour Average | 20 ppm (CAAQS) | 20 ppm (CAAQS) |
| Sulfur Dioxide (SO ₂) – 24-Hour Average | 0.04 ppm (CAAQS) | 0.04 ppm (CAAQS) |
| Sulfur Dioxide (SO ₂) – 1-Hour Average | 0.075 ppm (NAAQS) | 0.075 ppm (NAAQS) |
| Respirable Particulate Matter (PM ₁₀) – Annual Average ² | 1.0 µg/m ³ | 1.0 µg/m ³ |
| Respirable Particulate Matter (PM ₁₀) – 24-Hour Average ² | 10.4 µg/m ³ | 2.5 µg/m ³ |
| Fine Particulate Matter (PM _{2.5}) – 24-Hour Average ² | 10.4 µg/m ³ | 2.5 µg/m ³ |

Source: SCAQMD, 2019

¹ Ambient air quality thresholds based on SCAQMD Rule 1303 Table A-2 unless otherwise stated.

² Threshold is based on SCAQMD Rule 403 control requirement of 50 µg/m³ averaged over five hours.

The SCAQMD devised area-specific Mass Rate Look-Up Tables based on the Project Source-Receptor Area (SRA), project site size, and proximity of sensitive receptors to the Project site. The Mass Rate Look-Up Tables are provided in Appendix C to the SCAQMD Final Localized Significance Threshold Methodology and represent maximum allowable daily emissions from sources situated on the Project site that will not result in the CAAQS being exceeded at sensitive receptor locations. The Project is located in SRA 3 – Southwest Coastal Los Angeles County. Operation of the Project will not introduce a new substantial stationary source of direct air pollutant emissions into the RSA. Therefore, the localized emissions analysis focused on construction only (see Table 3.4-11). The thresholds are specific to an active construction zone of one or two acres with a 25-meter distance between the construction zone and sensitive receptors. Due to the linear nature of the project, construction zones would typically be two acres or less at a specific location. The analysis of overlapping activities considered sites with up to five acres of daily disturbance for disclosure purposes. As for the receptor distance, 25 meters is the shortest distance established by the SCAQMD for the assessment of localized impacts.

Table 3.4-11. Localized Screening Thresholds for Source Receptor Area 3 – Construction

| Site Size (Acres) | Receptor Distance (Meters) | Localized Emissions Limit (Pounds/Day) | | | |
|-------------------|----------------------------|--|-----------------|------------------|-------------------|
| | | CO | NO _x | PM ₁₀ | PM _{2.5} |
| 1 | 25 | 664 | 91 | 5 | 3 |
| 2 | 25 | 967 | 131 | 8 | 5 |
| 5 | 25 | 1,796 | 197 | 15 | 8 |

Source: SCAQMD, 2009

In addition to the mass daily thresholds for criteria pollutants and O₃ precursors, SCAQMD established CEQA significance thresholds related to TACs and odorous emissions. As a diverse class of pollutants, TACs include many different pollutants with varying degrees of toxicity and that affect human health in different ways. Within the field of health risk assessment, carcinogenic risk and non-carcinogenic hazards can be determined based on multipollutant exposures. According to SCAQMD methodology, health effects from carcinogenic air toxics are described in terms of excess incremental individual cancer risk. “Individual Cancer Risk” is the likelihood that a person continuously exposed to TAC concentrations over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. SCAQMD established a project-specific TAC carcinogenic exposure threshold of an incremental excess cancer risk of 10 cases per million (1 x 10⁻⁵). Carcinogenic risks are typically assessed on timescales of years to decades, with the default duration for a residential exposure being 30 years.

Within the greater Los Angeles area, diesel particulate matter is the primary driver of ambient carcinogenic risks to which communities are exposed. Diesel-fueled construction equipment would generate emissions of diesel particulate matter during the several years construction activities would be ongoing. However, all construction contractors will be required to ensure compliance with the Metro Green Construction Policy, which mandates that all construction equipment greater than 50 horsepower be outfitted with engines meeting Tier 4 Final emissions standards, as well as the application of diesel particulate filters where feasible. Tier 4 Final engines produce substantially lower emissions of diesel particulate matter relative to previous generations, reducing emissions by 90% relative to Tier 3. Compliance with the Metro Green Construction Policy will preclude the possibility of unhealthy exposures of sensitive receptors to TAC concentrations during Proposed Project construction.

For non-carcinogenic TACs, the acute and chronic exposures should not exceed a combined calculated Hazard Index value of 1.0, based on the sum of pollutant-specific Hazard Quotients calculated relative to their respective reference-exposure levels (RELs).

Regarding cumulative impacts, the SCAQMD recognizes that emissions for individual projects that remain below the thresholds shown in Table 3.4-9 would be considered less than significant at the project level and would not be cumulatively considerable. If maximum daily emissions would exceed applicable threshold values during construction or operations, opportunities to mitigate and reduce those emissions are required to be explored and implemented as feasible.

Construction and operation of certain land use development projects may create public nuisances related to visible dust plumes and odors. The SCAQMD air quality significance thresholds address odorous emissions by invoking compliance with SCAQMD Rule 402. A project may have a significant air quality impact if construction or operation of that project create a public nuisance condition in violation of SCAQMD Rule 402. Visible dust plumes are controlled through the enforcement of SCAQMD Rule 401 and SCAQMD Rule 403.

3.4-2.5 Project Features

As described in Chapter 2, Project Description, a number of features have been incorporated into the project to ensure compliance with the laws, guidelines, or best practices of federal, state, local, and regional agencies. The following project features have been developed for air quality.

PF-AQ-1. Metro Green Construction Policy Compliance

Established by formal adoption of the Green Construction Policy, Metro commits to the following construction equipment requirements, construction BMPs, and implementation strategies for all construction projects performed on Metro properties or rights-of-way.

- > Construction equipment shall incorporate, where feasible, emissions-reducing technology such as hybrid drives and specific fuel economy standards.
- > Maintain equipment according to manufacturer specifications.
- > Idling of construction equipment and heavy-duty trucks shall be restricted to a maximum of five minutes when not in use (certain exceptions apply based on CARB exemptions).
- > All off-road diesel-powered construction equipment greater than 50 horsepower (hp) shall meet Tier-4 off-road emission standards at a minimum.
- > All on-road heavy-duty trucks with a gross vehicle weight rating greater than or equal to 14,000 pounds must have engines meeting U.S. 2010 on-road emission standards.
- > Where applicable and feasible, work with local jurisdictions to improve traffic flow by signal synchronization during construction activities.
- > Use electric power in lieu of diesel power where available.
- > Generators: every effort shall be made to utilize grid-based electric power at any construction site, where feasible. Where access to the power grid is not available, on-site generators must:
 - Meet a 0.01 gram per brake-horsepower-hour (g/bhp-hr) standard for PM; or,
 - Be equipped with Best Available Control Technology (BACT) for PM emissions reductions.
- > Inspections: Metro shall conduct inspections of construction sites and affected off-road and on-road equipment and generator as well as compliance with air quality rules.
- > Records: Prior to Notice to Proceed (NTP) to commence construction and to be verified afterwards consistent with project contract requirements and through enforcement provisions above, the Contractor shall submit to Metro the following information for all construction equipment to be used on Metro properties or rights-of-way:
 - A certified statement that all construction equipment used conform to the requirements specified above;
 - A list of all the equipment and vehicles (i.e., off-road equipment, include the CARB-issued Equipment Identification Number) to be used;
 - A copy of each Contractor's certified EPA rating and applicable paperwork issued either by CARB, SCAQMD, and any other jurisdiction that has oversight over the equipment.

PF-AQ-2. SCAQMD Rule 403 Compliance

Construction of the Proposed Project would implement the following BMPs in compliance with SCAQMD Rule 403 – Fugitive Dust:

- > **Backfilling:** Backfill material stabilization when actively handling or inactive and stabilize soil at completion of activity.
- > **Clearing/Grubbing:** Maintain stability of soil through watering of site prior to, during, and after all clearing/grubbing activities.
- > **Cut and Fill:** Pre-water soils prior to cut and fill activities using water trucks; stabilize soil during and after activities.
- > **Debris Hauling:** All trucks hauling dirt, sand, soil, or other loose materials are to be tarped with a fabric cover and maintain a freeboard height of 12 inches.
- > **Demolition Activities:** Prohibit demolition activities when wind speeds exceed 25 mph; apply water to disturbed soils after demolition is completed or at the end of each day of cleanup.
- > **Disturbed Soil:** Stabilize disturbed soil throughout the construction site by limiting vehicular traffic and disturbance on soil where possible and applying water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes (Rule 401 – Visible Emissions).
- > **Disturbed Surface Areas:** Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface; apply water at three-hour intervals to at least 80% of the un-stabilized area.
- > **Earth-Moving Activities:** Pre-apply water to depth of proposed cuts and reapply as necessary to maintain soils in a damp condition and to ensure that visible dust plumes do not exceed 100 feet in any direction.
- > **Importing/Exporting of Bulk Materials:** Stabilize material with tarps or other suitable enclosures on trucks while loading/unloading to reduce fugitive dust emissions and maintain at least six inches of freeboard on haul vehicle; provide water during loading/unloading to prevent dust plumes.
- > **Staging Areas and Unpaved Roads:** Stabilize surface areas and limit vehicle speeds to 15 miles per hour.
- > **Stockpiles/Bulk Material Handling:** stabilize stockpiled materials with intermittent watering and limit stockpiles to eight feet in height within 100 yards of off-site occupied buildings.
- > **Trenching:** Stabilize surface soils with pre-watering where trencher or excavator and support equipment will operate; wash mud and soils from equipment at completion of activities.

PF-AQ-3. Metro Moving Beyond Sustainability Strategic Plan Compliance

Construction and operation of the Proposed Project and options will adhere to the commitments established by the Metro Moving Beyond Sustainability Strategic Plan (MBSSP) 2020, including, but not limited to the application of renewable diesel requirements for contractors and identify opportunities to decarbonize fuel sources at construction sites.

PF-AQ-4. Metro Rail Design Guidelines

The Proposed Project and options will be designed in accordance with the Metro Rail Design Criteria and the Metro Systemwide Station Design Standards Policy, which includes the installation of high-efficiency LED lighting in all fixtures to reduce electricity consumption.

3.4-3 Affected Environment / Existing Conditions

3.4-3.1 Regional Air Quality Conditions

The CAA requires the USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether representative pollutant concentrations within the area have consistently been measured below the NAAQS. The USEPA has classified the Los Angeles County portion of the SCAB as a NAAQS nonattainment area for O₃, PM_{2.5}, and Pb and a maintenance area for PM₁₀ and CO. Table 3.4-12 presents the federal attainment status of the Los Angeles County portion of the SCAB.

Table 3.4-12. State/National Attainment Status for Criteria Pollutant Standards – Los Angeles County

| Pollutant | Averaging Time | CAAQS Status | NAAQS Status |
|---|-----------------|-------------------|---------------------------|
| Ozone (O ₃) | 1-Hour | Nonattainment | Nonattainment (Extreme) |
| | 8-Hour | Nonattainment | Nonattainment (Extreme) |
| Carbon Monoxide (CO) | 1-Hour | Attainment | Attainment (Maintenance) |
| | 8-Hour | Attainment | Attainment (Maintenance) |
| Nitrogen Dioxide (NO ₂) | 1-Hour | Attainment | Unclassifiable/Attainment |
| | Annual Average | Attainment | Attainment (Maintenance) |
| Sulfur Dioxide (SO ₂) | 1-Hour | Attainment | Unclassifiable/Attainment |
| | 24-Hour | Attainment | Unclassifiable/Attainment |
| Respirable Particulate Matter (PM ₁₀) | 24-Hour | Nonattainment | Attainment (Maintenance) |
| | Annual Average | Nonattainment | No Federal Standard |
| Fine Particulate Matter (PM _{2.5}) | 24-Hour | No State Standard | Nonattainment (Serious) |
| | Annual Average | Nonattainment | Nonattainment (Moderate) |
| Lead (Pb) | 30-Day Average | Attainment | No Federal Standard |
| | 3-Month Average | Attainment | Nonattainment (Partial) |

Source: CARB, 2016a

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment. The Los Angeles County portion of the SCAB is designated as a CAAQS nonattainment area for O₃, PM₁₀, and PM_{2.5}.

3.4-3.2 Local Air Quality Conditions

The attainment status designations are based on concentrations of air pollutants measured at air monitoring sites throughout the SCAB. The SCAQMD divides SCAB into 38 SRAs, the boundaries of which were determined by the proximity to the nearest air monitoring station and local topography and meteorological patterns. The SCAQMD operates a total of 43 air monitoring sites that are used to characterize air quality within the 38 SRAs. The Project is located in SRA 3 (Southwest Coastal Los Angeles County). Air quality conditions in SRA 3 are characterized by concentrations of air pollutants measured at the LAX Hastings monitoring station approximately 5.5 miles northwest of the RSAs. Table

3.4-13 displays the air quality data recorded at the LAX Hastings monitoring site between 2018–2020, with PM_{2.5} data supplemented from the nearby North Long Beach monitoring station.

Table 3.4-13. Monitored Air Quality Data

| Pollutant | Metric | Maximum Concentrations and Frequencies of Exceeded Standards | | |
|---|---|--|-------------|-------------|
| | | 2018 | 2019 | 2020 |
| Ozone (O ₃) | Maximum 1-Hour Concentration Days > 0.09 ppm (CAAQS) | 0.074 0 | 0.082 0 | 0.117 1 |
| | Maximum 8-Hour Concentration Days > 0.070 ppm (NAAQS/CAAQS) | 0.065 0 | 0.067 0 | 0.074 2 |
| Carbon Monoxide (CO) | Maximum 1-Hour Concentration Days > 20 ppm (CAAQS) | 1.8 0 | 1.8 0 | 1.6 0 |
| | Maximum 8-Hour Concentration Days > 9.0 ppm (NAAQS/CAAQS) | 1.5 0 | 1.3 0 | 1.3 0 |
| Nitrogen Dioxide (NO ₂) | Maximum 1-Hour Concentration Days > 0.10 ppm (NAAQS) | 0.060 0 | 0.057 0 | 0.060 0 |
| | Annual Average Exceed 0.030 ppm (CAAQS)? | 0.009 No | 0.010 No | 0.010 No |
| Sulfur Dioxide (SO ₂) | Maximum 1-Hour Concentration Days > 0.075 ppm (NAAQS) | 0.012 0 | 0.008 0 | 0.006 0 |
| | Maximum 24-Hour Concentration Days > 0.040 ppm (CAAQS) | 0.005 0 | 0.004 0 | 0.003 0 |
| Respirable Particulate Matter (PM ₁₀) | Maximum 24-Hour Concentration Days > 50 µg/m ³ (CAAQS) | 45.0 0 | 62.0 2 | 43.0 0 |
| | Annual Average Concentration Exceed 20 µg/m ³ (CAAQS)? | 20.5 Yes | 19.2 No | 22.5 Yes |
| Fine Particulate Matter (PM _{2.5}) | Maximum 24-Hour Concentration Days > 35 µg/m ³ (NAAQS) | 79.6 6 | 28.0 0 | 66.0 4 |
| | Annual Average Concentration Exceed 12 µg/m ³ (NAAQS/CAAQS)? | 11.4 No | 9.2 No | 12.5 Yes |

Source: CARB, 2016a; SCAQMD, 2018, 2019a, 2020

As shown in Table 3.4-13, concentrations of O₃ and PM_{2.5} exceeded the NAAQS multiple times during the three-year monitoring period and concentrations of O₃, PM₁₀, and PM_{2.5} exceeded the CAAQS on numerous occasions. Concentrations of CO, NO₂, and SO₂ remained well below the applicable air quality standards. The air monitoring data are demonstrative of the SCAB-area nonattainment status designations for the County.

The SCAQMD has initiated several comprehensive urban air toxics studies—referred to as the multiple air toxics exposure studies (MATES)—to evaluate conditions within the SCAB. The MATES V study included extensive regional air monitoring and modeling designed to characterize cancer risk throughout the SCAB. Contaminant concentrations were modeled based on a 2-kilometer gridding system encompassing the SCAB and coastal shipping lanes. Regional modeling analysis performed by the SCAQMD yielded the highest risks from air toxics surrounding the port areas (with a maximum modeled risk of about 1,100 excess cancers per million), followed by the LAX area (approximately 700–1,000 per million) and the Central Los Angeles heavy transportation corridor (approximately 700–900 per million).

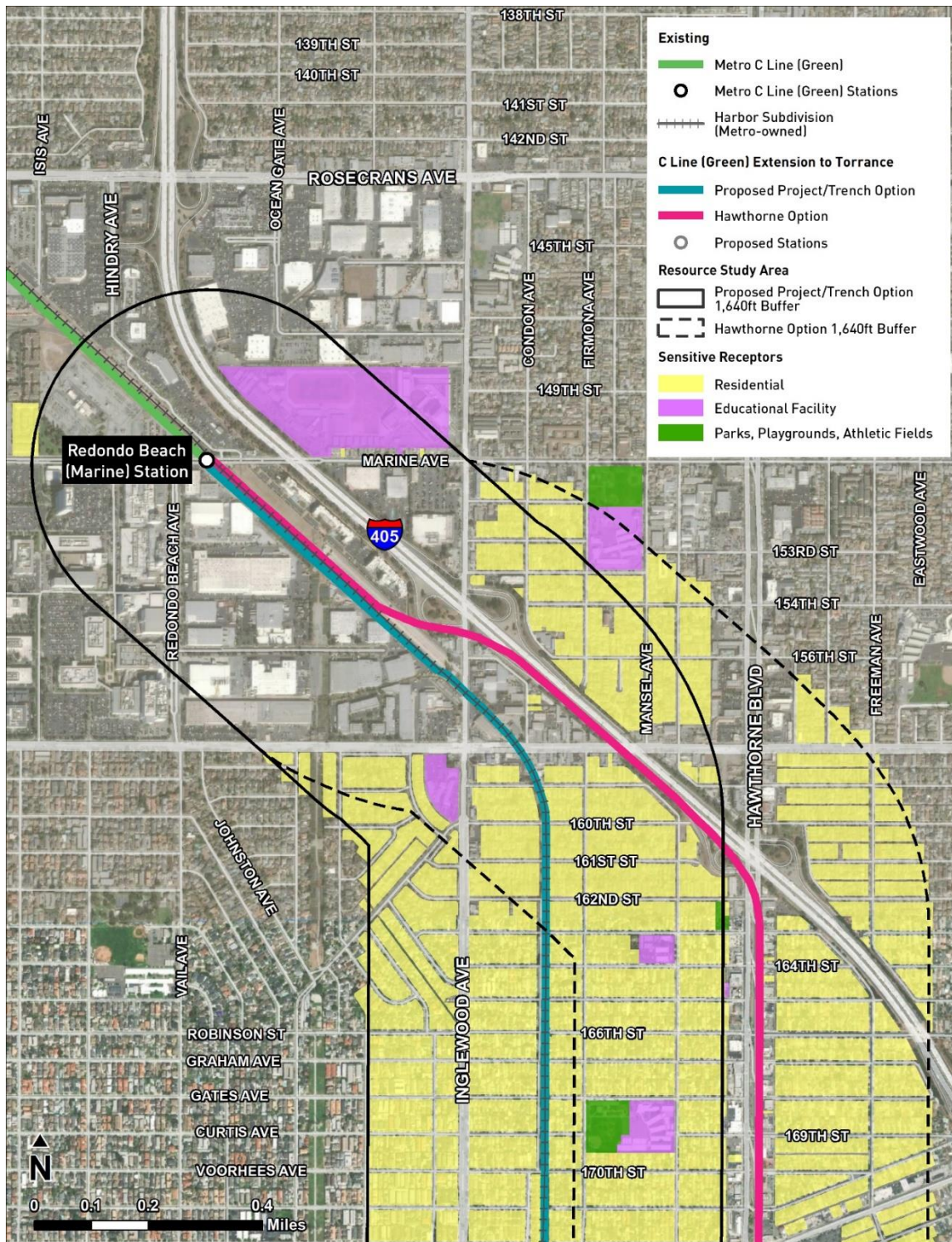
Based on the MATES V Data Visualization, background ambient cancer risk within the RSA is estimated to be between 450–500 cases per million.

The MATES V estimated the average SCAB-wide carcinogenic risk from multiple exposure pathways to air toxics to be 455 excess cases per million. Approximately 48% of this risk was attributed to emissions associated with off-road mobile sources and approximately 40% was attributed to on-road mobile sources, with approximately 7% from area sources and 5% from point sources. Diesel PM comprised approximately 72% of the total ambient carcinogenic risk, and average diesel PM concentrations were 53% lower than those measured in MATES IV. Overall, the 2018–2019 MATES V study concluded that emissions of carcinogens within the SCAB had decreased by 48% since the 2012–2013 MATES IV Study, and both the average SCAB monitored (40% decrease) and modeled (54% decrease) ambient carcinogenic risks had been substantially reduced over the six-year timeframe between MATES publications.

3.4-3.3 Sensitive Receptors

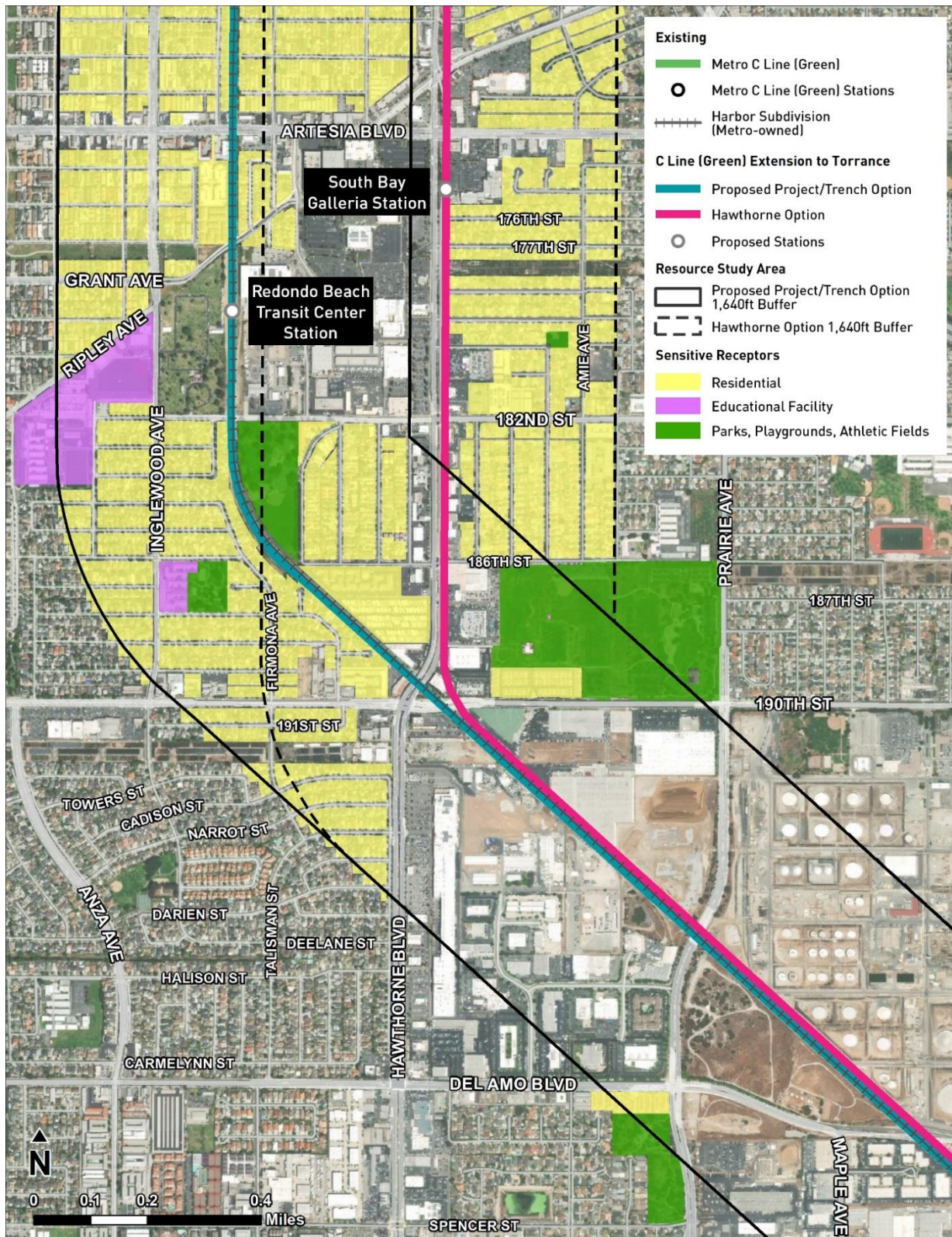
Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The CARB has identified the following groups who are most likely to experience adverse health effects due to exposure to air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, land uses that constitute sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The SCAQMD recommends that air quality assessments consider the potential localized impacts to sensitive receptors at distances up to 500 meters (1,640 feet) from project sites, depending on the proximity of sensitive land uses. The Proposed Project is located in a developed urban setting near many land uses that qualify as sensitive receptors. Sensitive receptors within the localized RSA are shown in Figure 3.4-3 through Figure 3.4-5.

Figure 3.4-3. Air Quality Sensitive Receptors



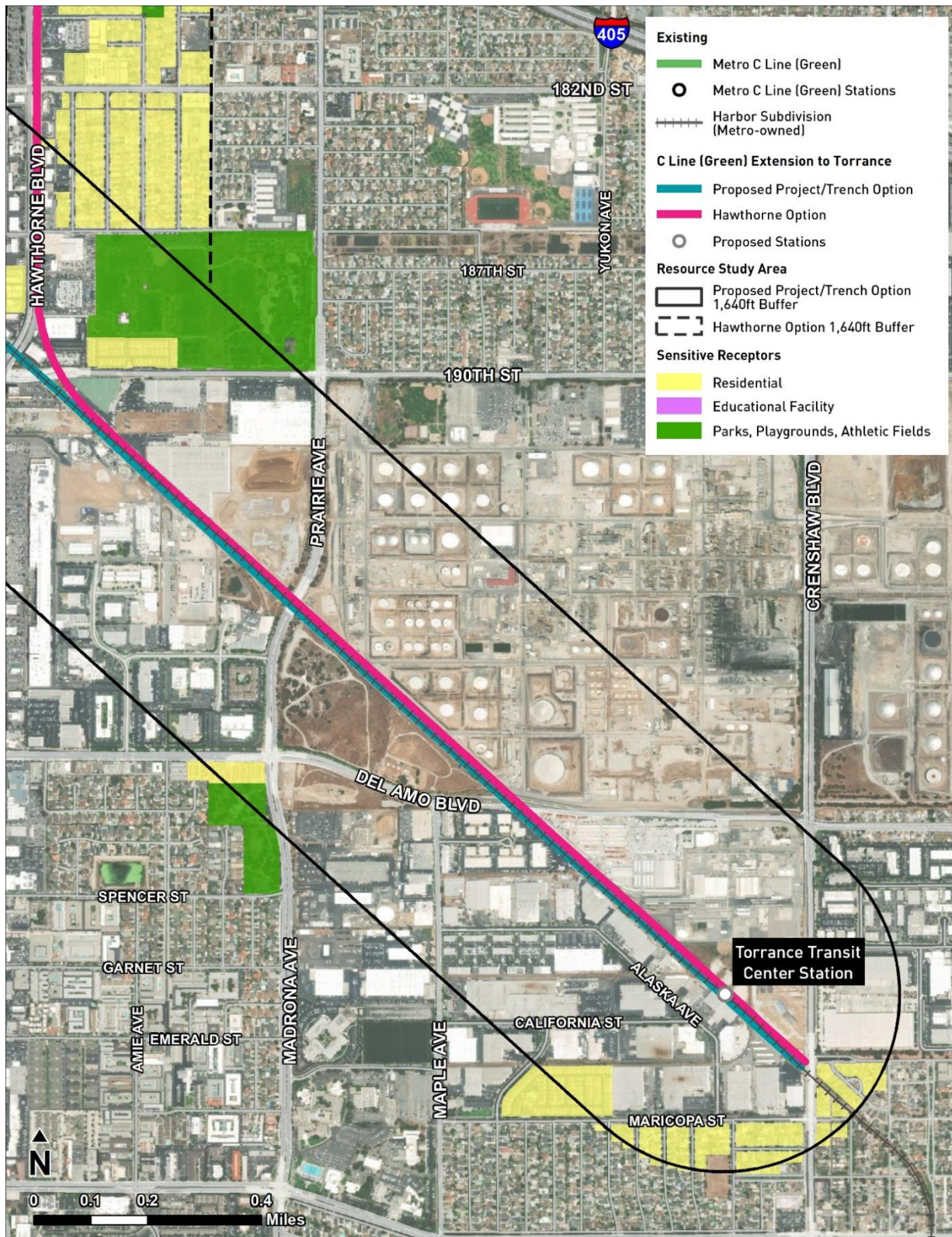
Source: TAHA, 2022

Figure 3.4-4. Air Quality Sensitive Receptors



Source: TAHA, 2022

Figure 3.4-5. Air Quality Sensitive Receptors



Source: TAHA, 2022

3.4-4 Environmental Impacts

3.4-4.1 *Would the Project conflict with or obstruct implementation of the applicable air quality plan?*

CEQA Guidelines Section 15125 provides that the environmental document should evaluate a project's consistency with regional plans including, but not limited to, the applicable air quality attainment or maintenance plan, regional transportation plans, regional housing allocation plans, and plans for the reduction of GHG emissions. The SCAQMD *CEQA Air Quality Handbook* provides that the environmental document should discuss with project's consistency with the current AQMP, as well as consistency with other relevant regional plans that include the SCAG Growth Management Plan (GMP) and Regional Mobility Plan (RMP) in addition to the Air Quality Element of the local government's General Plan. The applicable air quality plan for the Proposed Project is the SCAQMD 2022 AQMP and the applicable regional transportation and GHG emissions reduction plans are the SCAG *Connect SoCal* 2020–2045 RTP/SCS and the Metro 2020 MBSSP.

The following analysis addresses consistency with applicable SCAQMD and SCAG policies, inclusive of regulatory compliance. The SCAQMD *CEQA Air Quality Handbook* indicates that, "only new or amended General Plan Elements, Specific Plans, and significant projects need to undergo a consistency review" with the AQMP because the emissions control strategies contained therein are "based on projections from local General Plans" (SCAQMD, 2008). In accordance with the procedures established in SCAQMD's *CEQA Air Quality Handbook*, the impact discussion addresses the following criteria to determine whether the proposed project is consistent with applicable SCAQMD and SCAG planning objectives, as well as local General Plans:

[a] Would the proposed project create any impacts related to air quality violations, such as:

- An increase in the frequency or severity of existing air quality violations;
- Causing or contributing to any new air quality violations; or,
- Delaying timely attainment of air quality standards or the interim emission reductions specific in the AQMP.

[b] Would the proposed project exceed the assumptions utilized in preparing the AQMP:

- Is the proposed project consistent with the population and employment growth projections upon which AQMP forecasted emission levels are based;
- Does the proposed project incorporate mitigation measures to reduce potentially significant impacts; or,
- To what extent is proposed project development consistent with the AQMP land use policies and control measures?

The violations that are referred to in the first criterion are occurrences of the State and federal ambient air quality standards being exceeded anywhere in the SCAB. Consistency with the AQMP is evaluated primarily on long-term emissions because the AQMP is developed to attain the NAAQS within the SCAB that has been designated as nonattainment for O₃, PM_{2.5}, and Pb. In order to be found consistent, an air quality modeling analysis should demonstrate that implementation of the project would not exacerbate the frequency or severity of ambient air quality standards being exceeded. The SCAQMD developed its regional and localized air quality significance thresholds as a screening tool for CEQA projects to streamline the impacts assessment related to air quality violations. The air quality impacts assessment

for the project involved quantifying maximum daily emissions of air pollutants that would be generated during construction and future operations and comparing them to the SCAQMD mass daily thresholds at the regional and localized scales. Although short-term or infrequent emissions in excess of the SCAQMD mass daily thresholds during construction activities would be considered to potentially contribute to air quality violations, those violations would not necessarily be considered to render a project inconsistent with the AQMP, as evidenced by the analyses of construction emissions within the SCAQMD 2016 AQMP Program EIR and the SCAG 2020 *Connect SoCal* Program EIR (SCAQMD, 2016c; SCAG, 2020b). Since the preparation of these environmental documents, the air quality violation criteria has been included within AQMP consistency.

The second indicator of AQMP consistency is assessed by determining potential effects of temporary construction activities and permanent facility operations on population, housing, and employment projections that were used in the development of the AQMP and the RTP/SCS. If implementation of the proposed project would render the assumptions invalid by introducing growth within the SCAQMD jurisdiction that exceeds projections incorporated into the AQMP, a significant air quality impact may occur. The project is a transit infrastructure improvement project that would not introduce any new growth in residential (population/housing) or nonresidential (employment) land uses to the RSA. The SCAQMD acknowledges that transportation projects should be compared to the assumptions in the Regional Mobility Plan because many of these transportation projects are relied upon in the AQMP to reduce emissions through displacing vehicle trips and reducing congestion (SCAQMD, 2008). The criterion related to regional growth assumptions is addressed qualitatively for both construction and operation of the Proposed Project and Options because their implementation would not directly or indirectly introduce new growth to the RSA.

3.4-4.1.1 Construction Impacts

Less than Significant Impact. Consistent with the provisions of the SCAQMD *CEQA Air Quality Handbook*, an air quality modeling analysis was performed to identify potential impacts during temporary construction activities involved in implementing the Proposed Project. Construction of the Proposed Project would generate temporary emissions of regulated air pollutants through the sources summarized in Table 3.4-5. A programmatic schedule for construction of the Proposed Project was developed through collaboration with Metro and the project design team to identify timeframes during which the maximum daily construction activities would occur. Off-road equipment and on-road vehicle inventories were compiled for each activity summarized in Table 3.4-6 and scaled to account for a maximum of 40 active pieces of equipment per day.

CalEEMod was used to estimate the daily pollutant emissions that would be generated during construction of the Proposed Project. Table 3.4-15 under Section 3.4-4.2.1 presents the maximum daily regional-scale emissions that would be generated during the activities summarized above and compares them to the applicable SCAQMD regional mass daily thresholds. Table 3.4-21 under Section 3.4-4.3.1 presents the maximum daily emissions that would be generated by sources located on the Proposed Project construction sites in accordance with the SCAQMD *LST Methodology* and compares them to the corresponding LST screening values for SRA 3. As shown in Table 3.6-15 under Section 3.6-4.2.1 and Table 3.6-21 under Section 3.6-4.3.1, maximum daily regional and localized emissions would remain below the applicable mass daily thresholds developed by the SCAQMD.

Additionally, construction of the Proposed Project would include PF-AQ-1, Metro Green Construction Policy Compliance, and adhere to the requirements of Metro's *Green Construction Policy* for off-road equipment, generators, and on-road trucks, as well as PF-AQ-2, SCAQMD Rule 403 Compliance, and

implement recommended BMPs identified in SCAQMD Rule 403 to control and minimize excess emissions of air pollutants, and PF-AQ-3, Metro Moving Beyond Sustainability Compliance. Furthermore, all heavy-duty trucks would comply with CARB Airborne Toxic Control Measure (ATCM) 2485—which limits the idling of vehicles to no more than five minutes in any particular location to reduce diesel emissions—and the Truck and Bus Regulation. The emissions modeling for the Proposed Project assumed that construction contractors would enforce compliance with these control strategies and Metro would conduct monitoring to ensure effective implementation.

Regulatory policies and control measures related to emissions during construction of the Proposed Project are summarized in Table 3.4-14. Compliance with these control measures and implementation of the BMPs would ensure that pollutant emissions produced during construction of the Proposed Project would be minimized. Therefore, construction of the Proposed Project would result in a **less than significant impact** related to air quality violations.

Table 3.4-14. Project Construction Regulatory Control Measures

| Source Category | Control Measure |
|--|---|
| METRO GREEN CONSTRUCTION POLICY | |
| Off-Road Equipment | <ol style="list-style-type: none"> 1. Construction equipment shall incorporate, where feasible, emissions-reducing technology such as hybrid drives and specific fuel economy standards. 2. Idling shall be restricted to a maximum of five minutes, except as provided in the exceptions to the applicable CARB regulations regarding idling. 3. <u>Equipment engine specifications:</u> Beginning January 1, 2015, all off-road diesel-powered equipment greater than 50 hp shall meet Tier 4 off-road emission standards at a minimum. In addition—if not already supplied with a factory-equipped diesel particulate filter—all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB. Any emission control device used by the Contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. |
| Generators | <p>Every effort shall be made to utilize grid-based electric power at any construction site, where feasible.</p> <p>Where access to the power grid is not available, on-site generators must:</p> <ol style="list-style-type: none"> 1) meet a 0.01 gram-per-brake-horsepower-hour (g/bhp-hr) standard for PM, or 2) be equipped with BACT for PM emissions reduction. |
| On-Road Heavy Duty Trucks | <ol style="list-style-type: none"> 1. Trucks or equipment hauling material such as debris or any fill material shall be fully covered while operating at, to, and from the Metro site. 2. Idling shall be restricted to a maximum of five minutes, except as provided in the exceptions to the applicable CARB regulations. |

| Source Category | Control Measure |
|---|--|
| Additional Metro Best Management Practices | <ol style="list-style-type: none"> 1. Maintain equipment according to manufacturer’s specifications. 2. Maintain a buffer zone that is a minimum of 1,000 feet between truck traffic and sensitive receptors, where feasible. 3. Where applicable and feasible, work with local jurisdictions to improve traffic flow by signal synchronization. 4. If feasible and as allowed by local jurisdictions, configure construction parking to minimize traffic interference. 5. Enforce truck parking restrictions, where applicable. 6. Prepare haul routes that conform to local requirements to minimize traversing through congested streets or near sensitive receptors. 7. Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site, as feasible. 8. Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable. 9. Use electric power in lieu of diesel power where available. 10. Traffic speeds on all unpaved roads to be 15 miles per hour or less. |
| SCAQMD RULE 403 (FUGITIVE DUST) | |
| Backfilling, Clearing and Grubbing, Cut and fill, Demolition, Disturbed soil, Earth-moving activities | Apply water to materials/stockpiles to prevent visible dust plumes and stabilize wind erodible surfaces. |
| Importing/exporting of bulk materials | Maintain at least six inches of freeboard on haul vehicles; use tarps or other suitable enclosures. |
| Road shoulder maintenance | Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after maintenance. |
| Staging areas | Limit size of staging areas and limit vehicle speeds to 15 miles per hour. |
| CARB REGULATIONS | |
| Truck and Bus Regulation | By January 1, 2023, all trucks and buses must have 2010 model year engines or newer. |
| Airborne Toxic Control Measure 13 CCR Section 2485 | Drivers of diesel-fueled commercial motor vehicles with gross vehicle weight rating greater than 10,000 pounds shall not idle the vehicle’s primary diesel engine longer than five minutes at any location. |

Source: SCAQMD, 2005; Metro, 2011b; CARB, 2019b

The second criterion to be addressed regarding AQMP consistency is whether implementation of the Proposed Project would exceed assumptions incorporated into the AQMP or other relevant regional plans. Examples of assumptions that are accounted for in the AQMP include regional population and housing projections, petroleum fuel refining forecasts, solid waste disposal estimates, and electrical demand. The SCAG RTP/SCS is subject to Air Quality Conformity requirements and is prepared using regional growth projections and includes regionally significant transportation infrastructure projects.

Construction of the Proposed Project would not introduce new growth in population or housing to the RSA. The construction crews contracted for the Proposed Project would be predominantly from the local employee pool, and it is not anticipated that construction activities would result in construction workers moving to the area to perform the work. Construction of the Proposed Project would involve the temporary use of off-road equipment and on-road vehicles that would consume petroleum fuels.

However, the quantity of fuel consumption would not require additional refining capacity at the regional petroleum processing facilities. Additionally, the Proposed Project is programmed in the *Connect SoCal* 2020–2045 RTP/SCS as a financially-constrained project under the listing “Green Line South Bay Extension” (RTP ID 1TR1001), meaning that its implementation has been accounted for in the federally approved transportation conformity determinations for those planning documents. Therefore, construction of the Proposed Project would result in a **less than significant impact** related to AQMP consistency.

TRENCH OPTION

Significant Impact and Unavoidable. The analysis of AQMP consistency for construction of the Trench Option is structured like the analysis for the Proposed Project. The possibility of exacerbating the frequency or severity of air quality violations or delaying attainment of the air quality standards was evaluated using the SCAQMD regional mass daily screening thresholds. The maximum daily regional emissions analyzed in Table 3.4-16 and the maximum daily localized emissions analyzed in Table 3.4-22 are representative of maximum daily emissions that would be generated during construction of the Trench Option. Similar to the Proposed Project, the emissions analysis for the Trench Option conservatively assume that 90% would make a 70-mile round trip and 10% —hauling contaminated soils—of trucks would make a 140-mile round trip. With 486 truck trips associated with the Trench Option, more than the Proposed Project or Hawthorne Option, more and longer trips would need to be made during construction.

The regional emissions analysis presented in Table 3.4-16 determined that maximum daily emissions of NO_x could exceed the applicable SCAQMD threshold of 100 pounds per day (lbs./day) during periods of maximum daily trucking activities associated with the light rail guideway trench construction between 2029–2031. Although the off-site NO_x emissions from trucking activities would be distributed along the entirety of the haul route and it is unlikely that maximum daily activities would be frequently occurring, this impact would be potentially significant at the regional scale with regards to AQMP consistency as the Trench Option could contribute to air quality violations.

Mitigation measure MM-AQ-1, Zero or Near Zero Emissions Haul Trucks, would be implemented, which would require the contractor to use zero emissions (ZE) or near zero emissions (NZE) to the extent feasible for trucking activities. While ZE and NZE trucks are becoming increasingly available, the availability of these trucks to the extent required to bring NO_x emissions below the SCAQMD regional emissions threshold cannot be guaranteed and could still be exceeded during construction.

The localized emissions analysis for the Trench Option presented in Table 3.4-22 within Section 3.4-4.3.1 determined that construction of the Trench Option would not have the potential to generate emissions from on-site sources (i.e., equipment exhaust and fugitive dust) in excess of the applicable SCAQMD LST screening values. Therefore, construction of the Trench Option would result in less than significant air quality impacts at the localized level.

Regarding assumptions incorporated into the AQMP and other regional plans, like the Proposed Project, construction of the Trench Option would not require additional refining capacity at the regional petroleum processing facilities. Construction of the Trench Option would not introduce new growth in population or housing to the RSA that would require comparison to the Regional Growth Management Plan or the Regional Housing Needs Assessment, and contracted construction crews would be locally sourced from the existing employment pool in the greater metropolitan area. Therefore, construction of the Trench Option would result in a less than significant impact related to growth assumptions derived from General Plans that were accounted for in the AQMP emissions inventory.

Construction of the Trench Option would also include PF-AQ-1, PF-AQ-2, and PF-AQ-3 as well as comply with CARB Airborne Toxic Control Measure (ATCM) 2485. Regulatory policies and control measures that would regarding emissions during construction are summarized in Table 3.4-14. Compliance with these control measures and implementation of the BMPs would ensure that pollutant emissions produced during construction of the Trench Option would be minimized. However, construction of the Trench Option would result in a **significant and unavoidable** impact related to air quality violations and AQMP consistency.

HAWTHORNE OPTION

Less than Significant Impact. The analysis of AQMP consistency for construction of the Hawthorne Option is structured like the analysis for the Proposed Project. The possibility of exacerbating the frequency or severity of air quality violations or delaying attainment of the air quality standards was evaluated using the SCAQMD regional mass daily screening thresholds. The maximum daily regional emissions analyzed in Table 3.4-17 and the maximum daily localized emissions analyzed in Table 3.4-23 are representative of maximum daily emissions that would be generated during construction of the Hawthorne Option. As disclosed in the regional and localized analyses shown in Section 3.4-4.2.1 and Section 3.4-4.3.1, respectively, construction of the Hawthorne Option would not have the potential to exacerbate air quality violations within the SCAB.

Construction of the Hawthorne Option would also include PF-AQ-1, PF-AQ-2, and PF-AQ-3, as well as comply with CARB ATCM 2485. Regulatory policies and control measures related emissions during construction are summarized in Table 3.4-14. Compliance with these control measures and implementation of the BMPs would ensure that pollutant emissions produced during construction of the Hawthorne Option would be minimized. Therefore, construction of the Hawthorne Option would result in a less than significant environmental impact related to air quality violations.

Regarding assumptions incorporated into the AQMP and other regional plans, like the Proposed Project and Trench Option, construction of the Hawthorne Option would not require additional refining capacity at the regional petroleum processing facilities. Construction of the Hawthorne Option would not introduce new growth in population or housing to the RSA that would require comparison to the Regional Growth Management Plan or the Regional Housing Needs Assessment, and contracted construction crews would be locally sourced from the existing employment pool in the greater metropolitan area. Construction of the Hawthorne Option would not have any material impacts related to permanent regional growth in population, housing, or employment. Therefore, construction of the Hawthorne Option would result in a **less than significant impact** related to AQMP consistency.

3.4-4.1.2 Operational Impacts

Less than Significant Impact. Following the completion of construction activities, operation of the Proposed Project would involve the continuation of the existing Metro C Line (Green) light rail along the new 4.5-mile corridor extended to the proposed Torrance Transit Center (TC) Station. The light rail vehicles would be propelled by electricity and would not directly consume petroleum fuels whose combustion would create air pollutant emissions. Electricity would be provided through six new TPSS stations installed along the light rail corridor that would be connected to the Southern California Edison (SCE) power grid. The TPSS facilities would not contain sources capable of emitting ozone precursors and criteria pollutants into the atmosphere. Emissions of air pollutants that would be produced indirectly at electricity-generating facilities are regulated under permitting programs administered by the SCAQMD and are not under the purview of CEQA for the Proposed Project and options. Operation of the Proposed Project would not introduce a new permanent source of air pollutant emissions to the SCAB.

Additionally, with PF-AQ-4, Metro Rail Design Guidelines, light fixtures at stations and other facilities would use high-efficiency LED lighting to reduce electricity consumption.

The primary effect of Proposed Project operations on regional air quality would be through the reduction of on-road VMT associated with increased transit ridership. Implementation of the Proposed Project was estimated to offset approximately 34,566 VMT (using the operating pattern that attracts the least ridership) relative to 2042 without Project conditions on a daily basis through the displacement of passenger vehicle trips. The expansion of high quality transit infrastructure and reduction of VMT that would occur with implementation of the Proposed Project are key objectives of the SCAG RTP/SCS and would have a beneficial effect on air quality. Table 3.4-18 under Section 3.4-4.2.2 presents the estimated daily emissions benefits from the displaced on-road VMT during future Proposed Project operations in 2042. Operation of the Proposed Project would not exacerbate the frequency or severity of air quality violations or interfere with the emissions reduction targets outlined the AQMP.

Proposed Project operations would not introduce new permanent growth in population or housing to the SCAB or SCAG region. The extension of the light rail corridor would result in a marginal increase in regional electricity demand but would not require the expansion of SCE capacity or substantial changes to its existing electrical infrastructure. The Proposed Project is programmed in the financially-constrained projects list in the *Connect SoCal 2020–2045 RTP/SCS*, for which Amendment 1 was found to conform by the Federal Highway Administration on January 4, 2022. Long-term operation of the Proposed Project beginning in 2031 would not compromise the validity of the growth projections incorporated into the 2016 AQMP or the 2020–2045 RTP/SCS. Therefore, this impact would be **less than significant**.

TRENCH OPTION

Less than Significant Impact. The assessment of potential air quality impacts resulting from operation of the Trench Option related to AQMP consistency is like the analysis for the Proposed Project. The Trench Option would follow the same alignment as the Proposed Project, would employ the same Metro light rail vehicles propelled by electricity supplied by the new TPSS facilities connected to the SCE grid, and incorporate PF-AQ-4. Since the Trench Option would follow the same alignment as the Proposed Project, it is anticipated that projected ridership would be essentially identical given the same station locations and accessibility. Implementation of the Trench Option would displace approximately 34,566 daily VMT from the regional roadway network through increased transit ridership, which would result in the daily emissions reductions shown in Table 3.4-19 under impact discussion 3.4-4.2.2 (Metro, 2023). Operation of the light rail corridor with implementation of the Trench Option would not introduce a new permanent source of air pollutant emissions to the RSA and would not conflict with or obstruct implementation of the AQMP through the exacerbation of air quality violations.

The Trench Option operation would similarly not introduce new permanent growth in population, housing, or employment to the RSA. Operation of the Trench Option would expand the high quality transit infrastructure network and provide enhanced accessibility to commercial districts along the corridor for commuters. The Trench Option is sufficiently described in its entry for the RTP/SCS financially-constrained projects list and is accounted for in the conformity determination. Therefore, long-term operation of the Trench Option would result in a **less than significant impact** related to AQMP consistency.

HAWTHORNE OPTION

Less than Significant Impact. The assessment of potential air quality impacts resulting from operation of the Hawthorne Option related to AQMP consistency is structured congruently to the analysis for the Proposed Project. The Hawthorne Option would follow a different alignment than the Proposed Project and Trench Option, resulting in different station locations and access points. The Hawthorne Option light rail operations would employ the same Metro light rail vehicles propelled by electricity supplied by the new TPSS facilities connected to the SCE grid and incorporate PF-AQ-4. Based on preliminary ridership forecasts and regional transportation modeling, implementation of the Hawthorne Option would displace approximately 34,922 daily VMT from the regional roadway network through increased transit ridership, which would result in the daily emissions reductions shown in Table 3.4-20 under impact discussion 3.4-4.2.2. Operation of the light rail corridor with implementation of the Hawthorne Option would not introduce a new permanent source of air pollutant emissions to the RSA and would not conflict with or obstruct implementation of the AQMP through the exacerbation of air quality violations.

The Hawthorne Option operation would similarly not introduce new permanent growth in population, housing, or employment to the RSA. Operation of the Hawthorne Option would expand the high quality transit infrastructure network and provide enhanced accessibility to commercial districts along the corridor for commuters. The Hawthorne Option is sufficiently described in its entry for the RTP/SCS financially-constrained projects list and is accounted for in the conformity determination. Therefore, long-term operation of the Hawthorne Option would result in a **less than significant impact** related to AQMP consistency.

3.4-4.2 *Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

3.4-4.2.1 *Construction Impacts*

Less than Significant Impact. As discussed within Section 3.4-3.1, the RSA is currently designated as nonattainment of the NAAQS for O₃ and PM_{2.5} and is designated nonattainment of the CAAQS for O₃, PM₁₀, and PM_{2.5}. The nonattainment designations represent an existing and ongoing cumulative air quality impact, and CEQA projects within the SCAQMD jurisdiction must demonstrate that they will not generate emissions in excess of the air quality significance thresholds for O₃ precursors (VOC and NO_x) and particulate matter (PM₁₀ and PM_{2.5}) to substantiate that they would not adversely contribute to the attainment of the air quality standards. The SCAQMD has published guidance that CEQA projects may emit air pollutants at quantities below the air quality significance thresholds without being considered significant at the project or cumulative level. Those projects that generate emissions in excess of the project-specific thresholds are also considered to be cumulatively significant. The emissions analysis for construction of the Proposed Project characterized the maximum daily emissions that would be generated based on the preliminary schedule and equipment and vehicle inventories compiled by the Metro engineering and design team.

The daily emission source activity would fluctuate over the duration of Proposed Project construction. In addition to maximum daily emissions that would be generated during construction of each individual phase, the emissions analysis considered the combination of daily activities that could be occurring simultaneously at each stage of the implementation schedule. Table 3.4-15 presents a summary of the maximum daily emissions that would occur during each of the individual component phases as well as the combined activity scenarios. As mentioned in Section 3.4-4.1, the analysis accounted for up to 120 construction crew workers commuting to the sites, up to 101 haul truck loads importing and exporting

bulk cut and fill, up to 60 vendor deliveries of concrete and building materials, and up to 40 pieces of heavy-duty off-road equipment being used on a daily basis. The emissions disclosed accounted for PF-AQ-1, compliance with the Metro *Green Construction Policy* (i.e., Tier 4 Final engines for all construction equipment greater than 50 horsepower) and PF-AQ-2, SCAQMD Rule 403 for fugitive dust control.

To estimate the potential worst-case scenario for emissions, the analysis assumed that maximum daily haul truck trips would occur simultaneously during each overlapping phase of construction, accounting for up to 212 trips (90% of trips being 70 miles round trip and 10% of trips being 140 miles round trip).

Table 3.4-15. Proposed Project Construction Emissions Analysis - Regional

| Activity | Daily Emissions (lbs./day) | | | | | |
|---|----------------------------|-----------------|--------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| INDIVIDUAL PHASES | | | | | | |
| Early Utility Relocation | 2.5 | 18.2 | 62.2 | 0.1 | 9.8 | 4.6 |
| Project Start-Up | 2.1 | 51.5 | 47.4 | 0.3 | 9.0 | 2.3 |
| Final Utility Relocations | 2.7 | 18.9 | 62.6 | 0.1 | 3.5 | 1.6 |
| Freight Track Bridges | 2.2 | 16.2 | 48.8 | 0.1 | 1.1 | 0.5 |
| Freight Retaining Walls | 3.1 | 40.4 | 73.8 | 0.3 | 9.8 | 2.9 |
| LRT Retaining Walls | 2.6 | 17.9 | 70.2 | 0.2 | 9.9 | 3.0 |
| Freight At-Grade Crossings | 2.2 | 15.2 | 50.8 | 0.2 | 1.1 | 0.4 |
| LRT Guideway Bridges | 2.7 | 19.2 | 62.8 | 0.1 | 4.3 | 1.1 |
| Freight Trackwork (BNSF) | 1.8 | 17.2 | 41.0 | 0.2 | 4.8 | 1.1 |
| Stations and Access | 2.3 | 16.1 | 56.7 | 0.1 | 1.8 | 0.6 |
| LRT Trackwork | 2.2 | 20.8 | 55.1 | 0.2 | 5.3 | 1.2 |
| Systems Construction | 1.4 | 11.1 | 46.9 | 0.1 | 0.6 | 0.3 |
| Testing/Commissioning | 17.7 | 10.2 | 34.9 | 0.1 | 0.5 | 0.3 |
| MAXIMUM OVERLAPPING EMISSIONS IN EACH YEAR | | | | | | |
| 2027 | 4.7 | 71.2 | 100.7 | 0.5 | 14.8 | 5.5 |
| 2028 | 5.0 | 59.9 | 105.1 | 0.4 | 20.8 | 7.1 |
| 2029 | 3.8 | 34.2 | 86.0 | 0.3 | 11.0 | 2.5 |
| 2030 | 3.2 | 29.3 | 80.3 | 0.3 | 7.5 | 1.8 |
| 2031 | 1.4 | 11.1 | 46.9 | 0.1 | 0.6 | 0.3 |
| 2032 | 17.7 | 10.2 | 34.9 | 0.1 | 0.5 | 0.3 |
| 2033 | 17.7 | 10.2 | 34.9 | 0.1 | 0.5 | 0.3 |
| REGIONAL EMISSIONS ANALYSIS | | | | | | |
| Maximum Daily Emissions | 17.7 | 71.2 | 105.1 | 0.5 | 20.8 | 7.1 |
| SCAQMD Regional Threshold | 75 | 100 | 550 | 150 | 150 | 55 |
| Threshold Exceeded? | No | No | No | No | No | No |

Source: TAHA, 2022

The results of the regional emissions analysis shown in Table 3.4-15 determined that construction of the Proposed Project would not generate emissions in excess of any applicable SCAQMD regional-scale mass daily threshold established for the purpose of screening projects with less than significant air quality impacts. In accordance with SCAQMD guidance, because the Proposed Project emissions would remain below the project-level CEQA thresholds, the emissions would also be considered less than significant at the cumulative level. Therefore, construction of the Proposed Project would result in a **less than significant impact** related to a cumulatively considerable net increase in emissions of O₃ precursors or particulate matter.

TRENCH OPTION

Significant and Unavoidable Impact. The analysis of potential impacts associated with construction of the Trench Option is like that which was presented for the Proposed Project, above. Table 3.4-16 presents the results of the regional emissions analysis for the Trench Option, including maximum daily emission that would occur during each individual phase as well as overlapping activities.

To estimate the potential worst-case scenario for emissions, the analysis assumed that maximum daily haul truck trips would occur simultaneously during each overlapping phase of construction, accounting for up to 486 truck trips (90% of trips being 70 miles round trip and 10% of trips being 140 miles round trip).

Table 3.4-16. Trench Option Construction Emissions Analysis - Regional

| Activity/Year | Daily Emissions (lbs./day) | | | | | |
|---|----------------------------|-----------------|-------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| INDIVIDUAL PHASES | | | | | | |
| Early Utility Relocation | 2.2 | 17.0 | 64.2 | 0.1 | 9.3 | 4.5 |
| Project Start-Up | 1.5 | 23.8 | 34.4 | 0.1 | 2.0 | 0.7 |
| Final Utility Relocations | 2.2 | 16.8 | 66.2 | 0.1 | 3.4 | 1.6 |
| Freight Track Bridges | 1.8 | 12.9 | 52.4 | 0.1 | 1.9 | 0.6 |
| Freight Retaining Walls | 2.0 | 15.7 | 66.0 | 0.1 | 0.9 | 0.4 |
| LRT Guideway Bridges | 2.4 | 17.4 | 64.2 | 0.1 | 1.3 | 0.6 |
| LRT Retaining Walls | 3.3 | 58.6 | 91.9 | 0.4 | 6.2 | 2.7 |
| Freight At-Grade Crossings | 1.7 | 14.0 | 54.2 | 0.2 | 1.0 | 0.4 |
| LRT Guideway Trench | 5.0 | 94.5 | 148.5 | 0.7 | 9.2 | 3.8 |
| Freight Trackwork (BNSF) | 1.4 | 14.1 | 43.6 | 0.2 | 1.6 | 0.6 |
| Stations and Access | 2.0 | 14.5 | 59.1 | 0.1 | 1.4 | 0.5 |
| LRT Trackwork | 1.7 | 18.2 | 57.8 | 0.2 | 1.7 | 0.7 |
| Systems Construction | 1.4 | 11.1 | 46.8 | 0.1 | 0.6 | 0.3 |
| Testing/Commissioning | 17.7 | 10.2 | 34.9 | 0.1 | 0.5 | 0.3 |
| MAXIMUM OVERLAPPING EMISSIONS IN EACH YEAR | | | | | | |
| 2027 | 3.9 | 49.0 | 98.7 | 0.4 | 12.0 | 5.0 |
| 2028 | 5.0 | 92.8 | 122.3 | 0.6 | 14.5 | 6.2 |
| 2029 | 5.8 | 109.7 | 149.9 | 0.8 | 12.8 | 4.9 |

| Activity/Year | Daily Emissions (lbs./day) | | | | | |
|--------------------------------|----------------------------|-----------------|--------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| 2030 | 5.8 | 107.3 | 149.1 | 0.8 | 12.8 | 4.9 |
| 2031 | 5.9 | 110.3 | 158.2 | 0.8 | 13.4 | 5.1 |
| 2032 | 2.5 | 24.7 | 81.1 | 0.3 | 2.3 | 0.9 |
| 2033 | 1.4 | 11.1 | 46.8 | 0.1 | 0.6 | 0.3 |
| 2034 | 17.7 | 10.2 | 34.9 | 0.1 | 0.5 | 0.3 |
| 2035 | 17.7 | 10.2 | 34.9 | 0.1 | 0.5 | 0.3 |
| REGIONAL EMISSIONS ANALYSIS | | | | | | |
| Maximum Daily Emissions | 17.7 | 110.3 | 158.2 | 0.8 | 14.5 | 5.1 |
| SCAQMD Regional Threshold | 75 | 100 | 550 | 150 | 150 | 55 |
| Threshold Exceeded? | No | Yes | No | No | No | No |

Source: TAHA, 2022

Results of the regional emissions analysis for construction of the Trench Option determined that maximum daily emissions of NO_x could exceed the applicable SCAQMD threshold of 100 lbs./day during light rail guideway trench activities in the years 2029–2031. Mitigation measure MM-AQ-1, Zero or Near Zero Emissions Haul Trucks, would be implemented, which would require the contractor to use ZE or NZE to the extent feasible for trucking activities. While ZE and NZE trucks are becoming increasingly available, the availability of these trucks to the extent required to bring NO_x emissions below the SCAQMD regional emissions threshold cannot be guaranteed and could still be exceeded during construction.

As a result, the Trench Option would result in a **significant and unavoidable impact** related to cumulatively considerable increases in emissions of O₃ precursors. The results of the emissions analysis determined that maximum daily emissions of VOC and particulate matter would remain below the applicable SCAQMD regional thresholds and impacts for these nonattainment pollutants would not be cumulatively considerable.

HAWTHORNE OPTION

Less than Significant Impact. The analysis of potential impacts associated with construction of the Hawthorne Option is like that which was presented for the Proposed Project and Trench Option, above. Table 3.4-17 presents the results of the regional emissions analysis for the Hawthorne Option, including maximum daily emission that would occur during each individual phase as well as overlapping activities. As shown below, maximum daily regional emissions during construction of the Hawthorne Option would remain below the applicable SCAQMD mass daily screening thresholds for all activities, including those that would be ongoing simultaneously. To estimate the potential worst-case scenario for emissions, the analysis assumed that maximum daily haul truck trips would occur simultaneously during each overlapping phase of construction, accounting for up to 150 trips (90% of trips being 70 miles round trip and 10% of trips being 140 miles round trip). The maximum daily haul truck trips summarized in would not occur every day throughout each phase or component of construction.

By evaluating conservative estimates of projected emissions that are possible, but likely higher than those that will occur, the results of the Hawthorne Option construction analysis preclude the possibility of cumulatively considerable net increases in O₃ precursors and particulate matter.

Table 3.4-17. Hawthorne Option Construction Emissions Analysis - Regional

| Activity | Daily Emissions (lbs./day) | | | | | |
|---|----------------------------|-----------------|--------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| INDIVIDUAL PHASES | | | | | | |
| Early Utility Relocation | 2.2 | 16.5 | 63.6 | 0.2 | 9.6 | 4.6 |
| Project Start-Up | 1.8 | 37.8 | 41.2 | 0.2 | 6.7 | 1.1 |
| Final Utility Relocations | 2.2 | 16.3 | 65.6 | 0.2 | 3.4 | 1.6 |
| LRT Guideway Bridges | 2.6 | 26.4 | 68.3 | 0.2 | 14.2 | 2.7 |
| Freight Retaining Walls | 2.4 | 27.6 | 72.2 | 0.2 | 7.2 | 2.3 |
| LRT Retaining Walls | 2.3 | 14.3 | 70.8 | 0.1 | 3.6 | 1.6 |
| Freight Trackwork (BNSF) | 1.2 | 14.5 | 42.0 | 0.2 | 2.1 | 0.6 |
| Stations and Access | 2.0 | 14.7 | 59.0 | 0.1 | 1.7 | 0.6 |
| LRT Trackwork | 1.7 | 18.2 | 57.8 | 0.2 | 5.3 | 1.2 |
| Systems Construction | 1.4 | 11.1 | 46.8 | 0.1 | 0.6 | 0.3 |
| Testing/Commissioning | 15.1 | 10.2 | 34.9 | 0.1 | 0.5 | 0.3 |
| MAXIMUM OVERLAPPING EMISSIONS IN EACH YEAR | | | | | | |
| 2029 | 4.2 | 50.1 | 103.5 | 0.4 | 16.7 | 5.5 |
| 2030 | 3.7 | 43.3 | 96.3 | 0.4 | 14.1 | 4.5 |
| 2031 | 3.5 | 39.8 | 92.4 | 0.3 | 12.5 | 4.1 |
| 2032 | 3.5 | 40.1 | 91.1 | 0.3 | 13.0 | 4.2 |
| 2033 | 1.4 | 11.1 | 46.8 | 0.1 | 0.6 | 0.3 |
| 2034 | 15.1 | 10.2 | 34.9 | 0.1 | 0.5 | 0.3 |
| 2035 | 15.1 | 10.2 | 34.9 | 0.1 | 0.5 | 0.3 |
| REGIONAL EMISSIONS ANALYSIS | | | | | | |
| Maximum Daily Emissions | 15.1 | 50.1 | 103.5 | 0.4 | 16.7 | 5.5 |
| SCAQMD Regional Threshold | 75 | 100 | 550 | 150 | 150 | 55 |
| Threshold Exceeded? | No | No | No | No | No | No |

Source: TAHA, 2022

As shown above, maximum daily regional emissions of VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} would remain considerably below the corresponding SCAQMD mass daily thresholds. Construction of the Hawthorne Option would result in a **less than significant impact** related to a cumulatively considerable increase in emissions of O₃ precursors or particulate matter, for which the region is presently designated nonattainment.

3.4-4.2.2 Operational Impacts

Less than Significant Impact. The current nonattainment designations for O₃ and particulate matter within the SCAB represent ongoing cumulatively significant air quality impacts, and the AQMP outlines the necessary emissions reductions—predominately of VOCs, NO_x, and PM_{2.5}—to achieve the ambient air quality standards on the established timeline. The AQMP is developed as part of the SIP, and the SCAG RTP/SCS has been approved as conforming to the SIP. The Proposed Project is listed in the

financially constrained project list for the *Connect SoCal* 2020–2045 RTP/SCS, signifying that it is a regionally significant transportation project that is critical to ensuring that emissions within the SCAB and the SCAG region are reduced on the committed timelines of the regional planning documents. Operation of the Proposed Project would extend existing Metro C Line (Green) service to the proposed Torrance TC, and the light rail vehicles would be propelled electrically through TPSSs installed along the corridor that would connect to the SCE grid. Operation of the Proposed Project would not introduce a substantial permanent source of emissions to the RSA and would provide air quality benefits.

The primary air quality effect of long-term Proposed Project operations would be the reduction of air pollutant emissions associated with displaced vehicle trips on the regional roadway network. Implementation of the Proposed Project would expand accessibility to high quality transit within the RSA and provide enhanced multimodal connectivity to commercial districts for commuters. Transportation modeling conducted to support the environmental document determined that implementation of the Proposed Project would reduce daily on-road regional VMT by approximately 34,500 miles relative to the 2042 without Project condition. Table 3.4-18 summarizes the incremental change in criteria air pollutant emissions in the horizon year of 2042 resulting from the reduction in VMT estimated using the CARB EMFAC mobile source emissions inventory model. Proposed Project operations would provide environmental benefits through replacing passenger vehicle trips with transit ridership and would indirectly decrease regional emissions of O₃ precursors and particulate matter. Operation of the Proposed Project would not result in a cumulatively considerable increase in nonattainment pollutant or precursor emissions, and this impact would be **less than significant**.

Table 3.4-18. Proposed Project Operations Emissions Analysis – 2042

| Project Operations | Daily Emissions (lbs./day) | | | | | |
|-----------------------------|----------------------------|-----------------|-----------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Daily On-Road VMT Reduction | (0.5) | (1.7) | (43.0) | (0.2) | (4.6) | (1.0) |
| SCAQMD Regional Threshold | 75 | 100 | 550 | 150 | 150 | 55 |
| Threshold Exceeded? | No | No | No | No | No | No |

Source: TAHA, 2022

TRENCH OPTION

Less than Significant Impact. The analysis of the potential for cumulatively considerable nonattainment pollutant emissions resulting from operation of the Trench Option is like the impacts assessment presented for the Proposed Project, above. This approach is primarily due to the Trench Option following the same alignment as the Proposed Project, and therefore having the same influence on regional transportation patterns based on increased ridership and transit accessibility. Operation of the Trench Option light rail corridor would extend existing Metro C Line (Green) service to the proposed Torrance TC, improving regional transit accessibility and enhanced multimodal connectivity throughout the RSA. The Trench Option would follow the same Metro ROW alignment as the Proposed Project and would also indirectly decrease regional daily on-road VMT by approximately 34,500 miles relative to the future 2042 condition without its implementation. The reduction in regional VMT would incrementally decrease criteria pollutant emission by the estimated quantities disclosed in Table 3.4-19. The RTP/SCS project listing accurately characterizes the Trench Option, and therefore it also represents a critical regionally significant transportation improvement project to achieve the emission reduction targets outlined in the AQMP and the SCAG RTP/SCS.

Table 3.4-19. Trench Option Operations Emissions Analysis – 2042

| Project Operations | Daily Emissions (lbs./day) | | | | | |
|-----------------------------|----------------------------|-----------------|-----------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Daily On-Road VMT Reduction | (0.5) | (1.7) | (43.0) | (0.2) | (4.6) | (1.0) |
| SCAQMD Regional Threshold | 75 | 100 | 550 | 150 | 150 | 55 |
| Threshold Exceeded? | No | No | No | No | No | No |

Source: TAHA, 2022

Operation of the Trench Option would result in a **less than significant impact** related to cumulatively considerable increases in nonattainment pollutants, which include O₃ precursors and particulate emissions for the regional RSA.

HAWTHORNE OPTION

Less than Significant Impact. The analysis of Hawthorne Option operations regarding cumulatively considerable increases of nonattainment pollutants (O₃ precursors and particulate matter) was prepared similarly to the analyses for the Proposed Project and the Trench Option. Through consultation with the Metro design team and engineers, it was determined that the primary effect with regards to air quality resulting from Hawthorne Option operations would also be attributed to the displacement of on-road vehicle trips and correlated reduction in regional VMT, since its operation would not introduce a new stationary or mobile source of direct air pollutant emissions to the RSA. Transportation modeling for the Hawthorne Option determined that its operation would produce a decrease of approximately 34,922 daily VMT through increased ridership resulting from enhanced transit accessibility relative to the future without project conditions. Table 3.4-20 presents the daily change in emissions that would occur with implementation of the Hawthorne Option.

Table 3.4-20. Hawthorne Option Operations Emissions Analysis – 2042

| Project Operations | Daily Emissions (lbs./day) | | | | | |
|-----------------------------|----------------------------|-----------------|-----------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Daily On-Road VMT Reduction | (0.5) | (1.7) | (43.4) | (0.2) | (4.6) | (1.0) |
| SCAQMD Regional Threshold | 75 | 100 | 550 | 150 | 150 | 55 |
| Threshold Exceeded? | No | No | No | No | No | No |

Source: TAHA, 2022

As shown above, operation of the Hawthorne Option would result in small decreases of air pollutant emissions associated with passenger vehicle trips displacement. Operation of the Hawthorne Option would result in a **less than significant impact** regarding cumulatively considerable increases in nonattainment pollutant emissions.

3.4-4.3 Would the Project expose sensitive receptors to substantial pollutant concentrations?

3.4-4.3.1 Construction Impacts

Less than Significant Impact. The following analysis includes criteria air pollutants and toxic air contaminants. The assessment of potential impacts related to substantial criteria pollutant concentrations at sensitive receptor locations during construction of the Proposed Project was conducted in accordance with the SCAQMD *Final LST Methodology* guidance. The SCAQMD developed mass daily emissions screening values applicable to emissions from on-site construction sources using

ambient monitoring data and air dispersion modeling with receptors at setback distances of 25, 50, 100, 200, and 500 meters from the site boundary. The LST values represent limits on daily pollutant emissions below which concentrations of NO_x, CO, PM₁₀, and PM_{2.5} would be assured not to exceed the ambient air quality standards at downwind receptor locations. The mass daily LST values correspond to the 38 SRAs into which the SCAQMD jurisdiction is divided and are specific to the size of the daily construction disturbance area and proximity of sensitive receptors.

The Proposed Project corridor is located entirely within SRA 3 and, as depicted in Figure 3.4-3 through Figure 3.4-5, would be situated within 50 feet of sensitive receptors at certain locations. Using the Proposed Project construction equipment inventories and the SCAQMD LST guidance (SCAQMD, 2019b), the analysis determined that up to five acres of ground area would be disturbed on a daily basis throughout the construction schedule. Table 3.4-21 summarizes the maximum daily onsite emissions that would be generated during construction of individual phase activities as well as the maximum localized emissions that would occur in each year during Proposed Project construction and compares them to the applicable SCAQMD LST screening values for a five-acre site.

Table 3.4-21. Proposed Project Construction Emissions Analysis – Localized

| Phase/Activities | Daily On-Site Emissions (lbs./day) | | | |
|--|------------------------------------|-------------|------------------|-------------------|
| | NO _x | CO | PM ₁₀ | PM _{2.5} |
| INDIVIDUAL PHASES | | | | |
| Early Utility Relocation | 15.3 | 58.7 | 8.8 | 4.3 |
| Project Start-Up | 9.0 | 25.5 | 5.6 | 0.9 |
| Final Utility Relocations | 16.1 | 59.1 | 2.5 | 1.3 |
| Freight Track Bridges | 11.9 | 45.2 | 0.3 | 0.2 |
| Freight Retaining Walls | 15.0 | 59.6 | 7.3 | 2.0 |
| LRT Retaining Walls | 14.0 | 66.4 | 8.8 | 2.6 |
| Freight At-Grade Crossings | 13.4 | 48.7 | 0.4 | 0.2 |
| LRT Guideway Bridges | 14.9 | 59.4 | 3.5 | 0.8 |
| Freight Trackwork (BNSF) | 7.6 | 34.5 | 3.4 | 0.6 |
| Stations and Access | 14.7 | 54.1 | 0.9 | 0.3 |
| LRT Trackwork | 10.7 | 48.3 | 3.7 | 0.7 |
| Systems Construction | 10.2 | 45.6 | 0.1 | 0.1 |
| Testing/Commissioning | 10.1 | 34.3 | 0.2 | 0.2 |
| OVERLAPPING ACTIVITIES IN EACH YEAR | | | | |
| 2027 | 18.8 | 71.8 | 9.2 | 3.7 |
| 2028 | 18.7 | 74.6 | 13.6 | 4.7 |
| 2029 | 18.4 | 73.3 | 7.7 | 1.4 |
| 2030 | 16.9 | 69.6 | 4.5 | 0.9 |
| 2031 | 10.2 | 45.6 | 0.1 | 0.1 |
| 2032 | 10.2 | 34.3 | 0.2 | 0.2 |
| 2033 | 10.2 | 34.3 | 0.2 | 0.2 |
| LOCALIZED EMISSIONS ANALYSIS | | | | |
| Maximum Daily On-Site Emissions | 18.8 | 74.6 | 13.6 | 4.7 |
| SCAQMD Five-Acre LST Screening Value | 197 | 1,796 | 15 | 8 |
| Threshold Exceeded? | No | No | No | No |

Source: TAHA, 2022

Each of the scenarios presented assessed localized emissions generated by assuming 40 pieces of equipment per acre with receptors within 50 feet of the construction site boundary. The SCAQMD LST guidance asserts that LST values corresponding to receptors at a 25-meter distance should be used for receptors closer to the site. Pursuant to PF-AQ-1, all heavy-duty off-road equipment would be required to comply with the provisions of the Metro *Green Construction Policy* outlined in Table 3.4-14, which include engines meeting Tier 4 emissions standards and the use of Level 3-equivalent diesel particulate filters, where feasible. As disclosed in Table 3.4-21, maximum daily emissions of NO_x, CO, PM₁₀, and PM_{2.5} generated by sources located on the Proposed Project construction sites would remain below the applicable corresponding SCAQMD LST screening values for all individual and combined activities analyzed. Therefore, construction of the Proposed Project would result in a less than significant impact regarding elevated concentrations of criteria pollutants at nearby sensitive receptor locations.

Regarding toxic air contaminants, construction of the Proposed Project would utilize diesel-fueled off-road equipment and on-road trucks, all of which would generate emissions of toxic air contaminants,

predominately in the form of diesel particulate matter. All diesel-fueled off-road equipment would be required to have engines meeting Tier 4 emissions standards, which would substantially reduce emissions of diesel particulate matter and other toxic gases. Additionally, all off-road equipment would be required to limit idling to no more than five minutes to minimize excess emissions and would be maintained in accordance with the optimal manufacturer specifications. Construction BMPs to limit diesel particulate emissions from on-road trucks near construction sites would include diverting truck traffic away from congested streets and intersections and avoiding peak hour trips where feasible. Compliance with the regulatory control measures and adherence to the BMPs, as well as the temporary and intermittent nature of construction activities at any particular location, would prevent the occurrence of substantial toxic air contaminant concentrations at sensitive receptors during Proposed Project construction.

Based on the above analyses, construction of the Proposed Project would result in a **less than significant impact** related to criteria pollutant concentrations and toxic air contaminants at sensitive receptor locations.

TRENCH OPTION

Less than Significant Impact. The impact assessment for construction of the Trench Option is similar to the analysis presented for the Proposed Project, above, as localized emissions primarily consider equipment operated on the construction site. To note, the daily equipment inventories that would be employed to construct the Trench Option would be similar to the equipment inventories used in construction of the Proposed Project components, with slight variations during a few of the earlier construction phases (see Appendix 2-B, Construction Methods Memorandum for detail). Table 3.4-22 presents a summary of the maximum daily emissions that would be generated by on-site sources during construction of the Trench Option and addresses the same combinations of activities as those that were analyzed for the Proposed Project. The maximum daily equipment activities for each phase and combination of activities were presented in Table 3.4-7. As shown below, construction of the Trench Option would not generate emissions of NO_x , CO, PM_{10} , or $\text{PM}_{2.5}$ in excess of the corresponding LST screening values during any individual phase or combination of activities. Therefore, construction of the Trench Option would result in a **less than significant impact** related to pollutant concentrations at nearby sensitive receptor locations.

Table 3.4-22. Trench Option Construction Emissions Analysis – Localized

| Phase/Activities | Maximum Daily On-Site Emissions (lbs./day) | | | |
|--|--|--------------|------------------|-------------------|
| | NO _x | CO | PM ₁₀ | PM _{2.5} |
| INDIVIDUAL PHASES | | | | |
| Early Utility Relocation | 14.1 | 60.8 | 8.2 | 4.2 |
| Project Start-Up | 9.0 | 25.5 | 0.2 | 0.1 |
| Final Utility Relocations | 14.0 | 62.7 | 2.3 | 1.3 |
| Freight Track Bridges | 10.1 | 49.7 | 1.1 | 0.4 |
| Freight Retaining Walls | 12.9 | 63.2 | 0.2 | 0.2 |
| LRT Guideway Bridges | 13.9 | 61.2 | 0.5 | 0.4 |
| LRT Retaining Walls | 12.9 | 68.2 | 2.5 | 1.3 |
| Freight At-Grade Crossings | 11.5 | 51.8 | 0.3 | 0.2 |
| LRT Guideway Trench | 15.9 | 108.7 | 3.2 | 1.5 |
| Freight Trackwork (BNSF) | 5.7 | 37.6 | 0.2 | 0.1 |
| Stations and Access | 13.2 | 56.6 | 0.4 | 0.3 |
| LRT Trackwork | 8.8 | 51.4 | 0.2 | 0.2 |
| Systems Construction | 10.2 | 45.6 | 0.1 | 0.1 |
| Testing/Commissioning | 10.2 | 34.3 | 0.2 | 0.2 |
| OVERLAPPING ACTIVITIES IN EACH YEAR | | | | |
| 2027 | 16.8 | 71.6 | 8.2 | 4.2 |
| 2028 | 16.9 | 78.9 | 6.6 | 3.4 |
| 2029 | 17.9 | 99.6 | 3.7 | 1.5 |
| 2030 | 17.9 | 98.7 | 3.7 | 1.5 |
| 2031 | 17.6 | 105.4 | 3.5 | 1.5 |
| 2032 | 14.5 | 73.5 | 0.3 | 0.2 |
| 2033 | 10.2 | 45.6 | 0.1 | 0.1 |
| 2034 | 10.2 | 34.3 | 0.2 | 0.2 |
| 2035 | 10.2 | 34.3 | 0.2 | 0.2 |
| LOCALIZED EMISSIONS ANALYSES | | | | |
| Maximum Daily On-Site Emissions | 17.9 | 105.4 | 8.2 | 4.2 |
| SCAQMD Five-Acre LST Screening Value | 197 | 1,796 | 15 | 8 |
| Threshold Exceeded? | No | No | No | No |

Source: TAHA, 2022

Regarding toxic air contaminants, construction of the Trench Option would utilize diesel-fueled off-road equipment and on-road trucks, all of which would generate emissions of toxic air contaminants, predominately in the form of diesel particulate matter. All diesel-fueled off-road equipment would be required to have engines meeting Tier 4 emissions standards, which would substantially reduce emissions of diesel particulate matter and other toxic gases. Additionally, all off-road equipment would be required to limit idling to no more than five minutes to minimize excess emissions and would be maintained in accordance with the optimal manufacturer specifications. Construction BMPs to limit diesel particulate emissions from on-road trucks near construction sites would include diverting truck traffic away from congested streets and intersections and avoiding peak hour trips where feasible. Compliance with the regulatory control measures and adherence to the BMPs, as well as the temporary

and intermittent nature of construction activities at any particular location, would prevent the occurrence of substantial toxic air contaminant concentrations at sensitive receptors during Hawthorne Option construction.

Therefore, construction impacts related to exposures of sensitive receptors to substantial criteria pollutant and toxic air contaminant concentrations would be **less than significant**.

HAWTHORNE OPTION

Less than Significant Impact. The impact assessment for construction of the Hawthorne Option is similar to the analysis presented for the Proposed Project, above, and nearly identical to the Trench Option. To note, despite the different alignment of the light rail corridor, the daily equipment inventories that would be employed to construct the Trench Option would be nearly identical to the equipment inventories used in construction of the Proposed Project components, with slight variations during a few of the earlier construction phases.

Table 3.4-23 presents a summary of the maximum daily emissions that would be generated by on-site sources during construction of the Hawthorne Option and addresses the same combinations of activities as those that were analyzed for the Proposed Project. The maximum daily equipment activities for each phase and combination of activities were presented in Table 3.4-8. As shown below, construction of the Hawthorne Option would not generate emissions of NO_x, CO, PM₁₀, or PM_{2.5} in excess of the corresponding LST screening values during any individual phase or combination of activities. Therefore, construction of the Hawthorne Option would result in a **less than significant impact** related to criteria pollutant concentrations at nearby sensitive receptor locations, and there would be no possibility of public health concerns arising during construction activities.

Table 3.4-23. Hawthorne Option Construction Emissions Analysis – Localized

| Phase/Activities | Daily On-Site Emissions (lbs./day) | | | |
|---------------------------|------------------------------------|------|------------------|-------------------|
| | NO _x | CO | PM ₁₀ | PM _{2.5} |
| INDIVIDUAL PHASES | | | | |
| Early Utility Relocation | 14.3 | 60.7 | 8.6 | 4.3 |
| Project Start-Up | 9.0 | 25.5 | 4.1 | 0.7 |
| Final Utility Relocations | 14.0 | 62.7 | 2.4 | 1.3 |
| LRT Guideway Bridges | 13.9 | 61.2 | 12.8 | 2.2 |
| Freight Retaining Walls | 12.9 | 63.2 | 5.4 | 1.7 |
| LRT Retaining Walls | 12.9 | 68.2 | 2.6 | 1.3 |
| Freight Trackwork (BNSF) | 5.7 | 37.6 | 1.5 | 0.3 |
| Stations and Access | 13.4 | 56.5 | 0.7 | 0.3 |
| LRT Trackwork | 8.8 | 51.4 | 3.8 | 0.7 |
| Systems Construction | 10.2 | 45.6 | 0.1 | 0.1 |
| Testing/Commissioning | 10.2 | 34.3 | 0.2 | 0.2 |

| Phase/Activities | Daily On-Site Emissions (lbs./day) | | | |
|--|------------------------------------|-------------|------------------|-------------------|
| | NO _x | CO | PM ₁₀ | PM _{2.5} |
| OVERLAPPING ACTIVITIES IN EACH YEAR | | | | |
| 2029 | 17.7 | 78.8 | 10.5 | 3.5 |
| 2030 | 17.5 | 78.7 | 10.1 | 3.2 |
| 2031 | 16.7 | 76.3 | 8.7 | 2.9 |
| 2032 | 16.2 | 73.8 | 8.6 | 2.8 |
| 2033 | 10.2 | 45.6 | 0.1 | 0.1 |
| 2034 | 10.2 | 34.3 | 0.2 | 0.2 |
| FIVE-ACRE SITE ANALYSES | | | | |
| Maximum Daily On-Site Emissions | 17.7 | 78.8 | 12.8 | 4.3 |
| SCAQMD Five-Acre LST Screening Value | 197 | 1,796 | 15 | 8 |
| Threshold Exceeded? | No | No | No | No |

Source: TAHA, 2022

Regarding toxic air contaminants, construction of the Hawthorne Option would utilize diesel-fueled off-road equipment and on-road trucks, all of which would generate emissions of toxic air contaminants, predominately in the form of diesel particulate matter. All diesel-fueled off-road equipment would be required to have engines meeting Tier 4 emissions standards, which would substantially reduce emissions of diesel particulate matter and other toxic gases. Additionally, all off-road equipment would be required to limit idling to no more than five minutes to minimize excess emissions and would be maintained in accordance with the optimal manufacturer specifications. Construction BMPs to limit diesel particulate emissions from on-road trucks near construction sites would include diverting truck traffic away from congested streets and intersections and avoiding peak hour trips where feasible. Compliance with the regulatory control measures and adherence to the BMPs, as well as the temporary and intermittent nature of construction activities at any particular location, would prevent the occurrence of substantial toxic air contaminant concentrations at sensitive receptors during Hawthorne Option construction.

Therefore, construction impacts related to exposures of sensitive receptors to substantial criteria pollutant and toxic air contaminant concentrations would be **less than significant**.

3.4-4.3.2 Operational Impacts

Less than Significant Impact. The following analysis includes criteria air pollutants, mobile source air toxics, and CO hot-spots.

Regarding criteria air pollutants, operation of the Proposed Project would extend the existing Metro C (Green) Line light rail and would not introduce a new substantial permanent direct source of emissions to the RSA. No direct source of air pollutant emissions along the Proposed Project alignment would occur as the light rail cars, stations, and systems and signals would be electrically powered and connected to the SCE grid. Minor stationary sources would be associated with the use of landscaping equipment and sanitation service vehicle trips at station facilities. Proposed Project operations would not involve a facility where a significant number of vehicles would dwell and would not deteriorate congestion at nearby intersections. Operation of the Proposed Project would not have the potential to expose sensitive receptors to substantial pollutant concentrations; impacts would be less than significant.

Regrading mobile source air toxics, federal and state regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. An analysis of national trends with the USEPA MOVES model forecasts a combined reduction of over 80% in the total annual emission rate for the priority MSAT from 2010 to 2050 and VMT is projected to increase by over 100%. MSAT emissions are directly correlated to VMT; therefore, reductions in daily MSAT emissions would result through Proposed Project implementation. Operation of the Proposed Project would reduce daily regional VMT by approximately 34,500 miles relative to the 2042 without Project conditions, thereby decreasing daily MSAT emissions throughout the RSA. The Proposed Project would not result in adverse effects related to MSAT emissions.

Regarding CO hot-spots, although the SCAB is designated as a maintenance area for CO, it is no longer a pollutant of concern in the region. According to CARB, the NAAQS for CO was last exceeded in 2002. The SCAQMD last published data for 2020 included maximum 1- and 8-hour concentrations of 1.6 and 1.3 parts per million (ppm), respectively, in the Proposed Project area. These concentrations were substantially below the 1- and 8-hour NAAQS of 20 and 9 ppm. The Proposed Project is planned to open in 2030. As indicated in the CARB EMFAC model, CO emission rates would be substantially less in 2030 than in 2003 when CO attainment was demonstrated in the AQMP. Therefore, operation of the Proposed Project would not result in a significant impact related to a CO hot spot.

Based on the above analyses, operation of the Proposed Project would result in a **less than significant impact** related to criteria pollutant concentrations, toxic air contaminants, and CO hot-spots.

TRENCH OPTION

Less than Significant Impact. The impacts assessment for the Trench Option is like the analysis presented for the Proposed Project, as operations will occur along the same alignments and use the same operating pattern and equipment. Long-term operation of the Trench Option would not introduce any new direct source of criteria pollutant or TAC emissions to the regional or localized RSA. Metro employee vehicle trips would not be expected to increase with implementation of the Trench Option, and the light rail vehicles would be propelled by electricity with no internal combustion occurring that would produce hydrocarbon and other pollutant emissions. Furthermore, operation of the Trench Option would reduce daily regional VMT by approximately 34,500 miles relative to the 2042 without Project condition, thereby decreasing daily MSAT emissions throughout the RSA. Operation of the Trench Option would result in a **less than significant impact** related to substantial pollutant concentrations at receptor locations.

HAWTHORNE OPTION

Less than Significant Impact. The impacts assessment for the Hawthorne Option is like to the analysis presented for the Proposed Project, as operations would occur along a similar alignment and use the same operating pattern and equipment. Long-term operation of the Hawthorne Option would not introduce any new direct source of criteria pollutant or TAC emissions to the regional or localized RSA. Metro employee vehicle trips would not be expected to increase with implementation of the Hawthorne Option, and the light rail vehicles would be propelled by electricity with no internal combustion occurring that would produce hydrocarbon and other pollutant emissions. Furthermore, operation of the Hawthorne Option would reduce daily regional VMT by approximately 34,900 miles relative to the 2042 without Project condition, thereby decreasing daily MSAT emissions throughout the RSA. Operation of the Hawthorne Option would result in a **less than significant impact** related to substantial pollutant concentrations at nearby receptor locations.

3.4-4.4 Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

3.4-4.4.1 Construction Impacts

Less than Significant Impact. Construction activities to implement the Proposed Project would not generate a substantial source of construction odors or visible dust plumes. Construction of the Proposed Project would result in temporary exhaust fumes through gasoline or diesel-powered equipment and asphalt paving. Such emissions would occur intermittently, and associated odors would dissipate rapidly within the immediate vicinity of the work area. Regarding the possibility of fugitive dust plumes occurring, construction activities would incorporate PF-AQ-1 and adhere to the provisions of the Metro Green Construction Policy and employ BMPs to prevent the occurrence of a nuisance odor or dust plume in accordance with SCAQMD Rule 402 (Nuisance). Therefore, construction of the Proposed Project would result in a **less than significant impact** related to public nuisance for odors or visible dust plumes.

TRENCH OPTION

Less than Significant Impact. The analysis of Trench Option construction impacts related to public nuisances is identical to the analysis for the Proposed Project. Construction activities to implement the Trench Option would not generate a substantial source of construction odors or visible dust plumes. Construction of the Trench Option would result in temporary exhaust fumes through gasoline or diesel-powered equipment and asphalt paving. Such emissions would occur intermittently, and associated odors would dissipate rapidly within the immediate vicinity of the work area. Regarding the possibility of fugitive dust plumes occurring, construction activities would incorporate PF-AQ-1 adhere to the provisions of the Metro Green Construction Policy and employ BMPs to prevent the occurrence of a nuisance odor or dust plume in accordance with SCAQMD Rule 402 (Nuisance). Therefore, construction of the Trench Option would result in a **less than significant impact** related to public nuisance for odors or visible dust plumes.

HAWTHORNE OPTION

Less than Significant Impact. The analysis of Hawthorne Option construction impacts related to public nuisances is identical to the analysis for the Proposed Project. Construction activities to implement the Hawthorne Option would not generate a substantial source of construction odors or visible dust plumes. Construction of the Hawthorne Option would result in temporary exhaust fumes through gasoline or diesel-powered equipment and asphalt paving. Such emissions would occur intermittently, and associated odors would dissipate rapidly within the immediate vicinity of the work area. Regarding the possibility of fugitive dust plumes occurring, construction activities would incorporate PF-AQ-1 and adhere to the stringent provisions of the Metro Green Construction Policy and employ BMPs to prevent the occurrence of a nuisance odor or dust plume in accordance with SCAQMD Rule 402 (Nuisance). Therefore, construction of the Hawthorne Option would result in a **less than significant impact** related to public nuisance for odors or visible dust plumes.

3.4-4.4.2 Operational Impacts

Less than Significant Impact. Future operation of the Proposed Project would not involve a substantial source of odorous or particulate emissions that could cause public nuisances. Land uses and industrial operations commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Any unpleasant odors from transit operations would be subject to management under the

odor complaint tracking system mandated by SCAQMD Rule 402 (Nuisance), which prevents nuisance odor conditions. With regards to the experience of future transit riders, Metro's heavy and light rail cars use high-efficiency air filters rated at MERV-8 or higher that recirculate air in between every two to four minutes. The onboard filtration systems would prevent the occurrence of persistent odors affecting future transit riders. As a result, operation of the Proposed Project would have a minor, if any, impact with respect to odors. Therefore, the Proposed Project would result in a **less than significant impact** related to operational odors.

TRENCH OPTION

Less than Significant Impact. The assessment of potential nuisance conditions resulting from Trench Option operations is identical to the analysis for the Proposed Project. Future operation of the Trench Option would not involve a substantial source of odorous or particulate emissions that could cause public nuisances. Land uses and industrial operations commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Any unpleasant odors from transit operations would be subject to management under the odor complaint tracking system mandated by SCAQMD Rule 402 (Nuisance), which prevents nuisance odor conditions. With regards to the experience of future transit riders, Metro's heavy and light rail cars use high-efficiency air filters rated at MERV-8 or higher that recirculate air in between every two to four minutes. The onboard filtration systems would prevent the occurrence of persistent odors affecting future transit riders. As a result, operation of the Trench Option would have a minor, if any, impact with respect to odors. Therefore, the Trench Option would result in a **less than significant impact** related to operational odors.

HAWTHORNE OPTION

Less than Significant Impact. The assessment of potential nuisance conditions resulting from Hawthorne Option operations is similar to the analysis for the Proposed Project. Future operation of the Hawthorne Option would not involve a substantial source of odorous or particulate emissions that could cause public nuisances. Land uses and industrial operations commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Any unpleasant odors from transit operations would be subject to management under the odor complaint tracking system mandated by SCAQMD Rule 402 (Nuisance), which prevents nuisance odor conditions. With regards to the experience of future transit riders, Metro's heavy and light rail cars use high-efficiency air filters rated at MERV-8 or higher that recirculate air in between every two to four minutes. The onboard filtration systems would prevent the occurrence of persistent odors affecting future transit riders. As a result, operation of the Hawthorne Option would have a minor, if any, impact with respect to odors. Therefore, the Hawthorne Option would result in a **less than significant impact** related to operational odors.

3.4-5 Mitigation Measures

MM-AQ-1: Zero or Near Zero Emissions Haul Trucks

Metro shall require ZE or NZE on-road haul trucks such as heavy-duty trucks with natural gas engines that meet or exceed the CARB's adopted optional NOx emissions standard at 0.02 g/bhp-hr, if and when feasible. Operators shall maintain records of all trucks associated with project construction to document that each truck used meets these emission standards, and make the records available for inspection. Metro shall conduct regular inspections to the maximum extent feasible to ensure compliance.

3.4-6 Project Impacts Remaining After Mitigation

3.4-6.1 Proposed Project

No mitigations measures are required for the Proposed Project, therefore there would be no significant impacts after mitigation.

3.4-6.2 Trench Option

Although construction of the Trench Option would require implementation of mitigation measure MM-AQ-1, it is not technically feasible at the time of document preparation to verify the commercial availability of ZE and NZE trucks to the extent needed to reduce NO_x impacts below SCAQMD's regional emissions threshold in the scenario years of 2029–2031. Without being able to confirm that sufficient ZE and NZE trucks would be available for use in construction of the Trench Option, this impact would remain **significant and unavoidable**.

3.4-6.3 Hawthorne Option

No mitigations measures are required for the Hawthorne Option, therefore there would be no significant impacts after mitigation.

3.4-7 Cumulative Impacts

The methodology for cumulative analysis and a description of relevant projects and projections are included in Section 3.0, Introduction. The geographic extent of the cumulative analysis for Air Quality is the same as the defined RSA; it includes the SCAB at the regional level and an area encompassing 500 meters (1,640 feet) from the project alignment along the corridor in all directions at the localized level. The regional and local RSAs are discussed in greater detail in Section 3.4-3. The analysis of cumulative impacts was prepared in accordance with guidance contained in the SCAQMD White Paper on cumulative impacts analyses under CEQA. Emissions that would be generated during construction and future operation were evaluated in the cumulative context for each alternative.

Despite substantial growth in population, air quality within the SCAB has been gradually improving over the past several decades as a result of robust regulatory control measures administered at the federal, state, and regional levels. The SCAB is currently in attainment or maintenance of the ambient air quality standards for CO, NO₂, and SO₂, and is designated as nonattainment for O₃ and PM_{2.5} at the federal level and nonattainment for O₃, PM₁₀, and PM_{2.5} at the state level. The final attainment demonstration for the federal CO standard was prepared in 2003. The nonattainment designations represent ongoing significant cumulative air quality impacts within the RSA; therefore, emissions of O₃ precursors and particulate matter associated with implementation of the project alternatives are of particular concern. The SCAQMD prepares the AQMP to evaluate contemporary SCAB air quality and the emissions inventory and forecast control strategies to ultimately bring the SCAB into attainment of the ambient air quality standards. The AQMP emissions budgets are partially developed based on the RTP/SCS, and the two planning documents are developed in conjunction with one another. The 2016 AQMP determined that total SCAB emissions of NO_x must be reduced by 45% from 2012 levels in 2023 and by a further 55% in 2031 to attain the O₃ standard on the timeline set forth.

Emissions of TACs within the SCAB have also declined over the past several decades. As discussed under Section 3.4-3.2, the SCAQMD 2018–2019 MATES V report concluded that emissions of carcinogens within the SCAB had decreased by 48% since the 2012–2013 MATES IV Study, and both the average SCAB monitored (40% decrease) and modeled (54% decrease) ambient carcinogenic risks had been substantially reduced over the six-year timeframe between MATES publications. Approximately 48% of

this risk was attributed to emissions associated with off-road mobile sources and approximately 40% was attributed to on-road mobile sources, with approximately 7% from area sources and 5% from point sources. Diesel PM comprised approximately 72% of the total ambient carcinogenic risk, and average diesel PM concentrations were 53% lower than those measured in MATES IV. Compliance with the CARB diesel program requirements for heavy-duty commercial diesel trucks beginning in January 2023 will further reduce diesel particulate emissions into the future.

3.4-1.1. Proposed Project

Construction of the Proposed Project would generate emissions of air pollutants through the use of heavy-duty off-road equipment and light- and heavy-duty on-road vehicles. In addition to diesel exhaust fumes, off-road equipment would produce fugitive emissions including dust during ground disturbance and material stockpiling and volatile asphalt off-gassing during paving activities. As shown in Table 3.4-15, construction activities associated with implementation of the Proposed Project would not generate mass daily emission in excess of any regional-scale SCAQMD threshold for individual projects under CEQA. The SCAQMD White Paper on cumulative impacts explicitly asserts that,

“projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.”

Attainment of the air quality standards is accomplished at the regional level, and the SCAQMD clearly adopted the rationale that projects with mass daily emissions below the regional screening thresholds would not generate sufficient air pollution to render cumulative impacts potentially significant. The discussions provided under impact criteria 3.4-4.1 and 3.4-4.2 determined that the Proposed Project would not contribute to an exacerbation of air quality violations or emit cumulatively considerable quantities of pollutants for which the SCAB is currently designated nonattainment, respectively. Although construction of other CEQA projects would occur within the SCAB during construction of the Proposed Project, emissions generated by sources involved in Proposed Project construction would not be cumulatively considerable for nonattainment pollutants and would also not be cumulatively significant based on the SCAQMD guidance.

Furthermore, the analysis presented under impact criterion 3.4-4.3 demonstrated that construction of the Proposed Project would not generate localized emissions of NO_x, CO, or particulate matter in excess of the applicable LST screening values. The SCAQMD LST screening values were designed to prevent the occurrence of unhealthy pollutant concentrations reaching sensitive receptors near construction sites. The same SCAQMD cumulative significance rationale can be applied to the localized emissions. Although it is possible that construction of other CEQA projects may occur within the localized RSA during construction of the Proposed Project, emissions from Proposed Project construction would be controlled to the maximum extent feasible through implementation of BMPs contained within the Metro Green Construction Policy and would not exceed the SRA 3 LST screening values. Therefore, construction of the Proposed Project would result in less than significant cumulative impacts at both the regional and localized geographic scales.

Following the completion of construction activities, long-term operation of the Proposed Project would not introduce a new substantial stationary, area, or mobile source of air pollutant emissions into the SCAB. The primary effect of Proposed Project operations on regional air quality would be the displacement of on-road VMT resulting from increased transit ridership. Operation of the Proposed

Project would reduce emissions of air pollutants within the SCAB overall through the elimination of passenger vehicle trips. The 2016 AQMP emissions budgets are partially developed based on the 2016–2040 RTP/SCS, and the two planning documents are developed in conjunction with one another. The Proposed Project is included in the 2016–2040 RTP/SCS and the *Connect SoCal* 2020–2045 RTP/SCS under RTP ID 1TR1001 and FTIP ID LA0G632, which demonstrates that the regional transportation and emissions modeling budget in the 2016 AQMP accounts for implementation of the Proposed Project in its conformity demonstration. Therefore, operation of the Proposed Project would not contribute in a significant way to cumulative effects related to air quality violations, timely attainment of the air quality standards, or emissions of nonattainment pollutants. Operation of the Proposed Project would not introduce a substantial new source of emissions that could result in sensitive receptor exposures to unhealthy localized pollutant concentrations or public nuisances related to odors.

The Proposed Project—combined with past, present, and reasonably foreseeable projects—would not be cumulatively considerable.

3.4-1.2. Trench Option

From a cumulative standpoint, the analysis of potential air quality impacts during construction of the Trench Option is similar to the assessment presented above for the Proposed Project. The discussions provided under impact criteria 3.4-4.1 and 3.4-4.2 determined that the Trench Option could potentially contribute to an exacerbation of air quality violations or emit cumulatively considerable quantities of pollutants for which the SCAB is currently designated nonattainment in the form of NO_x, an atmospheric precursor to O₃ formation. Construction of other CEQA projects would occur within the SCAB during construction of the Trench Option, and emissions generated by sources involved in construction activities to implement the Trench Option would be **cumulatively considerable** for nonattainment pollutants and would also be **cumulatively significant** at the regional level based on the SCAQMD guidance even with mitigation measure MM-AQ-1.

Similar to the assessment of construction emissions, the analysis of potential cumulative air quality impacts during operation of the Trench Option is congruent with the discussion presented above for the Proposed Project. The primary effect of Trench Option operations on regional air quality would be the displacement of on-road VMT resulting from increased transit ridership. Operation of the Trench Option would reduce emissions of air pollutants within the SCAB overall through the elimination of passenger vehicle trips. The 2016 AQMP emissions budgets are partially developed based on the 2016–2040 RTP/SCS, and the two planning documents are developed in conjunction with one another. The Trench Option is sufficiently characterized under the project description in the *Connect SoCal* 2020–2045 RTP/SCS under RTP ID 1TR1001 and FTIP ID LA0G632, which demonstrates that the regional transportation and emissions modeling budget in the 2022 AQMP accounts for implementation of the Proposed Project in its conformity demonstration. Therefore, operation of the Trench Option would not contribute in a significant way to cumulative effects related to air quality violations, timely attainment of the air quality standards, or emissions of nonattainment pollutants. Operation of the Trench Option would not introduce a substantial new source of emissions that could result in sensitive receptor exposures to unhealthy localized pollutant concentrations or public nuisances related to odors.

The Trench Option—combined with past, present, and reasonably foreseeable projects—could result in **cumulatively considerable impacts** during construction.

3.4-1.3. Hawthorne Option

From a cumulative standpoint, the analysis of potential air quality impacts during construction of the Hawthorne Option is similar to the assessment presented above for the Proposed Project and the Trench Option. The discussions provided under impact criteria 3.4-4.1 and 3.4-4.2 determined that the Hawthorne Option would not contribute to an exacerbation of air quality violations or emit cumulatively considerable quantities of pollutants for which the SCAB is currently designated nonattainment, respectively. Although construction of other CEQA projects would occur within the SCAB during construction of the Hawthorne Option, emissions generated by sources involved in construction activities would not be cumulatively considerable for nonattainment pollutants and would also not be cumulatively significant based on the SCAQMD guidance.

Similar to the assessment of construction emissions, the analysis of potential cumulative air quality impacts during operation of the Hawthorne Option is congruent with the discussions presented above for the Proposed Project and the Trench Option. The primary effect of Hawthorne Option operations on regional air quality would be the displacement of on-road VMT resulting from increased transit ridership. Operation of the Hawthorne Option would reduce emissions of air pollutants within the SCAB overall through the elimination of passenger vehicle trips. The 2016 AQMP emissions budgets are partially developed based on the 2016–2040 RTP/SCS, and the two planning documents are developed in conjunction with one another. The Hawthorne Option is sufficiently characterized under the project description in the 2016–2040 RTP/SCS and the *Connect SoCal* 2020–2045 RTP/SCS under RTP ID 1TR1001 and FTIP ID LA0G632, which demonstrates that the regional transportation and emissions modeling budget in the 2016 AQMP accounts for implementation of the Hawthorne Option in its conformity demonstration. Therefore, operation of the Hawthorne Option would not contribute in a significant way to cumulative effects related to air quality violations, timely attainment of the air quality standards, or emissions of nonattainment pollutants. Furthermore, operation of the Hawthorne Option would not introduce a substantial new source of emissions that could result in sensitive receptor exposures to unhealthy localized pollutant concentrations or public nuisances related to odors.

The Hawthorne Option—combined with past, present, and reasonably foreseeable projects—would not be cumulatively considerable.