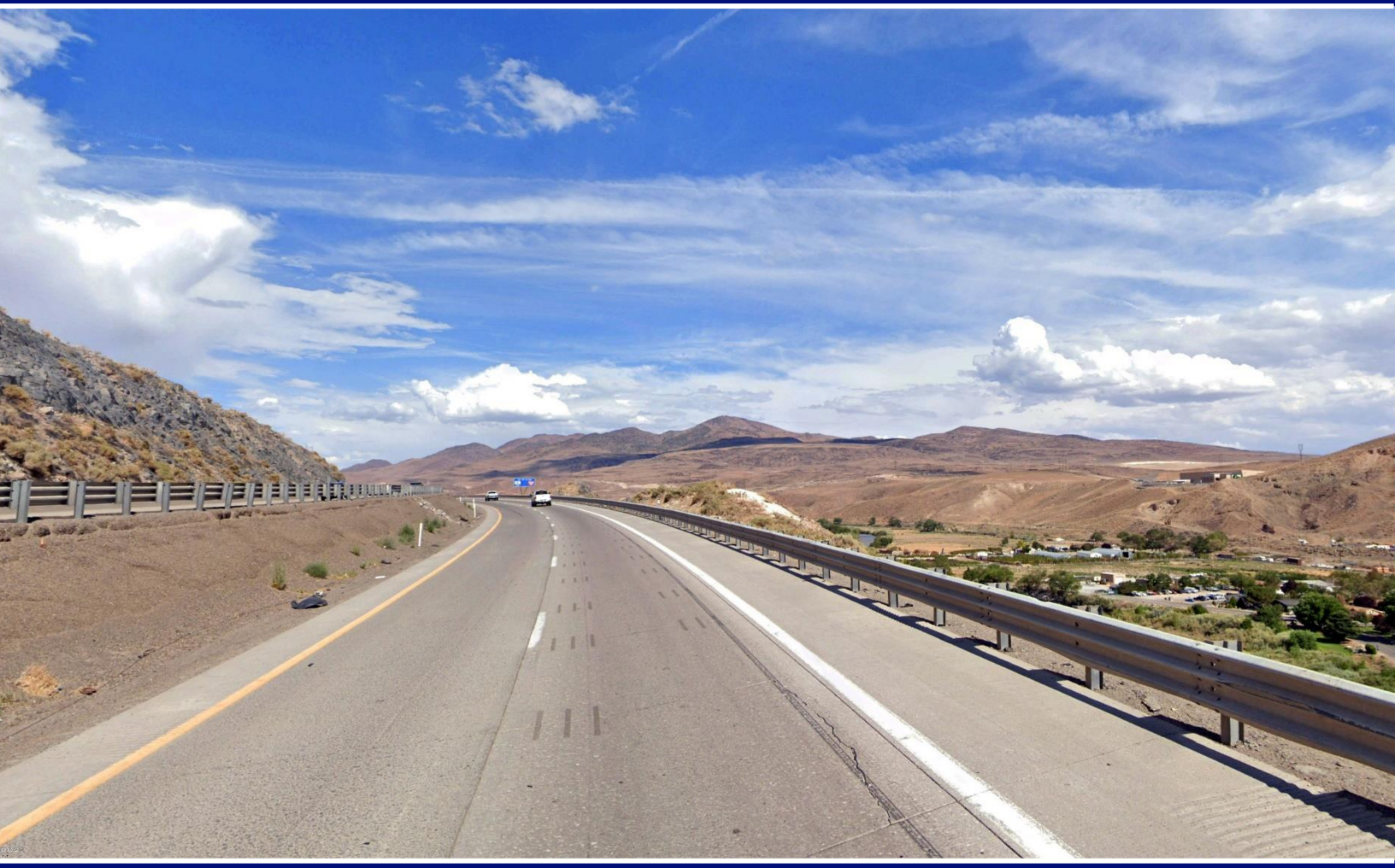

Nevada Department of Transportation

I-80 East Widening NEPA

Air Quality Technical Report

April 2025

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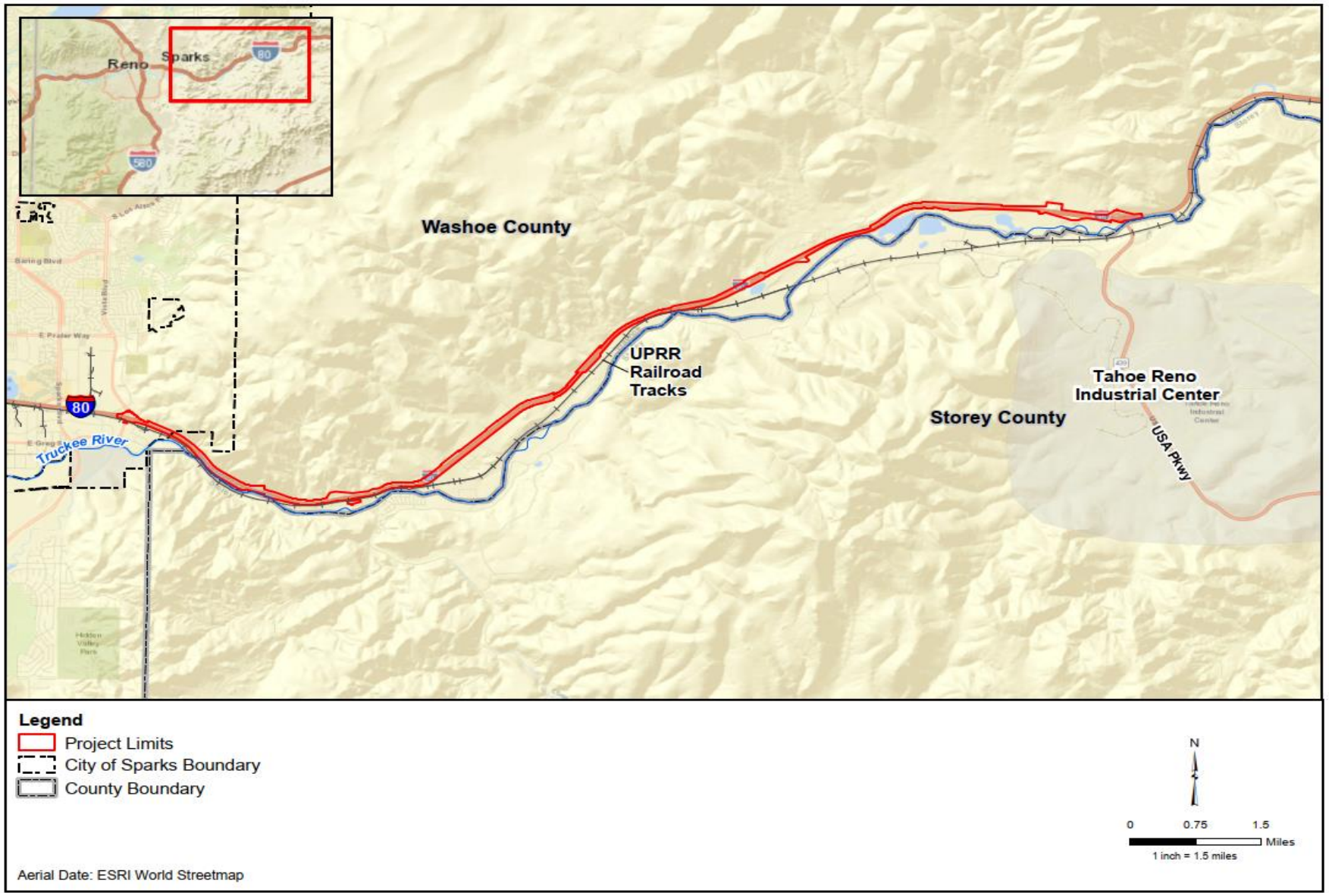
Introduction and Purpose

Project Overview

The Nevada Department of Transportation (NDOT) and the Federal Highway Administration (FHWA) are preparing an Environmental Assessment to evaluate alternatives to improve safety and reduce travel delay on Interstate 80 (I-80) between Vista Boulevard and USA Parkway (State Route 439). The project is within the City of Sparks and unincorporated Washoe County, Nevada (Figure 1). This 13-mile segment of I-80 between Vista Boulevard and USA Parkway is in a canyon adjacent to the Truckee River and Union Pacific Railroad tracks. The growth of the Tahoe-Reno Industrial Center (TRIC), the largest industrial park in the United States, along with the increase in single-occupancy vehicles from commuters traveling to and from the TRIC, has led to increased traffic along this segment of I-80.

The purpose of this report is to consider how this project would affect air quality of the study area and the region. It describes the relevant existing conditions within the area; potential impacts of the project on air quality; and potential measures to avoid, minimize, or mitigate adverse impacts of the project.

Figure 1. Project Location



Purpose and Need for the Project

The purpose of the project is to reduce travel delay, improve safety, and address freeway design deficiencies along I-80 between Vista Boulevard and USA Parkway.

The project is needed to reduce travel delays, accommodate traffic associated with past and planned growth in the region, and provide enhanced safety such as wider shoulders, truck parking, and wrong-way driver detection.

The need to improve this segment of I-80 is demonstrated by the following:

- Projected future travel delays caused by high traffic volumes from the proximity of the TRIC
- Crash rates are higher than in other urban and rural interstates in Nevada
- Importance of I-80 in the regional transportation system

Proposed Action and Alternatives

Build Alternative

The proposed action would construct an additional 12-foot travel lane in each direction, 12-foot outside shoulders, and 10-foot inside shoulders along I-80 between Vista Boulevard and USA Parkway. The proposed action would also reconfigure interchanges to increase the length of acceleration and deceleration lanes, as well as construct additional truck parking.

No Build Alternative

The No Build Alternative would make no changes to I-80, and only routine maintenance would continue. This would eliminate the cost of improving I-80 but would not address the project's purpose and need. Other planned transportation improvement projects in the area could still move forward.

Regulatory Background

Clean Air Act and National Ambient Air Quality Standards

Federal air quality policies are regulated through the federal Clean Air Act (CAA). The U.S. Congress adopted the CAA in 1970 and its amendments in 1977 and 1990. Pursuant to the CAA, the U.S. Environmental Protection Agency (EPA) has established national air quality standards to protect public health and welfare with an adequate margin of safety. These federal standards, known as the National Ambient Air Quality Standards (NAAQS), were developed for criteria pollutants, including ozone, nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter equal to or less than 10 micrometers in aerodynamic diameter (PM_{10}), particulate matter equal to or less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$), sulfur dioxide (SO_2), and lead.

The NAAQS represent safe levels of each pollutant to avoid specific adverse effects on human health and the environment. Two types of NAAQS have been established: primary and secondary standards. Primary standards set limits to protect public health, especially that of sensitive populations such as asthmatics, children, and seniors. Secondary standards set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, and buildings. The NAAQS are summarized in Table 1.

Table 1. National Ambient Air Quality Standards

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		primary and secondary	Rolling 3-month average	0.15 µg/m^3 [1]	Not to be exceeded
Nitrogen Dioxide (NO2)		primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	1 year	53 ppb [2]	Annual Mean
Ozone (O3)		primary and secondary	8 hours	0.070 ppm [3]	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	$PM_{2.5}$	primary	1 year	9.0 µg/m^3	annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m^3	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24 hours	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO2)		primary	1 hour	75 ppb [4]	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	1 year	10 ppb	annual mean, averaged over 3 years

Source: EPA 2024a.

[1] In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m3 as a calendar quarter average) also remain in effect.

[2] The level of the annual NO2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

[3] Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O3 standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) O3 standards.

[4] The previous SO2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2)any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO2 standards or is not meeting the requirements of a SIP call under the previous SO2 standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

µg/m^3 = microgram(s) per cubic meter

ppb = parts per billion (by volume)

ppm = parts per million (by volume)

EPA classifies regions with respect to each criteria pollutant, depending on whether the area's monitored air quality meets the NAAQS. A region that meets the air quality standard for a given pollutant is designated as in "attainment" for that pollutant. If the region does not meet the air quality standard, it is designated as in "nonattainment" for that pollutant. An area that was designated as nonattainment and has been redesignated to attainment and has a federal-approved maintenance plan is in "maintenance" for that pollutant. In some cases, EPA is not able to determine an area's status after evaluating the available information and those areas are designated "unclassifiable."

The 1977 CAA Amendments require each state to develop and maintain a SIP for each criteria pollutant that violates the applicable NAAQS. The SIP serves as a tool to avoid and minimize emissions of pollutants that would exceed ambient threshold criteria and to achieve compliance with the NAAQS. In 1990, the CAA was amended to strengthen regulation of both stationary and mobile emission sources for criteria pollutants.

Transportation Conformity

The transportation conformity requirement is based on CAA Section 176(c), which prohibits the U.S. Department of Transportation and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to the SIP for attaining the NAAQS. Conformity requirements apply only in nonattainment and maintenance areas of the NAAQS. Demonstration of conformity with the CAA takes place on two levels for transportation projects: (1) the regional or planning and programming level and (2) the project level.

Regional Conformity: Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for CO, NO_2, ozone, PM_{10}, and $PM_{2.5}$. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and federal Transportation Improvement Programs (TIPs) that include the transportation projects planned for a region over a period of at least 20 years for the RTP and 4 years for the TIP. RTP and TIP conformity use travel demand and emission models to determine whether implementing those projects would conform to emission budgets or other tests at various analysis years showing that the CAA and SIP requirements are met. If the design concept, scope, and "open-to-traffic" schedule of a proposed transportation project are consistent with the descriptions in the conforming RTP and TIP, then the proposed project meets regional conformity requirements.

The Washoe County Regional Transportation Commission (RTC) is the federally designated Metropolitan Planning Organization responsible for transportation planning for Washoe County where the project is located.

Project-Level Conformity: At the project level, a project must not cause a new local violation of the NAAQS or exacerbate an existing violation of the NAAQS for CO, PM_{10}, and $PM_{2.5}$. Conformity requires "hot spot" analysis at the project level if an area is in nonattainment or maintenance for CO or PM_{10} and $PM_{2.5}$. The conformity demonstration is not required for construction-related activities that occur only during the construction phase and the last 5 years or less at any individual site (40 CFR 93.123(c)(5)).

Because part of the project corridor is in an area in maintenance for CO and PM_{10}, it is subject to the transportation conformity requirements.

Mobile Source Air Toxics

In addition to the criteria pollutants, EPA also regulates air toxic emissions. Controlling air toxic emissions became a national priority with the CAA Amendments of 1990. Congress mandated that EPA regulate 188 air toxics, also known as hazardous air pollutants. EPA has assessed this expansive list in its 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 EPA's Integrated Risk Information System (IRIS) (EPA 2018). In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from EPA's *2011 National Air Toxics Assessment* (EPA 2011). These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these nine compounds the priority mobile source air toxics (MSATs), the list is subject to change and may be adjusted in future EPA rules. Unlike the criteria pollutants, MSATs do not have ambient air quality standards.

State and Local

The Northern Nevada Public Health Air Quality Management Division (AQMD) is the air pollution control agency for Washoe County, Nevada. AQMD administers the permitting of stationary sources, and oversees regulatory compliance, air quality monitoring, and the air pollution control program for Washoe County. The agency is responsible for preparing a SIP for nonattainment and maintenance areas of Washoe County. The SIP outlines goals and strategies that would lead the area into compliance with NAAQS.

Any dust generating activity in Washoe County, regardless of size of disturbance, will be subject to the District Board of Health Regulations Governing Air Quality Management Division, 040.030 Dust Control. Dust control permits will be acquired for any segment or phase of the project that is greater than one (1) acre.

Existing Conditions

Topography and Climate

Nevada has wide climatic diversity, ranging from scorching lowland desert in the south to cool mountain forests in the north. Its varied and rugged topography, mountain ranges, and narrow valleys range in elevation from about 1,500 feet to more than 13,000 feet above sea level.

Washoe County is in the northwest portion of Nevada and is bounded by the states of California and Oregon, and the counties of Humboldt, Pershing, Storey, Churchill, Lyon, and Carson City. The project is in the City of Sparks in the Truckee Meadows Valley and in unincorporated southern Washoe County. The area is surrounded by mountain ranges, which can lead to wintertime temperature inversions, when a layer of cold air is trapped in the valley and warmer air above the inversion acts as a lid, containing and concentrating air pollutants. Much of Washoe County's urban population lives in the cities of Reno and Sparks in the Truckee Meadows valley (AQMD 2014).

Existing Air Quality Conditions

This section describes the existing air quality conditions and attainment status in the project vicinity and the emission trends of air pollutants in the area.

Criteria Pollutants

Transportation projects have the potential to emit criteria air pollutants. Their effects on humans are discussed in the following subsections, except for lead. Lead is not expected to be emitted by the project and is not discussed in this section.

Ozone

Ozone is a colorless gas that is not directly emitted as a pollutant but is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_x) react in the presence of sunlight. Low wind speeds or stagnant air mixed with warm temperatures typically provide optimum conditions for forming ozone. Because ozone does not form quickly, ozone concentrations often peak downwind of the emission source. As a result, ozone is of regional concern because it impacts a larger area. When inhaled, ozone irritates and damages the respiratory system.

Particulate Matter

Particulate matter (PM), defined as particles suspended in a gas, often is a mixture of substances, including metals, nitrates, organic compounds, and complex mixtures (for example, diesel exhaust and soil). PM can be traced back to both natural and artificial sources. The most common sources of natural PM are dust and fires, while the most common artificial source is the combustion of fossil fuels.

PM irritates the human respiratory system when inhaled. The size of the particles determines the extent of health risks from PM exposure. The smaller the particles, the deeper they can be deposited in the lungs. PM often is grouped into two size categories: PM_{10} and $PM_{2.5}$. $PM_{2.5}$ is particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers or less. PM_{10} is particulate matter with aerodynamic diameter equal to or less than 10 micrometers. A micrometer is one-millionth of a meter. A human hair is about 100 micrometer.

Carbon Monoxide

CO is a colorless, odorless, and tasteless gas directly emitted as a byproduct of combustion. CO concentrations tend to be localized to the source, and the highest concentrations are associated with cold, stagnant weather conditions. CO is readily absorbed through the lungs into the blood, where it reduces the ability of the blood to carry oxygen.

Nitrogen Oxides

NO_x is a generic name for the group of highly reactive gases that contain nitrogen and oxygen in varying amounts. Many types of NO_x molecules are colorless and odorless. However, when combined with particles in the air, NO_2 – a common pollutant – often can be seen as a reddish-brown layer over many urban areas.

NO_x forms when fuel is burned at high temperatures. Typical artificial sources of NO_x include motor vehicles; fossil-fueled power plants; and other industrial, commercial, and residential sources that burn fuels. NO_x can harm humans by affecting the respiratory system. Small particles can penetrate the sensitive parts of the lungs, cause or worsen respiratory disease, and aggravate existing heart conditions. As discussed previously, ozone is formed when NO_x and hydrocarbons react with sunlight.

Sulfur Oxides

Sulfur oxides (SO_x) form when sulfur-containing materials are processed or burned. SO_x sources include industrial facilities (for example, petroleum refineries and cement manufacturing and metal-processing plants), locomotives, large ships, and some non-road diesel equipment.

A wide variety of health and environmental impacts is associated with SO_x because of the way it reacts with other substances in the air. Many people are particularly sensitive to SO_x emissions, including children, the elderly, people with asthma, and people with heart or lung disease. When inhaled, the SO_x particles gather in the lungs and contribute to increased respiratory symptoms and disease, difficulty breathing, and premature death.

Volatile Organic Compounds

VOCs are a group of chemicals that react with NO_x and hydrocarbons in the presence of heat and sunlight to form ozone. Examples of VOCs include gasoline fumes and oil-based paints. This group of chemicals does not include methane or other compounds determined by EPA to have negligible photochemical reactivity.

Attainment Status

The majority of the project is in unincorporated Washoe County in Hydrographic Area (HA) 83. A small portion of the proposed project corridor (approximately 1.5 miles) is located in the City of Sparks in Truckee Meadows valley within HA 87. HA 87 is classified as in maintenance of the federal primary PM_{10} and CO standards. It is attainment/unclassifiable for other primary NAAQS (EPA 2024b). The project is subject to transportation conformity requirements and needs to demonstrate project-level conformity for PM_{10} and CO.

EPA approved AQMD's First PM_{10} 10-year Maintenance Plan in 2015 and deemed effective in 2016 (80 FR 76232). The Second 10-Year PM_{10} Maintenance Plan and the plan was adopted by the District Board of Health in June 2024 (AQMD 2024). The most recent SIP for CO is the second maintenance plan approved by EPA in 2016 for the Truckee Meadows area that addressed maintenance of the NAAQS through 2030 (81 FR 59490).

Air Monitoring Data

AQMD implements an ambient air monitoring program in Washoe County. Air monitoring data of CO, NO_2, PM_{10}, $PM_{2.5}$, and ozone from 2019 to 2023 near the project site were collected to provide background concentration information of the pollutants in the area. The closest monitoring station is located in Sparks at 750 4th St (Station ID: 320311005), approximately 2.5 miles northwest of the project site. This station monitors CO, $PM_{2.5}$, PM_{10}, and ozone. Concentrations of NO_2 were obtained from the next closest monitoring station in Reno (Reno4) at 1260-A Stewart St (Station ID: 320310031), approximately 5 miles west of the project site.

Table 2 summarizes the monitored pollutant concentrations and exceedances each year from 2019 to 2023. The 24-hour average PM_{10} concentrations exceeded NAAQS in 2 of the 5 years. The 8-hour ozone concentrations exceeded NAAQS in 2020 and 2021. The 98th percentile 24-hour average $PM_{2.5}$ concentrations exceeded the NAAQS in 2020 to 2022 as a result of the wildfire events (AQMD 2023). NAAQS were not exceeded for other pollutants and averaging time periods. Ozone concentrations in Washoe County have not violated the current NAAQS, however, the concentrations are close to the current NAAQS levels.

Table 2. Monitored Pollutant Concentrations at Air Quality Monitoring Stations Near the Project

Pollutant	Parameter	2019	2020	2021	2022	2023
Ozone Sparks Station	4th Maximum 8-Hour Concentration (ppm)	0.063	0.072	0.080	0.063	0.066
	Days > 0.070 ppm (NAAQS)	0	5	13	0	0
CO Sparks Station	Maximum 1-Hour Concentration (ppm)	2.1	2.5	2.2	2.7	2.4
	Days > 35 ppm (NAAQS)	0	0	0	0	0
	Maximum 8-Hour Concentration (ppm)	1.6	2.1	2.1	2.3	1.6
	Days > 9.0 ppm (NAAQS)	0	0	0	0	0
PM_{10} Sparks Station	2nd Maximum 24-Hour Concentration (µg/m^3)	67	177	190	144	63
	Days > 150 µg/m3 (NAAQS)	0	3	5	1	0
$PM_{2.5}$ Sparks Station	98th Percentile 24-Hour Concentration (µg/m^3)	16	71	94	58	18
	> 35 µg/m^3 (NAAQS)	No	Yes	Yes	Yes	No
	Annual Arithmetic Mean Concentration (µg/m3)	6.0	11.1	11.9	10	7.2
	> 12 µg/m^3 (NAAQS)[a]	No	No	No	No	No
NO_2 Reno4 Station	98th percentile 1-hour concentration (ppm)	0.046	0.046	0.047	0.047	0.049
	Annual Arithmetic Mean (ppm)	0.011	0.012	0.012	0.012	0.012

Source: EPA 2024c.

[a] Applicable $PM_{2.5}$ NAAQS is 12 µg/m^3 for the monitoring period listed in the table. The new standard of 9 µg/m^3 became effective on May 6, 2024.

Mobile Source Air Toxics

Transportation projects may affect the regional or local air toxics concentrations because of the MSAT emissions from vehicles. Using EPA's MOVES3 model, as shown on Figure 2, FHWA estimates that even if vehicle miles traveled (VMT) increases nationwide by 31 percent from 2020 to 2060 as forecast, a combined reduction of 76 percent in the total annual emissions for the priority MSATs is projected for the same period.

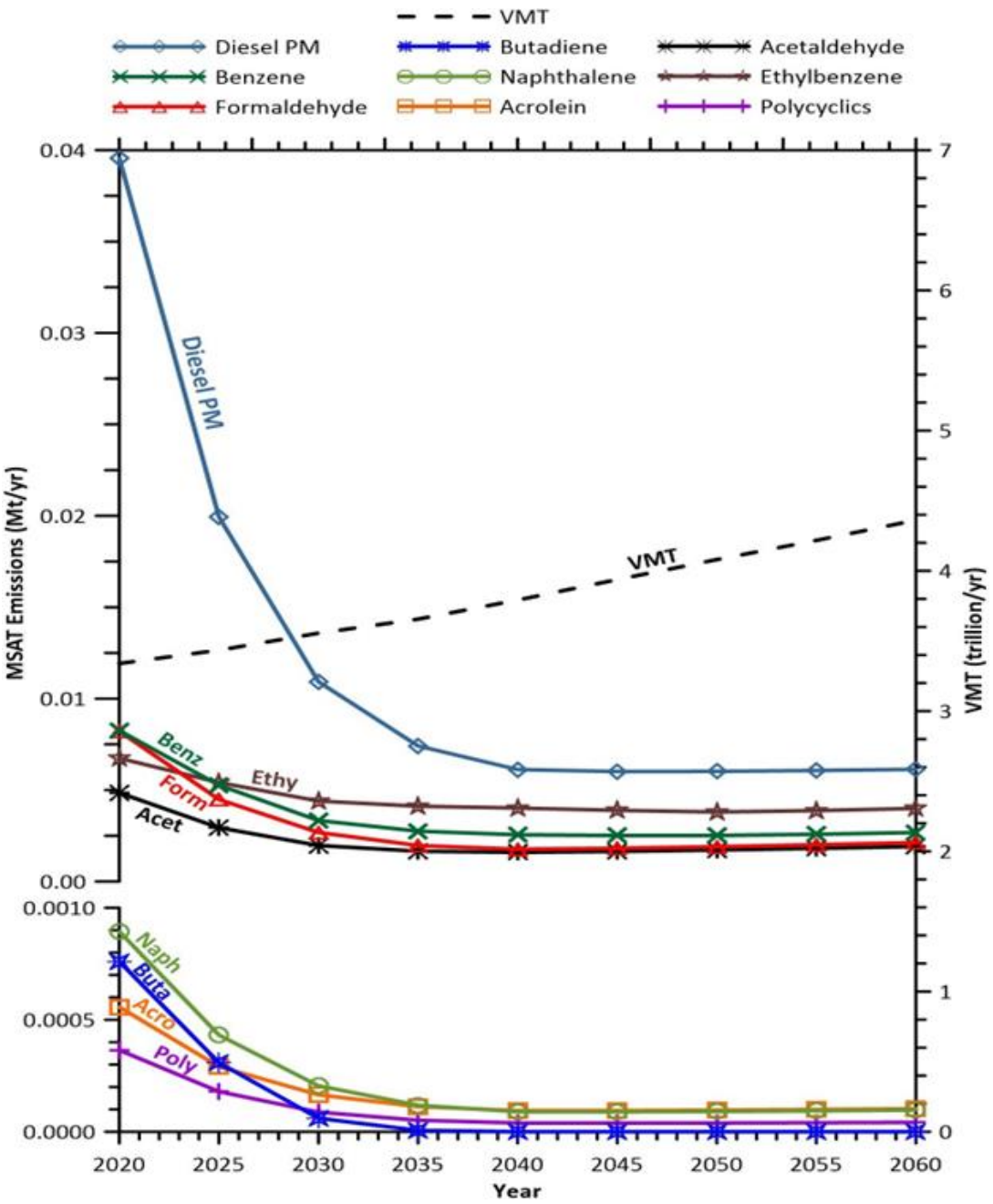
Diesel PM is the dominant component of MSAT emissions, making up 36 to 56 percent of all priority MSAT pollutants by mass, depending on calendar year (FHWA 2023).

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how potential public health risks posed by MSAT exposure should be factored into project-level decision-making within the context of the National Environmental Policy Act (NEPA).

Nonetheless, air toxics concerns continue to arise on highway projects during the NEPA process. Even as the science emerges, the public and other agencies expect FHWA to address MSAT impacts in its environmental documents. FHWA, EPA, the Health Effects Institute (HEI), and

others have funded and conducted research studies to define potential risks more clearly from MSAT emissions associated with highway projects. FHWA will continue to monitor the developing research in this field.

Figure 2. FHWA Projected National MSAT Emission Trends 2020–2060 for Vehicles Operating on Roadways



Source: EPA MOVES3 model runs conducted by FHWA in March 2021.

Note: Trends for specific locations may differ depending on locally derived information representing VMT, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors.

FHWA and EPA conducted a research study from December 2008 to December 2009 to characterize the impacts and behavior of $PM_{2.5}$ and MSATs near highways (FHWA and EPA 2011). The objective of this research study was to determine MSAT concentrations and variations in concentrations as a function of distance from the highway and to establish relationships between MSAT concentrations as related to highway traffic flows, including traffic count, vehicle types and speeds, and meteorological conditions such as wind speed and wind direction. The study provided indications that highway vehicle emissions impact near-road air quality. MSATs and other pollutants had elevated concentrations in a near-road environment but decreased with distance away from the road. This study also found that concentrations could be affected by other mobile sources beyond the highway of interest, including a major arterial road, a large commercial airport, or a nearby parking lot.

Sensitive Receptors

Sensitive air quality receptors include receptors such as residences, schools, daycare centers, nursing homes, and hospitals. These are areas where the occupants are more susceptible to the adverse effects of exposure to air pollutants. The project is in the City of Sparks and unincorporated Washoe County. The western end of the project corridor near the Vista Boulevard/I-80 interchange in Sparks has mixed commercial/industrial land use. The closest residential areas are approximately 450 feet south of I-80 in Lockwood, and approximately 0.6-mile northwest to the Vista Boulevard/I-80 interchange. The closest schools are the Hillside Elementary School in Lockwood, approximately 1,500 feet south of I-80, the Lincoln Park Elementary School, approximately 1.7 miles northwest of the interchange, and the Katherine Dunn Elementary School, approximately 2 miles northwest of the interchange. The majority of the project corridor is in unincorporated Washoe County surrounded by open spaces and scattered industrial facilities without sensitive receptors.

Environmental Consequences

This section discusses the project's potential to affect air quality from construction and post-construction use of the project corridor, and presents the avoidance, minimization, and mitigation measures that could be implemented.

Long-Term Impacts

The long-term operational impact analysis evaluated project conformity at the regional and project levels and analyzed MSAT effects. In the long term, the project would improve travel times, reduce delays, and thereby reduce emissions and benefiting regional air quality. The analyses show that the project meets the transportation conformity requirements and that impacts associated with project operation would not have a substantial adverse effect on air quality.

Transportation Conformity

The western end of the project corridor is in the City of Sparks, which is a maintenance area for CO and PM_{10}. Therefore, the project is subject to transportation conformity requirements and needs to demonstrate regional and project-level conformity for CO and PM_{10}.

Regional Conformity

Project conformity at regional level is demonstrated by the project's inclusion in the latest conforming RTP and TIP. If the design concept, scope, and "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and TIP, then the project meets regional conformity requirements for project-level conformity demonstration. The project is in the Washoe County RTC's 2050 Regional Transportation Plan (2050 RTP) (RTC 2023a) as "I-80 Operations and Capacity, Vista Blvd to US Parkway." The Air Quality Analysis & Conformity Determination of the 2050 RTP concludes that the 2050 RTP satisfies the regional conformity requirements (RTC 2023a). Therefore, the project has been included in the regional emission modeling and was evaluated for regional impacts to demonstrate that it is consistent with local air quality planning efforts.

The RTC's Regional Transportation Implementation Program (RTIP) is the RTC's five-year program of projects designed to implement short-term street and highway, transit, bicycle, and pedestrian projects for Washoe County. The current version of the RTIP is for FY 2023 to 2027 (RTC 2023b). NDOT's Statewide Transportation Improvement Program (STIP) is a four-year plan that includes federally funded and regionally significant projects, and the current STIP is for FY 2023 to 2026 (NDOT 2023). The project is anticipated to be added to the RTIP and STIP in October 2024.

Project-Level Conformity

A project-level conformity determination is required for projects in nonattainment and maintenance areas for CO, PM_{10}, and $PM_{2.5}$. Because the project is in a CO and PM_{10}

maintenance area, localized CO and PM_{10} impacts were evaluated to determine if the project would cause any new violations of the CO or PM_{10} NAAQS or increase the frequency or severity of any existing violation for these pollutants.

PM10 Hot Spot Analysis

NDOT evaluated the project's potential to cause localized PM_{10} impacts and concluded the project is unlikely to cause new violations of the PM_{10} NAAQS. The evaluation followed the criteria listed in *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas* (EPA 2021a). According to this guidance, the first step in the PM_{10} hot spot evaluation is to determine if the project is a Project of Air Quality Concern (POAQC). Projects that are not a POAQC do not require a detailed PM_{10} hot spot analysis because, in general, they would not substantially affect ambient PM_{10} concentrations and are unlikely to cause or contribute to new or continued localized violation of the NAAQS.

EPA specified in 40 CFR 93.123(b)(1) that POAQC are certain highway and transit projects that involve significant levels of diesel vehicle traffic, such as major highway projects and projects at congested intersections that handle significant diesel traffic, or any other project that is identified in the $PM_{2.5}$ or PM_{10} SIP as a localized air quality concern. Using the following criteria in accordance the EPA guidance, NDOT conducted a preliminary evaluation of the project.

Criterion #1: New highway projects that have a significant number of diesel vehicles, and expanded highway projects that have a significant increase in the number of diesel vehicles.

The project would widen I-80 between Vista Boulevard and USA Parkway, reconfigure interchanges, and add shoulders. Based on the traffic data of the project, NDOT determined that the project would not cause a significant increase in diesel vehicles in the study area. A traffic analysis was performed for the project. A segment-by-segment comparison of the total vehicle average annual daily traffic (AADT) and truck AADT on the I-80 mainline is summarized in Table 3 and Table 4, for 2030 and 2050, respectively.

The project is not expected to induce additional diesel traffic to the project area. The project's purpose and need is to address congestion that has been created by existing regional development including TRIC, Fernley, and the Reno/Sparks area. The percentages of trucks on the project corridor would not increase between the No Build and Build Alternative. While the overall truck percentages would range between 13 and 18 percent on I-80 in the study area, the increase of truck traffic caused by the project in 2030 and 2050 would be minimal. The truck increases on project corridor segments would be less than 222 trucks in 2030 and less than 283 trucks in 2050. The change of truck traffic between the Build and No Build alternatives would range from a decrease of 0.1 percent to an increase of 2.6 percent on the project corridor. In addition, the highest truck increase would be on the project corridor segments located outside of the City of Sparks in the unincorporated areas that are in attainment/unclassifiable for PM_{10}.

Table 3. 2030 AADT Comparison of No Build and Build Alternatives

Segments (both Direction)	No Build 2030			Build Alternative 2030			Increase 2030 (Build vs No Build)		
	Total AADT	% Diesel Trucks	Truck AADT	Total AADT	% Diesel Trucks	Truck AADT	Total AADT Increase	Truck AADT Increase	%truck increase
I-80 Between Sparks and Vista Interchange	62,990	12.9%	8,128	63,080	12.9%	8,140	90	12	0.1%
I-80 Between Vista Interchange Ramps	45,780	17.4%	7,986	45,750	17.4%	7,981	−30	−5	−0.1%
I-80 Between Vista and Lockwood Interchange	55,760	16.4%	9,172	57,060	16.4%	9,385	1,300	214	2.3%
I-80 Between Lockwood Interchange Ramps	53,750	16.5%	8,844	55,050	16.5%	9,057	1,300	214	2.4%
I-80 Between Lockwood and Mustang Interchange	54,250	16.5%	8,926	55,550	16.5%	9,140	1,300	214	2.4%
I-80 Between Mustang Interchange Ramps	50,300	17.1%	8,578	51,600	17.1%	8,800	1,300	222	2.6%
I-80 Between Mustang and Waltham Interchange	51,220	17.1%	8,734	52,520	17.1%	8,956	1,300	222	2.5%
I-80 Between Waltham Interchange Ramps	49,880	17.1%	8,509	51,180	17.1%	8,730	1,300	222	2.6%
I-80 Between Waltham and USA Parkway Interchange	50,220	17.1%	8,565	51,520	17.1%	8,786	1,300	222	2.6%
I-80 Between USA Parkway Interchange Ramps	24,230	15.0%	3,636	24,280	15.0%	3,644	50	8	0.2%
I-80 East of USA Parkway Interchange	31,000	13.4%	4,141	30,650	13.4%	4,094	−350	−47	−1.1%

Table 4. 2050 AADT Comparison of No Build and Build Alternatives

Segments (both Direction)	No Build 2050			Build Alternative 2050			Increase 2050 (Build vs No Build)		
	Total AADT	% Diesel Trucks	Truck AADT	Total AADT	% Diesel Trucks	Truck AADT	Total AADT Increase	Truck AADT Increase	%truck increase
I-80 Between Sparks and Vista Interchange	75,590	14.2%	10,738	75,700	14.2%	10,754	110	16	0.1%
I-80 Between Vista Interchange Ramps	54,930	18.0%	9,914	54,900	18.0%	9,909	−30	−5	−0.1%
I-80 Between Vista and Lockwood Interchange	66,910	17.4%	11,641	68,470	17.4%	11,913	1,560	271	2.3%
I-80 Between Lockwood Interchange Ramps	64,500	17.5%	11,257	66,060	17.5%	11,530	1,560	272	2.4%
I-80 Between Lockwood and Mustang Interchange	65,100	17.5%	11,362	66,660	17.5%	11,634	1,560	272	2.4%
I-80 Between Mustang Interchange Ramps	60,360	18.2%	10,957	61,920	18.2%	11,241	1,560	283	2.6%
I-80 Between Mustang and Waltham Interchange	61,460	18.2%	11,156	63,020	18.2%	11,440	1,560	283	2.5%
I-80 Between Waltham Interchange Ramps	59,860	18.2%	10,867	61,420	18.2%	11,151	1,560	283	2.6%
I-80 Between Waltham and USA Parkway Interchange	60,260	18.2%	10,940	61,820	18.2%	11,223	1,560	283	2.6%
I-80 Between USA Parkway Interchange Ramps	29,080	14.5%	4,219	29,140	14.5%	4,227	60	9	0.2%
I-80 East of USA Parkway Interchange	37,200	12.1%	4,502	36,780	12.1%	4,452	−420	−51	−1.1%

Criterion #2: Projects affecting intersections that are at a level of service D, E, or F with a significant number of diesel vehicles, or those that will change to level of service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project.

The project is not expected to induce additional diesel truck traffic into the study area. Therefore, diesel truck percentages along the project corridor and on nearby local streets and intersections would not increase. The project would not affect intersections in the study area with significant increases in diesel truck volumes.

In addition, the project would reduce congestion in the study area by providing additional travel lanes on I-80 and improvements to the interchanges and ramps. The added lanes would increase travel speed and reduce congestion and the idling of vehicles on the freeway and at nearby intersections. Traffic conditions at intersections in the study area would be similar or improved under the Build Alternative.

Criterion #3: New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location.

No new bus or rail terminals would be constructed under the project.

The project proposes to add a truck parking area with 20 to 50 parking spaces near the I-80 and Mustang interchange. Due to the small number of parking spaces, there would be limited number of trucks using the parking area at any given time. In addition, NDOT would provide signage at the parking area identifying the 15-minute idling period per NNPH 040.200 to minimize emissions. Therefore, substantial emissions from trucks using this parking area are not expected.

Criterion #4: Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location.

No bus or rail terminals would be expanded under the project.

Criterion #5: Projects in or affecting locations, areas, or categories of sites which are identified in the PM10 or PM2.5 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The study area was not identified in the region's PM_{10} SIP as a site of possible violation of PM_{10}.

In summary, although a portion of the project is in a maintenance area for PM_{10}, NDOT determined that the project would not be a POAQC based on the EPA criteria discussed earlier. Therefore, the project is not expected to cause or contribute to new localized PM_{10} violations. The project would meet the conformity requirements of 40 CFR 93.116 without a quantitative PM_{10} hot spot analysis upon concurrence with this determination by the interagency consultation.

A memorandum documenting NDOT's determination was submitted to the RTC's Air Quality Interagency Consultation Group, which includes representatives from the EPA, FHWA, RTC, Washoe County, and NDOT, for discussion. NDOT initiated the interagency consultation process on September 17, 2024. On November 6, 2024, the Air Quality Interagency Consultation Group concurred with the NDOT conclusion that the project is not of air quality concern, and further quantitative hot spot analysis is not needed to demonstrate project-level conformity. NDOT's memorandum submitted to the interagency consultation meeting and the meeting minutes/correspondence documenting the concurrence of the Air Quality Interagency Consultation Group are in Appendix A.

Carbon Monoxide Hot Spot Analysis

Only a small portion of the project corridor is in the City of Sparks within the CO maintenance area. The majority of the project is in unincorporated Washoe County that is in attainment/unclassifiable for CO.

Outside of the City of Sparks, the project corridor is in rural areas surrounded by open spaces, and the intersections are ramp terminals. Traffic at these intersections are controlled by stop signs thus are not required to be included in CO hot spot evaluation. In the City of Sparks, there are only two signalized ramp intersections at Greg Street/Vista Boulevard. Because the project would not induce additional traffic from elsewhere in the region, vehicle volumes at the intersections are not expected to increase. Therefore, the level of service and delay at these two intersections are expected to be similar compared with the No Build Alternative. The project is not expected to cause traffic conditions of the intersections in the study area to deteriorate or worsen the air quality conditions of CO compared with the No Build Alternative. Therefore, the project would not cause new violations to the CO NAAQS. Quantitative CO hot spot modeling will not be needed to demonstrate project-level conformity for CO for the project.

Mobile Source Air Toxics

Qualitative Analysis of Mobile Source Air Toxics Effects

Transportation projects may affect the regional or local air toxic concentrations because of MSAT emissions from vehicles. Potential MSAT effects from the project operation were evaluated following FHWA's *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents* (FHWA 2023). FHWA developed a tiered approach, with the three following categories for analyzing MSAT impacts, depending on specific project circumstances:

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

Because the AADT in the study area would be less than 140,000 to 150,000 vehicles and the project corridor is in a low-population rural area, according to FHWA's updated interim guidance, the project is considered to have low potential for MSAT effects. A qualitative MSAT analysis is performed for the project.

For the project alternatives analyzed, the amount of MSATs emitted would be proportional to the VMT, assuming other variables such as fleet mix are the same for each alternative. The VMT of the Build Alternative is anticipated to be the same in 2030 and slightly higher in 2050 compared with the No Build Alternative, as shown in Table 5. This increase in VMT would lead to higher MSAT emissions for the Build Alternative along the highway corridor. The emissions increase is offset somewhat by lower MSAT emission rates because of increased speeds. According to the EPA MOVES model, emissions of all of the priority MSAT decrease as speed increases. Because the estimated VMT under the Build and No Build alternatives are nearly the same, varying by less than 0.06 percent, it is expected there would be no appreciable difference in overall MSAT emissions between the No Build and the Build Alternative. Regardless of the alternative chosen, emissions in future years would likely be lower than present levels as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 76 percent between 2020 and 2060 (FHWA 2023). Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

Table 5. VMT for the Build and No Build Alternatives (miles/day)

	No Build	Build	Differences (Build vs No Build)
2030	741,000	741,000	0%
2050	890,000	890,500	0.06%

The additional travel lanes under the Build Alternative would move some traffic closer to nearby homes, schools, and businesses. Therefore, under the Build Alternative there may be localized areas where ambient concentrations of MSAT could be higher than under the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be widened and the reconfigured ramps. However, the magnitude and duration of these potential increases compared with the No Build Alternative cannot be reliably quantified because of incomplete or unavailable information in forecasting project-specific MSAT health impacts.

When a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset because of increases

in speeds and reductions in congestion (which are associated with lower MSAT emissions). On a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, make regionwide MSAT significantly lower than today.

Incomplete or Unavailable Information for Project-Specific MSAT Health Impacts Analysis

The MSAT analysis includes a basic analysis of the likely MSAT impacts of the proposed project. Because of the limitations of information and methodology of the analysis, the following discussion is included in accordance with Council on Environmental Quality regulations regarding incomplete or unavailable information (40 CFR 1502.22[b]).

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts because of changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the CAA and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain IRIS, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA 2023a). Each report contains assessments of noncancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including HEI. A number of HEI studies are summarized in Appendix D of *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents* (FHWA 2023a). Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI 2007) or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete

differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (that is, 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, because such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (HEI 2007). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. EPA states that with respect to diesel engine exhaust, "[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk." (EPA 2003).

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by EPA as provided by CAA to determine whether more stringent controls are required to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million. In some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable (https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/$file/07-1053-1120274.pdf).

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the

uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Short-Term Impacts

Constructing this project would result in short-term, temporary emissions of fugitive dust and equipment-related exhaust emissions such as NO_x, CO, VOCs, SO_2, PM_{10}, and $PM_{2.5}$ in the study area. Construction of the project is not expected to last longer than 5 years. Therefore, a project-level conformity analysis is not required, and construction emissions do not need to be accounted for in a hot spot analysis according to 40 CFR 93.123(c)(5).

Sources of fugitive dust (PM_{10} and $PM_{2.5}$) during project construction are disturbed surface areas at the construction site and trucks carrying uncovered loads of soil or debris. Fugitive dust emissions would vary daily, depending on the nature and magnitude of construction activity and local weather conditions. Dust emissions would depend on soil moisture, silt content of the soil, wind speed, and how many pieces of equipment are operating.

Exhaust emissions during construction would be generated by fuel combustion in motor vehicles and construction equipment. Construction vehicles and disruption of normal traffic flow could increase motor vehicle emissions in certain areas. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Equipment and vehicles used for construction would comply with EPA's emissions standards for on-road vehicles and off-road construction equipment. Potential air quality impacts would be temporary and short term. Nevertheless, NDOT will require its construction contractor to comply with applicable dust control requirements in AQMD regulations and implement best management practices to minimize emissions from construction.

NDOT will implement emission control measures to reduce construction fugitive dust emissions in accordance with applicable AQMD regulations and NDOT's *Standard Specifications for Road and Bridge Construction* (NDOT 2014). Typical emission control measures include the following:

- Perform periodic watering of disturbed surface areas to minimize visible fugitive dust emissions.
- Apply nontoxic soil stabilizers according to manufacturers' specifications to inactive construction areas.
- Reduce nonessential earth-moving activity under high-wind conditions.
- Take actions sufficient to prevent project-related trackout onto paved surfaces, such as installing rumble plates, gravel pads, or wash down pads adjacent to the entrance of a paved public roadway to control carryout and trackout.

- Cover loads in haul vehicles or leave at least 6 inches of freeboard.
- Maintain the project vehicles and equipment in good operational condition.
- Limit vehicle and equipment idling to the greatest extent practicable.
- Configure construction parking to minimize traffic interference on local streets.

Avoidance, Minimization, and/or Mitigation Measures

The project construction and operation is not expected to cause substantial adverse effects on air quality during construction and operation. The project would comply with applicable AQMD regulations to minimize fugitive dust emissions by implementing the best management practice program and would comply with the requirements of the *Standard Specifications for Road and Bridge Construction* (NDOT 2014). Additional mitigation measures are required only for projects that are determined to have substantial adverse impacts. Therefore, additional mitigation measures beyond what are included in the best management practices and what are required by state and regional regulatory requirements are not required.

Cumulative Impacts

Cumulative impacts result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. Cumulative regional air quality impacts from transportation projects in Washoe County were reviewed by RTC in the air conformity analysis for the region's RTP, the *2050 Regional Transportation Plan* (RTC 2023a). The conformity analysis of the RTP included the I-80 East Widening Project and other reasonably foreseeable future transportation projects in Washoe County and demonstrated that the cumulative effects of the projects in the RTP conform to the SIP. At the project level, the operational impact analysis of CO, PM_{10}, and MSATs was evaluated based on projected future traffic conditions that incorporated anticipated traffic growth from planned development in the project area and in the region. Therefore, the project-level air quality analysis of the project includes the cumulative effects from other transportation projects and regional traffic growth on the project corridor in the study area. As such, cumulative impact conclusions of project operation would be consistent with the project's direct impact conclusions. The project would not cause new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS.

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Appendix A:
Air Quality Interagency Consultation Group Documentation

To: Washoe County Regional Transportation Commission's Air Quality Interagency Consultation Group

From: Nevada Department of Transportation

Subject: Consultation on Project-Level Conformity Assessment for the I-80 East Widening Project

Date: September 13, 2024

1.1 Introduction

The Nevada Department of Transportation (NDOT) and the Federal Highway Administration (FHWA) are preparing an Environmental Assessment to evaluate alternatives to improve safety and reduce travel delay on Interstate 80 (I-80) between Vista Boulevard and USA Parkway (State Route [SR] 439). The project is within the City of Sparks and unincorporated Washoe County, Nevada (Figure 1). This 13-mile segment of I-80 between Vista Boulevard and USA Parkway is in a canyon adjacent to the Truckee River and Union Pacific Railroad tracks. The growth of the Tahoe-Reno Industrial Center (TRIC), the largest industrial park in the United States, along with the increase in single-occupancy vehicles from commuters traveling to and from the TRIC, has led to increased traffic along this segment of I-80..

The majority of the project is in unincorporated Washoe County in Hydrographic Area (HA) 83. A small portion of the proposed project corridor (approximately 1.5 miles) is located in the City of Sparks in Truckee Meadows valley within HA 87. HA 87 is classified as in maintenance for particulate matter with aerodynamic diameter equal to or less than 10 micrometers (PM_{10}) and carbon monoxide (CO). It is unclassifiable/attainment for other pollutants under national ambient air quality standards (NAAQS) (EPA 2024). The project is subject to transportation conformity requirements and needs to demonstrate project-level conformity for PM_{10} and CO.

The purpose of the memorandum is to initiate communication with the members of the Washoe County Regional Transportation Commission's Air Quality Interagency Consultation Group on the project-level conformity demonstration of the project. Specifically, NDOT is seeking concurrence by the interagency consultation on the determination that the project is not a Project of Air Quality Concern, and thus quantitative PM_{10} hot spot modeling is not required for the project-level conformity demonstration.

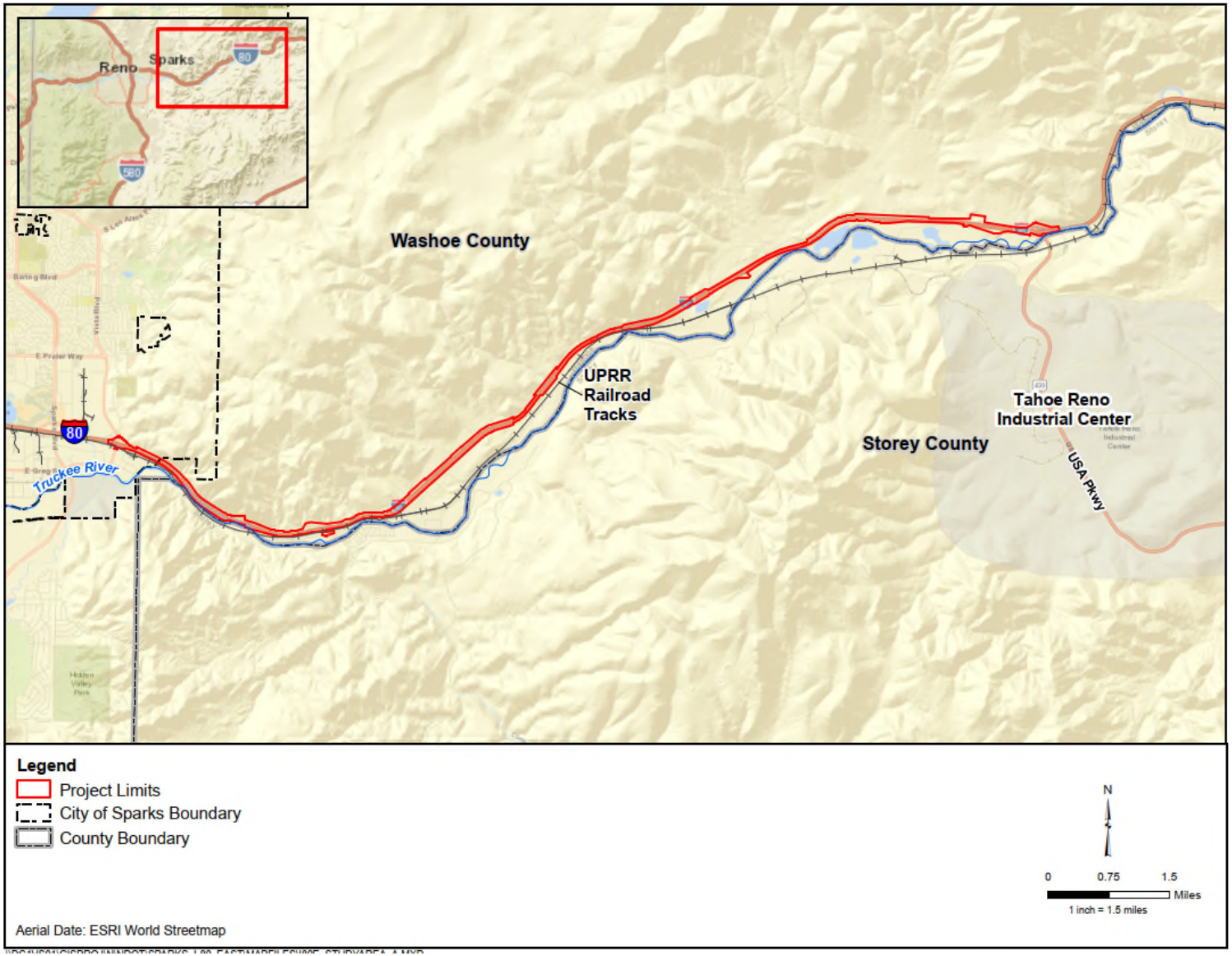
1.2 Purpose and Need for the Project

The purpose of the project is to reduce travel delay, improve safety, and address freeway design deficiencies along I-80 between Vista Boulevard and USA Parkway. The project is needed to reduce travel delays, accommodate traffic associated with past and planned growth in the region, and provide enhanced safety such as wider shoulders, truck parking, and wrong-way driver detection.

The need to improve this segment of I-80 is demonstrated by the following:

- Projected future travel delays caused by high traffic volumes from the proximity of the TRIC
- Crash rates are higher than in other urban and rural interstates in Nevada
- Importance of I-80 in the regional transportation system

Figure 1. Project Location



2. Proposed Action and Alternatives

2.1 Build Alternative

The proposed action would construct an additional 12-foot travel lane in each direction, 12-foot outside shoulders, and 10-foot inside shoulders along I-80 between Vista Boulevard and USA Parkway. The proposed action would also reconfigure interchanges to increase the length of acceleration and deceleration lanes, as well as construct additional truck parking.

2.2 No Build Alternative

The No Build Alternative would make no changes to I-80 and only routine maintenance would continue. This would eliminate the cost of improving I-80 but would not address the project's purpose and need. Other planned transportation improvement projects in the area could still move forward.

3. Project Conformity Demonstration Methodologies

Transportation conformity requirements apply to highway and transit projects in nonattainment and maintenance areas of the NAAQS. A small portion of the proposed project corridor (approximately 1.5 miles) is located in the City of Sparks in Truckee Meadows valley within HA 87. HA 87 is classified as in maintenance for PM_{10} and CO. It is unclassifiable/attainment for other pollutants under NAAQS (EPA 2024). The majority of the project corridor (approximately 11.5 miles) is outside of the City of Sparks in the unincorporated area of Washoe County (HA 83) that is in unclassifiable/attainment for all criteria pollutants.

Because part of the corridor is located in in a maintenance area for CO and PM_{10}, the project is subject to transportation conformity requirements. The conformity of the project needs to be demonstrated at both regional and project levels.

3.1 Regional Conformity

Regional conformity of a project is demonstrated by the project's inclusion in the latest conforming regional transportation plan (RTP) and the Transportation Improvement Program (TIP). If the design concept, scope, and "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and TIP, then the project meets regional conformity requirements for project-level conformity demonstration. The project is in the Washoe County Regional Transportation Committee (RTC)'s *2050 Regional Transportation Plan* (2050 RTP) (RTC 2023a) as "I-80 Operations and Capacity, Vista Blvd to US Parkway." The Air Quality Analysis and Conformity Determination of the 2050 RTP concludes that the 2050 RTP satisfies the regional conformity requirements (RTC 2023b). Therefore, the project has been included in the regional modeling and was evaluated for regional impacts to demonstrate that it is consistent with local air quality planning efforts.

RTC's Regional Transportation Implementation Program (RTIP) is RTC's five-year program of projects designed to implement short-term street and highway, transit, and bicycle and pedestrian projects for Washoe County. The current version of the RTIP is for fiscal year (FY) 2023 to 2027 (RTC 2023b). NDOT's Statewide Transportation Improvement Program (STIP) is a four-year plan that includes federally funded and regionally significant projects, and the current STIP is for FY 2023 to 2026 (NDOT 2023). The project is anticipated to be added to the RTIP and STIP in October 2024.

3.2 PM_{10} Hot Spot Analysis

NDOT evaluated the project's potential to cause localized PM_{10} impacts and concluded the project is unlikely to cause new violations of the PM_{10} NAAQS. The evaluation followed the criteria listed in *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas* (EPA 2021). According to this guidance, the first step in the PM_{10} hot spot evaluation is to determine if the project is a Project of Air Quality Concern (POAQC). Projects that are not a POAQC do not require a detailed PM_{10} hot spot analysis because, in general, they would not substantially affect ambient PM_{10} concentrations and are unlikely to cause or contribute to new or continued localized violation of the NAAQS.

The U.S. Environmental Protection Agency (EPA) specified in *Code of Federal Regulations* (CFR) Title 40, Section 93.123(b)(1) that POAQC are certain highway and transit projects that involve significant levels of diesel vehicle traffic, such as major highway projects and projects at congested intersections that handle significant diesel traffic, or any other project that is identified in the particulate matter less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$) or PM_{10} State Implementation Plan as a localized air quality concern. NDOT conducted a preliminary evaluation of the project in accordance with the following criteria in accordance with EPA guidance.

Criterion #1:

New highway projects that have a significant number of diesel vehicles, and expanded highway projects that have a significant increase in the number of diesel vehicles.

The project would widen I-80 between Vista Boulevard and USA Parkway, reconfigure interchanges, and add shoulders. Based on the traffic data of the project, NDOT determined that the project would not cause a significant increase in diesel vehicles in the study area. A traffic analysis was performed for the project. A segment-by-segment comparison of the total vehicle average annual daily traffic (AADT) and truck AADT on the I-80 mainline is summarized in Table 3-1 and Table 3-2, for 2030 and 2050, respectively. The increase of truck AADT on the project corridor is shown in Figure 2.

The project is not expected to induce additional diesel traffic to the project area. The project's purpose and need is to address congestion that has been created by existing regional development including TRIC, Fernley, and the Reno/Sparks area. The percentages of trucks on the project corridor would not increase between the No Build and Build Alternative. While the overall truck percentages would range between 13% and 18% on I-80 in the study area, the increase of truck traffic caused by the project in 2030 and 2050 would be minimal. The truck increases on project corridor segments would be less than 222 trucks in 2030 and less than 283 trucks in 2050. The change of truck traffic between the Build and No Build alternatives would range from a decrease of 0.1% to an increase of 2.6% on the project corridor. In addition, the highest truck increase would be on the project corridor segments located outside of the City of Sparks in the unincorporated areas that is in attainment for PM_{10}.

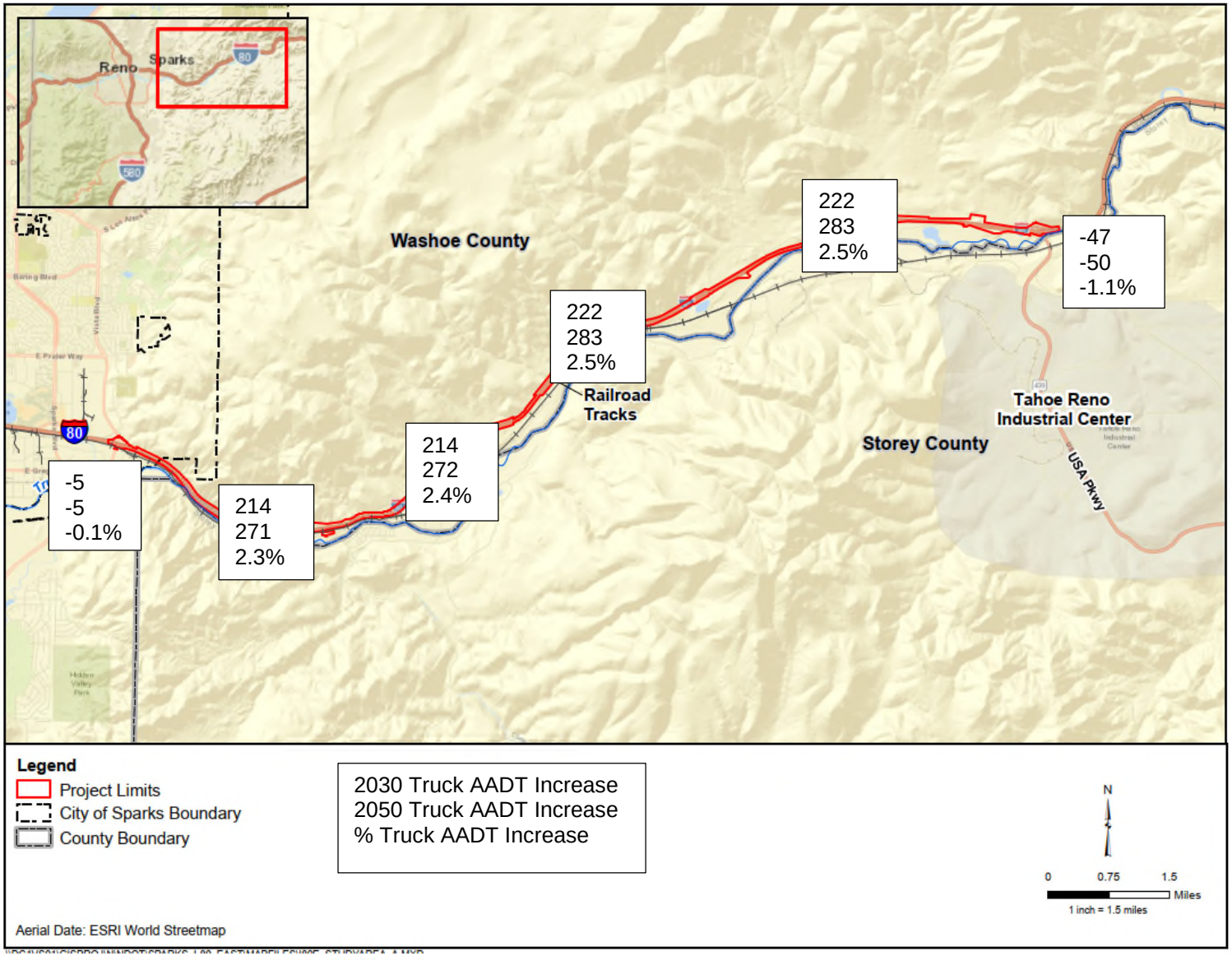
Table 3-1. 2030 AADT Comparison of No Build and Build Alternatives

Segments (Both Directions)	No Build 2030			Build Alternative 2030			Increase 2030 (Build vs No Build)		
	Total AADT	% Diesel Trucks	Truck AADT	Total AADT	% Diesel Trucks	Truck AADT	Total AADT Increase	Truck AADT Increase	% Truck increase
I-80 Between Sparks and Vista Interchange	62,990	12.9%	8,128	63,080	12.9%	8,140	90	**12**	**0.1%**
I-80 Between Vista Interchange Ramps	45,780	17.4%	7,986	45,750	17.4%	7,981	-30	**-5**	**-0.1%**
I-80 Between Vista and Lockwood Interchange	55,760	16.4%	9,172	57,060	16.4%	9,385	1,300	**214**	**2.3%**
I-80 Between Lockwood Interchange Ramps	53,750	16.5%	8,844	55,050	16.5%	9,057	1,300	**214**	**2.4%**
I-80 Between Lockwood and Mustang Interchange	54,250	16.5%	8,926	55,550	16.5%	9,140	1,300	**214**	**2.4%**
I-80 Between Mustang Interchange Ramps	50,300	17.1%	8,578	51,600	17.1%	8,800	1,300	**222**	**2.6%**
I-80 Between Mustang and Waltham Interchange	51,220	17.1%	8,734	52,520	17.1%	8,956	1,300	**222**	**2.5%**
I-80 Between Waltham Interchange Ramps	49,880	17.1%	8,509	51,180	17.1%	8,730	1,300	**222**	**2.6%**
I-80 Between Waltham and USA Parkway Interchange	50,220	17.1%	8,565	51,520	17.1%	8,786	1,300	**222**	**2.6%**
I-80 Between USA Parkway Interchange Ramps	24,230	15.0%	3,636	24,280	15.0%	3,644	50	**8**	**0.2%**
I-80 East of USA Parkway Interchange	31,000	13.4%	4,141	30,650	13.4%	4,094	-350	**-47**	**-1.1%**

Table 3-2. 2050 AADT Comparison of No Build and Build Alternatives

Segments (Both Directions)	No Build 2050			Build Alternative 2050			Increase 2050 (Build vs No Build)		
	Total AADT	% Diesel Trucks	Truck AADT	Total AADT	% Diesel Trucks	Truck AADT	Total AADT Increase	Truck AADT Increase	% Truck increase
I-80 Between Sparks and Vista Interchange	75,590	14.2%	10,738	75,700	14.2%	10,754	110	**16**	**0.1%**
I-80 Between Vista Interchange Ramps	54,930	18.0%	9,914	54,900	18.0%	9,909	-30	**-5**	**-0.1%**
I-80 Between Vista and Lockwood Interchange	66,910	17.4%	11,641	68,470	17.4%	11,913	1,560	**271**	**2.3%**
I-80 Between Lockwood Interchange Ramps	64,500	17.5%	11,257	66,060	17.5%	11,530	1,560	**272**	**2.4%**
I-80 Between Lockwood and Mustang Interchange	65,100	17.5%	11,362	66,660	17.5%	11,634	1,560	**272**	**2.4%**
I-80 Between Mustang Interchange Ramps	60,360	18.2%	10,957	61,920	18.2%	11,241	1,560	**283**	**2.6%**
I-80 Between Mustang and Waltham Interchange	61,460	18.2%	11,156	63,020	18.2%	11,440	1,560	**283**	**2.5%**
I-80 Between Waltham Interchange Ramps	59,860	18.2%	10,867	61,420	18.2%	11,151	1,560	**283**	**2.6%**
I-80 Between Waltham and USA Parkway Interchange	60,260	18.2%	10,940	61,820	18.2%	11,223	1,560	**283**	**2.6%**
I-80 Between USA Parkway Interchange Ramps	29,080	14.5%	4,219	29,140	14.5%	4,227	60	**9**	**0.2%**
I-80 East of USA Parkway Interchange	37,200	12.1%	4,502	36,780	12.1%	4,452	-420	**-51**	**-1.1%**

Figure 2. Increase of Truck AADT in 2030 and 2050, Build vs No Build



Criterion #2:

Projects affecting intersections that are at a level of service D, E, or F with a significant number of diesel vehicles, or those that will change to level of service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project.

The project is not expected to induce additional diesel truck traffic into the study area. Therefore, diesel truck percentages along the project corridor and on nearby local streets and intersections would not increase. The project would not affect intersections in the study area with significant increases in diesel truck volumes.

In addition, the project would reduce congestion in the study area by providing additional travel lanes on I-80 and improvements to the interchanges and ramps. The added lanes would increase travel speed and reduce congestion and the idling of vehicles on the freeway and at nearby intersections. Traffic conditions at intersections in the study area would be similar or improved under the Build Alternative.

Criterion #3:

New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location.

No new bus or rail terminals would be constructed under the project.

The project proposes to add a truck parking area with 20 to 50 parking spaces near the I-80 and Mustang interchange. Due to the small number of parking spaces, there would be limited number of trucks using the parking area at any given time. In addition, NDOT would provide signage at the parking area identifying the 15-minute idling period per NNPH 040.200 to minimize emissions. Therefore, substantial emissions from trucks using this parking area are not expected. Along I-80 in the urban areas in Sparks, there are existing truck parking areas that are much larger, with hundreds of truck parking spaces. None of these large parking areas caused localized violations to the NAAQS. The proposed truck parking area would have much less parking spots compared to the existing parking areas, therefore, emissions from the proposed truck parking area are not anticipated to cause violations to the NAAQS.

Criterion #4:

Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location.

No bus or rail terminals would be expanded under the project.

Criterion #5:

Projects in or affecting locations, areas, or categories of sites which are identified in the PM10 or PM2.5 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The study area was not identified in the region's PM_{10} State Implementation Plan as a site of possible violation of PM_{10}.

In summary, although a portion of the project is in a maintenance area for PM_{10}, NDOT determined that the project would not be a POAQC based on the EPA criteria discussed earlier. Therefore, the project is

not expected to cause or contribute to new localized PM_{10} violations. The project would meet the conformity requirements of 40 CFR 93.116 without a quantitative PM_{10} hot spot analysis upon concurrence with this determination by the interagency consultation.

3.3 Carbon Monoxide Hot Spot Analysis

Only a small portion of the project corridor is in the City of Sparks within the CO maintenance area. The majority of the project is in unincorporated Washoe County that is in unclassifiable/attainment for CO.

Because the majority of the project corridor is in rural areas surrounded by open spaces, the intersections within the study area are all ramp terminals. Most of these intersections are not signalized thus are not required to be included in CO hot spot evaluation. There are only two signalized ramp intersections at Greg Street/Vista Boulevard in the City of Sparks. Because the project would not induce additional traffic from elsewhere in the region, vehicle volumes at the intersections are not expected to increase. Therefore, the level of service and delay at intersections in the study area are expected to be similar or improved compared with the No Build Alternative. The project is not expected to cause traffic conditions of the intersections in the study area to deteriorate or worsen the air quality conditions of CO compared with the No Build Alternative. The project would not cause new violations to the CO NAAQS. Quantitative CO hot spot modeling will not be needed to demonstrate project-level conformity for CO for the Project.

4. Summary

In this memorandum, NDOT provided the methodologies of project-level conformity demonstration for the I-80 East Widening Project. NDOT concluded that the project is not a POAQC; therefore, a quantitative PM_{10} hot spot analysis is not required for the project according to 40 CFR 93.116. NDOT requests concurrence by the interagency consultation that the project is not a POAQC for the PM_{10} project-level conformity demonstration. Once approved, the conclusion of the interagency consultation will be documented in the environmental documentation for the project.

A quantitative CO hot spot analysis will not be conducted for the project to demonstrate project-level conformity because none of the intersections in the study area would have deteriorated traffic conditions that could worsen existing CO concentrations.

5. References

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