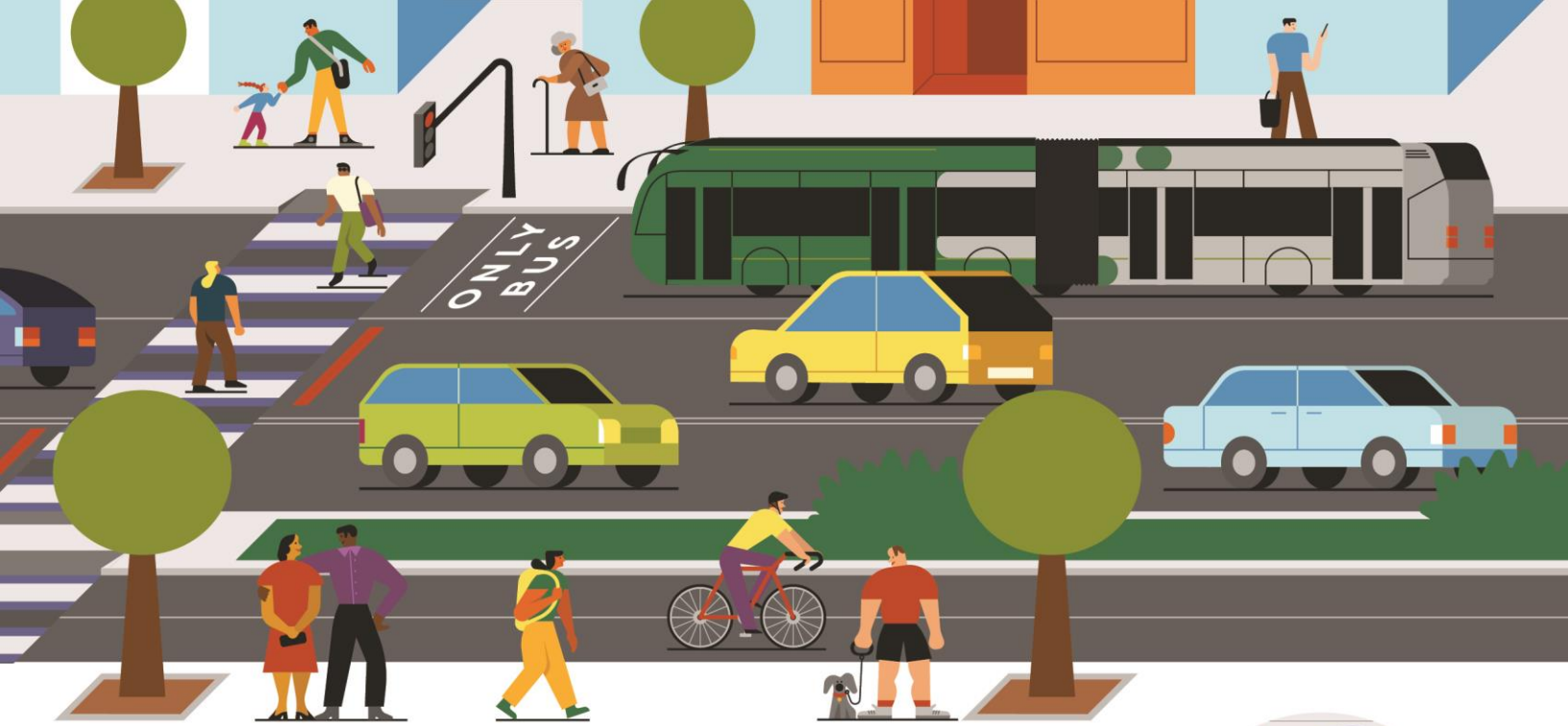

AIR QUALITY ANALYSIS REPORT

ADVANCED RAPID TRANSIT (ART) EAST/WEST CORRIDOR PROJECT

April 2025
(Version 5)

VIA RAPID

EXECUTIVE SUMMARY

VIA Metropolitan Transit (VIA) prepared this Air Quality Analysis Report for the Advanced Rapid Transit (ART) East/West Corridor Project (the Project). The Project is an approximately 7.3-mile bus rapid transit line within the City of San Antonio, Texas. The Project corridor would extend from General McMullen Drive in the west, through Downtown, to Coca Cola Place in the east, along the following roadways: Commerce Street, Buena Vista Street, Dolorosa Street, Market Street, Cherry Street, and East Houston Street (see Appendix A). The Project includes transit signal priority and is proposed to operate in a mixture of center dedicated lanes, curbside dedicated Business Access and Transit (BAT) lanes, and in mixed traffic. Based on the conceptual design, approximately 5.10 miles (70%) of the route would feature dedicated lanes, including 2.15 miles (30%) of center dedicated lanes and 2.95 miles (40%) of curbside dedicated BAT lanes. The remaining 2.20 miles (30%) would operate in mixed traffic. The Project includes 18 new or modified station areas. Stations are planned to include amenities such as off-board fare collection, real-time arrival information, security cameras, lighting, and platforms for level boarding.

This report addresses the environmental effects of Project implementation related to Air Quality in accordance with National Environmental Policy Act (NEPA) requirements administered by the Federal Transit Administration (FTA). The scope of the analyses was developed to support a Categorical Exclusion (CE) for the Project.

Conclusions of the assessment presented in this report are summarized in Table 1. The assessment determined that construction and operation of the Project would not produce any potentially adverse air quality effects under NEPA. Regarding transportation conformity, the Project is fully programmed and accurately listed in the latest Alamo Area Metropolitan Planning Organization (AAMPO) Metropolitan Transportation Plan (titled Mobility 2050) and the Fiscal Year 2023-2026 Transportation Improvement Program as project number 10715. Therefore, the Project has been accounted for in the transportation conformity analysis and satisfies the regional conformity requirements. Furthermore, the Project is located in Bexar County, which is in attainment for all criteria pollutants except for ozone. The Project location is in attainment for Carbon Monoxide (CO) and particulate matter; therefore, it does not require a detailed project-level analysis to demonstrate that there would be no exceedance of the National Ambient Air Quality Standards (NAAQS). There is no project-level modeling analysis required for projects in ozone nonattainment areas. According to the Federal Highway Administration's (FHWA) tiered approach to determine the level of analysis for Mobile Source Air Toxics (MSAT) in NEPA

documents, the Project falls within the Tier 1 category, projects with no potential for meaningful MSAT effects, and therefore, no MSAT analysis is required.

Table 1: Summary of Air Quality Statements

Air Quality Analysis Element	**Proposed Project Determination**	**Applicable Mitigation Measures**
Transportation Conformity – Consistency	Project is consistent with the regional conformity analysis.	None required
Transportation Conformity – Hot Spots	Project-level conformity does not apply – Attainment of NAAQS for CO and particulate matter.	None required
MSAT	Project falls within the Tier 1 category, projects with no potential for meaningful MSAT effects; no MSAT analysis is required.	None Required
Construction Air Emissions	No Adverse Effects.	None Required

Source: VIA; 2024

Additionally, the Project would shift passenger vehicle traffic to transit use, resulting in a decrease in regional on-road daily vehicle miles traveled (VMT) in San Antonio metropolitan area. The decrease in VMT would eliminate emissions of criteria air pollutants and MSAT that would have otherwise been produced by passenger vehicle travel. Therefore, implementation of the proposed Project would provide environmental and community benefits through reducing emissions and facilitating enhanced accessibility to multimodal transportation options via an efficient ART network.

During the construction phase of this Project, temporary increases in criteria pollutant, and MSAT may occur from construction activities. However, considering the temporary and transient nature of construction-related emissions, the use of fugitive dust control measures, the encouragement of the use of the Texas Emissions Reduction Plan (TERP), and compliance with

applicable regulatory requirements; it is not anticipated that emissions from construction of this Project will have any significant impact on air quality in the area.

Although there are no mitigation requirements since the Project meets conformity requirements and would have no meaningful MSAT effects, there are strategies that can be used to minimize emissions from vehicle operations and their impacts to the surrounding community.

The Texas Commission on Environmental Quality (TCEQ) encourages the community to follow the following practices to help prevent ozone formation on any day, but especially during Ozone Action Days, to accelerate degrading the ozone nonattainment classification in Bexar County (TCEQ 2024e):

- Limit driving and idling; instead, carpool, combine errands, use public transportation, bike, or walk
- Refuel your vehicle in the late afternoon or evening and do not top off the tank
- Keep your vehicle maintained, including proper tire pressure
- Maintain your yard equipment, including changing the oil and replacing air filters regularly. Also consider using tools without gasoline motors. Hand tools such as shears, edgers, and push mowers are lightweight, quiet, and easy to use, and do not generate emissions
- Do not burn yard waste
- Use paint and cleaning products with less or zero volatile organic compounds (VOCs)

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1. INTRODUCTION

FTA has initiated NEPA compliance for the Project. On August 13, 2024, FTA issued an initial determination that NEPA class of action of the Project is a CE.

The Project is an approximately 7.3-mile bus rapid transit line within the City of San Antonio, Texas. The Project corridor would extend from General McMullen Drive in the west, through Downtown, to Coca Cola Place in the east, along the following roadways: Commerce Street, Buena Vista Street, Dolorosa Street, Market Street, Cherry Street, and East Houston Street (see Appendix A). The 7.3-mile segment defines the Project's capital limits, which represent the area where construction activities are planned. While the capital limits cover this 7.3-mile segment, bus rapid transit service is planned to extend beyond these limits. To the west, service will connect to the Kel-Lac Transit Center, and to the east, it will link to the future Eastside Transit Center. No construction activities are anticipated outside of the 7.3-mile capital limits. NEPA compliance will apply exclusively to this 7.3-mile segment defined by the capital limits.

The Project includes transit signal priority and is proposed to operate in a mixture of center dedicated lanes, curbside dedicated BAT lanes, and in mixed traffic. Based on the conceptual design, approximately 5.10 miles (70%) of the route would feature dedicated lanes, including 2.15 miles (30%) of center dedicated lanes and 2.95 miles (40%) of curbside dedicated BAT lanes. The remaining 2.20 miles (30%) would operate in mixed traffic.

Within the capital limits, the Project includes 18 new or modified station areas. Stations are planned to include amenities such as off-board fare collection, real-time arrival information, security cameras, lighting, and platforms for level boarding. In general, VIA plans to minimize significant ground disturbance or construction impacts in downtown by including stops with limited amenities. Sidewalk improvements are planned to provide pedestrian and Americans with Disabilities Act access to the transit stations.

This Air Quality Report addresses the environmental effects of the Project's implementation related to air quality in accordance with NEPA requirements administered by FTA. It outlines the regulatory requirements applicable to the Project, the existing air quality conditions in the Project area, and the potential impacts of the Project on air quality.

2. APPLICABLE POLLUTANTS AND STANDARDS

Air quality is a term used to describe the overall degree to which the ambient air quality is polluted. Air pollution is a general term that refers to one or more chemical substances that degrade the quality of the atmosphere. Individual air pollutants can adversely affect human health, reduce visibility, damage property, and reduce the productivity or vigor of crops or natural vegetation.

2.1 Applicable Standards and Regulations

NAAQS, shown in Table 2, are concentrations standards set by the US Environmental Protection Agency (USEPA) to control the impact of pollutants that are of concern nationwide. These air pollutants, referred to as criteria pollutants, are carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur dioxide. The sources of these pollutants, their effects on human health and the nation's welfare, and their occurrence in the atmosphere vary considerably. The "primary" standards have been established to protect the public health, including from the risks of respiratory and cardio-pulmonary ailments. The "secondary" standards are intended to protect the public's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the general welfare. TCEQ establishes plans to meet these air quality standards throughout the state.

The Clean Air Act (CAA), it's Amendments (CAAA), and the Final Conformity Rule (40 Code of Federal Regulations [CFR] Parts 51 and 93) direct the USEPA to implement environmental policies and regulations that will ensure acceptable levels of air quality. The CAA and the Final Conformity Rule apply to the Proposed Action. According to Title I, Section 176 (c) 2: "No federal agency may approve, accept, or fund any transportation plan, program, or project unless such plan, program, or project has been found to conform to any applicable State Implementation Plan (SIP) in effect under this act."

The CAA requires that a SIP be prepared for each nonattainment area, and a maintenance plan be prepared for each former nonattainment area that subsequently demonstrates compliance with the standards (and is now known as a maintenance area). The SIP is a state's plan on ways it will meet the NAAQS under the deadlines established by the CAA. USEPA's Conformity Rule requires SIP conformity determinations on plans, programs, and projects before they are approved or adopted (40 CFR Part 93).

The Final Conformity Rule defines conformity as consistency with the SIP's purpose to eliminate or reduce the severity and number of violations of the NAAQS and to achieve expeditious attainment of such standards (40 CFR Part 93). In particular, such activities shall not:

- Cause or contribute to any new violation of any NAAQS in any area.
- Increase the frequency or severity of any existing violation of any NAAQS in any area.
- Delay timely attainment of any NAAQS or any required interim emission reductions or other milestones in any area.

Table 2: National Ambient Air Quality Standards

Pollutant		Primary/Secondary	Averaging Time	Level	Form
Carbon Monoxide		Primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead		Primary and secondary	Rolling 3-month average	0.15 $\mu g/m^3$	Not to be exceeded
Nitrogen Dioxide		Primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Primary and secondary	Annual	53 ppb	Annual Mean
Ozone		Primary and secondary	8-hour	0.070 ppm	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particulate Matter	$PM_{2.5}$	Primary	1-year	9.0 $\mu g/m^3$	Annual mean, averaged over 3 years
		Secondary	Annual	15 $\mu g/m^3$	Annual mean, averaged over 3 years
		Primary and secondary	24-hour	35 $\mu g/m^3$	98th percentile, averaged over 3 years
	PM_{10}	Primary and secondary	24-hour	150 $\mu g/m^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide		Primary	1-hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	1-year	10 ppb	Annual mean, averaged over 3 years

Source: USEPA 2025

2.2 Criteria Pollutants and Effects

Pollutants that have established national standards are referred to as “criteria pollutants”. Descriptions of each criteria pollutant and associated health effects are provided in the sections that follow.

2.2.1 Ozone

Ozone (O_3) is a colorless, toxic gas. O_3 is found in both the Earth’s upper and lower atmospheric levels. In the upper atmosphere, O_3 is a naturally occurring gas that helps to prevent the sun’s harmful ultraviolet rays from reaching the earth. In the lower layer of the atmosphere, O_3 is man-made. Although O_3 is not directly emitted, it forms in the lower atmosphere through a chemical reaction between reactive organic gases (ROG), also referred to as VOCs and NOx, which are emitted from industrial sources and from automobiles.

Substantial O_3 formations generally require a stable atmosphere with strong sunlight, thus high levels of O_3 are generally a concern in the summer. O_3 is the main ingredient of smog. O_3 enters the blood stream through the respiratory system and interferes with the transfer of oxygen, depriving sensitive tissues in the heart and brain of oxygen. O_3 also damages vegetation by inhibiting their growth.

2.2.2 Carbon Monoxide

CO, a colorless gas, interferes with the transfer of oxygen to the brain. CO is emitted almost exclusively from the incomplete combustion of fossil fuels. In cities, 85 to 95% of all CO emissions may come from motor vehicle exhaust. Prolonged exposure to high levels of CO can cause headaches, drowsiness, loss of equilibrium, or heart disease. CO levels are generally highest in the colder months of the year when inversion conditions (warmer air traps colder air near the ground) are more frequent. CO concentrations can vary greatly over relatively short distances. Relatively high concentrations of CO are typically found near congested intersections, along heavily used roadways carrying slow-moving traffic, and in areas where atmospheric dispersion is inhibited by urban “street canyon” conditions. Consequently, CO concentrations must be predicted on a localized, or microscale, basis.

2.2.3 Particulate Matter

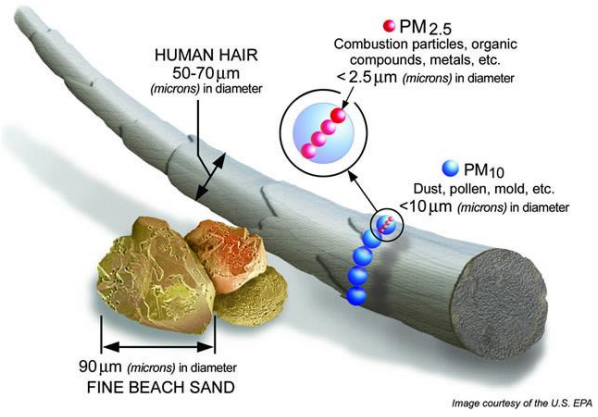
Particulate pollution is composed of solid particles or liquid droplets that are small enough to remain suspended in the air. In general, particulate pollution can include dust, soot, and smoke; these can be irritating but usually are not poisonous. Particulate pollution also can include bits of

solid or liquid substances that can be highly toxic. Of particular concern are those particles that are smaller than, or equal to, 10 microns (PM_{10}) and 2.5 microns ($PM_{2.5}$) in size.

PM_{10} refers to particulate matter less than 10 microns in diameter, about one/seventh the thickness of a human hair (Figure 1). Particulate matter pollution consists of 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 industry and gases emitted from motor vehicles undergo chemical reactions in the atmosphere. Major sources of PM_{10} include motor vehicles; 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. Suspended particulates produce haze and reduce visibility.

Data collected through numerous nationwide studies indicate most PM_{10} comes from fugitive dust, wind erosion, and/or agricultural and forestry sources. A small portion of particulate matter is the product of fuel combustion processes. In the case of $PM_{2.5}$, the combustion of fossil fuels accounts for a significant portion of this pollutant. The main health effect of airborne particulate matter is on the respiratory system. $PM_{2.5}$ refers to particulates that are 2.5 microns or less in diameter, roughly 1/28th the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (from 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 sulfur dioxide, nitrogen oxides, and VOCs. Like PM_{10}, $PM_{2.5}$ can penetrate the human respiratory system's natural defenses and damage the respiratory tract when inhaled. Whereas particles 2.5 to 10 microns in diameter tend to collect in the upper portion of the respiratory system, particles 2.5 microns or less are so tiny that they can penetrate deeper into the lungs and damage lung tissues.

Figure 1: Relative Particulate Matter Size



Source: USEPA 2024

2.2.4 Nitrogen Dioxide

Nitrogen Dioxide (NO_2), a brownish gas, irritates the lungs. It can cause breathing difficulties at high concentrations. Like O_3, NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as nitrogen oxides (NO_X) and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM_{10},

small liquid and solid particles that are less than 10 microns in diameter. At atmospheric concentrations, NO_2 is only potentially irritating. In high concentrations, the result is a brownish-red cast to the atmosphere and reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 parts per million (ppm).

2.2.5 Lead

Lead (Pb) is a stable element that persists and accumulates both in the environment and in animals. Its principal effects in humans are on the blood-forming, nervous, and renal systems. Lead levels in the urban environment from mobile sources have significantly decreased due to the federally mandated switch to lead-free gasoline.

2.2.6 Sulfur Dioxide

Sulfur Dioxide (SO_2) is a product of high-sulfur fuel combustion. The main sources of SO_2 are coal and oil used in power stations, industry and for domestic heating. Industrial chemical manufacturing is another source of SO_2. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

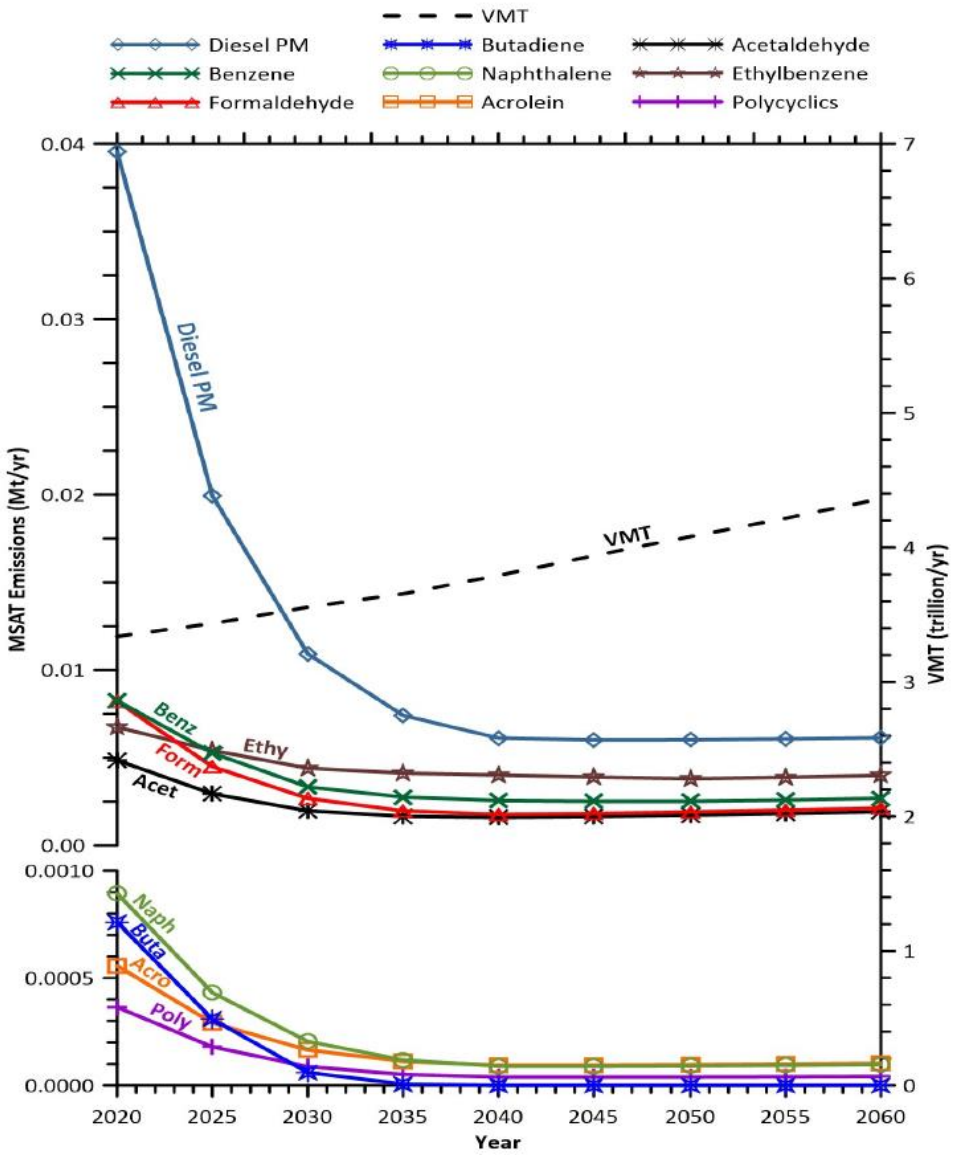
2.3 Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the CAAA, whereby Congress mandated that the USEPA regulate 188 air toxics, also known as hazardous air pollutants. The USEPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8,430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (USEPA 2021). In addition, the USEPA identified nine compounds with substantial contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 2011 National Air Toxics Assessment (USEPA 2011). These are:

- **1,3-butadiene** - characterized as carcinogenic to humans by inhalation.
- **Acetaldehyde** - classified as a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- **Acrolein** - major effects from chronic (long-term) inhalation exposure consist of general respiratory congestion and eye, nose, and throat irritation. The potential carcinogenicity of acrolein cannot be determined based on existing data.
- **Benzene** - characterized as a known human carcinogen.
- **Diesel particulate matter (DPM)** - likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases. Diesel exhaust also represents chronic respiratory effects, possibly the primary noncancer hazard from Mobile Source Air Toxics (MSATs). Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.
- **Ethylbenzene** - classified as a Group D, not classifiable as to human carcinogenicity. Chronic exposure to ethylbenzene by inhalation in humans has shown conflicting results regarding its effects on the blood.
- **Formaldehyde** - classified as a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- **Naphthalene** - classified naphthalene as a Group C, possible human carcinogen. Acute exposure of humans to naphthalene by inhalation, ingestion, and dermal contact is associated with hemolytic anemia, damage to the liver, and neurological damage. Cataracts have also been reported in workers acutely exposed to naphthalene by inhalation and ingestion.
- **Polycyclic Organic Matter (POM)** - defines a broad class of compounds that includes the polycyclic aromatic hydrocarbon compounds (PAHs), of which benzo[a]pyrene is a member. Cancer is the major concern from exposure to POM. USEPA has classified seven PAHs (benzo[a]pyrene, benz[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, and indeno[1,2,3-cd]pyrene) as Group B2, probable human carcinogens.

The 2007 USEPA rule requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to a FHWA analysis using USEPA's Motor Vehicle Emissions Simulator (MOVES3 version) model, even if vehicle activity (vehicle-miles traveled [VMT]) increases by 31% from 2020 to 2060 as forecast, a combined reduction of 76% in the total annual emissions for the priority MSAT is projected for the same period (Figure 2) (FHWA 2023).

Figure 2: FHWA Projected National MSAT Emission Trends 2020 - 2060



Source: FHWA 2023

3. METHODS

3.1 Criteria Pollutants

Criteria pollutant impacts from transportation projects are determined by completing an air quality conformity analysis. Air quality conformity is a process intended to ensure that federal funding goes to projects and activities that are consistent with the air quality goals set forth in the Clean Air Act. Transportation conformity applies to projects funded by FTA and located in areas that do not meet (nonattainment areas), or previously have not met (maintenance areas) the NAAQS for a transportation-related pollutant.

3.1.1 Project-Level Conformity Demonstration

As described in 40 CFR 93.114 and 40 CFR 93.115; in order to conform, a transit project must come from a currently conforming Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP), must not cause or contribute to any air quality hot spots, and must follow any other requirements in the SIP for air quality that pertain to the project.

In order to demonstrate that the Project meets project-level conformity requirements, first the attainment status of the San Antonio area will be reviewed based on USEPA publications. If the Project is located in an area designated by USEPA as nonattainment or maintenance for any pollutant (see Section 4.1), the current MTP and TIP will be reviewed to determine whether the Project was included in the associated Transportation Conformity Determination (TCD) for those documents. If the Project is located in an area designated as nonattainment or maintenance for CO or particulate matter, it will be determined if localized hot-spot modeling is required to compare pollutant concentrations in the Project area to the NAAQS.

3.2 Mobile Source Air Toxics

Research has been conducted to assess the overall health risk of air toxics; however, the result of consequences due to lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA. The methodologies for forecasting health impacts include emissions modeling; dispersion modeling, exposure modeling, and the final determination of health impacts (FHWA 2023).

NEPA requires that all “major federal actions significantly affecting the quality of the human environment” shall include a “detailed statement” on “the environmental impact of the proposed action.” In its interim MSAT guidance, FHWA states that either a qualitative or quantitative

MSAT analysis may be necessary to comply with this NEPA requirement. FHWA guidance is referenced because FTA does not have specific guidance regarding MSAT in NEPA documentation.

FHWA developed a tiered approach with three categories for analyzing MSAT in NEPA documents, depending on specific project circumstances:

- Tier 1 - No analysis for projects with no potential for meaningful MSAT effects;
- Tier 2 - Qualitative analysis for projects with low potential MSAT effects; or
- Tier 3 - Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

According to the Texas Department of Transportation (TxDOT) guidance, if the project is not adding capacity, it is exempt from a MSAT analysis (TxDOT 2019). Added capacity typically includes, but is not limited to, constructing new location roadways, adding main lanes, adding through lanes, adding auxiliary lanes longer than 1 mile, or otherwise having a meaningful impact on traffic volumes or vehicle mix. Since the Project is a Categorical Exclusion (CE) type and does not fall in the added capacity category, MSAT analysis is not required (FHWA 2023). Thus, the Project would fall within the Tier 1 category as a project with no potential for meaningful MSAT effects.

3.3 Temporary Impacts During Construction

The analysis of direct, short-term air quality impacts that would occur during construction of the Project consists of a qualitative discussion of typical sources of pollutant emissions from the anticipated types of construction activities.

4. EXISTING CONDITIONS

4.1 Attainment Status

Section 107 of the 1977 CAAA requires that the USEPA publish a list of all geographic areas in compliance with the NAAQS, as well as those that are not in attainment of the NAAQS. The designation of an area is made on a pollutant-by-pollutant basis. The USEPA's area designations are shown in Table 3.

Table 3: Attainment Classifications and Definitions

Classification	Definition
Attainment	Area is in compliance with the NAAQS
Unclassified	Area has insufficient data to make determination and is treated as being in attainment.
Maintenance	Area once classified as nonattainment but has since demonstrated attainment of the NAAQS.
Nonattainment	Area is not in compliance with the NAAQS

Source: USEPA 2025b

The Project is located in Bexar County, which is in attainment for all criteria pollutants except for ozone. Bexar County has been classified a nonattainment area for the 2015 8-hour ozone standard since September 24, 2018 (USEPA 2024b).

The CAA establishes ozone nonattainment area classifications ranked according to the severity of the area's air pollution problem. These classifications—marginal, moderate, serious, severe, and extreme—translate to varying requirements that areas must comply to meet the ozone standard. On June 20, 2024, the USEPA reclassified Bexar County from moderate to serious nonattainment, effective July 22, 2024. As a result of the reclassification, Bexar County is required to follow USEPA's guidance to meet the ozone standard of 70 parts per billion (ppb) by September 24, 2027 (TCEQ 2024).

4.2 Ambient Air Quality

TCEQ has over 200 monitoring stations, which monitor air quality throughout the state for compliance with federal air quality standards (TCEQ 2024b). The devices also measure air toxics that include hydrogen sulfide, VOC, metals, carbonyls, and semi-volatile organic compounds. TCEQ evaluates measurements of air toxics in ambient air collected from air monitoring sites. In June 2024, TCEQ's Toxicology, Risk Assessment, and Research Division reviewed ambient air sampling data collected in 2022 at four Automated Gas Chromatograph sites located at Floresville Hospital Boulevard, Karnes County, City of Garden Ridge, and Camp Bullis, as well as one canister site located at Old Highway 90 in San Antonio. All reported hourly

average and annual average concentrations of VOCs were below their respective short-term and long-term Air Monitoring Comparison Values and would not be expected to cause acute or chronic adverse health effects, vegetation effects, or odor concerns (TCEQ 2024c).

Table 4 shows the monitored ozone data in the San Antonio area over the past three years. As shown, the three-year average of 4th highest ozone levels (the level that is compared to the NAAQS) shows an exceedance of the NAAQS for ozone.

Table 4: 2021-2023 3-year Average of 4th Highest 8-Hour Ozone level (ppm)

Monitoring Site	2021	2022	2023	3- year Average
San Antonio NW (6655 Bluebird Lane)	0.078	0.075	0.076	0.076

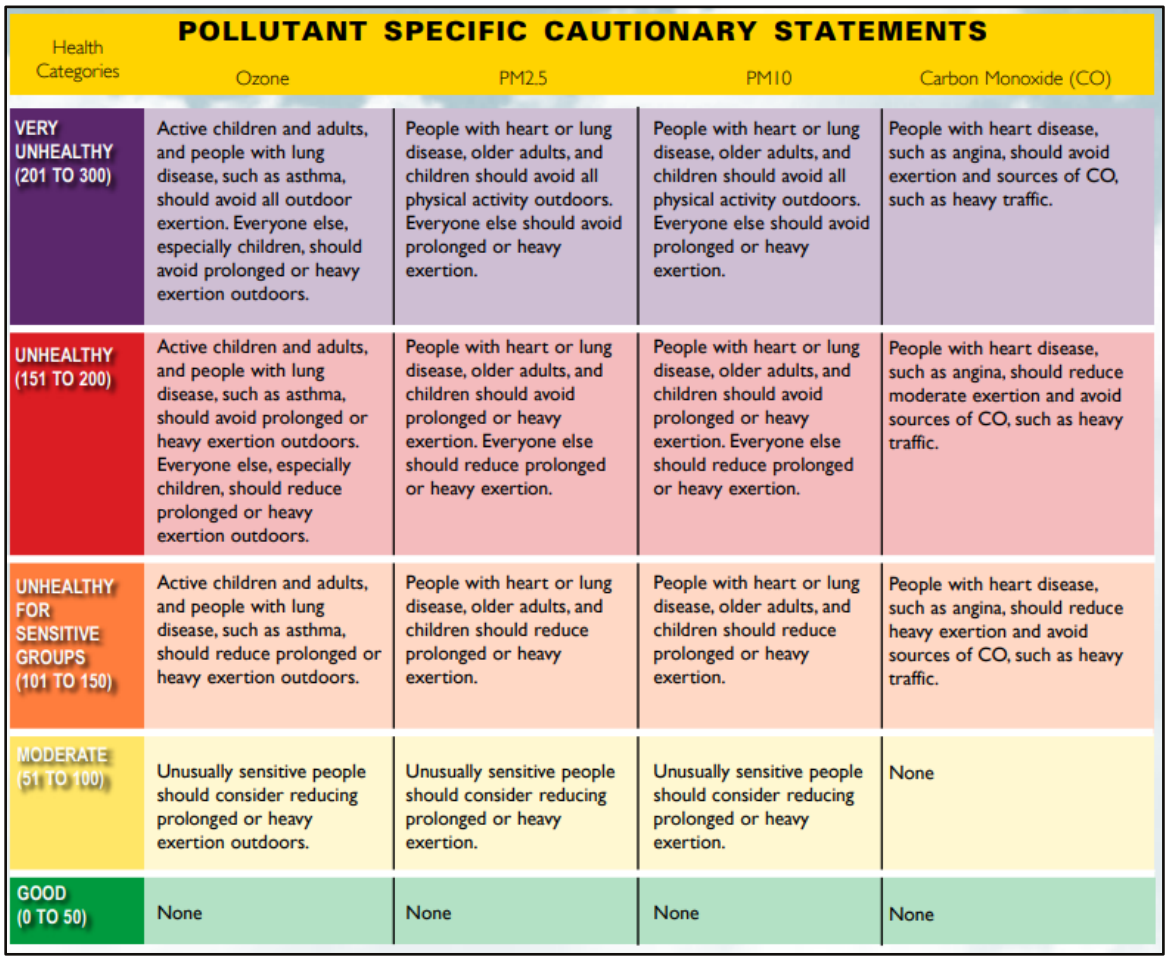
Source: USEPA 2024c

4.3 Air Quality Index

The Air Quality Index (AQI) is a method for communicating daily air quality and its relationship to health effects. The AQI is calculated for major air pollutants regulated by the CAA including ozone, particulate matter, SO_2, and CO by USEPA. The AQI illustrates how clean or unhealthy the air is and what health effects one may experience if exposed to the bad air for a few hours or days, depending on the severity. The higher the AQI value, the greater the level of air pollution and the greater the health concern. For example, an AQI value of 50 represents good air quality with little potential to affect public health, while an AQI value over 300 represents hazardous air quality.

An AQI value of 100 generally corresponds to the NAAQS for the pollutant, which is the level USEPA has set to protect public health. AQI values below 100 are generally thought of as satisfactory. Air quality is considered to be unhealthy for certain sensitive groups of people when AQI values are above 100, and then for everyone as AQI values get higher. Figure 3 demonstrates the cautionary statements associated with each AQI level for ozone, particulate matter, and CO.

Figure 3: Air Quality Index

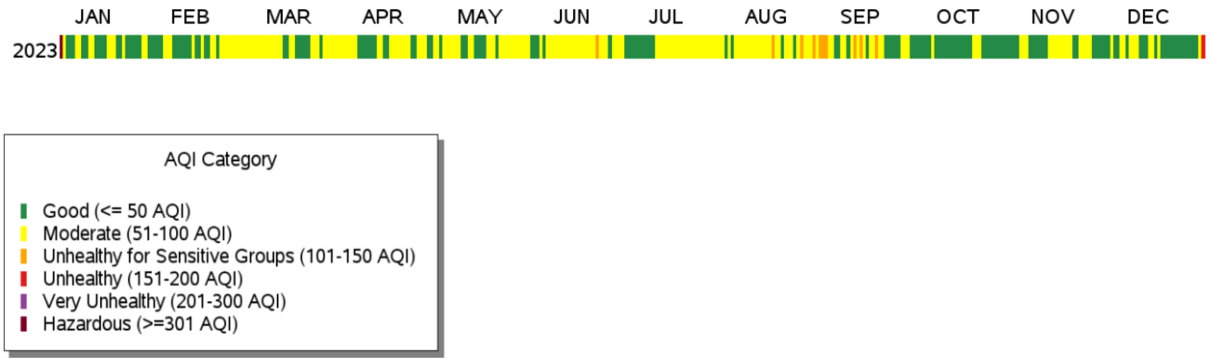


Health Categories	POLLUTANT SPECIFIC CAUTIONARY STATEMENTS			
	Ozone	PM2.5	PM10	Carbon Monoxide (CO)
VERY UNHEALTHY (201 TO 300)	Active children and adults, and people with lung disease, such as asthma, should avoid all outdoor exertion. Everyone else, especially children, should avoid prolonged or heavy exertion outdoors.	People with heart or lung disease, older adults, and children should avoid all physical activity outdoors. Everyone else should avoid prolonged or heavy exertion.	People with heart or lung disease, older adults, and children should avoid all physical activity outdoors. Everyone else should avoid prolonged or heavy exertion.	People with heart disease, such as angina, should avoid exertion and sources of CO, such as heavy traffic.
UNHEALTHY (151 TO 200)	Active children and adults, and people with lung disease, such as asthma, should avoid prolonged or heavy exertion outdoors. Everyone else, especially children, should reduce prolonged or heavy exertion outdoors.	People with heart or lung disease, older adults, and children should avoid prolonged or heavy exertion. Everyone else should reduce prolonged or heavy exertion.	People with heart or lung disease, older adults, and children should avoid prolonged or heavy exertion. Everyone else should reduce prolonged or heavy exertion.	People with heart disease, such as angina, should reduce moderate exertion and avoid sources of CO, such as heavy traffic.
UNHEALTHY FOR SENSITIVE GROUPS (101 TO 150)	Active children and adults, and people with lung disease, such as asthma, should reduce prolonged or heavy exertion outdoors.	People with heart or lung disease, older adults, and children should reduce prolonged or heavy exertion.	People with heart or lung disease, older adults, and children should reduce prolonged or heavy exertion.	People with heart disease, such as angina, should reduce heavy exertion and avoid sources of CO, such as heavy traffic.
MODERATE (51 TO 100)	Unusually sensitive people should consider reducing prolonged or heavy exertion outdoors.	Unusually sensitive people should consider reducing prolonged or heavy exertion.	Unusually sensitive people should consider reducing prolonged or heavy exertion.	None
GOOD (0 TO 50)	None	None	None	None

Source: USEPA 2024d

San Antonio's annual air quality averages an AQI of "good". Spring and summer tend to be more polluted than the fall and winter due to higher temperatures and increased sunlight. In 2023, August and September were San Antonio's most polluted months with max AQIs of 126 and 136, respectively (USEPA 2024e). Figure 4 shows the daily AQI for San Antonio in 2023, with most of the days designated "unhealthy for sensitive groups" concentrated in August and September.

Figure 4: Daily AQI Values, 2023, San Antonio-New Braunfels, TX

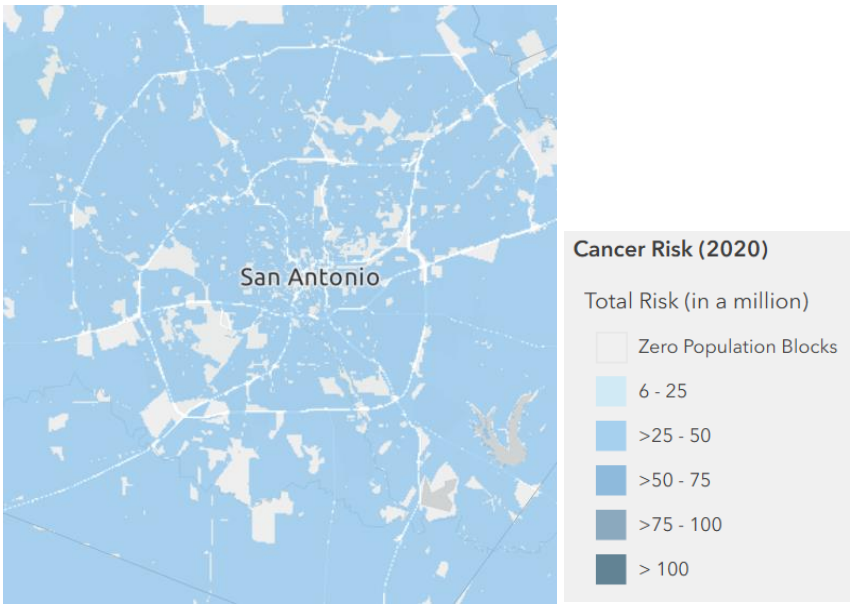


Source: USEPA 2024e

4.4 Mobile Source Air Toxics

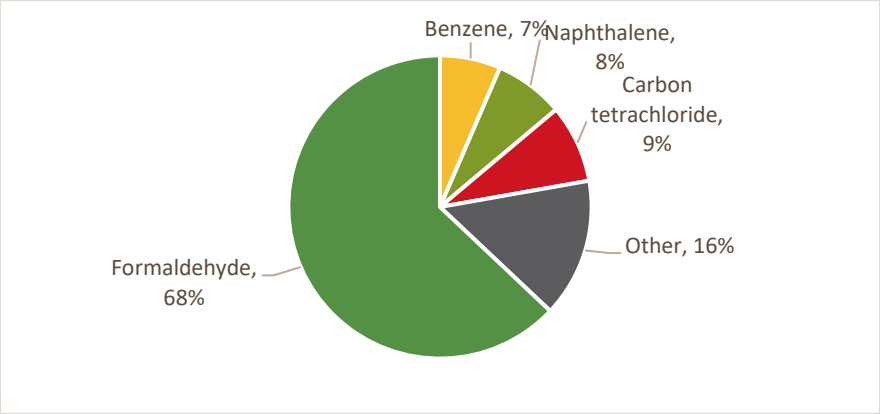
USEPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant and is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. Figure 5 and Figure 6 portray the latest air toxic emission conditions in San Antonio reported by USEPA's 2022 Air Toxics Screening Assessment. The cancer risk throughout the San Antonio region is reported as within the 25-50 total risk in a million range, with the majority of the risk due to formaldehyde.

Figure 5: AirToxScreen Mapping Tool



Source: USEPA 2024f

Figure 6: San Antonio Cancer Risk by Air Toxics



Source: USEPA 2024f

5. POTENTIAL IMPACTS

5.1 Criteria Pollutants

The Project is located in Bexar County, which is in attainment for all criteria pollutants except for ozone. Potential criteria pollutant impacts were evaluated by completing a conformity analysis to demonstrate that the Project would not cause or contribute to an exceedance of the NAAQS.

To demonstrate air quality conformity, the Project must be included in a conforming MTP and TIP. AAMPO adopted the latest MTP (titled Mobility 2050) in August 2023 (AAMPO 2024a). The Fiscal Year 2023-2026 TIP was adopted by AAMPO in June 2022 and is amended quarterly (AAMPO 2024b). The Project is included in both the MTP and TIP as project number 10715, as shown in Figure 7.

Figure 7: ART Project Listed in AAMPO Metropolitan Transportation Plan

San Antonio TxDOT District — YOE=Year of Expenditure

General Project Information		Funding Information (YOE)	
Project Sponsor:	VIA Metropolitan Transit	**Federal Funding Category**	FTA - None
MPO Project Number:	10715	**Federal (FTA) Funds:**	$0
Apportionment Year:	2024	**State Funds from TxDOT:**	$0
Project Phase:	C	**Other Funds:**	$0
Project Description:	Transit: Advance Rapid Transit (E-W Corridor	**Fiscal Year Cost:**	$0
		Total Project Cost:	$0
	See Appendix for Project Detail	**TDC Requested:**	$0
		TDC Awarded:	$0
		Date TDC Awarded:	N/A
Section 5309 ID #:	N/A		

Source: AAMPO 2024a

AAMPO developed a 2024 TCD with an initial public comment period ending May 31, 2024. The TCD is currently being updated to meet requirements for USEPA's reclassification of Bexar County from moderate to serious ozone nonattainment, effective July 22, 2024. AAMPO will make a revised determination of conformity as soon as possible (AAMPO 2024c).

The Project location is in attainment for CO and particulate matter; therefore, it does not require a detailed project-level analysis to demonstrate that there would be no exceedance of the NAAQS. There is no project-level modeling analysis required for projects in ozone nonattainment areas.

The Project meets the requirements of the transportation conformity rule, and it conforms to the state's plans to attain the NAAQS. Emissions estimates were included as part of the Project's FTA Small Starts grant application for 20 years after a base year of 2019, as summarized in Table 5. Based on results from the required grant application tool, emissions of CO and PM2.5 are expected to decrease as a result of shifting passenger vehicle traffic to transit use. Emissions of NO_X and VOC are expected to increase because the exhaust emissions from additional Compressed Natural Gas (CNG) buses was greater than the passenger vehicle emissions savings.

Table 5: Anticipated Criteria Pollutant Reduction in 2039

Pollutant	Change in Emissions (kg/year)
CO	-30,728
NO_X	+1,903
VOC	+100
$PM_{2.5}$	-53

Source: VIA 2024

5.2 Mobile Source Air Toxics

According to FHWA's tiered approach to determine the level of analysis for MSAT in NEPA documents, the Project has no potential for meaningful MSAT effects, and no analysis was performed. Moreover, USEPA regulations for vehicle engines and fuels would cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with USEPA's MOVES3 model forecasts a combined reduction of over 76% in the total annual emissions rate for the priority MSAT from 2020 to 2060 while vehicle-miles of travel are projected to increase by 31% (FHWA 2023). This

would both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this Project

5.3 Temporary Impacts During Construction

During the construction phase of this Project, temporary increases in criteria pollutant, and MSAT may occur from construction activities. The primary construction-related emissions of criteria pollutants are PM_{10} emissions in the form of fugitive dust from site preparation. Exhaust emissions from material delivery trucks, construction equipment, and workers' private vehicles include criteria pollutants, and MSAT. The primary construction-related emissions of MSAT are diesel particulate matter from diesel powered construction equipment and vehicles. Elevated air pollutant is most likely to occur immediately adjacent to the construction activities, staging areas, and material hauling routes.

The potential impacts of particulate matter emissions during construction activities will be minimized by using fugitive dust control measures contained in standard specifications, as appropriate. TERP provides financial incentives to reduce emissions from vehicles and equipment (TCEQ 2024d). TxDOT encourages construction contractors to use this and other local and federal incentive programs to the fullest extent possible to minimize diesel emissions.

However, considering the temporary and transient nature of construction-related emissions, the use of fugitive dust control measures, the encouragement of the use of TERP, and compliance with applicable regulatory requirements; it is not anticipated that emissions from construction of this Project will have any significant impact on air quality in the area.

6. MITIGATION MEASURES

There is no mitigation required for air quality because the Project meets conformity requirements, demonstrates that there would be no meaningful MSAT effects. However, there are strategies that can be used to minimize emissions from vehicle operations and their impacts to the surrounding community.

TCEQ encourages the community to follow the following practices to help prevent ozone formation on any day, but especially during Ozone Action Days, to accelerate degrading the ozone nonattainment classification in Bexar County (TCEQ 2024e):

- Limit driving and idling; instead, carpool, combine errands, use public transportation, bike, or walk
- Refuel your vehicle in the late afternoon or evening and do not top off the tank

- Keep your vehicle maintained, including proper tire pressure
- Maintain your yard equipment, including changing the oil and replacing air filters regularly. Also consider using tools without gasoline motors. Hand tools such as shears, edgers, and push mowers are lightweight, quiet, and easy to use, and do not generate emissions
- Do not burn yard waste
- Use paint and cleaning products with less or zero VOCs

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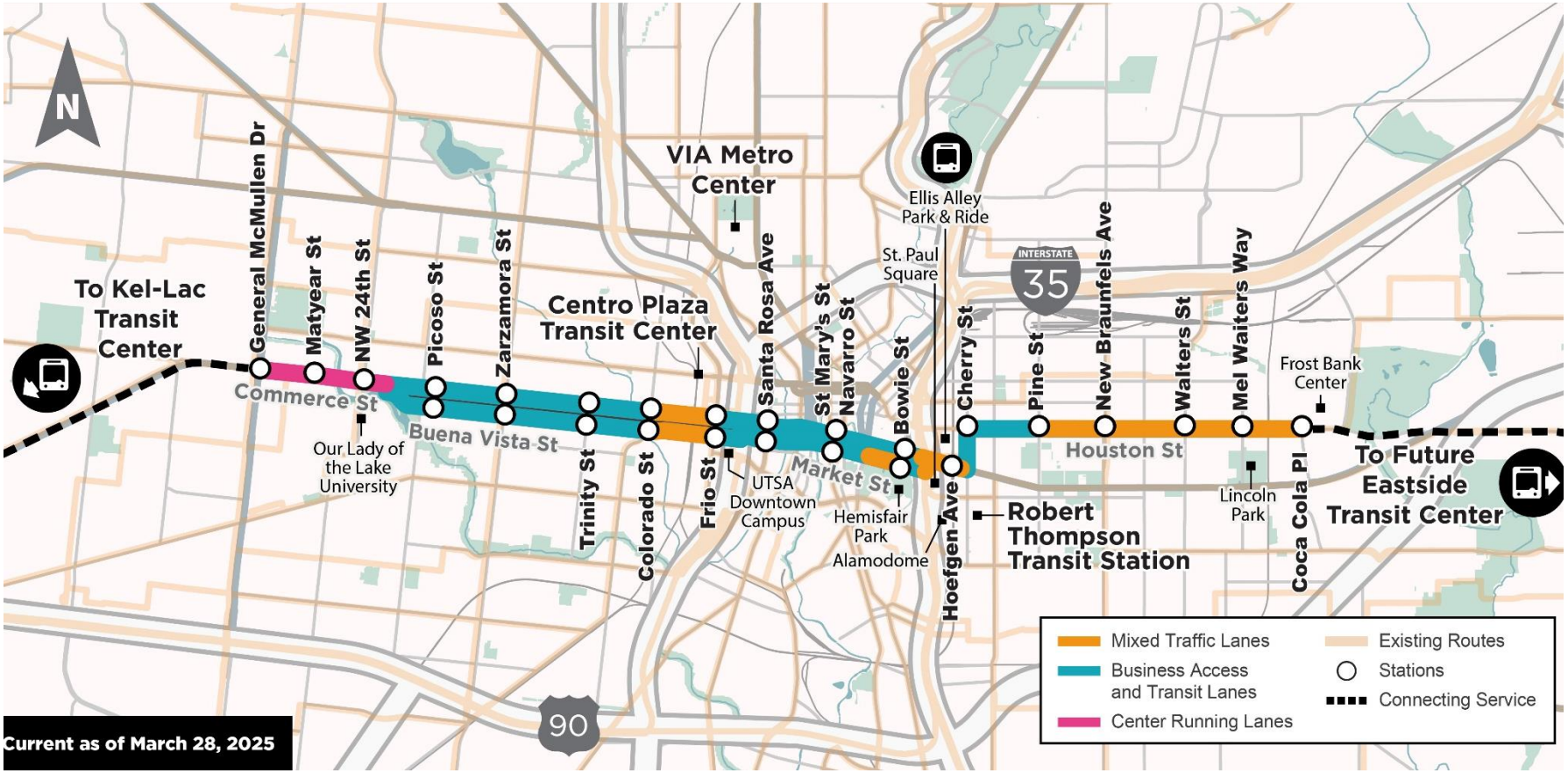
8. ACRONYMS

Acronym/Abbreviation	Definition
AAMPO	Alamo Area Metropolitan Planning Organization
AQI	Air Quality Index
ART	Advanced Rapid Transit
BAT	Business Access and Transit
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CE	Categorical Exclusion
CEQ	Council on environmental quality
CFR	Code of Federal Regulations
CH_4	methane
CNG	Compressed Natural Gas
CO	Carbon monoxide
DPM	Diesel particulate matter
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
MMT	Million metric tons
MSAT	Mobile Source Air Toxics
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
N_2O	Nitrous oxide
NO_2	Nitrogen dioxide
NO_X	Nitrogen oxides
O_3	Ozone
Pb	Lead
PAH	Polycyclic aromatic hydrocarbon

Acronym/Abbreviation	Definition
$PM_{2.5}$	Particulate matter less than or equal to 2.5 microns in diameter
PM_{10}	Particulate matter less than or equal to 10 microns in diameter
POM	Polycyclic organic matter
ppb	Parts per billion
ppm	Parts per million
ROG	Reactive organic gases
SO_2	Sulfur dioxide
SIP	State Implementation Plan
TCD	Transportation conformity determination
TCEQ	Texas Commission on Environmental Quality
TDM	Travel demand management
TERP	Texas Emissions Reduction Plan
TIP	Transportation Improvement Program
TSM	Traffic system management
TxDOT	Texas Department of Transportation
USEPA	United States Environmental Protection Agency
VIA	VIA Metropolitan Transit
VMT	Vehicle miles traveled
VOC	Volatile organic compound



APPENDIX A: Project Map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NW 24th St
Picoso St
Zarzamora St
Centro Plaza Transit Center
VIA Metro Center
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St Mary's St
Navarro St
Bowie St
Ellis Alley Park & Ride
St. Paul Square
Cherry St
INTERSTATE 35
Pine St
New Braunfels Ave
Walters St
Mel Waiters Way
Frost Bank Center
Commerce St
Buena Vista St
Our Lady of the Lake University
Trinity St
Colorado St
Frio St
UTSA Downtown Campus
Market St
Hemisfair Park
Alamodome
Hoefgen Ave
Robert Thompson Transit Station
Houston St
Lincoln Park
Coca Cola Pl
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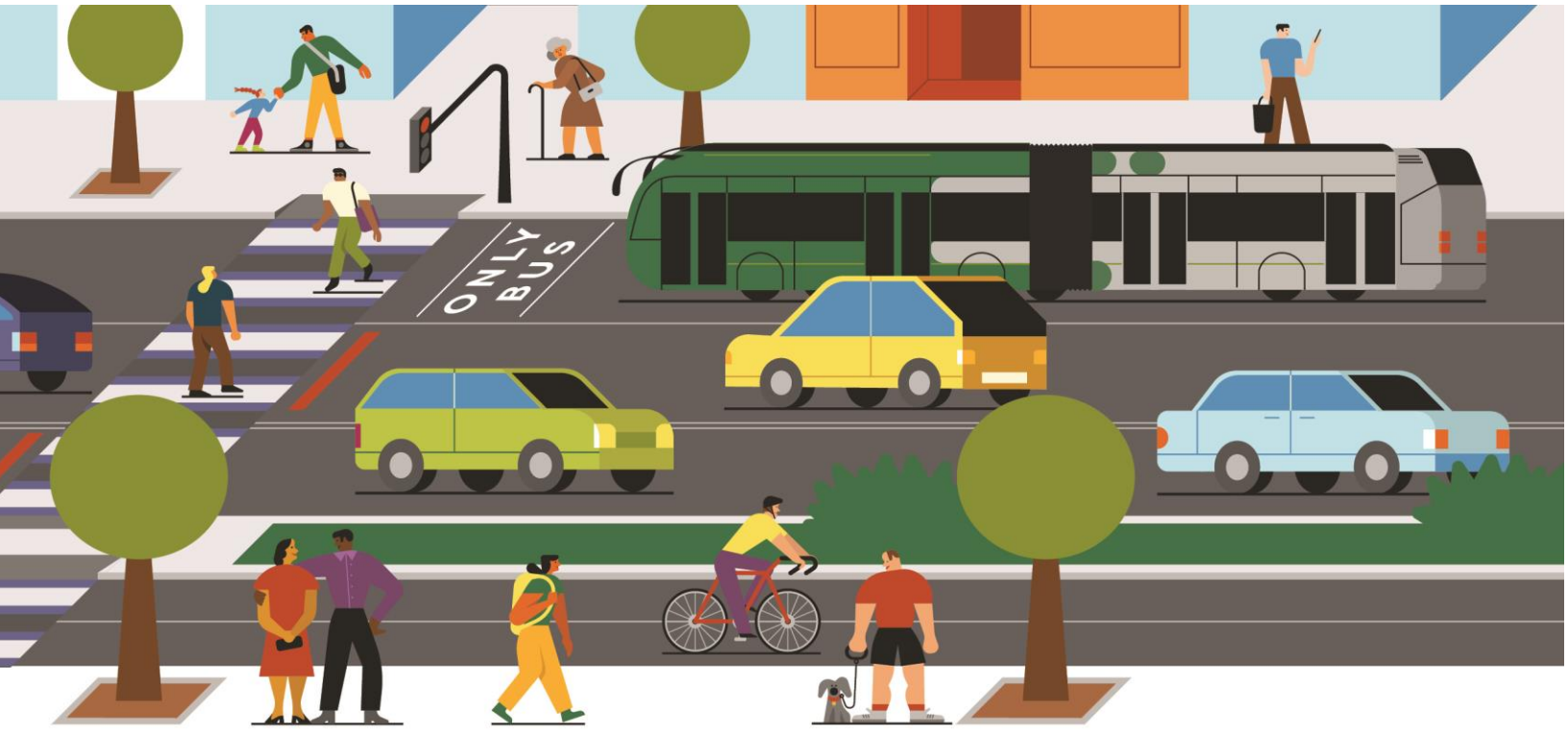
Current as of March 28, 2025



QUESTIONS?

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