HORIZON 2045

Spokane Metropolitan Transportation Plan

SRTC
SPOKANE REGIONAL TRANSPORTATION COUNCIL

ADOPTED
DECEMBER 9, 2021

HORIZON 2045

Spokane Metropolitan Transportation Plan

Photo Credit: Spokane International Airport

Spokane Regional Transportation Council
Membership

City of Airway Heights
City of Cheney
City of Deer Park
Town of Fairfield
Kalispel Tribe*
Town of Latah
City of Liberty Lake
City of Medical Lake
City of Millwood
Town of Rockford
Town of Spangle
City of Spokane
Spokane County
Spokane Transit Authority
Spokane Tribe*
City of Spokane Valley
Washington State Department of Transportation
Washington State Transportation Commission
Town of Waverly

*New members added after Horizon 2045 was adopted.

Title IV Statement

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Para obtener más información sobre el Plan de transporte metropolitano, Horizon 2045, comuníquese con el Consejo de Transporte Regional (Regional Transportation Council) de Spokane al (509) 343-6370 o en contact.srtc@srtc.org. Puede disponerse de servicios de lenguaje de señas, traducción y provisión de materiales de comunicación en otros formatos si sepiden oportunamente.

Please email contact.srtc@srtc.org or call (509) 343-6370 to receive additional copies of this document.

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RESOLUTION
of the BOARD OF DIRECTORS
of the
SPOKANE REGIONAL TRANSPORTATION COUNCIL
R-21-06 SRTC

**APPROVING THE
HORIZON 2045 METROPOLITAN TRANSPORTATION PLAN AND
A FINDING OF TRANSPORTATION CONFORMITY
FOR THE SPOKANE METROPOLITAN PLANNING AREA**

WHEREAS, the Spokane Regional Transportation Council's Board of Directors (SRTC Board) is the Metropolitan Planning Organization (MPO) for the Spokane Metropolitan Planning Area (SMPA); and

WHEREAS, the SRTC Board is also the Regional Transportation Planning Organization (RTPO) for Spokane County; and

WHEREAS, the Fixing America's Surface Transportation Act (FAST Act) of 2015 requires an MPO to develop a long range intermodal/multimodal, financially constrained transportation plan for each metropolitan area; and

WHEREAS, the Revised Codes of Washington (RCW) 47.80.030 requires an RTPO to prepare a regional transportation plan in cooperation with the department of transportation, providers of public transportation and high capacity transportation, and local governments within the region; and

WHEREAS, Horizon 2045 serves as the federally required long-range Metropolitan Transportation Plan (MTP) and also as the Regional Transportation Plan (RTP) for Spokane County; and

WHEREAS, Horizon 2045 has been determined to conform with Air Quality Plans which include the Limited Maintenance Plan (LMP) for PM_{10} and the LMP for Carbon Monoxide (CO); and

WHEREAS, the SRTC Board is responsible for local approval of Transportation Conformity for Horizon 2045; and

WHEREAS, a draft Horizon 2045 has been developed under the direction of the SRTC Board in consultation with local government staff, Washington State Department of Transportation (WSDOT), and operators of public transportation, and with input from various groups and members of the general public; and

WHEREAS, Horizon 2045 was developed in accordance with federal metropolitan transportation planning process requirements, as prescribed in Title 23, Code of Federal Regulations, Part 450 (23 CFR 450) and other relevant regulations, including requirements for interagency consultation; and

WHEREAS, Horizon 2045 supports performance targets that contribute towards the accomplishment of the Washington State Department of Transportation (WSDOT) performance targets as required by the FAST Act and in support of Washington's Highway Safety Improvement Program (HSIP) Target Zero; and

WHEREAS, Horizon 2045 supports performance targets that also contribute towards the accomplishment of the Spokane Transit Authority's public transit asset management and public transit safety performance targets as required by the FAST Act; and

WHEREAS, the approved Horizon 2045 will replace the 2014-2040 Metropolitan Transportation Plan for the SMPA; and

WHEREAS, Horizon 2045 identifies improvements to the transportation facilities for the SMPA through the year 2045 and includes a financial plan which demonstrates how the plan will be implemented; and

WHEREAS, the public was invited to review the draft document and was provided 30 days to comment on the Horizon 2045; and

WHEREAS, the SRTC Board is responsible for adoption of the Horizon 2045; and

WHEREAS, approval of the Horizon 2045 defines the intent of SRTC regarding future transportation facilities in the SMPA and provides direction for development of future Transportation Improvement Programs.

NOW THEREFORE, BE IT RESOLVED BY THE Board of Directors of the Spokane Regional Transportation Council of Washington that:

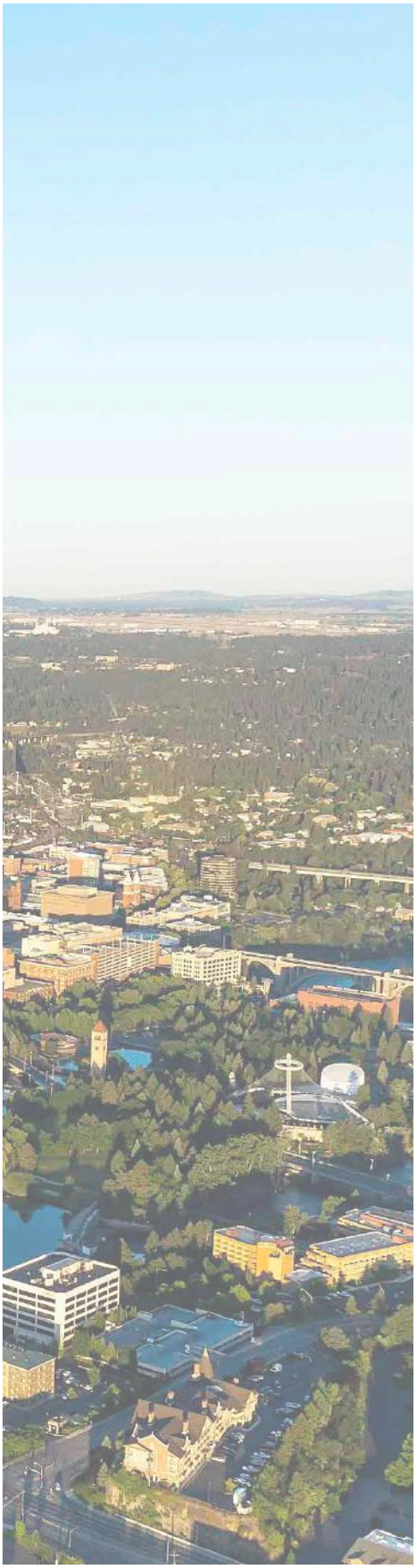
1. Horizon 2045 is hereby adopted.
2. Spokane Regional Transportation Council is authorized to publish Horizon 2045 and per 23 CFR 450.324 (c) submit for information purposes the Plan to the Governor, Federal Highways Administration (FHWA) and Federal Transit Administration (FTA).

PASSED and APPROVED this 9th day of December 2021 by the SRTC Board of Directors of the Spokane Regional Transportation Council of Washington.

Mayor Ben Wick, Chair
SRTC Board

ATTEST

Julie Meyers-Lehman
Administrative-Executive Coordinator, SRTC



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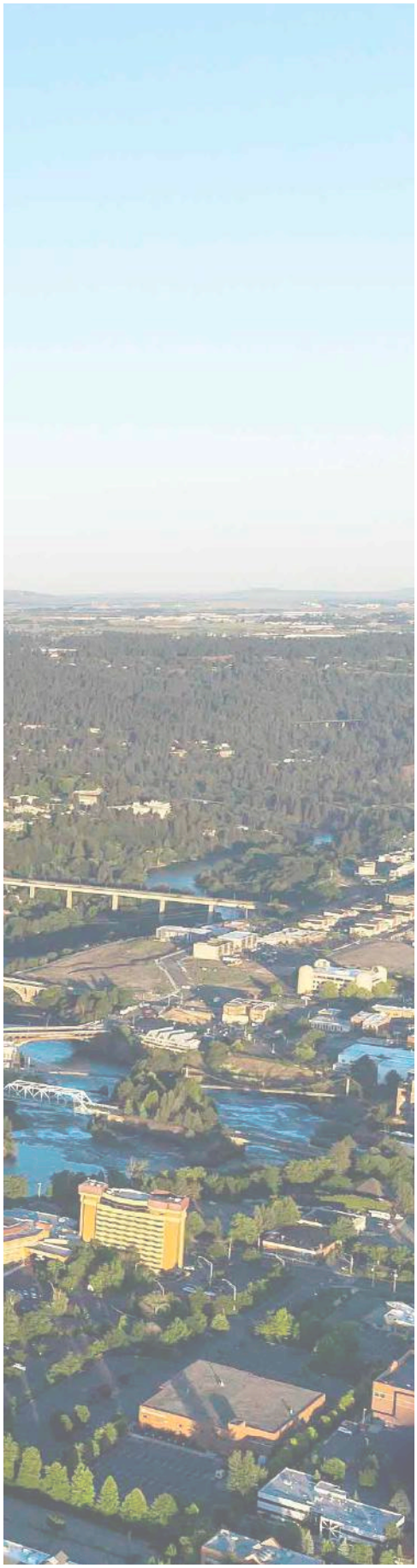

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Photo Credit: Spokane International Airport

Horizon 2045
EXECUTIVE SUMMARY

SRTC'S MISSION

To coordinate transportation planning in the Spokane region by providing leadership, expertise, and a forum for collaboration.

Horizon 2045 is the Metropolitan Transportation Plan (MTP) and Regional Transportation Plan (RTP) for the Spokane Metropolitan Planning Area (MPA), which consists of Spokane County in its entirety. Horizon 2045 was developed by the Spokane Regional Transportation Council (SRTC). It is a plan for an integrated, accessible, and multi-modal transportation system to safely and efficiently move people and goods through the year 2045.

Horizon 2045 establishes Guiding Principles and Policies for achieving the regional transportation vision. The plan also reflects current demographics and recent economic realities while forecasting trends that influence travel behavior.

Horizon 2045 identifies a list of implementation strategies to overcome the transportation challenges our region will face over the next 23 years, and to capitalize on regional opportunities. It contains short- and long-term strategies, projects, and programs important to the region.

Horizon 2045 includes:

- Projected transportation demand of persons and goods, based on county and municipal comprehensive plans
- Existing and proposed transportation facilities
- Strategies to operate and maintain local transportation facilities
- Processes and strategies to manage congestion now, as well as in the future
- Assessments of capital investments
- Descriptions of existing and proposed transportation facilities
- Pedestrian and bicycle facilities
- Transportation and transit Improvement activities
- A financial plan

Regional Vision

In order for SRTC to achieve its vision and mission, the following Guiding Principles and Policies were developed by the SRTC Board as the first step in creating a policy framework for Horizon 2045.

Economic Vitality

- Focus on people, freight and goods movement to improve regional, national, and global competitiveness
- Enhance accessibility and connections to economic activity centers
- Prioritize multi-modal investments

Cooperation and Leadership

- Provide a regional forum to develop priorities
- Identify funding strategies
- Coordinate with stakeholders

Stewardship

- Protect the environment
- Follow federal, state, and local legislation and policies
- Measure performance
- Share the use of infrastructure

System Operations, Maintenance, and Preservation

- Preserve and prolong the life of infrastructure
- Use fiscal resources prudently
- Provide adequate funding
- Improve efficiency of system operations

Safety and Security

- Draw on best-practice design
- Utilize education and outreach
- Make use of operational strategies
- Protect critical infrastructure from external threats
- Improve maintenance of the transportation system

Quality of Life

- Offer safe and convenient forms of active transportation that support public health objectives
- Consider the needs of all transportation users, regardless of ability
- Increase public transit access and improve service
- Improve transportation system connections
- Design to support social, cultural, and commercial activities

Challenges & Future Needs

SRTC has evaluated trends in population and employment growth, as well as other factors that will influence the regional transportation system in the future. **Horizon 2045** takes a close look at the Spokane region and the existing conditions of our transportation system. From this we know:

Our Community

- Approximately 22 percent of the region's employees live outside of the planning area.
- More than 14 percent of the region's population has a disability.
- 7.2 percent of the region's households have no vehicles available.
- Over recent decades the region's households have grown smaller, while the population continues to grow older.

Our Transportation System

- Over 57 percent of our National Highway System (NHS) lane miles are in good condition.
- Eight of the 304 bridges in the region, are in poor condition.
- Trucking is the dominant mode of freight transport in the region.
- Burlington Northern Santa Fe Railway (BNSF) and Union Pacific (UP) operate roughly 60 trains per day through the region. Each train is 4,000 to 6,000 feet long.
- Bicycling and walking represents about 10 percent of total trips in the region.
- Nearly 10 million rides are provided on the STA bus system annually.
- As of 2021, SRTC member agencies report over $700 million in maintenance and preservation backlogs.[1]

1 The following agencies provided SRTC with 2021 maintenance and preservation backlogs: the City of Spokane, the City of Spokane Valley, Spokane County, and WSDOT.

Challenges

Data analysis and public input gathered as part of the plan development process reveal the following top issues as the foremost challenges when it comes to the region's transportation system.

Additional funding resources needed for operations, maintenance and preservation. The first step to address the region's aging infrastructure, is to understand the scale of costs—especially the backlog of deferred maintenance and other unfunded needs. SRTC members must consider how maintenance of current and new facilities will be paid for when approving new construction. Conversely, new roads and bridges may be needed, requiring a fine balance to fund our needs with limited resources.

Addressing the region's deficient bridges. Data shows eight of the region's 304 bridges are considered in poor condition and need repair or replacement.

Increasing access to public transportation services. Improving the quantity and quality of public transportation will support increased mobility to growing activity centers and enhance the region's quality of life. The needs of populations projected to live outside the reach of conventional transit service—especially those with physical disabilities—should be addressed to increase their access to medical, social, and recreational services and activities.

Implementing solutions to reduce serious injuries and fatalities. Distracted driving is becoming a more prevalent cause of accidents and efforts are ramping up to discourage this behavior. But overall, roadway design and efforts such as education, are needed to increase area safety.

Ensuring efficient freight movement while expanding freight mobility's role in economic development. The regional transportation system contributes significantly to the economic vitality and commerce of the region. With almost 95,000 freight industry sector jobs in the region, ensuring connectivity between employment activity centers and supporting effective freight corridors is crucial.

Implementing solutions to improve pedestrian and bicycle connectivity, accessibility and safety. Some people are shifting from driving alone to walking or bicycling. Improvements targeting bicycle and pedestrian connectivity and accessibility are needed. Projects and educational programs that improve bicycle and pedestrian safety are equally essential.

Support access and mobility to the region's airports and ensure the viability of Fairchild Air Force Base. Spokane International Airport (SIA) has a $754 million dollar economic impact to the region. Recent improvements to SIA and Felts Field have increased the area's potential for growth and development in the aviation industry. Safe and efficient infrastructure to and from these airports is instrumental, as the aviation and aerospace sectors continue to grow. Also supporting mobility to Fairchild Air Force Base is critical to maintain its viability.

Implementing transportation-related measures to sustain and enhance the region's quality of life. The region's population is projected to grow 19 percent by 2045. This growth and land use pressure will influence future travel behavior and operations of our transportation system. Decisions made now will impact future conditions and demands on the transportation system.

Future Needs

A simulation of possible future transportation conditions was used to evaluate potential system needs and deficiencies that result from growth in our region. When looking at future traffic conditions with the current transportation system (a "baseline" scenario), the impacts to mobility could be extensive by the year 2045. Based on future conditions and needs, we know:

- Changes in demographics and land use will increase pressure on regional transportation networks and likely increase use of alternative modes of transportation.
- Growth in public transportation use will be constrained without investments in additional transit capacity and service. A projected 17 percent increase in transit trips would represent a strain on the transit system and likely under-represents the full demand that could be expected in 2045 considering the 19 percent increase in population.
- Absent future improvements to the vehicular and public transit networks, the Spokane region will experience increased peak hour congestion in certain high volume corridors.
- Freight movement forecasts point to mobility and safety improvements—such as grade separated crossings and freight climbing or passing lanes—to capitalize on future economic opportunities.
- Advancements in technology are changing how transportation works and should be monitored so the region can get the maximum benefit.
- Public transportation service and other information, technology, design, and operations programs show demonstrable benefits to the traveling public and freight shippers.

Strategic Planning

As part of the plan development process SRTC has identified five considerations for strategic planning:

- Expand regional coordination to advance transportation impacts to service providers,
- Enhance asset management at the MPO level to improve resiliency in transportation infrastructure,
- Increase trends monitoring and data availability to anticipate changing conditions,
- Establish a regional technical assistance program to assist SRTC members in planning for the future, and
- Better integrated transportation, land use, and economic development planning.

Solutions

Horizon 2045 establishes a list of funding targets considered a best approach to meet upcoming regional needs. The programming targets put the majority of funding in the operations and maintenance program, to improve the condition of our transportation network.

Horizon 2045 also includes a list of short and long range large scale projects linked to regional performance goals. Additionally, it establishes regional priority freight, transit, bicycle, and vehicular networks to help determine the priority of regional-level solutions.

Horizon 2045's financial plan forecasts what funding anticipated to be reasonably available during the next 23 years. It demonstrates that the projects and programs in the plan can be implemented within this financial constraint. In total, $14.3 billion in reasonably available revenues is forecasted for the region as a whole. This is far short of the projected need—especially for maintenance, operations, and preservation.

Projected Transportation Revenues and Expenditures in the Spokane Region, 2022–2045

		Expenditures				
Point of Expenditure	**Total Revenues**	Operations & Maintenance	Preservation	Programs	Regionally Significant Capital	**Balance**
Local/Regional	**$ 5,726,300,000**	$ 676,400,000	$ 3,647,600,000	$ 1,169,400,000	$ 232,900,000	**$ 0**
WSDOT	**$ 4,766,600,000**	$ 1,033,800,000	$ 2,248,500,000	$ 291,700,000	$ 1,192,600,000	**$ 0**
STA	**$ 3,832,700,000**	$ 3,242,000,000	$ 0	$ 332,900,000	$ 257,800,000	**$ 0**
Total	**$ 14,325,600,000**	**$ 4,952,200,000**	**$ 5,896,100,000**	**$ 1,794,000,000**	**$ 1,683,300,000**	**$ 0**

Photo Credit: Spokane International Airport

Implementation Strategies

Horizon 2045 includes implementation strategies that will lead to the maintenance and enhancement of a regional, integrated multimodal transportation system. These strategies facilitate the safe and efficient movement of people and goods, while addressing current and future transportation demand. The strategies are the outcome of analysis and coordination with member jurisdictions and the public, which has been continuous throughout the development of Horizon 2045.

Strategy 1: Prioritize Transportation Preservation, Maintenance & Operations

Horizon 2045 emphasizes the operation, maintenance and preservation of the region's existing transportation networks.

Strategy 2: Support TDM & TSMO

Horizon 2045 places a priority on maximizing the utility of current transportation systems by using cost-effective approaches, such as Transportation Demand Management (TDM) and Transportation Systems Management and Operations (TSMO).

Strategy 3: Pursue Cost-Effective Transportation Investments

Horizon 2045 prioritizes innovative techniques for cost-effective engineering and construction of transportation projects, by using high quality, long lasting materials.

Strategy 4: Invest in Public Transit

Public transportation plays an important role in the economic vitality and quality of life of our region. This applies to those living in urban areas, as well as the surrounding rural communities and tribal reservations and trust lands.

Strategy 5: Improve Safety & Security

The transportation investments in Horizon 2045 support and enhance the safety and security of the regional networks and systems.

Strategy 6: Protect the Natural Environment

Protecting the natural environment—including air, soil, and water quality—will be a requirement for regional funding for all transportation projects.

Strategy 7: Provide Multimodal Options

All people, regardless of age, ability, income, race, or ethnicity, should have safe, comfortable, and convenient access to community destinations and public places. This applies regardless of whether a person is walking, driving, bicycling, or taking public transportation.

Strategy 8: Promote Regional Leadership

Horizon 2045 has identified the need for SRTC to provide additional coordination and leadership, to ensure cross-jurisdictional solutions.

Evaluation

Horizon 2045 is a performance-based plan. Measuring the success of achieving the goals of the plan will be essential for demonstrating the worth and effectiveness of strategies to regional decision makers and the public.

Horizon 2045 sets performance targets for safety, pavement condition, bridge condition, travel time reliability, freight reliability, air quality, public transit asset management (TAM), and public transit safety. More information on the performance targets can be found in the System Performance Report (Appendix D).

Photo Credit: Spokane International Airport

Chapter 1
WHO WE ARE

Introduction

Purpose: Horizon 2045 is the Metropolitan and Regional Transportation Plan for Spokane County, Washington.

Spokane County is the fourth most populous county in Washington state with 515,250 residents in 2019, as shown in figure 1.1. By 2021, its population was estimated to have grown to 527,600.[1] The City of Spokane is the largest city in the county (second in the state to Seattle) and the county seat. Spokane County has historically functioned as the transportation hub of the Inland Northwest, especially for the mining, timber, and agriculture sectors. Figure 1.2 shows the Spokane Metropolitan Planning Area (MPA), which consists of Spokane County in its entirety. For the purposes of this document, the Spokane region and the SRTC planning area both refer to the Spokane MPA.

History of the Region

The history of the region has played a major role in how its transportation system has developed. Spokane County is made up of several cities, the largest being Spokane. The city of Spokan Falls (the "e" was added in 1883 and "Falls" dropped in 1891) was incorporated as a city of about 1,000 residents in November 1881.[2] With the arrival of the four major intercontinental railroads soon after, Spokane became a vital transportation center. The gold, silver and lead rush in nearby North Idaho in the late 19th century added to the desirability of our region, creating an economic and population boom for Spokane. The emergence of natural resource industries including agriculture and timber around the turn of the century continued to fuel the population growth and increased demand on the regional transportation system.

Spokane bids farewell to old streetcars owned by the Spokane United Railways in a 1936 parade (Photo courtesy of Spokane Public Library).

This demand led to the beginnings of public transportation in the area; horse-drawn vehicles, steam-powered streetcars and cable cars in the 1880s. In 1922, the Spokane United Railway Company was founded. It consisted of several electric trolley and streetcar lines established by real estate developers to encourage people to buy homes in new neighborhoods outside downtown Spokane. Ridership declined as the popularity of the automobile increased and by 1936 electric trolley lines were replaced by buses.

Transit ridership reached its peak in Spokane in 1946 with 26 million passengers as a result of gasoline rationing from World War II. In the years following, the personal automobile continued to erode transit usage and in 1968 the City of Spokane took over operation of the area's bus transit system. In 1980 voters approved establishment of the Spokane Public Transportation Benefit Area (PTBA), relinquishing the City's control of the public transit system. Initially funded by a three-tenths of one percent sales tax, an additional three-tenths was approved by voters in 2004 for a total of six-tenths of one percent (0.6 percent). Another tax increase was approved to maintain, expand and improve transit service in November 2016, meaning a tenth-of-a-penny increase went into effect in April 2017, followed by a second tenth of a penny in April 2019.

Spokane Transit Authority (STA) is the fixed route, paratransit and vanpool public transportation provider for the PTBA. A list of other area public transportation providers is included in the Spokane County Coordinated Public Transit-Human Services Transportation Plan.[3]

The increase in personal vehicles led to the growth of the Interstate Highway system. Interstate 90 (I-90) came to the area in the 1960s, bisecting Spokane County. I-90 is the

1 Washington State Office of Financial Management (OFM) April 1, 2021 official population estimates.

Figure 1.1: Population of Municipalities in the Spokane MPA

Jurisdiction	2020 Population
Spokane	222,000
Spokane Valley	96,720
Cheney	12,410
Liberty Lake	11,000
Airway Heights	9,545
Medical Lake	5,005
Deer Park	4,390
Millwood	1,795
Fairfield	625
Rockford	485
Spangle	280
Latah	195
Waverly	130
Unincorporated County	150,670
Total	**515,250**

OFM April 1, 2019 official population estimates.

2 Arksey, Laura (October 3, 2009). "Spokan Falls (later renamed Spokane) is incorporated as a first-class city on November 29, 1881". Essay 9176. HistoryLink.

3 http://www.srtc.org/other_documents.html

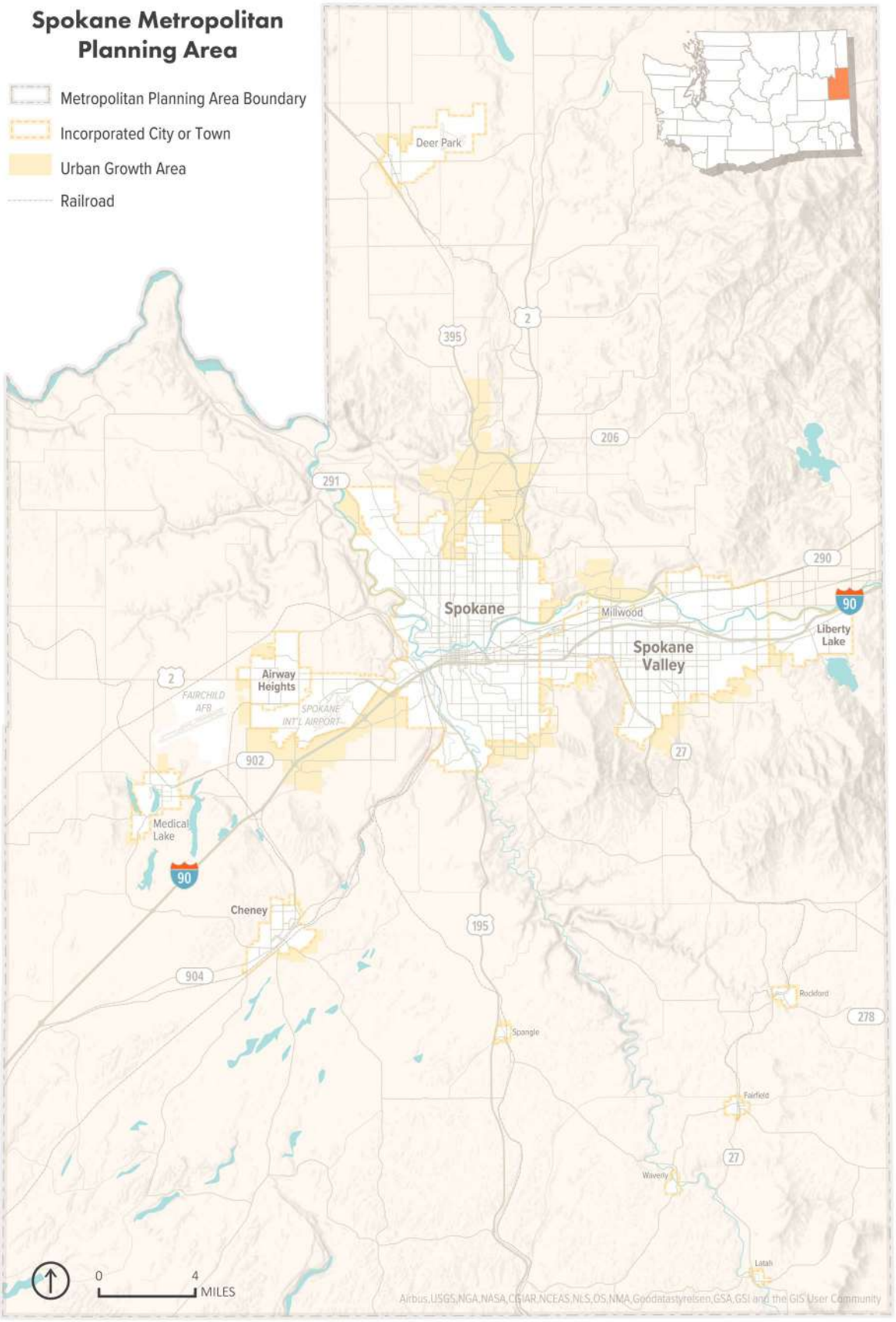


Figure 1.2: The Spokane MPA

longest interstate highway in the U.S., nearly 3,100 miles from Seattle in the west to Boston on the east coast. It is a six lane urban interstate highway from the Garden Springs interchange west of the City of Spokane to Barker Road in the City of Spokane Valley. Other major highways in Spokane County include US-2, US-195 and US-395. Area state routes include SR-904, SR-902, SR-291, SR-290, SR-206, SR-27 and SR-278.

The second Monroe Street Bridge over the Lower Falls sometime prior to 1910 (Photo courtesy of Spokane Public Library).

With a major river running through the metropolitan area, bridges have been and continue to be a critical piece of Spokane County's transportation network. Early in Spokane's history, several wooden and steel bridges spanned the Spokane River. Today, there are a total of 304 bridges in Spokane County.[4] The iconic Monroe Street Bridge was built in 1911 and underwent a major renovation from 2003-2005. The replacement of Spokane Valley's Sullivan Road West Bridge was completed in 2016.

Spokane County has two Class I railroads, Burlington Northern Santa Fe Railway (BNSF) and Union Pacific Railroad (UP), and one class II line (Montana Rail Link). A major yard and intermodal facility is operated by BNSF in Spokane Valley. There is also a transload facility in Spokane Valley (Inland Empire Distribution Systems) served by both BNSF and UP. Additionally, Amtrak provides passenger rail service to the region, using BNSF tracks.

Spokane County's air travel and air freight needs are serviced by Spokane International Airport (SIA) and Felts Field, two air passenger and cargo service facilities. SIA's 4,800 acre facility is located adjacent to I-90 and State Highway 2. A BNSF spur line, known as the Geiger Spur, also serves the AIR Spokane development site. FedEx, UPS, and the United States Customs and Border Patrol agencies have facilities at SIA. The U.S. Postal Service also has a regional processing facility at the airport business park. More than 3 million passengers and 54 thousand tons of cargo pass through SIA annually. SIA, the Airport Business Park and the Felts Field Airport are jointly owned by the City of Spokane and Spokane County. The facilities are operated and maintained by the Spokane Airport Board as a separate entity through an agreement between the City and County. SIA has a $754 million annual economic impact to the region.

In 1979, Spokane County Parks proposed to build a bike and pedestrian trail along the Spokane River. Today, the Centennial Trail is a paved pedestrian and bicycle path that runs for 40 miles across Spokane County, 37 miles of which is a separated class 1 trail. The Fish Lake Trail, Ben Burr Trail and many other shared use paths, bikes lanes and park trails crisscross the county.

The Great Northern and Spokane, Portland, and Seattle Station, circa 1945, at the present day location of Riverfront Park (Photo courtesy of Spokane Public Library).

A handful of smaller cities and towns complete the makeup of Spokane County, each with their own additional transportation facilities and challenges. Cheney has significant traffic on SR-904 headed to Eastern Washington University, Liberty Lake has a park and ride facility utilized by many North Idaho residents employed in Spokane County, and many of the rural communities of the county provide farm products destined for distribution points on the transportation system. Each community within the region works together to make the larger transportation system work.

More information on existing transportation modes and facilities in Spokane County is provided in *Chapter 2: Where We're At*.

What Is Horizon 2045?

Horizon 2045 is the Metropolitan Transportation Plan (MTP) and Regional Transportation Plan (RTP) for Spokane County. MTPs satisfy a variety of federal planning requirements while RTPs are required by the state under the Washington State Growth Management Act of 1990 (GMA).

Horizon 2045 is a multimodal blueprint for the future of transportation and mobility needs of Spokane County. It provides detail to evaluate the effectiveness of proposed transportation activities; analyze potential social, economic, and environmental benefits and consequences; and demonstrate its financial feasibility through the year 2045.

Horizon 2045 identifies a list of projects and programs expected to be implemented between today and the year 2045. It also includes a list of unfunded transportation needs important to the region to be considered should additional funding become available. Additionally, Horizon 2045:

- Supports regional coordination and collaboration;
- Recognizes that land use and transportation are linked and must be considered together to meet both land use goals and transportation needs;

4 National Bridge Inventory (NBI) ASCII Files, 2020

- Puts an emphasis on maintenance, preservation, and safety;
- Recognizes that an efficient transportation system/network supports livable communities and is crucial to economic vitality;
- Acknowledges improvements to the efficiency of the transportation system can be made through the use of transportation demand management (TDM) and intelligent transportation systems (ITS);
- Provides a financial plan to meet future needs while demonstrating that funding for all projects and programs in the plan is reasonably available;
- Satisfies state and federal planning requirements and regulations; and
- Is a performance-based plan that establishes metrics for monitoring and evaluating success.

SRTC Responsibilities

SRTC is the federally designated Metropolitan Planning Organization (MPO) for Spokane County. Federal law requires any urbanized area with a population greater than 50,000 to establish an MPO to ensure transportation spending is based on a continuing, cooperative and comprehensive planning process. Federal funds for transportation projects and programs are channeled through this process and awarded to local agencies and jurisdictions to address transportation needs.

With an urbanized area of greater than 200,000 residents, Spokane is required to have a Transportation Management Association (TMA); a nonprofit organization made up of private and public sector representatives and other interested parties working to address transportation issues. SRTC serves as the TMA for Spokane County.

SRTC is also a state-designated Regional Transportation Planning Organization (RTPO) for Spokane County. RTPOs serve the same basic transportation planning functions as MPOs with additional responsibilities pertaining to GMA. An RTPO covers both urban and rural areas and receives state funding for planning efforts. As mandated by the Revised Code of Washington (RCW), to advance coordination at the regional and local level, RTPOs are authorized to certify County and local comprehensive plans (including amendments). To be certified by SRTC, plans must demonstrate that their transportation elements are consistent with the RTP (Horizon 2045), reflect the guidelines and principles under, and satisfy the state requirements.[5]

As a regional intergovernmental agency, SRTC encourages communication, coordination, and collaboration among planning and transportation departments at partner agencies, including the City of Spokane, City of Spokane Valley, Spokane County, the Washington State Department of Transportation (WSDOT), STA, the Spokane Airport Board, and small cities and towns to assure connectivity throughout Spokane County. An Interlocal Agreement between these agencies shows our commitment to working together to provide each other, and the public, with quality transportation planning services.

MTP Requirements

A new Federal transportation law, Fixing American's Surface Transportation Act (FAST Act), was approved in December 2015. This law replaces the previous law, Moving Ahead for Progress in the 21st Century (MAP-21). It is the first law enacted in over ten years that provides long-term funding certainty for surface transportation. That means states and local governments can move forward with critical transportation projects, like new highways and transit lines, with confidence that they will have a Federal partner over the long term.

Overall, the FAST Act largely maintains current program structures and funding levels between highways and transit. The law also makes changes and reforms to many Federal transportation programs, including streamlining the approval processes for new transportation projects, providing new safety tools, and establishing new programs to advance critical freight projects.

Specifically, the FAST Act puts new focus on the following:

1. Project Delivery; a number of proposals speed the permitting process while protecting resources.
2. Freight formula and discretionary grant programs fund freight transportation projects.
3. A new Innovative Finance Bureau will serve as a one-stop shop for state and local governments to receive federal funding, financing or technical assistance.
4. The Transportation Infrastructure Finance and Innovation Act (TIFIA) Loan program provides financing options for large projects and public-private partnerships.
5. Safety and its' impact on the integration and connectivity of the transportation system, across and between modes, for people and freight.
6. Transit language that includes a number of positive provisions, including reinstating the popular bus discretionary grant program and strengthening the Buy America requirements that promote domestic manufacturing through vehicle and track purchases.
7. Ladders of Opportunity include items that strengthen workforce training and improve regional planning. These include allocating slightly more formula funds to

5 RCW 47.80.026 and RCW 36.70A.070(6)

local decision makers and providing planners with additional design flexibilities. Notably, the FAST Act makes Transit Oriented Development (TOD) expenses eligible for funding under highway and rail credit programs. TOD promotes dense commercial and residential development near transit hubs in an effort to shore up transit ridership and promote walkable, sustainable land use.

Planning Factors

The Transportation Equity Act for the 21st Century (TEA-21), enacted in 1998, established seven planning factors which MPOs must consider in the formulation of transportation plans and programs. SAFETEA-LU, enacted in 2005, revised this to eight planning factors. The FAST Act, continues to emphasize these eight planning factors and added two new ones in the metropolitan planning process.[6] These factors illustrate the need for transportation plans to recognize and address the relationship between transportation, land use, and economic development. The metropolitan planning process shall provide for consideration of projects and strategies that will:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and State and local growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. Enhance travel and tourism.

The FAST Act maintains MAP-21 additional requirements related to performance measures and targets. Under the FAST Act, MPOs are required to coordinate with State and public transportation providers to establish targets that address federal performance measures. MPOs are required to include performance targets in their plans within 180 days after the date of enactment of performance targets by the State or public transportation provider.[7] With this in mind, all performance measure areas are included in Horizon 2045 however the only performance measure with a target at this time is for safety. The remaining performance targets are currently under development. This is discussed more in *Chapter 4: How We'll Get There*.

The Code of Federal Regulations says the MTP must cover no less than a 20-year planning horizon, include both short- and long-range strategies/actions, and must be updated, at a minimum, every five years or every four years in air quality non-attainment or maintenance area.[8] It also includes a list of other items the MTP must include, such as projected transportation demand of persons and goods; existing and proposed transportation facilities; operational management strategies, including ITS; assessments of capital investments; a financial plan; and more.

The FAST Act came with additional guidance and legislation on MTP development. The MTP shall contain, at a minimum:

1. **Identification of Transportation Facilities:** Should function as an integrated metropolitan transportation system, giving emphasis to those facilities that serve important national and regional transportation functions including major roadways, transit, multimodal and intermodal facilities, non-motorized transportation facilities, and intermodal connectors.
2. **Performance Measurements and Targets:** Description of the performance measures and performance targets used in assessing the performance of the transportation system. System Performance Report—evaluating the condition and performance of the transportation system with respect to the performance targets, including:
    - Progress achieved by the MPO in meeting the performance targets in comparison with system performance recorded in previous reports; and
    - For MPOs that voluntarily elect to develop multiple scenarios, an analysis of how the preferred scenario improves the conditions and performance of the transportation system and how changes in local policies and investments impact the costs necessary to achieve the identified performance targets.
    - Consultation—the discussion shall be developed in consultation with Federal, State, and tribal, wildlife, land management, and regulatory agencies.

6 23 USC 134 (h) (1) Metropolitan Transportation Planning

7 23 U.S.C. 150(c)

8 23 CFR 450, Subpart C

Consistency With Other Plans

Federal regulations stipulate that the MTP must be consistent with regional plans and programs including:

- The Transportation Improvement Program (TIP)
- The Regional ITS Architecture Plan
- The Congestion Management Process (CMP)
- Air quality plans
- Other modal plans

3C Planning Process

As the MPO for Spokane County, SRTC is charged with ensuring a "3Cs" planning process is utilized; "...a continuing, cooperative, and comprehensive multimodal transportation planning process, including the development of a MTP, that encourages and promotes the safe and efficient development, management, and operation of surface transportation systems to serve the mobility needs of people and freight and foster economic growth and development, while minimizing transportation related fuel consumption and air pollution."[9]

This process requires SRTC to work directly with local, state, and federal agencies and the public to develop and administer a wide range of transportation program activities. More detail on the cooperative process is provided in the Interagency Coordination and Collaboration Process section of this chapter.

MTP Amendments & Administrative Modifications

Due to air quality issues in the 1980s and 90s, Spokane County is designated a maintenance area under the Clean Air Act. As a result, SRTC is required to update the MTP every four years. Changes can be made more often, as needed, through two methods: amendment or administrative modification.

Amendments require public review and comment, demonstration of fiscal constraint, or a transportation conformity determination for projects in non-attainment and maintenance areas that are not exempt from conformity. Changes to projects that are included only for illustrative purposes, do not require an amendment.

A revision is a change to the MTP that occurs between scheduled periodic updates. A major revision is an amendment, while a minor revision is an administrative modification.

SRTC worked with the WSDOT, Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) to develop guidelines for amendments which include:

- New projects or deleted projects;
- Major scope changes (as determined by Interagency Consultation);
- Changes that impact air quality conformity;
- Significant changes in funding for or cost of a project; or
- Any other project or plan change deemed "major" by SRTC via interagency consultation.

Administrative modifications include any change that doesn't qualify as an amendment. Administrative modifications do not require public review and comment, demonstration of fiscal constraint, or a transportation conformity determination (in maintenance areas) to confirm the change is consistent with air quality goals.

RTP Requirements

As stated earlier in this chapter, SRTC is required to develop and maintain the RTP for Spokane County. The RTP is a requirement of GMA. Horizon 2045 serves as both the MTP and RTP for Spokane County. To satisfy the GMA requirements for an RTP, Horizon 2045 must include:

- A regional transportation strategy;
- Identified existing and planned facilities and programs;
- Level of service standards for the regional system;[10]
- A financial plan;[11]
- Assessment of regional development patterns;
- Assessment of regional capital investment;
- Least-Cost Transportation Planning;
- Compliance among local land use plans, countywide planning programs/policies, and the state transportation plan;[12]
- References to benchmarks that require a reduction in annual per capita vehicle miles traveled (VMT);[13] and
- References to greenhouse gas reduction goals.[14]

As further defined in the RCWs, primary duties of an RTPO include:

9 23 CFR 450 and 49 CFR 613

10 RCW 36.70A

11 RCW 47.80.030(1)(d)

12 RCW 47.80.026, RCW 36.70A.070, RCW 36.70A.210

13 RCW 47.01.440

14 RCW 70.235.020

- "Establish guidelines and principles by July 1, 1995 that provide specific direction for the development and evaluation of the transportation elements of comprehensive plans" (RCW 47.80.026).
- "Certify by December 31, 1996, that the transportation elements of comprehensive plans adopted by counties, cities, and towns within the region reflect the guidelines and principles developed pursuant to RCW 47.80.026, are consistent with the adopted RTP, and, where appropriate, conform with the requirements of RCW 36.70A.070" (RCW 47.80.023).
- "Review level of service methodologies used by cities and counties planning under chapter 36.70A RCW to promote a consistent regional evaluation of transportation facilities and corridors" (RCW 47.80.023).
- "Work with cities, counties, transit agencies, the department of transportation, and others to develop level of service standards" (RCW 47.80.023).

SRTC developed a plan review and certification process in 2015. SRTC met with WSDOT, local jurisdictions, SRTC committees, and area planning commissions from May through August of 2015 to obtain input on this process. The SRTC Policy Board approved the SRTC Plan Review and Certification Process Instruction Manual on September 10, 2015. This document is available on the SRTC website.

As part of its review and certification process, SRTC evaluates regional LOS for the following modes: vehicular, transit, and non-motorized (combined bike/walk). SRTC's regional vehicular LOS is evaluated for regional mobility corridors with data taken from the SRTC regional travel demand model. For vehicular LOS on interrupted flow facilities, SRTC conducts a corridor-level travel time analysis and for vehicular LOS on uninterrupted flow facilities, SRTC conducts the analysis using corridor-level vehicular volumes. For transit LOS, SRTC evaluates systemwide ridership and for non-motorized LOS, mode share is analyzed.

State Transportation Policy

Horizon 2045 is also required to consider the state transportation policy goals, listed in figure 1.3. These were incorporated as part of the process to develop the Horizon 2045 Guiding Principles and Policies included later in this chapter.

MTP & RTP Requirements

Requirements for the MTP and RTP between the Federal and state levels overlap in several areas. The requirements for each are shown in figure 1.4.

Figure 1.3: Statewide Transportation Goals

Preservation	To maintain, preserve and extend the life and utility of prior investments in transportation systems and services, including the state ferry system.
Safety	To provide for and improve the safety and security of transportation customers and the transportation system.
Stewardship	To continuously improve the quality, effectiveness and efficiency of the transportation system.
Economic Vitality	To promote and develop transportation systems that stimulate, support and enhance the movement of people and goods to ensure a prosperous economy.
Mobility	To improve the predictable movement of goods and people throughout Washington state.
Environment	To improve the predictable movement of goods and people throughout Washington state.

Figure 1.4: Federal and State Requirements

Interagency Coordination & Collaboration

SRTC consults with several other agencies as a required part of the conformity determination process as stated in 40 CFR. Part 93.105, which covers requirements for determining conformity to State or Federal Implementation Plans; transportation plans or programs; or projects developed, funded, or approved under Title 23 or Title 49.

The agencies involved in SRTC's interagency consultation group include the FTA, FHWA, WSDOT, Washington State Department of Ecology, Spokane Regional Clean Air Agency, STA, and the U.S. Environmental Protection Agency (EPA).

SRTC has two different formal interagency groups/processes, one for air quality purposes and another for non-air quality purposes, such as development of the MTP and TIP, financial planning and more.

The interagency consultation group determines which transportation projects should be considered regionally significant for purposes of transportation modeling. This group also evaluates whether projects otherwise exempt from meeting conformity should be treated as non-exempt when potential adverse air quality impacts may exist.

SRTC also coordinates and collaborates with partner jurisdictions including the MPO for neighboring Kootenai County, ID, Kootenai Metropolitan Planning Organization (KMPO). SRTC and KMPO maintain a working relationship of planning for the two adjacent counties; providing a partnership for cooperative transportation decision making within the region.

Public Involvement

SRTC's Public Participation Plan includes several requirements for public outreach and document review during the MTP process. A variety of outreach methods and materials must be used to engage the public. In addition, the MTP must:

- Be updated at a minimum of every four years.
- Be reviewed by SRTC's Policy Board, Transportation Technical Committee and Transportation Advisory Committee prior to being adopted or accepted by the Board.
- Be reviewed through the Interagency Coordination and Collaboration process.
- Have a minimum 30-day public comment period prior to adoption.
- Have a Legal advertisement published including notice of a public comment period to be held to provide the public opportunity to review and submit comments about the document.
- Have notice of the public comment period sent to an extensive email distribution list.
- Have a public meeting hosted during the 30-day public comment period to solicit input.
- Be posted for review and comment on SRTC's web and blog sites.
- Be provided to Federal, State and member agencies for review and comment.
- The final version of the adopted document must be posted on the SRTC website.

In addition to these requirements, SRTC develops a tailored community engagement strategy for each plan, program and study. The engagement strategy includes a variety of outreach methods and ensures that we have considered current demographics, community barriers to participation, challenges, and needs. Each engagement strategy is informed by the SRTC Public Participation Plan that can be found on our website under Public Involvement.

SRTC is committed to nondiscrimination in accordance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, Executive Order 12898 on Environmental Justice, and related statutes and regulations in all programs and activities. Title VI requires that no person in the United States shall, on the grounds of race, color, sex, or national origin, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which SRTC receives federal financial assistance. Any person who believes they have been unlawfully discriminated against under Title VI has a right to file a formal complaint with SRTC. Complaints must be in writing and filed with SRTC's Title VI Coordinator within one hundred eighty (180) days following the date of the alleged discriminatory occurrence.

For more information on Title VI, or on Environmental Justice, see the SRTC website at www.srtc.org.

A summary of the Horizon 2045 outreach and public involvement process is provided in Appendix A.

Public Engagement

Focus Groups

The forecast of future regional transportation conditions includes the aforementioned technical land use analysis and travel demand modeling. Also, input from various outreach activities, including roundtable discussions, has been very valuable in gauging the region's priorities. Where relevant, community input is offered to add depth and personal experience. In summer 2021, SRTC engaged service providers and members of historically excluded communities—including Community Health Workers; LatinX, Asian and Pacific Islander, immigrant, and rural communities; low-income, unhoused, and housing insecure families and individuals; and people with disabilities—in focus groups and key informant interviews facilitated by an external consultant. Community member participants received $30 for their time, if desired. Participants discussed transportation needs, barriers, and future priorities facing populations that have historically been left out of planning conversations and who often bear the greatest burden of health inequities. The consultant aggregated and summarized these initial conversations with community stakeholders; key lessons learned (as of September 2021) are included throughout the chapter as appropriate.

Focus groups and interviews with service providers and members of historically excluded communities shed light on travel needs and behaviors of special focus populations. Participants reported traveling between various destinations, including home, shopping, schools and child care, restaurants, parks and nature, churches, appointments with service providers or the court system, work and jobs, and short trips like checking the mail. Some specific routes were mentioned frequently, including between Spokane Valley and downtown Spokane, and to outlying metro areas such as Medical Lake, Airway Heights, and Coeur d'Alene.

Participants suggested that driving is not accessible for many individuals. Immigrants and English-language learners may not understand local laws, signs, or even legal processes like acquiring a license and insurance. Cultural or household factors may keep certain individuals (women were explicitly referenced) from learning to drive, and seniors and individuals with disabilities face additional barriers to safe driving. Catching a ride with friends or family might be preferred, but newly arrived immigrants and isolated individuals may lack access to a driver.

Without access or ability to drive, many participants described reliance on the public transportation system, including Spokane Transit, Special Mobility Services, and Para-Transit. Others preferred biking, walking, and riding scooters to driving or public transportation. Some participants mentioned using rideshare services, such as Uber.

Photo Credit: Spokane International Airport

2016 and 2021 Public Outreach Feedback Summary

In 2016, as part of the previous MTP update, SRTC held a series of roundtables, workshops, public meetings, inter-jurisdictional and agency staff meetings, and other community outreach events, to identify perspectives and concerns expressed by the public and stakeholders. SRTC's 2021 engagement with service providers and members of historically excluded communities captured additional perspective on many of these topics. The table below summarizes key perspectives and concerns that were frequently brought up in these two efforts.

Key Concerns from 2016 Outreach Efforts	Additional Feedback on Key Concerns from 2021 Outreach Efforts
Prioritize the maintenance and preservation of existing roadways and bridges.	Community stakeholders who participated in the engagement process in late Summer 2021 specifically identified addressing potholes and surface needs around downtown hospitals as a priority. Participants suggested walkability audits as a tool to assess accessibility of existing infrastructure for pedestrians and active transportation users, especially children and people with disabilities.
Transportation challenges will require both local and regional solutions. Cooperation and coordination among agencies and transportation providers will be critical to our success.	In focus groups and interviews, community stakeholders identified regional transportation service providers, including Special Mobility Services and ParaTransit, as important resources for rural communities. However, participants noted gaps in service of and between these services. For example, the time required to get to a destination on ParaTransit may be too long for children and individuals with medical conditions or disabilities who have medication needs or who struggle with impulse control. Some providers rely on obtaining passenger vans to help individuals access resources or get to work, but shared difficulties finding qualified drivers and needing to bring everyone along when other staff aren't available to stay behind. Participants recommended creative local and regional solutions, such as creating transportation hubs where individuals congregate—like community centers—and...
Technology is changing how people and goods move in our region.	Community stakeholders noted the ability of phone applications to reach across cultural boundaries and suggested an accessible application in multiple languages to help English-language learners and others understand their public transit stop, the correct pronunciation of street names, and other basic navigation strategies and tools.
Our region is diverse and so are the transportation needs.	Conversations with community stakeholders highlighted differences in access and mobility across populations. Local resources such as the Spokane Immigrants Rights Coalition help make our community safer for our growing immigrant and refugee communities; however, language barriers, fears about deportation, and stories of Immigrations and Customs Enforcement on public transit prevent some from accessing resources. Suggestions included systems changes like shared decision-making with community and required cultural humility training, as well as small improvements for cultural relevance such as mobile outreach, music, art and use of color in buses and stops, and welcome and informational signs in multiple languages. Culturally-responsive classes on driving laws, insurance and licensing requirements, and public transit could help increase accessibility, according to community stakeholders. Community stakeholders shared that many people, including individuals who face physical or neurological barriers to accessing transportation, would benefit from more accessible bus stops, public transportation navigators, and low- and no-cost transportation options. Other barriers to accessibility included limits on the number of bags allowed on public transit and space to store walkers, canes, and strollers.
There is a strong desire to improve public transit, walking and biking and to integrate them well with land use.	Community stakeholders emphasized the importance of co-location of people and services. People want "what you need where you need it safely accessible, and emphasized the lack of access to grocery stores, services, and other critical resources within certain neighborhoods and communities.
To plan for the region we need to collect information, monitor and understand the trends.	As our community grows, it also changes. Community stakeholders emphasized the importance of engaging historically excluded groups in planning and decision making.

Key Concerns from 2016 Outreach Efforts	Additional Feedback on Key Concerns from 2021 Outreach Efforts
Implement sidewalk improvements such as fixing damaged sections or filling in gaps.	Participants in community focus groups and interviews suggested walk audits and community engagement to identify barriers to accessibility. Older individuals, children, and those with vision loss face unique barriers; roundabouts, crosswalks, scooters, and buckled, broken sidewalks can represent hazards and barriers to accessibility.
Enhance safety education and enforcement efforts.	Community stakeholders shared helpful cultural context to explain why some individuals may not follow safety and traffic laws and expectations. Costs and administrative barriers associated with licensing, vehicle registration, and insurance keep some individuals from meeting requirements, but do not necessarily keep them from driving. Safety concerns about the bus plaza also kept some individuals from accessing public transit.
Improve snow removal and/or storage to ensure accessibility for all users year-round.	In conversations with individuals serving and representing people with visual impairment, we learned that snow berms on sidewalks and in pedestrian areas represent unique challenges.
Emphasize future investments as part of an integrated, fully connected multimodal network and to prevent significant growth in congestion.	Many of the barriers identified by historically excluded community members and service providers stemmed from transportation, services, and people existing separately, rather than being co-located. Without critical services and recreational opportunities in neighborhoods, individuals and families struggle to find transportation to these resources. Community stakeholders suggested concentrating services near people and transportation hubs.
Health care, in particular mental health is an important and often misunderstood transportation need in our community.	According to community stakeholders, existing services such as ParaTransit and medical needs bus passes can help people access medical care, but these services have gaps and barriers. Individuals may have caregivers who also need to travel to their medical appointments; participants suggested caregiver bus pass options to reduce cost burdens. Other recommendations included reduced fare medical cabs, low-cost and free bus fare, and identifying gaps and solutions for uncovered services and areas.

The 2016 outreach efforts identified the following additional key concerns that were not brought up by the groups and individuals participating in the 2021 effort:

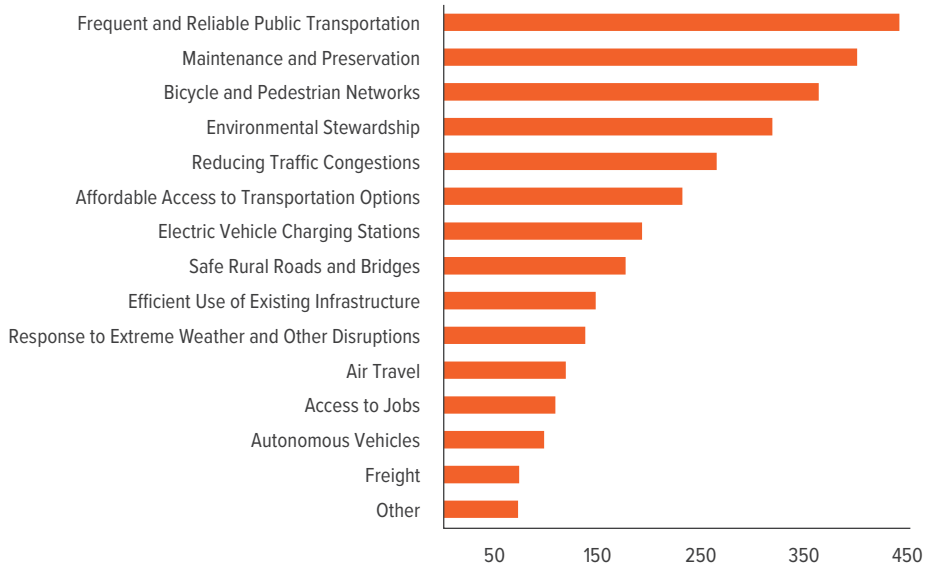
- Ensuring freight mobility is sustained and enhanced for the region's economic benefit
- Using least cost planning to make rational decisions regarding investments in the transportation system

Public Opinion Survey

To supplement the public engagement efforts of the preceding MTP update, SRTC designed a public engagement strategy for Horizon 2045. One component to that strategy was the development and distribution of a transportation questionnaire. The questions were designed to gather input regarding the public's individual transportation needs, challenges, barriers, and priorities. SRTC also wanted to know how they could best engage with members of the community within the region. The questionnaire was distributed through SRTC media, email blasts, news press releases, partner agency dissemination, and shared through many other outreach methods. SRTC received 626 responses while the questionnaire was open from June 30, 2021, to August 15, 2021.

What are your priorities for a complete and reliable transportation system?*

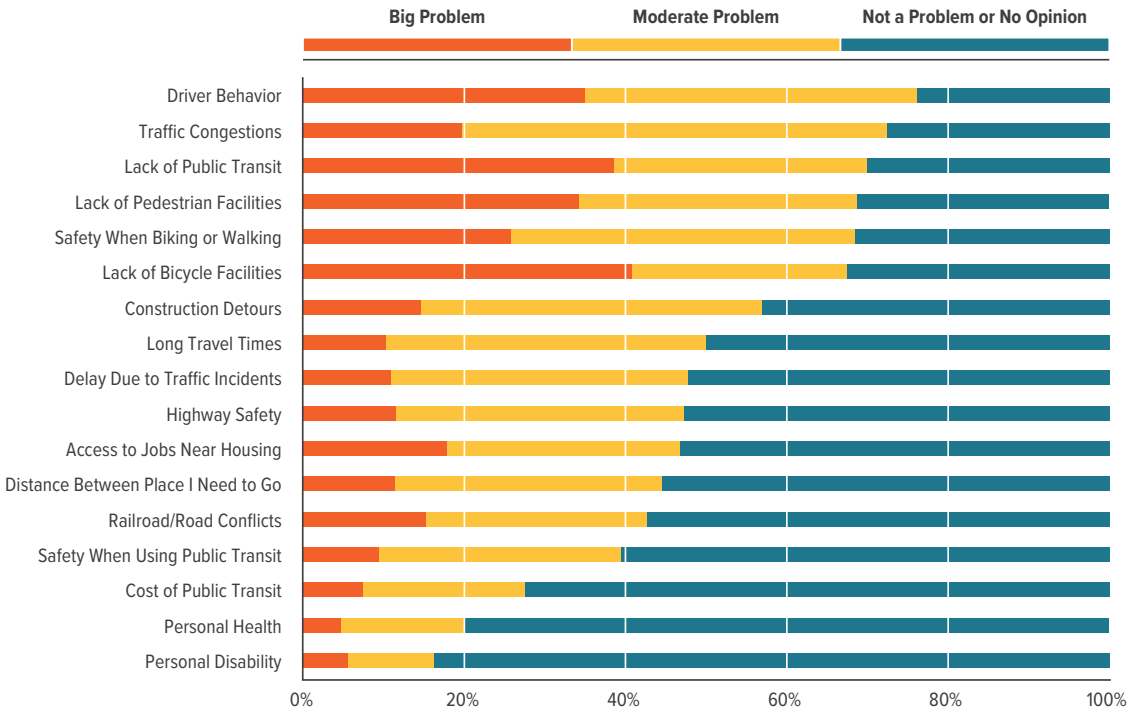
As the Spokane region continues to grow, community members shared that their number one priority in creating a complete and reliable transportation system is ensuring frequent, reliable, and well connection public transportation.



*Survey respondents were able to select more than one priority.

Which of the following are a problem for you to get where you need to go in the region?

Community members shared issues that pose a big problem when traveling around the region and those are the lack of bicycle facilities, lack of public transportation, and negative driver behavior.



Guiding Principles & Policies

SRTC's underlying values. What we will do and how we will do it.

Regional Vision for 2045

A critical step in any long-range planning process is to establish a regional vision of Spokane and its future. SRTC's Unified Regional Transportation Vision and Implementation Strategy (Vision Project), completed in 2011, serves as the first step in realizing Spokane's desired vision. The Vision Project was a study to determine the long term transportation vision and goals for the area for the next 30 to 50 years. The vision statement resulting from the Vision project reflects the needs and desires of the region:

> *Future transportation investments will help the Spokane Region maintain its appeal as a livable community with a thriving business and cultural atmosphere nestled within the beautiful scenery of eastern Washington. A well-maintained regional transportation system provides a high level of service across urban and rural areas with sustainable transportation choices and connectivity that advance accessibility and reliability for all users.*
>
> *The region's prosperity will also be the result of investments in our transportation systems to move freight and facilitate commerce that will ensure retention and attraction of new employers and family wage jobs, as well as increase our ability to attract quality employees. Implementing sustainable, efficient, effective, and reliable solutions to existing and future transportation challenges in the Spokane Region will be key to making the Inland Northwest a fantastic place to visit, live, work, play, and raise a family.*

Policy Framework

As mentioned in the MTP Requirements section, federal planning factors clearly illustrate the need for long range transportation plans to recognize and address the relationship between transportation, land use and economic development planning. Horizon 2045 addresses each of the planning factors and the state's transportation policy goals in the following Policy Framework.

The Guiding Principles were crafted by SRTC's Board and were the first step in creating a policy framework for Horizon 2045. Policy language was developed based on the Guiding Principles. The policies guide decision-making in order to reach the envisioned future. Additional tasks, such as identifying goals that support the Guiding Principles and objectives that serve to measure progress, are necessary to complete the framework.

Horizon 2045 provides an opportunity to test and analyze regional transportation policies. The Guiding Principles and Policies are the foundation for the Horizon 2045 evaluation framework. The performance measures allow for an evaluation of our progress in meeting the established policies. The following pages provide detail about each of the Guiding Principles and Policies, in figure 1.5.

Photo Credit: Spokane International Airport

Figure 1.5: Horizon 2045 Guiding Principles and Focus Areas

Horizon 2045 GUIDING PRINCIPLES

FOCUS AREAS

Financial	Regional Coordination
Public Transportation	Operations, Maintenance & Preservation
Safety	Quality of Life
Air Operations	Freight
Condition of Assets	Active Transportation

1) Economic Vitality

Investments and improvements in the regional transportation system will promote economic vitality by moving people, freight and goods to enhance the global competitiveness of the regional economy. Major transportation facilities, and the mobility they provide to, between and within economic activity centers, will stimulate commerce. Horizon 2045 should prioritize and coordinate regional transportation investments aimed at the development of a multimodal system that provides transportation opportunities that enhance accessibility and connections among city centers, regional service centers and attractions, towns, and regional employment areas.

POLICIES: To promote economic vitality and prioritize transportation investments, Horizon 2045 will:

1A	Prioritize transportation investments by mode that enhance accessibility and connections between city centers, regional centers, attractions, towns, and areas of regional employment.
1B	Support areas of potential economic development.
1C	Support the efficiency of freight movement.

2) Cooperation and Leadership

Horizon 2045 will provide the forum to develop regional transportation priorities, to identify transportation funding needs and to develop strategies to acquire funding in accordance with federal and state planning requirements. Horizon 2045 will help coordinate efforts to communicate with business and community groups and give the public sufficient time to review and comment at key milestones in the transportation planning process. These efforts will bring together all community stakeholders and transportation planning partners in order to present a unified voice in support of the region's transportation needs

POLICIES: To provide a regional forum for transportation planning and funding, Horizon 2045 will:

2A	Provide leadership by facilitating coordinated, cooperative and comprehensive transportation planning.
2B	Incorporate public processes in significant planning efforts.
2C	Promote regional transportation interests, plans and projects to federal, state and local public and private entities.
2D	Coordinate transportation relevant data for shared use among regional stakeholders
2E	Strengthen avenues of involvement for all people including those considered underserved regardless of race, national origin or income in the decision-making process.

3) Stewardship

Transportation decisions should maximize a positive impact on the human environment while minimizing negative impacts to the natural environment. Investments will follow federal, state and local transportation, environmental and land use plans and policies. This is in addition to following federal and state and local goals as adopted by statute, ordinance, resolution or executive order. Horizon 2045 will use performance measures to ensure coordinated regional policies make progress towards established objectives. SRTC and project proponents should demonstrate that projected revenues will sustain current facilities and services, and ensure sufficient population demand is anticipated such that new facilities are a prudent application of fiscal resources.

POLICIES: To protect the environment and minimize impacts from transportation, Horizon 2045 will:

3A	Ensure transportation decisions minimize impacts to natural resources and conserve non-renewable resources.
3B	Make investments that maximize transportation benefits and support federal, state and local goals and maintain a federally compliant TIP.
3C	Ensure plans provide for the responsible use of public and private funds while demonstrating financial constraint.
3D	Encourage evaluating shared-use of infrastructure for stakeholders and all transportation users.
3E	Use performance measures to evaluate how policies and investments support key transportation objectives.

4) System Operations, Maintenance, and Preservation	5) Safety and Security	6) Quality of Life
Horizon 2045 will strive to provide adequate funding for projects that address documented transportation needs, reduce lifecycle operation and maintenance costs, conserve energy, and preserve and prolong the existing infrastructure. SRTC and project proponents will use performance-based plans that provide efficient system management.	The regional transportation system will be designed, constructed, operated and maintained to enable healthy, safe, and secure movement of people and goods. The system will enhance safe and secure choices, access and usage of all transportation modes through best-practice design, operational improvements, education and outreach, and technological strategies. Emphasis should be placed on maintenance activities and education to make the system safer.	Quality of life issues will be considered in transportation decision-making. The community will strive to have urban, suburban and rural neighborhoods offer safe and convenient forms of healthy, active transportation options for people of all abilities. Decision-making will work toward creating transportation choices through increased availability and improved service. Strengthening existing connections and creating new connections will improve mobility for all users. This includes connections within street networks, to port, rail and airport facilities; and within transit, pedestrian, and bicycle modes. Shared-use infrastructure will increase transportation choices and maximize returns for investments by increasing multi-modal connectivity. Through context sensitive design, the community will strive to support social, cultural and commercial activity and protect unique or indigenous cultural and landscape features.
POLICIES: Maximizing the operations and physical condition of the transportation network will require strategic investments. To accomplish this Horizon 2045 will put a priority on programs and projects that:	**POLICIES: Maximizing the operations and physical condition of the transportation network will require strategic investments. To accomplish this Horizon 2045 will put a priority on programs and projects that:**	**POLICIES: To improve choice and mobility, Horizon 2045 will put a priority on programs, services and projects that:**
4A Develop cost-effective strategies; pursue alternative funding sources and mechanisms.	5A Support improvements to roadway safety deficiencies in order to reduce crashes within all modes of transportation.	6A Incorporate complete streets policies into transportation planning that enhance and expand bike, walk and transit networks and their connectivity.
4B During winter weather conditions, ensure snow and ice removal and snow storage is regularly maintained and designed for roadways and sidewalks to improve user safety and mobility and to keep the transportation system operational..	5B Protect critical infrastructure from natural and human threats.	6B Improve access and the quality of access to transit for all people including those considered underserved, regardless of race, age, national origin, income or ability.
	5C Promote safety through supporting education, outreach and enforcement of rules of the road for all modes that use the roadways.	6C Implement transit that improves frequency, span and reliability of transit services with a variety of service levels and transit modalities within the region.
		6D Support health-promoting transportation options for users of all abilities to increase opportunities for physical activity while improving demand-management strategies to reduce Single Occupant Vehicle (SOV) trips.
	5D Support transportation infrastructure and operational strategies for emergency response.	6E Support transportation projects that protect culture, value and unique characteristics of communities and contributes to a sense of place.

Strategies

While the preceding principles and policies are guiding rules intended to influence decisions and actions, strategies are required in order to deliver change by implementing those policies. With the requirement in the FAST Act to establish performance targets, each strategy in Horizon 2045 has one or more performance measures. The United States Department of Transportation (USDOT) is required to establish national performance measures. MPOs are then required to establish targets for each measure. MPOs are required to establish targets in coordination with the relevant state(s) and with providers of public transportation. Please see the Strategies and Monitoring sections of *Chapter 4: How Will We Get There*, for more detail.

In order to develop strategies and reach goals set for the future, it is important to have an understanding of where we stand today. Chapter 2 of this document, Where We're At, looks at existing conditions for our region, including area employment; commute patterns, the condition of area bridges, traffic volumes, movement of freight and goods, and much more.

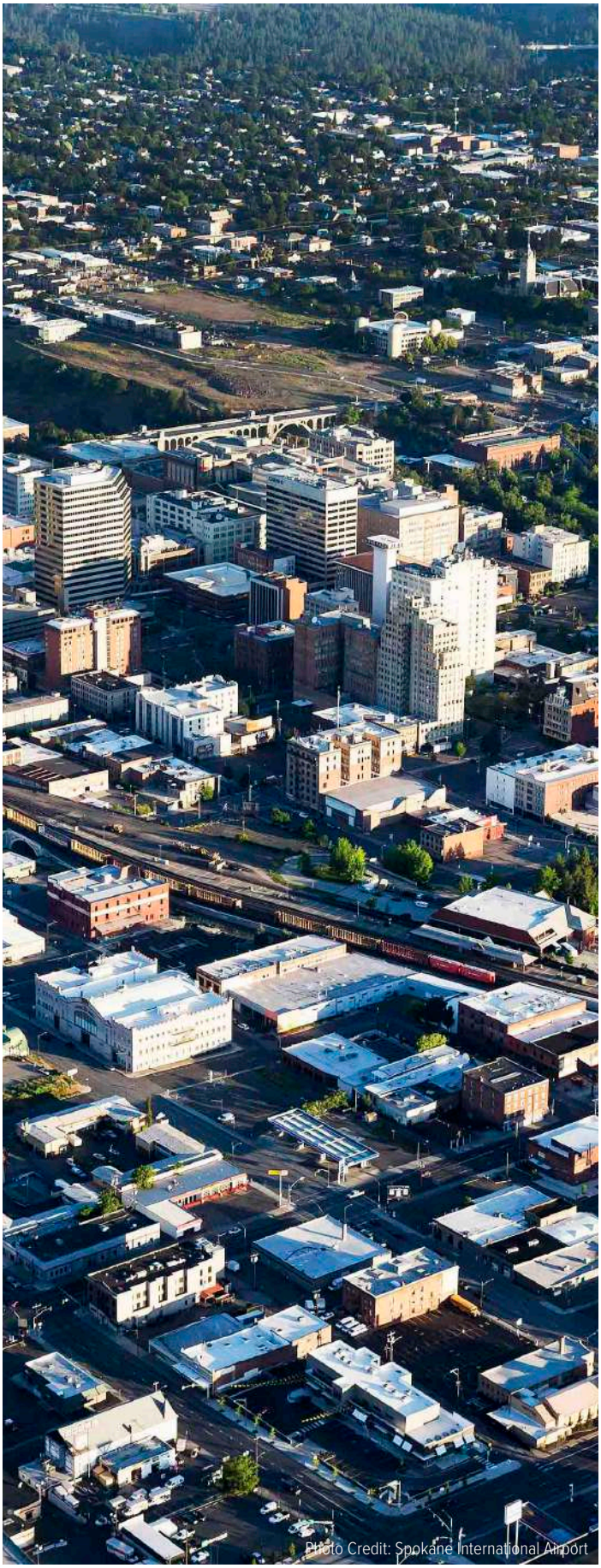


Photo Credit: Spokane International Airport

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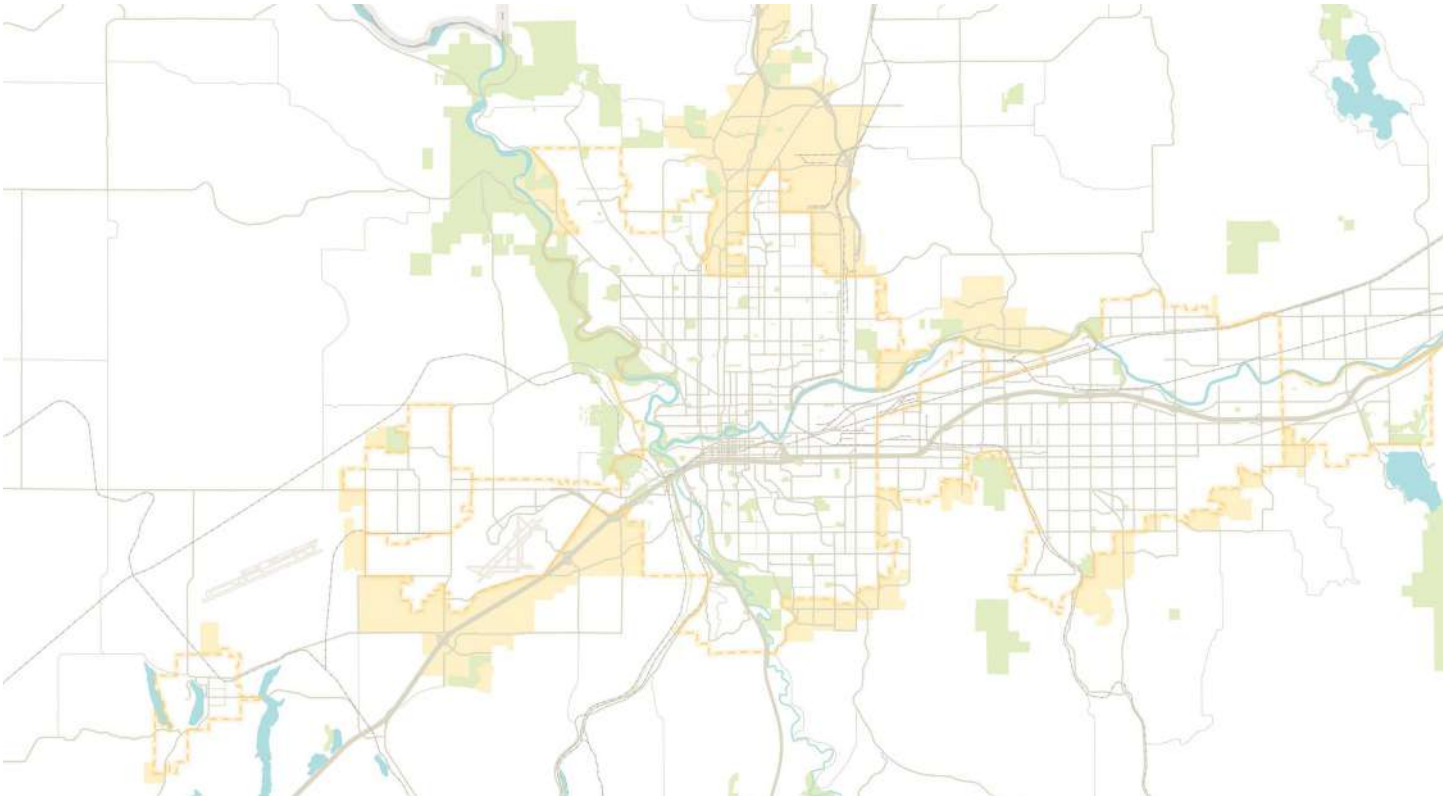


CHAPTER 2
WHERE WE ARE

Existing Conditions

How the demographic, natural, and built environments impact the existing transportation system.

This chapter is an overview of the region's demographics and existing conditions including employment trends, commute patterns, the condition of area roads and bridges, traffic volumes, and the movement of freight. This information is essential for evaluating the region's transportation needs and establishing priorities for transportation infrastructure.

Regional Profile

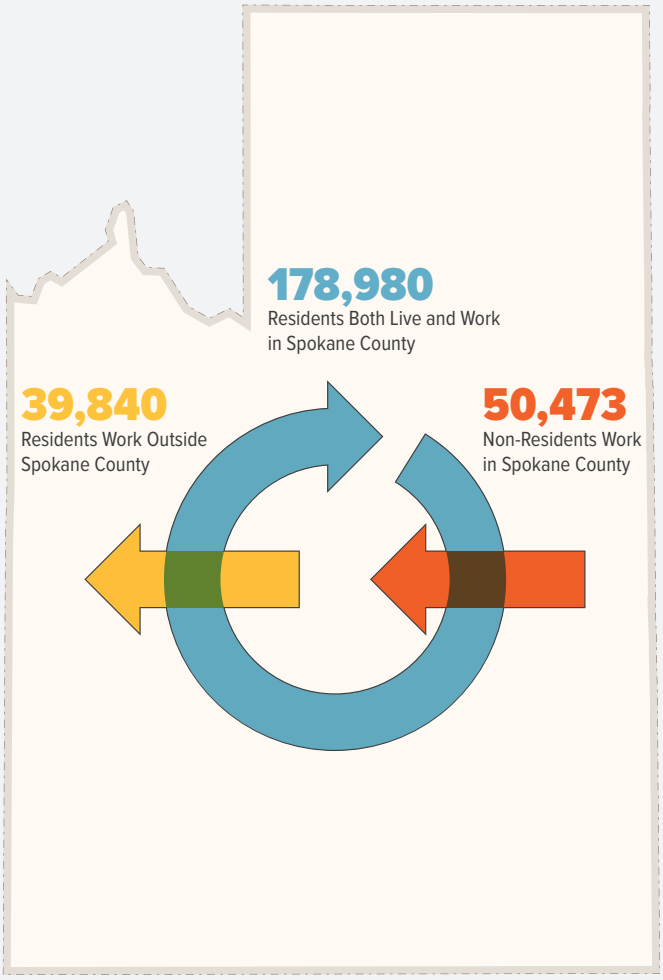
SRTC's planning area (shown in figure 1.2) is 1,781 square miles in size. It has a total land area of 1,764 square miles with a population density of 292 persons per square mile in 2019.[1] The Spokane Urbanized Area has a total land area of 164 square miles and a population of 420,440 in 2019, resulting in a population density of 2,560 persons per square mile.[2]

Spokane serves as a regional employment hub for Eastern Washington and North Idaho. Approximately 22 percent of the region's employees live outside of the planning area. The number of those that live outside of the planning area but are employed inside has increased approximately 33 percent over the last 20 years. The region's commute flows are shown in figure 2.1.

Like Washington state and the nation overall, Spokane County has undergone demographic shifts over the past few decades that impact the regional transportation system. As illustrated in figure 2.2, the most recent American Community Survey (ACS) indicated that nearly two-thirds of the region's households are single-person or two-person households, a slightly higher percentage than both the Washington state and national averages.

Overall, households are getting smaller and the population older. Policy choices and investment decisions in Horizon 2045 consider these trends and how they impact regional transportation systems and services.

Figure 2.1: SRTC Planning Area Commute Flows



U.S. Census Bureau, LEHD Origin-Destination Employment Statistics, 2018

1 OFM Estimates of April 1 Population Density and Land Area by County.

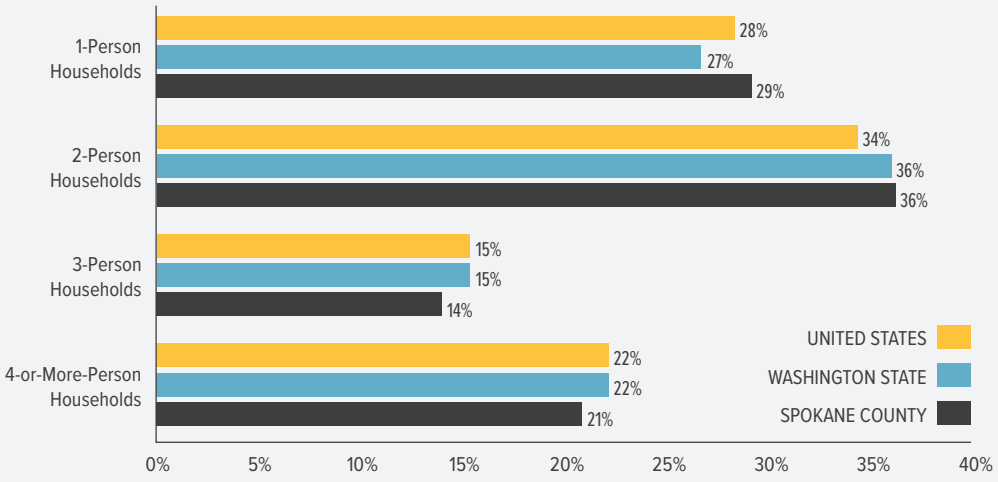
2 OFM Small Area Estimates Program.

Indicators of Potential Disadvantage

Low income, limited English proficiency, minority status, vehicle access, age dependency, and disability status are all indicators of potential disadvantage when it comes to transportation. These groups may face disproportionate negative health, safety, and quality of life impacts related to the transportation system. In January 2021, the new presidential administration announced intent to achieve Justice 40, an initiative to deliver 40 percent of the overall benefits of federal investments (including transportation investments) to disadvantaged communities and track performance toward that goal. The administration began pursuing that initiative with an executive order designed to advance racial equity and support for underserved communities through the federal government.

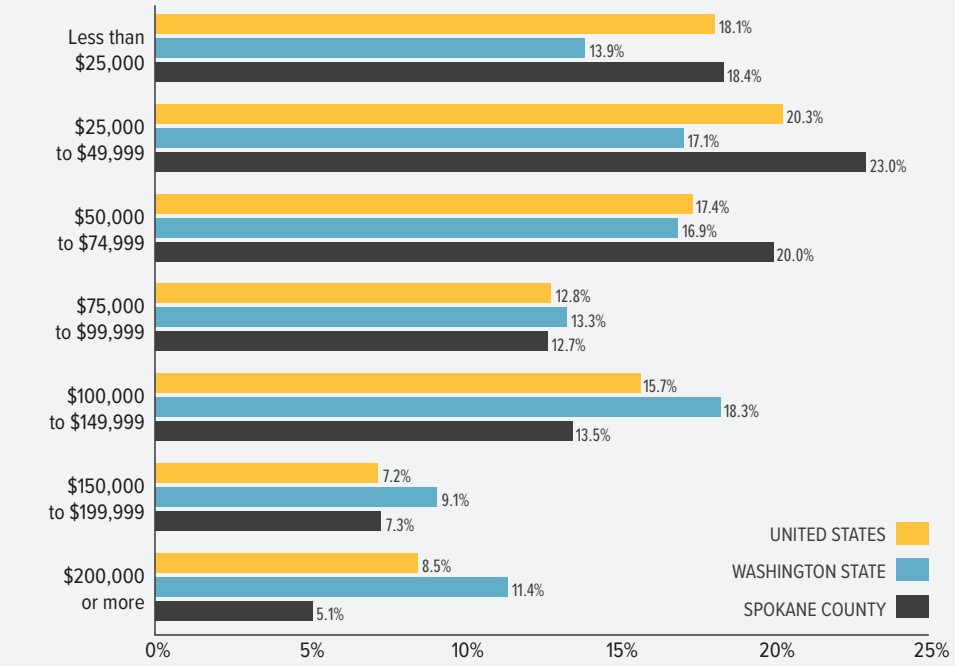
To ensure these considerations inform its planning processes, SRTC tracks data pertaining to these indicators. This section of the plan provides a brief description of these indicators, along with maps showing the geographic distribution of these populations. Monitoring these indicators is an initial step to address the intent of the Justice 40 initiative. Moving forward, SRTC intends to continue expanding on this effort by analyzing how the region's transportation investments are impacting potentially disadvantaged communities.

Figure 2.2: Household Size in SRTC Planning Area Compared to Washington State and the United States



2019 ACS 1-Year Estimates

Figure 2.3: Household Income in SRTC Planning Area Compared to Washington State and the United States



2019 ACS 1-Year Estimates

Age Dependent Populations

The population outside of the normal working age—youth and seniors—is considered age dependent. In Spokane County, age dependent populations tend to be concentrated along both the northern and southern fringes of the Spokane Urbanized Area. The region's outlying areas, such as Deer Park, north of Francis Avenue, and in the Dishman-Mica area, also tend to have high concentrations of age dependent residents. This suggests the need for public transportation services in these areas, which could result in their support for increased transit funding. Figure 2.4 shows the geographic distribution of age dependent populations in Spokane County.

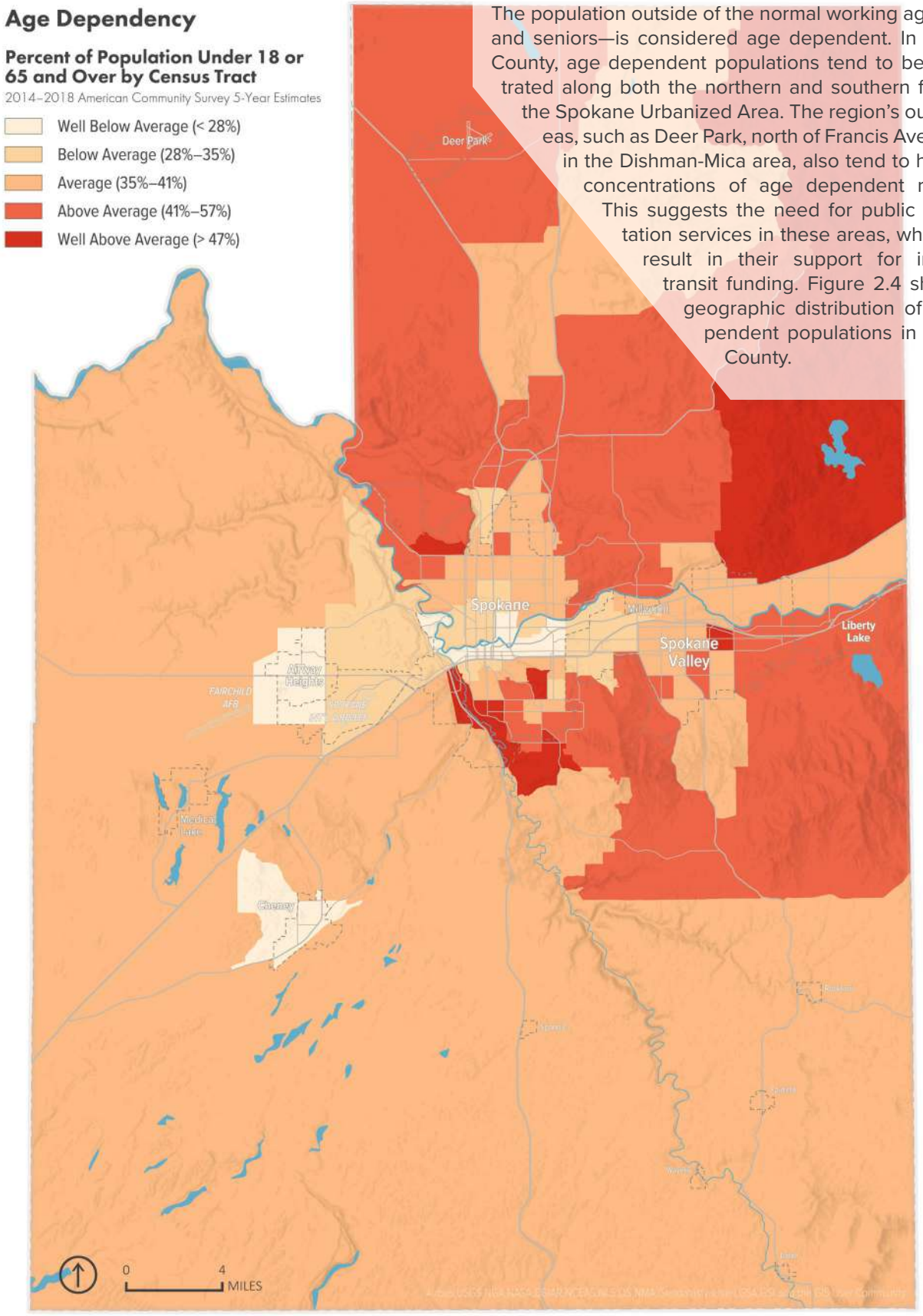


Figure 2.4: Age Dependent Population

Disabled Populations

Disabilities can make transportation a challenge and many people with disabilities rely on public transit to access health and other needed services. Unlike age dependent population, residents with disabilities are much more concentrated in and around the region's urban core. Figure 2.5 shows that Spokane's northeast quadrant, along with several areas scattered throughout Spokane Valley, have concentrations of disabled residents that are significantly higher than the regional average.

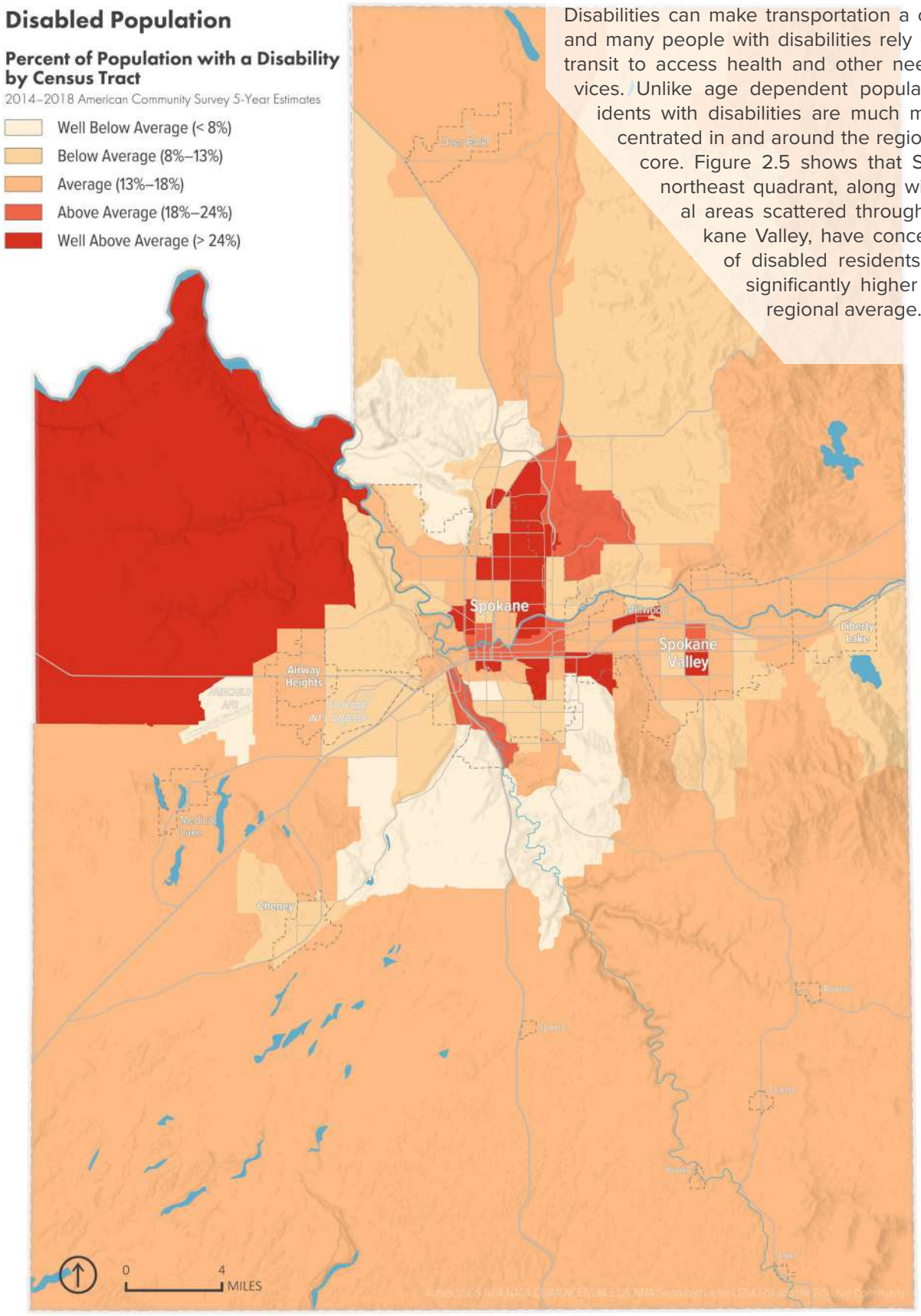


Figure 2.5: Disabled Population

Low-Income Populations

Poverty can also be a barrier to efficient transportation. In 2019, the median household income in Spokane County was $56,904, significantly lower than the Washington state and national averages of $78,687 and $65,712, respectively.[3] Figure 2.3 shows the share of households, by income bracket, in the SRTC planning area compared to Washington state and the U.S. as a whole. Figure 2.6 illustrates that the highest concentrations of individual with low incomes are generally located around the region's urban core—central, east central, and northeast Spokane all have sizable low-income populations. However, there are also areas in and around Airway Heights, Deer Park, Cheney, and Spokane Valley that have concentrations of low-income individuals that are above the regional average.

3 2019 ACS 1-Year Estimates

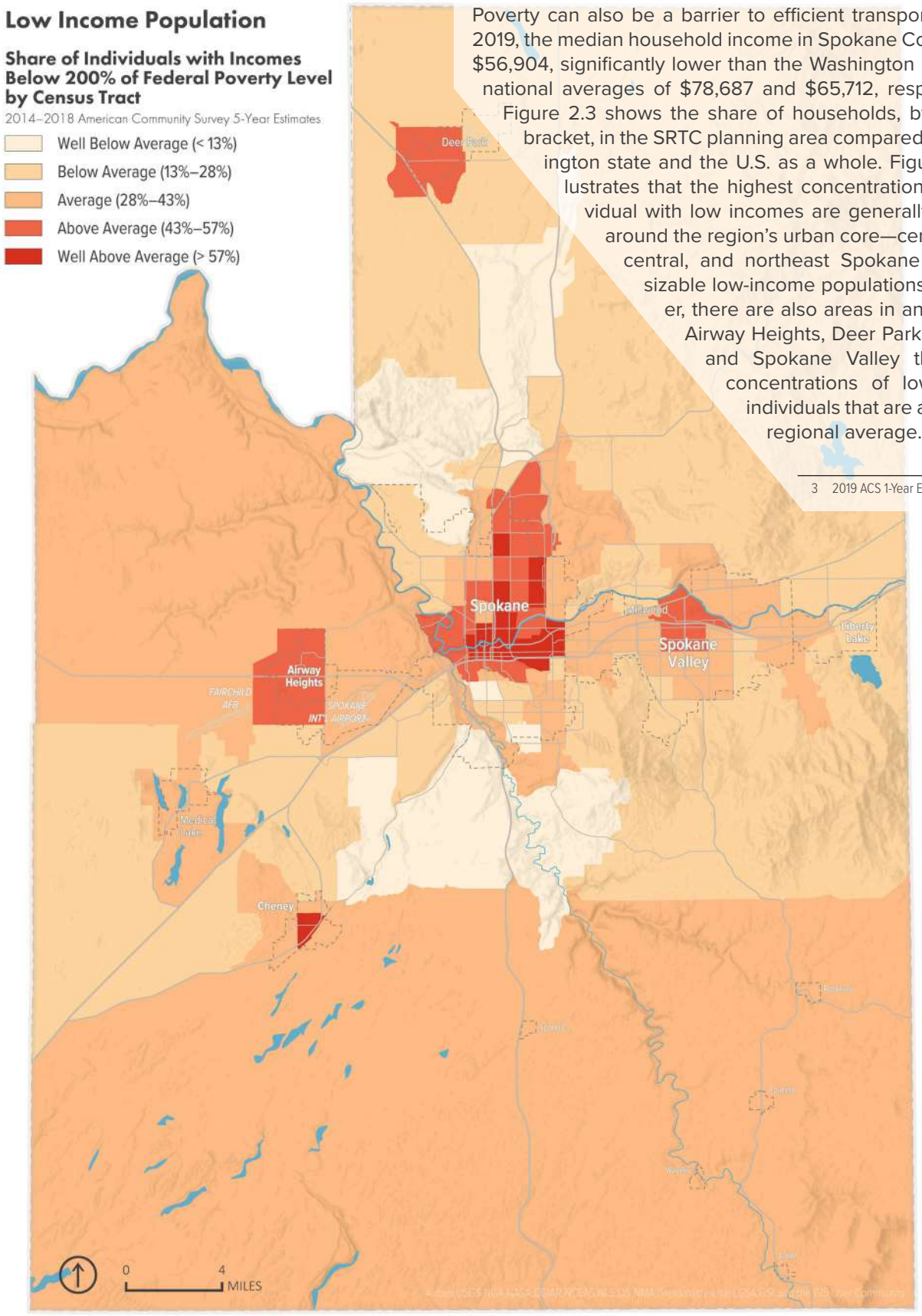


Figure 2.6: Low-Income Population

Vehicle Access

Whether due to poverty or by choice, 7.4 percent of area households have no vehicle available. Figure 2.7 shows that high concentrations of these households exist near the City of Spokane's downtown and lower north side, which is a similar pattern to the region's low-income residents. There is also a concentration of homes without vehicle access in the far north part of Spokane.

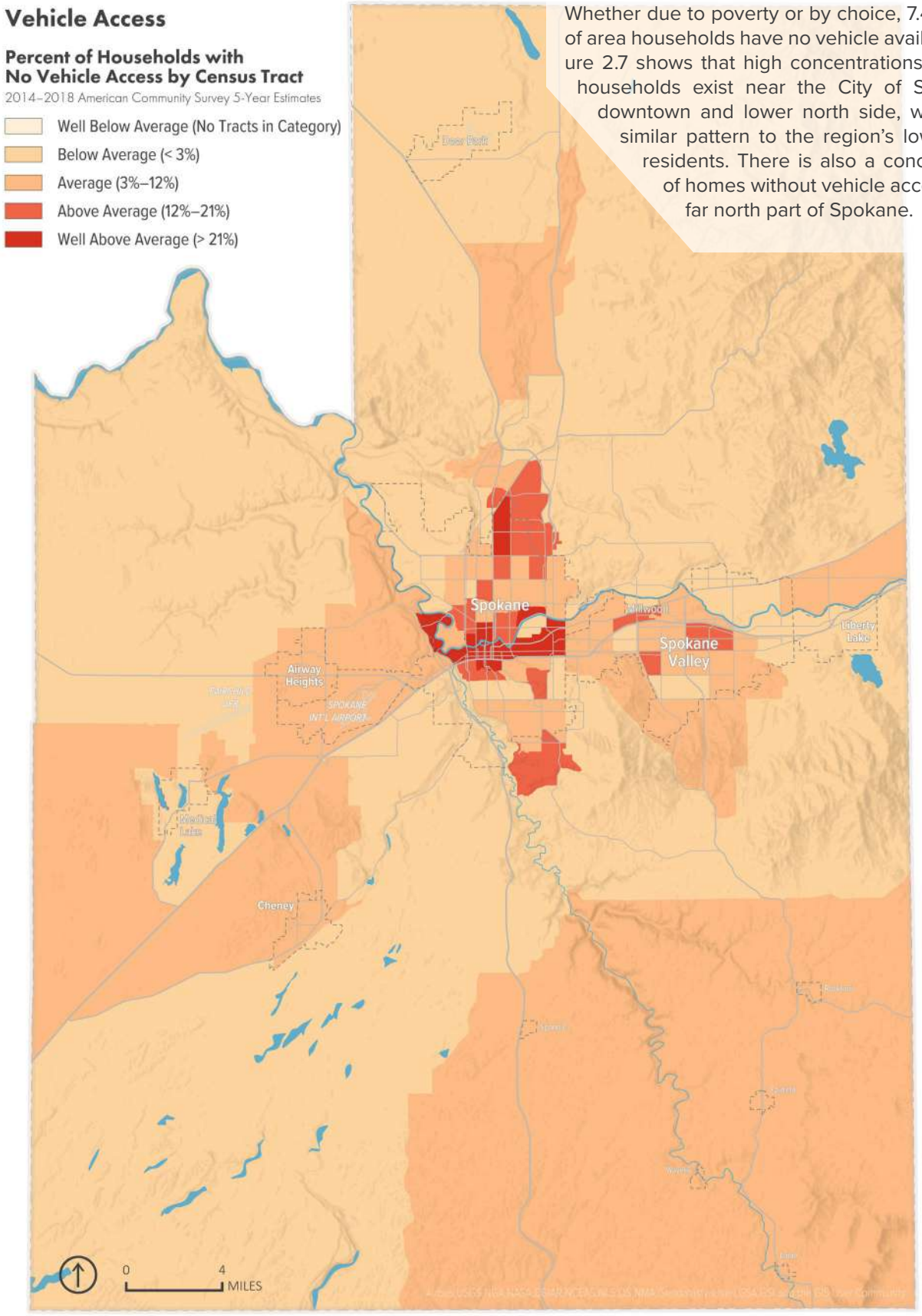


Figure 2.7: Carless Households

Limited English Proficiency

North Spokane is home to a concentration of residents with limited English proficiency (LEP). Figure 2.8 shows the location of concentrations of LEP households, which exist throughout the eastern half of the City of Spokane, in Spokane Valley along the Pines Road corridor, and the rural western part of the county.

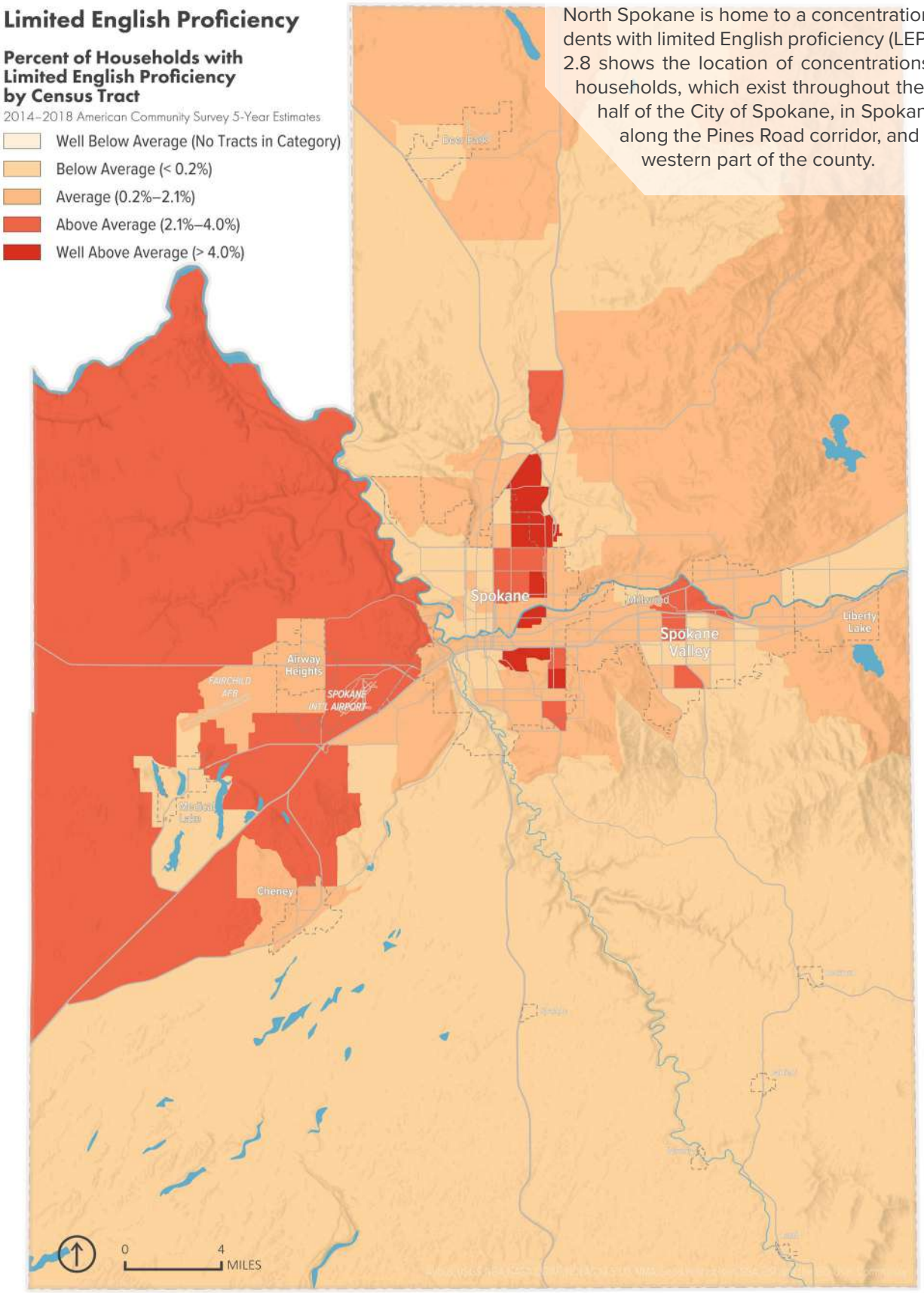


Figure 2.8: LEP Households

Racial & Ethnic Minority Populations

Overall, just over 16 percent of the region's residents identify as a racial or ethnic minority. Figure 2.9 shows the geographic distribution of these populations, which are concentrated throughout north and central Spokane, the west plains area around the cities of Cheney and Airway Heights, and parts of Spokane Valley.

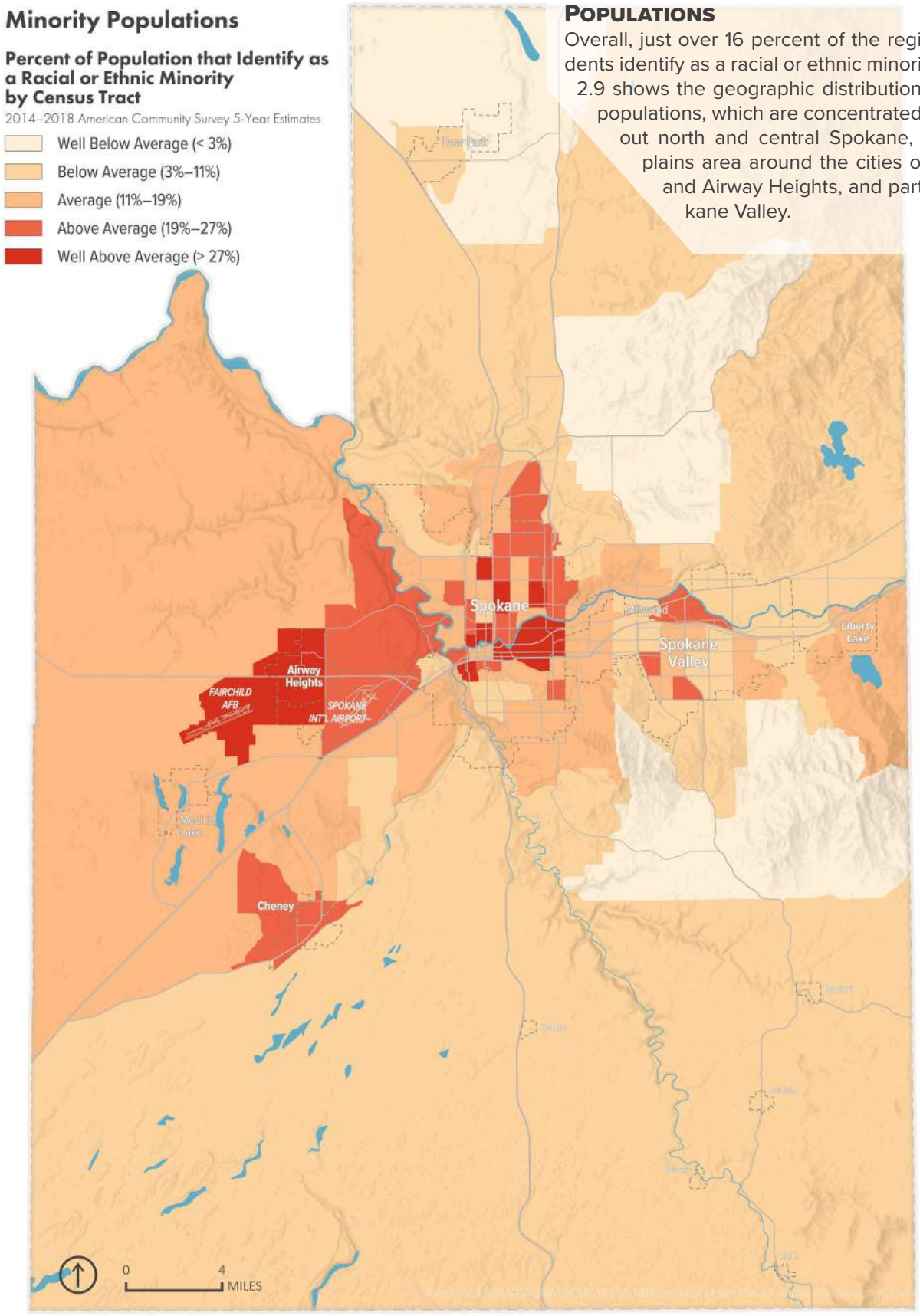


Figure 2.9: Population Identifying as a Racial or Ethnic Minority

Areas of Potential Disadvantage

Areas of Potential Disadvantage in the Spokane region, which are areas with above average concentrations of potentially disadvantaged populations, were identified by overlaying all six indicators. These are shown in figure 2.10.

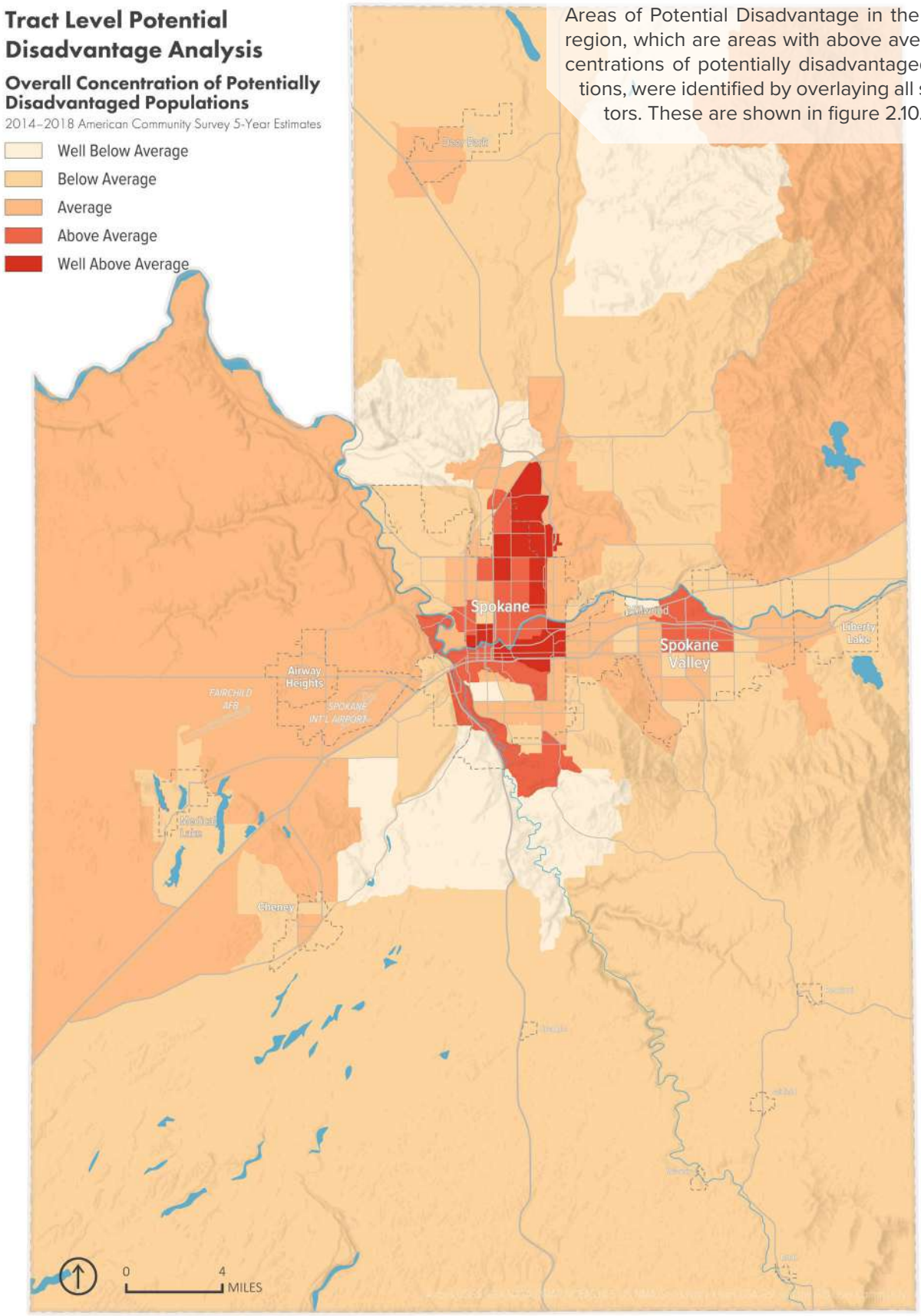


Figure 2.10: Areas of Potential Disadvantage

Labor Force

In 2019 the county labor force was 228,353 workers, with an average unadjusted unemployment rate of 5.25 percent. The total number of employers in the SRTC planning area is 15,478.[4] 64 percent of these employers have less than five employees, and an additional 13 percent employ between five and nine individuals. However, employers with less than ten employees account for only 13 percent of the region's total employment. Conversely, less than two percent of employers in the region employ 100 or more individuals. However, these account for approximately 45 percent of the region's total employment.[5] Health care and government are the region's two largest industries. Combined, they account for over a third of its total employment, with just under 18 percent of workers employed in heath care and social assistance and 17 percent working for federal, state, or local government. An additional 11 percent are employed in retail trade, while manufacturing accounts for just over seven percent of the region's employment.[6]

The primary mode of commute to work, driving alone, has not significantly increased or decreased since 2015. Figure 2.11 shows the Spokane-Spokane Valley Metropolitan Statistical Area's (MSA) commute shares by mode of travel. The Spokane-Spokane Valley MSA's median travel time to work is 21.1 minutes. Figure 2.13 offers travel time comparisons to other areas around the country.

4 Washington State Employment Security Department (ESD), Quarterly Census of Employment and Wages (QCEW)

5 ESD, Establishment Size Report, March 2019

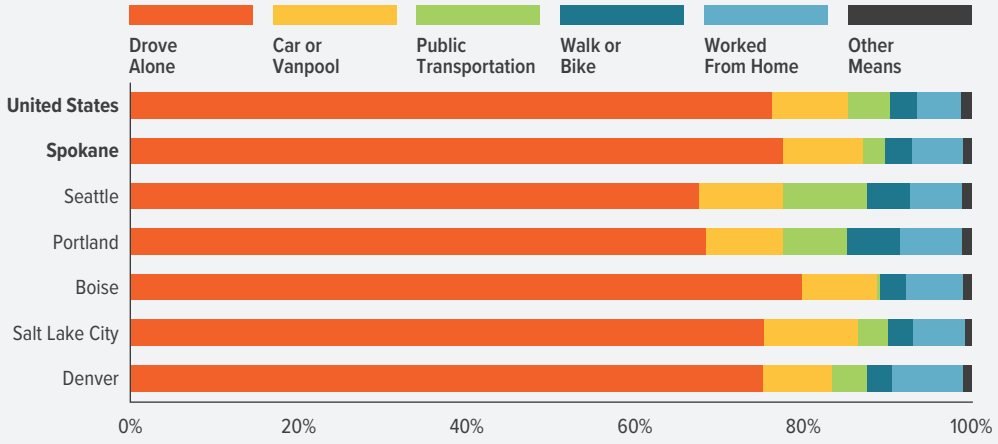
6 ESD, Spokane County Profile

Figure 2.11: SRTC Planning Area Demographics Compared to Washington State

	Spokane County	Washington State
Total Population*	515,250	7,546,410
Average Household Size**	2.39	2.55
% of Individuals with Incomes Below 200% of Poverty Level**	30.2%	23.5%
% of Population Identifying as a Racial or Ethnic Minority**	16.1%	32.7%
% of Households with Limited English Proficiency**	1.1%	3.8%
% of Households with No Vehicle Access**	7.4%	7.1%
% of Population Under Age 18**	22.0%	21.8%
% of Population Over Age 65**	16.5%	15.9%
% of Population with a Disability**	14.1%	12.7%

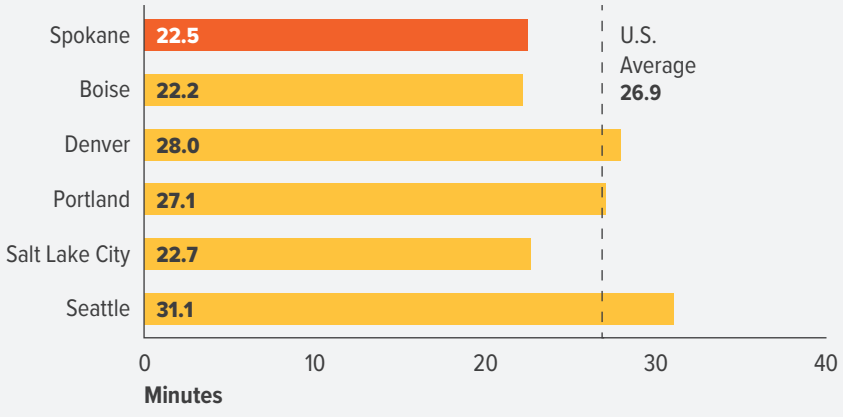
*OFM April 1 Population Estimates
**2019 ACS 1-Year Estimates

Figure 2.12: Mode to Work in Spokane Metro Area Compared to Other Selected Metro Areas and the United States



2015–2019 ACS 5-Year Estimates

Figure 2.13: Mean Travel Time to Work for Workers Who Did Not Work from Home



2015–2019 ACS 5-Year Estimates

Technical Tools for Transportation Analysis

As part of the development of Horizon 2045 and other planning processes at SRTC, staff assessed existing transportation systems and region-wide programs. This includes tools used for technical analyses, which are reviewed below.

Regional Travel Demand Model

Modeling is a method of evaluating the performance of the transportation system and predicting how the public will use it in the future. This is done using computer software to represent how travel choices are made.

SRTC's travel demand model contains inventories of existing roadway and public transit facilities and all existing and planned housing, shopping and employment in the area. Currently, bike lanes and pedestrian facilities are not represented but could be in the future. Using the model, future traffic volumes and transit ridership can be estimated in order to be proactive in managing traffic congestion and building transportation facilities to accommodate demand.

Federal transportation planning regulations require documentation of the input assumptions and methods used for developing forecasts (23 CFR 450.316). SRTC Travel Forecasting Documentation includes an inventory of the current state of transportation in the planning area, key planning assumptions used in developing forecasts, and descriptions of the methods used to develop forecasts of future travel demand.

Regionally Significant Projects

SRTC uses the model to evaluate regionally significant projects. For Horizon 2045's purposes, a transportation project is defined as regionally significant if it:

- Cannot be grouped in the TIP and/or Statewide TIP (STIP),[7] and/or it is not listed as an exempt project type in EPA's regional transportation conformity regulation (40 CFR. Part 93);[8] and
- Is on a facility which serves regional transportation needs (federally classified as a principal arterial or higher) and alters the number of through-lanes for motor vehicles for a distance greater than a half mile, or impacts a freeway or freeway interchange (other than maintenance projects); or
- Is a new or extended fixed guideway transit service (dedicated bus lanes, vehicle track or wires) or capital expenditures related to a new fixed-route transit service on a facility which serves regional transportation needs (federally classified as principal arterial or higher); or
- Is determined by the SRTC Policy Board or the Interagency Consultation Group to have the potential for adverse emissions impacts.

The model can also be used to evaluate potential transportation scenarios. FHWA encourages scenario planning in the transportation planning process to help anticipate future growth trends while prioritizing how limited resources will be used. Scenario planning is the process of developing a range of possible futures to facilitate public decision-making on land use policies and transportation investments. This involves identifying major sources of change, considering how driving forces could interact to determine different future conditions, creating scenarios that consider the implications of different strategies in different environments, modifying assumptions to see how scenarios react, and evaluating scenario outcomes. Various measures can be used to evaluate scenarios, such as the extent to which the scenario impacts vehicle miles of travel, average trip length, transit ridership, amount of available land, air quality, or energy consumption.

Macroscopic Transportation Modeling

Macroscopic models, such as SRTC's, are used for high-level, regional travel analysis. Travel demand models are limited in their ability to estimate changes in operational characteristics (such as speed, delay, and queuing) down to the individual transit route, road segment or intersection level. The SRTC model uses specific analytical processes that consider choices based on destination, mode, time of day and route and then represents the resulting traffic flow at the macroscopic level. Macroscopic models can be used to predict the extent of congestion caused by traffic demand or incidents in a network. The SRTC model assesses current conditions and forecasts demand based on projections of future employment and household demographics.

Land Use

A key aspect of SRTC's travel demand model is land use. Spokane's land use is a mosaic of past economic conditions and development philosophy. At the turn of the 20th century, higher density neighborhoods with homes and parks showed that quality neighborhoods were an important part of Spokane's fabric. Neighborhood retail centers saved residents long trips to fill routine needs. With the post-war era, however, the car found a more dominant role and increased access to distant areas and family mobility. This resulted in the desire to move outside the city limits to areas with less expensive land and larger lots.

7 2 U.S.C. 135(g)(4)(C)(ii) states that projects that are categorically excluded from the National Environmental Policy Act (NEPA) process and are not regionally significant can either be identified individually or grouped with other projects of the same funding source in the STIP.

8 40 CFR § 93.126 states that certain highway and transit projects are exempt from conformity requirements (highway safety, transit, bike and pedestrian facilities, travel demand management programs, and other activities that do not lead directly to construction of a project), unless it is determined by the Interagency Consultation group that the project has potentially adverse emissions impacts for any reason. 40 CFR § 93.127 identifies several project types that are exempt from regional emissions.

Figure 2.14: SRTC Land Use Categories

Code	Description	Land Use Type	Measure
LU1	Single-family, duplex, triplex, manufactured or mobile home	Population	Housing units
LU2	Four our more residential units on a single parcel	Population	Housing units
LU3	Hotel, motel, or campsite	Other	Rooms/campsites
LU4	Agriculture, forestry, mining, industrial, manufacturing, wholesale	Employment	Employees
LU5	Retail trade (non-central business district [CBD])	Employment	Employees
LU6	Services and offices	Employment	Employees
LU7	Finance, insurance and real estate services (FIRES)	Employment	Employees
LU8	Medical	Employment	Employees
LU9	Retail trade (CBD)	Employment	Employees
LU10	College and university commuter students	Other	Students
LU11	Education employees (K–12)	Employment	Employees
LU12	Education employees (college and university)	Employment	Employees

Lower density suburban developments had lower cost infrastructure requirements, making urban density developments in the city less competitive. Residential and commercial development inside the City of Spokane became stagnant, demonstrated by the slow growth rate in the city between 1960 and 1990. By the 1990s, changes in water quality and road standards increased the cost of developing low-density residential developments. Factors such as sewer system requirements, stricter road standards, and higher land values caused increased dwelling unit densities in order to economically afford continued growth and development.

Now, infilling with smaller but higher density residential developments is becoming more commonplace. Commercial and retail land uses have also changed. Neighborhood stores have given way to shopping centers and big box retailers. Strip commercial development has flourished along principal arterials due to easy access, visibility, and a constant flow of traffic.

Land Use Categories

For modeling purposes, the land uses in figure 2.14 are broken down into categories and associated with different travel behaviors. For employment based land uses, industrial classification codes are used to differentiate establishments into the various categories. There are distinct differences between these categories. For example, a commercial establishment such as a fast food restaurant generates more traffic than an office. The type of trips and time of day they are taken differ as well.

Each land use category has a value for the number of housing units, employees, hotel/motel rooms, or higher education commuter students. All land uses are geocoded by SRTC staff. Geocoding assigns a location to all data, based on information such as an address. Using Geographic Information Systems (GIS), the land use totals are grouped by areas known as Transportation Analysis Zones (TAZ), which are the primary units of analysis in SRTC's travel demand model. There are 519 TAZs in Spokane County as shown in figure 2.15.

2019 Land Use Development

A variety of data sources were used to establish land use values for the 2019 base year model and ensure their accuracy. This section provides an overview of the process used to develop SRTC's 2019 base year land use.

Population

SRTC uses housing units as a substitute for population in the regional travel demand model. However, staff does use the Washington State Office of Financial Management's (OFM) population estimates for Spokane County and the jurisdictions within, to validate its base year housing unit figures.

The SRTC model uses occupied single-family (SF) and multifamily (MF) housing units to represent where people live as part of the trip generation process. For both categories, staff used housing unit counts directly from the 2010 Decennial Census. Local building permit data is used to account for new or removed housing units between the decennial census and the 2019 base year, which is shown in figure 2.16.

SRTC uses housing unit occupancy rates from OFM's Small Area Estimates Program (SAEP) data. The 2019 rate was applied to the SF and MF housing units in each TAZ, allowing the model to reflect a higher level of accuracy when determining trip generation.

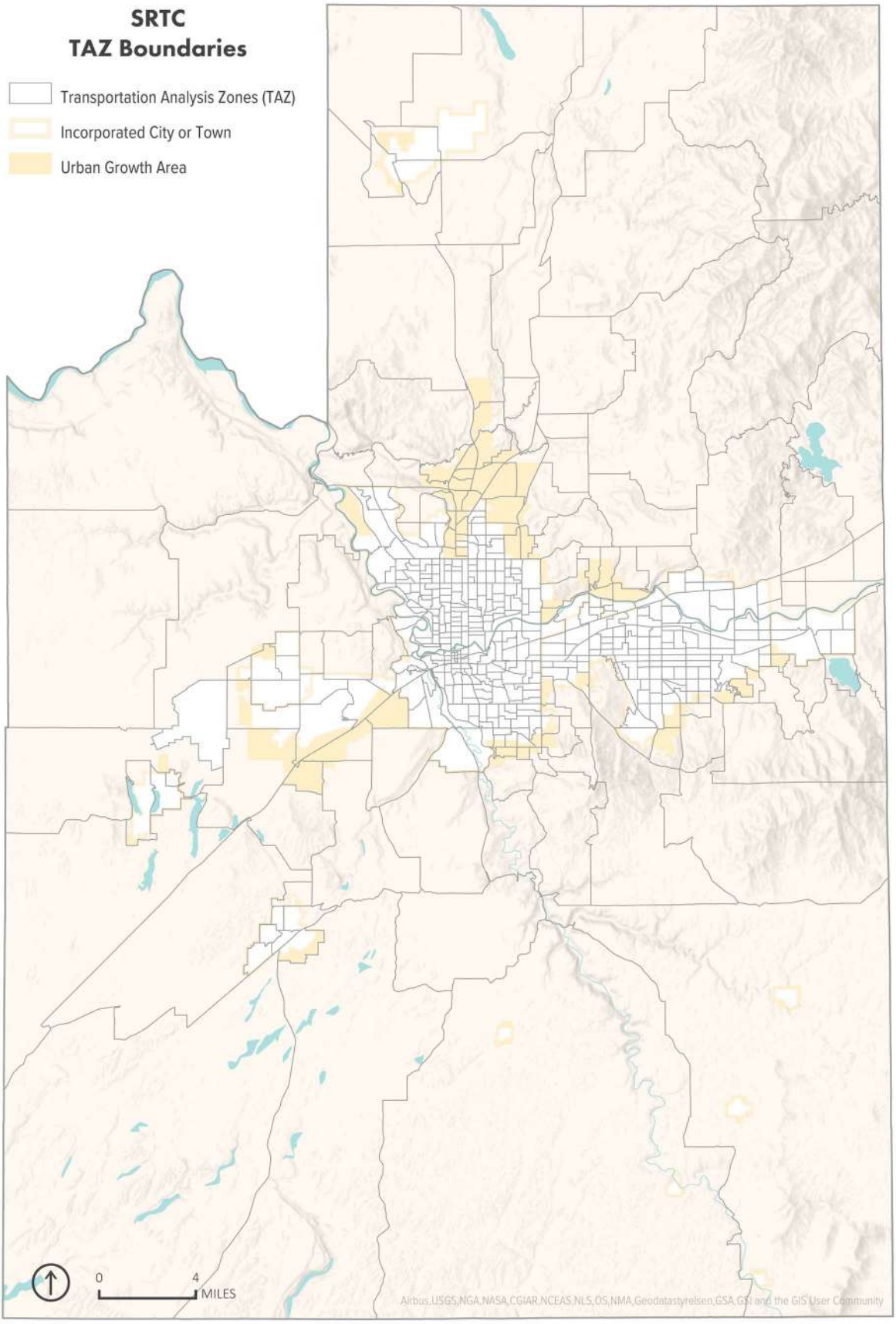


Figure 2.15: Map of SRTC TAZs

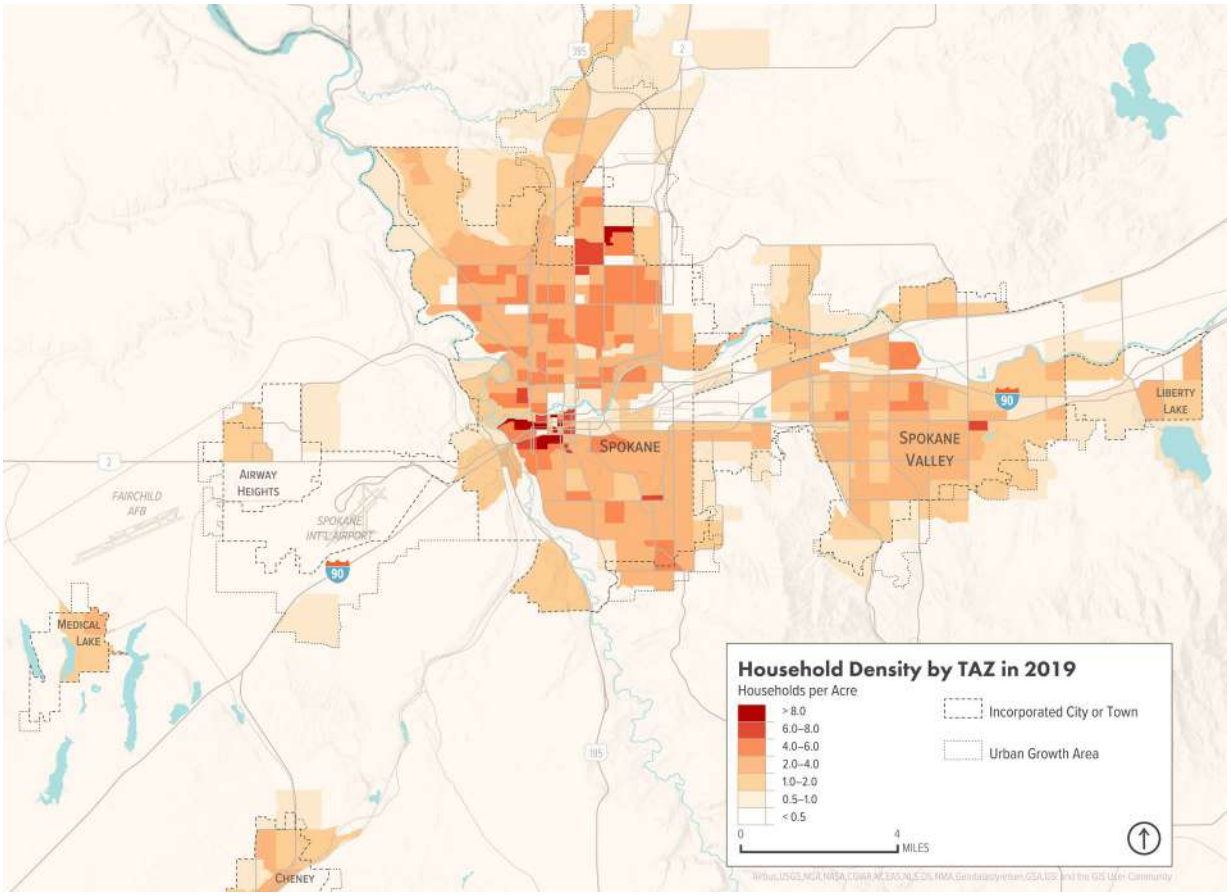


Figure 2.16: Household Density by TAZ in 2019

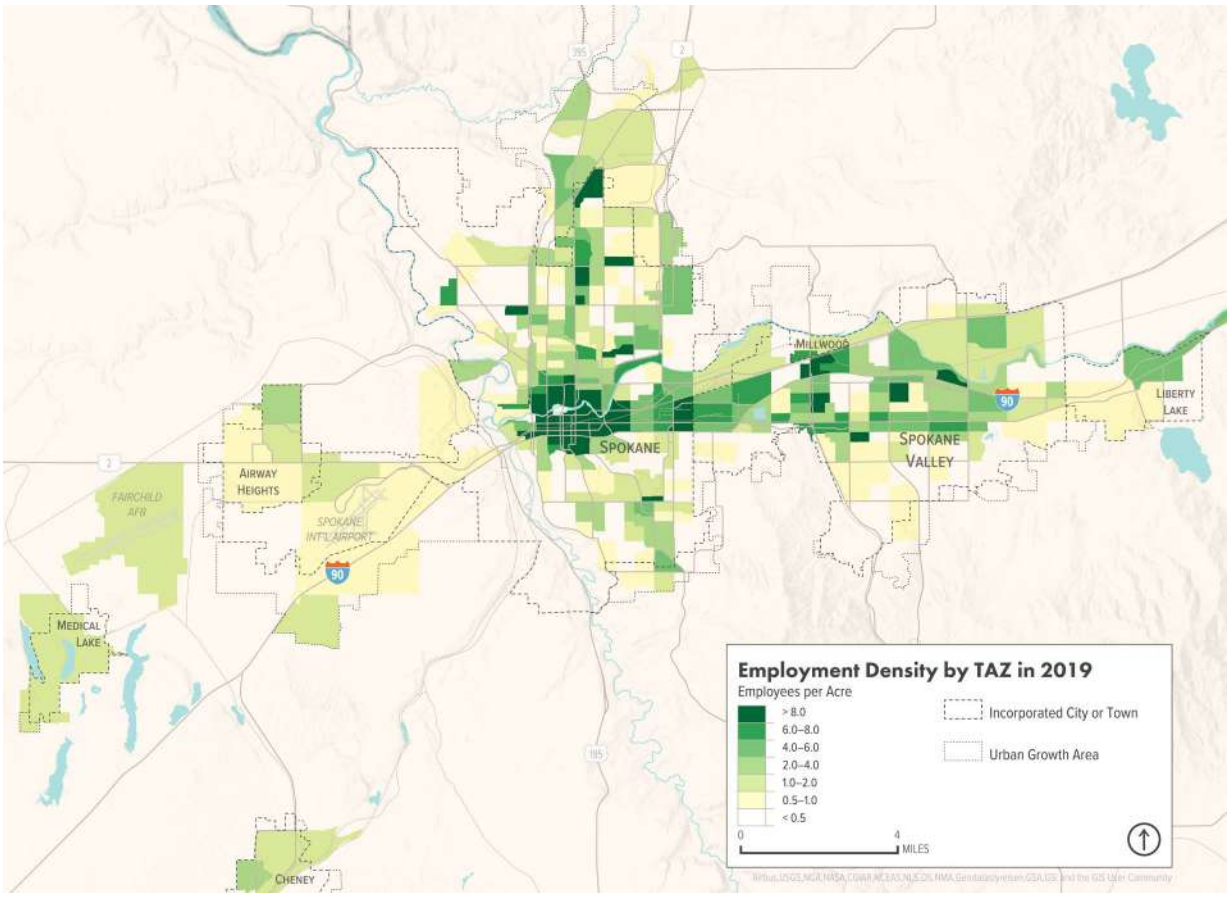


Figure 2.17: Employment Density by TAZ in 2019

Figure 2.18: Summary of SRTC 2019 Base Year Land Use Totals

Description	Code(s)	2019 Base Year Total
Total Population	-	515,250
Occupied Single-Family Housing Units	LU1	155,442
Occupied Multifamily Housing Units	LU2	51,938
Total Employment	LU4–LU9, LU11, LU12	228,559
Hotel Rooms/Campsites	LU3	7,860
High Education Commuter Students	LU10	30,791

Employment

The primary source for employment data is Washington State's Employment Security Department's (ESD) Unemployment Insurance (UI) data. It is utilized to determine business locations, number of employees, and industrial classifications.

Significant staff research supplements the ESD data. A number of additional data sources, including the U.S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) data, are used to confirm and, as needed, revise the UI data.

Various additional checks and validation techniques are also performed to increase the accuracy of the data. This includes utilizing GIS software to review the employment data against land use, zoning, and Spokane County Assessor parcel data to confirming the correct location and industrial classification. Moreover, SRTC staff contacts the region's larger employers directly to confirm the number of employees and other data. Figure 2.17 illustrates the 2019 employment density in the greater Spokane area.

Hotel and Motel Rooms

For hotel and motel rooms (LU3), SRTC uses transient accommodations data from the Washington State Department of Health. This data includes employee counts and number of rooms.

Higher Education Commuter Students

The LU10 category consists of higher education commuter students. Staff calculates the totals for this category by contacting higher education institutions throughout Spokane County directly, to request enrollment and resident student population totals by campus. The resident student population is subtracted from enrollment to determine the commuter student population. When available, other non-commuting populations such as online students are removed from the commuter student population as well. A summary of the 2019 totals for the generalized land use categories is provided in figure 2.18.

Photo Credit: Spokane International Airport

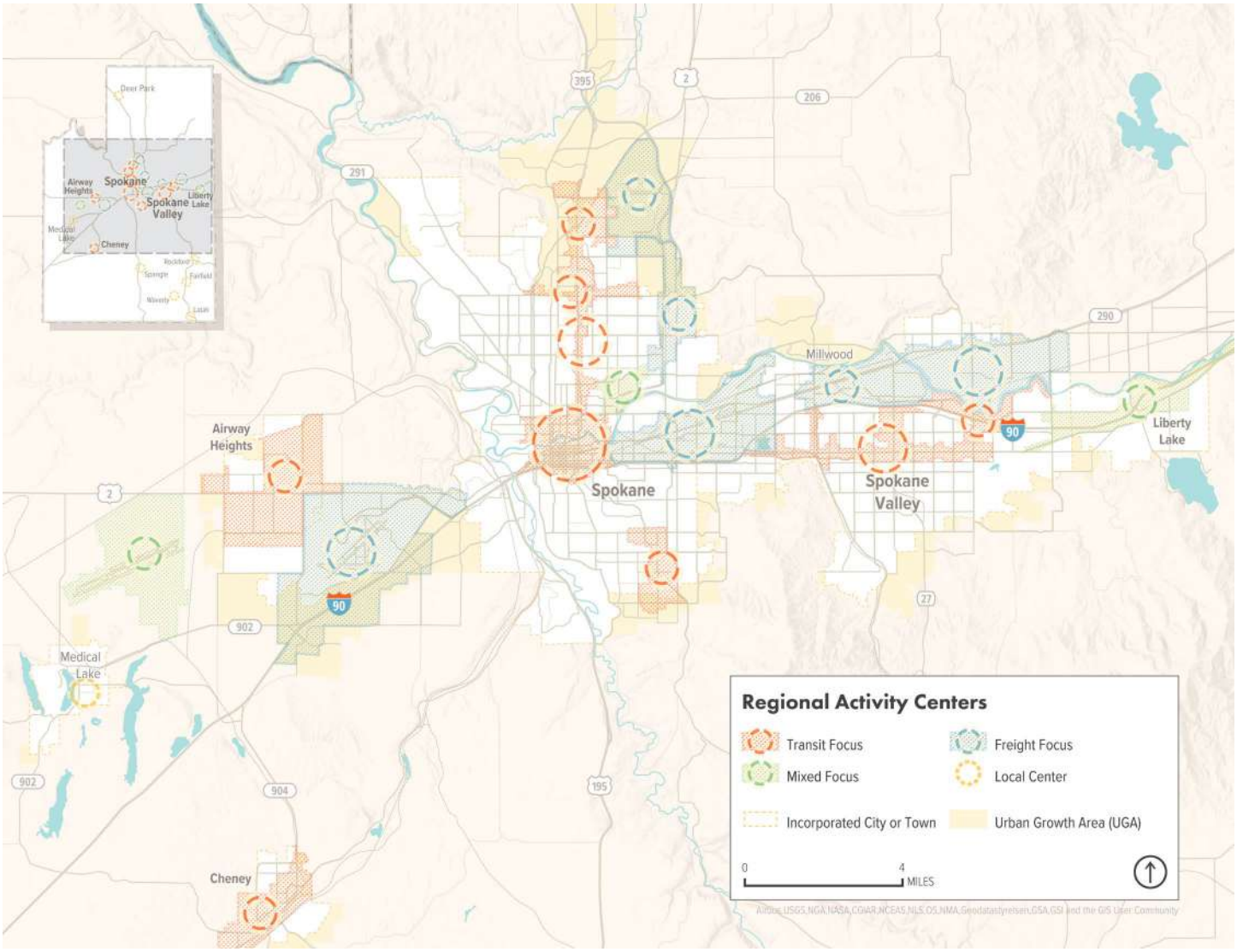


Figure 2.19: Regional Activity Centers

Activity Centers & Vacant Lands

Through analysis of current employment concentrations, densities, and types, SRTC identified employment activity centers throughout the Spokane region. These activity centers are areas of regional significance with high concentrations and densities of employment. Centers were designated one of three types: transit focused, freight focused, or mixed focus. Identifying these centers aids SRTC and other agencies in planning for transportation needs and investments.

The methodology used was developed as part of SRTC's Spokane Regional Truck Freight Profile, which includes an analysis of freight flows to and from these activity centers. The region's activity centers correlate with major industrial and commercial areas. They are generally situated close to highways; with most located near I-90 or the north Division corridor. A map of the activity centers is provided in figure 2.19.

SRTC staff also performed a basic analysis on vacant lands in the region. Using GIS technology, properties that were vacant and more likely to be developed were identified. Figure 2.20 displays these areas. They do not account for already existing developments or buildings that are vacant. However, the analysis does indicate major areas of available lands in a variety of locations throughout the region, as shown in the map. As infrastructure is built, and development occurs, these tools are used to support local decision makers in shaping the transportation system.

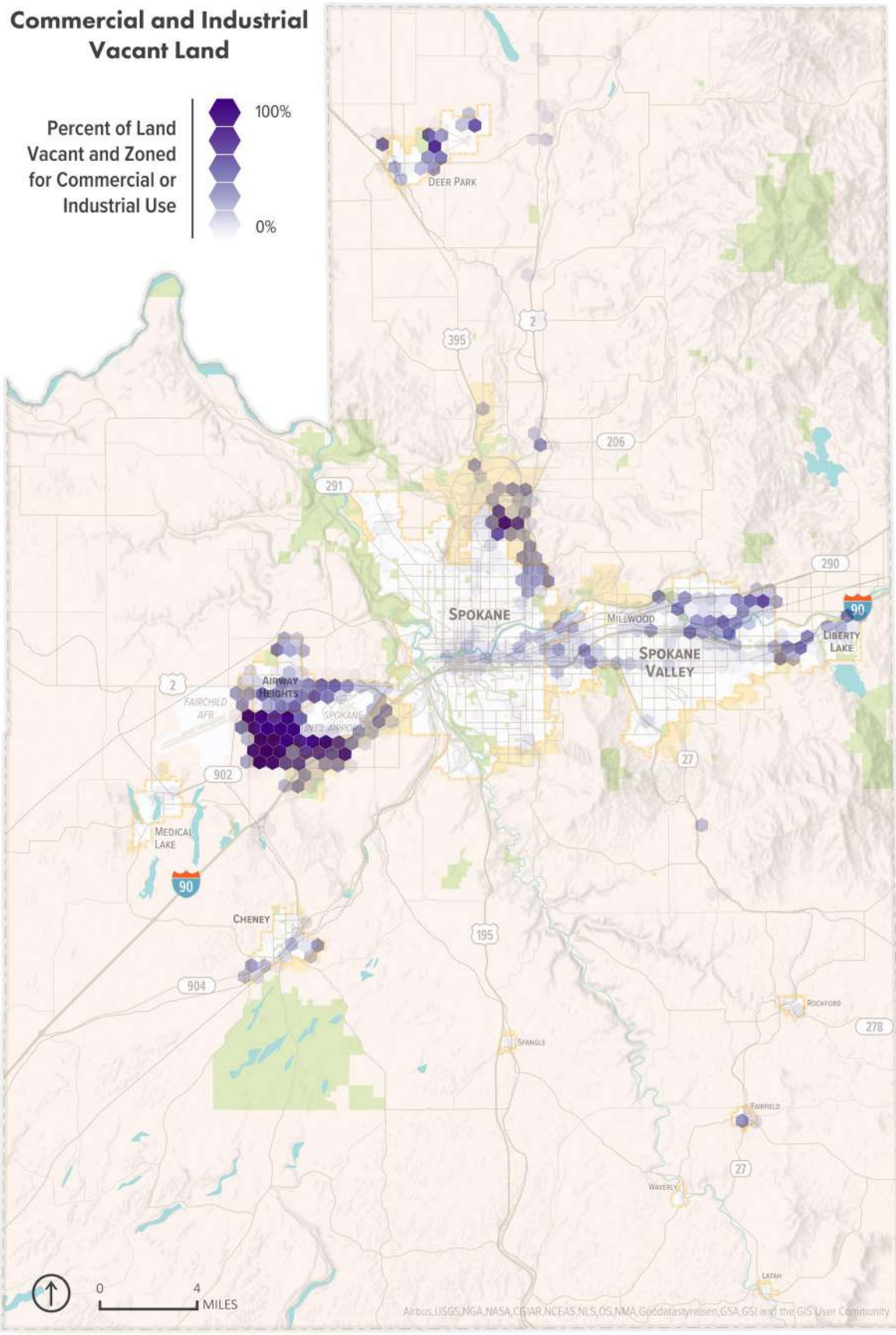


Figure 2.20: Commercial and Industrial Vacant Lands

Regional LOS Performance Measure Analysis

SRTC uses the travel demand model to analyze regional Level of Service (LOS) for area transportation facilities. Regional LOS is evaluated for the following modes: vehicular, transit, and non-motorized (combined biking/walking). The regional LOS analysis is based on changes to land use and the transportation system that will occur as a result of comprehensive plan updates or amendments.

Air Quality Modeling

Although the Spokane planning area is in compliance with clean air standards, the region continues to work to maintain and improve air quality. Pollutants pose a range of health impacts such as respiratory ailments, heart disease and cancer.

Spokane is designated as an attainment area for Carbon Monoxide (CO) and Particulate Matter (PM_{10}), operating under limited maintenance plans. On August 29, 2005, EPA re-designated the Spokane area from nonattainment to attainment for carbon monoxide (CO) with an approved maintenance plan.[9] On August 30, 2005 EPA re-designated the Spokane area from nonattainment to attainment for particulate matter-10 (PM-10) with an approved Limited Maintenance Plan (LMP).[10] On April 12, 2016 the EPA approved the Second 10-year limited maintenance plan (LMP) for PM_{10}.[11]

The second 10-year LMP for CO was approved August 15, 2016. These LMPs demonstrate the minimal risk that PM_{10} or CO from motor vehicles would contribute to a PM_{10} or CO violation. For this reason, no motor vehicle emission budget (MVEB) or paved road dust budget is established. While an area with an LMP does not need to do a regional emissions analysis, it still retains other conformity requirements as detailed in 40 CFR 93.109, such as consultation,[12] timely implementation of transportation control measures[13] and project level analysis.[14] While much of the improvements in air quality in the region are due to automobile technological advances (fuel efficiencies, emissions equipment), several strategies in the region have been used as well, including:

- Vehicle Inspection and Maintenance programs
- Commute Trip Reduction (CTR) programs
- Street sweeping
- Chemical de-icing applications
- School bus diesel retrofit program
- Traffic signal optimization and signal timing progression
- Traffic flow improvements
- Park and ride lots
- Pedestrian and bike facility improvements
- Parking management programs

Performance Management

In 2016 SRTC, with the assistance of stakeholders, completed the Horizon 2040 Implementation Toolkit Study, which designed options and implementation activities for SRTC to move toward a performance management approach to regional decision-making. Federal regulations for long-range transportation planning in MAP-21 and the FAST Act required SRTC to begin integrating performance management into regional planning and programming decisions.

In Horizon 2045 you will find the System Performance Report (Appendix D), which details each of the performance measures SRTC monitors. SRTC also used other performance measures that were linked to decision making for selecting regionally significant projects.

Project Selection Process

Figure 2.21 details the criteria that were developed to assist the SRTC Board and link performance and regional decision-making for project selection. The tool includes both federal and regional performance areas. When appropriate, the tool criteria reflect future conditions to evaluate projects. Forecasted data are represented by bold green text in the figure.

As performance measures are developed and targets are set, this process will need to evolve. While this effort is intended to reflect project attributes that are connected to data, it is still important to evaluate the projects from other aspects that currently cannot be measured by current data; an example would be a projects impact on potential job growth. The SRTC Board has the ability to deliberate on projects to reveal these potentials where performance measures data is not available to assist with project evaluation.

9 70 Federal Register (FR) 37269

10 70 FR 38029

11 81 FR 21470

12 40 CFR 93.112

13 40 CFR 93.113

14 40 CFR 93.116

Figure 2.21: Evaluation Tool Criteria by Performance Area

ECONOMIC	STEWARDSHIP	QUALITY	OPERATIONS	SAFETY
Economic Development Potential	2045 HOUSING UNIT DENSITY	LOCATED ON NHS SYSTEM	VHT REDUCTION	Serious Injury and Fatal Collision Rates
2045 EMPLOYMENT DENSITY		IMPROVES BICYCLE PRIORITY NETWORK		
On Freight Corridor	AIR QUALITY IMPACTS		CMP Corridor Priority	
Truck Volumes		IMPROVES TRANSIT PRIORITY NETWORK	Bridge Condition	Bicycle and Pedestrian Collision Rates

The Regional Transportation Network

Spokane County's transportation system is made up of a multimodal network including an interstate, several highways, arterials, collectors, local roads, public transportation bus routes, paratransit service, vanpools, intercity/interstate bus service, railroads, airports, bike lanes, sidewalks, and multi-use paths.

Roadway Infrastructure

Roadways are characterized by their function in a community as well as in the overall transportation system. Based on their function, roadways are designed and constructed to ensure the movement of people and goods in a safe and efficient manner. Federal Functional Classification (FFC) data is collected on an annual basis and imported into SRTC's travel demand model with each model update. The model also includes a number of local roads to better capture local travel patterns and transit operations.

There are 4,568 centerline miles and 9,673 lane miles of public roadways in Spokane County. Figure 2.22 shows the distribution of centerline and lane miles by FFC in the region.

Another way to evaluate the region's roadway infrastructure is to look at how well it is utilized. Using Highway Performance Monitoring System (HPMS) data to calculate VMT, one can see that the region's Principal Arterials account for only seven percent of the region's total lane mileage, but carry the largest share of total VMT, at 31 percent (see figure 2.23).

Federal Functional Classification

Local governments are struggling to fund the maintenance and preservation of our transportation system. Funding eligibility is based on functional classifications, as required by the Federal-Aid Highway Act of 1973, to update and modify the Federal-Aid Highway systems. (Functional class determination is developed within the framework of Section 134 of Title 23, U.S. Code, Metropolitan Planning.) The following facilities make up Spokane's roadway system and are shown in figure 2.25.

- **Freeways and Divided Highways:** These roadways carry a large amount of traffic at high speeds. They have limited access with freeway interchanges typically spaced at least one mile apart.
- **Principal Arterials:** These roadways carry large volumes of traffic to major destinations throughout the metropolitan area. They often connect to outlying areas via state highways or county roads. Typically, principal arterials have at least two lanes in each direction, with curbs and sidewalks. Most major intersecting streets are controlled with traffic lights and they generally have public transportation service.
- **Minor Arterials:** These roadways connect residential and business districts to the larger transportation system by accumulating traffic from lower classification roadways. They can have a variety of design characteristics, depending on which part of a community they serve and the amount of activity in their vicinity. Minor arterial corridors generally have a mix of residential and commercial activity. Their classification is based primarily on how they contribute to connecting the transportation system, as opposed to their traffic volumes.
- **Collectors:** These roadways funnel traffic generated by a variety of local land uses onto a single roadway that connects to either a minor or principal arterial. They typically have one lane in each direction and traverse neighborhoods at slower speeds. They generally have lower volumes and are not designed to carry trips through a community. Unless located in a commercial or industrial area, they are not designed for heavy vehicles.
- **Local Streets:** These roads provide direct access to individual properties and are designed to meet the specific needs of their local neighborhoods. They have slower speeds and lower volumes, with traffic control limited to stop and yield signs. They may or may not be paved or have curbs and sidewalks.

Indian Reservation Roads

The Indian Reservation Roads (IRR) are public roads which provide access to and within Indian reservations, Indian trust land, restricted Indian land, and Alaska native villages. The IRR Inventory is a database of all transportation facilities eligible for IRR Program funding by tribe, reservation, Bureau of Indian Affairs (BIA) agency and region, Congressional district, state, and county. Other specific information collected and maintained under the IRR Program includes classification, route number, bridge number, current and future traffic volumes, maintenance responsibility, and ownership.

The IRR Program addresses transportation needs of tribes by providing funds for planning, designing, construction, and maintenance activities for all public roads. It is jointly administered by FHWA's Federal Lands Highway Office and the BIA's Division of Transportation, in accordance with an interagency agreement.

Area Roadway Conditions

FHWA has instituted federal measures to assess the condition of pavement and bridges on the National Highway System (NHS). The NHS consists of the Interstate Highway System, as well as other significant roadways. These include principal arterials, intermodal connectors, the Strategic Highway Network (STRAHNET), and major STRAHNET connectors.

States are required to set targets for these measures. In Washington, WSDOT has the responsibility to gather this data. Conditions for pavement, regardless of ownership is reported as follows:

- **Interstate NHS Routes:** Percent of pavement in good condition and percent of pavement in poor condition.
- **Non-Interstate NHS Routes:** Percent of pavement in good condition and percent of pavement in poor condition.

The minimum requirement for WSDOT is that they must maintain no more than five percent of lane miles on the Interstate System in poor condition. Figure 2.24 shows the condition of NHS routes in the Spokane region. A map of the region's

Figure 2.22: Centerline Miles, Lane Miles, and Daily VMT by FFC in SRTC Planning Area

FFC	Centerline Miles		Lane Miles		Daily VMT	
Interstate	45	1%	214	2%	2,592,096	24%
Other Freeway/Expressway	58	1%	195	2%	694,776	6%
Other Principal Arterial	203	4%	681	7%	3,362,194	31%
Minor Arterial	259	6%	548	6%	1,716,363	16%
Major Collector	604	13%	1,222	13%	1,107,426	10%
Minor Collector	306	7%	653	7%	194,340	2%
Local Access	3,095	68%	6,161	64%	1,087,932	10%
Total	**4,568**	**100%**	**9,673**	**100%**	**10,755,126**	**100%**

Figure 2.23: Share of VMT and Lane Miles by FFC in SRTC Planning Area

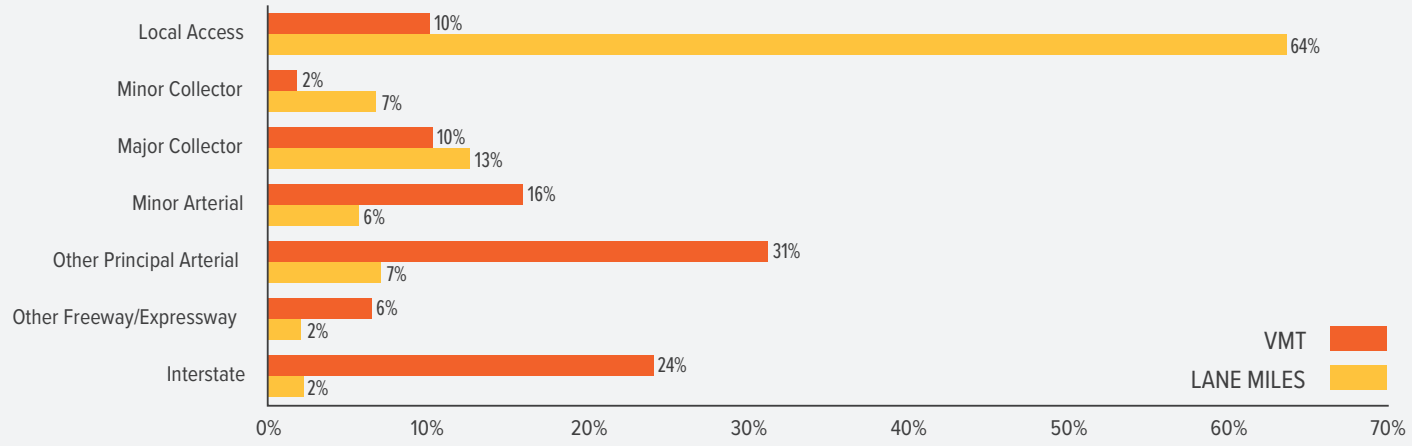
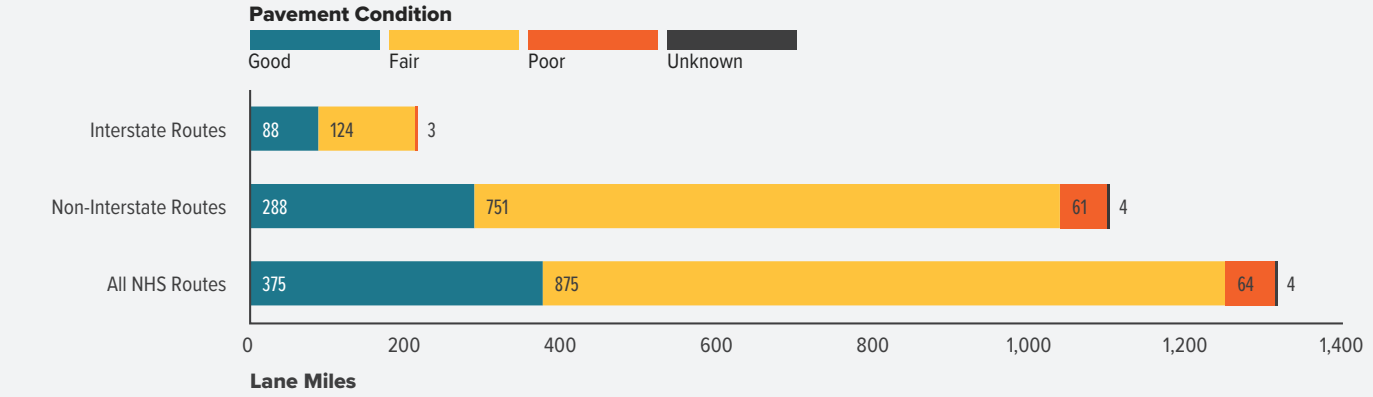


Figure 2.24: Condition of NHS Pavement by Lane Mile



WSDOT Pavement Office, 2019/2020

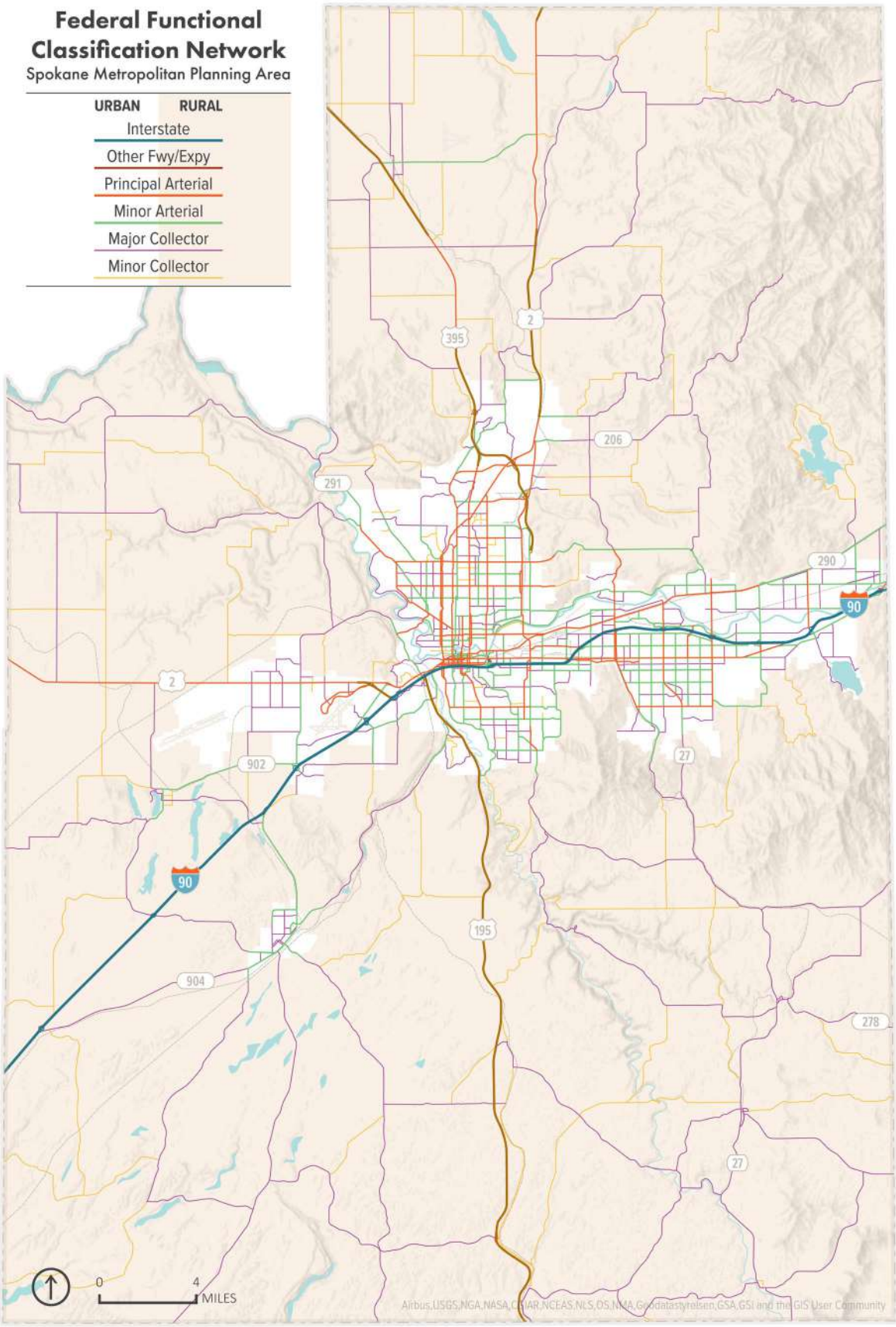


Figure 2.25: FFC Network

NHS routes is provided in figure 2.28. The map includes all roadways that the proposed pavement rule applies to. More information on pavement condition and associated performance can be found in the System Performance Report (Appendix D).

Aside from the interstate system, much of the region's local infrastructure was built over half a century ago and it is showing its age. The freeze-thaw cycle every winter causes extensive potholing that grows into more serious damage if not repaired quickly. Plowing each winter scrapes off roadways striping and markings. Pavement conditions continue to decline due to budget shortfalls. Further discussion on the state of decline of pavement is included in the following Maintenance and Preservation section of this chapter.

VMT

VMT is a measure of the number of miles traversed by a number of vehicles for a given time period (usually measured daily or annually). It is another indicator of usage of transportation facilities, most often motor vehicles on interstates, highways, and other road or street systems. Washington state uses the HPMS to estimate VMT. HPMS mileage is calculated annually. The number of miles traveled on the regional transportation network is impacted by factors such as population of the region, age distribution of the users, and the number of vehicles per household. However, the greatest factor, by a significant margin, is how land uses are designated.

Figure 2.26 illustrates historical daily VMT per capita growth in SRTC's planning area in comparison to the state of Washington as a whole. This per capita VMT indicator divides VMT by population to account for population growth or loss. This is important to track since our region is experiencing population and economic growth. Reducing per capita VMT can help a region achieve air quality goals and congestion goals.

Congestion

It has been the general practice of state and local transportation departments to mitigate congestion for purposes of improving travel times and reducing the costs generated by vehicle delay. "The underlying assumption is that congestion relief is an unmitigated good" because vehicle delay costs Americans billions of dollars in wasted fuel and time each year.[15] However, "the common misinterpretation of such statistics is that our cities would be so much more economically productive if only we could eliminate the congestion that occurs on urban streets." In fact, studies show that increased travel delay generally means a higher gross domestic product (GDP) per capita for cities across the United States. Simply stated, the presence of more automobiles stuck in traffic indicates that more people are traveling to or from work, meetings, shopping, and recreation, "indicating the presence of a vibrant, economically-productive city." Congestion can also encourage people to change travel behaviors by traveling shorter distances, living closer to work, traveling less or shifting travel modes.

To balance the conversation, congestion does have its share of problems. Certain industries would rather not develop in congested areas, such as freight shippers, trucking firms or warehousing businesses. Congestion can add costs to goods and services. It may also impacts residents' quality of life if too much time is spent in congestion. It's important to understand the cause of congestion and if it is negative (i.e., delay from a poorly designed traffic signal) or positive (i.e., an event being held at an activity center).

Congested roads can be defined in various ways. One way to evaluate congestion is to look at the annual delay per auto commuter, which is the extra time spent during the year traveling at congested speeds rather than free-flow speeds by private vehicle drivers and passenger who typically travel in the peak periods. Figure 2.27 includes data from the Texas A&M Transportation Institute (TTI) that indicates how annual delay has changed per auto commuter over the past twenty years. Our annual delay congestion levels compare

Figure 2.26: VMT per Capita Growth in the SRTC Planning Area and Washington State, 2010–2019

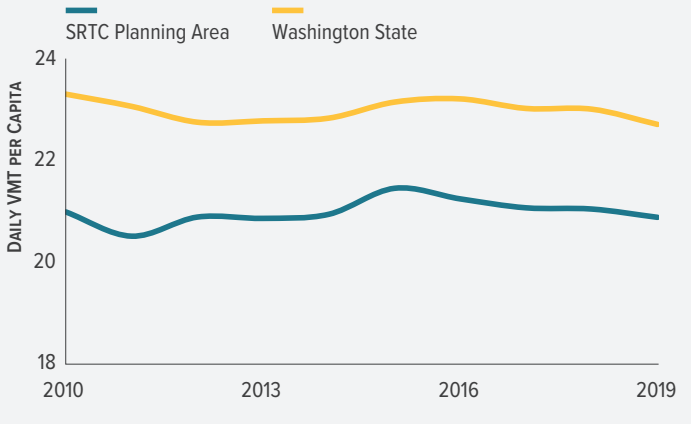
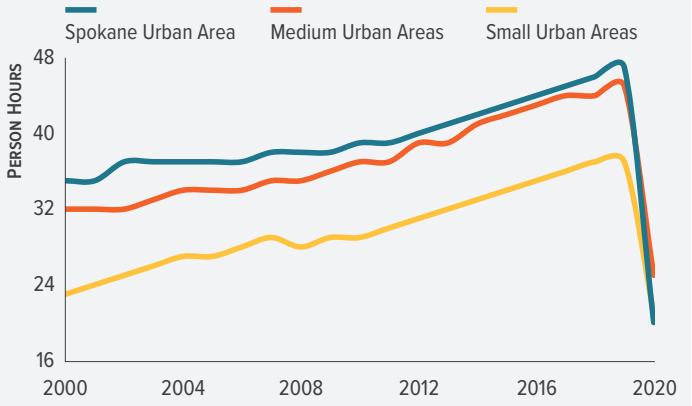


Figure 2.27: Delay per Peak Hour Auto Commuter, 2000–2020



2015–2019 ACS 5-Year Estimates

15 Dumbaugh, E. (2012, June 1). Rethinking the Economics of Traffic Congestion. Retrieved September 23, 2014, from City Lab : http://www.citylab.com/commute/2012/06/defense-congestion/2118/

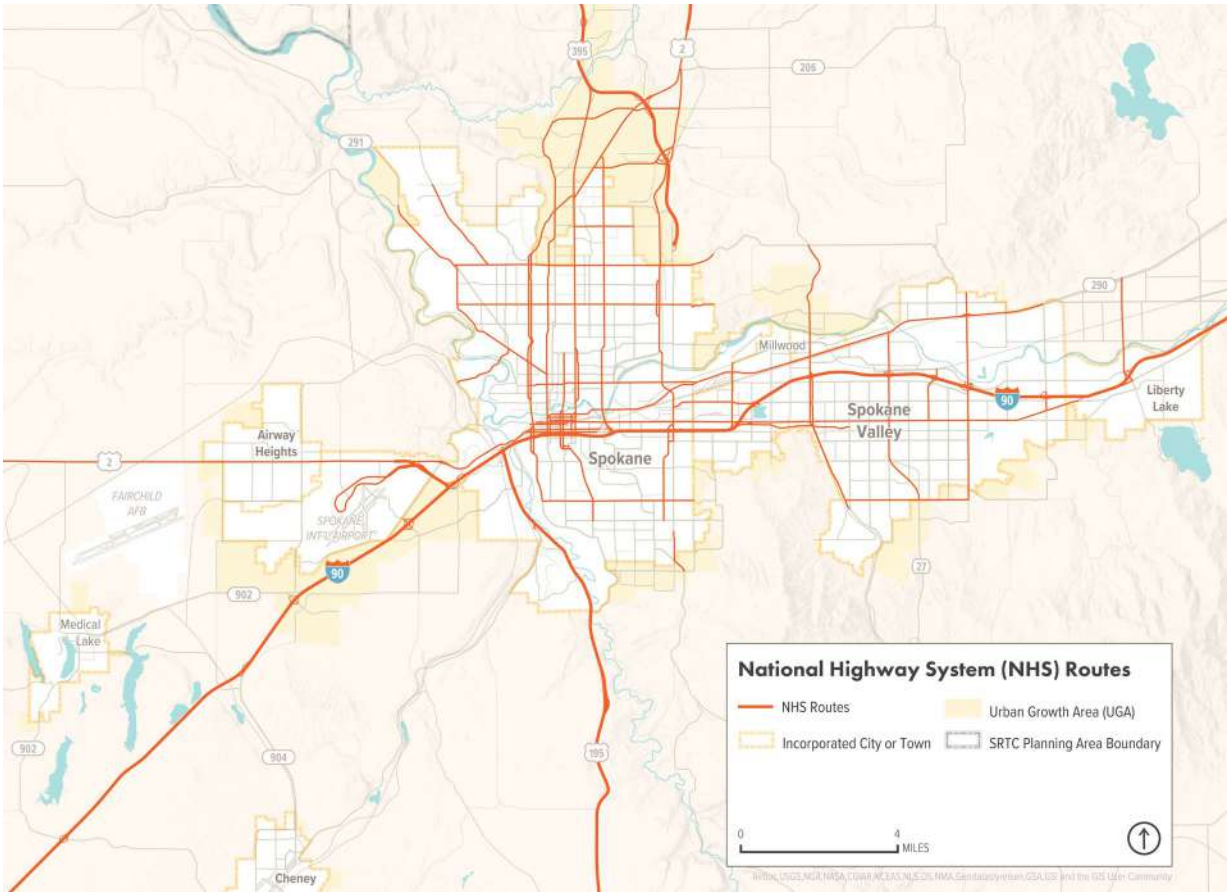


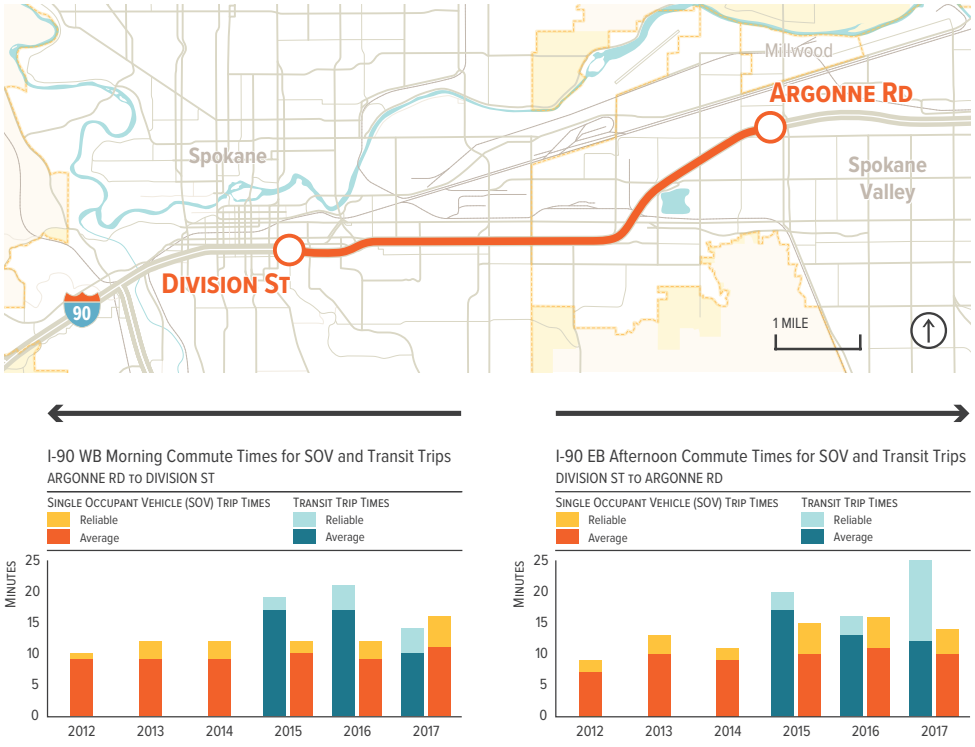
Figure 2.28: NHS Routes

similarly to other medium-sized urban areas.

Another gauge for traffic congestion is the WSDOT Corridor Capacity Report. WSDOT uses its own data collection methods for the report, which was last published in 2018. It shows I-90 eastbound morning travel times, from Argonne Road to Division Street, increasing over time (see figure 2.29). In 2013 travel times on this segment were nine minutes. By 2017 they had increased to 11 minutes. For the same segment, travel time reliability decreased by four minutes. Reliability is used for planning purposes. It measures how long a trip would take to be on-time 90 percent of the time and indicates non-recurring congestion problems like collisions and bad weather. Travel times, meanwhile, suggest everyday congestion conditions. Commute time for transit is ten minutes.

On the westbound I-90 segment

Figure 2.29: Travel Times and Reliability on I-90



WSDOT, 2018 Corridor Capacity Report

from Division to Argonne, evening commute times for vehicles stayed at ten minutes from 2013 to 2017. However, reliability changed from 13 minutes to 14 minutes. Commute time for transit on this segment is 12 minutes.

There is general recognition that the Spokane region has regular congestion that occurs for a limited period during peak AM and PM commute times. It is often heightened in the construction season. SRTC has more strategies regarding congestion and managing congestion in the Congestion Management portion of this chapter.

Maintenance and Preservation

Maintenance and operations activities include inspections, repairs, preventive maintenance and overall operation of the system. Routine maintenance involves cleaning, maintenance of pavement markings and signs, crack filling, pothole patching, and surface treatments. Other operational activities can include winter snow plowing, de-icing or sanding as well as dust control and street sweeping.

Preservation involves proactive maintenance to reduce expensive and disruptive rehabilitation or replacement of infrastructure before the end of its useful life. According to FHWA, pavement preservation programs are beneficial because they "preserve investments, enhance pavement performance, ensure cost-effectiveness, extend pavement life, reduce user delays, and provide improved safety and mobility."[16] As is the case for regions across the country, funding for preservation programs in the Spokane region continues to lag behind need.

Pavement rehabilitation is defined as a structural or functional enhancement of pavement, which produces an extension in service life by substantially improving pavement condition and ride quality.[17] This can also include improving the load-carrying capacity. Reconstruction usually involves replacing most if not all of the pavement surface or structure.

Roadway Infrastructure Challenges

The biggest challenge the Spokane region faces when it comes to roadway infrastructure is a lack of funding for maintenance and preservation. Many jurisdictions report that it would take millions more dollars to catch up and keep up with street maintenance needs. With VMT expected to grow, roadways continuing to age and conditions declining, combined with the benefit of relatively steady mild congestion levels; the opportunity for improved maintenance and preservation of the Spokane roadways should be prioritized.

In 2021, Spokane County reported a road preservation backlog of over $290 million, while Spokane Valley reported a $100 million backlog. One approach to address the maintenance backlog is to increase funding through taxes, levies or vehicle license tab fees. The City of Spokane utilized another tool, establishing a Transportation Benefit District (TBD), in 2010. According to the City's definition, a TBD is "a quasi-municipal corporation and independent taxing district created for the purpose of acquiring, constructing, improving, providing, and funding transportation improvements within a defined area, or district." The district boundary is the City limits. The TBD assesses a $20 annual fee on vehicles registered within city limits to help fund maintenance and preservation activities for existing transportation facilities and programs. Ten percent of TBD funding also goes to the City's pedestrian program. These activities are detailed in the City's Six Year Pavement Maintenance Program. More information on the TBD can be found on the City's website.[18]

Bridges

Since the 2007 tragedy of the I-35W Mississippi River bridge collapse in Minneapolis, bridge safety has become an even higher priority in transportation planning and programming. According to the American Society of Civil Engineers 2021 Infrastructure Report Card, 7.5 percent of the nation's highway bridges are structurally deficient (i.e., in poor condition) or are functionally obsolete (not suitable for its current use and is not able to handle current traffic volume, speed, size or weight). Additionally, an estimated $125 billion in investment is needed to fix the backlog of bridge deficiencies in the United States. Bridge inspections, maintenance, repair, and reconstruction, or replacement if necessary, is an emphasis area in Horizon 2045.

Under new federal performance management rules aimed at improving bridge condition, FHWA measures are applicable to all NHS bridges regardless of ownership or maintenance responsibility. States and MPOs must track bridge condition and set bridge condition targets for the following two FHWA bridge condition measures:

- **NHS Bridges:** (1) Percent of bridge deck area in good condition and (2) percent of bridge deck area in poor condition.

Federal rules for bridge condition are based on an assessment of the deck, superstructure, and substructure. For NHS bridges, states must ensure that the overall percentage of bridge deck area classified as poor condition does not exceed ten percent. States have established statewide targets for each of the pavement and bridge condition measures for a 4-year performance period. The targets were established in coordination with relevant MPOs to the maximum extent practicable. WSDOT and SRTC were involved in these discussions. More information can be found in the System Performance Report (Appendix D).

Bridge Condition

Data regarding the condition of the 140 NHS bridges in the region is in figure 2.30. Updated data will be evaluated each year. Targets will be set for bridge performance and those goals will be monitored as required every two years.

16 http://www.fhwa.dot.gov/pavement/preservation/091205.cfm

17 http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_w35-a.pdf

18 https://my.spokanecity.org/streets/maintenance/transportation-benefit-district/

Bridge Maintenance and Preservation

Bridge preservation is defined as actions or strategies that prevent, delay or reduce deterioration of bridges or bridge elements, restore the function of existing bridges, keep bridges in good condition and extend their life. This is also a safety concern for users in our region.

Effective bridge preservation delays the need for costly reconstruction or replacement by applying preservation strategies on bridges while they are still in good or fair condition and before the onset of serious deterioration. Bridge preservation encompasses preventive maintenance and rehabilitation activities.

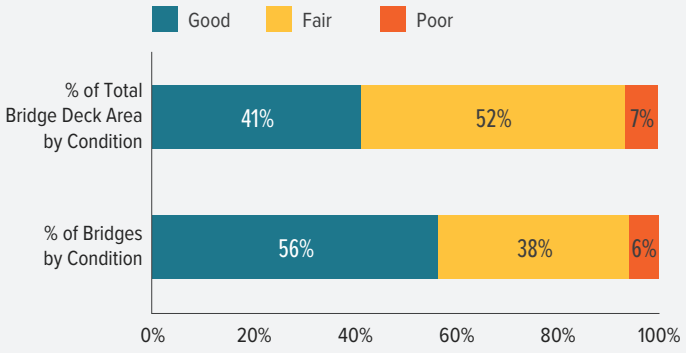
Maintenance is a planned strategy of cost-effective treatments to an existing roadway system that preserves the system, slows deterioration, and maintains or improves the functional condition of the system (without substantially increasing structural capacity). For bridges, maintenance elements are applied to elements or components of structures with significant remaining useful life. Examples of maintenance activities include but are not limited to:

- Bridge washing, cleaning and painting
- Sealing deck joints
- Facilitating drainage
- Sealing concrete
- Removing debris
- Lubricating bearings

Bridge Challenges

As with roadway conditions, the biggest challenge with area bridges is funding expensive maintenance and preservation needs. According to FHWA's National Bridge Inventory (NBI) in 2019, there were a total of 304 bridges in Spokane County. This total includes the region's 140 NHS bridges. Of those, 8 are in poor condition and 79 are in good condition.

Figure 2.30: NHS Bridge Condition in SRTC Planning Area



NBI ASCII Files, 2020

ITS

SRTC and its regional partners have worked to develop a Transportation Systems Management and Operations (TSMO) strategy for Spokane County and surrounding areas. TSMO is a way to integrate multi-modal, cross-jurisdictional systems, services, and projects to improve the efficiency and performance of the existing infrastructure. TSMO includes systems, services, and projects designed to preserve capacity and improve security, safety, and reliability of transportation systems.[19] Regional TSMO projects can include signal coordination, traffic incident management, emergency preparedness, security programs, data collection, traffic management centers as well as many other examples of Intelligent Transportation Systems (ITS).

The Spokane region updated the Regional ITS Plan in 2019. Some of the strategies and projects in the plan include deploying transit signal priority and bus-only signals at key intersections, developing real-time traveler information and multimodal planning tools, and deploying operational data collection and information exchange networks. ITS plan's strategies are discussed in more detail in *Chapter 4: How We'll Get There*.

The Spokane Regional Transportation Management Center (SRTMC) is an example of an ITS strategy. It is a multi-jurisdictional control facility to support transportation management capabilities. The SRTMC coordinates day-to-day operations of the transportation system and responds to events and incidents on area roadways to maximize efficiency and facilitate, through communication, better route choices for travelers. Additional services of the SRTMC include data collection and management for uses of performance measurement, facilitating public transportation, and facilitating emergency response.

The SRTMC operates 24 hours a day, 7 days a week. It uses closed circuit cameras, dynamic message signs, highway advisory radio stations, traffic measurement stations, and signal monitoring to keep traffic flowing smoothly. SRTMC staff monitors the status of these systems and the data gathered can be used for the measurement of system performance. You can watch real-time traffic cameras, check traffic flow rates, and find more information on the SRTMC website.[20]

ITS Challenges

The SRTMC continues to face financial challenges when it comes to staffing, updating, and coordinating technology across the region.

19 http://plan4operations.dot.gov/reg_trans_sys.htm

20 http://www.srtmc.org/

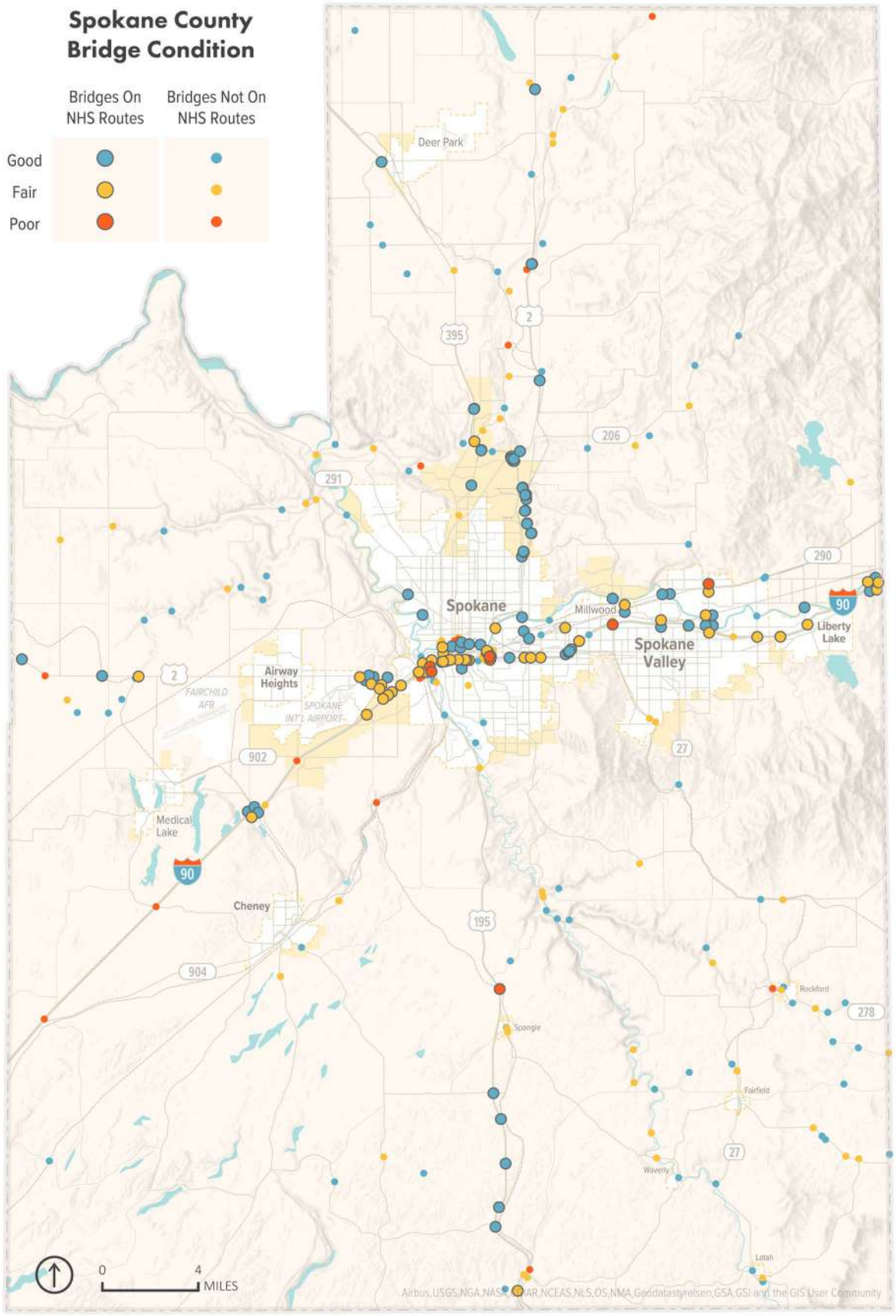


Figure 2.31: Bridge Condition in SRTC Planning Area

Transportation Modes

The Spokane region's transportation system is made up of a variety of modes. These include private vehicles, transit, walking, bicycling, and freight. This section reviews those modes, their usage levels in our area, and challenges with each.

Freight

Trucking is the main mode of freight transport in the Spokane area. 54 percent of the volume of goods that travels through the area is transported by truck while 43 percent is moved by rail. However, 79 percent of the total value of freight is transported by trucks. This illustrates a common characteristic of products transported by truck (electronics, apparel, food, and other consumer goods) which have a higher cost per pound and may often have more time-sensitive delivery schedules. Freight moving by rail, on the other hand, is often heavier, has less time-sensitive delivery, and therefore lower unit costs.

The top commodities exported from the county are lumber/wood products, food and related products, chemicals or allied products, clay/concrete/glass/stone, farm products, fabricated metal products, machinery, transportation equipment, and electrical equipment. Major commodities imported into the county are similar to those exported along with pulp, paper or allied products. Secondary traffic is also a major part of freight activity. Secondary traffic is the movement of goods within the area such as pick up and deliveries, transloading, warehousing, and inventory handling.

Inland Pacific Hub

The Spokane region has been proactive in studying transportation-related freight assets and movements and developing strategies to raise the competitive profile of the area. The Inland Pacific Hub (IPH) is a partnership established by and composed of public and private sector representatives from Idaho and Washington. In two phases between 2009 and 2012, the IPH project examined the possibility of establishing the Inland Pacific region as a multimodal global gateway to increase domestic and international commerce.

Phase 1 looked at economic development and regional freight movement in an effort to move shipments safely and efficiently and obtain the most economic-development benefit from the improvements. The idea behind the study was to examine the potential of integrating transportation and technology systems with an over-arching economic development effort. The Phase 1 study identified the need to address the large percentage of through-freight. Through-freight creates costs in terms of using road and rail capacity and from wear and tear on the transportation system but generates relatively small economic benefits; mostly from support services (lodging, truck stops, etc).

Phase 2 involved the development of a Transportation Investment and Project Priority Blueprint based on the findings and recommendations from the Phase 1 study. This task resulted in a list of potential transportation investments designed to support the economic opportunities identified in Phase 1. The Blueprint provides a phased implementation plan that incorporates potential funding options including federal, state, local, international, and private sectors. The recommended strategies in the Blueprint serve as the foundation for freight related investments in Horizon 2045. More information on the IPH can be found on the SRTC website.

Trucking

The Washington State Freight and Goods Transportation System (FGTS) classifies state highways, county roads and city streets according to the average annual gross truck tonnage they carry. The FGTS identifies highways and roads most heavily used by trucks and provides data to support funding for projects that improve conditions for freight transportation. This information also supports planning for pavement upgrades, traffic congestion management and other investment decisions. Jurisdictions are responsible for submitting updated tonnage and classification data to WSDOT, which is why some streets and roads change classifications at jurisdiction lines. The FGTS classifies roadways using five freight tonnage classifications: T-1 through T-5, see figure 2.32.

Semi-tractor combinations and trucks with trailers over 10,000 gross pounds vehicle weight used in intercity or interstate hauling are required to use truck routes throughout Spokane County. These routes are to be used to the point

Figure 2.32: FGTS Classes

Route Class	Freight Tonnage Classification Criteria
T-1	More than 10,000,000 tons per year
T-2	4,000,000 to 10,000,000 tons per year
T-3	300,000 to 4,000,000 tons per year
T-4	100,000 to 300,000 tons per year
T-5	At least 20,000 tons in 60 days and less than 100,000 tons per year

nearest the pickup or delivery if the destination is not located on a truck route. Trucks that cannot avoid using non-truck routes are asked to call the jurisdiction they will be traveling through in advance, so officials can plan for disruptions to other traffic or facilities.

Truck Freight Challenges

A significantly larger portion of freight movement is outbound than inbound, particularly for trucks. This leads to a back-haul problem as many trucks travel back empty. This imbalance becomes an issue for many shippers, as it raises average per unit costs, and can be a barrier to increasing truck movements and attracting new shippers. At the same time, empty loads present an opportunity to ship other commodities back into the region and potentially lower costs for some products.

More commodities flow outbound via truck (32 percent) than inbound via truck (21 percent). This means empty trucks are likely returning to the area. Through-traffic accounts for 33 percent of tonnage. Combined, inbound and outbound truck flows are concentrated to the west and south of Spokane County. Flows to and from the north represent only two percent of tonnage for all inbound and outbound movements.

Rail

Over the years, rail industry bankruptcies, acquisitions, and mergers have reduced the number of operating railroads in Spokane County. Today, BNSF and UP are the two mainline operators serving the region. Spokane County also has several short lines and branch lines. UP provides rail service to Canada through Eastport, Idaho as well as general freight rail operations in eastern Washington and northern Idaho. UP operates an average of six to ten scheduled trains a day through Spokane between Oregon and Canada. UP operates one dedicated pair of trains per day between Spokane and the connection to the UP east/west mainline at Hermiston, Oregon. BNSF does market intermodal service in the Spokane area, but it is typically trailer on flatcar (TOFC) service that is marketed through an IMC (Intermodal Marketing Company) like Swift or JB Hunt. Containers are loaded at the BNSF yard. Service is currently offered between Spokane and St. Paul, MN or Chicago.

Spokane is situated on the BNSF mainline between Portland/Seattle and Chicago. With increased international trade activity between the United States and pacific-rim countries, rail service provides an efficient method of transporting freight from deep-water ports in Puget Sound and Portland to the east coast and mid-west. Presently, BNSF operates approximately 60 trains per day through the Spokane metropolitan area. With trains between 4,000 and 7,500 feet long, their impact on the transportation system can be significant, by blocking at-grade crossings for long periods of time.

Spokane County has one transload facility, Inland Empire Distribution Systems, Inc. (IEDS) in the Spokane Industrial Park. Both BNSF and the UP serve the IEDS facility. According to the TRANSEARCH™ database, rail traffic accounts for 43 percent of all tonnage (72 million tons) and 20 percent of the value ($95 billion) for all commodity flows in the area. In 2007, carload freight movements in the IPH study area accounted for 12.7 million tons. Intermodal freight tonnage in 2007 was at 530,760 tons.

Rail Freight Challenges

Operations on mainlines to west coast ports that pass through Spokane are approaching capacity and face constraints including at-grade crossings and single track sections. Spokane County has 213 at-grade railroad crossings that are occasionally blocked by long trains. Residents of some neighborhoods also complain about noise from train horns.

A recent study evaluated the impacts of prominent road–rail conflicts and developed a corridor-based prioritization process for addressing the impacts of these conflicts.[21] A resulting list of crossing priorities is meant as a first step to assist policy makers, state agencies, RTPOs and local jurisdictions to understand crossing impacts, leading the next step of project identification and evaluation of solutions. This report will help assist SRTC in efforts to resolve road-rail conflicts.

Bridging the Valley

Some of the challenges above could be addressed by the Bridging the Valley (BTV) series of projects. BTV is a proposed program of safety improvements and projects that would separate trains from automobiles with under or overpasses to improve public safety by reducing the potential for train-vehicle and train-pedestrian collisions, reduce wait time at railroad crossings, and mitigate noise pollution from train whistles. The BTV projects stretch from the City of Spokane to Athol, ID.

The priority of BTV projects continues to be evaluated by regional decision makers, especially in light of limited transportation funding resources and the need to secure commitment from the railroads. More information on Bridging the Valley can be found on the SRTC website.

Air Transportation

The Spokane area is served by public and private airports that provide access to the national aviation system. Publicly-owned airports and privately-owned airports open for public use are included in the National Plan of Integrated Airport Systems (NPIAS), meaning they are eligible for Federal-aid funding and state funding to ensure they are maintained and developed in accordance with federal and state standards. Spokane International Airport (SIA) and Felts Field are two key airports, which together provide scheduled and non-scheduled passenger and freight service as well as corporate and general aviation access to the community. The City of Spokane and Spokane County jointly own SIA, Felts

21 Joint Transportation Committee, Prioritization of Prominent Road-Rail Conflicts in Washington State, January 2017

Field Airport, and the Airport Business Park. The Spokane Airport Board, consisting of seven appointees from the two governmental bodies, operates these facilities which are funded with airport-generated revenue and grants. The facilities are financially self-sufficient from revenues generated from leases, fees, and concession agreements. No funding for these facilities comes from local public tax dollars.

SIA's 2014 20-year master plan includes existing conditions, a forecast of future operations, an environmental review, a financial plan and planned facilities to meet future needs.[22]

The Airport Board has pursued safety, capacity and efficiency investments aimed at maximizing the two Airports' contributions to the regional economy as well as enhancing passenger customer experience through upgrades and modernization. These improvements include an extension of the inbound roadway leading to the terminal, acquisition of new snow removal and aircraft rescue and firefighting equipment, construction of new parking lot facilities, aircraft parking ramp expansion, taxiway and taxilane rehabilitation, site preparation for a convenience store and gas station, airport surface roadway access development, terminal building upgrades, security and IT infrastructure upgrades, and baggage handling system upgrades. Additionally, the airport is embarking on a Terminal Renovation and Expansion Project, which will modernize and add additional gates, passenger screening area, ticketing, and concessions in the existing C Terminal facilities constructed in the early 2000's and ultimately, create a consolidated checkpoint and baggage claim area for passengers to enter and depart the airport. Passengers will benefit from the convenience and efficiencies they enjoy at a modern, state-of-the-art terminal with added amenities.

Several airfield and landside improvements have been made at Felts Field as well, which has stimulated additional private investment in hangar development and aviation services. A new aviation fueling facility was recently completed to improve aircraft self-fueling safety and convenience. In addition, Northwest Flight Service constructed a 13,000 square foot hangar to house their flight school, aircraft maintenance and flight rental business, and Historic Flight Foundation relocated their classic and antique aircraft collection from Everett's Paine Field into a new 21,000 square foot hangar. Continued investment in hangar capacity, continuation of the contract tower services provided by the FAA as well as investments in surface access and terminal area infrastructure will be critical to the continued success and growth of the Airport. The Felts Field Master Plan will be updated to guide capital improvements over the next 20 years.

Local airports such as Mead, Deer Park, and the Coeur d'Alene Airport also contribute to the regional air transportation system. These general aviation airports allow private and business aircraft to be based closer to their homes or businesses. While general aviation airports typically do not have the same level of facilities, amenities, and navigational aids, their ability to reduce air traffic for practice operations and general aviation activity at SIA makes them an important part of the overall transportation system.

In 2017 SIA, in collaboration with the City of Spokane and Spokane County, formed the S3R3 Solutions Public Development Authority (PDA) to provide physical infrastructure and a revenue sharing model within the PDA's 9,000-acre boundary that provides the PDA with revenue for investment in infrastructure development and other related initiatives to retain and expand commerce in the immediate vicinity of SIA. In October 2021, S3R3 completed the construction of a 34,000 square foot airside sorting facility for Amazon Air on land leased from SIA, which is the realization of the vision for the creation of the PDA. Additionally, the Spokane Airport Board serves as the Grantee for Foreign-Trade Zone No. 224, and SIA property includes an 1,800 acre qualified Opportunity Zone and a Community Empowerment Zone.

The Spokane Region is home to over 100 aerospace firms and represents the largest assemblage of aerospace companies in the State of Washington outside of the Puget Sound Region. The region also has one of the State's premier aerospace industry clusters, the Inland Northwest Aerospace Consortium (INWAC), which was formed in 2005. INWAC's membership is comprised of Original Equipment Manufacturers (OEMs) including tier one, two and three suppliers.

In addition to the aforementioned airport infrastructure improvements, WSDOT has programmed improvements to I-90's Geiger Boulevard (Exit 276) and Medical Lake (Exit 272) Interchanges. $26 million was included in the 2015 Transportation Package approved by the Washington State Legislature which improves access and efficiency to the Interstate highway system. Improvements to the Medical Lake Interchange and Geiger Boulevard were completed in 2021. In 2018, Spokane County was awarded a $14.3 million BUILD Grant from the USDOT for infrastructure improvements along Geiger Boulevard, including reconstructing a section of the road and adding new utilities infrastructure to support the addition of commercial and industrial development in the West Plains. Additional emphasis is being placed on rail infrastructure to complement this area's extensive transportation infrastructure and respond to the demand for industrial development. The airport is building a rail-truck transload facility, funded in part by an $11.3 million USDOT BUILD Grant, which will provide multi-modal freight movement services for the area's commercial and industrial sectors. The facility is expected to be complete in 2022.

Spokane County is also home to Fairchild Air Force Base (FAFB), the largest employer in Eastern Washington. Over 6,000 military personnel and civilian employees work at FAFB; home to the 92nd Air Refueling Wing of the Air Mobility Command's Eighteenth Air Force. The Base supports over 60 KC-135s. The community and Washington's Congres-

22 https://business.spokaneairports.net/airport-master-plan/

sional delegation has been working diligently to establish Fairchild as a Center of Excellence for the KC-135 to ensure their viability until there are sufficient KC-46A refuelers in the national fleet.

Airport Usage

In 2019, SIA processed 4,112,784 total passengers and 69,001.1 U.S. air cargo tons. The Airport encompasses 6,400-acres of land. SIA is the second busiest passenger airport in the State of Washington and is classified by the FAA as a small hub. Passenger service is provided by seven major carriers including Alaska, Allegiant, American, Delta, Frontier, Southwest and United. The Airport currently supports nonstop service to Atlanta, Boise, Chicago O'Hare, Dallas Fort Worth, Denver, Everett, Las Vegas, Los Angeles, Minneapolis, Oakland, Orange County, Phoenix, Phoenix-Mesa, Portland, Sacramento, Salt Lake City, San Diego, San Francisco, San Jose, and Seattle as well as seasonal service to Chicago's Midway Airport. FedEx, UPS and Amazon Air provide scheduled, daily air cargo service. While SIA also serves private and business aircraft needs, its primary role is air passenger and air cargo transportation. Historical passenger and cargo data for SIA is shown in figure 2.33.

Felts Field is a 400-acre general reliever airport that had 56,894 aviation operations in 2020 and is home to over 200 aircraft and nine commercial tenants. Felts Field has a Fix Based Operator and avionic services available, and consists of two paved runways and a turf landing strip as well as the ability to accommodate water landings on the adjacent Spokane River.

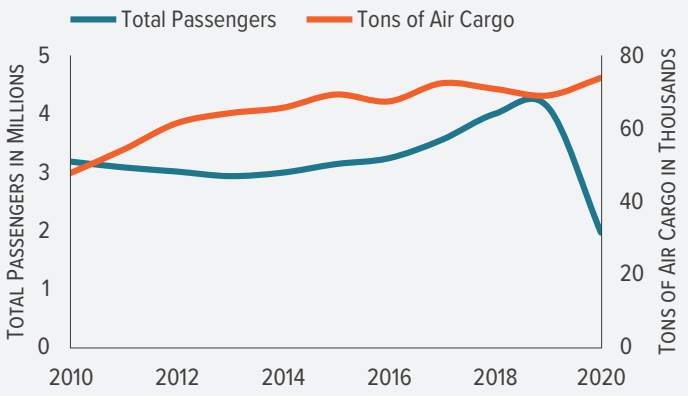
Economic Impact of Air Transportation

SIA is the work site for over 3,000 people serving a variety of aviation and non-aviation related businesses, and a WSDOT study indicated that the airport provides the region with $1.8 billion in annual economic impact. INWAC currently supports a workforce of over 8,000 and has an annual payroll of nearly $325 million and FAFB's annual economic impact is estimated at $523 million.[23] That adds up to an economic impact of well in excess of $2 billion for the in-air transportation contributions.

Air Transportation Challenges

Federal policy issues regarding chronic underfunding of the Airport Improvement Program (AIP) and lack of action to modernize the Passenger Facility Charge (PFC) as well as the continued economic regulation of airports pose substantial financial challenges for the industry and has limited, truncated or caused deferral of capital improvement projects at SIA and Felts Field. Additional issues of incorporation of Unmanned Aerial Systems (UAS) into the National Air Transportation System, preservation of Contract Weather Observers and the Contract Tower Program, complex regulatory activities and overreach at the federal and state level and lack of a National Aviation Policy all create ongoing challenges to the air transportation industry. Operating under extensions of Federal law and Continuing Resolutions make long-term systemic change difficult to achieve. Preserving the long-term viability of the Airport Improvement Program and an increase of the Passenger Facility Charge (PFC) are significant priorities. The current PFC level of $4.50 is a cap set by Congress. To the extent that this cap is not eliminated or increased, the Airport's ability to implement projects on a pay-go basis will continue to be diminished which may require the issuance of more debt than would be necessary. More debt issuance will directly impact airline rates and charges and limit the ability of the Airport to implement its full capital improvements and asset preservation programs.

Figure 2.33: Spokane Int'l Airport Passengers and Cargo



SIA

Contract Weather Observers provide human weather observations that augment automated systems and correct current and forecasted weather conditions. Protection of Contract Air Traffic Towers, such as the one at Felts Field, and the other 257 across the country is an ongoing concern.

Public Transportation

In the Spokane region there is one fixed route public transportation system, operated by STA, and several other providers of transit services. These include charter bus operators, regularly scheduled inter-city bus providers, taxi/shuttle services, tribal transit, and specialized transportation providers. Each of these transit services contributes to access and mobility for all persons regardless of age, ethnicity, income, or ability.

STA provides fixed route, paratransit, and vanpool services in the Public Transportation Benefit Area (PTBA). The PTBA, shown in figure 2.34, is 248 square miles encompassing 14 percent of the county area and 85 percent of the population.[24] STA currently operates 35 fixed routes with a fleet of 134 buses. There are 12 park & ride lots throughout the region. Paratransit is a shared ride, wheelchair accessible service for those eligible under ADA guidelines. STA's paratransit service area is generally within ¾ of a mile of all fixed

23 "Team Fairchild". Economic Impact Statement Fiscal Year 2020. https://www.fairchild.af.mil/Portals/23/FINAL-6_FY20_Economic_Impact_analysis.pdf?ver=hx6fZvqpED4mNQegddpfZw%3D%3D

24 OFM, PTBA population estimate 2012.

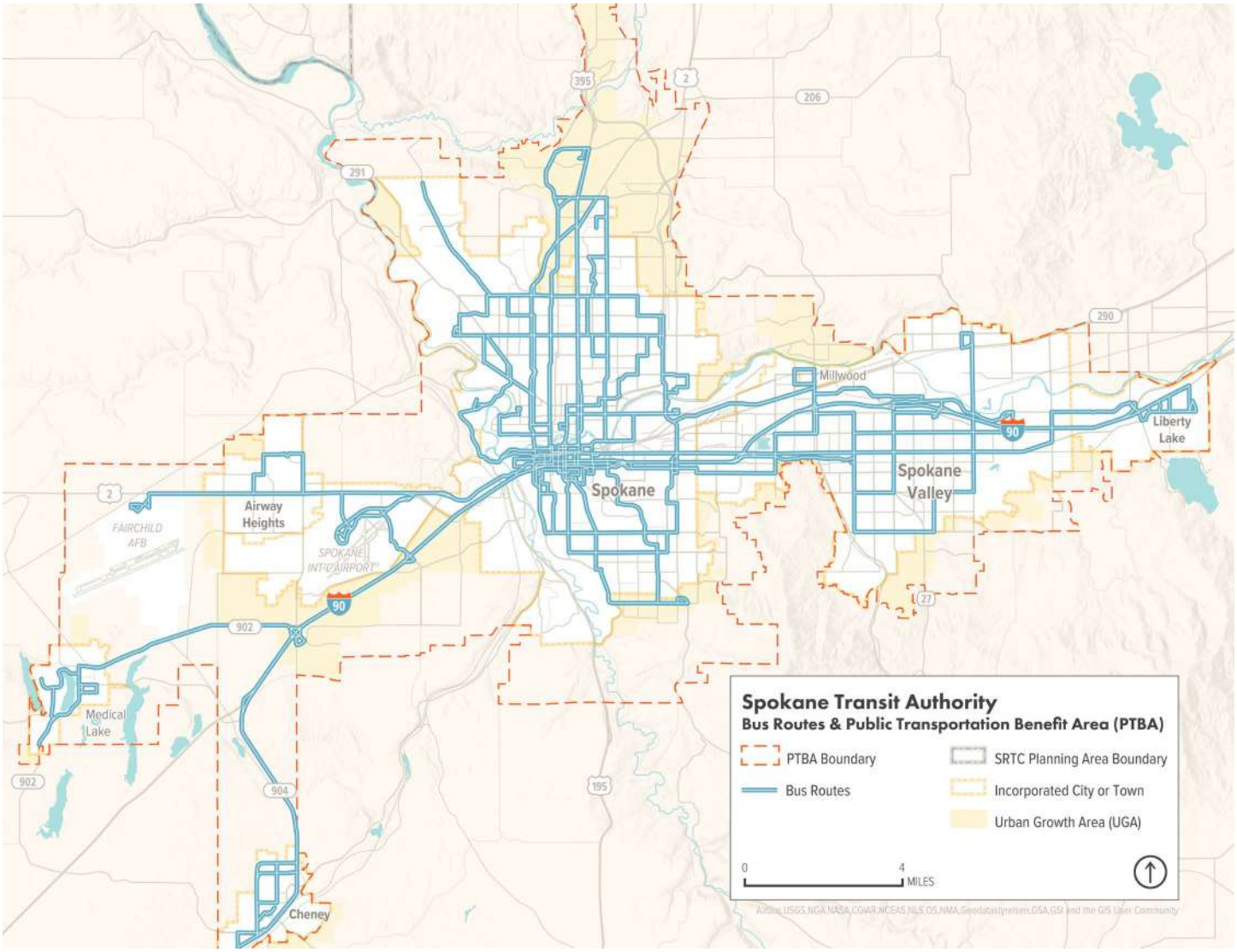


Figure 2.34: PTBA and STA Bus Routes

routes. STA's vanpool program is a service for commuters that provides a 7, 12, or 15 passenger van for a group of 5 to 15 persons. Users pay a fee based on the number of passengers and mileage traveled.

The Kalispel Tribe developed a tribal transit system (KALTRAN) that serves the Kalispel Indian Reservation in Pend Oreille County and tribal lands in Airway Heights. KALTRAN was designed to provide service to tribal members who work or live in Spokane, deliver tribal members to appointments on Reservation lands in Airway Heights, improve transportation from the Reservation near Usk and Cusick to Spokane and vice versa, and provide transportation between rural areas and job centers. Special Mobility Services, Inc. (SMS) provides some rural and intercity services to/from and within Spokane County. The Spokane Tribe of Indians operates the Moccasin Express, which has three regular, daily routes: service from Wellpinit – West End, Wellpinit – Ford, and Wellpinit – Spokane. The Spokane Tribe also operates a paratransit service available to the elderly and low-income individuals. It provides service from the Spokane Reservation and the surrounding area to Wellpinit, Spokane, Airway Heights, Cusick, Colville, Chewelah, and Inchelium. A detailed listing of public transportation and intercity bus facilities in the region is provided in figure 2.35.

Public Transit Ridership

Almost 10 million passenger trips are provided on the STA bus route system annually. 9,971,798 passenger trips were taken on fixed route buses in 2019. The average fixed route weekday ridership was 33,776, average Saturday ridership was 15,656, and average Sunday ridership was 9,744. Paratransit in 2019 provided 441,097 passenger trips and vanpool service provided 155,262 passenger trips. SRTC works with STA to develop and update the Spokane County Coordinated Public Transit-Human Services Transportation Plan, which is updated every four years. A list of public transportation providers can be found in that document on the SRTC website.

Figure 2.35: Public Transportation and Intercity Bus Facilities

COMMUTER VANPOOL PROVIDER:
Spokane Transit Authority

PUBLIC TRANSPORTATION FACILITIES:

STA Administration Offices and Maintenance Facilities

STA Plaza
Served by STA, WSDOT Gold Line, Spokane Tribe Moccasin Express

Park and Rides:

- Country Homes
- Five Miles
- Hastings
- Fairwood
- The Arena
- Jefferson Street/I-90
- South Hill
- Liberty Lake
- Pence-Cole Valley Transit Center
- Mirabeau Point
- Airway Heights
- Cheney K Street Station
- Moran Station
- West Plains Transit Center

INTERCITY BUS FACILITIES:

Spokane Intermodal Center
Served by WSDOT Gold Line, Greyhound, Northwestern Trailways, Amtrak (including Amtrak Thruway Motorcoach), STA, Spokane Tribe Moccasin Express

Spokane International Airport
Served by STA, WSDOT Gold Line

Public Transit Economics

STA's current annual budget reflects $95 million in revenues with the bulk from local sales tax ($57 million) and operating revenues ($10 million). STA receives FTA Section 5307 funding totaling $7.9 million, a major source of revenue for preventive maintenance. Operation of the fixed route system alone is a $44.5 million undertaking. Sales tax provides about 74 percent of the agency's operating revenue. Paratransit operations are nearly $13 million annually, more than 19 percent of STA's budget. STA is over 16% more cost efficient than the average urban system in Washington state.

Upcoming Public Transit Initiatives

In 2021, Spokane Transit updated its comprehensive plan called Connect Spokane. Connect Spokane reflects principles for public transportation in the PTBA. The plan lists policies to guide decisions for the future of transit service and strategies STA will undertake to meet goals.

One of the major strategies is the implementation of a High Performance Transit Network (HPTN). STA defines the HPTN as "a network of corridors providing all-day, two-way, reliable, and frequent service which offers competitive speeds to the private automobile and features improved amenities for passengers. The HPTN defines a system of corridors for heightened and long-term operating and capital investments."[25] For more information about Connect Spokane, see the STA website.[26]

City Line is the first Bus Rapid Transit (BRT) route planned to be fully implemented. The currently operating Monroe-Regal line is part of the HPTN. A tax increase approved by voters in November 2016 to fund *STA Moving Forward*,[27] a ten-year plan to maintain, improve and expand transit services has secured funding for the operation of City Line. A FTA grant was awarded for the capital costs of the projects. The Central City Transit Alternatives Analysis was completed in 2011 with a locally preferred alternative (LPA) approved by regional stakeholders. The LPA identified BRT vehicles using electric propulsion as the preferred mode along a corridor from Spokane Community College, through the Gonzaga University campus, through the University District and the downtown Spokane central business district (CBD) to the Browne's Addition neighborhood. The City Line is scheduled for completion in 2022. The full or partial implementation of the Cheney, the Monroe-Regal, Division, Sprague and I-90 HPTN corridors are also included in *STA Moving Forward*. *STA Moving Forward* and the HPTN are described in more detail on STA's website.[28]

Division Connects

Division Connects is a multi-agency transportation and land use study of the Division Street corridor. The first phase of the study was completed in Spring 2021 with identification of an LPA for BRT, detailed in figure 2.36. The second and final phase of the study will refine transportation options, particularly for those walking and rolling through the corridor, and also focus on land use opportunities. Final study recommendations will conclude in Spring 2022.

Support for Intercity Bus and Vanpools

The FAST Act requires the MTP and TIP to provide for facilities that enable an intermodal transportation system, including pedestrian and bicycle facilities. It adds to this list other facilities that support intercity transportation (including intercity buses, intercity bus facilities, and commuter vanpool providers). The FAST Act also requires that the metropolitan long-range plan include identification of public transportation facilities and intercity bus facilities.[29] More of this information support can be found in the SRTC Coordinated Public Transit-Human Services Transportation Plan developed in collaboration with the STA to improve transportation services for persons with disabilities, older adults, and those with lower incomes in Spokane County.[30]

Public Transit Challenges

In order to fully implement the HPTN additional federal fund-

25 www.spokanetransit.com/files/content/Connect_Spokane2010_Amended2012_OP.pdf

26 www.spokanetransit.com/projects-plans/comprehensive-plan

27 http://stamovingforward.com/

28 www.spokanetransit.com/projects-plans

29 23 U.S.C. 134(c)(2) & (i)(2)

30 https://www.srtc.org/human-services-transportation-plan/

Figure 2.36: Division Street Locally Preferred Alternative for BRT

Element	Description
Mode	Fixed guideway BRT using zero-emission 60' buses
Service Level	Weekdays: 10-minute frequency or better Nights and Weekends: 15-minute frequency during most hours of the span
Northern Termini	Short-term: Current Route 25 to Hastings Park and Ride Long-term: New transit center at Farwell and US2
Southern Termini	Spokane CBD near the STA Plaza
Alignment	Downtown: To be refined in Preliminary Engineering Couplet: Right-side along Ruby Street and Division Street Mainline: Right-side along Division Street North of "Y:" Short- and long-term phased approach
Station Locations	Major intersections and destinations. All stations will meet ADA accessibility requirements
System Operations	Operating techniques for speed and reliability, such as Transit Signal Priority (TSP), all-door boarding, and near-level platforms
Lane Configuration	Side-running, dedicated BAT lanes for a majority of the alignment, primarily between North River Drive and the "Y"
Other Multimodal Treatments	Protected bicycle facilities, including cycle tracks where practicable, along Ruby Street with pedestrian, ADA, and bicycle improvements throughout the corridor

ing is needed. Another challenge is the expectation of STA service in areas that have been developed without pedestrian- or transit- supportive infrastructure. This type of development limits the ability of transit to provide meaningful service. A desire for additional transit services is commonly heard from stakeholders. Requests include higher frequency, later hours, additional routes, and new park & rides. A need for improved coordination of services has been heard from the public repeatedly. The need for a central source of information on available transit services has also been clearly identified.

With several organizations providing some form of public transit, there is still a need for additional transportation services for the elderly, disadvantaged, disabled, and those who live outside public transit service areas. In particular, there is a need for public transportation between Spokane and Coeur d'Alene and smaller, outlying towns. Besides KALTRAN, Moccasin Express, and SMS, there are few services (especially ones affordable to people on fixed incomes) that provide transportation between Spokane and outlying areas.

Passenger Rail

Amtrak's long distance Empire Builder route provides daily passenger rail service to the region via the Spokane Intermodal Center in downtown Spokane. It connects Spokane with Portland, OR and Seattle, to the west, and with cities as far east as St. Paul and Chicago.

Passenger Rail Challenges

Westbound Empire Builder trains passing through the region en route to Seattle depart from Spokane at 2:15 a.m. Those passing through en route to Portland, OR depart Spokane at 2:45 a.m. Eastbound trains depart Spokane at 1:25 a.m. en route to St. Paul, MN and Chicago. The inconvenience of these late night and early morning schedules is frequently expressed at public meetings.

WSDOT's 2019 State Rail Plan calls for the state-owned Cascades service to be extended to connect Spokane with Seattle, via the Tri-Cities, WA and Stampede Pass. This service would run more than once a day and provide Spokane with more convenient hours than the what the Empire Builder currently offers.

An initial study commissioned by the WA Legislature's Joint Transportation Committee found that introducing a Spokane to Seattle service via the Stampede Pass was technically feasible and, despite long journey times, could generate ridership above or comparable to some other Amtrak state supported services. According to the final study report, travel time from Spokane to Seattle could take 8 hours and 35 minutes with ridership near 200,000 passengers annually.[31] Coordination with the Washington State Transportation Commission regarding the concept is expected to continue in the Spring of 2022.

31 https://leg.wa.gov/JTC/Documents/Studies/East%20West%20Rail/EastWestRail_FinalReport-June2020.pdf

Active Transportation

Active transportation choices like biking and walking help create a complete transportation system. Using active transportation can:

- Reduce out-of-pocket costs for residents, especially for short trips less than five miles
- Impact obesity rates by providing more options for physical activity
- Support the use of public transit
- Increase community safety and perception of safety by putting more eyes on the street
- Increase community cohesion by providing opportunities for community members to interact positively
- Reduce air and water pollution and conserve land by providing alternatives to using motorized vehicles
- Aid planning for future population growth and transportation demand by offering alternatives

Overall, connectivity of active transportation networks and safety of its users are of primary importance to SRTC, local agencies and the responsible jurisdictions.

Safe and Complete Streets

In 2012, SRTC adopted a Safe and Complete Streets Policy and Checklist to ensure that all users are routinely considered during the planning, designing, building, and operating stages of roadways. It also ensures elements of the Safe and Complete Streets policy are incorporated into Horizon 2045.

Complete Streets are roads designed and operated with all users in mind, including drivers and passengers, bicyclists, public transportation riders, and pedestrians of all ages and abilities.

The Safe and Complete Streets Checklist is the mechanism to implement the Policy. SRTC conducts occasional “calls for projects” when transportation funding is available. Local jurisdictions are invited to submit applications for projects they would like to see funded. The projects are ranked and prioritized and the ones determined to be top priorities receive funding. The Safe and Complete Streets Policy requires that these project applications be accompanied by a Safe and Complete Streets Checklist to show that the needs of all users have been considered in the design of the project. Also, any new project seeking inclusion in the annual TIP has to be submitted with a Safe and Complete Streets Checklist.

Walking

Walking is the oldest and most universal form of travel. It requires no fare, no fuel, no license and no registration. Besides devices such as wheelchairs and walkers for the disabled, walking demands no special equipment and is the most affordable and available form of transportation.

While the majority of pedestrian trips are less than a mile, walking trips that connect to transit greatly increase the distance a person can travel without relying on an automobile. Pedestrian connections to transit are important in increasing the use of active transportation and transit as an alternative to the automobile. The last region-wide measurement in 2010 indicated walking mode share is nine percent of all person trips in Spokane Region, an increase from seven percent in 2006.

To walk safely, conveniently, efficiently and comfortably, people require an environment and facilities designed to meet their needs. With this in mind, SRTC and the Spokane Regional Health District created the Spokane Regional Pedestrian Plan with a goal to increase walking in our community. The plan is a resource for local jurisdictions and can be found on the SRTC website. It provides the following recommendations:

- Incorporate attributes of a pedestrian-accessible environment
- Incorporate complete street polices designed to enable safe access for all users
- Build sidewalks with design elements encouraging use
- Maximize access to, and use of, shared use paths and trails
- Follow crosswalk designs and education programs to enhance crosswalk safety
- Evaluate traffic calming measures to improve quality of life in our communities, and infill gaps in the existing sidewalk system

Bicycling

Bike travel is a low-cost transportation alternative for meeting the needs of the young, the elderly, persons with disabilities, and others who do not have an automobile or choose not to use one.

Nearly half the trips in the United States are three miles or less and can be accomplished in a twenty minute bike ride. It is these shorter trips that are most achievable by bike. However, with the addition of bike-friendly transit, bicycle trips in the Spokane region can be extended beyond the length of a typical bicycle trip. Our last region-wide measurement in 2010 indicated bike transportation accounted for two percent of all person trips, which is an increase from one percent in 2006.

In Washington state bicycles are, by law, vehicles. Therefore, they are allowed on all public streets and roads, except those specifically excluded because of safety considerations. In the City of Spokane, bicycling on sections of I-90 is prohibited due to safety issues related to high volumes and speeds of traffic. Out of the nearly 1,458 miles of functionally classified roadway in Spokane County, approximately 18 miles have bicycling prohibitions.

Active Transportation Facility Inventory

Consistent with the 2008 Spokane Regional Bike Plan and the 2009 Spokane Regional Pedestrian Plan, jurisdictions have developed a series of inter-related trails and paths to create a regional active transportation system. Recent improvements include enhancements to existing trails such as the Ben Burr Trail in southern Spokane connecting to downtown, the Appleway Trail in Spokane Valley, and the Centennial Trail in Spokane County along the Spokane River from Lake Spokane and continuing into Idaho.

Several jurisdictions have also updated their bicycle plans to include the potential for more bicycle facilities and amenities. Key bicycle corridors have been established to guide and direct public investment in the system, such as the Centennial Trail that provides a backbone route by which bicyclists can avoid high volume arterials and congested intersections from Spokane Valley to the Spokane CBD. Also, the Children of the Sun Trail, part of the US 395 North Spokane Corridor, is another example of a newer regional bike and pedestrian facility. SRTC's planning area includes approximately 1,267 miles of Class I through IV bicycle facilities. These classifications are defined as follows:

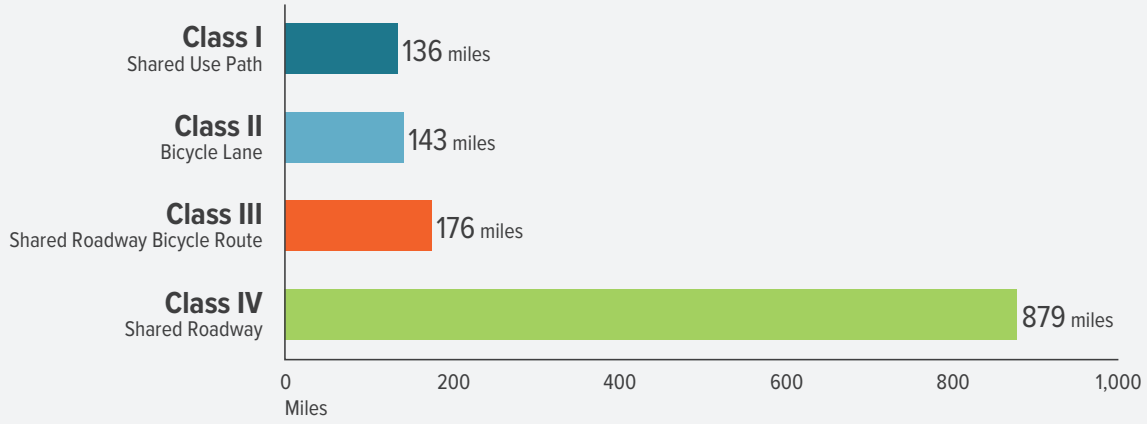
- **Class I - Shared Use Path:** Facilities on separated right-of-way and with minimal cross flow by motor vehicles. Minimum width of 6 feet.
- **Class II - Bike Lane:** Portion of the roadway, which has been designated by striping, signing, and pavement marking for the preferential or exclusive use of bicycles. Minimum width of 5 feet with an additional 8-inch stripe.
- **Class III - Shared Roadway Bicycle Route:** Bicyclists and motorists share the travel lanes. Roadway may have bicycle signage or road markings. Class III routes typically exhibit lower traffic volumes and speed; however, this will vary.
- **Class IV - Shared Roadway:** Bicyclists and motorists share the travel lanes. Class IV routes exhibit varying levels of traffic volume and speed.
- **Class X - Bicycles Prohibited:** Bicycles are prohibited from using the roadway.

In Spokane County there are 204 miles of paved bike lanes and paths (41 miles per 1,000 residents). Additional secondary paths and bike routes are being established to continue the network throughout the community. Figure 2.37 shows how the facility inventory has been growing. More information regarding the location of the bike facilities mentioned in this section can be found on SRTC's Spokane Regional Bike Map, available online via SRTC's website and as a traditional paper map, which is available free of charge at various locations throughout the region or by contacting SRTC directly.

Sidewalk construction was fairly consistent during neighborhood and business construction, within the City of Spokane. In unincorporated areas, sidewalk development is intermittent. Spokane County road standards historically did not require sidewalks along arterials or in residential neighborhoods. As a consequence, developing suburban areas often have minimal pedestrian facilities. This severely limits access and mobility for elderly or wheelchair-bound individuals. Latest sidewalk inventory analysis indicates approximately a 60 percent gap in available sidewalk network in the PTBA, which covers the public transit service area.

The City of Spokane Valley has newer sidewalks as many areas were developed more recently than in the City of Spokane or Spokane County, but many arterials and most local streets are missing sidewalks altogether. The City of Liberty Lake requires separated sidewalks with appropriate lighting on public streets in all new residential subdivisions. All ju-

Figure 2.37: Tracking Mileage by Bicycle Facility Type in the SRTC Planning Area



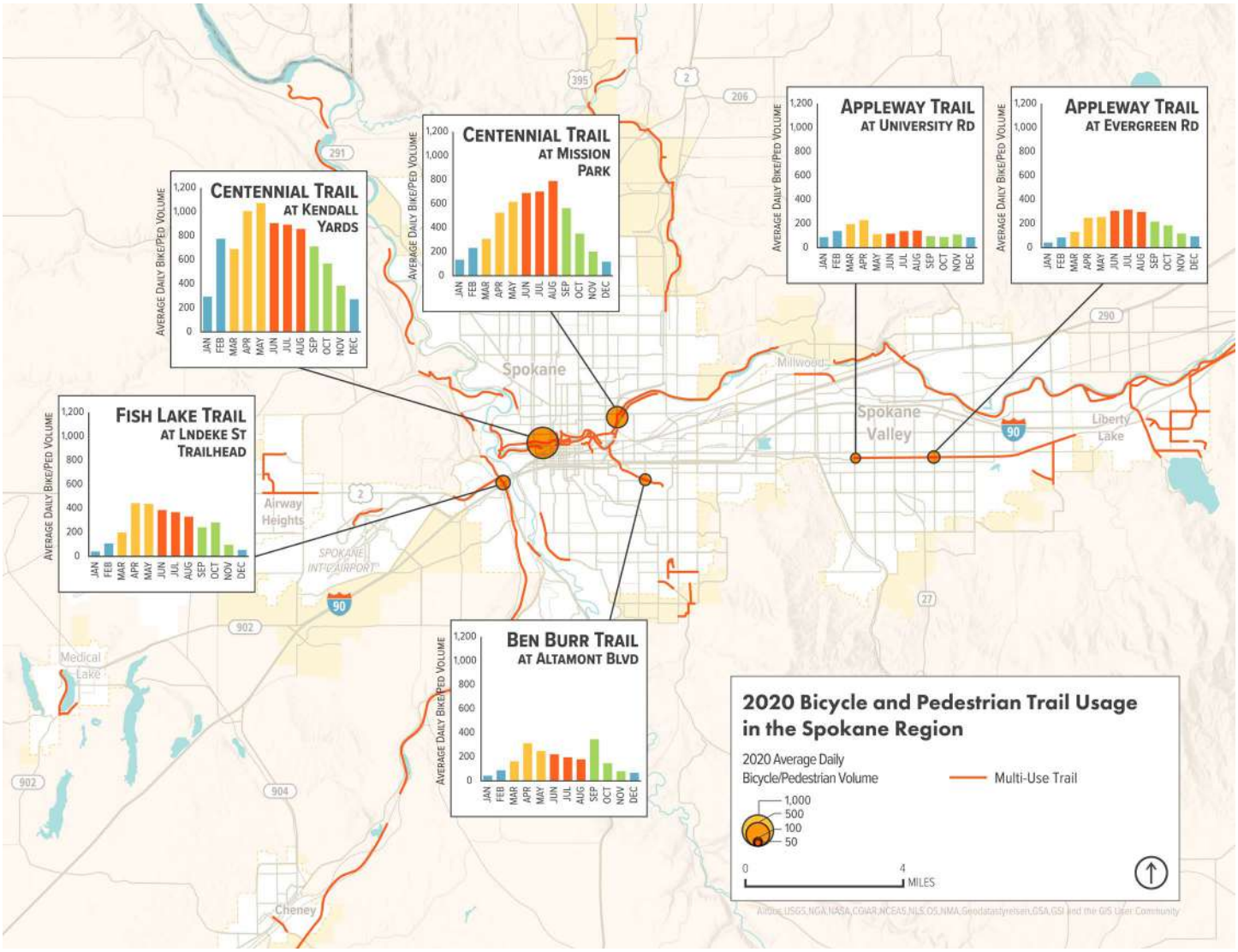


Figure 2.38: Bicycle and Pedestrian Trail Usage

risdictions within the region include land use and transportation policies that seek to provide the quality and quantity of infrastructure, the connectivity, the land use patterns, the density, and the education, encouragement, and enforcement programs that would make walking a convenient and safe option. Approximately 3.2 percent of Spokane County workers rely on active transportation to travel to and from work.[32]

Active Transportation Usage

As part of the Washington state bicycle and pedestrian documentation project, the region uses several permanent counters to monitor multi-use trail usage. Counter locations include the Centennial, Children of the Sun, Fish Lake, and Appleway trails. The counters analyze the flow of both pedestrians and cyclists at these locations. Figure 2.38 shows monthly usage at counter locations for which 2020 data is complete. While a counter is located on the Children of the Sun Trail, near Freya Street, it was omitted from the map due to significant gaps in the data.[33]

Active Transportation Challenges

The region's pedestrian system is in various stages of condition. Where neighborhoods and business districts have been established since the early 1900s, many sidewalks have deteriorated to the point of needing replacement or serious repairs. Unfortunately, there is no systematic program to keep sidewalks maintained or replaced after their useful life; although comprehensive and modal plans across the region deal with the need to address this issue. Removal of snow and ice from sidewalks in winter is another challenge faced by all jurisdictions across the region and is often raised to SRTC staff as a major concern by members of the public. Year-round access to sidewalks and transit stops is of particular concern to members of the community with mobility impairments. SRTC is continuously engaged in discussions

32 2015–2019 ACS 5-Year Estimates

33 Eco-Counter, Ecovisio, 2020

with jurisdictions, agencies, and the public to develop solutions to address year-round access, particularly as it relates to serving the needs of the disability community.

Bicycle connections need to be completed in the regional bicycle network. There are many existing trails, lanes, and other bicycle facilities, but many do not connect to other bike facilities. Another major concern for active transportation users is safety. In 2019 there were 6,205 pedestrians killed in traffic crashes, a 2.7 percent decrease from the 6,374 pedestrian fatalities in 2018 . This is the highest number of pedestrians killed annually since 1996. As for bicyclist fatalities, in 2019 there were 846 bicyclists killed in motor vehicle traffic crashes, a decrease from 871 in 2018. Though bicycle and pedestrian fatalities have declined since 2015, the proportion of traffic fatalities "outside the vehicle" – such as cyclists, pedestrians, and motorcyclists – has risen to an all-time high of 34 percent from a low of 20 percent in 1996.

Impact of Transit and Active Transportation on Quality of Life

Transit and active transportation positively impact a community's quality of life. The promotion of transit and active transportation along with supportive land uses can help achieve quality of life-related goals such as:

- Clean air, water, and soils
- Improved public health and safety
- Improved social cohesion
- Climate change mitigation
- Local economic development and community revitalization
- Affordable access to employment, housing, education, recreation health care, and other vital services


Photo Credit: Spokane International Airport

Performance-Based Planning & Programming

Performance-Based Planning and Programming (PBPP) is the use of agency goals and objectives and performance trends to drive the development of strategies and priorities. PBPP is a system-level, data-driven process to identify strategies and investments that provides a link between management and long-range investments SRTC makes in its transportation system. Several programs contribute to SRTC's ability to make investment decisions based on performance.

Transportation Safety

Horizon 2045 addresses the federal safety planning factor ("Increase the safety of the transportation system for motorized and non-motorized users") and the state's safety transportation goal ("To provide for and improve the safety and security of transportation customers and the transportation system"). SRTC coordinates with state and local agencies to develop strategies to ensure the safety and security of the regional transportation system, as well as monitoring certain parts of the transportation system including collision information, education initiatives and other safety and security efforts.

Additionally FHWA published a safety performance final rule with an effective date of April 14, 2016. The Safety Final Rule supports the data-driven performance focus of the Highway Safety Improvement Plan (HSIP). The Safety Performance Final Rule establishes five performance measures to carry out the HSIP: the five-year rolling average for: (1) Number of Fatalities, (2) Rate of Fatalities per 100 million VMT, (3) Number of Serious Injuries, (4) Rate of Serious Injuries per 100 million VMT, and (5) Number of Non-motorized Fatalities and Non-motorized Serious Injuries on all public roadways. The region's safety performance can be found in figure 2.39.

Safety Performance Measure

WSDOT will establish statewide targets for each of the safety performance measures. Targets will be established annually, beginning in August 2017 for calendar year 2018 for the following performance measures (number of fatalities, rate of fatalities and number of serious injuries). WSDOT is coordinating with MPOs and SRTC on establishment of targets. WSDOT will report targets to the FHWA in the HSIP report due in August of each year. WSDOT will have to make significant progress toward meeting its safety targets or obligation authority for WSDOT funding programs could be affected and redirected to HSIP funding.

MPOs will establish targets for the same five safety performance measures for all public roads in the MPO planning area. SRTC can either agree to support the WSDOT target or establish a numerical target specific to its planning area.

Target Zero

In an effort to increase safety and decrease collisions on area roads, MTPs are encouraged to be consistent with the State's Strategic Highway Safety Plan (SHSP) and other transportation safety and security planning and review processes, plans and programs. Simply put, the goal of the plan is zero deaths and serious injuries by 2030.

The Target Zero: Strategic Highway Safety Plan[34] is a data-driven plan developed to identify Washington state's traffic safety needs and guide investment decisions toward reductions in traffic fatalities and serious injuries. Target Zero provides a framework of specific goals, objectives, and strategies for reducing traffic fatalities and disabling injuries. It outlines three priority levels based on the percentage of traffic fatalities and serious injuries between 2012 and 2014.

Safety Challenges

SRTC will strive to reduce serious injuries and fatalities to reach a safety target. This has resulted in program funding for safety and to project evaluation criteria for safety in the project prioritization process. Traditional engineering and educational solutions will need to be improved. Many of the primary and secondary causes of collisions are behavioral in nature. As distracted driving becomes more contributory, new educational programs, and engineering solutions will need to be produced.

Transportation System Security

An important consideration of Horizon 2045 is the security of the regional transportation system, which can be defined as the freedom from intentional harm and tampering that affects motorized and non-motorized travelers, and may also include natural disasters. Security goes beyond safety and includes planning to prevent, manage, or respond to threats to a region and its transportation system and users.[35] Many jurisdictions have developed emergency preparedness plans to address emergencies that could impact the regional transportation network, including everything from blown tires to terrorist attacks and natural disasters.

34 More info is available at http://www.targetzero.com.

35 The Transportation Planning Process: Key Issues, A Briefing Book for Transportation Decision-makers, Officials, and Staff. Transportation Planning Capacity Building Program. Federal Highway Administration, Federal Transit Administration. Updated September 2007. Publication Number: FHWA-HEP-07-039.

Figure 2.39: Safety Performance Measures

Measure	5-Year Rolling Average 2015–2019
Number of Fatalities	33.0
Fatality Rate	0.86
Number of Serious Injuries	137.8
Serious Injury Rate	3.58
Non-Motorist Fatalities and Serious Injuries	47.4

WSDOT

WSDOT defines an emergency as a situation involving natural phenomena, disasters, casualties, national defense or security measures. WSDOT's *Emergency Relief Manual* details their response to such events.[36] The purpose is to reduce the vulnerability of the state transportation system from disasters, to respond effectively to them, and assist in the aftermath of any emergency involving damage to the transportation system.

Greater Spokane Emergency Management

Greater Spokane Emergency Management (GSEM) is the coordinating agency during major emergencies and disasters for citizens, response partners and elected officials. This includes synchronizing communication flow between federal, state and local governments as well as local agencies and the citizens of the Greater Spokane area.

GSEM provides a Greater Spokane Comprehensive Emergency Management Plan which has a section devoted to Essential Services, Infrastructure and Critical Facilities. In conjunction with the GSEM, the Greater Spokane Emergency Coordination Center (ECC) has an Operations Plan that provides standardized guidelines, procedures, duties and responsibility for the ECC during an emergency or disaster. More information on Greater Spokane Emergency Management can also be found online.[37]

STA

STA addresses compliance with Washington state's Safety Transportation Goal. STA's Security Coordinator facilitates resources to use in case of emergency or disaster, using an 'All Hazards' approach. That means there are basic response actions taken initially on most emergencies, regardless of the emergency or disaster. Once the situation is assessed and identified, individualized response guidelines particular to each emergency type—e.g., medical assistance, vehicle collisions, fire, severe weather, earthquake, hazardous materials spills, et cetera—are implemented.

The STA Operators Handbook has several sections devoted to emergency instructions, depending on the severity of the event. It covers emergencies ranging from collisions to disputes, intoxicated riders, those carrying weapons, and vehicle fires. It also includes general rules for ejecting passengers and a list of items not allowed on STA vehicles. In all cases of emergency, dispatch will call 911 or STA Security, as necessary.

STA has also installed security cameras at park and ride and operations facilities and annually evaluates customer security through rider surveys. STA also annually evaluates customer security through surveys asking for rider's assessment of their personal safety and the driver's safety on a scale of 1 to 5, with 5 being the highest. The average for both fixed-route and paratransit is 4.6 as of 2016/2015.

36 http://www.wsdot.wa.gov/Publications/Manuals/M3014.htm

37 http://www.spokanecounty.org/1921/Plans-Agreements

Travel Demand Management

At a regional level, SRTC relies on travel demand management programs like Spokane County's Commute Trip Reduction (CTR) to help with congestion management requirements.

CTR

The CTR program was created by the Commute Reduction Efficiency Act to encourage employees to ride the bus, vanpool, carpool, walk, bike, work from home, or compress their workweek.

In 1993, CTR was implemented in Spokane County at affected worksites with 100 or more employees. The program was recently re-branded as Commute Smart Northwest. The program supports voluntary worksite participants. As reported by the 2019 and 2020 worksite surveys, there were 39,135 employees at worksites in the CTR program. The program has established goals focused on the non-drive alone rate (NDAR) and VMT.

The CTR program goals are as follows:

- NDAR: 6 percentage point increase from baseline
- VMT: 13 percentage point reduction from baseline

21 worksites, which equates to 19 percent of all affected worksites, made both the NDAR and VMT goals. 22 worksites, equating to 20 percent of all sites, made at least one of the goals. Eight worksites, equating to seven percent of all sites, made 50 percent or more progress towards one of the goals.

With the population in Spokane County expected to grow, the importance of CTR and programs like Walk-Bike-Bus for managing demand on the transportation system is increased. The Spokane County CTR office works with hundreds of employers to match employees with alternative transportation methods to driving alone.

CTR Challenges

Challenges faced by the Spokane County CTR program include:

- A 2016 change in federal Congestion Mitigation and Air Quality (CMAQ) funding, which eliminate incentives as a reimbursable expense
- Infrastructure gaps near CTR worksites that make commuting by transit, bicycle, or foot more difficult (i.e. lack of bicycle lanes, sidewalks, or safe pedestrian crossings, and transit frequency, schedules, and proximity of stops)
- State funding that has not increased since 1993, which limits the amount of time CTR staff can spend on individualized program development for the CTR worksites and program expansion

- High Employment Transportation Coordinator (ETC) turnover, limited ETC time and resources to dedicate to the program, and difficulty convincing employers and employees to invest in and participate in the program

Congestion Management

Congestion can be defined in many different ways as identified earlier in this report. Congestion management is the use of strategies to improve transportation system performance by reducing congestion and its impacts on the movement of people and goods. A congestion management process (CMP) is an approach for managing congestion which includes multiple jurisdictions and agencies. SRTC has the responsibility of implementing this process, with the assistance of other area jurisdictions as dictated by federal requirements.

The CMP has special significance in metropolitan areas that are designated by EPA as air quality non-attainment, or maintenance zones, and have a population of 200,000 or more. Transportation projects that aim to significantly increase the capacity of single occupancy vehicles (SOVs)—i.e., widening roadways or constructing new facilities—may not receive Federal funding unless the project has been identified in the regionally-adopted CMP. Additionally, the feasibility of lower-cost travel demand and operational improvement strategies must be analyzed as potential alternatives prior to increasing roadway capacity.

The SRTC Board approved the most recent CMP in December, 2014. SRTC also maintains a multi-jurisdictional working group to continually coordinate and track the effectiveness of the process. The CMP includes:

- Congestion management objectives
- Multimodal transportation system performance measures
- Identification of congestion management corridors and least cost planning strategies
- A process for evaluating projects that increase Single Occupant Vehicle (SOV) capacity
- Ongoing evaluation of the process and strategies

Figure 2.40 depicts the sixteen CMP Corridors selected for the CMP process. Tier 1 corridors are the most congested and have identified strategies and Tier 2 corridors, which are less congested, are continually monitored because of the their regional importance.

To address compliance with the federal regulations, a decision tree process was created, called the CMP/MTP Compliance Process, shown in figure 2.41. This process ensures that regionally significant projects that appear in Horizon 2045 have gone through a least-cost planning process and a justification process if the project significantly increases the SOV carrying capacity of roadways. This process outlines what alternative low cost strategies have been evaluated and/or implemented, and in some instances, a Roadway Capacity Justification Report would be submitted before significant SOV projects are approved by the SRTC Board for Federal funding. This process brings the conversation of adding additional capacity to the decision makers so that they can discuss the projects in an open and transparent manner.

CMP Challenges

Data for the CMP is compiled from a variety of sources. Data sources and analytical tools have been changing every year. It will remain a question if the State DOTs or the MPOs and local jurisdictions will be tasked to gather the needed information.

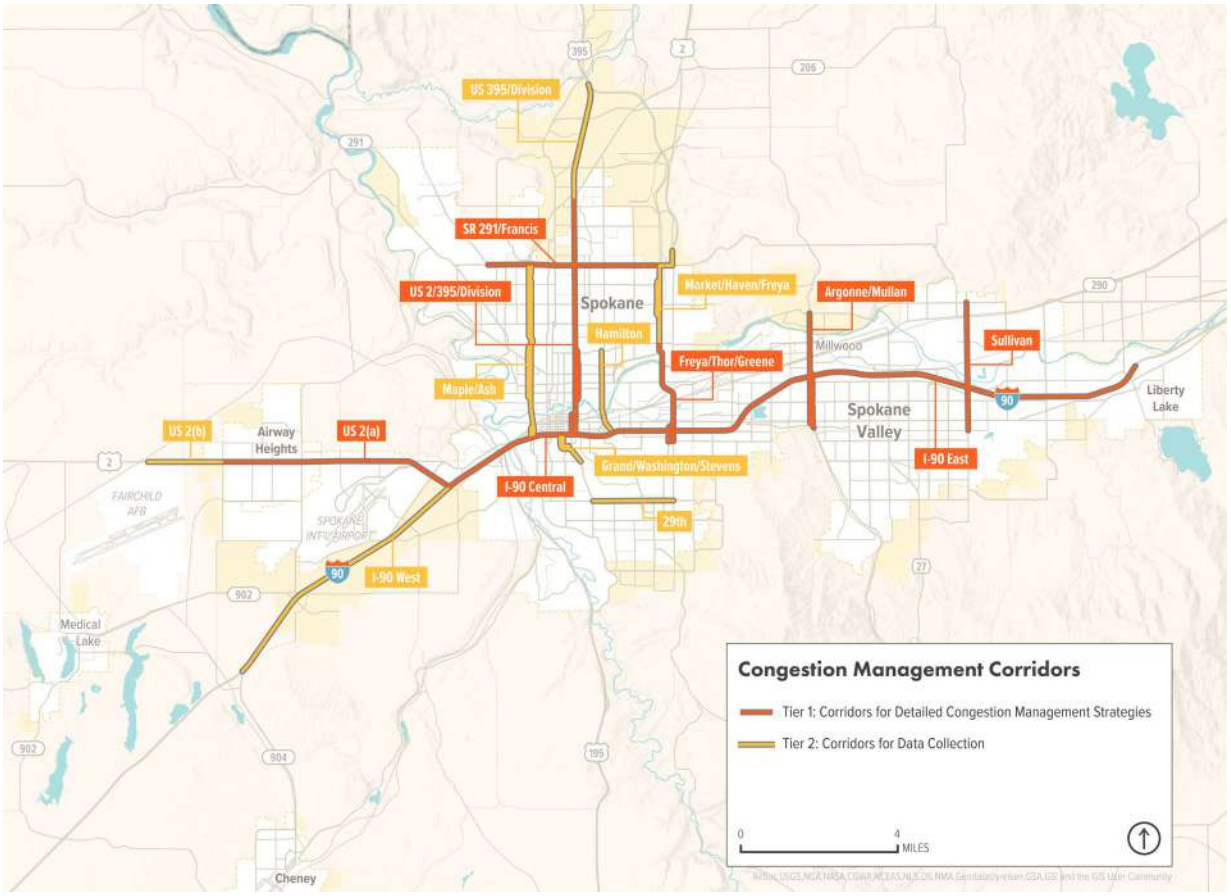
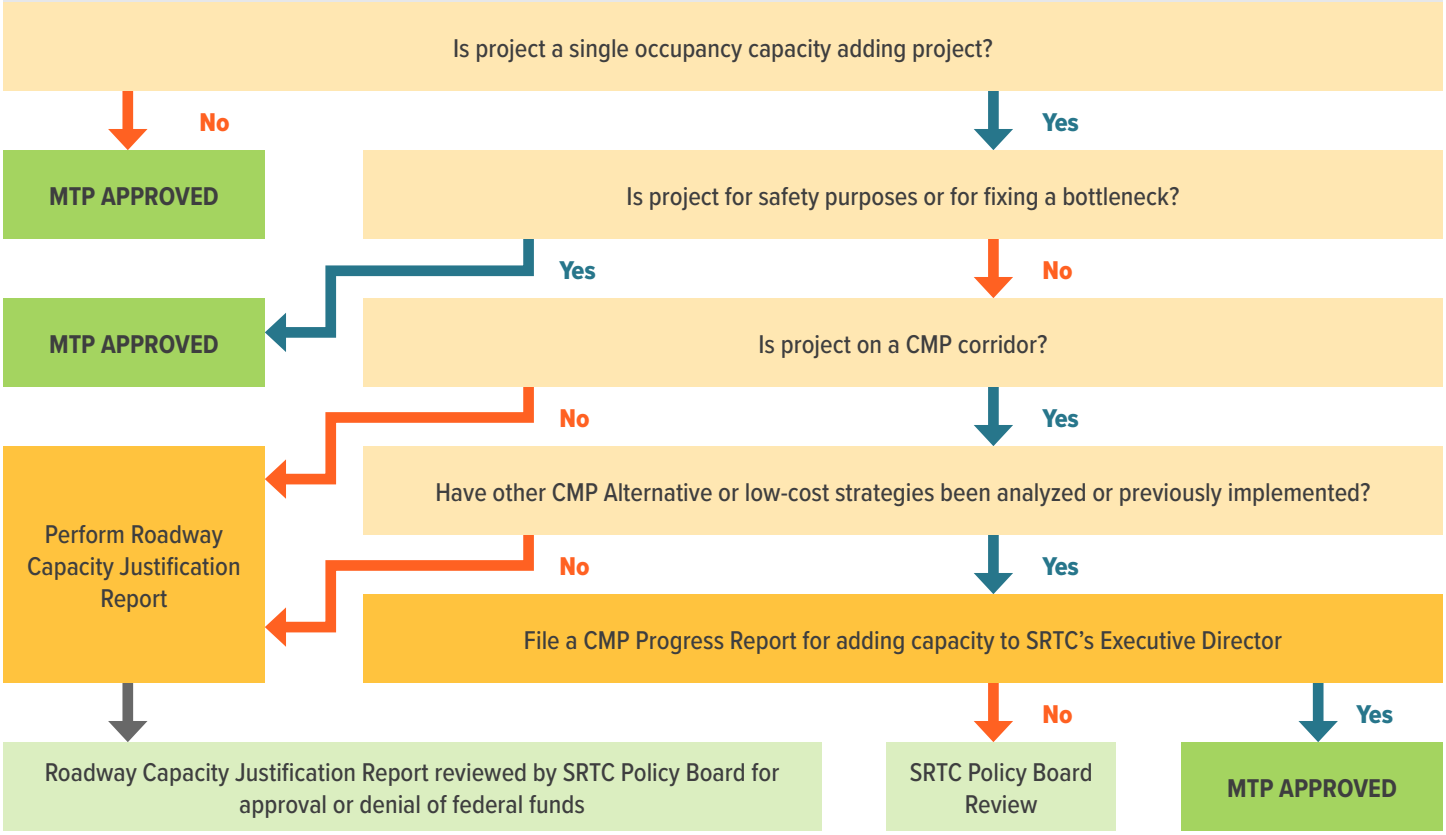


Figure 2.40: Congestion Management Corridors

Figure 2.41: CMP for the MTP



Summary of Existing Conditions

The Spokane region's transportation system is feeling the strain of age and population growth, as the road network experiences increasing issues related to wear and tear and congestion. With the region's population expected to grow by almost 100,000 people by 2045, will likely see more vehicle, increasing congestion, and the possibility of more traffic collisions. Public awareness campaigns have shown to be effective in reducing the number of fatal collisions in recent years. Increasing participation in CTR programs is also helping reduce congestion, by encouraging alternate ways to commute.

In 2016, voters approved an increase in sales tax to improve transit service. Since that time, transit ridership has remained level and additional federal funding for public transportation is needed. Some outlying areas do not have access to the STA system.

The active transportation system also needs improvements. Many users express concern regarding the safety and convenience of bicycling in the region. This is due to both inconsiderate drivers and a lack of bicycle infrastructure. Safety concerns have also been voiced by pedestrian. These concerns include sidewalks that are too close to fast moving traffic, stretches of roadway with no sidewalks, and existing sidewalks that are in poor condition. While there are limited funds available to fix sidewalks, a recent push by government agencies to increase active transportation usage could eventually remedy this. Most jurisdictions are either adding sidewalks, or repairing older ones, as part of road construction projects. Some agencies are also striping new bike lanes on existing roads and developing "bicycle boulevards" and greenways.

Like many areas nationwide, the Spokane region is struggling to retrofit its aging transportation system, in the face of tight budgets and stringent requirements. The good news is that local agencies are looking to the future and attempting to be proactive through measures such as Complete Street policies, increased numbers of park and ride lots, and alternative transportation methods. Based on analysis of the existing transportation system, the top issues currently in our region are:

Solutions to reduce serious injuries and fatalities

Safety was improving over the past several decades, but has recently declined. New performance rulings require reductions in serious injuries and fatalities. With the popularity of mobile devices, distracted driving is becoming more of a factor in serious injuries and fatalities. There are several priority areas for traffic safety but overall, roadway design and other efforts, such as education and enforcement, are needed.

Improving pedestrian and bicycle connectivity, accessibility, and safety

Many people are shifting from driving alone to walking or bicycling to work out of economic necessity or choice. Improvements targeting bicycle and pedestrian connectivity and accessibility are needed to accommodate these users. Projects and educational programs that improve bicycle and pedestrian safety are equally important.

Additional funding resources needed for operations, maintenance, and preservation

The region's aging infrastructure and pavement condition must be addressed. A shift in thinking in recent years has gone from building new facilities to spending available transportation funds on maintenance and operations instead. Following this line of thinking, local jurisdictions will have to consider how maintenance of new facilities will be paid for when approving funding for the initial construction of new projects. With very limited transportation funding available, decisions will have to be made on new performance measurement areas and how to spend money most effectively.

Addressing the region's structurally deficient and functionally obsolete bridges

Data shows that 29 percent of the area's bridges are considered structurally deficient or functionally obsolete. Nearly $2.1 billion in repairs are necessary for regional bridges, many of which are located in important freight and vehicular transportation corridors. This is another area of federal performance management.

Ensuring efficient freight movement while expanding freight mobility's role in economic development

The regional transportation system contributes significantly to the economic vitality and commerce of the region. Improving lane balance for freight movement by truck, addressing rail grade separation issues, and capitalizing on the region's existing freight transportation infrastructure are key strategies.

Support access and mobility to the region's airports and ensure the viability of Fairchild Air Force Base

SIA has a $754 million economic impact to the region. Also, in recent years, improvements to SIA and Felt's Field have increased the area's potential for growth and development in the aviation industry. Safe and efficient infrastructure to and from these airports is instrumental as the aviation and aerospace sectors continue to grow. Fairchild Air Force Base is the largest employer in Eastern Washington and supports critical KC 135 operations and the 92nd Air Force Refueling wing. SRTC understands the importance of maintaining transportation infrastructure to meet the needs and demands for FAFB to maintain its viability.

Increasing access to public transportation services

One size does not fit all when it comes to public transportation. High Performance Transit services are needed in the urbanized area to connect growing activity centers and to enhance the region's overall quality of life. At the same time, the population is aging and seniors in outlying areas are challenged by a lack of transportation options for accessing medical and other critical services.

Transportation-related measures to sustain and enhance the region's quality of life

The population of the Spokane region is expected to grow significantly by the year 2045. This growth, and the changing face of our population, will be reflected in transportation trends. For example, many in the aging senior population are giving up their cars due to health or other issues. Many younger people are deciding to live car free as well, and many commuters are turning to bicycling or walking as alternatives to driving alone. At the same time though, the sheer increase in the number of people in our area could increase the number of vehicles on the road.

Decisions made today will impact the conditions of the future and the demand on the transportation system.

Chapter 3: Where We're Going, looks at proposed facilities for the future, forecasted land use, and projected demand for the movement of people and goods through the year 2045.

Photo Credit: Spokane International Airport

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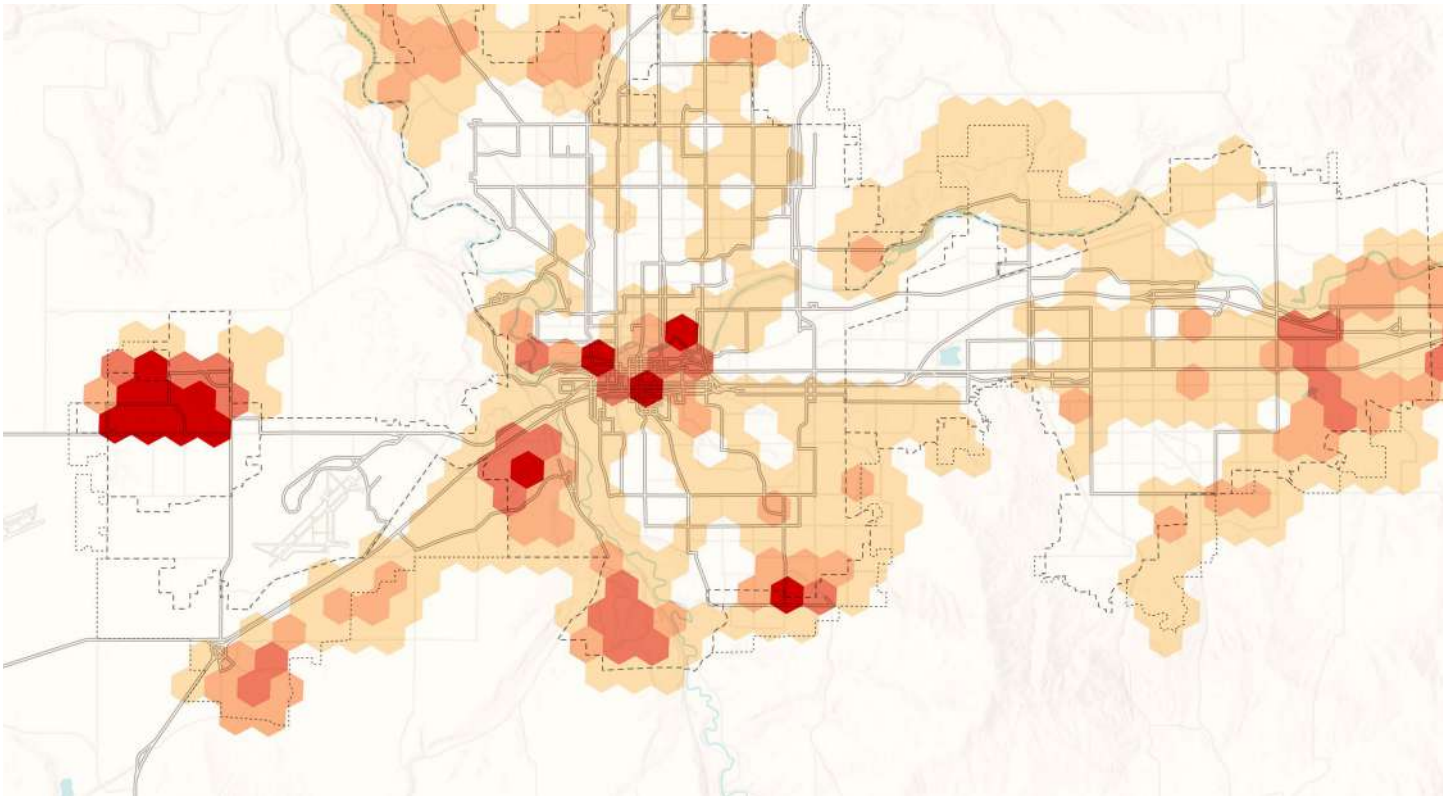


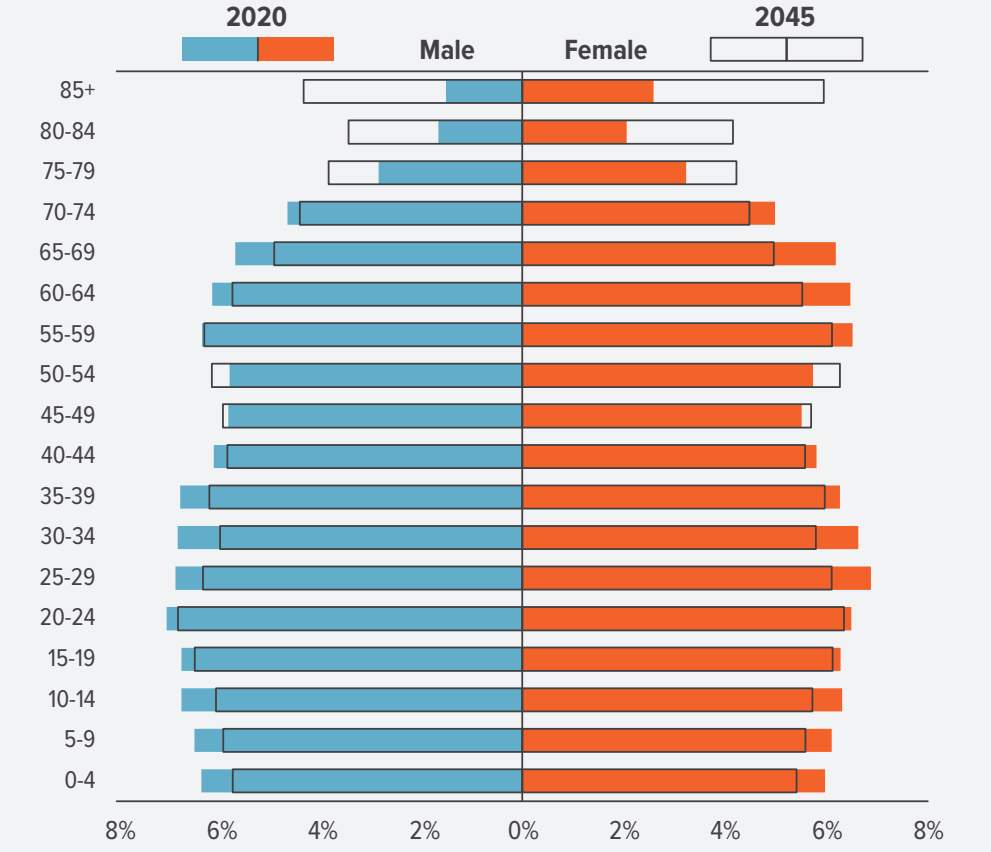
CHAPTER 3
WHERE WE'RE GOING

Future Conditions

How the forecasted changes in demographics and other considerations will impact the future transportation system.

The purpose of this chapter is to forecast future transportation conditions to the year 2045. One of the tools SRTC uses is the travel demand model and an alternative described as the 'Baseline' because it assumes that the only improvements to the regional transportation system are those projects and programs that are funded and programmed in the TIP. The 2045 Baseline alternative allows for a point of comparison and analysis to build alternatives. It is also required for environmental and financial review processes.

Figure 3.1: SRTC Planning Area 2020 and 2045 Population Pyramids



OFM. 2017 GMA Supplemental County Projections

The U.S. Census Bureau's demographic data, which is provided at various geographic levels, is utilized to assist in projecting future conditions. These demographic data points include population, employment, age distribution, income range, household composition, and residential location; all of which directly relate to transportation behavior.[1] The U.S. Bureau of Economic Analysis and the Federal Reserve also produce economic forecasts. These forecasts are produced in ranges due to the uncertainty in projecting birth/death rates, immigration and future economic conditions. While not all demographics can be accurately forecasted in the future, SRTC monitors and evaluates local, regional, and national trends to ascertain the expected impact to our transportation systems.

Population Forecast

The forecasted population for Spokane County in 2045 is 614,247, and increase of nearly 100,000 over the estimated 2019 population of 515,250. Employment is expected to grow at a similar rate, see Appendix B for details on forecasting methods.

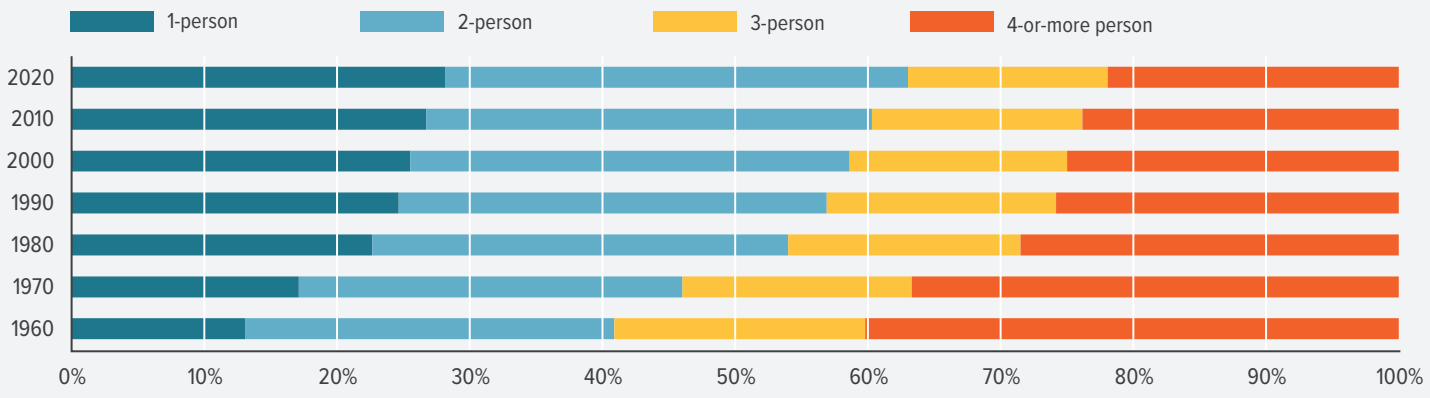
According to the U.S. Census Bureau, forecasts throughout the country include a large increase in senior populations through 2045. The aging of the baby boomer generation is the primary reason the senior population is forecasted to grow. Increases in life expectancy and potentially slight decreases in fertility rates also contribute to the senior population. See the current and future population pyramids for SRTC's planning area, provided in figure 3.1. The figure shows how the region's population is expected to change, by age groups and sex.

Household characteristics are also changing, with fewer households with children and fewer persons per household, see figure 3.2. What do these changing demographics mean for long range transportation planning in our region? Population growth typically results in increased travel and, depending on the physical layout of a community, could also result in an increase in vehicle miles and/or hours traveled. With continued growth in population and employment, it is expected that there will be continued demand on all transportation systems, including the private vehicular network.

Travel behaviors are often different between various age groups. The 35 to 44 year old age group tends to travel the most followed by those aged 25 to 34. Persons aged 16 to 24 are more likely than those in other age groups to bicycle for transportation, while those in older age groups are more likely to drive, especially when commuting to work. With growth expected in the population over age 65 and the younger generation's interest in alternative modes, there will likely be an increased demand in alternative transportation.

1 Demographics and Transportation in the United States 2050. Nathan Guequierre. 2003.

Figure 3.2: Households by Size and Decade in the SRTC Planning Area, 1960 to 2020



U.S. Census Bureau, Current Population Survey, March and Annual Social and Economic Supplements

Different household types (e.g., traditional single family, younger couples, single persons, families with no children, et cetera) have different travel behaviors. These trends are subject to a variety of economic factors, such as fuel prices and housing affordability. The built environment (i.e., existing development) also has a large impact on transportation mode choice. The development of land use forecasts for the Spokane region is detailed in the following section.

Forecast Methodologies & Future Land Use

A travel demand model simulation of future transportation conditions in 2045 is one tool used to evaluate potential system needs and deficiencies. This first 2045 alternative is described as the 'Baseline' because it assumes that the only improvements made to the 2019 transportation system are those already committed by agencies or jurisdictions in the near future and programmed in the TIP. As described in *Chapter 2: Where We Are*, information on the existing transportation system was used to build a travel demand model from the 2019 base transportation network in Spokane County. The forecasted population and employment growth for 2045 were applied to the 2019 base model network to predict future traffic conditions. The resulting 2045 Baseline model contains the vehicular and transit networks as of 2019, with the addition of funded projects that are programmed for completion in the next four years (listed in the SRTC TIP) and the forecasted growth in population and employment by the year 2045.

Employment, Housing & Employment Density Forecasts

SRTC uses housing units, employees, hotel/motel rooms, and higher education commuter students in the regional travel demand model to forecast the number of trips generated by land use type. Using adopted employment forecasts that aligns with the GMA population forecasting process, SRTC then uses persons per household ratios to derive the following number of SF and MF units, see figure 3.3. For more details, see Appendix B.

It's plausible that both SF and MF housing may grow faster than SF units as the aging population is anticipated to downsize from SF to MF. This influences transportation by increasing housing density. Housing and employment densities impact where trips start and finish and, therefore, the transportation needs between these locations. SRTC staff, in close coordination with area agencies, applied the Board adopted forecasting methodology to SRTC's travel demand model and to map the projected growth. See figure 3.4 for the 2045 Housing Density and figure 3.5 for the 2045 employment density.

For more information on how household and employment data is collected, forecasted, and allocated to each TAZ—as well as represented in the travel demand model—please see the SRTC travel forecasting documentation in Appendix B.

Figure 3.3: Growth in Occupied Housing Units, 2019–2045

	2019 Units	% of Units	2045 Units	% of Units
Occupied Single-Family Housing Units	155,442	75%	183,522	74%
Occupied Multifamily Housing Units	51,938	25%	66,069	26%
Total Occupied Units	**207,380**	**100%**	**249,591**	**100%**

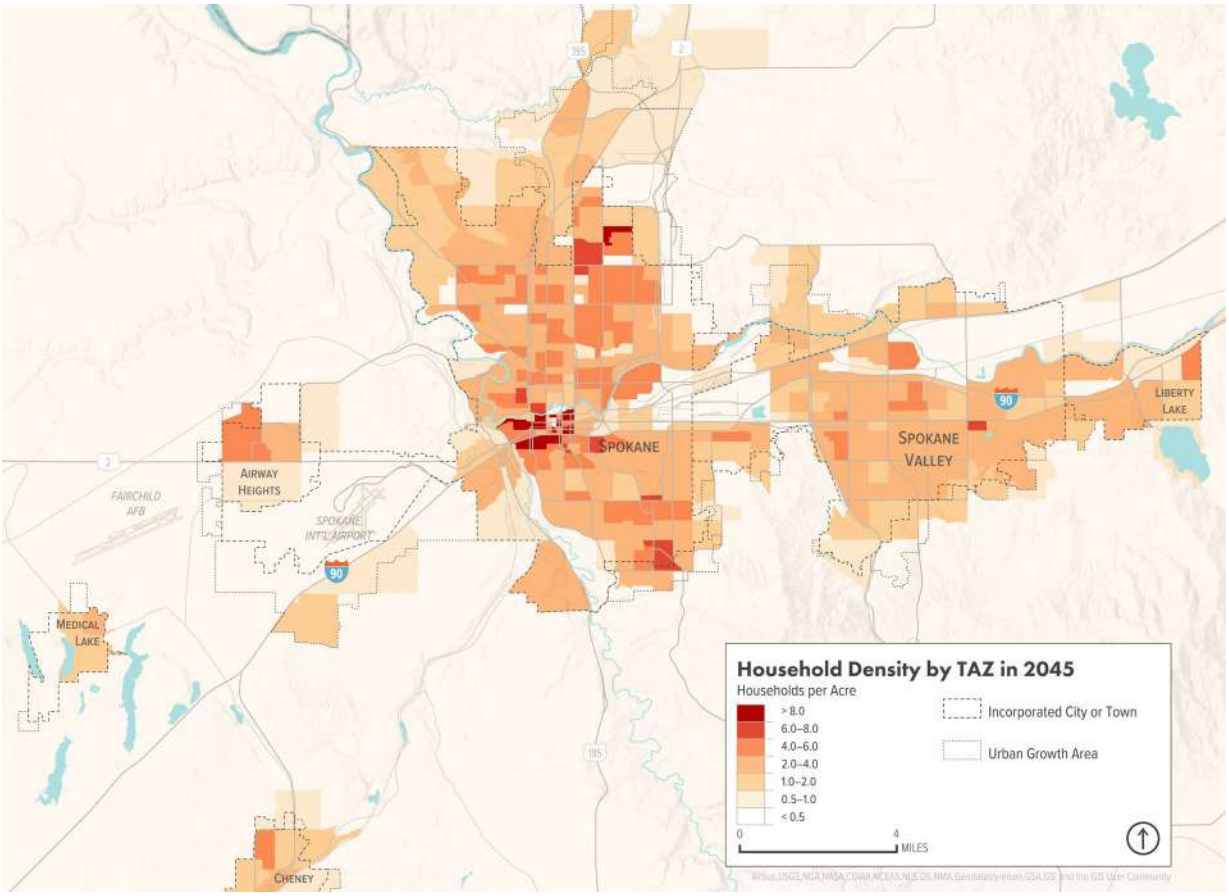


Figure 3.4: Map of Household Density by TAZ in 2045

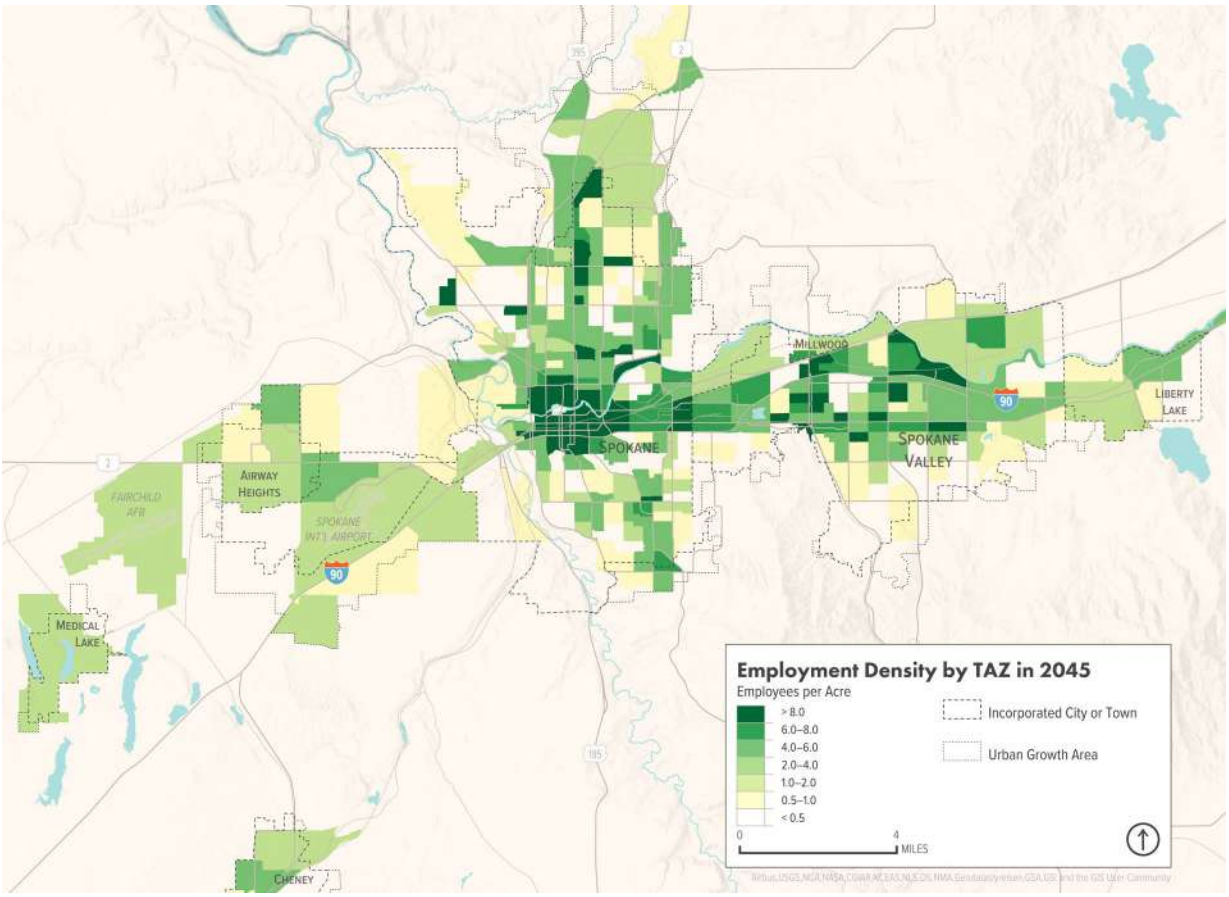


Figure 3.5: Map of Employment Density by TAZ in 2045

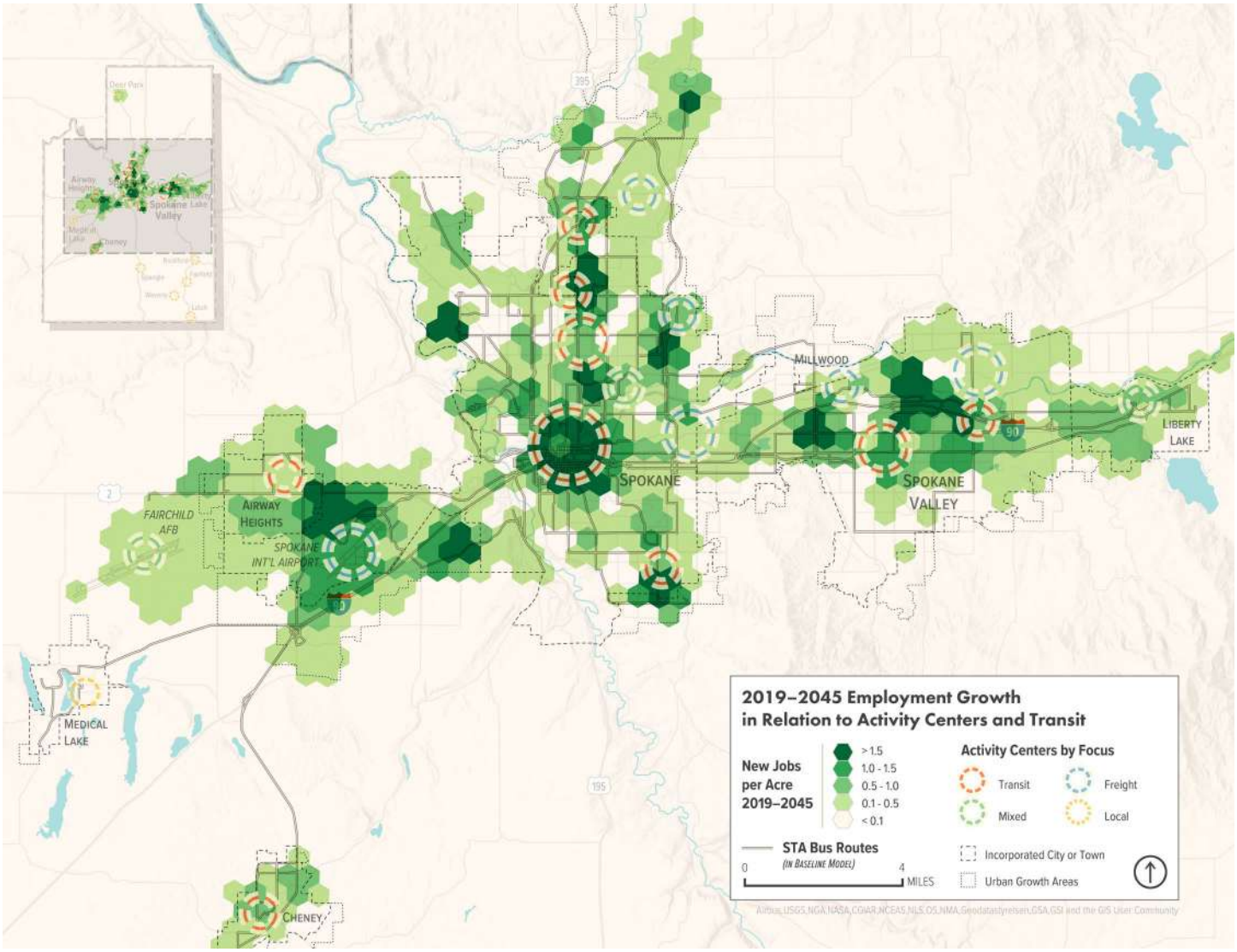


Figure 3.6: Forecasted Employment Growth in Relation to Transit Routes and Activity Centers

Future Employment Activity Centers

Employment activity centers have a major impact on regional and local travel patterns. They are defined as areas of regional significance that contain high concentrations of jobs. Activity centers are categorized as either transit focused, freight focused, or both, based on their employment composition. As described in *Chapter 2: Where We Are*, SRTC has also analyzed concentrations of job types to track where employment activity centers will be in the future.

Businesses located in freight focused activity centers are generally heavily reliant on shipping. These centers are more likely to be located on freight routes and they benefit from freight-related road improvements. Transit focused centers are associated with businesses that are more likely to have employees and customers that use transit and would benefit from related improvements. Future employment centers are forecasted to be largely consistent with existing centers. Figure 3.6 shows the location of employment activity centers in relation to future employment density changes, and how transit and freight routes connect these locations.

Future Land Use Analysis

Future land use forecasts for the year 2045 anticipate increased densities in a few areas, such as Downtown Spokane, along with continued low density development in the region's urban periphery. This forecasted pattern of development is a baseline scenario that was guided by current Spokane County and city comprehensive plans at the time of this plan. The impact of the 2045 land use projections on the regional transportation systems is described in the following section.

Future Transportation Conditions

The forecasted conditions and projected future concerns and needs for the various transportation networks and programs in the region are discussed in more detail in the following sections.

Forecasted Traffic Conditions

The regional travel demand model is used to estimate forecasted increases in traffic and public transportation usage. Figure 3.7 illustrates the forecasted increase in daily person, walk/bike, vehicular and transit passenger trips from 2019 to 2045 for the 2045 Baseline model.

VMT & VHT

Figure 3.8 reports VMT and Vehicle Hours of Travel (VHT) during the PM Peak Hour and for all day, which were derived from SRTC's 2019 Base and 2045 Baseline models. VMT and VHT are planning measures showing the growth of travel by miles and can indicate congestion by revealing how much time vehicles spend on area roadways. These results are used for further comparison with future alternatives. Both Daily and PM Peak VMT and VHT are expected to increase by more than 23 percent.

Both VMT per household and VHT per household are forecasted to increase slightly by 2045, possibly due to the higher levels of congestion in the Baseline alternative (see figure 3.9).

Congestion

As stated in *Chapter 2: Where We Are*, congestion can indicate more people are traveling and more economic growth. It can also change travel behaviors and create a shift in travel modes. On the less appealing side, congestion impacts many elements of a community, including personal travel times, costs to shippers, air quality, and fuel consumption. In other words, congestion costs time, gas and money and impacts the quality of life (particularly health and income) of people who travel regularly in congested conditions.

The average commuter in the Spokane urban area loses $937 per year due to traffic delays (47 hours per year spent in traffic). The estimated annual cost of congestion to truck freight movement in the area is $27 million, which includes the costs related to delay and excess fuel consumed.[2]

From a regional perspective, Spokane has recurring congestion that lasts for a limited period during the AM and PM Peak. Additionally figure 3.8 indicates more potential congestion is expected with the addition of new projects. SRTC's CMP, as mentioned in Chapter 2, identified the top eight corridors with the most congestion.

Results from SRTC's 2045 Baseline travel demand model are used to help identify future recurring congestion on those corridors. Making no other roadway improvements to support future growth is not realistic, however, the Baseline alternative allows for a direct comparison of the impacts of future growth on the current transportation system. Also, the travel demand model is able to predict growth in recurring congestion. It does not help predict non-recurring congestion, such as collisions and weather events.

Figures 3.10 and 3.11 show PM peak hour delay in 2019 Base model compared to the 2045 Baseline model. The increased delay is a result of population and employment growth. Chapter 4 will include a comparison of the increase in PM peak hour delay after a Build alternative of projects has been selected.

Figure 3.7: Daily Person, Vehicle, and Transit Trips forecasted in 2019 Base and 2045 Baseline Scenario

	2019 Base	2045 Baseline	% Increase
Total Person Trips	2,329,000	2,827,100	21%
Total Vehicle Trips	1,846,500	2,259,100	22%
Total Transit Passenger Trips	34,400	40,200	17%
Total Walk/Bike Trips	229,300	259,900	13%

Figure 3.8: Total VMT and VHT in Baseline Scenario

	2019 Base	2045 Baseline	% Increase
PM Peak Hour VMT	821,800	1,015,000	24%
Daily VMT	9,717,500	12,018,700	24%
PM Peak Hour VHT	22,900	29,000	26%
Daily VHT	268,600	340,500	27%

Figure 3.9: VMT and VHT per Household in Baseline Scenario

	2019 Base	2045 Baseline	% Increase
PM Peak Hour VMT	4.0	4.1	3%
Daily VMT	47.0	48.0	3%
PM Peak Hour VHT	0.1	0.1	5%
Daily VHT	1.3	1.4	5%

2 https://mobility.tamu.edu/umr/congestion-data/

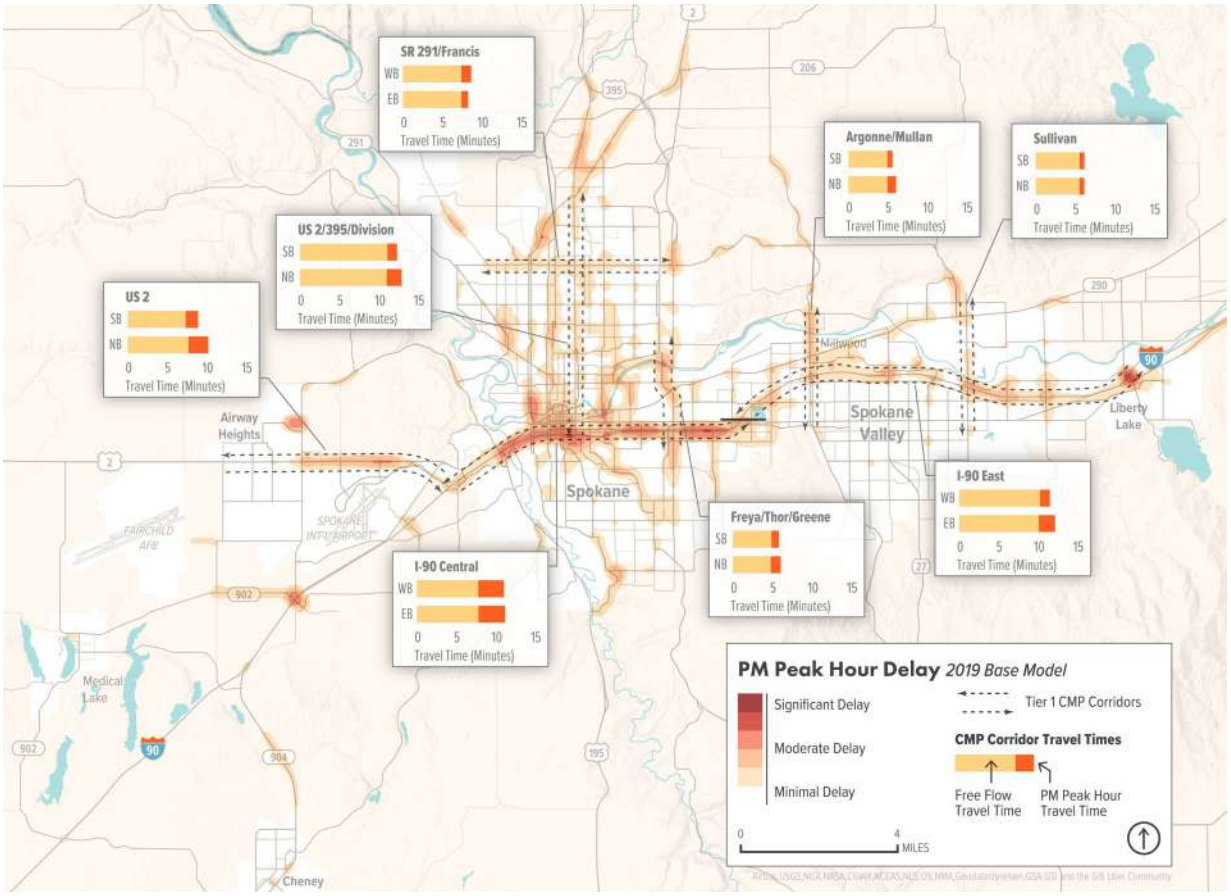


Figure 3.10: PM Peak Hour Delay in 2019 Base Model

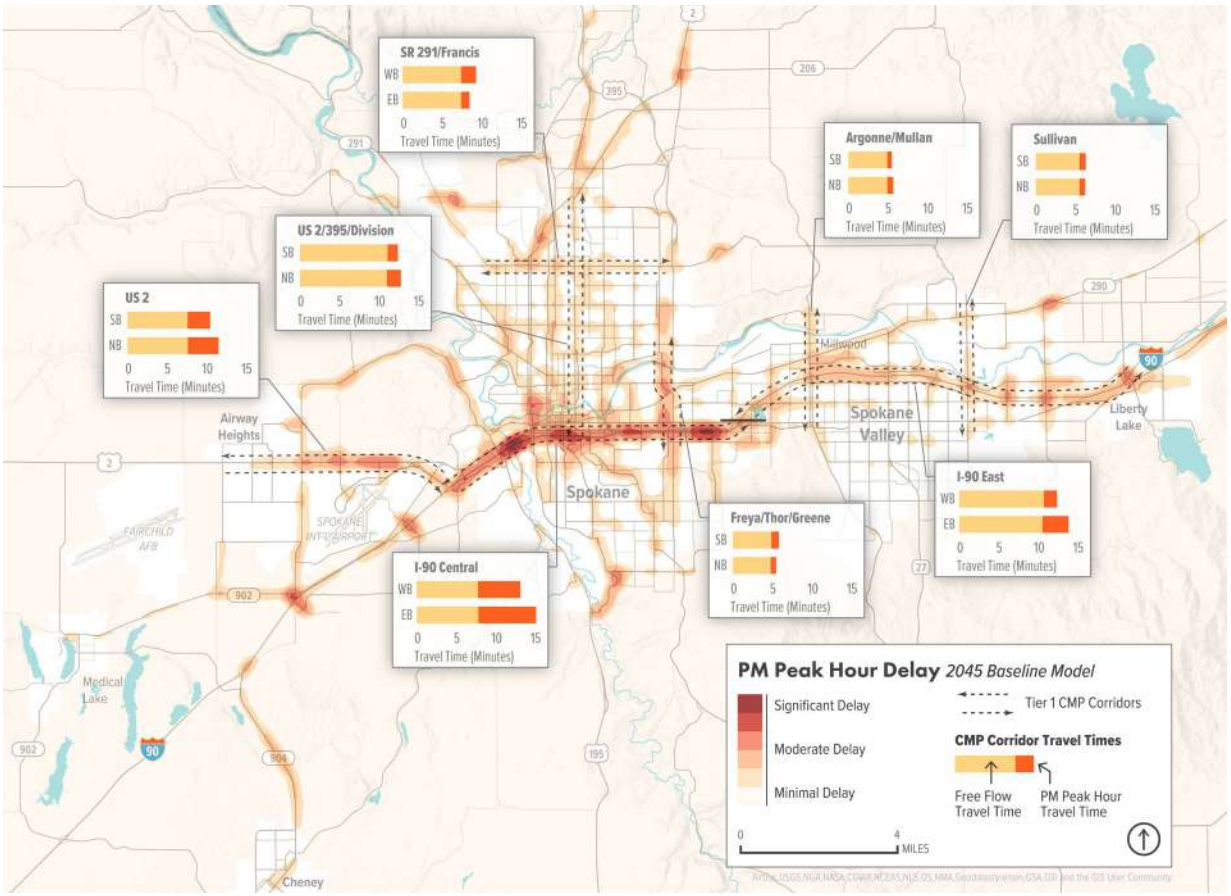


Figure 3.11: PM Peak Hour Delay in 2045 Baseline Model

Performance Measures & Targets

Performance-based planning and programming applies performance management principles to transportation system policy and investment decisions, providing a link between management and long-range decisions about policies and investments that an agency makes in its transportation system. Performance-based planning and programming is a system-level, data-driven process to identify strategies and investments. Long-range planning helps to define key goals and objectives and to analyze and evaluate strategies and scenarios for meeting goals. Connecting performance measures to goals and objectives through target setting provides a basis for understanding and sharing information with stakeholders and the public.

Figure 3.12: WSDOT and SRTC 2021 Safety Targets

	WSDOT		SRTC	
Measure	5-Year Rolling Average 2015–2019	2021 Target	5-Year Rolling Average 2015–2019	2021 Target
Number of Fatalities	542.8	444.1	33.0	27.0
Fatality Rate	0.885	0.724	0.86	0.70
Number of Serious Injuries	2,208.6	1,807.0	137.8	112.7
Serious Injury Rate	3.599	2.944	3.57	2.92
Non-Motorist Fatalities and Serious Injuries	577.0	472.1	47.4	38.8

The USDOT has issued a series of final rules that require transportation system performance targets. Each rule specifies a performance measurement and target setting process for state DOTs and MPOs. SRTC is required to set and report on target attainment for the following performance areas:

- Safety
- Pavement and Bridge Condition
- System Reliability
- System Performance
- Freight
- Congestion Mitigation and Air Quality
- Public Transit Asset Management
- Public Transit Safety

The primary purpose of this process is to increase state and MPO transparency and accountability, as they invest federal taxpayer dollars in transportation infrastructure improvements and services. It is also aimed at ensuring states and MPOs invest money in transportation projects that collectively make progress towards the achievement of defined goals.

Safety

WSDOT annually publishes statewide safety performance targets in the HSIP Annual Report that it transmits to FHWA each year. WSDOT adopts and annual statewide targets for all safety categories as zero fatalities and zero serious injuries—this is often referred to as "Target Zero". In July 2021, WSDOT reaffirmed Target Zero provides the framework and trendline for developing safety performance targets.

On May 9th, 2019 the SRTC Board approved a resolution to plan and program projects so that they contribute to the accomplishment of the statewide performance targets for safety. The new statewide targets followed a five-year rolling average trendline instead of using the state identified "target zero" trendline. Most recently, the SRTC Executive Director reaffirmed SRTC's support of the 2021 statewide targets in a letter submitted to WSDOT on Dec 9, 2020. WSDOT's safety targets, along with SRTC's contribution to achieving the statewide target, are reported in figure 3.12.

While there are no penalties to MPOs, there are penalties to WSDOT if the state has not met or made significant progress toward achieving the performance targets after two years. The state DOT would:

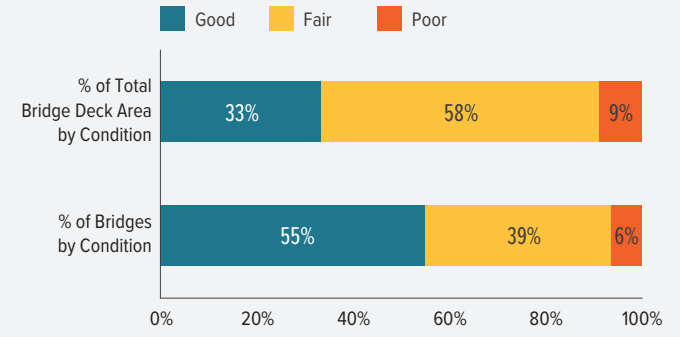
- Dedicate its obligation authority equal to the apportionment for HSIP to the state for the prior year to highway safety improvement projects until the USDOT Secretary determines that the state had made significant progress or met the targets; and
- Annually submit to USDOT a safety implementation plan until the USDOT Secretary determines that the state has made significant progress or met the targets.

Pavement & Bridge Condition

FHWA's Pavement and Bridge Conditions rule to assess the condition and performance of bridges on the NHS was finalized on May 20, 2017.

WSDOT's performance measure data indicates that, of all Washington state bridges on the NHS, 33.9 percent are in good condition and 57.4 percent are in fair condition (see figure 3.13). This leaves 8.7 percent in poor condition. These figures include NHS bridges that are owned by WSDOT, as well as those owned local agencies. The federal performance target is no more than 10 percent of bridges in poor condition. Figure 2.10 indicates the most recent information available for condition, from July 2017.

Figure 3.13: Washington State NHS Bridge Condition



NBI ASCII Files, 2020

Highway System & Freight Performance

The system performance rule was finalized on May 20, 2017. The statewide process to develop congestion targets is not far enough along to report. The highway system performance measures describe how reliable the travel time is through a particular corridor; these measures apply statewide and are not specific to the Spokane region. To guide freight investments and improve freight system performance in Washington, WSDOT developed the 2017 Washington State Freight Investment Plan by engaging various freight partners and stakeholders, including MPOs and RTPOs. The Freight Investment Plan identified freight priority projects and described how those priorities would be invested and funded through FFY 2016–2020 National Highway Freight Program (NHFP) funds. SRTC supports the highway system and freight performance targets developed by WSDOT. These targets were adopted by the MPO board on November 8th, 2018 through resolution 18-05.

Congestion Mitigation & Air Quality Performance

SRTC is an air quality attainment area working under a maintenance plan for past violations to the national ambient air quality standards for particulate matter ten microns or smaller (PM 10) and for Carbon Monoxide (CO). By August of 2024, the region should no longer be a maintenance plan area.

SRTC reports the air quality improvement that come from projects funded by the SRTC CMAQ funding awards. These emission improvements are rolled up into a statewide baseline and future target. SRTC supports the statewide targets developed by WSDOT. These targets were adopted by the MPO board on November 8th, 2018.

Asset Management

Transportation assets are the physical elements, such as pavement, bridges, culverts, signs, and other roadway features that make up the transportation system. Transportation asset management is the process of maintaining and preserving assets by strategically planning and investing state, federal and local funds to obtain the best long-term benefit.

To achieve these goals, WSDOT developed maintenance and preservation practices to establish a consistent approach to identifying transportation needs and deficiencies during all stages of an asset's lifecycle. The goal is to maintain the performance of the facility before it drops below acceptable standards but not so soon that resources are wasted. This required process is called asset management.

WSDOT has the requirement to write the asset management plan for our state, which includes:

- A summary listing of pavement and bridge assets on the NHS, regardless of ownership. A condition description of those assets, with pavement listings separated for interstate and non-interstate
- Asset management objectives and measures
- Performance gap identification
- Life cycle cost analysis used to manage preservation
- Risk management analysis with the results of the periodic evaluations of facilities requiring repair or reconstruction due to emergency events
- A 10-year financial plan
- Investment strategies

Performance Evaluation

To ensure transportation system performance and condition is linked to decision-making, SRTC applies many of the performance related measures discussed in this chapter to the project selection process.

Projected Roadway Operations, Maintenance & Preservation Needs

Currently, there isn't a consistent regional system for monitoring road and bridge conditions, as well as estimating maintenance, operations and preservation expenditures in the Spokane region. However, WSDOT's Economic Analysis Division provides a summary of historical revenues and expenditures by county and jurisdiction. Over the last few years, transportation maintenance expenditures in Spokane County have averaged about $47 million per year.[3] However, this doesn't account for unfunded needs like deferred maintenance due to financial limitations. As of 2021, SRTC member agencies have reported over $700 million in existing maintenance and preservation backlogs.

TSMO

Transportation Systems Management and Operations (TSMO) is an approach that uses regional strategies to improve mobility, safety, reliability, and reduce congestion for all users while ensuring the preservation of the existing transportation systems.

3 WSDOT City Streets and County Roads merged Dataset, 2014–2018.

At the core of the region's TSMO efforts is the SRTMC. The SRTMC is a multi-jurisdictional enterprise made up of six partners that include the City of Spokane, City of Spokane Valley, STA, Spokane County, WSDOT, and SRTC. The SRTMC is where information about the transportation network is collected, processed, and fused with other operational and control data to produce information. This information is used by system operators to monitor operations, implement control strategies, coordinate and initiate response to situations, and relay information to the public.

In 2019 the SRTMC updated its ITS Architecture Plan. The plan establishes objectives which will help meet the plan's goals. Examples of those objectives include:

- Increase use of SRTMC traveler information website in the next 3 years
- Develop SRTMC multi-modal trip planning tool by year 2021
- Decrease amount of time to warn travelers of dangerous conditions or emergency situations
- Increase the percent of the primary arterial corridors in which travel conditions can be detected remotely to 75 percent by 2023
- Reduce the daily hours of recurring congestion on I-90 by 3 percent by year 2023
- Reduce transit wait time at key intersections in the PTBA
- Increase intersection safety for non-vehicular users of the intersection

To help meet these objectives, the ITS Architecture Plan proposes a list of projects which will advance Horizon 2045's TSMO goals.[4] These strategies will be considered in *Chapter 4: How We'll Get There*.

Projected Freight Movement Conditions

As discussed in Chapter 2, the Inland Pacific Hub (IPH) project provided a wealth of information about freight mobility in the region. The IPH Regional Freight Profile report, using base year data from 2007, forecasts freight commodity flows for the mid (2017) and long (2027) terms.[5] The study identified several current issues that could pose a significant challenge for future trade competitiveness, economic development, and transportation planning. One of the biggest issues identified during the IPH study was the large lane imbalance for the region. Lane imbalance is the difference in the amount of goods shipped outbound compared to inbound. This creates increased costs and logistical issues for shippers, which obviously impacts area businesses.

Along these same lines is the issue of through freight traffic. Almost 53 percent of freight by tonnage and 54 percent of freight by value just passes through the area. This through traffic uses capacity on the regional highway and rail transportation system and causes wear and tear to it but generates very little economic benefit to the region. The situation is a natural by-product of being located along national freight corridors such as I-90 and the two Class I rail lines.

The tonnage of inbound freight to Spokane County is forecasted to increase 21 percent by 2027 while outbound is expected to increase more than 9 percent during the same period. The largest forecasted growth in export commodities is machinery, waste/scrap materials, transportation equipment, fabricated metal products, and nonmetallic minerals. The largest inbound growth commodities include electrical equipment, machinery, transportation equipment and rubber/miscellaneous plastics. Secondary traffic, which is primarily warehousing and intermodal container transfers at transload, consolidation and distribution facilities, is expected to experience some of the largest growth. Transport to/from rail ramps is also forecasted for strong growth through 2027, for the reasons described in the following rail subsection.

Truck Freight

The majority of freight in the region is transported by truck. Fifty-four percent of freight by weight is hauled by truck while 79 percent of freight by value is moved by this mode. Nearly 34 percent of the weight and 65 percent of the value of the truck freight just passes through the region. Truck freight tonnage is forecasted to increase 18.5 percent by 2027. Over the midterm, truck freight flows to northern markets are forecasted to increase by 26 percent while inbound movements are expected to grow by 21 percent. The outbound commodities expected to have the most growth in transport via truck are transportation equipment, machinery, farm products, and fabricated metal products. For inbound commodities, the largest growth is forecasted for transportation equipment, petroleum/coal products, chemicals/allied products, and fabricated metal products.

The lane imbalance issue is particularly burdensome for the regional trucking industry. Nearly 32 percent of commodities shipped via truck are outbound compared to only 21 percent inbound. This indicates a potentially high number of trucks that return empty. Several trucking issues were raised as part of the IPH effort and in the Horizon 2045 roundtables. The primary concern was about north-south movement and support for the completion of the North Spokane Corridor. Also, the need to improve or expand bypass routes, such as Bigelow Gulch was consistently heard. Another issue was the need to address regulatory differences across neighboring states and Canada.

4 The plan can be accessed at: https://www.srtc.org/wp-content/uploads/2020/01/SpokaneRegionITSArchitecture2019_Final.pdf.

5 Global Insight 2007 TRANSEARCH™ Data

Rail Freight

The vast majority of rail freight in the region is just passing through the Spokane area—over 81 percent of the tonnage and more than 92 percent of the value of goods on rail is through freight. The future trend for through freight traffic is unclear. However, internal, inbound, and outbound rail freight is forecasted to increase by 1 percent through the year 2027. The forecasted increase in intermodal tonnage is nearly 43 percent by 2027. As stated in the IPH study, this "is a clear indication that freight is switching even more toward truck transport and intermodal trailers and containers."[6]

The highest growth commodities shipped inbound via rail are forecasted to be food/kindred products, transportation equipment, and chemicals/allied products. For outbound rail commodities, growth in fabricated metal products, transportation equipment, and clay, concrete, glass or stone is expected. Coal and other bulk products are also forecasted to increase, perhaps dramatically depending on the status of several proposed export terminal projects in western Washington and Oregon. However, the exact increase in commodity flow, including the number or length of unit trains and the impact to our regional transportation system, is unknown at this time

The potential for increased rail traffic, due to several proposed bulk commodity port projects, is a regional issue SRTC continues to monitor. While the exact number of additional trains and the specific impact to our regional transportation system is yet unknown, SRTC staff continues to communicate with lead agencies and will closely study the information once available.

Air Freight

The commodities transported by air carriers are mostly high value, time-sensitive products that many businesses depend upon. Therefore, strengthening the opportunity to use air cargo was a high priority of many stakeholders that participated in the IPH project. The outbound commodities forecasted to have high growth are machinery, fabricated metal products, and food/kindred products. Import growth is expected in transportation equipment and fabricated metal products. More information on projected increases in air cargo is provided in the following Projected Air Transportation conditions section.

Future Freight Mobility Needs

The primary deficiencies that need to be addressed were derived from the extensive outreach, research and analysis for the IPH project. Some of the identified needs include:

- Address the significant empty backhaul issue due to shipping lane imbalances
- Improve access to northern markets by enhancing the capacity of north-south trucking routes and tapping into existing rail service to Canada
- Address the truck size and weight regulatory differences with neighboring states and Canada

The IPH Transportation Investment and Project Priority Blueprint was developed to outline a recommended scenario of projects that are bundled together for optimal economic benefit. The final Blueprint strategies are discussed in more detail in *Chapter 4: How We'll Get There*.

Passenger Rail

The Spokane area is served by Amtrak with one scheduled trip eastbound and two westbound each day. The Empire Builder train travels between Chicago and Portland, OR or Seattle passing through St. Paul, MN with a departure from Spokane to Seattle at 2:15 AM, Spokane to Portland, OR at 2:45 AM, and an eastbound departure at 1:25 AM. The inconvenience of the late night/early morning passenger train schedules is frequently expressed at public meetings. There is no forecasted increase for passenger rail service in our area.

Projected Air Transportation Conditions

Aviation demand forecasts are used to determine what improvements should be made at the airport facilities and also can help predict traffic and noise impacts. The following information is from SIA's Master Plan, Chapter 2 Aviation Forecasts.

Air Passenger Projections

Passenger activity at SIA is forecasted to 2030. The number of passengers boarding that depart from SIA, or enplanements, is projected to grow from 2 million in 2019 to 3.1 million by 2030. Since January 2020, SIA has announced multiple new routes, including to Atlanta, Chicago, Las Vegas, and several cities in California.

Air Cargo Projections

Growth in air cargo at SIA is also expected to increase. The latest annual cargo forecast for 2030 is for nearly 72,000 tons of air cargo to pass through SIA. According to WSDOT's draft freight plan, air cargo at SIA is forecasted to be more than 76,000 metric tons by 2024 and nearly 98,000 by 2034.[7]

Projected Public Transportation Conditions

The county's population is expected to grow by almost 100,000 by 2045, which will likely mean a need for additional transportation services. SRTC monitors trends in the aging population (see Figure 2.4), persons with disabilities (see Figure 2.5), veterans, young persons, and other sectors of the public that are traditionally known to use public transportation services. The Millennial generation also has a desire for alternatives to vehicle ownership. Together these

6 Regional Freight Profile. Inland Pacific Hub Transportation Study, 2009.

7 http://www.wsdot.wa.gov/freight/

growing populations and changing trends point to a continued future demand for public transportation.

Other traditional factors that could have potential impacts to transit ridership include fuel prices and the success of college and employer bus pass programs. However, with the general market move towards electric/hybrid personal vehicles it is unclear if fuel prices will continue to be a major determining factor impacting transit ridership. Newer unknown factors include technological advances such as ride-hailing and ride-sharing apps.

STA, the largest local provider of public transportation, offers service within the PTBA. Historically, providing efficient transit services to outlying or rural areas has been difficult due to relatively lower housing densities and dispersed activity centers, as well as the lack of local funds to match federal or state monies for operations.

Providing more service to meet this demand will be a challenge in the face of limited resources. However, the importance of planning for strategies to address future needs is critical. STA has updated their comprehensive plan to include policies related to Flexible Services such as dynamic routing and Transportation Network Companies (such as Lyft and Uber) partnerships to maximize transit service throughout the PTBA.

In 2016, voters approved STA Proposition 1 to fund a ten year plan to maintain, improve and expand public transit service as the region grows. New revenue from the local sales tax rate increase (0.1 percent increase effective April 1, 2017, and a second 0.1 percent effective April 1, 2019) will allow STA to increase overall service by 25 percent throughout the region. More than 25 projects will expand to reach new areas, provide more trips along major corridors, improve customer amenities, and reduce overall travel times. The first improvements started in 2017, including:

- Later night service on Saturdays throughout the transit system
- Service on East Indiana between Spokane Valley Mall and Greenacres
- Night and weekend service on North Nevada
- Increased weekend frequency in Airway Heights
- Breaking ground on the West Plains Transit Center near I-90 exit 272
- Submission of an application for a FTA Small Starts grant and evaluation of the planned Central City Line
- Beginning the design process for high frequency routes to Cheney, Sprague and I-90, along the Monroe and Regal corridors

Figure 3.14 illustrates the STA fixed route system for the 2045 Baseline in relation to areas of projected residential growth.

The planning efforts for public transportation have a direct impact on the vitality of the region. For almost 15 years community partners have been working on defining a transit project to help further its economic development goals for Downtown Spokane and the University District. The result is a six-mile, corridor-based BRT line connecting Browne's Addition to Spokane Community College by way of Downtown Spokane and the University District. Construction began in 2021. It will be operated using a modern-style electric battery bus and is projected to serve nearly 900,000 boardings annually. It will feature more frequent trips and convenient elements like pre-board ticketing, level boarding and improved stations with real-time signage, wayfinding and other amenities. It is projected to increase land and improvement values in the corridor by $175 million over 20 years.

The City Line is the first HPTN route planned to be fully implemented. Improvements for the implementation of the Cheney, the Monroe-Regal, Division, Sprague and I-90 HPTN corridors are also included in STA Moving Forward Plan. STA Moving Forward and the HPTN are described in more detail on STA's website.[8]

Combining investment in capital and operations, public transportation projects generate an average of 17,900 jobs per year, per $1 billion investment given the existing mix of operations (72 percent) and capital (28 percent) expenditures. Associated with the 17,900 jobs is roughly $2.9 billion of sales volume, which adds $1.8 billion of Gross Domestic Product (GDP), (including $1.2 billion of worker income). The total federal, state, and local tax revenues generated from this economic activity is roughly $382 million.[9] For details about project costs and revenues, please see the Financial Plan section of Chapter 4.

Future Active Transportation Conditions

The outreach for Horizon 2045 provided public comments about the future active transportation needs of the region. While improvements in active transportation were noted over the past few years, topics heard during focus groups include:

- Snow removal and snow storage needs to be improved
- Pedestrian and bicycle signage, education and enforcement is needed
- Driver awareness of pedestrians needs to be improved
- The area lacks a serious bicycle network

8 https://www.spokanetransit.com/

9 Economic Impact of Public Transportation Investment, 2014 Update. Economic Development Research Group, Inc and Cambridge Systematics, Inc., 2014

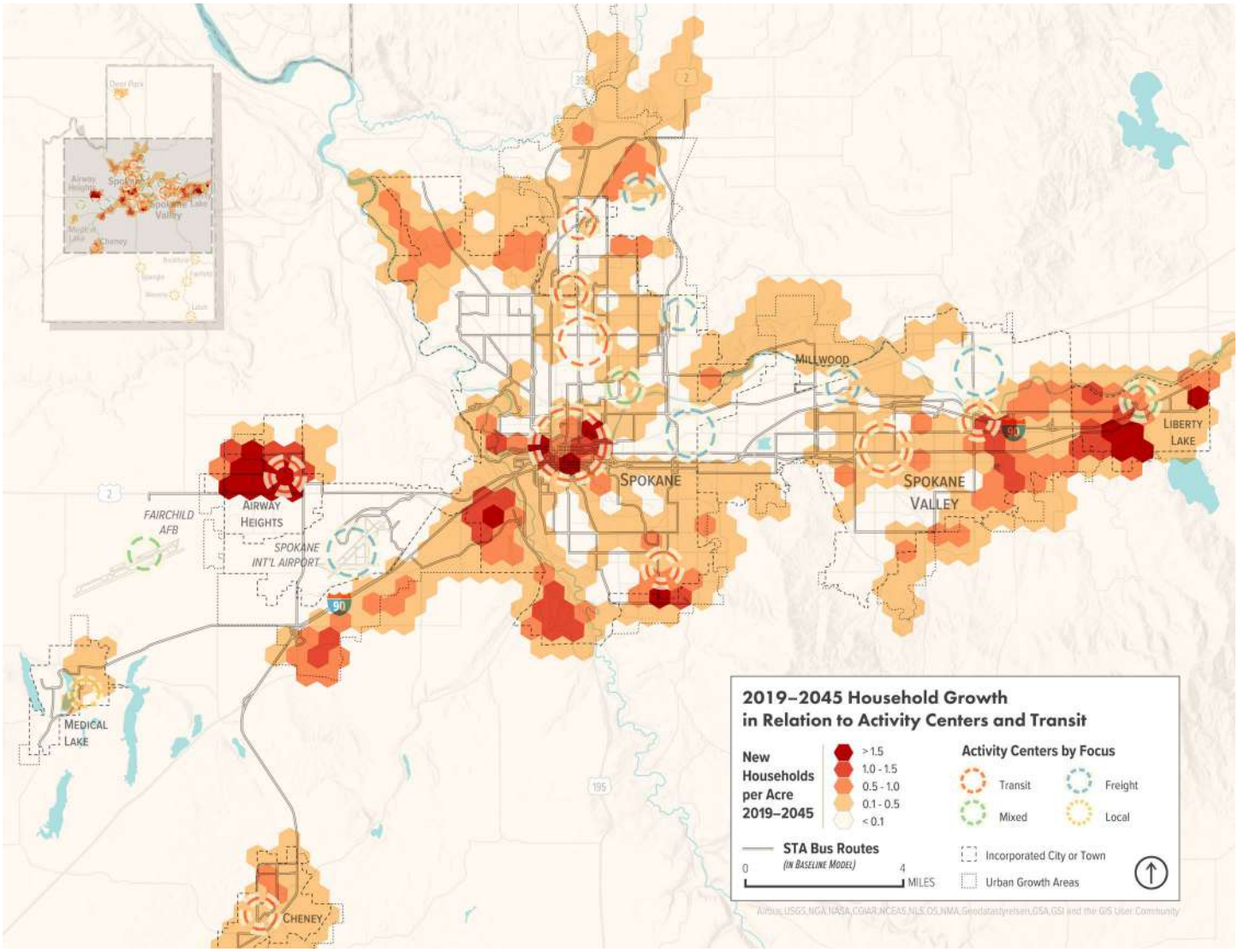


Figure 3.14: Forecasted Housing Growth in Relation to Transit Routes and Activity Centers

- There is a lack of bike network to trail heads
- Trail gaps need to be filled in such as Centennial Trail and Fish Lake Trail
- Sidewalks need improvements such as fixing damaged sidewalks and filling in gaps where none exist
- Roadways need to be swept more often to improve safety for cyclists,
- Implement land use decisions that support non-motorized transportation

Other frequently heard issues include the need for more countdown timers for crosswalks and improving safety, access, and mobility for all users.

The SRTC travel demand model is a tool used to predict the demand for biking and walking in our region. Increasing biking and walking trips will require the need for improved access to comfortable and safe biking and walking infrastructure. The SRTC 2045 Baseline model forecasts nearly a 13 percent increase in walk/bike trips.

One example of community and business interest in improving access is the Transportation and Pedestrian Safety Plan developed by Inland Northwest Lighthouse, a company that helps to expand job opportunities for blind or visually impaired people. Their plan identifies street, transit and other improvements "to enhance the ability of blind and low vision employees of the Inland Northwest Lighthouse to travel smoothly, safely, and efficiently to and from their workplace and within their community."[10]

10 Inland Northwest Lighthouse Transportation & Pedestrian Safety Plan, 2012.

SRTC also coordinates with other similar agencies such as Lilac Services for the Blind, an organization providing independent living training to people with vision loss, regarding accessibility needs. These agencies have identified improvements, including the proper installation of accessible pedestrian signals, the need for snow removal from sidewalks, the benefit of directional curb ramps, and design elements allowing access at roundabouts

Transit is an extension of the pedestrian and bicycle network, allowing users to extend the length of their trips or reduce the burden of physically demanding routes (i.e., riding a bike downhill and then catching a bus for the return uphill trip).

In cooperation with member jurisdictions, SRTC has developed a Regional Bike Route Priority Network. With limited funding at the regional level, investment in the Regional Bike Priority Network will provide the most regionally-significant impact. Used for planning purposes, the Regional Bike Route Priority Network contains almost 700 miles of existing and proposed routes. Gaps have been identified in areas where connections are limited. Routes on this network focused on connecting key community infrastructure with growth areas while maintaining adequate spacing between routes. The existing Regional Bike Network, when broken down by classification, is mostly made up of unmarked shared-use roadway, see figure 3.15.

The focus of the Regional Bike Priority Network will be to improve the comfort, connectivity and safety of the bike route system for all users. Research indicates that dedicated bike infrastructure (improvements beyond unmarked-shared roadways) helps drop injury rates.[11] The Regional Bicycle Priority Network is shown in Chapter 4 (figure 4.3).

Figure 3.15: Regional Bicycle Network Mileage by Classification

Facility Type	Facility Description	Mileage	% of Network
Class I	Shared Use Path	135.6	10.2%
Class II	Bicycle Lane	142.6	10.7%
Class III	Shared Roadway Bike Route	176.5	13.2%
Class IV	Shared Roadway	879.4	65.9%
Total		**1,334.1**	**100.0%**

11 American Journal of Public Health, Vol. 102 No. 12, pages 2336-2343. http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2012.300762

Future of Transportation Programs

Several regional programs have demonstrated their impact on improving traveling conditions, often much more economically than adding new lanes or roads.

TSMO

The benefits from TSMO programs, such as incident management, signal coordination, and access management, save the region approximately 274,000 hours and $604 million in annual congestion costs.[12]

TDM

TDM is a program of projects, programs and services aimed at improving the efficiency of the existing transportation system. TDM strategies include encouraging the use of alternatives to driving alone, such as carpools, vanpools, public transit, biking, and walking. Alternative work-hour programs such as the compressed work week, flextime, and telecommuting are also TDM approaches. Other strategies include parking management tactics such as preferential parking for carpools and variable parking pricing, basing the price on demand at any particular time.[13] State and regional CTR programs implement these types of services and also provide information and education resources to the traveling public.

The Spokane County CTR program began in 1991 to address traffic congestion, air pollution and fuel consumption by focusing on reducing single occupant vehicle trips at major employers. For over two decades Spokane County has administered and assisted seven local jurisdictions that participate in the program. In 2006 legislation was passed that required SRTC, as the RTPO, to create regional goals for the CTR program. SRTC and Spokane County CTR work closely to mirror the goals of local and regional plans while Spokane County functions as the administrator and implementer of the program. Some services CTR has implemented recently include:

- Creating MyCommute.org mobile app
- Expanding CTR Guaranteed Ride Home (GRH) program
- Bike safety classes with League of American Bicyclists-certified trainers
- Providing transit and vanpool subsidies for first-time participants
- Developing a Liberty Lake shuttle program offering service from a Park and Ride to CTR worksites

SRTC also reviews local jurisdiction's CTR plans for regional consistency and to update the SRTC Regional CTR Plan. Local and regional plans must be approved by the CTR board in order to be eligible for state funding.

Safety

With the addition of federal performance measures, safety improvements continue to be a high priority for regional transportation investments. Horizon 2045 emphasizes strategies that reduce vehicular, pedestrian and bicycle collisions. The Safety and Security Guiding Principle and associated policies support improvements that eliminate safety deficiencies, promote education and enforcement programs, and stress that proper maintenance of the transportation system is critical. Evaluation criteria for project programming will be regularly revisited by SRTC to ensure there is an appropriate weight for safety investments.

Security

Future transportation investments will be influenced by security considerations. The incorporation of security into the regional transportation planning process helps to:

- Preserve the reliability and resiliency of the regional transportation systems
- Maintain essential transportation services
- Instill confidence in the capability and resilience of transportation infrastructure
- Support cost-effective transportation security projects
- Involve stakeholders with security responsibilities in the transportation planning process
- Establish security policies, performance measures and targets (see Guiding Principles)
- Develop information systems and other analytical tools to assist in risk assessment and project prioritization
- Inform decision makers about transportation security issues and resource availability[14]

The risks to transportation facilities are evaluated based on the probability of an incident, the vulnerability of the facility and the potential damage costs.[15] As discussed in Chapter 2, Greater Spokane Emergency Management (GSEM) is the coordination agency during major emergencies and has a comprehensive plan for response to events. SRTC will continue to support this effort through project identification, prioritization and selection for funding for critical transportation infrastructure.

12 2012 Urban Mobility Report. Texas A&M Transportation Institute.

13 Transportation Demand Management. Winters, Paul L., Center for Urban Transportation Research.

14 Surface Transportation Security Volume 3: Incorporating Security into the Transportation Planning Process (NCHRP Report 525). AECOM Consult, Inc. and Maier Consulting, Inc., 2005.

15 Security Considerations in Transportation Planning: A White Paper. Plozin, Stephen E.

Future Environmental Conditions

Stewardship and improving quality of life are adopted guiding principles at SRTC that lend themselves to our commitment to environmental considerations. The construction of transportation infrastructure and the operation of vehicles have a direct impact on our natural and built environment. With this in mind, our region must be vigilant in understanding and monitoring environmental issues.

The impacts of vehicle emissions and congestion on Carbon Monoxide (CO) levels are significant in the Spokane region. Operating under CO and PM-10 air quality maintenance plans, SRTC is required to track the growth rate of VMT in the region. That analysis is available in Chapter 4 in the Air Quality Conformity Determination section.

Additionally, both ozone and fine particulate (PM-2.5) are air pollutants of concern in the Spokane region. In October 2015, the ozone standard was lowered from 75 parts per billion (PPB) to 70. The most recent 3-year average (2018-2020) for ozone in Spokane was 61 PPB. The PM-2.5 standard is 35 µg/m3, with the Region's most recent 3-year average (2018-2020) at 35 µg/m3.

On April 29, 2014 Governor Inslee signed Executive Order 14-04: Washington Carbon Pollution Reduction and Clean Energy Action. A portion of the executive order focuses on clean transportation since the greatest percentage of carbon emissions comes from cars, trucks and other transportation-related sources. WSDOT is leading an effort with other agencies and governments to promote strategies, policies and investments that support lower-emission multi-modal options, clean fuels and electrification.

SRTC has policies in Horizon 2045 that will maximize the use of existing infrastructure and improve the availability and safety of lower impact and less expensive alternative modes of transportation. These policies also support environmental conditions that relate to transportation equity issues. The region must ensure that environmental impacts are minimized and do not disproportionately impact areas of populations.

Future projections of other environmental conditions are currently not available for our region. As new or revised regulations and methods to monitor conditions emerge, the potential for increased evaluation may become available. For example, water quality impacts from transportation have become an area of greater emphasis, as regulations for cleaning of catch basins and the treatment of runoff from road facilities affect more jurisdictions.

Quality of Life

Although many of the indicators used to measure quality of life or livability cannot be forecasted for the future, SRTC will continue to monitor air pollutant levels, transit accessibility, mode share, and the household measures mentioned in Chapter 2. SRTC will partner with the Spokane Regional Health District, Spokane Clean Air Agency and other entities in developing transportation-related strategies to preserve and enhance the region's quality of life.

As discussed in the Projected Traffic Conditions section, congestion has an impact on a region's quality of life. However, there is a perception that all congestion is bad. This is not necessarily the case in all circumstances for all communities. Some congestion is a sign of economically healthy and vibrant communities. Congestion can mean a lot of people doing a lot of things, which translates to economic activity.

Economic Vitality

Highways, roads, bridges and other transportation investments make up nearly 34 percent of the national, state, and local (non-military) assets. "State and local governments are largely responsible for maintaining the stock of non-defense assets in the U.S., including critical economic infrastructure."[16] It is estimated that, at a minimum, an additional amount of $26.4 billion is needed annually to maintain existing national transportation systems and accommodate future demand. What this translates to at the local level is the potential for job generation and economic impact from manufacturing, construction, operations, maintenance and preservation activities. Transportation projects have some of the highest potential for creating jobs, sustaining employment, generating economic activity and therefore enhancing economic vitality.

Public transportation projects generate about 22 jobs per $1 million investment, while the repair of bridges and roads creates more than 20 and the building of new roads and bridges generates approximately 14.5 jobs for the same level of investment. In contrast, coal, oil/gas, and nuclear industries generate between four and seven jobs per $1 million in investment. Transportation projects also have a huge impact on import-export balance. Road, bridge, rail, and transit projects use nearly 90 percent domestically (often locally) produced materials versus energy projects, which range from 13 percent to 30 percent use of imported supplies. This translates to a potentially significant increase in job generation in the manufacturing sector alone.[17]

The Inland Pacific Hub project conducted an economic analysis of potential benefits from a scenario of freight-related transportation investments. The results of the study, collectively called the Transportation Investment and Project Priority Blueprint, demonstrated a significant economic im-

16 How Infrastructure Investments Support the U.S. Economy: Employment, Productivity and Growth. Political Economy Research Institute, 2009.

17 How Infrastructure Investments Support the U.S. Economy: Employment, Productivity and Growth. Political Economy Research Institute, 2009.

pact from the proposed projects, including the generation of more than 46,000 jobs and approximately $3.4 billion in regional value-added benefits. The cumulative economic impact, including those to the freight sector in terms of reliability and productivity, are estimated to result in benefits that would exceed total costs by $1.7 billion.

The Spokane Regional Comprehensive Economic Development Strategy stated that "Spokane County is a critical access point for freight, flight and rail systems."[18] The Strategy recognizes that continued investment in freight, private vehicular and public transportation is critical to ensuring regional economic vitality. "Economic growth and development requires large financial investment in both public and private facilities, be they public infrastructure like transportation, education opportunity (like quality public schools along with graduate professional degree programs), or private capital for factory, office, and residential housing."

Employment activity centers have a significant impact on regional and local travel patterns. Employment centers are defined as concentrations of jobs by type - transit focused, freight focused, or both. SRTC analyzed concentrations of job types in to track where employment activity centers will be in the future. See figure 3.6 in the Future Employment Activity Centers section of this chapter for the forecasted 2045 transit, freight and mixed focus employment centers.

18 Comprehensive Economic Development Strategy for the Spokane Region. Greater Spokane Incorporated. FY2011-2012.

Connected & Autonomous Transportation

SRTC continues to monitor trends, research, and planning efforts related to connected and autonomous vehicles at the state and national level. SRTC participates on Autonomous Vehicle (AV) subcommittees for "Infrastructure and Systems" and "Health and Equity" led by the WSDOT.

Electrification of Transportation Systems

Through the Spokane Regional Transportation Electrification project, SRTC recognizes that further regional planning, coordination and collaboration will be necessary. Planning for the electrification of transportation systems is one of the ways SRTC can respond to the current federal government administration's new emphasis areas of climate change, sustainability, and equity.

Electrification of Transit

STA has invested in more than ten battery electric buses in 2020 and 2021. There are ongoing efforts to plan and fund bus charging at various transit stops throughout the region.

Electrification of Vehicles

SRTC was awarded a grant of $2.5 million for electric vehicle supply equipment (EVSE) from the Washington State Department of Commerce through the US Department of Energy's Clean Energy Fund III. Matching funds were provided by Avista and STA.

Scenario Planning

Scenario planning provides a framework for stakeholders to make decisions that help achieve a shared vision for the future by analyzing various factors that can impact the way in which a region is developing.

Scenario planning can be utilized to contemplate how changes in transportation, land use, demographics, or other factors such as climate change could affect connectivity, accessibility, mobility, and resiliency across the region.

As SRTC advances its data analytics capabilities, it will continue to explore how the above-mentioned factors could impact the planning area. This exploratory analysis will better prepare decision makers to invest in facilities that can adequately serve users of the future.

Summary of Future Conditions & Needs

Assuming the 2045 Baseline alternative described throughout this chapter, the impacts to traffic conditions could require reactive, rather than proactive, measures be taken to address them. Absent considerable investments in transportation improvements and programs, personal travel and the mobility of goods and services will be hindered. This is particularly true of major corridors, such as I-90, US 2, and US 395.

Affordable and convenient year-round public transit, walking, and biking options for our community are needed. Shifting trips to these modes can offset increases in travel time and delay. Moreover, SRTC values supporting these modes, often relied on by traditionally underserved users. Tracking and monitoring alternative modes and congestion will require new data and analytical methods.

Our transportation system is aging. New rules require reporting and monitoring safety, congestion, pavement, and bridge performance. Moving forward, keeping our system's assets in safe and good condition is a priority. Based on anticipated future conditions, figure 3.16 lists identified needs and the focus areas they impact.

Strategies to address these transportation issues are described in the following *Chapter 4: How We'll Get There*.

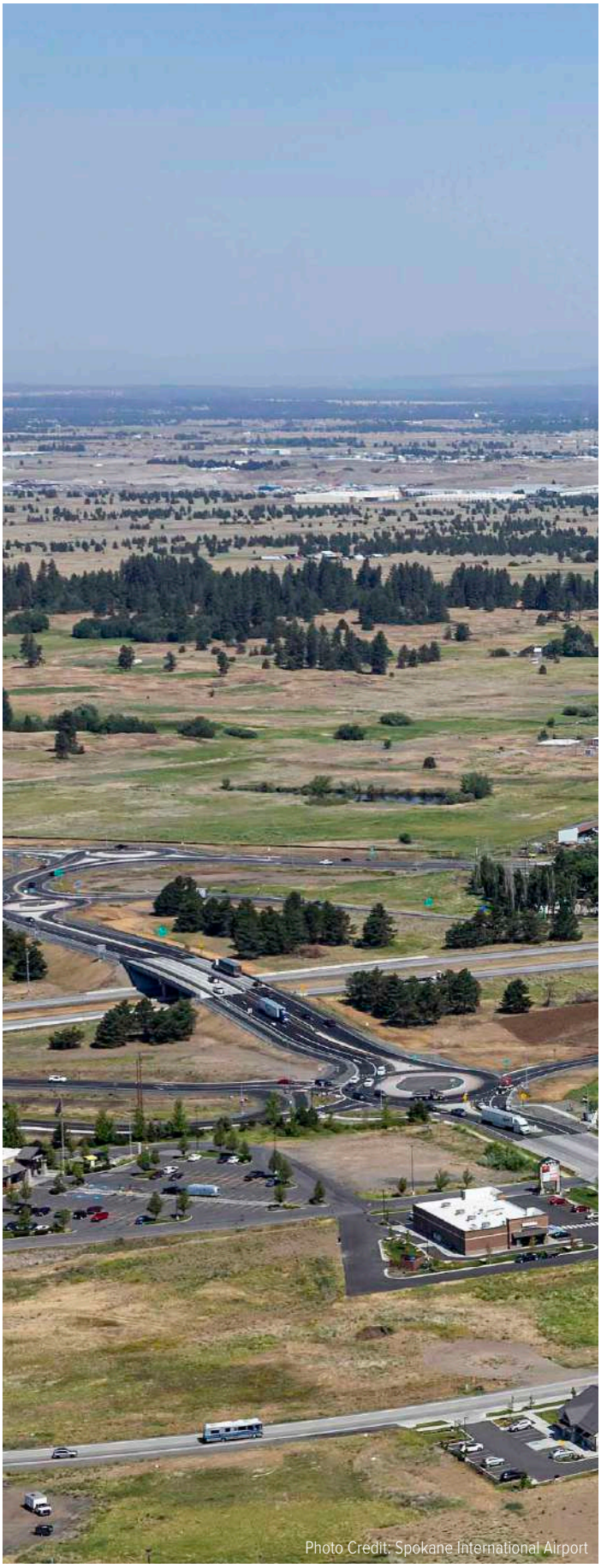


Photo Credit: Spokane International Airport

Figure 3.16: Summary of Future Transportation Needs

FOCUS AREAS

Financial	Public Transportation	Safety	Air Operations	Quality of Life
Condition of Assetts	Regional Coordination	Freight	Active Transportation	Operations, Maintenance & Preservation

FUTURE TRANSPORTATION NEEDS	Financial	Condition of Assetts	Public Transportation	Regional Coordination	Safety	Freight	Air Operations	Active Transportation	Quality of Life	Operations, Maintenance & Preservation
Sufficient transportation funding to manage transportation assets is the most critical issue for the Spokane region, especially when considering the significant costs for roads and bridges. Also, public transportation planning efforts are making progress in addressing increased future demand; however additional funding is critical to ensure implementation.	●	●	●	●						
Absent future improvements, the Spokane region will experience increased congestion in certain congestion management corridors. Mobility improvements should be considered in those corridors or parallel corridors, particularly where redundant network is absent. Tracking and monitoring of congestion will need to be improved.	●	●	●	●		●	●			
Public transportation service and other information, technology, design and Travel Demand Management and operations programs (Travel Systems Management) have obvious benefits to the traveling public and freight shippers. This includes programs like CTR and TSMO.	●		●	●	●			●	●	●
More coordination is required to plan for larger regional needs, particularly when those needs cross jurisdictional boundaries and impact neighboring communities.	●			●						
Additional monitoring, reporting, and analysis of serious and fatal collisions is necessary to meet federal performance measures and to reduce such collisions and improve the safety of our roadways.	●				●				●	●
Freight movement forecasts point to the need for infrastructure and logistics improvements in order to take advantage of future economic opportunities.	●					●	●			
Demographic and land use changes will increase pressure on the regional transportation networks and likely increase use of alternative modes. A systematic process should be put in place to monitoring bicycle & pedestrian use and to assess the results of new projects and programs.								●	●	
Equity in transportation planning is a focus as it relates to addressing the transportation needs of historically underserved communities. Improving snow removal and/or storage to ensure accessibility for all users year-round is critical for access to transportation and personal mobility. SRTC and the SRHD should coordinate closely acknowledging transportation as a social determinant of health.			●					●	●	
There is an increased need for education and enforcement programs to understand and be able to communicate the benefits of sustainable transportation and land use. Also to improve data collection, safety, encourage best practices and innovative to ensure a high quality of life in the region.					●				●	
Advancement in technology such as the use of ride-hailing apps, electric vehicles and self-driving vehicles should be monitored as it could impact transportation mode shift, safety, design needs, funding and operations.				●	●				●	●

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Photo Credit: Spokane International Airport

Chapter 4
HOW WE'LL GET THERE

Our Options

Strategies to maintain and enhance the regional transportation system in support of our economic vitality and quality of life.

Several common transportation issues or themes have been described throughout Horizon 2045. There are significant demographic shifts occurring in the region. Improved economic conditions and technological advances have influenced personal travel and the shipping of goods. Funding for operations, maintenance and preservation of the regional transportation system has not been sufficient to keep up with needed repairs and improvements. To summarize, the future of transportation in Spokane County will be significantly impacted by changes in travel behavior and available financial resources may not be able to keep pace with growing demand.

Future Trends & Other Considerations

Many of the transportation-related indicators referenced in Horizon 2045, including the following areas, point to dramatic changes in the way people will get around.

Lack of Adequate Funding

The region faces an increasing backlog of maintenance and preservation costs. Funding levels have not been sufficient to maintain regional roads and bridges at a state of good repair. Additional local revenue options will be required to avoid future deferred maintenance. Likewise, some public transit providers in the area are also unable to fund needed services due to the lack of local funds required to match federal or state grant opportunities.

State of Bridges

Currently, there is a significant need for bridge improvements in Spokane County. It is anticipated that the number will grow as the region's bridges age. Many of these bridges are approaching or have exceeded their design life and several are located on vital freight routes.

Technological Challenges & Opportunities

The region's current estimates for travel demand reflect travel behavior based on technology that exists today. Emerging trends such as automated, connected, electric, and shared (ACES) vehicles will influence travel behavior and the effects are difficult to predict. In addition to travel behavior, electrification will impact gas tax revenues at the state and national level. SRTC must continue to research and monitor the impacts of these emerging issues.

Growth

Concentrated growth has the potential to significantly impact demand on the regional transportation network. Forecasting growth can be especially challenging, given the various factors that influence location choice. The long-term forecast developed by SRTC is based on OFM's GMA medium series population projections.[1] The region's historical growth trends, derived from OFM's annual population estimates, were also considered in the forecast's development.[2] However, the 2020 Census figures showed somewhat higher population growth than OFM's estimates anticipated. SRTC will closely monitor growth data to ensure subsequent forecasts are accurately reflecting regional growth patterns.

With growth comes the challenges related to housing, including availability, affordability, and accessibility. In response to these challenges, the state legislature passed HB1220, requiring jurisdictions to revise the housing element of their comprehensive plans to plan for and accommodate housing affordable to all economic segments. In response to this effort, SRTC will need to analyze how housing policy revisions might affect the transportation network. This may include looking at volume-to-capacity ratios, level of service on principal arterials, and travel time on the regional network. Additional studies may be needed to assess future growth scenarios.

Increase in Elderly Population

The forecasted increase in the senior population of Spokane County could have a major effect on the future of transportation services; an increasing number of seniors will drive less and yet will still need transportation to work, shopping, medical appointments, social activities, cultural events, and recreational opportunities.

Changes in Household Composition

In the past several decades, there has been a significant trend towards more single-person households (who are more likely to use transit or bike or walk for transportation). Although the proportion of single-person households in Spokane County has remained stable since 2010, the national share of single person households has continued to increase. In turn, families with children will represent a smaller proportion of households. These changes in our region's demographics and travel behavior have implications to planning for transportation infrastructure and the land use make-up of our community.

1 At the time of Horizon 2045's development, the most recent GMA population projections were those relased in 2017. They can be found at: https://ofm.wa.gov/washington-data-research/population-demographics/population-forecasts-and-projections/growth-management-act-county-projections/growth-management-act-population-projections-counties-2010-2040-0.

2 OFM's April 1 official population estimates can be found at: https://ofm.wa.gov/washington-data-research/population-demographics/population-estimates.

Decrease in Household & per Capita VMT

As illustrated in Chapter 3, daily and peak hour VMT by household is forecasted to decrease in Spokane County. Young people are looking to live in places where cars are not required. They are driving less for many reasons—economic factors, new licensing laws, improvements in technology that support alternative transportation, and changes in Generation Y's values and preferences—all factors that are likely to have an impact for years to come.[3]

Equity

The SRTC planning area includes a higher proportion of low-income residents than the state of Washington or the nation as a whole. Previous research has highlighted that low-income and minority communities are among the first and most affected by impacts to the transportation system. One concern is modal conflict, as lower income and minority commuters are more likely to rely on alternative modes of transportation such as walking or bicycling to work. Freight corridors within SRTC's planning area overlap substantially with some of the County's most potentially disadvantaged census geographies. Moving forward, SRTC needs to take additional steps to prevent disproportionate project impacts to historically excluded and potentially disadvantaged communities. This work begins with a review of the agency's equity planning framework. As part of this analysis, SRTC needs to continue to research project impacts so that the agency is better equipped to identify project-specific benefits and harms to individual communities.

Climate Change

Spokane County is experiencing high temperatures for an extended period and more frequent heat advisories. Wildfires and wildfire smoke impact the region more frequently in the summer and extend into early fall. The ecosystem shift also has impacts to the resiliency of our transportation system. Our transportation system needs to be resilient to the heat and have adequate redundancy in the case of an event that some of the network becomes unusable. Additionally, we must evaluate the carbon emission contribution from our transportation network and continue to monitor and evaluate solutions to reduce vehicle miles of travel per capita, vehicle hours of travel per capita and carbon emission that contribute to climate change impacts.

3 Transportation and the New Generation. Why Young People Are Driving Less and What It Means for Transportation Policy. Benjamin Davis and Tony Dutzik, Frontier Group; Phineas Baxandall, U.S. PIRG Education Fund, 2012.

Regional Transportation Challenges & Opportunities

SRTC has analyzed the current regional transportation system and looked at projected future needs. Certain transportation corridors and areas throughout the region have deficiencies including safety and mobility challenges. Also, opportunities to invest in specific transportation and freight corridors in support of regional economic vitality and quality of life were examined. This chapter identifies specific strategies to capitalize on these opportunities and address transportation-related challenges.

Recent & In Progress Studies

Several studies identifying additional priorities are either currently in progress, or have recently been completed. These are summarized in this section. Their locations are shown in figure 4.1.

Rail-Road Conflicts

The Washington State Legislature directed the Joint Transportation Committee to conduct an evaluation of the impacts of prominent road-rail conflicts and develop a corridor-based prioritization process for addressing the impacts on a statewide level. The road-rail conflicts identified in the Spokane area need further evaluation for potential solutions (see figure 4.2).

US 195/I-90 Study

The US 195/I-90 Study was a regional effort to develop solutions to safety, mobility, access, and infrastructure challenges in the study area. The study area is shown in figure 4.1. The work, led by SRTC, was a collaborative effort with WSDOT, the City of Spokane, Spokane County, and STA. The study identified recommendations that, when implemented, will:

- Create a more resilient and connected network for local trips in the area between Hatch Road and I-90
- Improve safety for all and preserve capacity on US 195 for regional trips
- Extend the life of the US 195/I-90 interchange
- Provide more connections for walking, biking, and using public transportation to travel within the study area and connect to key destinations in the Spokane region

West Plains Subarea Transportation Management Plan

The West Plains Subarea Transportation Management Plan, Phase 1 US 2 Vicinity Study is a transportation and market land use study of US 2 in and around the West Plains.[4] A 2013 white paper developed by the University of Washington identified the West Plains as a rapidly growing area in Washington state. The paper specifically analyzed land development along state transportation corridors and consid-

4 The West Plains Subarea Transportation Management Plan can be accessed at: www.connectwestplains.com.

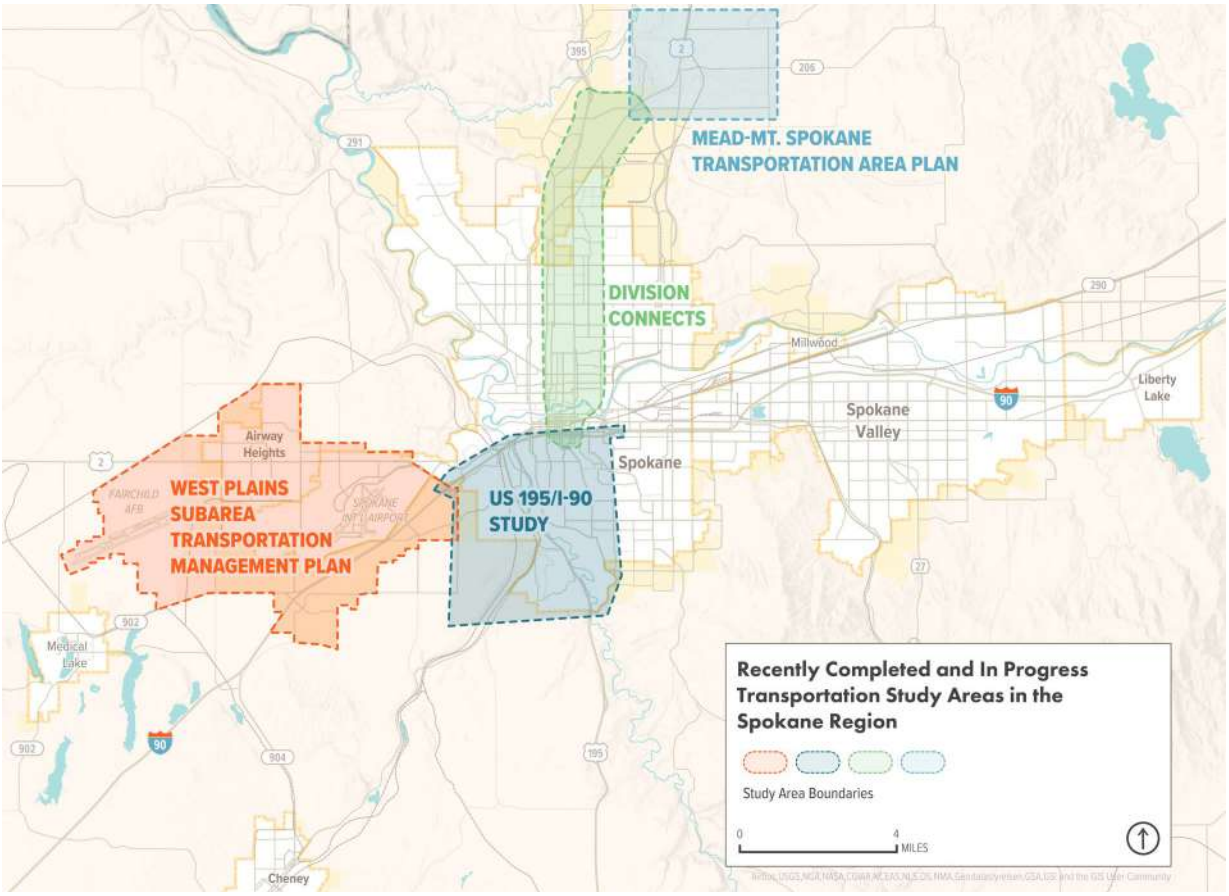


Figure 4.1: Recent and In Progress Study Areas

ered impacts such as land utilization, growth trends, and utility infrastructure. The WSDOT led analysis is a "living study" focused primarily on mobility and safety needs. It also analyzes how market factors could impact land use in the study area (see figure 4.1).

The study used a Practical Solutions Lab to develop a prioritized list of strategies, which were identified by its technical advisory team and subject matter experts. This includes strategies for safety, freight, environmental, equity, active transportation, public transportation, TSMO, traffic operations, and land use. Another study outcome was the US 2 Circulation Plan, which incorporates the City of Airway Heights revitalization planning efforts. The parallel alternative routes of 6th/10th/12th and 18th/21st Avenues, in addition to the emerging strategies from the study, will help mitigate the impacts of additional development and associated traffic.

S3R3 Solutions, in partnership with the City of Airway Heights and the City of Spokane, recently completed a corridor improvement study entitled "West Plains Connection." The project intends to help reduce congestion along US 2, maintain traveler safety, improve Fairchild Air Force Base recall times, and support the interest of two tribal nations by providing local travelers network diversity options. The goal of the project is to enhance travel for pedestrians, bicyclists, and those wishing to access STA transit.

Mead-Mt. Spokane Transportation Area Plan

The Mead-Mt. Spokane Transportation Area Plan provides a long-range vision for the future transportation network in this area of unincorporated Spokane County (see figure 4.1). The plan was led by Spokane County in a collaborative effort with WSDOT. Its purpose is to guide investment in transportation infrastructure, planning, and policies to improve traffic safety, traffic operations, street design, street connectivity, driveway access, bike and pedestrian facilities, and transit service in anticipation of future growth. The primary outcomes of this plan include a prioritized list of capital improvement projects, recommended policies and future studies aimed at improving safety, connectivity, access, and multimodal mobility for all users of the transportation system through the year 2040. The plan serves as a resource to Spokane County, local agencies and jurisdictions, the public, and the development community on how the transportation network will improve and change over time.

Division Connects

Division Connects is a transportation and land use study about Division Street and what it means to Spokane and Spokane County. The first phase of the study has been completed, and a preferred alternative for bus transit has been identified and is shown in Chapter 2 (figure 2.36). The second phase of the study will refine transportation options, particularly for those walking and rolling through the corridor. The second phase will also focus on land use opportunities.

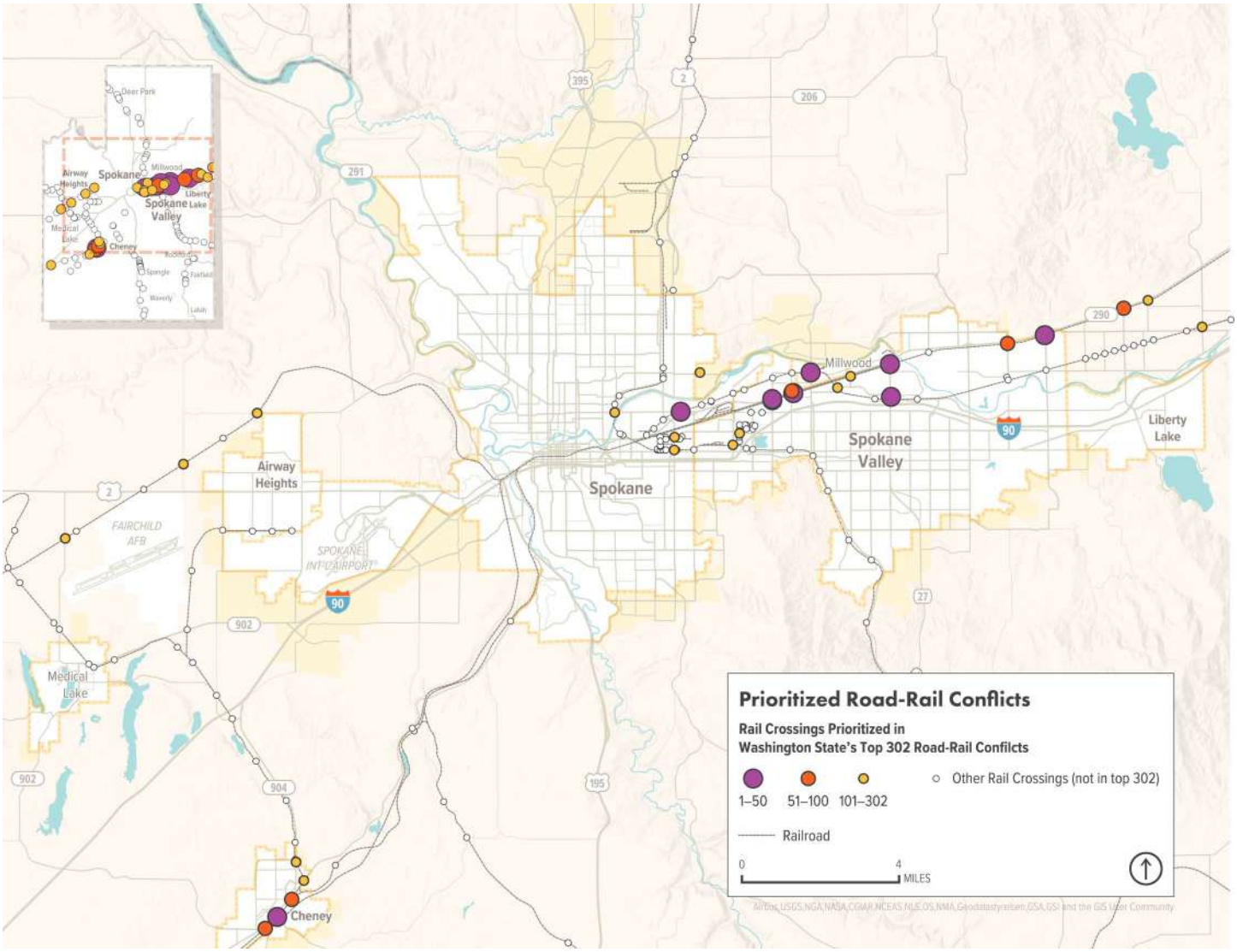


Figure 4.2: Prioritized Road-Rail Crossings

Priority Networks

SRTC maintains an inventory of regional priority networks for vehicular, freight, transit, and bicycle facilities. Each of these is described in this section.

Vehicular Priority Network

The Horizon 2045 vehicular priority network is the NHS in Spokane County. All principal arterials, highways and the interstate within Spokane County comprise the vehicular priority network (see figure 4.3).

Freight Priority Network

The Horizon 2045 freight priority network includes all T-1/T-2 FGTS routes in the region, including truck routes identified as high priorities by the Inland Pacific Hub study. It also includes the region's Truck Freight Economic Corridors, major rail lines, and air facilities in the region (see figure. 4.4).

Bicycle Priority Network

The bicycle priority network identifies existing and future bicycle facilities, including separated multi-use paths like the Centennial Trail as well as bike lanes, shared lanes and other bike facilities (see figure 4.5).

Transit Priority Network

The public transportation priority network reflects STA's Moving Forward Spokane long range planning effort. It identifies future corridors for High Performance Transit (HPT) network investments (see figure 4.6).

Pedestrian Network

While not current included as a separate priority network, the region's pedestrian network is extensive, especially in the urbanized area. Identifying priorities at a regional scale includes filling gaps, compliance with ADA and using best practices as well as adhering to the SRTC Safe and Complete Streets Policy and Checklist.

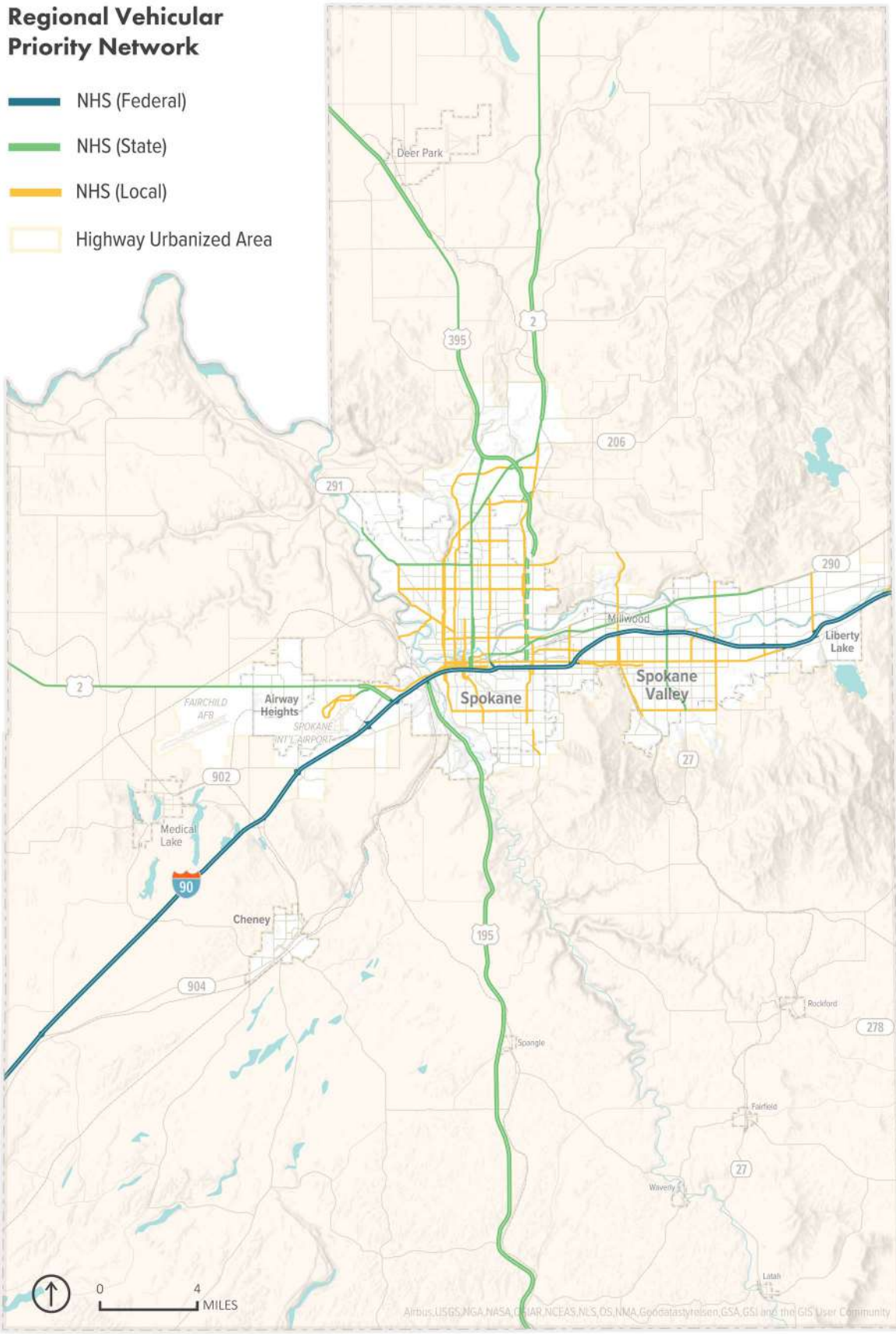


Figure 4.3: Vehicular Priority Network

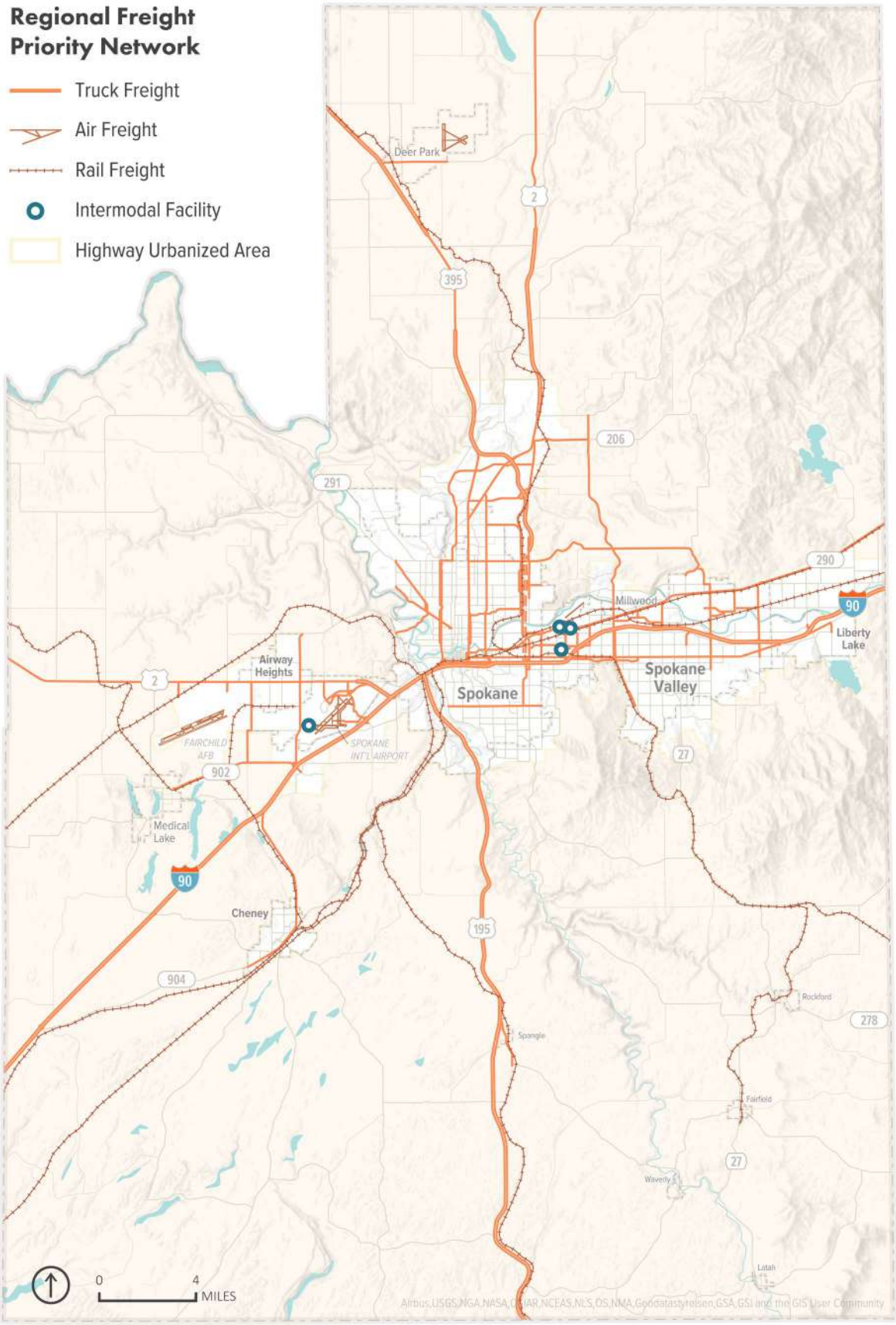


Figure 4.4: Freight Priority Network

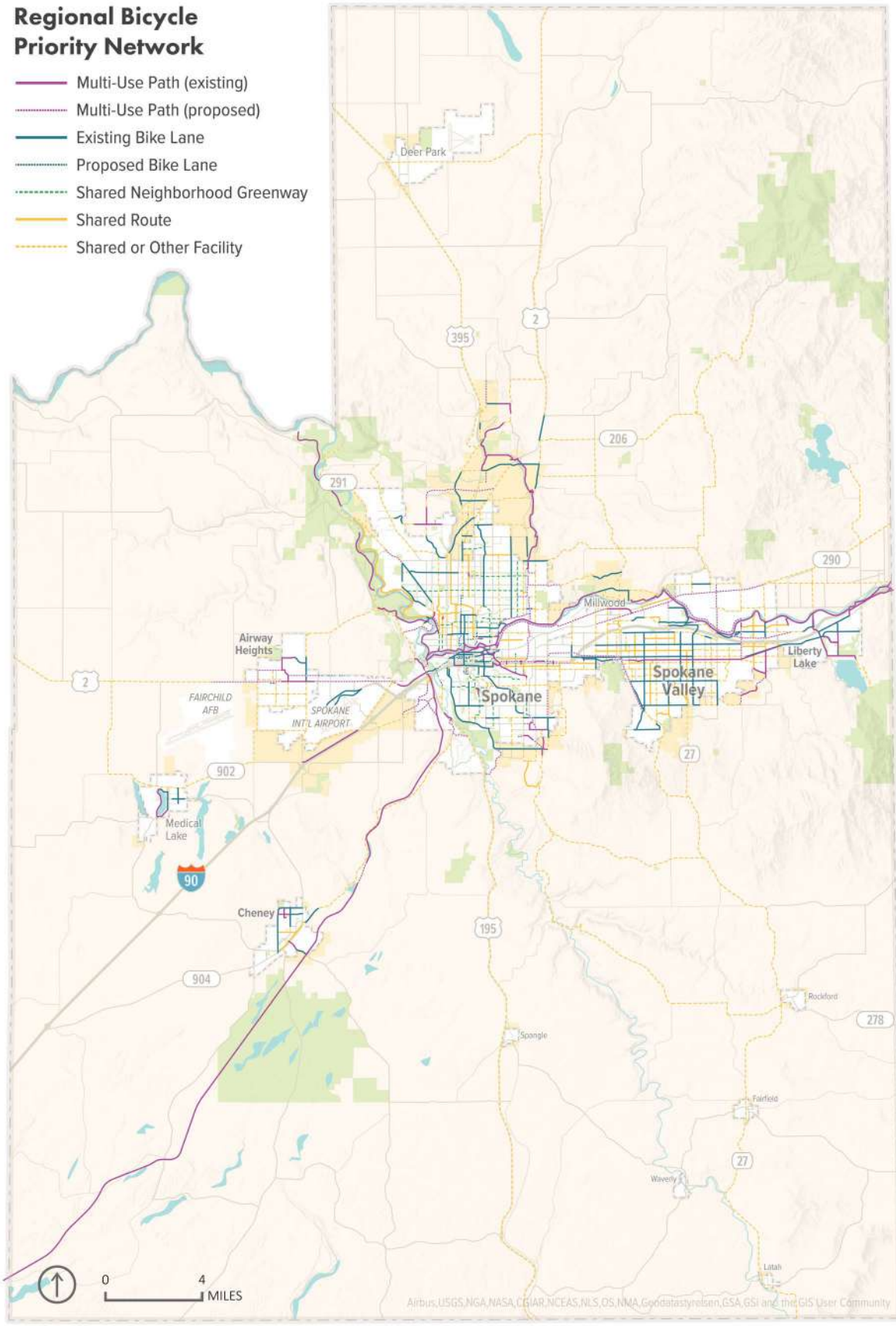


Figure 4.5: Bicycle Priority Network

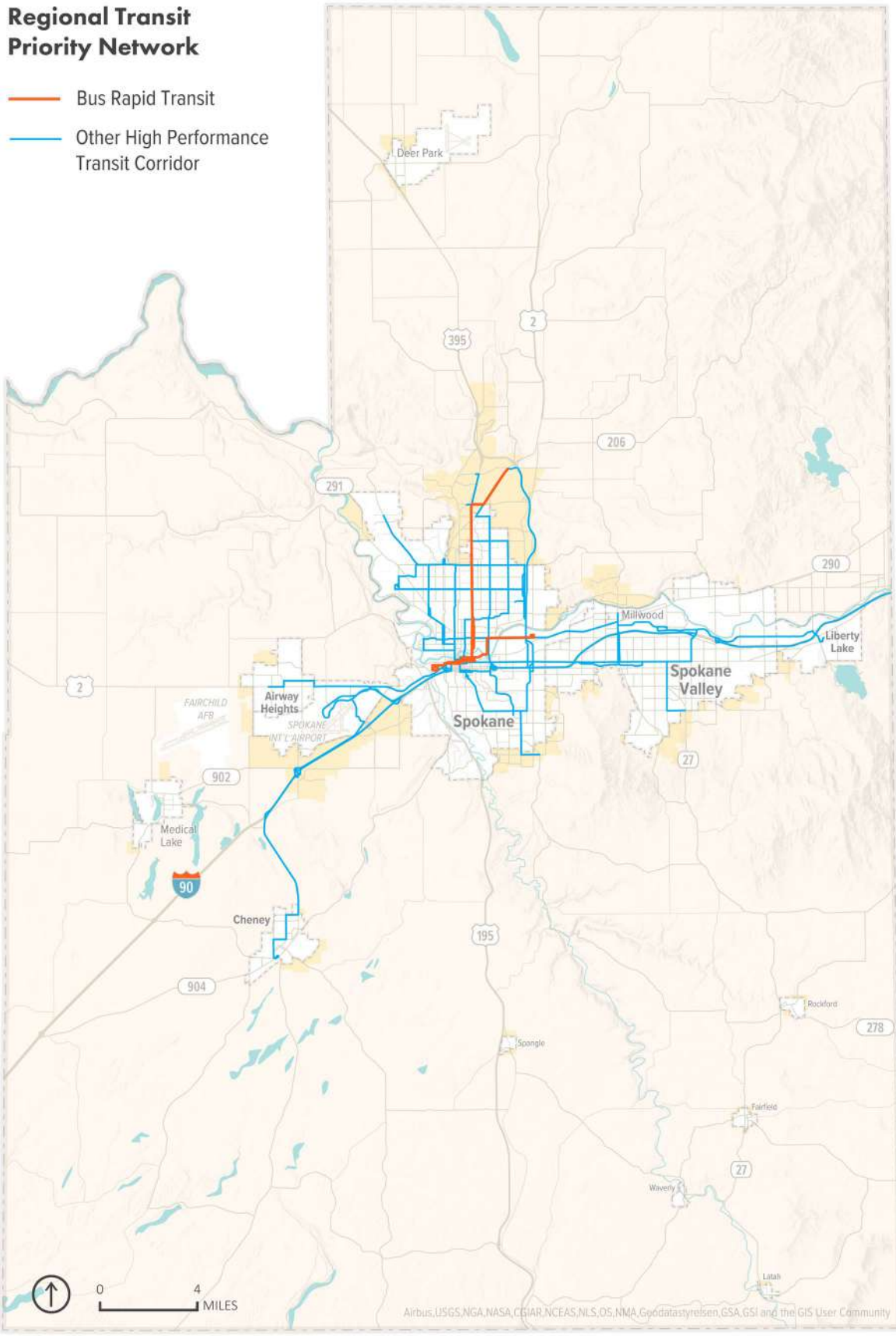


Figure 4.6: Transit Priority Network

Financial Plan

This section identifies funding mechanisms and types of revenue available for the transportation improvements listed in this plan. These mechanisms include sources provided through local, state and federal funding programs. The financial analysis forecasts what funding may be reasonably available during the planning period, extending from 2022 to 2045. It demonstrates that the projects and programs in Horizon 2045 can be implemented within this financial constraint.

The Horizon 2045 Financial Plan includes both a revenue and expenditure forecast, which are described in this section. These analyses should in no way be construed to be actual forecasts of individual programs or projects, but rather order of magnitude estimates of funds that could be reasonably available for transportation investments during the planning period. Local jurisdictions, WSDOT, and OFM prepare and release forecasts of revenues and expenditures and should be consulted during the actual development of projects and programs unique to their area of expertise or for a specific funding program. See Appendix C for a complete description of the sources, assumptions and methodologies used for the development of the Horizon 2045 Financial Plan.

Future Revenues

Horizon 2045's future revenue forecast estimates the amount of revenue the region can reasonably anticipate to support transportation operations, maintenance, preservation, improvements, and capital investments within its planning period. This was done by identifying potential funding sources, analyzing historical revenue trends, and developing future revenue assumptions. These assumptions are based on historical data and were developed in coordination with WSDOT and STA.

It is important to note that, as with any long term forecast, a level of uncertainty is inherent in the Horizon 2045 revenue forecast. It is intended to capture trends over the 23-year planning period and is not intended to be precise on a year-to-year basis.

SRTC's historical revenue analysis utilized data from the most recent 15 year period for which data was available, 2004 to 2018. This information was obtained from a variety of sources, including the Washington State Auditor's Office (SAO) Local Government Finance Reporting System, SAO Audit Reports, and the WSDOT Transportation Revenue and Expenditures by County.[5]

The latest reports from the Washington State Transportation Revenue Forecast Council (TRFC) and the State Legislature's Joint Transportation Committee (JTC) were also reviewed and used in support of these financial forecasts.[6] Additional detail on the region's historical revenue trends is provided in Appendix C.

The financial capacity analysis for future years assumes that existing revenue streams will remain in the future, even though they may be named or categorized differently by future legislative actions. In addition, it is assumed that local options available to the region are reasonably available for future use, unless they have been rejected by voters on three separate occasions, after which they would be considered unlikely to be available in the foreseeable future. There are a few local options that may be considered for use during the next twenty years including local vehicle registration fees and local option sales tax.

Revenue sources were organized based on the point of expenditure: local jurisdictions (i.e., Spokane County and the cities and towns within SRTC's planning area), SRTC regional funds, WSDOT, and STA. Revenues were projected in both Year of Expenditure (YOE) and inflation-adjusted 2020 dollars. The Bureau of Labor Statistics' (BLS) Consumer Price Index (CPI) for all Urban Consumers, U.S. West Cities—Size Class B/C was used. It assumes an annual 1.74 percent inflation rate.[7]

Additionally, the potential economic impacts from the COVID-19 pandemic on local and regional revenue sources was considered. This was based on financial forecasting from the TRFC and the Washington State Economic and revenue Forecast Council (ERFC). WSDOT and STA's revenue estimates, which were incorporated into SRTC's forecast, also include estimated economic impacts from the COVID-19 pandemic based on existing projections from the TRFC and STA, respectively.

In total, the forecast anticipates approximately $14.3 billion in reasonably available transportation revenues over the planning period. This figure represents YOE dollars and is summarized by point of expenditure and source in figure 4.7. It is based on the aforementioned historic trends and growth rates and was developed in coordination with WSDOT and STA. Broken down by point of expenditure, this equates to $5.7 billion in local and regional revenues, $4.8 in WSDOT revenues, and $3.8 billion in STA revenues. The assumptions used to develop these projections are detailed in the following sections.

5 http://portal.sao.wa.gov/LGCS/Reports/Default.aspx; http://www.sao.wa.gov/EN/Audits/Pages/Search/AuditReportSearch.aspx; http://www.wsdot.wa.gov/Finance/default.htm

6 http://www.ofm.wa.gov/budget/info/transportationrevenue.asp; http://leg.wa.gov/JTC/Pages/default.aspx

7 BLS. For reference, the CPI using U.S. City Average assumes 1.72%. The CPI for Seattle-Tacoma-Bellevue assumes 2.26% annual change.

Local Jurisdiction Revenues

Since 2004, roughly 70 percent of local jurisdiction transportation revenues have come from local sources, such as property taxes, special assessments, general fund appropriations, bond proceeds, and other local receipts. Approximately 20 percent came from state sources, such as fuel tax distributions and state grants. The remaining 10 percent came from federal sources.

Figure 4.8 shows that these revenues steadily increased from $75 million to $250 million (in YOE dollars), between 2004 to 2018. This resulted in an inflation-adjusted average annual revenue of $171 million (in 2020 dollars) for local jurisdictions over that time period. The following assumptions, based on these historical trends, were used to project these revenues over the planning period:

- **State and federal revenues** to local jurisdictions tend to fluctuate year by year, but over time they have remained relatively constant in real terms. Except for motor vehicle fuel tax distributions, federal, and state revenues were projected using a constant average historical value in 2020 dollars.
- **Motor vehicle fuel tax distributions** are allocated per capita by the State to the County and cities. Fuel tax distributions were projected forward from the latest actual value in YOE dollars, using growth rates derived from WSDOT's projected motor vehicle fuel tax collections to local jurisdictions through the 2027—2029 biennium from the TRFC. The growth rate projections were extended through 2045 to match the Horizon 2045 planning period. Growth rates from TRFC are adjusted based on population growth estimates for the SRTC region and Washington state. Population growth estimates for the SRTC region align with SRTC's 2019 land use forecast.
- **Property tax** growth is limited by state law to 1 percent plus new construction. They were assigned an assumed growth rate of 1 percent per year in YOE dollars as a conservative estimate of property tax growth. Because assessed value typically grows at a higher rate than inflation, this means that revenues decrease in real terms.
- **General Fund appropriations** and **other local receipts** are growing in real terms, so they are projected to grow at a rate of 3 percent per year in YOE dollars.

Figure 4.7: Total Projected Revenues, 2022–2045

Jurisdiction	Source	Projected Revenues (2022–2045)	% of Total
Local	Local	$ 3,810,400,000	27%
	State	$ 1,038,500,000	7%
	Federal	$ 526,700,000	4%
Regional (SRTC)	STBG	$ 221,100,000	2%
	STBG Set-Aside	$ 18,300,000	<1%
	CMAQ	$ 111,300,000	1%
WSDOT	Motor Vehicle Fuel Tax	$ 2,047,900,000	14%
	Vehicle Related Fee	$ 1,044,300,000	7%
	Driver Related Revenue	$ 246,600,000	2%
	Other Business Related Revenue	$ 79,600,000	1%
	Rental Car Tax & Vehicle Sales Tax	$ 86,100,000	1%
	CWA/Additional Bills	$ 1,262,100,000	9%
STA	Operating Revenue	$ 3,762,600,000	26%
	Federal Capital Revenue	$ 53,200,000	<1%
	State Capital Revenue	$ 16,900,000	<1%
Total		**$ 14,325,600,000**	**100%**

Figure 4.8: Historical and Projected Local Jurisdiction Revenues, 2004–2045 (YOE dollars)

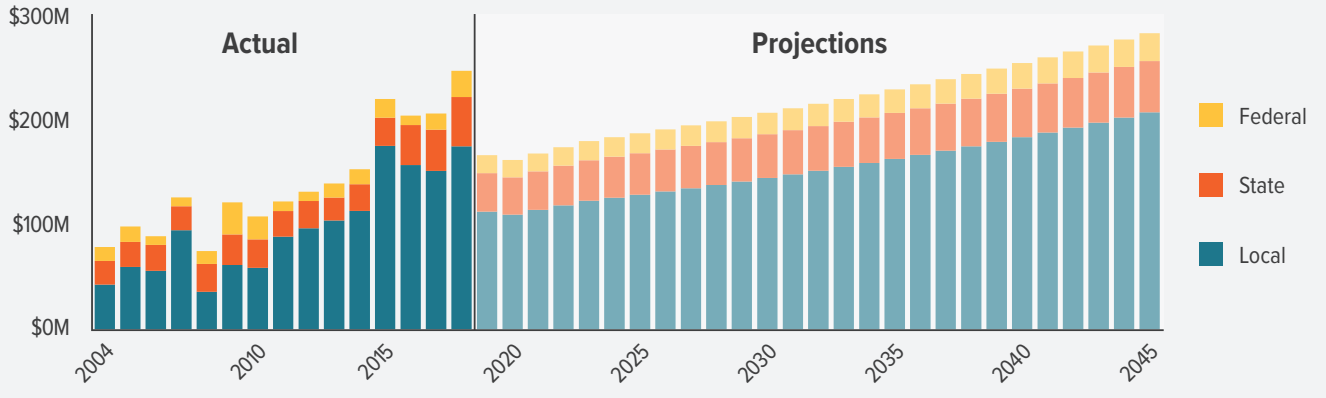
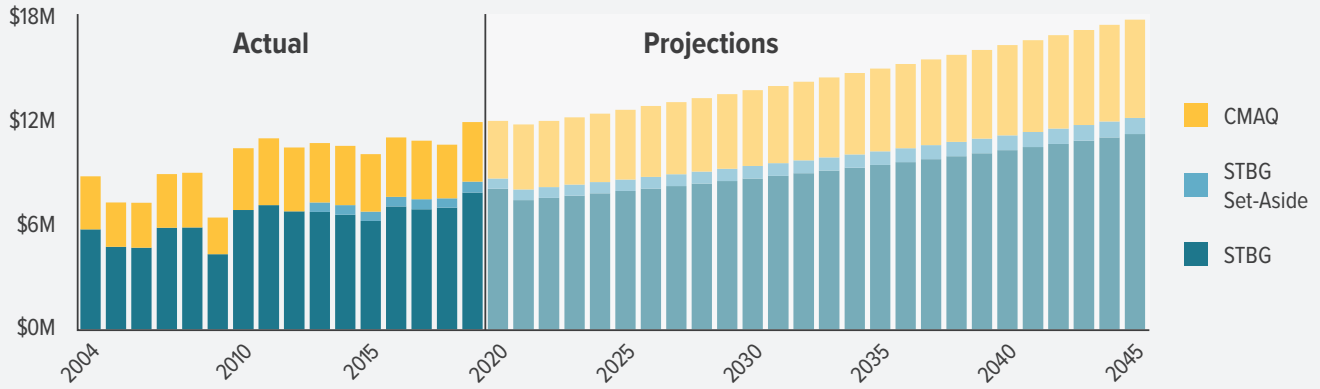


Figure 4.9: Historical and Projected Regional Revenues, 2004–2045 (YOE dollars)



- **Special assessments** and **local road user taxes** fluctuate year by year, but over time they have remained relatively constant in real terms. They were projected through the planning period using a constant historical average value in 2020 dollars.
- **Bond proceeds** also fluctuate year to year and are dependent on local jurisdictions issuing debt and needing to financing large capital projects. Given the wide variation in revenue levels year to year, they were projected using a constant historical average value in 2020 dollars.

No attempt has been made to break down the forecast to the individual jurisdiction level as a part of Horizon 2045. See Appendix C for more detail about local jurisdiction revenue sources.

Regional Revenues

Federal funds allocated to the region through SRTC include Surface Transportation Block Grants (STBG), STBG Set-Aside allocations, and Congestion Mitigation and Air Quality Improvement (CMAQ) funds. Over the past decade, these funds have remained relatively constant. As shown in figure 4.9, this trend is expected to continue over the planning period. They were projected based on their 2013 to 2020 average value, which was held constant, relative to inflation, through 2045.

WSDOT Revenues

Since WSDOT budgets are based on priority programming and legislative actions rather than direct allocations through distribution formulas by geographic area, historical investment trends are used to establish a baseline forecast. Assumptions regarding future WSDOT revenues rely on the TRFC's June 2020 projections, which estimate statewide revenues through the 2027–2029 biennium. WSDOT staff allocated these revenues to the Spokane region using a variety of factors, including population, vehicle registrations, and rental car tax revenue. These estimates were then extended through 2045 to align with the Horizon 2045 planning period.

In addition to WSDOT funds, the Spokane region may receive dedicated funding for projects through legislative funding packages, such as the Connecting Washington Act (CWA). Future funding was estimated based on historical funding. From 2003 through 2031, the region has received and is expected to receive a total of $1.4 billion from these packages. This is an average of $47 million per year (YOE dollars), which was extended from 2032 through 2045. Projected WSDOT revenues are shown in figure 4.10. See Appendix C for more detail on WSDOT's revenue sources.

STA Revenues

From 2010 to 2019, STA revenues increased from approximately $70 million to $120 million, in YOE dollars. Over 90 percent of that revenue was operating revenue, which includes fares, sales tax revenue, CARES Act and FEMA funds, state special needs grants, as well as other miscellaneous investments and earnings. The additional 10 percent of STA revenue comes from state and federal capital revenue.

Figure 4.10: Projected WSDOT Revenues, 2019–2045 (YOE dollars)

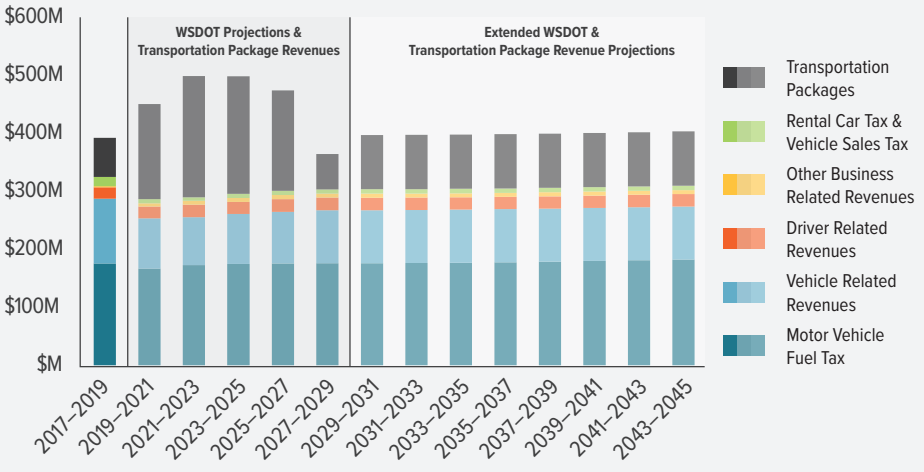
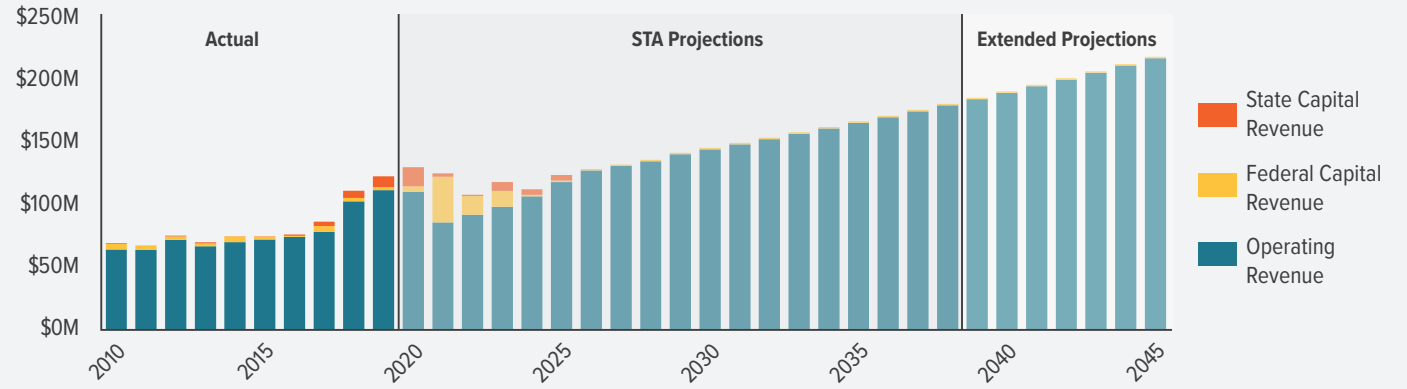


Figure 4.11: Historical and Projected STA Revenues, 2004–2045 (YOE dollars)



STA provided SRTC with annual revenue projections through 2038, which were extended through the 2045 to align with the planning period, as shown in figure 4.11. STA's projections assumed a six-year economic recovery from the COVID-19 pandemic, with an estimated $126.3 million cumulative revenue loss relative to prior year forecasts. To mitigate the forecasted impact, STA plans to leverage 2020 CARES Act funding of $23.4 million, align operating expenditures to adjust revenue flow, and introduce capital projects on an extended timeline, while still fulfilling the Moving Forward commitment to voters.[8]

For 2021, STA assumes that Spokane County will be in the fourth and final phase of Governor Jay Inslee's Safe Start Plan and that by December 2021 operations will begin to recover to a level equivalent to December 2019 indicators. Thereafter, STA projects 1 percent growth in operating indicators through 2026. STA's projections do not assume a voted sales tax increase on the next ballot.

Future Expenditures

For the purpose of this plan, expenditures include transportation capital, programs, operations, maintenance, and preservation costs for the Spokane region. The past 15 years of expenditures have been analyzed and the average increase or decrease for multi-year bands during this period have been examined to determine appropriate rates of growth for the forecasted amounts. As described in Chapters 2 and 3, funding for operations, maintenance and preservation activities has not kept up with demand and there is a reported backlog of deferred maintenance.

To forecast expenditures, costs are presented in YOE dollars using WSDOT's Construction Cost Index (CCI). Many of the same sources listed in the Revenue Forecast section were also consulted for projecting transportation expenditures.

Horizon 2045 includes road, bridge, transit, bike and pedestrian capital investments and programs, while recognizing the need for sustaining a level of operations, maintenance and preservation of the regional transportation system. Figure 4.12 summarizes the forecasted expenditures by category type. Maintenance and operations activities are funded at nearly $5 billion for the planning period, while road preservation is funded at approximately $5.9 billion through 2045. Horizon 2045 establishes the regional system—essentially the designated NHS in Spokane County—as a priority for funding. Therefore, the funding facilitated by SRTC is targeted for the regional system, which includes principal arterials, highways and the interstate. This is far short of the current maintenance/operations and preservation needs, which are estimated at $5.9 billion and $10 billion, respectively, to maintain a systemwide state of good repair. To reiterate, the projected revenues do not fund maintenance and preservation at a state of good repair.

Funding for public transportation operations and maintenance is projected to be approximately $3.2 billion with capital investments and programs totaling about $333 million over the planning period.

8 STA Transit Development Plan: 2021-2026, 9/17/2020.

Figure 4.12: Projected Expenditures, 2022–2045

Point of Expenditure	Operations & Maintenance	Preservation	Programs	Regionally Significant Capital	Total
Local/Regional	$ 676,400,000	$ 3,647,600,000	$ 1,169,400,000	$ 232,900,000	**$ 5,726,300,000**
WSDOT	$ 1,033,800,000	$ 2,248,500,000	$ 291,700,000	$ 1,192,600,000	**$ 4,766,600,000**
STA	$ 3,242,000,000	$ 0	$ 332,900,000	$ 257,800,000	**$ 3,832,700,000**
Total	**$ 4,952,200,000**	**$ 5,896,100,000**	**$ 1,794,000,000**	**$ 1,683,300,000**	**$ 14,325,600,000**

Regionally Significant Projects

Horizon 2045 must include transportation projects of regional significance (see Chapter 2 for a detailed description). A 2045 Future Build model was used to compare forecasted regional transportation conditions as compared to the 2019 Base and the 2045 Baseline models. Regionally significant projects were included in the 2045 Future Build model, as detailed in the following Financially Constrained Projects section. The projects included in the 2045 Future Build model result in a slight increase in VMT (driving distance), no increase in VHT (time spent driving), and a significant addition of transit trips as compared to the no build model. The travel demand model analysis results for the projects in the build model are summarized in Figure 4.13 and in Appendix B.

Figure 4.17 shows the change in travel time on CMP Corridors from the 2045 Baseline to the 2045 Future Build scenarios. The graphic indicates that PM peak travel times on some congested corridors are actually improved by the regionally significant projects found in this plan.

It's important to note that these travel demand model results indicate the impact of predicted growth in the region and the addition of larger regionally significant projects. These results do not include the impact of numerous other smaller projects and transportation programs included in figure 4.18 that cannot be properly analyzed in a regional travel demand model.

Financially Constrained Projects

Figures 4.14 and 4.15 illustrate the Horizon 2045 financially constrained list of regionally significant capital projects prioritized for the short-term (2022 to 2028) and long-term (2029 to 2045). A map is also provided in figure 4.16. The project numbers in the tables and the map are for reference only. The definition of regionally significant projects is detailed in Chapter 2.

Projects that meet the strategies of Horizon 2045 and are regionally significant are listed in the project tables by years when construction is expected to begin. Projects that do not address the strategies or align with the regional corridors are not necessarily precluded for funding. However, based on the Horizon 2045 Strategies discussed in this plan, those projects may not be as competitive in SRTC's future calls for projects.

It is important to note that projects in the TIP must also be consistent with Horizon 2045; regionally significant projects must be in the MTP in order for the project to be included in the TIP. Projects that are regionally significant must be included in the TIP under federal and state funding regulations.

Figure 4.13: Increase in Volume and Trips from 2019 Base to 2045 Baseline and 2045 Future Build Models

INCREASES IN VOLUME AND TRIPS FROM 2019 BASE TO 2045

	BASELINE	FUTURE BUILD	DIFFERENCE
VMT	+23%	+23%	0%
VHT	+27%	+26%	-1%
People/Vehicle Trips	+21%	+21%	0%
Transit Trips	+18%	+21%	+3%
Walk/Bike Trips	+14%	+14%	0%

Figure 4.14: Short-Term Regionally Significant Projects (2022–2028)

Map ID	Project Name	Description	Jurisdiction	Projected Year	YOE Cost
A	Bigelow Gulch/ Forker Rd Urban Connector	Construct a 4-lane road, with a 12' wide median and 8' wide shoulder, connecting North Spokane and Spokane Valley.	Spokane County	2022	$ 68,000,000
B	US 395/North Spokane Corridor - Francis Ave to Spokane River	Construct new lanes and Wellesley Interchange.	WSDOT	2022	$ 65,623,599
C	Central City Line	BRT line from Browne's Addition to Spokane Community College, connecting through Downtown Spokane and the University District.	STA	2023	$ 92,231,000
D	Argonne Rd/I-90 Interchange Bridge Widening	Bridge replacement project that adds a third southbound lane, wider shoulder, and new sidewalk.	Spokane Valley	2025	$ 15,000,000
E	Barker Rd Reconstruction	Project widens Barker Rd from an existing 3-lane rural section to a 5-lane urban section from Appleway to I-90.	Spokane Valley	2025	$ 18,800,000
F	Pines Rd (SR 27)/ BNSF Grade Separation	Realign Pines Rd (SR 27) to go under the BNSF mainline railroad tracks and reconstruct the intersection of Pines and Trent Ave (SR 290).	Spokane Valley	2025	$ 29,000,000
G	Sullivan Rd/ BNSF Grade Separation	Reconstruct and widen the Sullivan Rd bridges over the BNSF railroad at Trent Ave.	Spokane Valley	2025	$ 27,000,000
H	Whistalks Way Improvements	Widen Whistalks Way to accommodate future traffic levels, as well as bicycle and pedestrian traffic.	Spokane	2025	$ 5,620,000
I	Division Bus Rapid Transit	BRT line on North Division and the Newport Highway.	STA	2027	$ 150,000,000
				Short-Term Subtotal (2022–2028)	**$ 471,274,599**

Figure 4.15: Long-Term Regionally Significant Projects (2029–2045)

Map ID	Project Name	Description	Jurisdiction	Est. Year	YOE Cost
J	Park Rd/ BNSF Grade Separation	Grade separation project raising Park Rd over the BNSF tracks and constructing at-grade intersection on Trent Ave (SR 290).	Spokane Valley	2030	$ 25,000,000
K	US 395/North Spokane Corridor - Spokane River to I-90	Construct new lanes and interchange at Trent Ave and I-90.	WSDOT	2030	$ 541,300,000
L	Latah Bridge Rehabilitation	Rehabilitation of the Latah Bridge.	Spokane	2032	$ 44,500,000
M	US 395/North Spokane Corridor Transit	Capital investment to implement transit service on the US 395/North Spokane Corridor.	STA	2032	$ 6,100,000
N	Argonne Park & Rides	Park and rides with platforms at Argonne Rd to facilitate access to High Performance Transit.	STA	2034	$ 9,500,000
O	I-90/US 195 Interchange Latah Creek Bridges	Replace I-90 Latah Creek Bridges, widen I-90 and bridges for US 195 ramp auxiliary lanes, reconstruct BNSF bridge.	WSDOT	2035	$ 442,637,000
P	I-90/Barker Rd Interchange	Replace I-90 Barker Rd interchange.	WSDOT	2040	$ 15,756,400
Q	SR 290 Passing Lanes	Construct passing lanes.	WSDOT	2040	$ 6,000,000
R	SR 904 Passing Lanes	Construct passing lanes, corridor access control, and channelized intersections.	WSDOT	2040	$ 30,000,000
S	US 195/I-90 Study Projects	Various improvements recommended in US 195/I-90 Study.	WSDOT	2040	$ 91,300,000
				Long-Term Subtotal (2029–2045)	**$ 1,212,093,400**
				Horizon 2045 Total (2022–2045)	**$ 1,683,367,999**

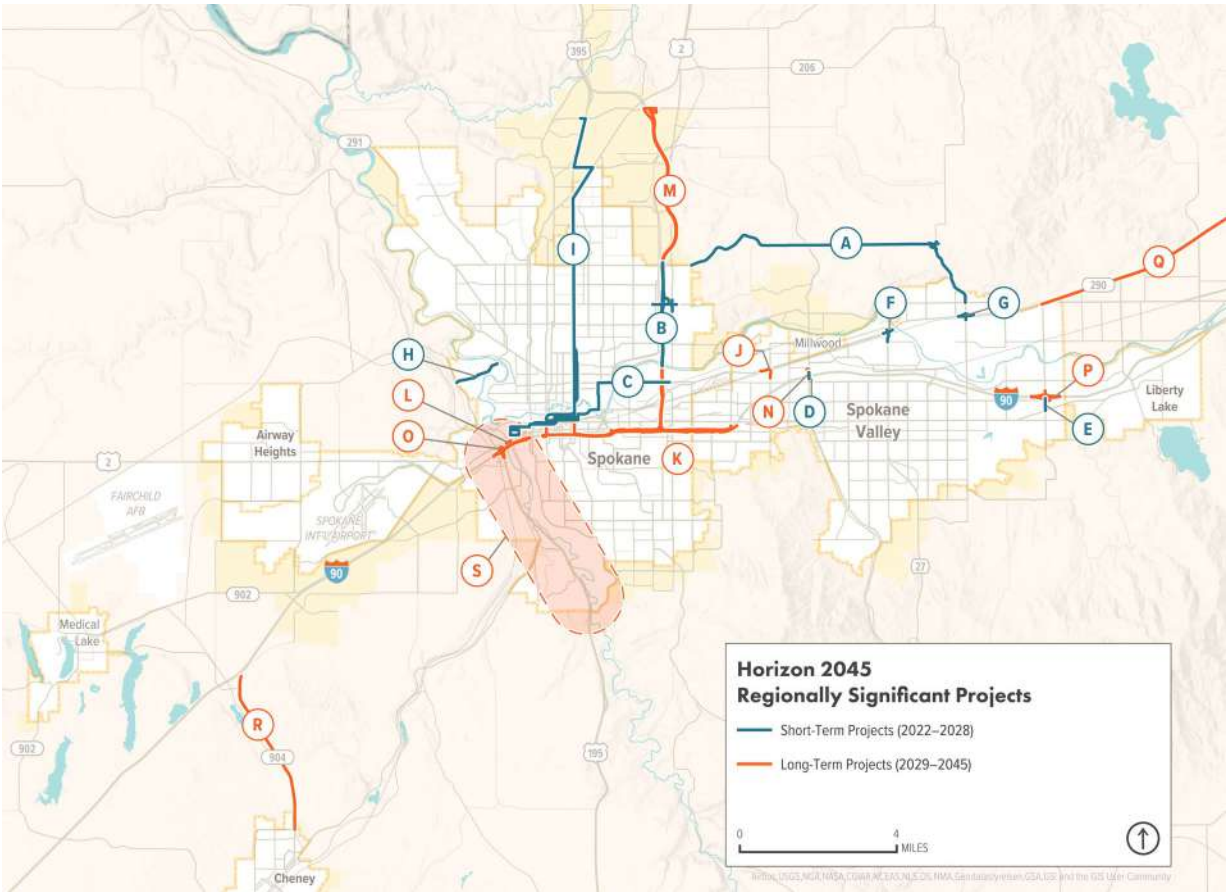


Figure 4.16: Horizon 2045 Regionally Significant Projects

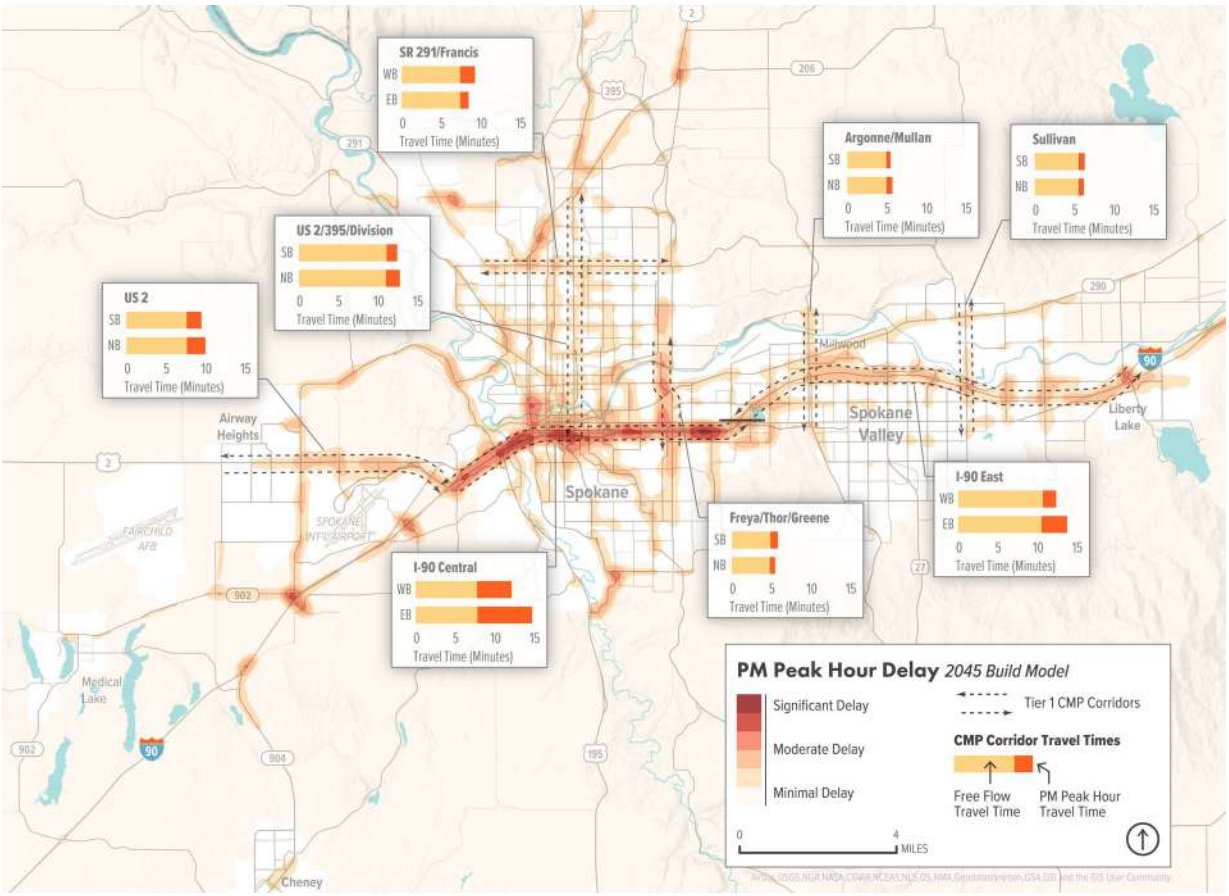


Figure 4.17: PM Peak Hour Delay in 2045 Build Model

Financially Constrained Programs

Horizon 2045 also identifies financially constrained programs addressing additional needs, outside of maintenance and preservation, that are not included in the regionally significant projects list but deemed essential to the region. Examples include bicycle and pedestrian facilities, regional transportation planning efforts, transportation management projects, and TDM programs. Like the regionally significant projects list, these programs are aimed at implementing the strategies in Horizon 2045.

The programs represent funding targets and are summarized in figure 4.18. The total targeted funding for all programs combined is approximately $1.8 billion, from 2022 to 2045. Funding at these levels is subject to availability through the various state and federal grant programs, as well as local revenue mechanisms. SRTC will make every effort, in close coordination with its member agencies, to meet these targets through calls for projects or by working with them to establish new options for local revenues. Individual programs are described in more detail in the following sections.

Active Transportation Program

The active transportation program includes additional bike lanes, shared use paths, and signage; as well as several trail and bridge projects. It also proposes to infill pedestrian sidewalk gaps in the region. This program supports Horizon 2045 Strategy 7: Provide multimodal options region-wide. Examples of active transportation projects include but are not limited to:

- Millwood Trail (City of Spokane Valley in partnership with the City of Spokane)
- North Green Acres Trail (City of Spokane Valley)
- University Overpass (City of Spokane Valley)
- Fish Lake Trail Gap (City of Spokane)
- Centennial Trail at Mission Avenue Crossing (City of Spokane)
- Wandermere Pathway (Spokane County)
- Centennial Trail at Argonne Road (Spokane County)
- Children of the Sun Trail build out (WSDOT)

Several areas for study are also identified for the active transportation program, including:

- Ben Burr Trail to Centennial Trail Link
- West Plains Bike/Ped Connections
- Bike/Ped Connections to the Children of the Sun Trail

Figure 4.18: Horizon 2045 Transportation Programs, 2022 to 2045

Program	Funding Target (YOE $)	Program Share of Total
Active Transportation	$ 278.6	16%
Bridge	$ 609.8	34%
Planning	$ 9.3	1%
Road Capital	$ 241.4	13%
Safety and Security	$ 92.9	5%
TDM	$ 9.3	1%
Transit	$ 332.9	19%
TSMO	$ 219.8	12%
Total	**$ 1,793.9**	**100%**

All figures in millions, figures may not add up due to rounding.

Bridge Program

The bridge program sets funding targets for non-regionally significant bridge improvements. As described in Chapter 2 of this plan, a significant number of bridges in the SRTC planning area are in poor condition. As funding becomes available, these bridges will require rehabilitation and, in some cases, reconstruction. Examples of bridges projects include but are not limited to:

- I-90/3rd Avenue Crossing Bridge Deck Rehab (WSDOT)
- I-90/Spokane Viaduct Bridge Rehab (WSDOT)

Planning Program

The planning program includes studies necessary to support Horizon 2045's strategies. These include:

- Developing a system for evaluating regional operations, maintenance and preservation needs
- Developing a method to better evaluate land use planning and potential transportation impacts
- Assessing best practices, innovative and cost effective design and construction methodologies including the use of longer lasting materials

SRTC will be the lead agency for these planning studies.

Road Capital Program

The road capital program sets funding targets for regionally important roadway capital investments. There are several planned road improvements throughout the region that address critical transportation needs outlined in Horizon 2045 and are expected to be completed as part of the road capital program. Examples of these investments include, but are not limited to:

- Airport Drive and Spotted Road Realignment and Interchange (Spokane International Airport)
- Freya Street Reconstruction, from Garland Avenue to Francis Avenue (City of Spokane)
- 6th/10th/12th Avenue Road Improvements (City of Airway Heights/City of Spokane)
- 18th/21st Avenue Road Improvements from Hazelwood to Flint (City of Spokane)

Safety & Security Program

The safety and security program includes projects to eliminate deficiencies and address high collision issues as well as education programs and enforcement efforts for the secure and safe travel of all users.

TDM Program

TDM programs can provide lower cost options than driving alone, resulting in time savings at a higher benefit to cost ratio. The air quality benefit of these programs can be as high as four times greater than traffic flow or capacity projects. TDM may employ the use a variety of strategies, including:

- Education, promotion and outreach to encourage voluntary changes in commuter behavior.
- Ridematching services and information to help riders organize carpools, vanpools, or find one-time rides.
- Employer programs and incentives, such as flexible work schedules, work from home options, employee bicycle parking and shows, and subsidized transit passes.
- Land use collaboration and coordination to help connect roads and bicycle/pedestrian paths, as well as support high-density, mixed use development near transit.
- Use fees (e.g., freeway tolling, parking fees, et cetera) to encourage commuters to make efficient transportation choices, shifting demand to alternative modes, routes, or times.[9]

The TDM program includes Spokane County's Commute Smart NW and targets funding for additional efforts to implement TDM strategies in the region.

Transit Program

The transit program includes regular vehicle replacements, additional park and rides, transit centers, maintenance facilities, and passenger amenities. It also targets funding for tribal, rural, and human services transportation. Examples of transit program projects include:

- Liberty Lake Transit Center
- New maintenance facility in the vicinity of Mission Avenue and Green Street
- Bus, paratransit, and vanpool vehicle replacements

TSMO Program

TSMO uses proven strategies to improve multi-modal mobility, safety, accessibility, and travel options while preserving the capacity of the existing transportation network. These strategies are most effective when coordinated across jurisdictional boundaries. Examples include enhanced traffic signal operations, traveler information, incident response coordination, and real time bus arrival information.

The TSMO program includes regional priority projects identified in the region's ITS Plan, which include new and upgraded system infrastructure, better communications and dissemination of traveler information, as well as improved data collection and management capabilities.

Unfunded Projects & Programs

One challenge with creating a financially constrained MTP is that only projects backed by reasonably anticipated revenues within the planning period are included. As a result, unfunded investments that could enhance the transportation system are not included in the preferred scenario project lists. However, for illustrative purposes, the plan may include additional projects that would be added to the adopted plan provided additional resources become available.[10]

9 Demand Management: A Primer for Planners and Engineers. WSDOT.

10 23 CFR § 450.324(f)(11).

Figure 4.19: Unfunded Transportation Projects

Project Name	Project Type
Spokane International Airport to Coeur d'Alene HPT Route	Transit
21st Avenue Connection from Craig Rd to Airport Dr	Road/Bridge

Figure 4.19 provides a brief list of additional projects that address identified needs in the region, yet are not currently considered funded in Horizon 2045's financially constrained projects list. While not exhaustive, the list represents known unfunded transportation projects within the region for consideration, should additional funding become available.

Completed Projects

A list of projects from the previous 2018 to 2040 MTP (Horizon 2040) that have been completed, or are under construction, is provided in figure 4.20.

Financial Constraint

The financial analysis developed for Horizon 2045 indicates that the current and future funding resources are sufficient to support the estimated expenditures in the plan. Therefore, Horizon 2045 demonstrates financial constraint. For the planning period of 2022 to 2045, expenditures for transportation operations, maintenance, preservation, improvements, and capital investments in Spokane County are estimated at $14.3 billion. For the same planning period, the regional revenue estimate is $14.3 billion. Both of these figures represent YOE dollars.

While forecasted revenues are generally balanced with planned expenditures, it is anticipated that local jurisdictions will need to identify local options for street and road improvements. Projected revenues are not sufficient to fund road and bridge maintenance and preservation at a state of good repair. One option to increase revenue above the forecasted level could be a regional transportation benefit district (TBD). As previously mentioned, the City of Spokane has formed a TBD. Discussions about the formation of a regional TBD are ongoing.

Other options have been explored or implemented in the past to provide funding for improvements. In November 2014, voters in the City of Spokane passed a street levy to go toward paying off $84 million of old debt left on the 2004 street bond while levying more money for arterial street work through 2034. The levy is paid for by a hold on a property tax estimated at 57 cents per $1,000 assessed property value. Starting in 2015, the levy generates $4 to $8 million per year until the levy is retired in 2034.

Revenue in comparison to the estimated financial expenditures during the same time period shows a near break-even position during the planning horizon. Based on historical data derived from cities, WSDOT, STA, and Spokane County, total forecasted expenditures for transportation operations and maintenance are estimated at just under $5 billion and preservation at roughly $5.9 billion. Based on forecasted revenues, this leaves approximately $1.7 billion in available

Figure 4.20: Horizon 2040 Regionally Significant Projects Completed Since 2017 MTP Update

Project Name	Description	Jurisdiction
Indian Trail Rd Improvements	Indian Trail Rd widened to accommodate motorized and non-motorized traffic levels.	Spokane
Monroe St Lane Reduction	Road reconstructed and reconfigured with wider sidewalks and enhanced pedestrian crossings.	Spokane
Sunset Blvd Improvements	Pavement preserved, lanes reconfigured to include bicycle lanes, and sidewalk installed.	Spokane
West Plains Transit Center	New West Plains Transit Center constructed.	STA
Harvard Rd Bridge Revision	Interchange modified to include additional lane over I-90 and safety improvements.	Liberty Lake
Sprague Ave Rebuild Phase II	Road reconstructed with various non-motorized and transit improvements.	Spokane
Barker Rd/BNSF Grade Separation	At-grade railroad crossing replaced with grade separated crossing.	Spokane Valley
I-90 Medical Lake and Geiger Interchanges Reconstruction	Interchange reconstructed.	WSDOT
I-90 & Barker Rd South Intersection Improvements	Various intersection improvements constructed to address operational issues.	WSDOT

*Project has fully obligated federal and/or state funds, but is not yet complete.

Figure 4.21: Projected Short-Term and Long-Term Revenues and Expenditures

	Short-Term 2022–2028	Long-Term 2029–2045	Horizon 2045 Total 2022—2045
Transportation Revenues	$ 3,747,700,000	$ 10,577,500,000	**$ 14,325,200,000**
Transportation Expenditures	$ 3,747,700,000	$ 10,577,500,000	**$ 14,325,200,000**
Balance	**$ 0**	**$ 0**	**$ 0**

capital construction funding during the planning horizon. There is also nearly $1.8 billion for programs targeted for the planning period.

Based on this financial analysis, Horizon 2045 is financially constrained to ensure the programs and projects identified have the potential for being implemented during the planning horizon. The projected revenues and expenditures are listed in figure 4.21. To be proactive and limit the decline in transportation system performance, it is important that jurisdictions collectively work to construct projects that meet the regional priority transportation needs identified in this plan. The key to the success of Horizon 2045 is to strategically invest in projects and programs that meet the Guiding Principles and Policies and that help achieve the Strategies listed in the following section.


Photo Credit: Spokane International Airport

Implementation Strategies

Per Federal regulations the MTP must include both long-range and short-range strategies and actions that lead to the development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand.[11] The strategies are the outcome of the analysis of the plan as well as extensive public outreach and coordination with member jurisdictions that has been continuous throughout the development of Horizon 2045.

One example of member jurisdiction coordination is SRTC's participation in the WSDOT Eastern Region office Corridor Sketch Initiative (CSI). The CSI is a new way for WSDOT to work jointly with partners to capture and document consistent baseline information about each transportation corridor around the state in order to inform future investment decisions. It identifies and ranks cost-effective multimodal investment strategies to achieve performance expectations. Typical cost-effective or Least Cost Planning (LCP) strategies would include: TSMO, TDM, and policy changes. These LCP strategies would be considered prior to capacity expansion.

The following sections summarize Horizon 2045's strategies.

Strategy 1: Prioritize Transportation Preservation, Maintenance & Operations

Horizon 2045 emphasizes resiliency by focusing on the preservation maintenance & operations of the region's existing transportation networks. The highest priority is addressing the backlog of deferred maintenance and preservation activities. For example, preserving pavement can maintain pavement condition at minimal cost versus delaying preservation until the road needs major repairs or reconstruction, which can be six to ten times more costly. Also, with the changing demographics and evolving travel behavior of Spokane County residents, ensuring the continued operation of effective public transportation in the region is crucial. Horizon 2045 will implement Strategy 1 by:

- Prioritizing projects that reduce the regional backlog of preservation activities and serve to eliminate deferred maintenance
- Prioritizing improved design and maintenance projects that result in a year round transportation system for all users
- Collaborating with WSDOT in developing an asset management plan
- Maintaining a resilient street network: allocate nearly $6 billion for preservation; over $1.7 billion for maintenance and operations of the regional street network; and over $600 million for bridge maintenance and preservation projects
- Allocating more than $3.2 billion for the operations and maintenance of the regional public transportation system

Strategy 2: Support TDM & TSMO

Horizon 2045 places a priority on getting the greatest value of current transportation systems using cost-effective approaches such as TDM and TSMO. As described earlier in Horizon 2045, TDM is a program of projects, programs and services aimed at reducing the demand on vehicular facilities. TDM programs can provide lower cost options than driving alone, provide physical activity opportunities and improve air quality. TSMO strategies will aid in implementing cost-effective solutions for ensuring the efficiency of our existing transportation systems.

As detailed in this plan, ITS are an effective component of TSMO. With the completion of the Spokane Region ITS Plan, the region has a prioritized list of investments that will assist in improving mobility, accessibility and safety while enhancing multimodal travel options.

SRTC's CMP includes TDM and TSMO lower cost solutions to control peak hour congestion on our most congested corridors. The process outlines the opportunity to complete other transportation system networks (i.e., sidewalks, transit, and bicycle) and to improve operational efficiencies prior to the need for expansion. Horizon 2045 will implement Strategy 2 by:

- Encouraging and funding programs that develop and deploy TDM approaches within Spokane County
- Continuing implementation of the CMP
- Placing a priority on projects that implement the Spokane Region ITS Plan
- Allocating $9.3 million toward programs and projects that reduce transportation demand
- Allocating $220 million towards a TSMO program

Strategy 3: Encourage Cost-Effective Transportation Solutions

This plan supports the stewardship of public resources through prioritization, obligation and implementation of funds. Horizon 2045 also encourages the use of innovative techniques for cost-efficient engineering and construction of

11 23 CFR § 450.324(b).

transportation projects using high quality, long lasting materials. Horizon 2045 will implement Strategy 3 by:

- Refining methodologies for a regional needs assessment to identify projects that meet multiple performance goals
- Including scoring criteria for innovative approaches to cost-effective design and construction of transportation projects in all future calls for projects
- Prioritizing investments that impact Horizon 2045 regional priority networks
- Scoping, developing and funding region wide programs and projects that benefit the public
- Targeting locations for capacity changes
- Monitoring unfunded local agency projects and programs and seeking additional funding and providing support
- Providing technical assistance in the regional funding program so projects are delivered on time and in compliance with federal obligation targets

Strategy 4: Invest in Public Transit

Public transportation plays an important role in the economic vitality and quality of life of our region. Employers benefit from access to transit as it supports the recruitment and retention of employees and provides access for customers. Employees benefit from transit through reduced commute and parking costs.

Employers value access to transit, and this is reflected in the growth of jobs in transit supportive areas. The number of jobs in transit locations is growing, especially in high-skill sectors. This suggests that there continues to be demand for infill locations, especially in downtowns and higher density employment centers. Therefore, there may be further opportunities for planners and policymakers to capitalize on this demand and work to encourage specific types of businesses to locate and expand near transit. This effort will require strong coordination between MPOs, regional economic development agencies, transit agencies, and local jurisdictions to enact policies that can support and encourage both existing and future employment uses in transit-rich locations.[12]

Public transit also plays a significant role in the vitality of rural areas in Spokane County and the surrounding communities including tribal reservations and trust lands. SRTC will continue to coordinate and assist services and programs that meet the strategies of the Spokane County Coordinated Public Transit—Human Services Transportation Plan. Horizon 2045 will implement Strategy 4 by:

- Supporting the continued implementation of the regional High Performance Transit Network
- Pursuing additional funding for tribal, small town and rural connector services
- Coordinating with STA on cost-effective first and last mile connections such as bicycle facilities or rideshare services.
- Allocating more than $3.2 billion for the operations and maintenance of the regional public transportation system
- Funding over $258 million in regionally significant capital investments for transit
- Targeting more than $333 million for additional public transportation services, transit vehicle replacements, transit centers and other capital investments

Strategy 5: Improve Safety & Security

The transportation investments in Horizon 2045 will support and enhance the safety and security of the regional networks and systems. Safety improvements should be targeted in the Horizon 2045 transportation corridors where identified deficiencies exist, including higher rates of vehicular collisions as well as bicycle and pedestrian involved collisions. Security remains a top regional priority, especially in relation to the vital transportation facilities involved in the high volume movement of people and freight: bridges, the NHS, transit facilities, airports and other intermodal hubs. Horizon 2045 will implement Strategy 5 by:

- Prioritizing projects that improve the safety and security of the regional transportation network through scoring criteria in applications for funding
- Collecting and analyzing region wide collision data to determine causes and develop strategic solutions with implementing agencies
- Funding nearly $93 million in safety programs and projects over the period of the plan

Strategy 6: Protect the Natural Environment

Protecting the natural environment including air, soil and water quality will be a requirement for regional funding for all transportation projects. Horizon 2045 will implement Strategy 6 by:

- Requiring environmental protection and/or remediation activities be an integral component of all transportation projects submitted for regional calls for projects

12 Transit and Regional Economic Development. Center for Transit-Oriented Development (CTOD), 2011.

- Ensuring that Horizon 2045, both on a regional scale and at the project level, is in compliance with Federal and State Conformity and Air Quality regulations
- Ensuring CMAQ projects funded through SRTC are improving air quality

Strategy 7: Provide Multimodal Options

Everyone, regardless of age, ability, income, race, or ethnicity, ought to have safe, comfortable, & convenient access to community destinations and public places–whether walking, driving, bicycling, or taking public transportation. Horizon 2045 promotes policies and practices that ensure streets are safe for all people while balancing the needs of different modes, and supporting local land uses, economies, and the surrounding environments. Horizon 2045 will implement Strategy 7 by:

- Prioritizing roadway projects that include multimodal elements
- Continuing to require that Safe and Complete Streets Checklists are completed as related to the SRTC Complete Streets Policy and the SRTC Guiding Principles
- Coordinating with jurisdictions and agencies region-wide to determine viability of a regional Active Transportation Plan
- Implementing a regional bicycle and pedestrian count program for bicycle and pedestrian usage and trend data
- Pursuing collaboration opportunities with public health partners for projects with complimentary health and transportation benefits such as: Safe Routes to School, improving built environment, ensuring equity of access to transportation, reducing pollution, reducing collisions, and placemaking to improve social connections.
- Targeting funding for bicycle and pedestrian network improvements at nearly $280 million over the planning period

Strategy 8: Promote Regional Leadership

Horizon 2045 has identified the need for SRTC to provide additional coordination and leadership. Additional regional coordination is useful for early identification of land use and transportation issues that require cross-jurisdictional coordination and solutions. SRTC will also take the lead in bringing educational opportunities to convey best practices information to stakeholders in the region. Horizon 2045 will implement Strategy 8 by:

- Developing and implementing an education series for regional stakeholders and the public on best practices. Topics will be vetted through the TAC, TTC and Board of Directors
- Developing a member agency resource center for best practices information
- Monitoring funding and providing coordination for the completion of the North Spokane Corridor
- Developing a system to track and report land use and transportation cumulative impacts to assist jurisdictions on potential impacts and opportunities for land use changes
- Leading practical and specific land use and/or transportation studies that evaluate least cost solutions in partnership with state and local stakeholders, focusing on economic, transportation, technology and public health issues

The above strategies directly link to the Horizon 2045 Guiding Principles and Policies, described in *Chapter 1: Who We Are*. In developing the Horizon 2045 Strategies, the goals and objectives were considered carefully.

Air Quality Conformity Determination

On August 29, 2005 the, EPA re-designated the Spokane area from non-attainment to attainment for carbon monoxide (CO) with an approved maintenance plan (70 FR 37269). On August 30, 2005, the EPA re-designated the Spokane non-attainment area to an attainment area for particulate matter-10 (PM-10) with an approved Limited Maintenance Plan (LMP) (70 FR 38029).

On May 12, 2016 the EPA approved the Second 10-year LMP for PM-10. The Second 10-year LMP for CO was approved August 15, 2016. These LMPs demonstrate the minimal risk that PM-10 and CO from motor vehicles would contribute to a PM-10 or CO violation. For this reason, no motor vehicle emission budget (MVEB) or paved road dust budget is established. While an area with an LMP does not need to do a regional emissions analysis, it still retains other conformity requirements as detailed in 40 CFR 93.109, such as consultation (40 CFR 93.112), timely implementation of transportation control measures (40 CFR 93.113), and project level analysis (40 CFR 93.116).

Limited Maintenance Plans do not establish a MVEB because growth would need to exceed reasonable expectations to create a violation of the national ambient air quality standards. As published in the PM-10 LMP Qualification Assessment, VMT was projected to grow by 36 percent over the ten year period of 2000 to 2010, or 3.1 percent annually. Since the annual VMT growth rate of 0.9 percent included in the plan is less than the 3.1 percent annual rate assumed in the PM-10 LMP, Horizon 2045 conforms to the PM-10 LMP.

Transportation Control Measures

Per 40 CFR 93.101, a transportation control measure is any measure that is specifically identified and committed to in an implementation plan to reduce emissions or concentration of air pollutant from transportation sources by reducing vehicles use, changing traffic flow or congested conditions. Per the State Implementation Plan and LMP, there are no CO transportation control measures. PM10 control measures include the Washington State (RCW 70.94, WAC 173-433) and Spokane Regional Clean Air Agency's (Regulations 6.05, 6.14, 6.15) programs to reduce residential wood smoke, paving critical unpaved roads, and street sweeping programs.

Contingency Measures

Contingency measures achieve emission reductions for a specified period of time. The mandatory vehicle inspection and maintenance (I&M) program was the predominant CO transportation contingency measure for Spokane County. The program ended on December 31, 2019 but may be reinstated if necessary. After the first CO maintenance demonstration included dropping the winter oxygenated fuel requirement, the Spokane Clean Air Board repealed Article VI, Section 6.16 Motor Fuel Specifications for Oxygenated Gasoline. The oxygenated fuel requirement will remain as a contingency measure and can be re-adopted if necessary.

Project Level Analysis

SRTC assists with the analysis of project-level emissions as part of the project-specific SEPA and NEPA processes. Travel demand or transportation system strategies are then applied to mitigate any air quality issues. Programs or projects that reduce the reliance on the single occupant vehicle have the benefit of lowering CO and PM-10 concentration levels throughout various travel corridors, thereby improving air quality.

At the same time, projects that strategically add capacity or efficiency to the transportation system can have the benefit of reducing overall vehicle delay (idling emissions) to better address the movement of people and goods into and through Spokane. From an air quality perspective it is necessary to provide balance between reducing delay while not inducing vehicle usage and providing investments in alternative modes of transportation that can effectively lower CO and PM-10 concentrations.

Environmental Mitigation Activities

Per Federal regulations, the MTP must include a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including those that may have the greatest potential to restore and maintain the environmental functions affected by the MTP.[13] The discussion may focus on policies, programs, or strategies, rather than at the project level.

For Horizon 2045, SRTC has consulted with the Spokane Regional Clean Air Agency, the Washington State Department of Ecology and the EPA. Federal and state land management agencies and the Tribes in the Inland Northwest were also contacted for input on the plan.

Horizon 2045 considers potential regional impacts to the natural and human environment through the Guiding Principles and Policies. The Horizon 2045 Strategies directly relate to the Policies and are intended to avoid, minimize and mitigate potential impacts to the environment. Specifically, Guiding Principle 3: Stewardship, emphasizes that transportation decisions should have positive impacts to the human environment while minimizing negative impacts to the natural environment. Policy 3a reinforces this: "Ensure transportation decisions minimize impacts to natural resources and conserve non-renewable resources." No adverse impacts to

13 §450.322 (7).

the human or natural environment are foreseen as a result of the Policies and Strategies in Horizon 2045. However, the Horizon 2045 Strategies are regional in scope and may not address impacts at the local or project-level where they are the responsibility of the sponsor agency.

Plan Implementation

The Horizon 2045 implementation strategies require a cooperative effort between SRTC and the jurisdictions in Spokane County. SRTC is required under federal and state regulations to ensure consistency of local and regional plans with Horizon 2045. As stated in Chapter 1, one of the primary roles and responsibilities of an MPO and RTPO is to certify the consistency of countywide planning policies and the transportation elements of local comprehensive plans with the RTP.[14] Therefore, close coordination between SRTC and local jurisdictions, WSDOT and STA is required to ensure that projects and plans are consistent with the Horizon 2045 Guiding Principles, Policies and Strategies. Several programming options are available as tools for implementing the transportation strategies in this plan.

UPWP

The Unified Planning Work Program (UPWP) details and guides the metropolitan area transportation planning activities. The purpose of the UPWP is to define and coordinate all federally funded transportation planning activities that will be conducted in the MPA during a one- or two-year period. The UPWP defines activities that will be undertaken in the Spokane MPA and the financial resources associated with them. Examples include core MPO and RTPO functions such as collecting, analyzing, maintaining and reporting transportation-related data to provide accessible and pertinent information for the regional decision-making process. The data is used for travel demand and air quality modeling to identify transportation issues, propose solutions and evaluate activities that are subsequently implemented. SRTC provides this data and other planning information and consults with federal, state, and local agencies responsible for transportation, land use management, natural resources, environmental protection, public health, conservation, and historic preservation concerning the development of plans and programs.

SRTC provides planning consultation and coordination for specific transportation planning or related projects as appropriate. SRTC support may include providing data, conducting inventories, or participation on study teams. In addition, SRTC may serve as the lead agency to develop studies and plans (e.g., subarea transportation studies, modal studies such as pedestrian plans and transit system studies, corridor studies, etc.). Other UPWP activities include public outreach and education, stakeholder coordination, and various administrative tasks.

TIP

The TIP is a four-year program of planned regional transportation projects. The purpose of the TIP is to demonstrate that available resources are being used to implement the short-range projects in the program, consistent with the region's long-range transportation plan, Horizon 2045. The TIP reflects the needs of the SMPA and complies with pertinent federal, state and regional requirements. These efforts include implementing a criteria-based project selection process, improving project tracking mechanisms, compliance with SRTC Safe and Complete Streets policy and continued coordination between local jurisdictions, WSDOT, STA, FHWA, and FTA.

The TIP includes any project with federal funding under 23 U.S.C. (FHWA) and 49 U.S.C. Chapter 53 (FTA) and projects that are regionally significant. Only projects that are planned to obligate funds within the next four years are required to be included in the TIP. If a project has already obligated all funds, the project is not included in the TIP. Conversely, if a project has federal funds but is not planning to obligate those funds within the next four years, the project is not included in the TIP.

SRTC is responsible, in coordination with WSDOT, for selecting projects for the federal STBG, STBG Set-Aside (formerly TAP) and CMAQ programs. Projects are selected by the SRTC Policy Board using a competitive process involving evaluation criteria designed to ensure projects are prioritized consistent with the Guiding Principles and Policies of Horizon 2045. In addition, STA coordinates the selection of projects for FTA funds with SRTC. These project selections are incorporated into the TIP along with other federally funded or regionally significant projects.

CMP

SRTC's CMP is a regional process to both identify and address congestion in our region and is an implementation tool for Horizon 2045. The CMP uses performance measurements to identify the existence of congestion and congested corridors in the region. The CMP also proposes least cost planning strategies to mitigate congestion prior to the addition of capacity. Where additions to capacity may be appropriate, the CMP includes strategies to get the most long-term value from a project.

The CMP is used at various levels of planning and operational analysis from the MTP to the TIP to the development of individual projects. A CMP that is integrated into the metropolitan transportation planning process provides comprehensive information on the performance of the transportation system so citizens, elected officials, and member agencies will have up-to-date information regarding congestion levels and implemented strategies. The CMP also plays a significant role in justifying project prioritization, which is important given funding constraints. Additionally the CMP is

14 § 450.316 (4), WAC 468-86-150, RCW 47.80.026 and RCW 47.80.030 (3).

intended to move the congestion management strategies into the funding and implementation stages.

The CMP process also fosters collaboration with member agencies and the SRTMC by supporting regional ITS programs and projects. In this capacity the CMP serves as an educational tool for agencies, providing them with knowledge for use in transportation planning.

Comprehensive Plan Review Process

As the RTPO for Spokane County, SRTC is required to ensure that local and regional transportation plans coordinate with and are consistent with each other. The SRTC Policy Board approved the SRTC Plan Review and Certification Process Instruction Manual on September 10, 2015 to accomplish this task.[15]

Certification requires that Countywide Planning Policies (CWPP) and the transportation elements of local comprehensive plans are consistent with the RTP (Horizon 2045), GMA planning requirements, and RCW guidelines and principles related to regional transportation planning.[16] "Consistent" means that no feature of a plan or regulation is incompatible with any other feature of a plan or regulation. As part of its review and certification process, SRTC evaluates regional LOS for the following modes: vehicular, transit, and non-motorized (combined bike/walk).

Periodically, jurisdictions must review their comprehensive plan and regulations to comply with any changes in the GMA and to accommodate updated growth targets. GMA requires comprehensive plan updates every eight years.

15 https://www.srtc.org/wp-content/uploads/2016/11/Plan-Review-and-Certification-Instruction-Manual_Sept_10.pdf.

16 https://app.leg.wa.gov/RCW/default.aspx?cite=36.70A.070 and https://app.leg.wa.gov/RCW/default.aspx?cite=47.80.026.

Performance Management

As detailed earlier in this chapter, Horizon 2045 has established strategies that directly relate to the Guiding Principles and Policies. Also, SRTC uses a performance-based evaluation tool to prioritize regionally significant projects as reported in this Plan. Using the evaluation tool, SRTC grouped projects that will make improvements in differing performance area categories (figure 4.22).

SRTC will utilize these measures when reporting annually on the region's progress in meeting the Horizon 2045 Guiding Principles and Policies. This process is collectively referred to as the SRTC Performance Management Program (PMP). The Horizon 2045 PMP is the foundation for further analysis and will be refined in future plan updates as additional assessment tools and processes are developed. The end result of the PMP is to guide regional transportation decision-making.

Performance Reporting

SRTC will report annually on the performance of this plan. An annual report will also satisfy the requirement for a System Performance Report, which evaluates the condition and performance of the regional transportation system in relationship to performance targets. Performance will then be evaluated through the measures to determine progress in implementing the Horizon 2045 Strategies. The Horizon 2045 annual report will be produced after the end of each calendar year and be provided to the public and partner agencies for review and comment.

Figure 4.22: Project Listings by Performance Area Categories

Linking Performance Management to Decision Making

This figure demonstrates how regionally significant project investments have been linked to regional policy goals and federal performance areas. While this list is representative of data available today, SRTC is using an iterative approach to performance management and will continue to evaluate relevant measures to achieve a performance management process that can best measure the diversity of projects and programs in our region.

			Horizon 2045 Performance Area Categories				
Project Name	Jurisdiction	Projected Year	Stewardship	Operations	Economic Vitality	Safety	Quality of Life
Horizon 2045 Short-Term Projects (2022–2028)							
Bigelow Gulch/ Forker Rd Urban Connector	Spokane County	2022			●	●	
US 395/North Spokane Corridor - Francis Ave to Spokane River	WSDOT	2022			●		●
Central City Line	STA	2023	●	●			●
Argonne Rd/I-90 Interchange Bridge Widening	Spokane Valley	2025		●	●		
Barker Rd Reconstruction	Spokane Valley	2025					●
Pines Rd (SR 27)/ BNSF Grade Separation	Spokane Valley	2025	●		●		
Sullivan Rd/ BNSF Grade Separation	Spokane Valley	2025					●
Whistalks Way Improvements	Spokane	2025	●			●	
Division Bus Rapid Transit	STA	2027	●	●			●
Horizon 2045 Long-Term Projects (2029–2045)							
Park Rd/ BNSF Grade Separation	Spokane Valley	2030	●			●	
US 395/North Spokane Corridor - Spokane River to I-90	WSDOT	2030			●		●
Latah Bridge Rehabilitation	Spokane	2032	●	●			
US 395/North Spokane Corridor Transit	STA	2032	●	●			●
Argonne Park & Rides	STA	2034					●
I-90/US 195 Interchange Latah Creek Bridges	WSDOT	2035	●	●	●		
I-90/Barker Rd Interchange	WSDOT	2040		●	●		
SR 290 Passing Lanes	WSDOT	2040				●	
SR 904 Passing Lanes	WSDOT	2040				●	
US 195/I-90 Study Projects	WSDOT	2045				●	

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Photo Credit: Spokane International Airport

GLOSSARY

List of Acronyms

Below are the most commonly used acronyms in Horizon 2045. For a more complete list including definitions, please see the following Glossary.

Acronym	Definition
CBD	Central Business District
CMAQ	Congestion Mitigation and Air Quality
CMP	Congestion Management Process (Plan/Program)
CTR	Commute Trip Reduction
DOT	Department of Transportation
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	Greenhouse Gas
GIS	Geographic Information System
GMA	Growth Management Act
HOV	High Occupancy Vehicle
ITS	Intelligent Transportation System
JARC	Jobs Access Reverse Commute
LOS	Level of Service
LRTP	Long Range Transportation Plan
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organization

Acronym	Definition
MTP	Metropolitan Transportation Plan
NEPA	National Environmental Policy Act
PMP	Performance Management Program
RTPO	Regional Transportation Planning Organization
SEPA	State Environmental Policy Act
SOV	Single Occupancy Vehicle
SRTC	Spokane Regional Transportation Council
SRTMC	Spokane Regional Transportation Management Center
STA	Spokane Transit Authority
STIP	Statewide Transportation Improvement Program
STP	Surface Transportation Program
TDM	Travel Demand Management
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TSMO	Transportation Systems Management and Operations
VHT	Vehicle Hours of Travel
VMT	Vehicle Miles Traveled
WSDOT	Washington State Department of Transportation

List of Terms

A

Access Control
The act of controlling access to specific highways by acquiring rights of access from abutting property owners and selectively limiting approaches to the highway in order to preserve the highway's safety and efficiency.

Access Management
The controlling or managing of access along arterial roadways for the purpose of improving average travel speeds and increasing the capacity of the road, thereby improving vehicular mobility. Access management strategies may include the following:

- Physical restrictions of left turns (raised medians)
- Restricting curb cuts and direct access driveways
- Elimination of parking on the arterial
- Locating intersections at no less than minimum intervals
- Construction of frontage roads to collect local business traffic and funnel it to nearby intersections

Activity Center
A physical area characterized by concentrated activity. The area may include one type of activity, such as a large retail center, or many varied activities, such as a mixed-use development. Transit-focused, freight-focused and mixed focused employment activity centers are identified in Horizon 2040.

Adequate Public Facilities Ordinance (APFO)
An ordinance that requires a determination that there will be adequate public facilities and services available to support a development before the development is approved.

American Association of State & Highway Transportation Officials (AASHTO)
A nonprofit, nonpartisan association representing highway and transportation departments in the 50 states, the District of Columbia and Puerto Rico.

American Recovery and Reinvestment Act of 2009 (ARRA)
Pub. L. 111-5, commonly referred to as the Stimulus or The Recovery Act, was an economic stimulus package enacted by the 111th United States Congress in February 2009 and signed into law on February 17, 2009, by President Barack Obama. To respond to the Great Recession, the primary objective for ARRA was to save and create jobs almost immediately. Secondary objectives were to provide temporary relief programs for those most impacted by the recession and invest in infrastructure, education, health, and renewable energy.

Americans with Disabilities Act (ADA)
Federal legislation enacted in 1990 that prohibits discrimination based on disability and re- quires the provision and assurance of access for persons with dis- abilities to all transportation facilities, both public and private.

Arterial
A high volume road that facilitates the movement of traffic from collector roads to highways and interstates.

Asphalt Concrete Pavement (ACP)
A pavement surface consisting of plant-mixed asphalt oils and aggregate.

At-Grade Intersection
An intersection of two or more roads and/ or highways where traffic movement is controlled by traffic signs or signals.

Annual Average Daily Traffic (AADT)
The total volume of vehicle traffic of a highway or road for a year divided by 365 days.

Average Daily Traffic (ADT)
The average number of vehicles (in both directions if a two-way facility) that traveled over a road segment in a 24-hour period.

B

Bicycle Advisory Board (BAB)
Established to provide advice and direction to the Spokane City Council and all departments and offices of the City on matters relating to bicycling and to raise public awareness of bicycling issues.

Benefit/Cost (B/C) Ratio
A measure that can be used for prioritizing transportation improvement projects. A project's B/C ratio is calculated by compiling all measurable benefits and dividing by all measurable costs over a specific time period, typically 20 years.

Bike Lane
A portion of a roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicycles.

Bike Path
A bikeway physically separated from motorized traffic by an open space or barrier, either within the street right-of-way or within an independent right-of-way.

Bikeway
Any road, path or way, which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicyclists or are to be shared with other vehicles.

Bituminous Surface Treatment (BST)
A pavement surface constructed by applying liquid asphalt directly on roadway followed immediately by a layer of crushed aggregate.

Bridging the Valley (BTV)
A series of projects that have been proposed to grade separate vehicle traffic from train traffic in the 42 mile corridor between Spokane, WA and Athol, ID.

Bus Lane
A lane restricted to usage by buses by special regulations and markings.

Busway
A preferential roadway or ramp designed for exclusive use by buses, located either in a separate right-of-way or within the street/freeway corridor.

C

Capacity
The maximum rate of flow at which persons or vehicles can be reasonably expected to traverse a point or uniform segment of a path, lane or roadway during a specified time period under prevailing roadway, traffic and control conditions, usually expressed as vehicles per hour or persons per hour.

Capital
The physical assets of a transportation system such as property, buildings and vehicles.

Capital Facilities Plan (CFP)
A six to twenty year plan of capital projects with estimated costs and proposed methods of financing. Capital facilities are assets needed to support growth such as: roads, bridges, sewer, water and storm water facilities, public buildings, parks and recreation facilities.

Carbon Monoxide (CO)
A colorless, poisonous gas formed when carbon-containing fuel is not burned completely.

Census Block
A subdivision of a census tract, a block is the smallest geographic unit for which the Census Bureau tabulates 100-percent data. Many blocks correspond to individual city blocks bounded by streets. However, census blocks—especially in rural areas—may include many square miles and may have some boundaries that are not streets.

Census Tract
Small, relatively permanent statistical subdivisions of a county. Census tracts are delineated for most metropolitan areas and other densely populated counties by local census statistical area committees following Census Bureau guidelines.

Central Business District (CBD)
A commercial and employment heart of a city, such as a city center or downtown area.

Channelization
The separation or regulation of conflicting traffic movements into defined lanes of travel to provide safe and efficient movement of vehicles, bicycles and pedestrians.

Clean Air Act (CAA)
The comprehensive Federal law that regulates air emissions from area, stationary, and mobile sources.

Collector Street
Surface streets providing land access and traffic circulation service within residential, commercial and industrial areas.

Community Development Block Grant (CDBG)
Program that funds activities which address affordable housing, public facility, infrastructure, economic development, public services, and other needs of low-income persons throughout Spokane County.

Commute Trip Reduction (CTR) Law
State law enacted in 1991 requiring employers of 100 or more people to reduce the number of employee single occupancy vehicle (SOV) trips to their work site. CTR programs aid employers and their employees in using alternate commute options to reduce carbon emissions and lessen congestion.

Comprehensive Plan
A generalized, coordinated land use policy statement of the governing body of a county or city that is adopted pursuant to the Growth Management Act. Local comprehensive plans must include the following elements: land use, housing, capital facilities, utilities, transportation, and, for counties, a rural element.

Concurrency
A term used in the Growth Management Act that describes the requirement that supporting infrastructure must be in place or implemented 'concurrent with the development' to accommodate transportation impacts, or, alternately, a financial commitment is in place to provide the improvements or strategies within six years.

Congestion Management Process (CMP)
A systematic process for managing congestion that provides information on transportation system performance and alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs.

Congestion Mitigation and Air Quality Improvement (CMAQ) Program
A flexible funding program administered by the Federal Highway Administration that obligates funds to projects and programs that reduce harmful vehicle emissions.

Consolidated Metropolitan Statistical Area (CMSA)
An area consisting of two or more overlapping or interlocking urban communities (known as primary metropolitan statistical areas) with a total population of at least one million.

County Road Administration Board (CRAB)
A Board consisting of six county commissioners and three county engineers from counties throughout the state that meets quarterly to facilitate research, produce reports, administer funding and provide assistance to the 39 county road departments in Washington state.

Critical Areas
As a key part in managing growth in Washington, the Growth Management Act requires that every county and city classify and designate critical areas: wetlands, aquifer recharge areas, fish and wildlife habitat, frequently flooded areas, geologically hazardous areas and rare/endangered plant habitat.

D

Design Analysis
A usage of capacity analysis procedures to determine the size (number of lanes) required on a given segment of a facility in order to provide a specified level of service.

Determination of Non-Significance (DNS)
A Determination of Non-Significance is the written decision by the Environmental Review Committee stating a project will have limited environmental impacts and measures needed to be taken to reduce these impacts.

E

Environmental Impact Statement (EIS)
A detailed report of potential environmental and societal impacts resulting from various alternatives for a transportation project.

Environmental Justice (EJ)
The fair treatment and meaningful involvement of all people regardless of race, color, sex, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies. Environmental Protection Agency (EPA) - A federal agency responsible for environmental concerns.

Employee Transportation Coordinator (ETC)
A representative of an organization or company who promotes and coordinates CTR alternatives within that organization or company.

Expressway
A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at intersections.

F

Federal-Aid Urban Area (FAUA)
FHWA term that distinguishes the adjusted urban area boundaries allowed for transportation purposes. Responsible state and local officials in cooperation with each other, and subject to approval by the Secretary of Transportation, are allowed to adjust the census boundaries outward, as long as they encompass, at a minimum, the entire census designated urban area.

Federal Fiscal Year (FFY)
A period running from October 1st of one year until September 30th of the following year, used for federal programs and processes.

Federal Highway Administration (FHWA)
Arm of USDOT that is responsible for administering all federal-aid highway funds and programs.

Federal Transit Administration (FTA)
Arm of the U.S. Department of Transportation that regulates and helps fund public transportation services within local communities and in rural areas.

Fixing America's Surface Transportation Act (FAST Act)
A federal law to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act authorizes $305 billion over fiscal years 2016 through 2020, signed on Dec 4, 2015.

Freeway
A divided arterial highway designed for the safe, non- impeded movement of large volumes of traffic, with full control of access and grade separations at intersections.

G

Geographic Information System (GIS)
Computerized geographic data storage, analysis, and display system. GIS allows the assignment of multiple layers of data sets to a map of a given area.

Grade Separation
The raising or lowering of a road, highway or railroad grade to bridge over or pass under another road, highway or rail line, eliminating traffic movement conflicts and increasing safety.

Growth Management Act (GMA)
The GMA (RCW 36.70A) was passed by the Washington State Legislature in 1990 to create a method for comprehensive land use planning involving citizens, communities, counties, cities, and the private sector that would prevent uncoordinated and unplanned growth. The Legislature found this type of uncontrolled growth posed a threat to the environment, sustainable economic development, and the health, safety, and high quality of life enjoyed by residents of Washington state. To address this threat, the GMA requires counties of a certain size and growth rate, and the cities within them, to adopt comprehensive plans and development regulations which are guided by 14 goals which include the consideration of transportation, housing, economic development, natural resource industries, property rights, and the environment.

Growth and Transportation Efficiency Center (GTEC)
A program that works with businesses, schools, and neighborhoods in a defined area to find new ways to encourage commuters to ride transit, vanpool, carpool, walk, bike, work from home, and use other commute options besides driving alone. The overall goal is to work with employers to set trip-reduction incentive programs, educate workers about commute choices and help enhance local policy in order to ease traffic and reduce greenhouse gas emissions.

H

Highway Advisory Radio (HAR)
Low-power AM radio stations set up by local transport departments to provide bulletins to motorists and other travelers regarding traffic and other delays.

High Capacity Transit (HCT)
A public transit system, such as light or commuter rail, that can accommodate large volumes of passengers. High Occupancy Vehicle (HOV) - A vehicle carrying enough people (usually two or more) to be eligible to travel in lanes designated for use by carpools, vanpools and buses.

High Performance Transit (HPT) Network
Spokane Transit's terminology for a series of local and regional transportation corridors offering frequent, reliable, all day mass transit service.

Highway Trust Fund (HTF)
A transportation fund established to ensure financing for maintenance of the United States Interstate Highway System and certain other roads. Money in the fund is raised via a federal fuel tax.

Highway/Transit Assignment
The final step in travel forecasting. A forecast of the highway route or transit route a trip will traverse. Highway/transit assignment simulates the traffic volumes and transit ridership on the highway and transit system.

I

I/C
Interchange.

Infrastructure
The essential elements of a structure, system, plan of operations, etc.

Intelligent Transportation System (ITS)
Generally refers to the application of advanced electronics and computer technology to automate highway and vehicle systems to enable more efficient and safer use of existing roadways.

Inter-local Agreement
An agreement among the jurisdictions within a Regional Transportation Planning Organization (RTPO) that establishes the organization and defines duties and relationships for member counties. The agreement governs RTPO operations and is submitted as part of the RTPO's designation package.

Intermodal
Refers to transfer facilities where freight or passengers change modes of transport. For example, an airport is an intermodal facility where freight and passengers make intermodal transfers between motorized vehicles and airplanes.

Interstate Safety Matrix
Interstate Highway Design Manual guidelines for roadway geometric and roadside elements.

J, K, L

Just-In-Time Delivery Systems (JIT)
A production strategy that strives to improve a business' return on investment by reducing in-process inventory and associated carrying costs. The strategy involves ordering or receiving parts or products only when the current supply is near depletion.

Job Access and Reverse Commute (JARC)
A program established to address transportation challenges faced by welfare recipients and low-income persons seeking to obtain and maintain employment.

Land Use Assumptions
The existing and proposed land uses (e.g., retail, various residential densities, office, manufacturing, et cetera) used in developing travel forecasts. Housing units and employment numbers in the travel forecasting process represents these land uses.

Level of Service (LOS)
A gauge for evaluating the quality of service on the transportation system. Described by travel times, freedom to maneuver, traffic interruptions, comfort, convenience and safety.

Limited English Proficiency (LEP)
Individuals who have a limited ability to read, write, speak, or understand English.

Link Concurrency Management System
A gauge for evaluating the quality of service on the transportation system. Described by travel times, freedom to maneuver, traffic interruptions, comfort, convenience and safety.

Local Improvement District (LID)
A program that helps pay for improvements such as streetlights, street and alley paving and water and sewage systems.

Long Range Plan (LRP)
A transportation plan with at least a 20- year horizon that identifies what transportation options best serve a community's needs and expectations, as well as approved transportation and highway projects, and funding forecasts.

LRT
Light rail transit.

M

Maintenance Costs
Costs of performing those activities that ensure that the right-of-way and each type of roadway, roadway structure, and facilities remain, as nearly as practical, in its original, as-constructed condition or its subsequently improved condition, and the operation of roadway facilities and services to provide satisfactory and safe motor vehicle transportation. Maintenance costs do not include preservation, improvement, or new construction projects.

Manual of Uniform Traffic Control Devices (MUTCD)
A manual that defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic.

Metropolitan Area Boundary (MAB)
An area determined by an agreement between the governor and the MPO as defined in 23 USC 134.

Mile Post (MP)
One of a series of numbered markers placed along a road or boundary at intervals of one mile or occasionally, parts of a mile. They are typically located at the side of the road or in a median.

Mitigated Determination of Non-Significance (MDNS)
The written decision by the Environmental Review Committee stating a project will have limited environmental impacts and measures need to be taken to reduce these impacts.

Metropolitan Planning Area (MPA)
The geographic area in which the metropolitan transportation planning process must be carried out. The MPA boundary shall, as a minimum, cover the urbanized area(s) and the contiguous geographic area(s) likely to become urbanized within the twenty year forecast period covered by the transportation plan. The boundary may encompass the entire metropolitan statistical area or consolidated metropolitan statistical area, as defined by the Census Bureau.

Metropolitan Planning Organization (MPO)
A planning organization that is required by federal regulation in all urban areas with a population of over 50,000. The MPO coordinates transportation and land use planning within its designated region.

Metropolitan Statistical Area (MSA)
A geographical region with a relatively high population density at its core and close economic ties throughout the area.

Metropolitan Transportation Plan (MTP)
A product of the regional transportation planning process. It guides the improvement of the regional transportation system. Identifies and addresses regional transportation issues.

Model
A set of mathematical formulas that express the actions and interactions of the elements of a system in such a manner that the system may be evaluated under any given set of conditions—i.e., land use, economic, socioeconomic, and travel characteristics.

Motor Vehicle Emissions Budget (MVEB) for CO
Establishes a limit for the total CO emissions allowable by mobile sources in the Spokane air quality maintenance plan area.

Motor Vehicle Excise Tax (MVET)
A tax paid annually by residents who own and register a motor vehicle.

Moving Ahead for Progress in the 21st Century Act (MAP-21)
The federal transportation funding program signed into law July 6, 2012.

Multimodal
Refers to a plan or program that accounts for the needs and/or trends of multiple modes.

N

National Ambient Air Quality Standards (NAAQS)
Standards established by the United States Environmental Protection Agency under authority of the Clean Air Act (42 U.S.C. 7401 et seq) that apply for outdoor air throughout the country. The standards are set for six principal “criteria” pollutants: Carbon Monoxide (CO), Lead (Pb), Nitrogen Dioxide (NO2), Ozone (O3), Particulate Matter (PM), and Sulfur Dioxide (SO2).

National Environmental Policy Act (NEPA)
An Act to establish a national policy for the environment, to provide for the establishment of a Council on Environmental Quality and for other purposes.

National Transit Institute (NTI)
An education program to develop, promote, and deliver training and education programs for the public transit industry.

Nitrogen Dioxide (NO2)
A gas and strong oxidizing agent that is one of the major components of acid rain and smog.

Nitrogen Oxide (NOx) Pollutants
A group of gases made up of different levels of oxygen and nitrogen. Two of the most common nitrogen oxides are Nitrogen Dioxide and Nitric Oxide. NOx is formed when fuels such as oil, gas and coal are burned at a high temperature and is given off in forms such as smog.

Non-attainment Area (NAA)
An area designated by EPA in which National Ambient Air Quality Standards are exceeded.

O

Office of Financial Management (OFM)
Washington state department that provides vital information, fiscal services and policy support to the Governor, legislature and state agencies.

Operating and Maintenance (O&M)
All actions which have the objective of retaining or restoring an item in or to a state in which it can perform its required function.

Operation Costs
Costs of road/street activities that are necessary to fulfill a legal requirement and/or to ensure the proper road/street operations, but are not associated directly with a specific maintenance activity, preservation, improvement, new construction project, or other activity separately recognized or financed.

Ozone (Oz)
A gas that occurs in the Earth's upper atmosphere and at ground level. At the ground level it can be harmful for the health of people, animals, and the environment.

P

Particulate Matter (PM)
Tiny airborne particles resulting from wood stove burning, outdoor burning, road dust and industry which can get in lungs and impair the respiratory system.

PM2.5
Particulate matter such as dust, dirt, soot or smoke found in the air that is smaller than 2.5 micrometers in size (100 times thinner than a human hair).

PM10
Particulate matter such as dust, dirt, soot or smoke found in the air that is between 2.5 and 10 micrometers in size (from about 25 to 100 times thinner than a human hair).

Peak-Hour Factor
The hourly volume during the maximum volume hour of the day divided by the peak 15 minute rate of flow within the peak hour.

Performance Management Program (PMP)
The regular ongoing process of selecting performance measures, setting targets, collecting data, reporting on progress and using measures in decision-making.

Planned Unit Development (PUD)
Planned Unit Developments consist of residential buildings clustered or laid out with reduced setbacks and amenities such as adequate open spaces and other design provisions are provided.

Planning Analysis
A use of capacity analysis procedures to estimate the number of lanes required by a facility in order to provide for a specified level of service based on approximate and general planning date in the early stages of project development.

Point Source
Identifiable pollution sources such as large industries that emit significant levels of air pollutants in a specific geographic location.

Portland Cement Concrete Pavement (PCCP)
A pavement surface consisting of plant-mixed concrete using Portland cement and aggregate.

Preliminary Engineering (PE)
All work needed to allow for construction including construction plans, specifications and cost estimates for transportation facilities.

Preservation Costs
Cost of performing activities involved in extending the originally estimated life of each type of roadway, roadway structure, and facility, but does not increase its traffic flow capacity or efficiency. Preservation does not include maintenance activities or new or improvement construction projects

Programmed Project
A project that has expenditures planned within a specific Transportation Improvement Program (TIP).

Public Participation Plan (PPP)
A plan that guides public involvement in transportation planning processes. These policies set standards for SRTC and affect the eligibility of local projects to receive federal transportation funding.

Public Private Partnership (PPP)
A government service or private business venture funded and operated through a partnership of government and one or more private sector companies.

Public Transportation Benefit Area (PTBA)
A special taxing district established by Washington state for the purpose of providing public transportation. Spokane Transit's PTBA includes the cities of Airway Heights, Cheney, Medical Lake, Millwood, Liberty Lake, Spokane, and Spokane Valley, as well as portions of the unincorporated county.

Public Works Trust Fund (PWTF)
An account that provides low- interest loans and technical assistance to local governments for public-works projects and infrastructure needs.

Q, R

Regional Transportation Authority (RTA)
A government agency that addresses public transportation issues.

Regional Transportation Planning Organization (RTPO)
A voluntary association of local governments within a region. They are authorized under the Growth Management Act to facilitate the development of a regional transportation plan. The RTPO coordinates transportation planning efforts of all government units within the region.

Revised Code of Washington (RCW)
A compilation of all permanent Washington state laws now in force.

Route Development Plan (RDP)
A long-range plan for a specific highway corridor that describes existing highway conditions, local land use plans and recommends improvements and goals for future improvements and transportation services.

Right-of-Way (ROW)
A strip of land that is granted, through an easement or other mechanism, for transportation purposes, such as for a trail, driveway, rail line or highway. A right-of-way is reserved for the purposes of maintenance or expansion of existing services.

S

Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users (SAFETEA-LU)
The previous funding bill that governed U.S. federal surface transportation spending. It expired on September 30, 2009 and was extended multiple times before MAP-21 was enacted.

Single Occupancy Vehicle (SOV)
A privately operated vehicle whose only occupant is the driver.

Spokane Regional Clean Air Agency (Spokane Clean Air)
The local agency which administers and enforces state, federal and local air pollution laws and regulations.

State Implementation Plan (SIP)
A plan for complying with the federal Clean Air Act administered by the Environmental Protection Agency.

Spokane International Airport (SIA)
The region's largest commercial service airport served by seven airlines, two air cargo carriers and other aviation services. The City and County of Spokane jointly own Spokane International Airport, Felts Field Airport, and the Airport Business Park (collectively known as Spokane Airports). The operating authority of Spokane Airports is the Spokane Airport Board, consisting of seven appointees from the two governmental bodies.

Spokane Regional Transportation Management Center (SRTMC)
A multi-jurisdictional control facility that provides regional advanced transportation management capabilities. The SRTMC is controlled and funded by the Cities of Spokane and Spokane Valley, Spokane Transit Authority, Spokane County, Washington State Department of Transportation, and the Spokane Regional Transportation Council.

Spokane Transit Authority (STA)
The predominant public transportation provider for Spokane County. STA is a municipal corporation that was formed in 1980 to administer mass transit services throughout the newly established Public Transportation Benefit Area (PTBA).

State Environmental Policy Act (SEPA)
State policy that requires state and local agencies to consider the likely environmental consequences and mitigation of environmental impacts of a proposal before approving or denying the proposal.

State Route (SR)
A road (highway) maintained by the state.

Statewide Transportation Improvement Program (STIP)
A 4-year transportation planning document required by the Federal Highway Administration.

Sulfur Dioxide (SO2)
A gas or liquid resulting from the burning of sulfur containing fuel.

Surface Transportation Program (STP)
A program that provides flexible funding that may be used by States and localities for projects on any Federal-aid highway, including bridge projects on any public road, transit capital projects, and intra-city and intercity bus terminals and facilities.

T

Transportation Advisory Committee (TAC)
An advisory committee to the SRTC Board responsible for recommendations regarding the policy aspects of plans, programs, and activities conducted by SRTC. The TAC was formed to promote transparency and provide an opportunity for the public to be more involved in SRTC's programs and activities.

Transportation Analysis Zone (TAZ)
An area designated for the study and modeling of travel characteristics in order to create a database of information about the number of trips, trip length and trip purpose by mode and time-of-day.

Transportation Benefit District (TBD)
Quasi-municipal corporations with independent taxing authority, including the authority to impose taxes or fees to finance construction of, and operate, improvements to roadways, high capacity transportation systems, public transit systems, and other transportation management programs.

Transportation Control Measure (TCM)
Measures contained in the State Implementation Plan (SIP) that are designed to reduce vehicle related air pollution.

Transportation Demand Management (TDM)
Action intended to modify travel behavior, usually to lessen single occupant vehicle demand and to avoid more costly expansion of transportation systems.

Transportation Impact Analysis (TIA)
Study conducted to evaluate the transportation systems' ability to accommodate additional traffic generated by a proposed development.

Transportation Improvement Board (TIB)
An independent state agency that distributes funding and manages street construction and maintenance grants to cities and urban counties throughout Washington state.

Transportation Improvement Program (TIP)
A multi-year funding program document that lists federally and non-federally funded transportation improvements proposed by various jurisdictions.

Transportation Investment Generating Economic Recovery (TIGER)
A supplementary discretionary grant program included in the American Recovery and Reinvestment Act of 2009.

Transportation Management Area (TMA)
An area designated by the Secretary of Transportation, having an urbanized area population of over 200,000, or upon special request from the Governor and the MPO designated for the area.

Transportation Network Company (TNC)
A TNC is an organization that provides pre-arranged transportation services for compensation using an online-enabled platform to connect passengers with drivers using the driver's personal vehicle. TNC's include companies such as Lyft and Uber.

Transportation Technical Committee (TTC)
An advisory committee to the SRTC Board responsible for recommendations regarding the technical aspects of plans, programs, and activities conducted by SRTC. The TTC is composed of professionals from local and state agencies who work to assure a coordinated and well-planned regional transportation system.

Transportation Systems Management and Operations (TSMO)
Refers to multimodal transportation strategies to maximize the efficiency, safety, and utility of existing and planned transportation infrastructure.

Trip Distribution
The forecasting of where trips begin and where they end in the travel demand modeling process. This is done for different trip purposes and trip types.

U

Unified Planning Work Program (UPWP)
A federally-mandated document serving as the annual work plan for local and regional transportation planning projects.

United States Department of Transportation (USDOT)
A federal Cabinet department of the U.S. Government concerned with transportation.

Unsignalized Intersection
Any intersection not controlled by traffic signals.

Urban Area (UA)
Term that refers collectively to the Urbanized Areas (UZA) and Urban Clusters (UC) designated by the Census Bureau for the decennial census. See also Federal-Aid Urban Area (FAUA).

Urban Area Boundary (UAB)
Boundary of census classification area having populations of 5,000 or more and that meet certain population density requirements.

Urban Cluster (UC)
A statistical geographic entity designated by the Census Bureau consisting of a central core and adjacent densely settled territory that together contains between 2,500 and 49,999 people. Typically, the overall population density is at least 1,000 people per square mile. Urban Clusters are based on census block and block group density and do not coincide with official municipal boundaries.

Urban Growth Area (UGA)
Areas where urban growth within is encouraged and where growth outside can occur only if it is not urban in nature.

Urbanized Area (UZA)
A census classification for areas having populations of 5,000 or more and that meet certain population density requirements (generally at least 1,000 persons per square mile).

V

Vehicle Hours of Travel (VHT)
The total time for a vehicle to complete a trip, analyzed cumulatively or averaged. In travel demand modeling applications, VHT is computed as the product of the link volume and the link travel time, summed over all links. Also referred to as Vehicle Hours Traveled.

Vehicle Miles Traveled (VMT)
The total number of miles driven by all vehicles within a given time period and geographic area. For travel demand modeling applications, VMT is computed as a combination of the number of vehicles in the system and the distance they traveled.

Volume to Capacity Ratio (V/C)
The ratio of traffic volume to capacity for a traffic facility.

Volatile Organic Compounds
Unstable or carbon-based compounds that, when combined with nitrogen oxides, will produce ozone.

W, X, Y, Z

Washington State Department of Transportation (WSDOT)
Government agency that constructs, maintains, and regulates the use of Washington state's transportation infrastructure.

Washington State Transportation Research Center (TRAC)
Cooperative research agency comprised of the WSDOT, University of Washington and Washington State University.

Washington State Transportation Commission (WSTC)
The board of directors of WSDOT, providing oversight to ensure the Department delivers quality transportation facilities and services in a cost-effective manner.

HORIZON 2045

Spokane Metropolitan Transportation Plan

Horizon 2045 | Spokane Metropolitan Transportation Plan
Adopted December 9, 2021

Spokane Regional Transportation Council
www.srtc.org

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