3.10 Transportation

This Programmatic Environmental Impact Statement (EIS) considers the adverse environmental impacts on transportation that would result from the types of facilities described in Chapter 2, Overview of Transmission Facilities, Development Considerations, and Regulations. This section addresses the following topics related to the new construction, operation and maintenance, upgrade, and modification of high-voltage electric transmission facilities (transmission facilities) in Washington:

- Section 3.10.1 identifies regulatory, siting, and design considerations.
- Section 3.10.2 describes the affected environment.
- Section 3.10.3 describes the adverse environmental impacts.
- Section 3.10.4 describes Mitigation Measures.
- Section 3.10.5 identifies probable significant adverse environmental impacts on transportation.
- Section 3.10.6 provides an environmental sensitivity map and criteria weighting for the siting of transmission facilities as it relates to transportation, based on the identified considerations, adverse environmental impacts, and Mitigation Strategies.

3.10.1 Regulatory, Siting, and Design Considerations

This Programmatic EIS establishes a broad framework for compliance, outlining general laws, regulations, best management practices (BMPs), and design considerations. It is assumed that project-specific applications would be developed within this pre-established regulatory context and comply with existing laws and regulations. Any projects not complying with applicable laws and regulations or failing to adhere to design considerations or BMPs would require additional project-specific environmental analysis and mitigation. The federal and state laws and regulations that apply to transportation are summarized in **Table 3.10-1**.

A variety of federal, state, and local agencies administer and regulate roadways, railways, and airports. The American Association of State Highway and Transportation

Officials (AASHTO) and the Federal Highway Administration (FHWA) are responsible for interstate and U.S. highways. The Washington State Department of Transportation (WSDOT) is responsible for state highways and routes. County and local roads are controlled by the presiding jurisdiction (city or county). Other roads on federal lands are managed by the applicable federal agencies (National Park Service, Bureau of Land Management, U.S. Forest Service, etc.). Railroad operations in the state are regulated by the Federal Railroad Administration and the Washington Utilities and Transportation Commission. Aviation is governed by the Federal Aviation Administration (FAA). Each of these regulatory and governing agencies and the military has its own authority.

Table 3.10-1: Laws and Regulations for Transportation

Applicable Legislation	Agency	Summary Information
43 USC Chapter 35 – Federal Land Policy and Management	Bureau of Land Management	This act provides for the management, protection, development, and enhancement of public lands, including requirements for land use planning, land acquisition, and disposition, as well as regulations for ROWs. This act outlines requirements and authorizations for grants, issuance, or renewals of ROWs over, upon, under, or through such lands for uses including systems generation, transmission, and distribution of electric energy, as well as transportation systems, including roads and highways.
36 CFR Part 212 – Travel Management	U.S. Forest Service	This code governs the management of roads and trails within the National Forest System. It addresses construction and maintenance and traffic rules of National Forest System roads, as well as the requirements for construction or road use across lands and assignable easements owned by the United States and administered by the U.S. Forest Service, and the principles for sharing use of roads.
36 CFR Part 251 – Land Uses	U.S. Forest Service	This code outlines the procedures and regulations for land use authorizations on National Forest System lands, including requirements for special use proposals, as well as operating plans and agreements for transmission facilities. It also addresses application requirements for any new, changed, or additional uses or areas, including any changes that involve any activity that has an impact on the environment, other uses, or the public.

Applicable Legislation	Agency	Summary Information
23 CFR Part 645 – Utilities	Federal Highway Administration	This code outlines policies, procedures, and reimbursement provisions for the adjustment and relocation of utility facilities on federal-aid and direct federal projects, as well as policies and procedures regarding the accommodation of utility facilities and private lines on the ROW of federal aid or direct federal highway projects.[1]
14 CFR Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace	Federal Aviation Administration	This legislation governs the safety of navigable airspace in the United States. It includes requirements to provide notice to the FAA of certain proposed construction or alteration of existing structures; standards for determining obstructions to air navigation, navigational, and communication facilities; the process for studying obstructions to air navigation and navigational facilities; and the process to petition FAA determinations.
49 CFR Part 212 – State Safety Participation Regulations	Federal Railroad Administration	This legislation covers state safety participation regulations, including established standards and procedures for state participation in investigative and surveillance activities under the federal railroad safety laws and regulations. This code aims to promote safety in all areas of railroad operations to reduce deaths, injuries, and damage to property resulting from railroad accidents.
47 CFR Part 15 – Radio Frequency Devices	Federal Communications Commission	This code governs regulations for radio frequency devices, including unintentional and intentional radiators.[2] It covers testing, labeling, and certification requirements to prevent electromagnetic interference between devices.
RCW 14.12.110, Airport Zoning	Washington State Department of Transportation [(a)]	This legislation establishes regulations regarding permits for constructing, altering, or repairing any structures in airport zones. This section of code also outlines the required installation of hazard markers and lighting on structures to minimize hazards to air navigation.
RCW 36.70A.070, Comprehensive Plans – Mandatory Elements	Washington Department of Commerce	This legislation governs the mandatory requirements for the comprehensive plans of a county or city in Washington, including objectives, principles, and standards used to develop the comprehensive plan. It includes criteria for utilities, such as the general location, proposed

[1] A highway construction, reconstruction, rehabilitation, repair, or improvement project that is directly managed and funded by the federal government.
[2] Devices that generate and emit radio frequency by radiation or induction.

Applicable Legislation	Agency	Summary Information
		location, and capacity of all existing and proposed utilities, including electrical services. It also provides criteria for transportation, including impacts on the level of service for state-owned transportation, as well as facilities and service needs.
RCW 36.81.121, Perpetual advanced six-year plans for coordinated transportation program, expenditures—Nonmotorized transportation—Railroad ROW	Board of Adjustment	This legislation directs counties to prepare a six-year transportation program, including road, bridge, ferry, rail, and nonmotorized transportation projects, in alignment with adopted comprehensive plans.
RCW 47.06, Statewide Transportation Planning	Washington State Department of Transportation [(a)]	This legislation governs the planning and design of the state transportation system, including comprehensive requirements for plans relating to multimodal transportation, aviation, marine ports and navigation, rail, and public transit. It also sets forth the level of service standards for state highways and state ferry routes of statewide significance.
RCW 47.44, Franchises on State Highways	Washington State Department of Transportation [(a)]	This legislation regulates franchise use of any state highway for the construction and maintenance of different utilities, including electric transmission facilities and conduits. It outlines application requirements, grant of franchise conditions, and penalties.
RCW 47.52, Limited Access Facilities	Washington State Department of Transportation [(a)]	This code grants highway authorities the power to design, establish, and control limited access facilities. It also establishes standards and rules for the construction, maintenance, and operation of limited access facilities.
RCW 47.68.340, Aeronautics	Washington State Department of Transportation[(a)]	This legislation outlines requirements for structures and obstacles that obstruct airspace above ground or water level. It mandates that structures be plainly marked, illuminated, painted, lighted, or designated in a manner to be approved in accordance with the general rules of the department so that the structure or obstacle will be clearly visible to “airmen or airwomen.”
RCW 79.36, Easements Over Public Lands	Washington State Department of Natural Resources	This legislation pertains to easements over public lands in Washington. This chapter outlines the procedures and regulations for acquiring, granting, and managing easements on public lands.

Applicable Legislation	Agency	Summary Information
RCW 80.32, Electric Franchises and Rights-of-Way	Washington Utilities and Transportation Commission [a]	This legislation governs the granting of electric franchises and the use of ROWs for the construction and operation of electric utility infrastructure in Washington. It outlines the authority of cities, towns, or counties to approve electric transmission installation and operation on public streets or roads. It also outlines the requirements for public hearings and the conditions under which utilities can occupy public ROWs, ensuring that these operations do not interfere with public use of the land or roadways.
RCW 80.50, Energy Facilities - Site Locations	Washington Energy Facility Site Evaluation Council	This code establishes EFSEC's role in siting, constructing, and operating major energy facilities in Washington. It provides the legal framework for EFSEC to streamline the permitting process and ensure compliance with state environmental and safety standards.
WAC 463-60-372, Built Environment—Transportation	Washington Energy Facility Site Evaluation Council	This legislation outlines the requirements for energy facility applications to identify transportation impacts, including affected transportation systems, expected traffic volumes, and access routes for construction and operation. It mandates the assessment of impacts on road, rail, waterborne, and air traffic, along with plans for mitigation, road improvements, and maintenance responsibilities. Applications must also address parking needs, changes in the movement of people or goods, and traffic hazards, ensuring safety and consistency with local transportation plans.
WAC 468-30-110, Highway Property	Washington State Department of Transportation [a]	This legislation outlines requirements for the "nonhighway use of airspace on state highways." It mandates that any use of such space is subject to both approval by the FHWA and compliance with all applicable city, town, or county zoning requirements.
WAC 468-34, Utility Lines – Franchises and Permits	Washington State Department of Transportation [a]	This legislation governs the design, siting, and installation of utility lines within the ROW of state highways in Washington, outlining the process for obtaining franchises and permits for utility companies. This legislation provides requirements for both overhead and underground transmission facilities related to siting, construction, and clearances.

Applicable Legislation	Agency	Summary Information
WAC 479-05, Program Requirements	Washington Transportation Improvement Board[(a)]	This legislation outlines factors related to transportation improvement board projects, standard specifications, and ROW costs. It provides criteria for transportation funding and project development, including requirements for utility adjustments or relocations.
Washington State Environmental Policy Act	▪ Washington State Agencies ▪ Local governments	This act is a process that identifies and analyzes environmental impacts that can be related to issuing permits. SEPA helps permit applicants and decision-makers understand how a proposed project will impact the environment. Certain projects, as defined in the SEPA Rules (WAC 197-11-704) and that are not exempt, are required to go through the SEPA process.

Notes:

(a) The agency responsible for administering most permits or authorizations for the identified regulation. However, if EFSEC is determined to be the agency responsible for approving a proposal, EFSEC can administer several types of permits at the state and local levels. EFSEC provides a streamlined process for siting and licensing major energy facilities, including transmission facilities in Washington State. EFSEC coordinates all evaluation and licensing steps, specifies the conditions for new construction and operation, and issues a Site Certification Agreement, which assumes the responsibility for issuing individual state or local permits. By consolidating these permits into a single Site Certification Agreement, EFSEC can simplify the regulatory process for energy facility developers. While EFSEC itself does not directly administer federal permits, it works closely with federal agencies to ensure that all necessary federal requirements are met during the evaluation and licensing of energy facilities.

CFR = Code of Federal Regulations; **EFSEC** = Energy Facility Site Evaluation Council; **FAA** = Federal Aviation Administration; **FHWA** = Federal Highway Administration; **RCW** = Revised Code of Washington; **ROW** = right-of-way; **SEPA** = State Environmental Policy Act; **USC** = United States Code; **WAC** = Washington Administrative Code

The siting of transmission facilities is determined by engineering, technical, environmental, and socioeconomic factors. **Table 3.10-2** summarizes guidance documents and management plans that outline the design considerations and BMPs generally used to avoid or minimize adverse environmental impacts on transportation. In general, AASHTO and the FHWA define design standards, specifications, and guidelines for roadways (interstate and U.S. highways) throughout the United States.

Table 3.10-2: Siting and Design Considerations for Transportation

Siting and Design Consideration	Description
IEEE National Electrical Safety Code	The NESC is a set of standards designed to ensure the safe installation, operation, and maintenance of electric supply and communication systems. It covers guidelines for overhead and underground electrical lines, equipment, and structures, including aspects such as clearances, grounding, and other protective measures to prevent electrical hazards.
ISO 11452	This set of international standards outlines immunity testing[3] of automotive electrical components to narrowband radiated electromagnetic energy from off-vehicle sources. The standard covers passenger cars and commercial vehicles and applies to gas, diesel, and electric vehicles.
BLM Manual 9113 (BLM 2015)	This manual section provides for inventory, functional classification, condition assessment, and establishment of maintenance intensities of the BLM's roads for incorporation into the BLM Planning System; BLM road standards; and guidelines for road project planning, design, construction, and maintenance.
BLM Manual 9102 (BLM 2014)	This manual section presents the responsibilities, policies, and procedures for design used within the BLM to manage resources and facilities.
AASHTO Guide for Accommodating Utilities within Highways and Freeways (AASHTO 2024)	This publication provides comprehensive guidelines for the installation, adjustment, accommodation, and maintenance of utilities within highway ROW. WSDOT is required to follow this guidance document per WAC 468-34-120.
AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads (average daily traffic ≤ 400) (AASHTO 2001)	This document provides design standards specifically tailored for local roads with low traffic volumes. It emphasizes safety, cost-effectiveness, and functionality and offers recommendations on geometric elements such as lane width, shoulder design, and horizontal and vertical alignments.
AASHTO Roadside Design Guide (AASHTO 2011)	This guide provides standards and recommendations for the design of roadside features to enhance safety and minimize hazards for drivers, pedestrians, and vehicles.
FHWA Manual on Uniform Traffic Control Devices (FHWA 2023)	This manual provides standardized guidelines for the design, placement, and maintenance of traffic control devices, including signs, signals, and pavement markings.

[3] Evaluates how components (e.g., electronic devices, automotive components, or medical devices) and vehicles respond to electromagnetic fields from external sources.

Siting and Design Consideration	Description
WSDOT Manuals and Handbooks	WSDOT manuals and guidelines provide comprehensive frameworks and standards for the planning, design, construction, and maintenance of transportation infrastructure in Washington. These documents cover a wide range of topics, including highway geometric design, materials specifications, ROW acquisition, rail safety oversight, and environmental considerations. They emphasize safety, efficiency, and best practices, ensuring that projects meet regulatory requirements and align with state and federal standards.
Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis (Transportation Research Board 2016)	This manual provides methods for quantifying highway capacity and serves as a fundamental reference for concepts, performance measures, and analysis techniques for evaluating the multimodal operation of streets, highways, freeways, and off-street pathways.
FAA Advisory Circular 70/7460- 1L (FAA 2018)	This document sets standards for marking and lighting obstructions that have been deemed a hazard to navigable airspace.
Regional Road Maintenance Forum Best Management Practices Guide (WSDOT 2021)	This guidebook identifies common road maintenance activities and provides a training tool for road maintenance staff to select, install, and maintain BMPs to achieve the following environmental outcomes: ▪ Protect water quality ▪ Maximize habitat ▪ Contain pollutants
Best Management Practices Field Guide for ESA § 4 (d) Habitat Protection (WSDOT 2018)	This manual provides guidance for WSDOT maintenance crews and regional maintenance environmental coordinators working in sensitive priority areas identified on the Highway Activity Tracking System base map. It aims to conserve habitat for ESA-listed salmonid species through the application of BMPs based on the following outcomes: ▪ Minimize erosion ▪ Minimize sedimentation ▪ Minimize pollutant impacts ▪ Protect vegetation
WSDOT Planning Study Guidance (WSDOT 2025a)	This guidance provides comprehensive tools and guidelines for conducting and documenting planning studies.

Siting and Design Consideration	Description
Recommended Siting Practices for Electric Transmission Developers (Americans for a Clean Energy Grid 2023)	This document outlines best practices for siting electric transmission facilities. Recommended practices include: ▪ Early and transparent engagement ▪ Respect and fair dealing ▪ Environmental considerations ▪ Interagency coordination ▪ Use of existing infrastructure

AASHTO = American Association of State Highway and Transportation Officials; **BLM** = Bureau of Land Management; **BMP** = best management practices; **ESA** = Endangered Species Act; **FAA** = Federal Aviation Administration; **FHWA** = Federal Highways Administration; **IEEE** = Institute of Electrical and Electronics Engineers; **ISO** = International Organization for Standardization; **NESC** = National Electric Security Code; **ROW** = right-of-way; **WAC** = Washington Administrative Code; **WSDOT** = Washington State Department of Transportation

3.10.2 Affected Environment

This section describes transportation within the Study Area (see Chapter 1, Introduction). The analysis of the affected environment incorporates the following:

- Transportation systems
- Vehicular Transportation
- Waterborne, Rail, and Air Transportation
- Parking
- Movement and circulation of people or goods
- Traffic hazards

Section 3.14, Recreation, addresses the transportation-related topic of off-road highway vehicle use. Adverse environmental impacts on other resources, such as vegetation, soils, water quality, wildlife habitats, and visual quality, caused by new access road construction and use are discussed in other sections of this Programmatic EIS.

3.10.2.1 Transportation Systems

This section describes the state and local transportation networks serving the Study Area and characterizes typical and representative transportation planning considerations within those networks. The primary topics addressed are roadway systems, design standards, traffic volumes, traffic congestion, safety, and maintenance.

Washington has a diverse and comprehensive transportation system that includes various modes of travel to meet the needs of its residents and businesses. Public transit

in Washington plays a critical role in supporting mobility, reducing traffic congestion, and providing sustainable transportation options across the state. The State of Washington's Growth Management Act (Revised Code of Washington [RCW] 36.70A.070) requires that cities and counties include a transportation element in their comprehensive plans. The State of Washington has several comprehensive plans to improve and expand public transit, including the following:

- **State Public Transportation Plan:** This 20-year blueprint guides decisions to enhance public transportation across the state. It focuses on improving transit, carpools, vanpools, walking, and other transportation options to support families, communities, the economy, and the environment.
- **Statewide Human Services Transportation Plan:** Completed in 2022, this plan addresses the transportation needs of people with special needs, including those with physical or mental limitations, low income, or advanced age. It identifies unmet needs, gaps, and barriers, and develops strategies to improve access, mobility, safety, and user experience.
- **Transportation Demand Management Strategic Plan:** This plan aims to advance management goals over a five-year period (2019 to 2024). It focuses on reducing congestion and improving the efficiency of the transportation system through strategies like promoting telecommuting, flexible work hours, and ridesharing.
- **Local Human Services Transportation Plans:** These regional plans, developed by 18 regional transportation planning organizations, identify local transportation needs and strategies. They help inform the statewide plan and ensure that regional and local priorities are addressed.
- **Washington Transportation Plan 2040 and Beyond:** This long-range plan provides a vision for improving the state's transportation network, including public transit. It includes policy recommendations and implementation strategies to enhance the overall transportation system.

WSDOT establishes level of service (LOS) standards for state highways and ferry routes of statewide significance based on RCW 47.06.140(2). LOS is a qualitative measure that predicts the quality of experience by motorists using the infrastructure. LOS analysis evaluates the impact a project may have on LOS. LOS analysis provides a standardized means of categorizing efficiency and experiential quality by assigning a letter grade to it. LOS ratings range from A to F, with A representing the best conditions and F

representing unacceptably high congestion and delays. Regional transportation planning organizations and WSDOT jointly develop and establish LOS standards for regionally significant state highways and ferry routes based on RCW 47.80.030(1)(c).

After adopting comprehensive plans, local jurisdictions must adopt and enforce ordinances that prohibit development approval if the development causes the LOS on a locally owned transportation facility to decline below the standards adopted in the transportation element of the comprehensive plan, unless transportation improvements or strategies to accommodate the impacts of development are made concurrently with the development. These strategies may include increased public transportation service, ridesharing programs, demand management, and other transportation system management strategies.

RCW 36.81.121 requires the development of a perpetual, advanced, six-year transportation improvement program for coordinated transportation that describes the road maintenance and improvement program. Transportation and roadway projects are identified to meet stated performance measures addressing safety, pavement, and bridges, as well as system performance, freight, and congestion mitigation.

Washington has several governance structures under which public transportation services are funded and operated, in coordination with WSDOT, including:

- Public transportation benefit areas (PTBA) (RCW 36.57A)
- PTBAs are special districts created to provide public transportation services within a defined geographic area. They are established through a public process involving local governments and are governed by a board of directors composed of elected officials from the participating jurisdictions.
- PTBAs have the authority to levy taxes, issue bonds, and enter into contracts to fund and operate public transportation systems. They can also acquire, construct, and maintain transportation jurisdictions.
- City transit systems (RCW 35.95)
- City transit systems are established by municipalities to provide public transportation services within city limits. These systems are funded through local taxes, fares, and federal and state grants.
- The governing body of the city, such as the city council, oversees the transit system’s operations, including budgeting, planning, and service delivery.

- County public transportation authority (RCW 36.57)
- Counties in Washington, except those with metropolitan municipal corporations performing public transportation functions, can create county public transportation authorities. These authorities are responsible for providing public transportation services in unincorporated areas and can extend services to incorporated areas through agreements.
- The county public transportation authority is governed by a board of directors, which may include county commissioners and representatives from cities within the county.
- Regional transit authority (RCW 81.112) (WSDOT 2023)
- Regional transit authorities (RTAs) are established to plan, develop, and operate high-capacity transportation systems across multiple counties. RTAs are created through voter approval and are governed by a board of directors appointed by the participating counties and cities.
- RTAs have the authority to levy taxes, issue bonds, and enter into agreements to fund and operate regional transit services, such as light rail, commuter rail, and express bus services.

Other local and regional public transportation providers in Washington include the following:

- Tribal transportation providers
- Community transportation providers
- Medicaid transportation brokers
- Travel Washington intercity bus program lines
- Ferry systems

There is a growing emphasis on active transportation in Washington, with investments in bike lanes, trails, and pedestrian pathways to promote safe and sustainable travel options. The state has an extensive network of trails and bike lanes, promoting active transportation and recreation. Trails and bike lanes are discussed in Section 3.14, Recreation.

3.10.2.2 Vehicular Transportation

The Washington Freight and Goods Transportation System (FGTS) classifies freight corridors by mode in Washington based on annual freight tonnage moved. Each modal network is classified into five tiers based on the specific annual tonnage thresholds for freight moved. FGTS truck corridors are categorized as follows:

- T-1 corridors: more than 10 million tons
- T-2 corridors: 4 million to 10 million tons
- T-3 corridors: 300,000 to 4 million tons
- T-4 corridors: 100,000 to 300,000 tons
- T-5 corridors: at least 20,000 tons in 60 days and less than 100,000 tons per year

Roads and Highways

Washington is home to over 80,000 miles of roadways, including more than 7,000 miles of state and interstate highways and 1,600 miles of U.S. highways (FHWA 2025). Other roadway jurisdictions include cities and counties, as well as the Washington State Department of Natural Resources, Washington State Parks and Recreation Commission, port districts, Tribes, U.S. Forest Service, and National Parks (WSDOT 2025b).

Per WAC 468-34-290, the vertical clearance for high-voltage transmission lines above the highway and the lateral and vertical clearance from bridges shall conform with the National Electrical Safety Code (NESC) and/or with the clearances specified in WAC 468-34-290, whichever is greater. On and along highways, poles and related facilities must be located as near as practicable to the right-of-way (ROW) line (WAC 468-34-300).

- **Interstate Highways:** Washington has an extensive highway system, including 764 miles of interstate highways (FHWA 2025). These corridors play a crucial role in the state's transportation network, functioning as key freight routes and facilitating the movement of regional and international cargo. Interstate highways also provide vital commuting and recreational access, connecting communities and supporting economic activity across the region.
- **State Highways:** Washington's state highway network stretches over 7,000 miles, serving as a vital component of the state's transportation

infrastructure. These highways provide essential connections for both local and regional travel, linking communities across urban, rural, and remote areas. They play a critical role in facilitating the movement of people, goods, and services; supporting economic development; and ensuring access to recreational and cultural destinations. Washington's state highways also provide key access points for freight and transit, serving as important corridors for both daily commuting and long-distance travel.

Transmission facilities may be allowed along highway structures where such attachment conforms with sound engineering considerations for preserving the highway, including its safe operation, maintenance, and appearance. WAC 468-34-270 requires additional considerations when attempting to attach utilities to highway structures.

WSDOT requires variances for proposed transmission facilities that do not comply with the established Utilities Accommodation Policy. This occurs if any proposed utility installation deviates from WSDOT policy. Examples of this would include: if any aboveground utility facilities need to be placed within the Control Zone[4] of a highway, which is typically reserved for clear zones to enhance safety; when the installation involves non-standard methods for installation; or if a transmission facility is too close to other critical infrastructure like bridges, overpasses, or existing utilities and cannot meet the standard separation distances.

3.10.2.3 Waterborne, Rail, and Air Transportation

Waterborne Transportation

Waterborne traffic in Washington is a component of its transportation infrastructure, involving both domestic and international trade. Washington is home to the largest ferry system in the nation, with most routes operated by WSDOT's Washington State Ferries across Puget Sound and its inland waterways. Ferries in Washington provide vital connections to island communities, areas separated by Puget Sound, and interstate and international destinations, and, in many cases, act as connections to other public transportation systems.

[4] Designated area where specific regulations and guidelines are applied to manage traffic and ensure safety.

Key aspects of waterborne traffic in Washington are described below:

- **Ports:** Washington is home to a robust network of ports that play a crucial role in its economy.
- **Number and Distribution:** Washington has 75 public port districts, more than any other state. The ports are spread across 33 of the state's 39 counties (WPPA n.d.).
- **Major Ports:** Some of the state's major ports are the Port of Seattle, Port of Tacoma, Port of Everett, and Port of Vancouver. These ports handle a substantial portion of the state's international trade, particularly with Asia.
- **Deep-Draft Ports:** Eleven of these ports, including Seattle, Tacoma, and Grays Harbor, have deep-draft facilities capable of accommodating large ocean-going vessels.
- **Economic Impact:** Washington ports handle about 7 percent of U.S. exports and 6 percent of imports, despite the state representing only 2 percent of the U.S. population (WPPA n.d.). They are vital for the movement of goods and contribute substantially to the local and national economy.
- **Diverse Functions:** Besides marine terminals, many ports also operate airports, marinas, railroads, and industrial parks. They are involved in various economic development activities, including tourism promotion.
- **Ferry System:** The Washington State Ferries system is the largest in the United States, providing essential transportation for both passengers and vehicles across Puget Sound and other waterways.
- **Cargo Movement:** The state handles a substantial volume of cargo, including containerized goods, bulk commodities, and automobiles. This cargo is transported via various waterways, contributing to the state's economy.
- **Environmental Considerations:** Efforts are ongoing to balance economic activity with environmental protection, ensuring sustainable use of waterways.

The Washington FGTS categorizes waterway corridors based on the annual freight tonnage moved. These categories help identify and prioritize the most heavily used freight transportation networks within the state. The specific waterway corridors are categorized as follows:

- W-1 corridors: more than 25 million tons

- W-2 corridors: 10 million to 25 million tons
- W-3 corridors: 5 million to 10 million tons
- W-4 corridors: 2.5 million to 5 million tons
- W-5 corridors: 0.9 million to 2.5 million tons

These classifications help in planning and investment decisions to support efficient freight movement across the state. By identifying the most heavily used corridors, planners can select routes that are already optimized for high freight volumes, ensuring efficient transportation of materials and goods. Alternatively, identifying less congested corridors can provide other routes in case of disruptions, ensuring that project timelines are met.

Rail Transportation

A robust freight rail network supports the movement of goods across the state and beyond. Washington has approximately 3,100 route miles of active railroad tracks (Burns 2024). The ROW width for a railroad can vary substantially depending on the location and type of track. The Washington State Utilities and Transportation Commission oversees railroad operations and operators and makes public decisions involving railroad safety matters. Specific procedures and standards apply in each state for shared corridor operations and modification of at-grade crossings.

The NESC sets policies for the practical safeguarding of persons during the installation, operation, or maintenance of electric supply and communication lines and associated equipment. It is assumed that any railroad/overhead utility crossing interaction would conform to NESC and other applicable code requirements. Key requirements of the NESC include the following four items:

- Poles or other structures supporting power must be 50 feet from the centerline of main running tracks, centralized traffic control sidings, and heavy tonnage spurs. Poles located adjacent to industry tracks must provide at least a 30-foot clearance from the centerline of the track when measured at right angles. If they are located adjacent to a curved track, then the clearance must be increased at a rate of 1.5 inches per degree of curved track.
- Regardless of the voltage, unguyed poles shall be located a minimum distance from the centerline of any track equal to the height of the pole above the ground line plus 10 feet. If guying is required, the guys shall be placed in such a manner as to keep the pole from leaning or falling in the direction of the tracks.

- High-voltage poles and structures (345 kilovolts and higher) must be located outside of the railroad ROW.
- Crossings must not be installed under or within 500 feet from the end of any railroad bridge or 300 feet from the centerline of any culvert or switch area.

The Washington FGTS categorizes rail corridors based on the annual freight tonnage moved. These categories help identify and prioritize the most heavily used freight transportation networks within the state. The specific rail corridors are categorized as follows:

- R-1 corridors: more than 5 million tons
- R-2 corridors: 1 million to 5 million tons
- R-3 corridors: 500,000 to 1 million tons
- R-4 corridors: 100,000 to 500,000 tons
- R-5 corridors: less than 100,000 tons

Air Transportation

Air transportation in Washington is robust and diverse, serving both passenger and cargo needs. Seattle-Tacoma International Airport (Sea-Tac) is the primary international gateway in Washington, while other airports like Spokane International and Paine Field Airport serve regional needs. Numerous smaller airports support general aviation and local air travel.

Sea-Tac, King County International Airport, and Spokane International Airport handle substantial domestic and international cargo routes. Airlift Northwest and Life Flight Network handle many of the medical air transports.

Transmission facility projects would consider airspace management and obstacle evaluations. For any transmission facility proposed within 20,000 feet of an existing public or military airport, the FAA requires notice of proposed construction for a project so that it can determine whether it would adversely affect commercial, military, or personal air navigation safety. The process allows the FAA to evaluate impacts on air navigation and identify any necessary mitigating measures. The FAA also requires notice of proposed projects that would involve construction or alteration that is more than 200 feet above ground level. This is to ensure that the construction does not pose a hazard to air navigation.

3.10.2.4 Parking

The requirements of WAC 463-60-372 ensure that parking facilities associated with energy projects are adequately planned and managed, minimizing their impact on the environment and surrounding communities. Parking areas often require regular maintenance to ensure they remain functional and safe, including measures to control runoff or strategies to manage stormwater and prevent pollution of nearby waterbodies.

3.10.2.5 Movement and Circulation of People or Goods

Washington is an economic gateway state, connecting Asian markets to U.S. industries, Alaska to the rest of the United States, and Canada to the U.S. West Coast. Imports to Washington support U.S. manufacturers and provide goods to consumers, while agricultural exports support family farms throughout the Pacific Northwest and Midwest. Goods coming into Washington by container ship often go to the Midwest and the East Coast.

Regional economies in Washington—and their manufacturing, agriculture, construction, and forestry components—depend on an effective and efficient freight transportation system. Businesses in Washington rely on the freight system to ship their products to local customers in the state, U.S. markets in California and on the East Coast, and worldwide. Freight-dependent industries provide 45 percent of all jobs in Washington (WSDOT 2022). These jobs occur in the most heavily freight-dependent industry sectors such as wholesale and retail, manufacturing, construction, agriculture, and transportation. These sectors rely on the multimodal freight network to conduct day-to-day business.

WSDOT is charged with planning, funding, implementing, constructing, and maintaining the multimodal transportation system in Washington. WSDOT is responsible for managing and directing the state's freight and passenger rail capital and operating programs.

Washington's freight system is vital to the state's economy and communities, facilitating commerce both locally and internationally. This freight movement is made possible by Washington's expansive multimodal transportation system of roads, railroads, ports and waterways, intermodal facilities, airports and air routes, pipelines, and logistics facilities. The Washington State Freight System Plan (FSP) defines the state's freight transportation trends, issues, and needs to inform freight policy and

guide investment decisions. The FSP fulfills federal freight planning requirements under the Bipartisan Infrastructure Law and supports the state's six transportation policy goals. The FSP is updated every four years to reflect new data, trends, and stakeholder feedback, ensuring that the plan remains relevant and effective in addressing the state's freight transportation needs.

In addition to being aligned with the Washington Transportation Plan 2040 and Beyond, the FSP incorporates and aligns with findings and recommendations from other Washington State transportation plans, such as the Highway System Plan, the Safety Rest Area Strategic Plan, the Aviation System Plan, and the State Rail System Plan. It also describes how the FSP will improve Washington's ability to meet the National Multimodal Freight Policy Goals and National Highway Freight Program Goals.

3.10.2.6 Traffic Hazards

Traffic hazards typically include road closures and detours, heavy equipment movement, reduced visibility and distractions, lane shifts and narrowing, pedestrian safety, work zone safety, and emergency access. By addressing these hazards through careful planning, communication, and implementation of safety measures, the risks associated with a project can usually be reduced.

From 2011 to 2020, transportation incidents resulted in more than 370,000 fatalities across the United States. The majority of these deaths were due to roadway incidents, accounting for 94.2 percent of the total, followed by railroad incidents (2 percent), water transportation (2 percent), air travel (1.1 percent), transit-related incidents (0.7 percent), and pipeline accidents (0.03 percent) (USDOT 2022).

Active transportation and motorcyclist fatalities are at a historical high in Washington. Traffic fatalities increased by 20 percent between 2021 and 2023, from 674 to 810, and are currently at the highest rate since 1990 (825 fatalities) (WTSC 2024). Since 2021, Washington has seen more than 2,000 fatalities and more than 9,000 serious traffic-related injuries, with the most fatal crashes occurring on state routes, followed by city streets and county roads. Nearly half of the fatal crashes in 2023 occurred in only five counties: King, Pierce, Snohomish, Spokane, and Yakima (WTSC 2024).

The U.S. Department of Transportation has recognized the roadway safety crisis as a national top priority and has committed to the ambitious long-term goal of reaching zero roadway fatalities through implementation of the National Roadway Safety

Strategy. In Washington, the Washington Traffic Safety Commission (WTSC) has adopted a similar goal to reduce traffic fatalities and serious injuries to zero by 2030. As the state's designated highway safety office codified under RCW 43.59, the WTSC uses a combination of federal and state systems and traffic safety data for planning, measuring performance, and ensuring accountability.

The WSDOT Clear Zone/Control Zone guidelines focus on ensuring roadside safety by managing the placement of utility objects, such as transmission towers or poles, within highway ROWs. The Clear Zone, which is synonymous with the Control Zone, is the total roadside border area available for use by errant vehicles, starting at the edge of the traveled way. It aims to provide a safe recovery area for vehicles that leave the roadway. The Control Zone Policy ensures that utility infrastructure is located outside the Control Zone whenever possible. Utility poles, especially those carrying high-voltage transmission lines, are considered large roadside hazards. The guidelines aim to reduce the risk of collisions with these poles by either relocating them outside the Clear Zone or implementing safety measures such as barriers.

School zones and bus stops are also considered traffic hazards. Regulations emphasize the importance of safety in these areas due to the high volume of pedestrian and vehicular traffic during school commute times. These areas are often monitored closely to manage traffic flow and protect students.

Along with the typical traffic hazards that can occur during transmission facility projects, electromagnetic interference[5] (EMI) from transmission facilities can also impact transportation systems. Transmission facilities can produce corona discharge, which generates radio noise and can interfere with communication systems. Discharges from faulty insulators or sharp objects on transmission lines can also cause EMI.

3.10.3 Impacts

For this Programmatic EIS, adverse environmental impacts were assessed for the new construction, operation and maintenance, upgrade, and modification of transmission facilities within the Study Area.

[5] A disturbance generated by an external source that affects an electrical circuit; when this disturbance occurs in the radio frequency spectrum, it is known as radio-frequency interference.

3.10.3.1 Method of Analysis

The study area for a project-specific application would typically encompass several key regions and be determined by key features, such as the following:

- **Project Site and Immediate Vicinity:** This includes the specific location of the project and the surrounding area that might be directly affected by new construction, operation and maintenance, upgrade, and modification activities.
- **Transportation Corridors:** This includes identified routes for the transportation of materials and equipment to construction sites, which may involve freight transported by road, water, rail, or air. Identified routes would also include both existing and anticipated LOS during project development.
- **Transportation Infrastructure:** It is essential to identify and evaluate various types of transportation infrastructure that could be affected by the new construction, operation and maintenance, upgrade, and modification of transmission facilities, including bridges and overpasses, railways, airports and airspace, ports and waterways, public transit systems, and pedestrian and bicycle infrastructure.
- **Airspace and Flight Paths:** Applicants would work closely with the FAA to ensure the project does not interfere with controlled airspace. This includes filing necessary forms and obtaining approvals. Areas of special consideration would be identified for project-specific environmental analyses.
- **Safety and Reliability:** Areas requiring road improvements, traffic management, and coordination with local authorities would be identified.

This Programmatic EIS analyzes the affected environment and adverse environmental impacts on transportation within the Study Area (see Chapter 1, Introduction). Four project stages for each transmission facility type (overhead or underground) were considered: new construction, operation and maintenance, upgrade, and modification.

This evaluation considers both overhead and underground transmission facilities for each stage. Overhead transmission facilities consist of transmission lines, substations, and ancillary infrastructure. Overhead transmission facilities may involve similar aboveground infrastructure that may be associated with underground transmission facilities. Underground transmission facilities consist of underground transmission lines, underground access vaults, and other infrastructure located below the ground

surface. The new construction of underground transmission facilities could include both open-trench and trenchless construction methods.

Impact Determination

The discussion of adverse environmental impacts is qualitative given the high-level nature of a Programmatic EIS; quantification would require project-specific details to analyze. **Table 3.10-3** describes the criteria used to evaluate adverse environmental impacts from the Action Alternative and No Action Alternative. Information reviewed to identify adverse environmental impacts on transportation in the Study Area was obtained from federal agencies, state agencies, local planning documents, and public scoping.

Table 3.10-3: Criteria for Assessing the Impact Determination on Transportation

Impact Determination	Description
Nil	No foreseeable adverse environmental impacts are expected. A project would not adversely affect transportation.
Negligible	A project would result in minimal adverse environmental impacts on transportation. Changes would either be non-detectable or, if detected, would only have slight effects. A project would result in modifications to transportation infrastructure or operations locally or regionally that would not be noticeable within existing supply chains or cause alterations to the management and distribution of people or materials. There would be no risk of accidents or hazards. Any impacts on traffic flows and structural integrity of transportation facilities would not be noticeable. Negligible impacts would be short term in duration. BMPs and design considerations are expected to be effective.
Low	A project would result in noticeable adverse environmental impacts on transportation, even with the implementation of BMPs and design considerations. These adverse environmental impacts may include impacts on transportation infrastructure or operations; however, these impacts would be limited and controlled. Furthermore, they would be minor enough that they would not hinder supply chains or the management and distribution of people or materials. Temporary road closures or detours would occur. There would be a minimal risk of accidents or hazards related to the proximity of transmission facilities to transportation routes. Impacts on traffic flows and structural integrity of transportation facilities would be minimal. Adverse impacts on transportation would be localized. Adverse environmental impacts may be short or long term in duration.

Impact Determination	Description
Medium	A project would result in adverse environmental impacts on transportation, even with the implementation of BMPs and design considerations. A project would result in changes to transportation infrastructure or operations that are measurable and have impacts that disrupt supply chains or the distribution of people or materials. There would be more frequent road closures and detours for longer periods of time, which would cause a minor inconvenience to some commuters. There would be measurable and frequent interference with electronic devices and communication systems. There may be an increased risk of accidents or hazards, particularly during construction stages. Medium impacts may be short or long term in duration.
High	A project would result in adverse and potentially severe environmental impacts on transportation, even after the implementation of BMPs and design considerations. A project would cause substantial disruptions to supply chains or the management and distribution of people or materials. There would be frequent, prolonged road closures or detours, which would cause a major inconvenience to many commuters. There would be substantial interference with electronic devices and communication systems, as well as a heightened risk of accidents or hazards. Adverse environmental impacts on transportation may affect a larger area, not just localized to the construction site. High impacts may be short or long term.

BMP = best management practice

To clearly understand the potential severity of adverse environmental impacts without any interventions, the following impact determinations exclude the use of Avoidance Criteria and Mitigation Measures. The ratings assume compliance with all federal, state, and local laws and regulations, as well as standardized BMPs and design considerations. Assessing adverse environmental impacts without Avoidance Criteria or Mitigation Measures offers a baseline understanding of potential environmental effects, helping to identify the true extent of these impacts. Environmental laws often require that initial impact assessments be conducted without considering mitigation to maintain the integrity of the environmental review process.

When impact determinations are identified as medium or high, then either the applicant would adopt applicable Mitigation Measures from this Programmatic EIS, or the State Environmental Policy Act (SEPA) Lead Agency may require applicable mitigation measures to be implemented to reduce project-specific adverse environmental impacts. When impact determinations are low, applicable Mitigation Measures should still be considered by the applicant and the SEPA Lead Agency, as these measures would help to further reduce adverse environmental impacts, including the project's contribution to cumulative impacts. These Mitigation Measures

would be implemented in addition to compliance with laws, regulations, environmental permits, plans, and design considerations required for transmission facilities.

3.10.3.2 Action Alternative

New Construction

Overhead Transmission Facilities

Activities for new construction of overhead transmission facilities would vary and depend on the scale of the facility and site characteristics. New construction could include a relatively short site preparation period (e.g., a few months), followed by a longer construction and start-up period. It is assumed that the new construction of overhead transmission, per mile, would have a shorter duration than underground construction. Overhead transmission facilities could have the following adverse environmental impacts during new construction:

- Impacts on Vehicular Transportation and Infrastructure
- Impacts on Waterborne Vessels and Infrastructure
- Impacts on Rail Transportation and Infrastructure
- Impacts on Air Transportation and Infrastructure

Adverse environmental impacts on nonmotorized transportation (trails and bike lanes) are discussed in Section 3.14, Recreation.

Impacts on Vehicular Transportation and Infrastructure

The following activities during new construction could cause adverse environmental impacts on vehicular transportation and infrastructure:

- **Closures and Diversions** - The new construction of transmission facilities often requires temporary road closures or detours to ensure the safety of both workers and drivers. This could lead to increased congestion in affected areas and increase the risk of collision. Implementing detours could confuse drivers and increase the risk of accidents if not well-marked and communicated. Even if roads remain open, new construction activities could reduce the number of available lanes, causing bottlenecks, slowing down traffic, and creating safety hazards for affected drivers, bicyclists, and pedestrians.

- **Increased Traffic and Increased Collision Risk** - Workers commuting to and from new construction sites may also contribute to increased traffic, especially during peak hours, leading to a higher risk of collision. The movement of heavy construction vehicles and equipment could also pose hazards, especially when entering and exiting new construction sites. The addition of oversized loads could disrupt traffic and require special permits and escorts. Increased traffic and oversized loads are of particular concern when traffic hazards, such as school zones and bus stops, are located on the route.
- **Impacts from Access Road Construction** - The new construction of access roads could lead to an expansion of the local roadway network, resulting in increased roadway access and associated safety hazards, especially in areas of steep or mountainous terrain. New construction of access roads would also cause environmental disturbance (see Section 3.2, Earth Resources; Section 3.4, Water Resources; and Section 3.5, Vegetation). Under RCW 47.52, certain areas and uses are prohibited on limited access facilities. These prohibitions help maintain the safety and functionality of limited access facilities.
- **Impacts on Road Authority** – New transmission construction within roadway ROWs presents several challenges and encumbrances on road authorities, including the traffic disruptions and collision risks described above, as well as maintenance challenges. New construction of transmission facilities and placement of infrastructure within ROWs could complicate routine road maintenance activities of road authorities, requiring maintenance crews to navigate around transmission structures, slowing down operations, and possibly increasing costs.

Impact Determination: Adverse environmental impacts on transportation resulting from impacts on vehicular transportation and infrastructure during the new construction of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to high.

Impacts on Waterborne Vessels and Infrastructure

The new construction of transmission facilities could have the following adverse environmental impacts on waterborne transportation and infrastructure, particularly in areas where transmission facilities cross or run parallel to navigable waterways:

- **Closures and Diversions** – New construction activities could temporarily disrupt navigation routes, requiring vessels to detour or slow down. This could affect commercial shipping schedules and increase operational costs. Delays and disruptions in waterborne traffic could have economic repercussions, particularly for industries that rely on the timely shipping of goods.
- **Increased Collision Risk** - The presence of construction equipment and personnel near waterways could pose safety risks for both construction workers and vessel operators. Proper coordination and communication are essential to mitigate collision risks.
- **Impacts from Infrastructure Modification** - Existing waterborne infrastructure, such as docks and piers, may need to be modified or reinforced to accommodate construction activities. This could lead to additional cost and logistical challenges, interrupting access to and use of waterborne transportation, as well as causing nuisance to public and private users.

Impact Determination: Adverse environmental impacts on transportation resulting from impacts on waterborne vessels and infrastructure during the new construction of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to medium.

Impacts on Rail Transportation and Infrastructure

The new construction of transmission facilities could impact railway operations, particularly in areas that require railroad crossings. The following impacts on rail transportation and infrastructure could occur during new construction:

- **Closures and Diversions** – New construction activities near rail lines could lead to temporary disruptions and delays. This could affect train schedules, resulting in increased travel times and potential inconvenience for passengers and freight operators.
- **Increased Collision Risk** - The presence of construction equipment and personnel near rail tracks could pose collision risks. Proper safety protocols and coordination between construction personnel and rail operators are essential to mitigate safety concerns.
- **Impacts on Rail Stability** – New construction activities, especially those involving heavy machinery, could generate noise and vibration that may affect

nearby rail operations. This vibration could impact the stability of rail tracks and compromise passengers' comfort.

- **Impacts from Infrastructure Modification** - In some cases, existing rail infrastructure may need to be modified or reinforced to accommodate new transmission facility construction, adding costs and logistical challenges.

Impact Determination: Adverse environmental impacts on transportation resulting from impacts on rail transportation and infrastructure during the new construction of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to medium.

Impacts on Air Transportation and Infrastructure

The new construction of transmission facilities could have the following adverse environmental impacts on air transportation and infrastructure:

- **Impacts from Airspace Restrictions** – New construction activities, especially those involving tall structures like transmission towers, could lead to temporary airspace restrictions. These restrictions could affect flight paths and schedules, requiring pilots to adjust their routes. Helicopter operations needed for the new construction of overhead transmission facilities may require temporary airspace restrictions or no-fly zones to ensure safety.
- **Increased Collision Risk** - The presence of cranes and other tall equipment near airports or flight paths could pose safety hazards. Proper coordination with aviation authorities is essential to ensure that these structures are clearly marked and communicated to pilots to minimize the risks of collision.
- **Decreased Visibility** – New construction activities could create visual obstructions and interfere with navigational aids. This could be particularly challenging during poor weather conditions or for low-flying aircraft. Similarly, vibration from construction equipment could affect nearby airports and air traffic control operations, leading to temporary disruptions in navigational aids. Vibration could affect the accuracy of navigational aids. These systems rely on precise signals, and excessive vibration could cause signal distortion. New construction can lead to environmental changes, such as dust and emissions, which can affect air quality and visibility and could indirectly impact air traffic, especially in areas with high construction activity. Other adverse environmental impacts of dust and emissions are discussed in Section 3.3, Air Quality.

Section 3.9, Land and Shoreline Use, analyzes impacts on military utilized airspace and civilian airfield operations.

Impact Determination: Adverse environmental impacts on transportation resulting from impacts on air transportation and infrastructure during the new construction of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to high.

Underground Transmission

Activities for the new construction of underground transmission facilities would vary and depend on the scale of the facility and site characteristics. New construction could include a site preparation period of relatively short duration (e.g., a few months), followed by a longer construction and start-up period. It is assumed that the new construction of overhead transmission, per mile, would have a shorter duration than underground construction. Underground transmission facilities could have the following adverse environmental impacts on transportation resources during new construction:

- Impacts on Vehicular Transportation and Infrastructure
- Impacts on Waterborne Vessels and Infrastructure
- Impacts on Rail Transportation and Infrastructure
- Impacts on Air Transportation and Infrastructure

Impacts on Vehicular Transportation and Infrastructure

Like its overhead counterpart, the new construction of underground transmission facilities could have the following adverse environmental impacts on vehicular transportation and infrastructure:

- **Closures and Diversions –** New construction activities often require temporary road closures or detours to ensure the safety of both workers and drivers. Heavy construction vehicles, such as trucks carrying underground cables, equipment, and excavation materials, often require frequent access to and from construction sites, potentially disrupting traffic flow. These vehicles are often large and can block lanes or create bottlenecks, increasing congestion. Excavation work may require road closures, lane reductions, or detours to ensure worker safety and accommodate necessary construction equipment.

- **Increased Traffic and Increased Collision Risk** – Workers commuting to and from new construction sites may also contribute to increased traffic, especially during peak hours. The movement of heavy construction vehicles and equipment could also pose hazards, especially when entering and exiting construction sites. The addition of oversized loads could disrupt traffic and require special permits and escorts. Increased traffic and oversized loads are of particular concern when traffic hazards, such as school zones and bus stops, are on the route. These roadway disruptions could increase the potential for traffic accidents and cause delays, requiring drivers to navigate detours or alternate routes. Given that underground construction generally takes longer than overhead construction, the resulting adverse environmental impacts on vehicular transportation may be more prolonged.
- **Impacts from Access Road Construction** – The new construction of access roads could lead to an expansion of the local roadway network, resulting in increased roadway access and associated safety hazards, especially in areas of steep or mountainous terrain. New construction of access roads would also cause environmental disturbance (see Section 3.2, Earth Resources; 3.4, Water Resources; and 3.5, Vegetation). Under RCW 47.52, certain areas and uses are prohibited on limited access facilities,[6] such as freeways and some highways. These prohibitions help maintain the safety and functionality of limited access facilities.

Impact Determination: Adverse environmental impacts on transportation resulting from impacts on vehicular transportation and infrastructure during the new construction of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to high.

Impacts on Waterborne Vessels and Infrastructure

The following adverse environmental impacts on waterborne transportation and infrastructure may occur during the new construction of underground facilities:

- **Closures and Diversions** – Waterborne vessels may be impacted by underground transmission construction, as activities such as the installation of

[6] A highway or street especially designed or designated for through traffic, and over, from, or to which owners or occupants of abutting land, or other persons, have no right or easement, or only a limited right or easement of access, light, air, or view by reason of the fact that their property abuts upon such limited access facility, or for any other reason to accomplish the purpose of a limited access facility.

cables or the excavation of trenches for infrastructure could disrupt waterways, affect docking areas, and create temporary obstructions.

- **Increased Collision Risk** – The new construction of transmission facilities could increase the risk of collisions. The presence of construction equipment and materials in the water could pose hazards to navigation, requiring additional safety measures and coordination. Vessels colliding with transmission facilities could cause damage to both the vessels and the transmission facilities, potentially leading to power outages, costly repairs, and other safety concerns.
- **Impacts from Infrastructure Modification** – New construction activities may require new or modified infrastructure (e.g., docks, loading areas), which could alter waterway dynamics, potentially improving or complicating waterborne transportation depending on the design and implementation. Effective scheduling and coordination minimize conflicts between new construction activities and regular waterborne transportation operations.

Impact Determination: Adverse environmental impacts on transportation resulting from impacts on waterborne vessels and infrastructure during the new construction of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to high.

Impacts on Rail Transportation and Infrastructure

Like new overhead facility construction, underground construction activities could have the following adverse environmental impacts on rail transportation and infrastructure:

- **Closures and Diversions** – New construction near railroads could cause temporary railroad disruptions, affecting train schedules, increasing travel times, and inconveniencing passengers and freight operators.
- **Increased Collision Risk** – The presence of construction equipment and personnel near tracks could pose safety risks to workers and rail operators.
- **Impacts on Rail Stability** – Heavy machinery used for trenching could generate noise and vibration that may compromise rail track stability and passenger comfort. Similarly, trenching activities could disrupt soil, potentially leading to erosion and ground instability, which could destabilize tracks (see Section 3.2, Earth Resources).

- **Impacts from Infrastructure Modification** – In some cases, existing rail infrastructure may need reinforcement to accommodate new transmission facility construction, requiring track closures or rerouting, which could further complicate scheduling, increase operational challenges, and disrupt services.

Impact Determination: Adverse environmental impacts on transportation resulting from impacts on rail transportation and infrastructure during the new construction of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to high.

Impacts on Air Transportation and Infrastructure

New construction activities could have the following adverse environmental impacts on air transportation and infrastructure:

- **Temporary Airspace Restrictions** – The new construction of underground facilities would have less impact on air transportation than overhead construction, as it would occur at and below ground level. While underground construction does not typically interfere with flight paths or airspace, there may be temporary airspace restrictions on the height of construction equipment like cranes, which could interfere with flight paths if the new construction site is near an airport.
- **Increased Collision Risk** – Even when transmission lines are underground, temporary tall structures or equipment may be used during new construction, affecting airspace and increasing collision risk.
- **Decreased Visibility** – New construction activities could indirectly impact air transportation as a result of vibration and decreased air quality (see Section 3.13, Noise and Vibration and Section 3.3, Air Quality). Vibration could affect the accuracy of navigational aids. These systems rely on precise signals, and excessive vibration could cause signal distortion. New construction can lead to environmental changes, such as dust and emissions, which could affect air quality and visibility and could indirectly impact air traffic, especially in areas with high construction activity.

Section 3.9, Land and Shoreline Use, analyzes adverse environmental impacts on military utilized airspace and civilian airfield operations.

Impact Determination: Adverse environmental impacts on transportation resulting from impacts on air transportation and infrastructure during the new construction of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from nil to medium.

Operation and Maintenance

Overhead Transmission Facilities

Activities for the operation and maintenance stage of overhead transmission facilities would vary based on the type of facility, scale, and site characteristics. Facilities are not expected to have staff on site daily, but maintenance crews are anticipated to be regularly deployed. Transmission facilities require ongoing maintenance for equipment and ROWs. Overhead transmission facilities could have the following adverse environmental impacts during the operation and maintenance stage:

- Impacts on Vehicular Transportation and Infrastructure
- Impacts on Waterborne Transportation and Infrastructure
- Impacts on Rail Transportation and Infrastructure
- Impacts on Air Transportation and Infrastructure

Impacts on Vehicular Transportation and Infrastructure

Overhead transmission facilities could have the following adverse environmental impacts on vehicular transportation and infrastructure during the operation and maintenance stage:

- **Increased Collision Risks** – Transmission facilities along roadways pose potential collision risks, as they are physical obstructions that drivers may inadvertently strike, especially in areas with limited visibility, narrow lanes, or high-speed traffic. Collisions with electrical towers could cause harm to individuals involved, as well as road closures and traffic diversions. The use of large equipment and vehicles for maintenance could increase the risk of collisions with other vehicles, especially in areas of high traffic.
- **Closures and Diversions** – Repair and maintenance activities may also require temporary road or lane closures, leading to increased travel times and congestion in affected areas; however, overhead facilities can typically be repaired quickly.

Impact Determination: Adverse environmental impacts on transportation resulting from vehicular transportation and infrastructure during the operation and maintenance of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to low.

Impacts on Waterborne Transportation and Infrastructure

Transmission facilities that cross or span waterways could pose navigation hazards for vessels. The following adverse environmental impacts on waterborne transportation and infrastructure could occur during the operation and maintenance stage:

- **Increased Collision Risk** – Transmission facilities near or crossing waterways could pose potential collision risks, as they form physical obstructions that vessels may inadvertently strike.
- **Visual Obstructions** – Proper marking and lighting of overhead transmission lines are essential to ensure that they are visible to ship operators, especially at night or in poor weather conditions. Transmission towers and lines could also act as visual obstructions that complicate ship navigation, particularly in areas with complex waterways or near ports, where precise maneuvering is crucial for safe passage.
- **Closures and Diversions** – Regular maintenance and repair of transmission facilities may require temporary access to areas near or over waterways, which may cause coordination challenges and potential disruptions to navigation routes and shipping schedules.
- **Electromagnetic Interference** – Transmission facilities could generate EMI that may interfere with navigational equipment on vessels. This interference could affect the accuracy of instruments and require ship operators to take additional safety precautions. Understanding and mitigating EMI is crucial to ensuring the safe and efficient operation of waterborne transportation systems near transmission facilities.

Impact Determination: Adverse environmental impacts on transportation resulting from waterborne transportation and infrastructure during the operation and maintenance of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from negligible to low.

Impacts on Rail Transportation and Infrastructure

The following adverse environmental impacts on rail transportation and infrastructure could occur during the operation and maintenance stage:

- **Increased Collision Risks** – Transmission lines and towers near rail tracks could pose collision risks, especially during periods of maintenance and repair activities involving vehicles and equipment. Regular maintenance and repair activities may require temporary access to areas near rail tracks. This could cause temporary disruptions and delays, affecting train schedules; however, overhead lines and facilities can typically be repaired quickly.
- **Electromagnetic Interference** – Transmission facilities could generate EMI that may interfere with railway signaling and communication systems. This could affect the reliability and safety of rail operations. Understanding and mitigating EMI is crucial to ensuring the safe and efficient operation of rail transportation systems near transmission facilities.
- **Impacts on Rail Stability** – Transmission facilities could lead to soil erosion or changes in surrounding vegetation (see Section 3.2, Earth Resources and Section 3.5, Vegetation). These environmental changes could indirectly impact rail reliability and operations.

Impact Determination: Adverse environmental impacts on transportation resulting from rail transportation and infrastructure during the operation and maintenance of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from nil to low.

Impacts on Air Transportation and Infrastructure

The following adverse environmental impacts on air transportation and infrastructure could occur during the operation and maintenance stage:

- **Temporary Airspace Restrictions** – During the operation and maintenance of transmission facilities, there may be temporary airspace restrictions on the height of construction equipment, like cranes, which could interfere with flight paths if the construction site is near an airport.
- **Increased Risk of Collision** – Transmission towers and lines could pose collision risks for low-flying aircraft such as helicopters and small planes. Proper

marking and lighting of these structures are essential to ensure they are visible to pilots.

- **Electromagnetic Interference** – EMI could disrupt the operation of navigation systems used in aviation, potentially leading to safety hazards. This could affect the accuracy of instruments and require pilots and air traffic controllers to take additional precautions. Understanding and mitigating EMI is crucial to ensuring the safe and efficient operation of air transportation systems near transmission facilities.
- **Visual Obstructions** – Transmission facilities could create visual obstructions, particularly in areas with complex terrain or near airports. This could be challenging for pilots during takeoff, landing, and low-altitude flight operations.

Impact Determination: Adverse environmental impacts on transportation resulting from air transportation and infrastructure during the operation and maintenance of overhead transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to medium.

Underground Transmission Facilities

Similar to overhead transmission facilities, activities for the operation and maintenance of underground transmission facilities would vary based on the type of facility, scale, and site characteristics. Facilities are not expected to have staff on site daily, but maintenance crews are anticipated to be regularly deployed. Transmission facilities require ongoing maintenance for equipment and ROWs, similar to any other linear industrial facility. Underground transmission facilities could have the following adverse environmental impacts during the operation and maintenance stage:

- Impacts on Vehicular Transportation and Infrastructure
- Impacts on Waterborne Transportation and Infrastructure
- Impacts on Rail Transportation and Infrastructure
- Impacts on Air Transportation and Infrastructure

EMI is not evaluated for underground transmission facilities, as the earth is expected to shield most interference during operation and maintenance.

Impacts on Vehicular Transportation and Infrastructure

During operation and maintenance, extended repair activities could have the following adverse environmental impacts on vehicular transportation and infrastructure:

- **Closures and Diversions** – Due to the nature of underground transmission facilities, lengthy repairs involving complex procedures and specialized equipment could disrupt vehicular traffic and lead to increased congestion. Access to underground vaults may necessitate excavation activities, which often require road closures, lane reductions, or detours to ensure worker safety and accommodate construction equipment.
- **Increased Collision Risk** – Roadway obstructions could increase the risk of collision. Regular maintenance requires the presence of vehicles and equipment, which could also create obstacles and increase the risk of collisions with other vehicles or infrastructure. Maintenance zones often have reduced visibility due to equipment, materials, and temporary structures, making it harder for operators and drivers to navigate safely.

Impact Determination: Adverse environmental impacts on transportation resulting from impacts on vehicle transportation and infrastructure during the operation and maintenance of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to medium.

Impacts on Waterborne Transportation and Infrastructure

The following adverse environmental impacts on waterborne transportation and infrastructure could occur due to extended repair activities during the operation and maintenance stage:

- **Closures and Diversions** – Waterborne transportation may be impacted due to the lengthy process of fault detection, access, and repair.
- **Increased Collision Risk** – Similarly, the complex repair process could lead to extended time on site, which could delay other vessels or cause congestion in busy waterways. Disruptions of busy waterways could increase the risk of collision with other waterborne vessels.

Impact Determination: Adverse environmental impacts on transportation resulting from waterborne transportation and infrastructure during the operation and

maintenance of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from low to medium.

Impacts on Rail Transportation and Infrastructure

Underground transmission facilities may have the following identified adverse environmental impacts on rail transportation and infrastructure during operation and maintenance if vaults occur near railway systems:

- **Closures and Diversions** – Access to underground vaults may require excavation activities, which could cause temporary railroad disruptions, affecting train schedules, increasing travel times, and inconveniencing passengers and freight operators.
- **Increased Collision Risk** – Maintenance activities for transmission facilities near rail lines can bring equipment and personnel close to active rail tracks, increasing the risk of collisions. Maintenance work may involve temporary obstructions, such as vehicles, equipment, and materials, which could interfere with rail operations. Visual obstructions during maintenance activities could make it more difficult for train operators to see and respond to potential hazards.
- **Impacts on Rail Stability** – Heavy machinery used in the excavation process could compromise track stability and passenger comfort through the generation of noise and vibration, and the presence of machinery and personnel near tracks may pose safety risks to workers, rail operators, and passengers.

Impact Determination: Adverse environmental impacts on transportation resulting from rail transportation and infrastructure during the operation and maintenance of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts could range from nil to medium.

Impacts on Air Transportation and Infrastructure

Underground transmission facilities may have the following adverse environmental impact on air transportation and infrastructure if vaults occur near airports:

- **Temporary Airspace Restrictions** – Access to underground vaults may necessitate excavation activities, which may involve the use of equipment such as cranes or excavators, requiring temporary airspace restrictions.

The operation and maintenance of underground transmission facilities is expected to have a lower impact on air transportation than overhead transmission facilities because their underground nature typically prevents the risk of collision and visual obstruction.

Impact Determination: Adverse environmental impacts on transportation resulting from air transportation and infrastructure during the operation and maintenance of underground transmission facilities are expected to vary depending on the scale of the project and site-specific conditions. In the absence of mitigation, these adverse environmental impacts range from nil to low.

Upgrade

Overhead Transmission Facilities

Upgrades to overhead transmission facilities would occur within existing ROWs without expanding the existing facility footprint or causing new ground disturbance. However, these upgrades may result in adverse environmental impacts on transportation, including:

- Impacts on Vehicular Transportation and Infrastructure
- Impacts on Waterborne Transportation and Infrastructure
- Impacts on Rail Transportation and Infrastructure
- Impacts on Air Transportation and Infrastructure

The adverse environmental impacts from upgrading overhead transmission facilities are often comparable to those of maintaining overhead transmission facilities. These adverse environmental impacts are generally anticipated to be lower than those for modifying or constructing a new transmission facility due to several factors. Table 2.3-1 highlights how upgrading existing transmission facilities would generally result in fewer or less impactful adverse environmental impacts.

Underground Transmission Facilities

Upgrades to underground transmission facilities would occur within existing ROWs, without expanding the facility footprint or causing new ground disturbance. However, these upgrades may result in adverse environmental impacts on transportation, including:

- Impacts on Vehicular Transportation and Infrastructure

- Impacts on Waterborne Transportation and Infrastructure
- Impacts on Rail Transportation and Infrastructure
- Impacts on Air Transportation and Infrastructure

The adverse environmental impacts from upgrading underground transmission facilities are often comparable to those of maintaining underground transmission facilities. These adverse environmental impacts are generally anticipated to be lower than those for modifying or constructing a new transmission facility due to several factors. Table 2.3-1 highlights how upgrading existing transmission facilities would generally result in fewer or less impactful adverse environmental impacts.

Modification

In addition to modifications made to meet the needs of customers or utility providers, transportation-related projects may also require the replacement, relocation, or removal of transmission facilities located on state ROWs. As noted in several sections of the Programmatic EIS (e.g., Section 3.5, Vegetation), utilizing existing corridors—including utility, transportation, and other disturbed ROWs—can help minimize new land disturbance and reduce adverse environmental impacts on sensitive resources. Accordingly, road and highway ROWs are considered part of the broader category of disturbed areas evaluated for transmission siting. Co-locating transmission facilities within transportation corridors or other ROW disturbance requires consideration of safety, regulatory, and engineering constraints. This approach supports impact avoidance and promotes efficient land use.

Overhead Transmission Facilities

Modifying existing overhead transmission facilities typically involves several key steps, each with specific requirements, timelines, and settings, as outlined in Chapter 2, Overview of Transmission Facilities, Development Considerations, and Regulations. The adverse environmental impacts of modifying existing transmission facilities would vary depending on the scale of the project-specific application. Overhead transmission facilities could have the following adverse environmental impacts on transportation during the modification stage:

- Impacts on Vehicular Transportation and Infrastructure
- Impacts on Waterborne Transportation and Infrastructure
- Impacts on Rail Transportation and Infrastructure

- Impacts on Air Transportation and Infrastructure

Adverse environmental impacts of modifying overhead transmission facilities could be similar to those of new construction, but are anticipated to be lower. Table 2.3-2 highlights how modifying existing transmission facilities would generally result in fewer or less impactful adverse environmental impacts.

Underground Transmission

Modifying existing underground transmission facilities typically involves several key steps, each with specific requirements, timelines, and settings, as outlined in Chapter 2, Overview of Transmission Facilities, Development Considerations, and Regulations. The adverse environmental impacts of modifying existing transmission facilities would vary depending on the scale of the project-specific application. Underground transmission facilities could have the following adverse environmental impacts on transportation during the modification stage:

- Impacts on Vehicular Transportation and Infrastructure
- Impacts on Waterborne Transportation and Infrastructure
- Impacts on Rail Transportation and Infrastructure
- Impacts on Air Transportation and Infrastructure

Adverse environmental impacts of modifying underground transmission facilities could be similar to those of new construction, but are generally anticipated to be lower. Table 2.3-2 highlights how modifying existing transmission facilities would generally result in fewer or less impactful adverse environmental impacts.

3.10.3.3 No Action Alternative

Under the No Action Alternative, the Programmatic EIS would not be adopted as a planning or analytical framework. Instead, transmission facility siting and development would continue under existing state and local regulatory processes, with each project evaluated for environmental compliance without the benefit of the environmental review provided in this document. This approach would lack the advanced notice of potential serious environmental concerns for those planning transmission facilities, as well as Mitigation Strategies developed under the Programmatic EIS. As a result, environmental outcomes could be less predictable and consistent, and adverse environmental impacts could be greater.

3.10.4 Mitigation Measures

Under SEPA, there are six recognized forms of mitigation that agencies can apply to reduce or address environmental impacts:

- **Avoiding the adverse environmental impact** altogether by not taking a certain action or parts of an action.
- **Minimizing adverse environmental impacts** by limiting the degree or magnitude of the action and its implementation.
- **Rectifying the adverse environmental impact** by repairing, rehabilitating, or restoring the affected environment.
- **Reducing or eliminating the adverse environmental impact** over time by preservation and maintenance operations during the life of the action.
- **Compensating for the adverse environmental impact** by replacing or providing substitute resources or environments.
- **Monitoring the adverse environmental impact** and taking appropriate corrective measures.

This section describes the Avoidance Criteria and Mitigation Measures that could apply to adverse environmental impacts from new construction, operation and maintenance, upgrade, and modification of transmission facilities.

All General Measures adopted for this Programmatic EIS (see Section 3.1 of Chapter 3, Affected Environment, Significant Impacts and Mitigation) are relevant to this resource section. Applicants would be responsible for providing information within their application materials documenting their implementation of the General Measures.

Avoidance Criteria[7] that are relevant to this resource section are described below:

AVOID-14 – Civilian Airports and Military Installations: Avoid having equipment or infrastructure near civilian airports, surrounding runway protection zones, special-use airspaces that have a surface-level floor elevation, and the Boardman Geographic Area of Concern.

[7] The complete list of Avoidance Criteria and their rationales can be found in Section 3.1 and Appendix 3.1-1.

Rationale: This Avoidance Criterion aims to avoid adverse environmental impacts on designated areas within which some forms of transmission facility development could have an adverse environmental impact on airport and military operations and/or readiness.

AVOID-15 – Non-Compliance with Utilities Accommodation Policy: Avoid planning, siting, and constructing transmission facilities that are not properly accommodated within highway rights-of-way (ROWs).

Rationale: Comprehensive analysis of adverse environmental impacts and mitigation strategies would be required by the Washington State Department of Transportation when transmission facilities are planned or designed within ROWs. In cases where utility providers are noncompliant with the Utilities Accommodation Policy, the utility company would submit a detailed variance application to the applicable department for review. The variance application requires an environmental analysis and, if approved, additional Mitigation Measures may be required.

AVOID-16 – Decrease in LOS Below Acceptable Levels: Avoid a decrease in level of service (LOS) below level C on roads used during all stages of transmission facilities.

Rationale: This avoidance criterion is intended to apply to long-term operational adverse environmental impacts on transportation systems. Temporary reductions in LOS during construction are recognized as common and may be acceptable when managed through appropriate mitigation measures and coordination with local transportation authorities.

The Programmatic EIS is intended to support more efficient and effective siting and permitting of transmission facilities, consistent with the legislative direction in RCW 43.21C.408, by streamlining environmental reviews where projects incorporate the recommended planning and Mitigation Strategies. Applicants would be responsible for providing information within their application materials documenting the project's compliance with the above Avoidance Criteria. While total avoidance of all adverse environmental impacts is not required in order to use the Programmatic EIS, applicants are expected to demonstrate how their project aligns with the intent of the Avoidance Criteria to the extent practicable. If specific Avoidance Criteria are not met, the applicant would provide an explanation and supporting information. Additional environmental analyses would be required as part of the documentation for SEPA for the project. Additional mitigation could be required, depending on the nature of the

deviation and its potential to result in probable significant adverse environmental impacts.

Mitigation Measures have been identified to minimize adverse environmental impacts from transmission facility projects. These measures are intended to be broad so that they can be applied to most projects that would be covered under this Programmatic EIS. However, project-specific plans would be needed to adapt the measures for project-specific applications. The inclusion of a Mitigation Measure in this Programmatic EIS does not imply that a given adverse environmental impact is presumed to occur. Rather, the measures are provided to support early planning and the avoidance of adverse environmental impacts, streamlining project-specific environmental reviews when impacts are identified. Mitigation Measures are intended to serve as a set of potential strategies that the SEPA Lead Agency and applicants can draw from, depending on the specific environmental context and project footprint. Applicants and the SEPA Lead Agency retain discretion to:

- Propose alternative mitigation strategies that achieve equivalent or better outcomes.
- Demonstrate that certain Mitigation Measures are not applicable due to the absence of relevant impacts.

When impact determinations are identified as medium or high, then either the applicant would adopt applicable Mitigation Measures from this Programmatic EIS or the SEPA Lead Agency may require applicable mitigation to be implemented to reduce project-specific adverse environmental impacts. When impact determinations are low, applicable Mitigation Measures should still be considered by the applicant and the SEPA Lead Agency, as these Mitigation Measures would help to further reduce adverse environmental impacts, including the project's contribution to cumulative impacts. These Mitigation Measures would be implemented in addition to compliance with laws, regulations, environmental permits, plans, and design considerations required for transmission facilities.

The following Mitigation Measures could be adopted to mitigate adverse environmental impacts:

TR-1 – Coordination with Aviation Groups: Work closely with aviation groups and authorities to ensure that transmission facilities are marked on aviation maps and that pilots, both commercial and recreational, are aware of their locations.

Rationale: This Mitigation Measure aims to reduce the risk of accidents and alert low-flying aircraft and helicopters or other aerial recreationists in the area, including private aircraft, paragliders, hang-gliders, and skydivers to overhead transmission facilities.

TR-2 – Planning Coordination: Consult local authorities regarding planned construction activity near or crossing roads, waterways, railways, and airports.

Rationale: This Mitigation Measure aims to streamline transportation processes and reduce adverse environmental impacts by optimizing routes, schedules, and operations for all types of transportation to meet the needs of affected stakeholders, minimize disruptions, and address potential concerns.

TR-3 – Carpool Program: Create a carpool program that connects workers commuting from similar areas.

Rationale: This Mitigation Measure aims to limit traffic volume increases associated with commuting workers by decreasing the number of potential cars on the road. It also aims to reduce a project's adverse environmental impact by minimizing emissions from vehicles.

In addition to the above Mitigation Measures, the following Mitigation Measures[8] developed for other resources may be applicable:

H&S-2 – Risk Management Strategy: Develop and apply an electromagnetic field (EMF) and electromagnetic interference (EMI) risk management strategy that regularly considers the consequence, likelihood, and significance of EMF and EMI on public health and existing infrastructure, such as transportation systems, based on emerging research studies and guidelines.

LSU-6 – Consult with the Northwest DOD Regional Coordination Team: Conduct early and ongoing consultation with the Northwest Department of Defense (DOD) Regional Coordination Team to address any potential conflicts with military utilized airspaces or land uses.

Rec-5 – Notice to Air Missions:[9] Coordinate with the appropriate aviation authorities, such as the Federal Aviation Administration, to determine the necessity and content of a Notice to Air Missions.

[8] The rationales for the identified Mitigation Measures are provided in their respective resource sections.
[9] A notice containing information that is essential to pilots and other air personnel.

3.10.5 Probable Significant Adverse Environmental Impacts

Determining the significance of an adverse environmental impact involves consideration of context and intensity, which, in turn, depend on the magnitude and duration of the impact. "Significant" in SEPA means a reasonable likelihood of more than a moderate adverse environmental impact on environmental quality. An adverse environmental impact may also be significant if its chance of occurrence is not great, but the resulting impact would be severe if it occurred (WAC 197-11-794).

Identification of adverse environmental impacts and assignment of discipline-specific ratings are based on a structured evaluation consistent with the criteria outlined in WAC 197-11-330. Significance determinations consider the context and intensity of potential adverse environmental impacts, using both quantitative and qualitative information where appropriate. Professional expertise does not substitute for regulatory compliance. Regulatory requirements establish the baseline for environmental analysis and mitigation. Professional experience is used to supplement this baseline, providing additional insight to identify whether Mitigation Measures beyond those required by regulation may be warranted. In cases where data are incomplete or unavailable, a conservative approach has been applied to ensure that potential adverse environmental impacts are not underestimated.

This Programmatic EIS weighs the potential adverse environmental impacts on transportation that would result from transmission facilities after considering the application of laws and regulations; siting and design considerations, including agency guidance and BMPs; and Mitigation Strategies, and makes a resulting determination of significance for each impact. **Table 3.10-4** summarizes the adverse environmental impacts anticipated for the new construction, operation and maintenance, upgrade, and modification of transmission facilities.

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Table 3.10-4: Summary of Adverse Environmental Impacts, Mitigation Strategies, and Significance Rating for Transportation

Adverse Environmental Impact	Project Stage	Description of Impact	Impact Determination Before Applying Mitigation	Mitigation Strategy Applied[a]	Significance After Applying Mitigation Strategy	Rationale for Significance Rating
Transportation – Impacts on Vehicular Transportation and Infrastructure	New Construction	The following adverse environmental impacts could occur during the new construction of overhead and underground transmission facilities: ▪ Closures and diversions ▪ Increased traffic ▪ Increased collision risk ▪ Impacts from new access road construction Due to overhead transmission facilities involving aboveground infrastructure that can cause obstructions, the following impact is anticipated to occur for overhead transmission facilities: ▪ Impacts on road authority	**Overhead:** low to high **Underground:** low to high	▪ **AVOID-15:** Non-Compliance with Utilities Accommodation Policy ▪ **AVOID-16** Decrease in LOS Below Acceptable Levels ▪ **TR-2:** Planning Coordination ▪ **TR-3:** Carpool Program	Less than Significant	Federal and state regulatory requirements ensure that construction projects implement effective traffic guidelines during roadway operations. Standard BMPs like traffic control signs and markers, along with the identified Mitigation Measures, would be generally effective at minimizing impacts from road closures and traffic diversions. International safety guidelines ensure that electronic components of vehicles and other modes of transportation meet electromagnetic compatibility standards.
	Operation and Maintenance	The following adverse environmental impacts could occur during the operation and maintenance stage of overhead and underground transmission facilities: ▪ Increased collision risks ▪ Closures and diversions	**Overhead:** negligible to low **Underground:** low to medium			
	Upgrade	Upgrade activities for transmission facilities, whether overhead or underground, can result in temporary adverse environmental impacts on vehicular transportation similar to those observed during maintenance activities. These impacts may include: ▪ Increased collision risks ▪ Closures and diversions For upgrades, coordination with road authorities may be necessary to manage potential obstructions, ensure compliance with safety standards, and minimize disruptions to public infrastructure. These impacts are typically short-term and can be mitigated through traffic management plans, stakeholder coordination, and adherence to safety protocols.	**Overhead:** negligible to low **Underground:** low to medium			
	Modification	Adverse environmental impacts would be similar to those of new construction for modifying existing transmission facilities.	**Overhead:** low to high **Underground:** low to high			

Adverse Environmental Impact	Project Stage	Description of Impact	Impact Determination Before Applying Mitigation	Mitigation Strategy Applied[a]	Significance After Applying Mitigation Strategy	Rationale for Significance Rating
Transportation – Impacts on Waterborne Vessels and Infrastructure	New Construction	The following adverse environmental impacts could occur during the new construction of overhead and underground transmission facilities: ▪ Closures and diversions ▪ Increased collision risk ▪ Impacts from infrastructure modification	**Overhead:** low to medium **Underground:** low to high	▪ **AVOID-15:** Non-Compliance with Utilities Accommodation Policy ▪ **TR-2:** Planning Coordination ▪ **H&S-2:** Risk Management Strategy	Less than Significant	Federal and state requirements ensure the safe construction of transmission facilities. Standard BMPs and the identified Mitigation Measures would effectively minimize impacts on navigation routes and shipping schedules. International safety guidelines ensure that electronic components of vehicles and other modes of transportation meet electromagnetic compatibility standards. BMPs like shielding methods, along with the identified Mitigation Measures, would be effective at minimizing electromagnetic interference.
	Operation and Maintenance	The following adverse environmental impacts could occur during the operation and maintenance stage of overhead and underground transmission facilities: ▪ Increased collision risk ▪ Closures and diversions The following impacts would be specific to the operation and maintenance of overhead transmission facilities: ▪ Electromagnetic interference ▪ Visual obstructions	**Overhead:** negligible to low **Underground:** low to medium			
	Upgrade	Upgrade activities for transmission facilities that intersect or are adjacent to navigable waterways may result in temporary adverse environmental impacts on waterborne transportation, similar to those observed during maintenance activities.	**Overhead:** negligible to low **Underground:** low to medium			
	Modification	Adverse environmental impacts would be similar to those of new construction for modifying existing transmission facilities. Modified structures may introduce new or increased visual obstructions that could affect visibility for vessel operators, particularly in low-light or adverse weather conditions.	**Overhead:** low to medium **Underground:** low to high			
Transportation – Impacts on Rail Transportation and Infrastructure	New Construction	The following adverse environmental impacts could occur during the new construction of overhead and underground transmission facilities: ▪ Closures and diversions ▪ Increased collision risk ▪ Impacts on rail stability ▪ Impacts from infrastructure modification	**Overhead:** low to medium **Underground:** low to high	▪ **AVOID-15:** Non-Compliance with Utilities Accommodation Policy ▪ **TR-2:** Planning Coordination ▪ **H&S-2:** Risk Management Strategy	Less than Significant	Federal and state requirements ensure the safe construction of transmission facilities. Standard industry practices and the identified Mitigation Measures would be effective at minimizing impacts from infrastructure modification. International safety guidelines ensure that electronic components of vehicles, and other modes of transportation,
	Operation and Maintenance	The following adverse environmental impacts could occur during the operation and maintenance stage of overhead and underground transmission facilities: ▪ Increased collision risks ▪ Impacts on rail stability	**Overhead:** nil to low **Underground:** nil to medium			

Adverse Environmental Impact	Project Stage	Description of Impact	Impact Determination Before Applying Mitigation	Mitigation Strategy Applied[a]	Significance After Applying Mitigation Strategy	Rationale for Significance Rating
		The following impacts would be specific to the operation and maintenance of overhead transmission facilities: ▪ Electromagnetic interference The following impacts would be specific to the operation and maintenance of underground transmission facilities: ▪ Closures and diversions				meet electromagnetic compatibility standards. BMPs like shielding methods, along with the identified Mitigation Measures, would be effective at minimizing electromagnetic interference.
	Upgrade	Upgrade activities for transmission facilities located near or crossing rail corridors may result in temporary adverse environmental impacts on rail transportation, similar to those experienced during the maintenance of existing facilities. Upgraded overhead facilities may contribute to electromagnetic interference, which could affect rail signaling or communication systems. Upgraded underground transmission facilities may require excavation or trenching near rail infrastructure, necessitating temporary closures or access restrictions to ensure safety and maintain rail operations.	**Overhead:** nil to low **Underground:** nil to medium			
	Modification	Adverse environmental impacts would be similar to those of new construction for modifying existing transmission facilities.	**Overhead:** low to medium **Underground:** low to high			
Transportation – Impacts on Air Transportation and Infrastructure	New Construction	The following adverse environmental impacts could occur during the new construction of overhead and underground transmission facilities: ▪ Temporary airspace restrictions ▪ Increased collision risk ▪ Decreased visibility	**Overhead:** low to high **Underground:** nil to medium	▪ **AVOID-15:** Non-Compliance with Utilities Accommodation Policy ▪ **AVOID-14:** Civilian Airports and Military Installations ▪ **TR-1:** Coordination with Aviation Groups ▪ **TR-2:** Planning Coordination ▪ **H&S-2:** Risk Management Strategy ▪ **LSU-6:** Consult with the Northwest DOD Regional Coordination Team ▪ **Rec-5:** Notice to Air Missions	Less than Significant	Federal and state regulatory requirements ensure that construction projects minimize safety hazards to air traffic. Standard BMPs like effective dust suppression, along with the identified Mitigation Measures, would be generally effective at minimizing risks of visual obstructions to air traffic. International safety guidelines ensure that electronic components of vehicles, and other modes of transportation, meet electromagnetic compatibility standards. BMPs like shielding methods, along with the identified
	Operation and Maintenance	The following adverse environmental impacts could occur during the operation and maintenance stage of overhead and underground transmission facilities: ▪ Temporary airspace restrictions The following adverse environmental impacts would be specific to the operation and maintenance of overhead transmission facilities: ▪ Increased risk of collision ▪ Electromagnetic interference ▪ Visual obstructions	**Overhead:** low to medium **Underground:** nil to low			

Adverse Environmental Impact	Project Stage	Description of Impact	Impact Determination Before Applying Mitigation	Mitigation Strategy Applied[a]	Significance After Applying Mitigation Strategy	Rationale for Significance Rating
	Upgrade	Upgrade activities for transmission facilities, particularly overhead facilities located near airports, heliports, or within regulated airspace, may result in temporary adverse environmental impacts on air transportation similar to those experienced during maintenance activities. Upgrades may require temporary restrictions or notifications to airspace users, especially when cranes, elevated platforms, or other tall equipment are used near flight paths or navigational zones.	**Overhead:** low to medium **Underground:** nil to low			Mitigation Measures, would be effective at minimizing electromagnetic interference.
	Modification	Adverse environmental impacts would be similar to new construction for modifying existing transmission facilities.	**Overhead:** low to high **Underground:** nil to medium			

Notes:

[a] Appendix 3.1-1 provides a detailed listing of each Mitigation Strategy. This appendix serves as a reference section that can be consulted independently of the main text. This is particularly useful for detailed guidance and technical specifications that may be referred to multiple times. Additionally, including this information in an appendix allows for easier updates and revisions. If Mitigation Strategies or guidance changes, the appendix can be updated without altering the main content.

BMP = best management practice; **DOD** = Washington State Department of Defense; **LOS** = level of service; **TIA** = Traffic Impact Assessment

3.10.6 Environmental Sensitivity Map

Project-specific applications require a comprehensive analysis to identify the site-specific adverse environmental impacts on resources and determine the suitability of this Programmatic EIS. Environmental review may be phased by incorporating relevant information from this Programmatic EIS by reference while evaluating site-specific adverse environmental impacts of individual project applications. For more information on phased reviews, please refer to Chapter 1, Introduction.

Each project-specific application would include details about the proposal's location and site-specific conditions. This Programmatic EIS provides environmental sensitivity maps that, when used alongside project-specific data, could support more informative and efficient environmental planning. An online mapping tool has also been developed to provide public access to the most current data used in creating these environmental sensitivity maps.

Figure 3.10-1 presents the environmental sensitivity map for transportation, identifying areas of varying sensitivity based on the siting criteria described in the following sections.

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LEGEND

Sensitivity Score

Low Sensitivity

Very High Sensitivity

Nanaimo
Richmond
Surrey
White Rock
Abbotsford
SKAGIT RANGE
2582 m
Greenwood
Grand Forks
Trail
Cowichan Lake
Duncan
5020 ft
10762 ft
Bellingham
Victoria
Skagit River
Mount Vernon
Salish Sea
Oak Harbor
Sandpoint
OLYMPIC MOUNTAINS
6027 ft
Everett
Lake Chelan
7967 ft
Franklin D. Roosevelt Lake
Post Falls
Spokane
Seattle
CASCADE RANGE
Wenatchee
Kent
WENATCHEE MOUNTAINS
Hangman Creek
Tacoma
Moses Lake
Olympia
Aberdeen
14411 ft
Yakima River
Moscow
Yakima
Lewiston
Astoria
COASTAL RANGES
8336 ft
Longview
CASCADE RANGE
Kennewick
Walla Walla
4680 ft
Columbia River
The Dalles
Hillsboro
Portland
11215 ft
Newberg

Washington State Energy Facility Site Evaluation Council

PROJECT

PROGRAMMATIC EIS
HIGH-VOLTAGE TRANSMISSION

TITLE

SENSITIVITY MAP
TRANSPORTATION

YYYY-MM-DD 2025-09-03 CONSULTANT wsp FIGURE 3.10-1

N

0 30 60
1:1,700,000 MILES

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

DESIGNED MK PREPARED MK REVIEWED SHUP APPROVED AHSGIZA

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3.10.6.1Environmental Sensitivity Map Criteria Cards

The environmental sensitivity map evaluates various siting criteria and assigns sensitivity levels to geographic areas based on their potential for adverse environmental impacts, as analyzed in this Programmatic EIS. Each criterion was assigned a sensitivity level (1, 2, or 3), with Level 3 representing the highest sensitivity. Criteria cards illustrate the spatial extent of the siting criteria chosen. A summary of the criteria cards is provided below. Appendix 3.1-2 details the data preparation process for the criteria cards.

Infrastructure Strains – Sensitivity Level 1

Figure 3.10-2 illustrates the spatial extent of state bridge structures plus a 250-foot buffer (WSDOT 2025c).

Transporting large components may require special permits and considerations for bridge load limits.

Traffic Disruptions – Sensitivity Level 2

Figure 3.10-3 illustrates the spatial extent of state routes ranked with LOS C, D, E, and F mitigated, as well as rail routes ranked with LOS C, D, or E plus a 250-foot buffer around all route features (WSDOT 2020, 2024a, 2024b). Increased heavy vehicle, rail, or water traffic during construction can lead to additional congestion and potential safety hazards, potentially decreasing the LOS below acceptable levels.

Air Traffic – Sensitivity Level 3

Figure 3.10-4 illustrates the spatial extent of the Boardman Geographic Area of Concern, National Security Area, military bases, and non-military airports. A 2-mile buffer was applied around non-military airports (DOC 2022a, 2022b; USDOT 2024; WSDOT 2024c).

Transmission towers and lines in these areas could create visual and physical barriers that could potentially affect navigation. Transmission facility development in these areas would compromise military operations and readiness to a level that is of high severity.

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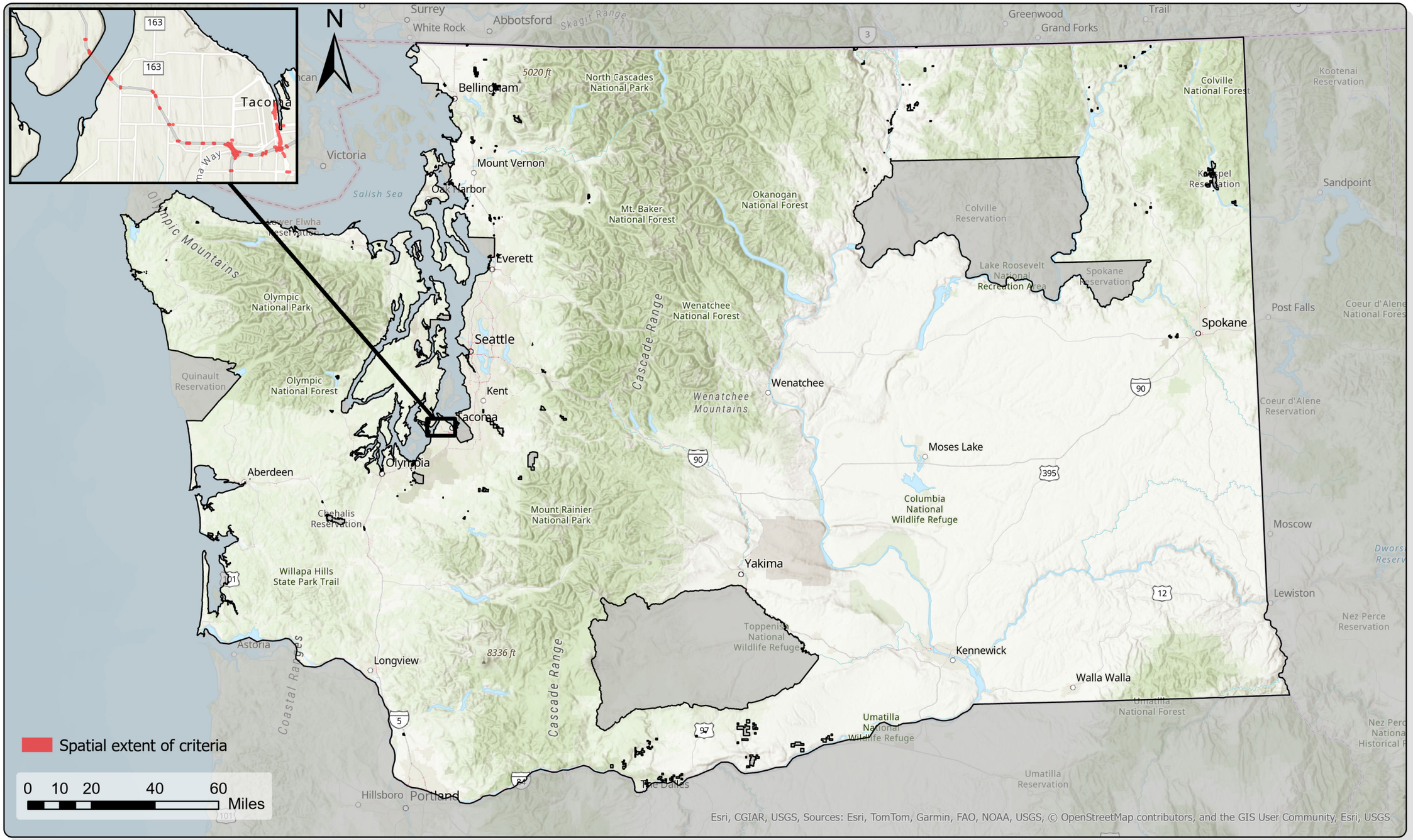
Infrastructure Strains – Sensitivity Level 1

Washington State Energy Facility Site Evaluation Council



TRANSPORTATION

Figure 3.10-2

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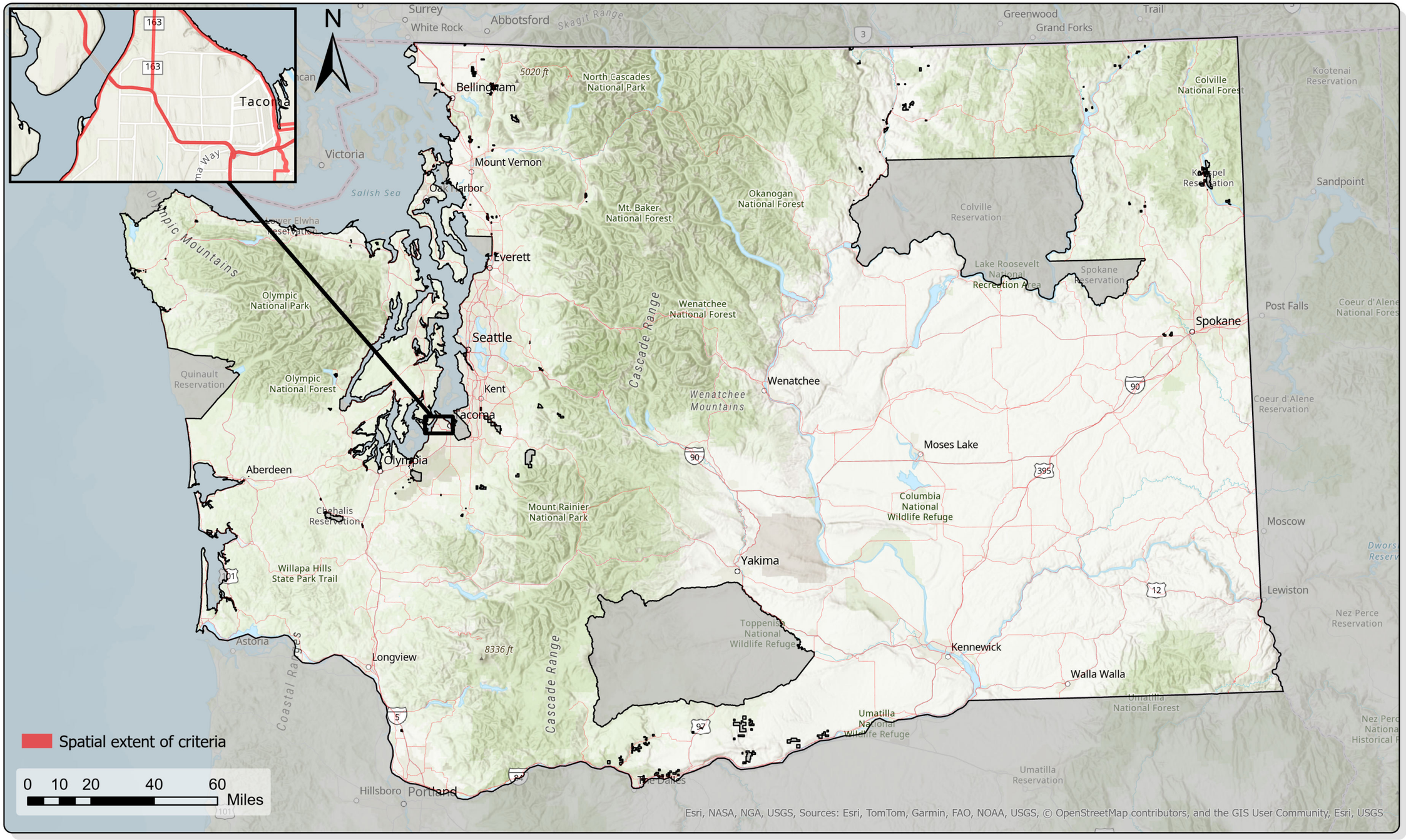
Traffic Disruptions – Sensitivity Level 2

Washington State Energy Facility Site Evaluation Council



TRANSPORTATION

Figure 3.10-3

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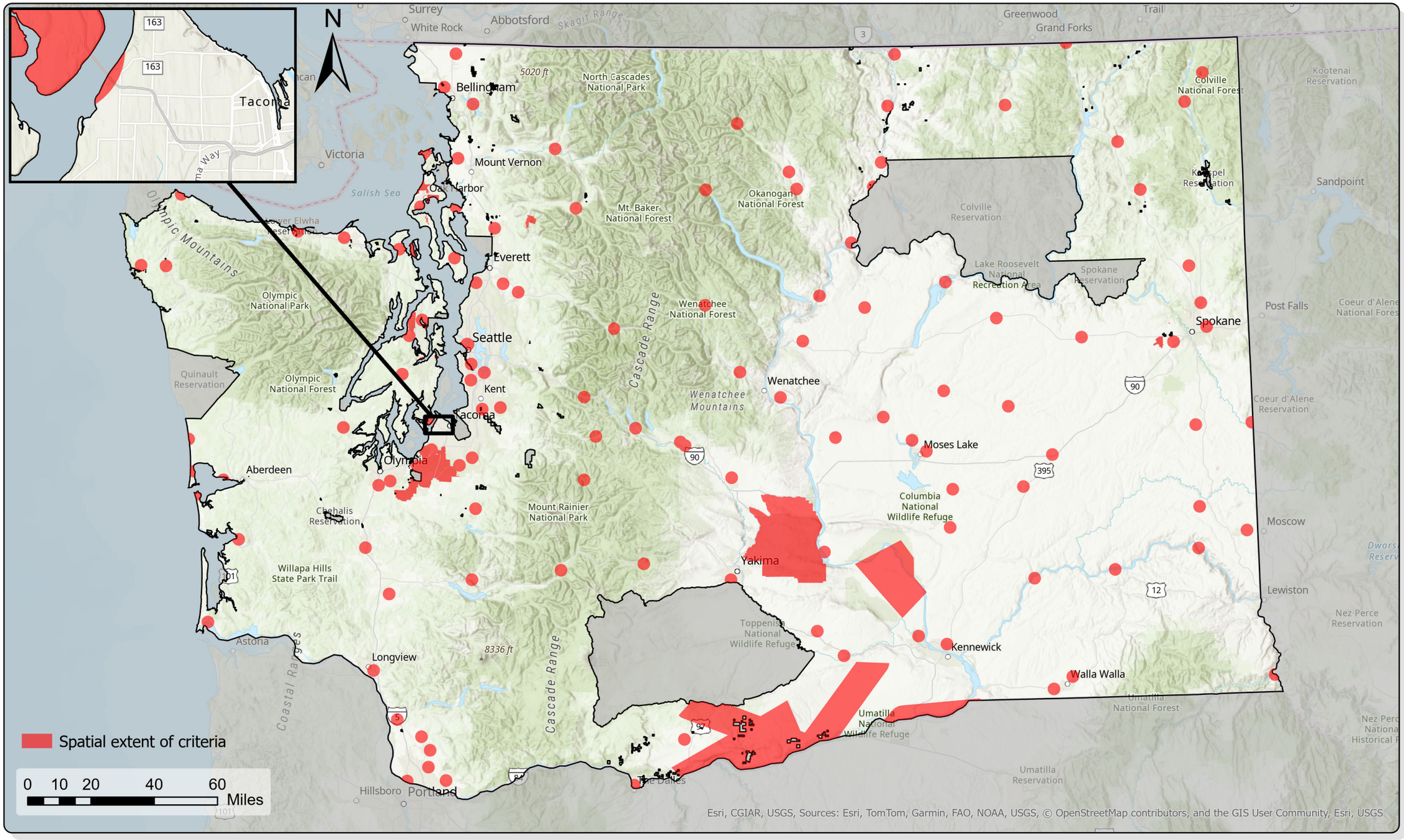
Air Traffic – Sensitivity Level 3

Washington State Energy Facility Site Evaluation Council



TRANSPORTATION

Figure 3.10-4

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