

Chapter 220 **WSDOT Transportation Planning Studies**

- 220.01 Introduction
- 220.02 Transportation System Analyses
- 220.03 Highway Planning Studies
- 220.04 Ferry Planning Studies
- 220.05 Other WSDOT Planning Studies
- 220.06 Exhibits

Key to Icon

 Web site.*

220.01 Introduction

WSDOT conducts a variety of transportation planning studies, often in cooperation with other transportation providers and system users. Some WSDOT studies are undertaken to identify existing and future needs and deficiencies in state-owned transportation systems and evaluate policies, projects, and/or program solutions for addressing those needs and deficiencies. WSDOT also participates in studies of other transportation systems in which the state has an interest. The following types of studies are discussed in subsequent sections of this chapter:

- Transportation System Analyses
- Highway Planning Studies
- Ferry Planning Studies
- Other WSDOT Planning Studies

The results of these studies can lead to recommendations in local, metropolitan, and regional transportation plans, as discussed in **Chapter 230**, and the Washington Transportation Plan (WTP), as discussed in **Chapter 240**. These plans all serve as a basis for Project Scoping and Programming, as discussed in **Part 3**. If a major study is needed for a potential project, however, WSDOT may seek funding through the Project Scoping and Programming process and conduct the study during the Design and Environmental Review process. A thorough analysis of potentially significant environmental impacts of various alternative solutions can then be performed, and a preferred alternative can be selected for further consideration and specification during the Environmental Permitting and PS&E phase of project development. Construction funding can then be pursued through the project programming process.

*Web sites and navigation referenced in this chapter are subject to change. For the most current links, please refer to the online version of the EPM, available through the WSDOT Environmental Services Office (ESO) home page: <http://www.wsdot.wa.gov/environment/>

220.02 Transportation System Analyses

On a regular or as needed basis, WSDOT conducts analyses of assets in the state's highway, ferry, and state airport systems to determine their current condition and their current and future level of performance (given population and economic trends), sometimes with and without various improvements. Any maintenance, preservation, and improvement needs or deficiencies are identified and evaluated. A more comprehensive assessment of any improvement needs, however, is often made through special studies described in Section 220.03 through Section 220.05.

Transportation system analyses are often made possible (or at least much easier) as a result of WSDOT's monitoring, database, and modelling systems that collect, maintain, and analyze data on roadway, bridge, ferry, and ferry terminal conditions; traffic, ridership, and travel demand and delay data; and speed and collision data. WSDOT also maintains database records of environmental deficiencies associated with its assets. Such deficiencies include culverts that block fish passage, roadways without adequate stormwater control, and roadways with chronic environmental problems like rockfall, landslides, flooding, or undercutting by rivers or streams.

Information on transportation system analyses of the state's highway system assets, including the WSDOT Highway Performance Monitoring System and other tools used to monitor the condition of the state's highways and/or evaluate current and future levels of performance, is available on the WSDOT Transportation Data Office Web site:

 <http://www.wsdot.wa.gov/mapsdata/tdo/aboutthetdo.htm>

220.03 Highway Planning Studies

WSDOT also conducts specific studies for individual highways, highway sections, and travel corridors. Such studies require a greater level of analysis and cooperation with interested parties to evaluate preservation and/or improvement options. In some cases, studies examine concepts for addressing the conditions and expectations for roads in the future. Some concepts may be eliminated from further consideration in later stages of planning and project development.

(1) *Route Development Plans*

Route Development Plans (RDPs) are planning studies for an individual highway or part of a highway. Within the study area, existing and future deficiencies are identified and appropriate solutions proposed. The scope of the study focuses on analyses of geometric and operating conditions, traffic volumes and safety trends, environmental concerns, population and land-use changes, and right of way and other issues that might affect the highway and its adjacent communities. Proposed solutions may include several short and

long term alternatives. RDPs serve as the vision of the partners involved for how the study area should develop over time. They typically cover a 20-year planning horizon.

Setting the direction for routes within the state system provides WSDOT an opportunity to develop agreements with its partners, including tribal governments, local jurisdictions, regional and state organizations and agencies, communities, and the private sector. Public involvement is also key to the development of these plans, allowing concerns about access management and development review policies to be addressed. WSDOT also uses route development plans as a tool to define and address route continuity, if feasible.


When completed, an RDP is used to assist WSDOT, local agencies, and RTPOs with their plans and programs. RDPs are used to refine and update the Highway System Plan (HSP) by identifying potential projects. Completed RDPs are also utilized by WSDOT to communicate future route goals to stakeholders. Route development plans are intended to be living documents and should be updated periodically to keep pace with changing transportation needs. Like corridor study plans, RDPs are key elements in linking planning to program development and, ultimately, project delivery.

For more information on RDPs and route development planning activity, see the WSDOT Transportation Planning Web site at:

 <http://www.wsdot.wa.gov/planning/>

Click on Route Development Plans.

Or by direct link:

 <http://www.wsdot.wa.gov/planning/RDP/>

(2) Corridor Study Plans

The usual purpose of a corridor study plan is to determine the best way to serve existing and future travel demand within a travel corridor. These studies define alignment, mode(s), and facilities between activity centers or other logical termini. Corridor study plans typically respond to a specific problem, such as high accident locations and corridors, high levels of existing or future congestion, and significant land-use changes. They often involve more than one mode. These plans identify existing and future deficiencies and evaluate preliminary alternative solutions. The recommended preferred alternative usually includes a facility description including environmental, operational, and other impacts, with proposed mitigation, if applicable. Corridor planning is accomplished using a long-range outlook, at least 20 years and sometimes longer.

A corridor study plan may be broad in purpose and recommendations or provide a significant level of detail for a very specific purpose.

Typically an existing facility, such as a highway or a rail line, defines the axis of a corridor, and the corridor will extend beyond the facility right-of-way. The corridor may be relatively narrow or extend as much as five miles or more on either side of the axis. The corridor usually connects major destinations, such as two cities, or a major portion of the distance between those destinations. A corridor may also cover the length of an entire route.

A corridor may also be defined as a broad geographic area served by various transportation systems. These systems provide important connections between various regions for passengers, goods, and services. Studies of this magnitude might be defined as “Regional or Mega-Corridors” and address links among a network of facilities and systems, including rail, highway, transit lines, transit stations, bicycle paths, airports, and marine ports/terminals.

The Transportation Research Board (TRB) has provided guidelines for developing corridor studies in The National Cooperative Highway Research Program (NCHRP), Report 435, *Guidebook for Transportation Corridor Studies: A Process for Effective Decision-Making*. In addition to the steps of the planning process for corridor studies, the guidebook deals with the decision-making process and its relationship to NEPA, and it recommends training for core competencies in traffic pattern and volume modeling, public involvement and consensus building, economic analysis, financial analysis, and funding.

Benefits of corridor planning include:

- Resolution of major planning issues prior to the initiation of project development.
- Identification and possibly preservation of transportation right-of-way.
- Protection of transportation investments.
- Partnerships with diverse public and private agencies and organizations.

(3) Other Highway Planning Studies

WSDOT may conduct other planning studies to identify highway preservation and improvement needs and deficiencies and evaluate alternative policy, project, and/or program solutions for meeting those needs and deficiencies.

(a) Scenic Corridor Management Plans

Like Route Development Plans and Corridor Study Plans, Scenic Corridor Management Plans provide an analysis of a corridor over a 20 or more year planning horizon. However, their purpose is to establish community-based goals and implementation strategies along a corridor, especially to promote tourism as part of the economy of an area. These plans also describe how to use community resources efficiently, how to conserve intrinsic qualities of the corridor, and how to enhance its value to the community.

Scenic Corridor Management Plans are developed under the federal Scenic Byway Program. They follow FHWA guidelines for a master planning process along a corridor, with a focus both within and outside of the highway right-of-way. For more information on Scenic Byways and WSDOT Scenic Byway planning activity, see:

☞ <http://www.wsdot.wa.gov/TA/ProgMgt/Byways/>

(b) Spot and Location Studies

Spot and location studies are used to address specific problems or deficiencies, such as safety or congestion problems, at a particular location, like a high accident location, or an interchange or intersection where traffic flow is a problem. They typically analyze alternative solutions, or the feasibility of a particular solution. Sometimes these studies are in response to legislative or other political interest and may have targeted funding.

Results may range from recommending a near-term solution analyzed for its feasibility, recommending a long-term solution coupled with a near-term solution, or recommending an alternative solution. If appropriate, such studies also follow the SEPA/NEPA process. Additional funding may be required to implement any long-term solution, but operational funding may be available to implement a near-term solution.

220.04 Ferry Planning Studies

(1) Ferry Terminal Master Plans

Washington State Ferries occasionally prepares a new master plan or updates an existing master plan for a ferry terminal. This involves working with the community, other transportation providers, the metropolitan or regional transportation planning organization, and resource agencies. The process identifies preservation and/or improvements needs or deficiencies, assesses options for addressing those needs or deficiencies, including any environmental considerations, and recommends policy, project, and/or change-in-service solutions. WSF and community look at improvements that may be needed in overhead loading, terminal building, pick-up and drop-off areas, and access for public transit, bikes, and pedestrians.

(2) Other Ferry Studies

Washington State Ferries also uses origin/destination studies, and boat-wait, congestion, and delay studies to improve customer service. It has used a customer service survey to measure customer satisfaction with the ferry service and measure interest in potential new services and amenities aboard ferries and at their terminals.

220.05 Other WSDOT Planning Studies

(1) *State Airport Studies*

WSDOT Aviation assesses the maintenance, preservation, and improvement needs at the 16 state-owned and/or operated airports in a variety of ways, one example being a pavement assessment. Airport layout plans are being developed to assess future preservation and improvement needs, including new or replacement paving, navigation aids, lighting, utilities, hangar storage, improved road access, and property acquisition.

(2) *Aviation Studies*

WSDOT maintains a Washington State Aviation System Plan Airport Condition Assessment Database, which is periodically updated through airport management interviews and physical inventories to identify gaps and deficiencies in the airport system. The database includes information on intermodal connections, distance of highway access to the airport, land use, pavement conditions, airport facilities, and airport services.

This information is periodically used to determine how well the aviation system is performing, and identify actions necessary to direct the aviation system toward established goals, once a set of objectives for future performance have been identified. This is currently done in the process of updating the State Aviation System Plan, a component of the Washington Transportation Plan (WTP).

(3) *Freight Mobility Studies*

WSDOT conducts a variety of studies and analyzes the conclusions of studies by other entities to identify freight system needs and deficiencies. Customer requirements and data-driven information provide the basis for recommended improvements to the state's freight system.

The WSDOT Draft Freight Report for the Washington Transportation Plan (WTP) 2005 Update exemplifies this methodology and WSDOT freight mobility studies. The draft report and executive summary can be found at:

 http://www.wsdot.wa.gov/freight/images/WTP_FreightUpdate.pdf

The WSDOT Freight Office WTP methodology included:

- Over 200 one-on-one interviews with high-volume shippers and freight carriers
- Voice surveys of another 350 statewide customers
- Focus groups with key public and private partners
- Literature review of freight-dependent industries' requirements

- Truck surveys: origin-destination data on major statewide corridors
- Volume counts: truck trips, rail volumes, etc.
- Existing regional and national research studies and reports

In addition, WSDOT uses the Strategic Freight Transportation Analysis (SFTA) to provide data and direction for making investment decisions designed to improve freight mobility for the state's economic vitality. For more information on SFTA and WSDOT freight planning, see:

☞ <http://www.wsdot.wa.gov/freight/>

(4) Freight and Passenger Rail Studies

WSDOT conducts freight and passenger rail studies to identify needs and deficiencies on rail lines and for service. These studies assess the best options for addressing these needs or deficiencies, in some cases to satisfy the needs of a particular type of customer, like grain transporters. More information is online at:

☞ <http://www.wsdot.wa.gov/rail/>

(5) Capital Facilities Studies

WSDOT's Facilities Office uses field condition assessments to determine the condition, deficiency backlog, and operational suitability of each highway system support facility, and they maintain a Computer Aided Facility Management (CAFM) database and 10-year Capital Plan to identify and prioritize preservation and improvement needs and replacement and improvement schedules for those facilities.

220.06 Exhibits

None.

