Division Street Bus Rapid Transit Project

Air Quality Impact Assessment

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1. INTRODUCTION

This technical report presents the results of an air quality review and analysis for the Spokane Transit Authority (STA) Division Street Bus Rapid Transit (BRT) project (Project). Because the planned BRT Project will replace diesel-fueled bus service with new zero emission battery electric buses, no adverse effects on air quality are anticipated. However, due to high traffic volumes along parts of N Division Street and the region's history of air quality exceedances, this analysis was conducted.

2. PROJECT INTRODUCTION

STA began the Division Street BRT Project to increase overall mobility in Spokane County by providing a high-quality, fast, and frequent bus service along the Division Street corridor. This project aims to transform the existing Route 25 into a BRT line, featuring new stations and roadway enhancements that will offer quicker and more dependable service. Stretching approximately 10 miles from downtown Spokane to the Mead area north of the "Wye" at U.S. Highways 2 and 395, the Division Street BRT will be the region's second BRT line.

The project is being rolled out in multiple phases. The Division Street BRT project builds on the collaborative efforts of STA and its partners, including the Spokane Regional Transportation Council, City of Spokane, Spokane County, and the Washington State Department of Transportation. These efforts began with the Division Connects study from 2019 to 2021, which explored improvements for the Division Street corridor and the benefits of the forthcoming North Spokane Corridor. This study's Phase 1 identified the vision for converting Route 25 to BRT, leading to the adoption of the Locally Preferred Alternative (LPA) for the corridor. In Fall 2022, STA's project team launched public outreach to raise awareness and gather community feedback on station placements and route alternatives. This engagement included surveys, in-person presentations, and consultations with neighborhood councils along the Division corridor.

2.1. Project Description

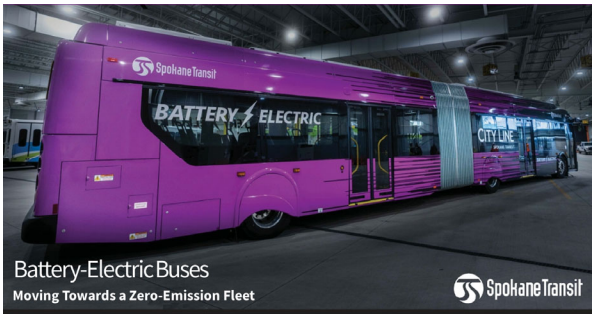
The full Division BRT corridor spans approximately 10-miles along North Division Street (U.S. Highway 2 and US 395) through the City of Spokane and parts of unincorporated Spokane County (Figure 2-1). It begins at the future Mead Transit Center, in the vicinity of the intersection of US 2 and Farwell Road, and continues west along Farwell Road/Hastings Road, where it intersects with North Division Street. The corridor continues southbound along North Division Street to the Spokane River. This segment includes a couplet (two one-way streets) along North Division Street and North Ruby Street between North River Drive and East Cleveland Avenue. The project also includes improvements on parcel 35182.2812 (Boone Northwest Garage), which is located west of the Division Street corridor at the STA campus. The project corridor continues to the southern terminus in downtown Spokane at 2nd Avenue between Wall Street and Howard Street.

Project Implementation Strategy

To optimize delivery and address timing considerations such as federal funding cycles, regional construction schedules, and design progression, the project will advance through a Minimum Operable Segment (MOS) approach. The initial implementation focuses on the highest-priority segments and foundational infrastructure, while remaining corridor elements will be advanced as design and funding milestones are met.

Initial Implementation Scope (Phase 1) will include:

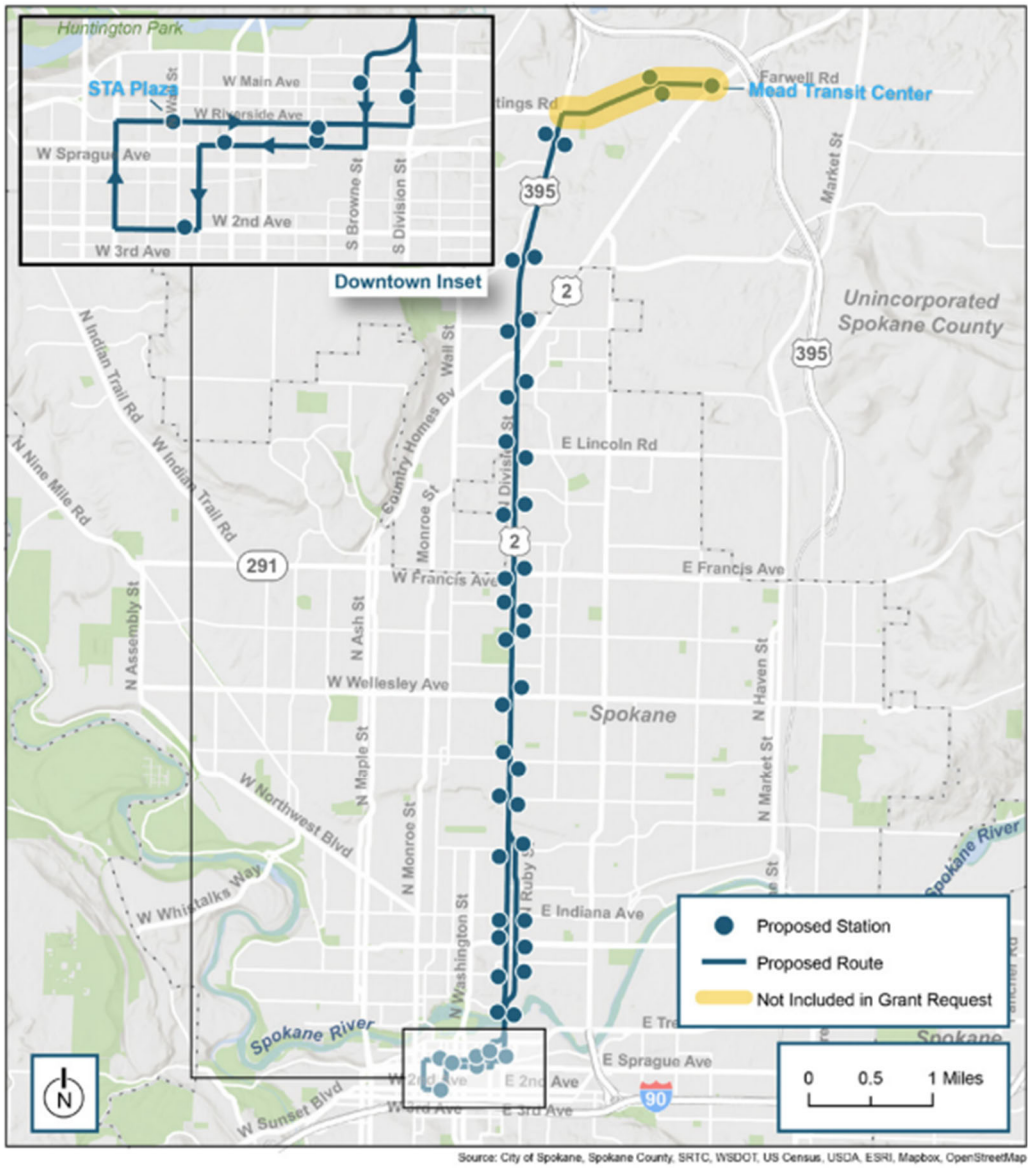
- A true BRT experience on the Division Street corridor
- Smoother and more reliable service, with buses coming every 15 minutes on weekdays for at least 14 hours daily
- Zero-emission, battery-electric buses (BEB) five-door 60-foot buses, like the one shown to the right.
- 39 new stations at major intersections with enhanced amenities
- Business Access and Transit (BAT) lanes along the Division and Ruby couplet



Typical Spokane Transit Battery-Electric Bus

- The system is compatible with a new transit center near Farwell Road and US 2, which will be constructed in a future phase of the project. Although this study covers the entire potential project corridor, Phase 1 of the project will end at the existing Hastings Road Park and Ride.
- Operational improvements for speed and reliability may include off-board fare payment, transit signal priority, all-door boarding, and near-level platforms.
- Protected bicycle and pedestrian facilities, including two-way bicycle lanes, cycle-tracks, or multi-use paths, where practicable, with pedestrian and ADA improvements throughout the corridor.
- Downtown bus layover and charging location.

Figure 2-1. Division Street BRT Alternative



Source: Spokane Transit Authority. 2024.

3. AMBIENT AIR QUALITY AND STANDARDS

Air quality in the study area is regulated by three agencies: The EPA; the Washington State Department of Ecology (DOE); and the Spokane Regional Clean Air Agency (SRCAA). The EPA sets national air quality standards and has oversight authority over SRCAA and DOE. The SRCAA and DOE work together to monitor air quality within the Spokane region.

The EPA has developed National Ambient Air Quality Standards (NAAQS) for six criteria pollutants to protect public health and welfare. The NAAQS specify maximum

concentrations for carbon monoxide (CO), particulate matter less than 2.5 microns in diameter (PM2.5), particulate matter less than 10 microns in diameter (PM10), ozone (O3), sulfur dioxide (SO2), lead, and nitrogen dioxide (NO2). These standards shall not be exceeded by ambient pollutant concentrations that are averaged over a defined time interval, ranging from one-hour to three-year averages. DOE and SRCAA have authority to adopt more stringent standards. Current state and local standards are equivalent to the federal standards, except for a stricter SO2 standard. Table 1 provides a listing of established federal, state, and local ambient air quality standards.

Table 1. Ambient Air Quality Standards

	National		Washington State
Pollutant	**Primary**	**Secondary**	
Inhalable Particulate Matter (PM10) (mg/m3)			
Annual Arithmetic Mean (mg/m3)	50	50	50
24-hour Average (mg/m3)	150	150	150
Particulate Matter (PM2.5) (mg/m3)			
Annual Arithmetic Mean (mg/m3)	12	12	12
24-hour Average (mg/m3)	35	35	35
Carbon Monoxide (CO)			
8-hour Average (ppm)	9	9	9
1-hour Average (ppm)	35	35	35
Sulfur Dioxide			
1-hour Average (ppm)	0.075	NS	0.075
3-hour Average (ppm)	NS	0.0005	NS
Ozone (O3)			
8-hour Average (ppm)	0.070	0.070	0.070
1-hour Average (ppm)	0.12	0.12	0.12
Nitrogen Dioxide (NO2)			
Annual Average (ppm)	0.053	0.053	0.053
1-hour (ppm)	0.1	0.1	0.1
Lead (Pb)			
Rolling 3 Month Average (mg/m3)	0.15	0.15	0.15

Source: PSCAA 2018 Air Quality Data Summary and Washington State Dept. of Ecology.
NS=No standard established or standard revoked; (mg/m3) = micrograms per cubic meter; PPM= parts per million

3.1. Existing Air Quality

DOE and SRCAA operate air quality monitoring stations to obtain data on actual ambient air quality concentrations. Information from these stations determines whether the region meets the NAAQS and assists in providing background level concentrations in the project vicinity.

Areas of the country exceeding the NAAQS for a given pollutant are classified as “non-attainment” areas. Areas which have shown no exceedances for several years can be re-

designated as a “maintenance” by the EPA. Former non-attainment areas that have been re-designated as maintenance areas are required to continue to maintain air quality by adhering to a “maintenance plan” developed as part of the re-designation process. Transportation projects must demonstrate “conformity” with the control measures specified in the Washington State Implementation Plan (SIP) adopted as part of this re-designation process.

The Spokane area was designated a maintenance area for CO and PM10 in August 2005. At this time it appears that the maintenance plan will be successfully completed, and the Spokane area may be re-classified at “in-attainment” sometime in the near future. Until the reclassification is completed, any transportation project that could affect the completion of the maintenance plan must be shown to be in conformance with the maintenance plan. For the BRT Project to be in conformity it cannot result in any new air quality potential impact, or worsen the severity of any existing air quality impacts. Project conformity is provided in the next section.

4. OPERATIONAL IMPACTS AND PROJECT CONFORMITY

The proposed BRT Project will replace the existing bus route number 25 with new stations and roadway enhancements that will offer quicker and more dependable service. The new BRT system will include replacing the existing fleet of buses that use internal combustion engines (ICE) with zero emission battery electric buses.

Electricity used to charge the BEB’s will likely come from the local electrical grid. Currently, Spokane gets 45% of its energy from hydroelectric, 23% from natural gas, and an additional 32% from biogenic and non-biogenic solid waste programs (GridInfo Electricity Generation Insight, https://www.gridinfo.com/washington/spokane).

4.1. Project Conformity

Certain projects may not require a conformity analysis if they meet specific exemption criteria.. Under the Code of Federal Regulations (CFR) Title 40, Chapter I, Subchapter C, Part 93, Subpart A, § 93.126, the list of Exempt Projects includes several transit related activities. These include the *construction of small passenger shelters and information kiosks* and / or *purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet.*

Such projects may proceed toward implementation even in the absence of a conforming transportation plan. Exemptions can be rescinded if the MPO, in consultation with other agencies (see § 93.105(c)(1)(iii)), the EPA, and the FHWA (in the case of a highway project) or the FTA (in the case of a transit project) concur that it has potentially adverse emissions impacts for any reason. Furthermore, in PM10 and PM2.5 nonattainment or maintenance areas, such projects are exempt only if they are in compliance with control measures in the applicable transportation implementation plan (TIP).

The proposed BRT qualifies for exemption because the project is replacing an existing ICE bus operations with a new zero emission BRT system, replace existing buses or for minor

expansions of the fleet. The construction of the new and relocated bus stops are exempt under the construction of small passenger shelters and information kiosks clause.

Therefore, because this project will not increase the vehicle miles traveled for internal combustion engines, and is replacing an older existing fleet of ICE buses with a new zero emission fleet, this project is in conformance with the TIP and no air quality impacts were identified.

4.2. Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA assessed this expansive list in its rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are part of the EPA's Integrated Risk Information System (IRIS).[1] In addition, the EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors from the 2011 National Air Toxics Assessment (NATA).[2] These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While the FHWA considers these the priority mobile source air toxics (MSATs), the list is subject to change and may be adjusted in consideration of future EPA rules.

As per the FHWA Interim Guidance on MSATs (2016), projects where area AADT exceeds 140,000 vehicles must consider MSAT emissions. However, the guidance also states that projects with no potential for meaningful MSAT effects (e.g., those qualifying as a categorical exclusion or exempt under the Clean Air Act conformity rule) do not require a specific MSAT analysis. As noted in the Conformity section, this project will not increase vehicle miles traveled by internal combustion engine vehicles, replaces an older diesel fleet with a new zero-emission battery electric bus fleet, and is consistent with the Transportation Improvement Program (TIP). Therefore, a Mobile Source Air Toxics (MSAT) analysis is not required.

5. CONSTRUCTION IMPACTS AND MITIGATION

The Project will include soil-disturbing activities, heavy-duty equipment, commuting construction workers, and paving with concrete and asphalt. Each of these activities generate emissions that can temporarily affect air quality. The total emissions and the timing of emissions from these sources vary depending on the construction phase of the Project. Table 2 summarizes construction phases and emissions.

[1] https://www.epa.gov/iris
[2] https://www.epa.gov/national-air-toxics-assessment

Table 2. Pollutants Generated by Construction Activities		
Construction Task	**Source of Emissions**	**Emissions**
Clearing right-of-way and removing existing concrete & paved surfaces	Backhoe, concrete saw, jackhammer, haul trucks	CO, PM10, PM2.5, NOx, SO2, fugitive dust, Mobile Source Air Toxics (MSATS)
Removing of concrete debris	Loader and haul/dump trucks, sweeper	Same as above
Trenching for new utilities	Backhoe, gravel trucks	Same as above
Paving roadway	Concrete trucks, asphalt trucks, asphalt rollers	CO, PM10, PM2.5, NOx, SO2, MSATS
Painting lane markers	Paint spray equipment	Odorous compounds, MSATS

5.1. Construction Mitigation Measures

Air quality mitigation measures in accordance with WSDOT's Environmental Manual M31-11 would be required. In addition, air quality mitigation measures from the SCRAA would also be required. Implementation may require one or more of the following actions:

- Spray exposed soil with water or other dust suppressant to reduce emissions of particulate matter less than 10 microns in diameter (PM10) by increasing deposition of particulate matter.
- Use phased development to keep disturbed areas to a minimum.
- Minimize dust emissions during transport of excavated or fill materials by wetting down truck loads or ensuring adequate freeboard (space from the top of the material to the top of the truck bed) on trucks.
- Promptly clean up spills of transported material on public roads.
- Schedule work tasks to minimize disruption of the existing vehicle traffic on streets.
- Restrict on-site construction traffic to reduce soil upheaval and tracking material onto roadways.
- Locate construction equipment and truck staging areas away from sensitive receptors as practical and in consideration of potential effects on other resources.
- Cover dirt, gravel, and debris piles as needed to reduce dust and wind-blown debris.

6. CONCLUSION

The Division Street BRT Project will not result in exceedances of the NAAQS or increased MSATs emissions relative to the No Build Alternative. During construction, compliance with WSDOT and SRCAA dust control requirements will minimize temporary air quality impacts. No additional air quality mitigation measures are required for this project.

Appendix A: References

U.S. Department of Transportation – Federal Highway Administration. October 18, 2016. Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents. https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/

Washington State Department of Transportation. June 1, 2020. Chapter 425, Environmental Manual 31-11. https://www.wsdot.wa.gov/publications/manuals/fulltext/M31-11/425.pdf