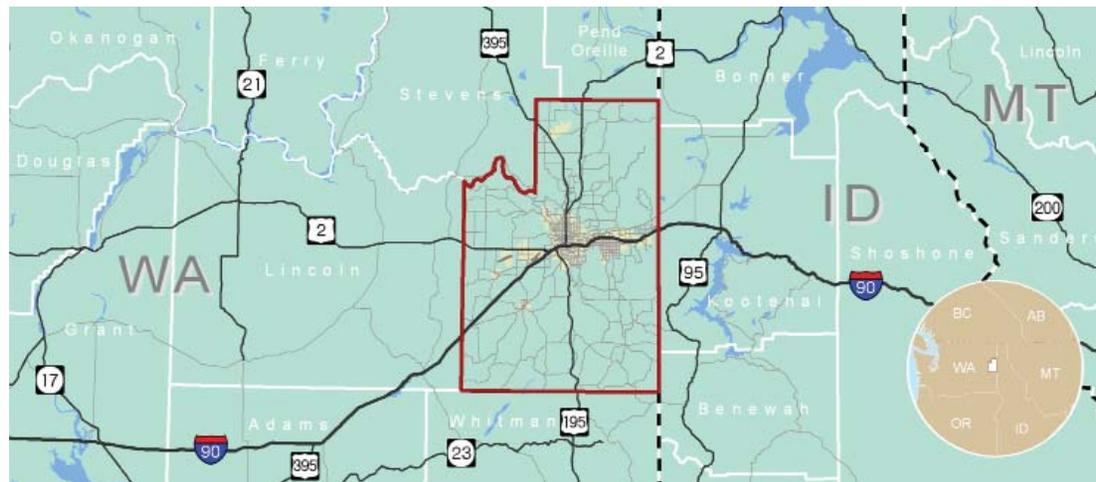


# WHERE WE'RE AT

## HORIZON 2040 • CHAPTER 2

Approved by the SRTC Policy Board December 12, 2013



### TABLE OF CONTENTS:

Regional Profile.....	2-1	Public Transportation .....	2-17
Description of Regional System .....	2-4	Analysis of Existing System .....	2-20
Road System .....	2-4	Planning Assumptions.....	2-20
Freight .....	2-6	Land Use .....	2-22
Air .....	2-12	State of Regional System .....	2-30
Nonmotorized .....	2-13	Summary of Existing Conditions.....	2-62

## EXISTING CONDITIONS

*How the demographic, natural and built environments impact the exiting transportation system*

In order to develop an effective, implementable transportation plan, it is important to be able to see the region clearly. An understanding of where we stand today is imperative to satisfying the performance measures and reaching the goals we set for tomorrow, and years into the future.

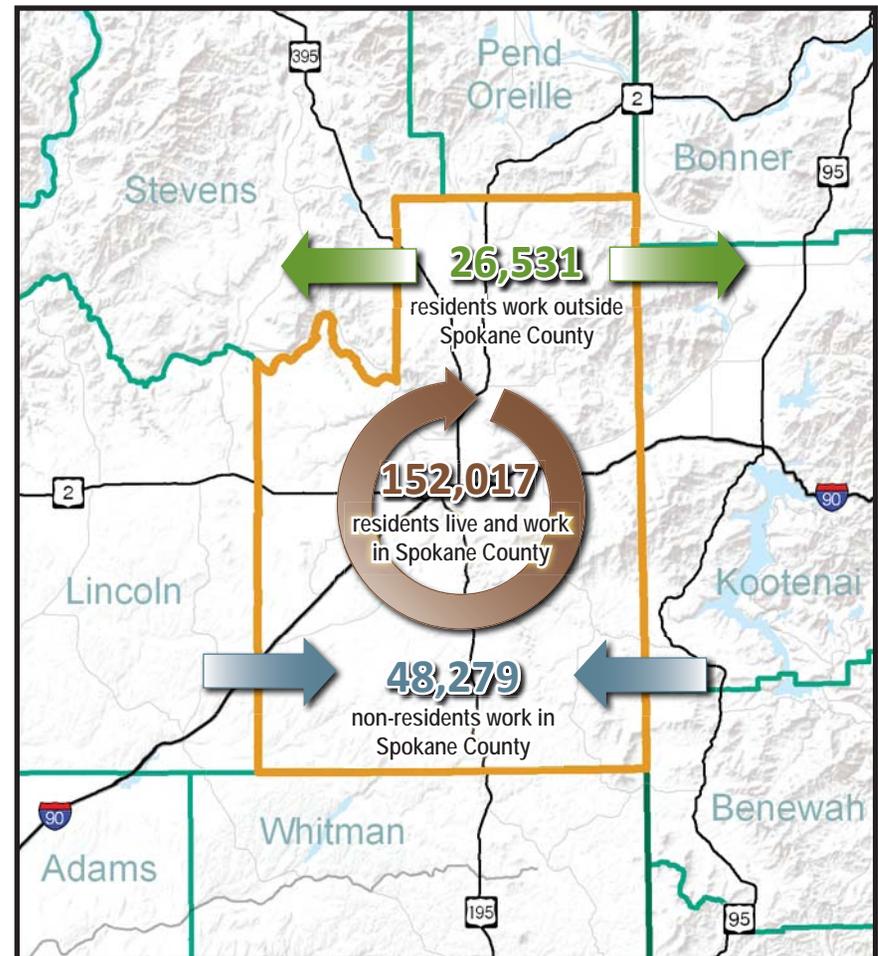
This chapter provides an overview of the region's demographics and existing conditions including employment trends, commute patterns, the conditions of area roads and bridges, traffic volumes, and the movement of freight. This information is essential to provide the basis for evaluating the region's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

## REGIONAL PROFILE

Spokane County is 1,781 square miles in size with a population density of 267 persons per square mile. The population density in the Spokane Urbanized Area (UZA) is 2,334 persons per square mile. The county is located in eastern Washington, bordering the state of Idaho. The proximity to Kootenai County and the communities of Coeur d'Alene and Post Falls has a significant influence on the transportation system in Spokane County. Approximately 6.4 percent of Kootenai County commute trips are destined for employment sites in Spokane County<sup>1</sup> (Figure 2.1). The adjacent counties in eastern Washington (Pend Oreille, Stevens, Lincoln and Whitman) also impact Spokane's system. More than 24 percent of the people employed in Spokane County live outside the county and commute into the area.

<sup>1</sup> Spokane and Kootenai County Regional Travel Survey, 2005.

Figure 2.1 Regional Commute Flow



Source: LED On The Map, U.S. Census Bureau

Similar to the United States and Washington State, Spokane County has undergone a series of demographic shifts over the past few decades that will have a significant impact on the regional transportation system. In particular, as shown in Figure 2.2, the 2010 Census indicated that there are now more single person households in Spokane County than households with children. In just 20 years,

# SPOKANE COUNTY

**471,221**

2010 County Population

**109,502 CHILDREN**

Population under 18 makes up **23.2%**

**60,969 SENIORS**

Population over 65 makes up **12.9%**

**13.5% of the population\* has a DISABILITY**

\*Total civilian noninstitutionalized population



Average Household Size

**2.44 persons**

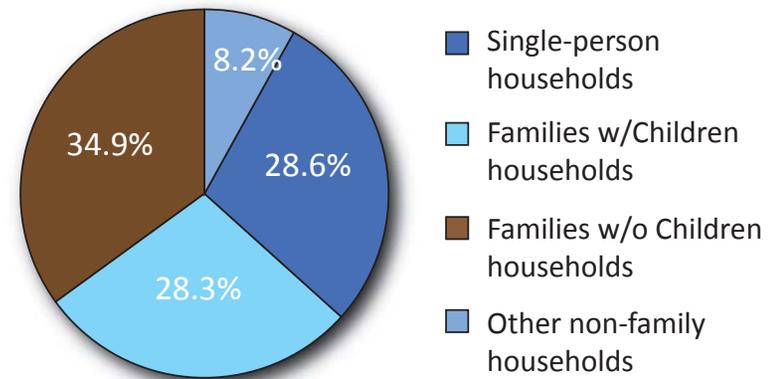
Sources: 2010 U.S. Census Bureau and American Community Survey 2009-2011 3-Year Estimates

the percentage of households with children decreased from 34 percent to just over 28 percent. Overall, the evaluation of Census data indicates that households are getting smaller, and that the population is getting older. Policy choices and investment decisions contained in Horizon 2040 will need to consider these demographic trends and how they will impact regional transportation systems and services.

The median age of the county population is 36.8 and the average household size is 2.44 persons. More than 24 percent of the population is age 18-34, 39.2 percent is age 35-64, 12.9 percent is age 65 or older. Life expectancy at Birth is 79.2 as of 2010. This is higher than that of the US as a whole (78.7), and lower than that of Washington State (80.3).

While life expectancy in Spokane County is 79.2, there is a disparity between males and females. Female life expectancy is 81.3, while male life expectancy is 77.0. The implications of the increase in the county's aging population are significant, especially in the context

Figure 2.2 2010 Household Makeup - Spokane County

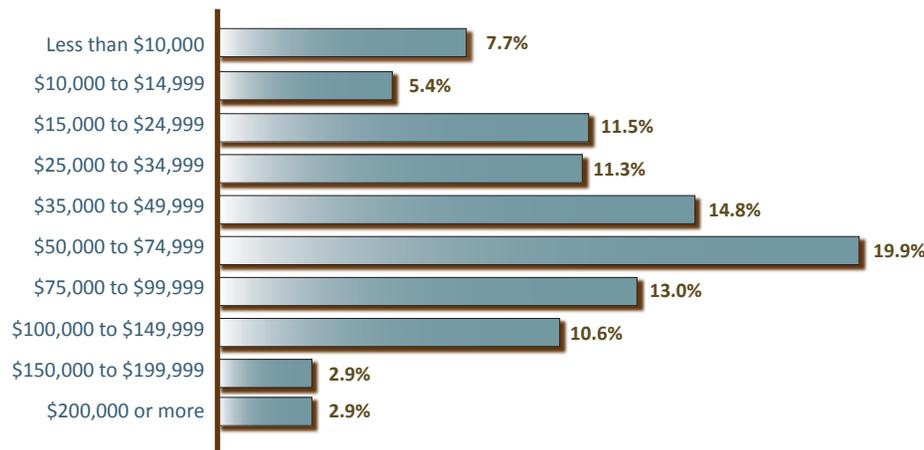


Source: 2010 U.S. Census Bureau

of planning for future transportation system needs. Of particular note, there is a substantial amount of seniors who live in the outlying areas. The need for services in those areas will most likely increase, especially for public transportation.

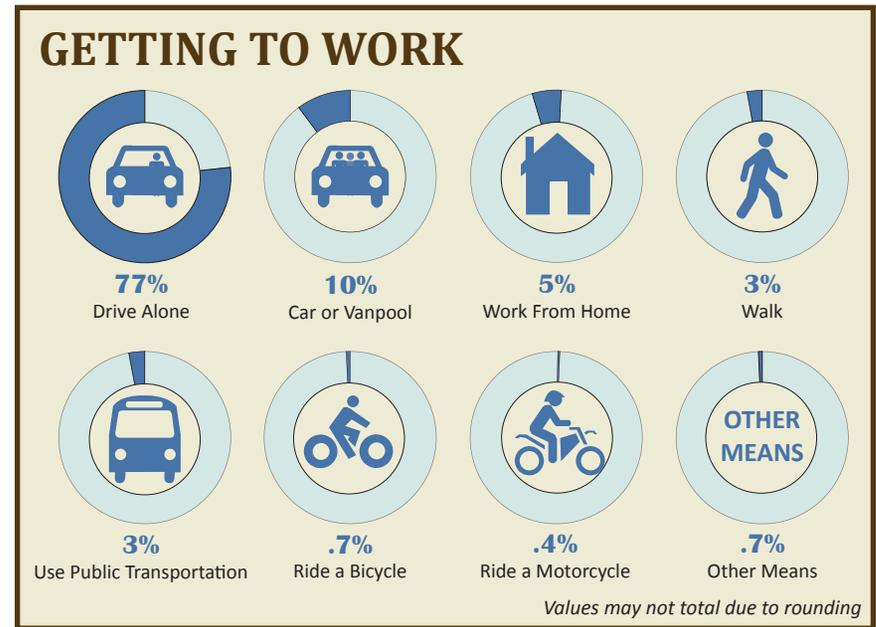
The median household income in Spokane County is \$49,257 (\$58,890 in Washington State) while 14.4 percent of the population lives below the federal poverty level and 7.2 percent of households have no vehicles available. For income grouping detail see Figure 2.3. The county labor force is 235,487 workers with 21,634 unemployed residents (9.2 percent). The total number of firms in Spokane County is 15,893 (66 percent employ four or less persons, 14 percent employ between 5 and 9 workers). Of these workers 17.2 percent work in government, 16.8 percent work in health care and social assistance, 12.3 percent work in retail trade, and 7.3 percent work in manufacturing<sup>2</sup>. The total Gross Domestic Product (GDP) for Spokane County is \$18,090,000,000 (\$38,390 per capita).

**Figure 2.3 Annual Income Groupings by Percent of Population**



Source: U.S. Census Bureau American Community Survey 2007-2011 5-year Estimates

2 Washington State Employment Security Department, Labor Market and Economic Analysis Branch, 2011

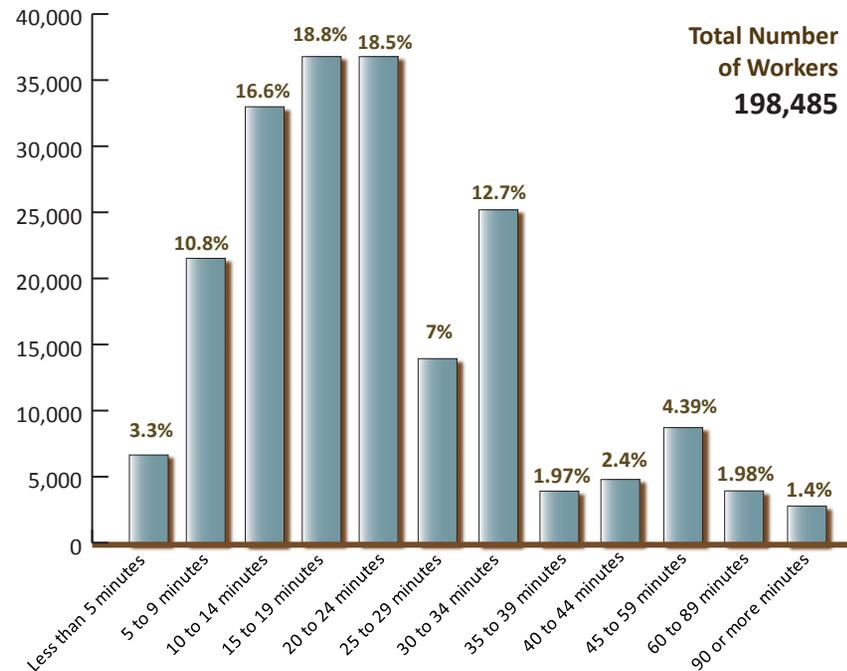


Source: U.S. Census Bureau American Community Survey 2007-2011 5-year Estimates

While the primary mode of commute to work is to drive alone, the Texas Transportation Institute reports that in Spokane County, only 13 percent of peak Vehicle Miles Travelled (VMT) is congested travel and 15 percent of lane-miles are impacted with a congested time of 1.75 hours. Even so, the delay per person for peak commuting adds up to sixteen hours annually, resulting in a total congestion cost of \$90 million for the Spokane area (\$329 per peak auto commuter). The congestion costs of \$23 million for trucks alone illustrates the impact to area businesses.<sup>3</sup> The mean travel time to work is 21.4 minutes. See Figure 2.4.

3 Texas A&M Transportation Institute, Annual Urban Mobility Report <http://mobility.tamu.edu/files/2011/09/spoka.pdf> Congestion Cost is calculated as the value of travel delay for 2010 (estimated at \$16.30 per hour of person travel and \$88.12 per hour of truck time) and excess gasoline consumption (passenger vehicles) and diesel (trucks) estimated using state average cost per gallon.

**Figure 2.4 Travel Time to Work**



Source: U.S. Census Bureau American Community Survey 2007-2011 5-Year Estimates

## DESCRIPTION OF THE REGIONAL TRANSPORTATION SYSTEM

The transportation system in Spokane County 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.

### ROAD SYSTEM

As previously stated, users of the regional transportation system experience very little congestion and delays are short compared to larger urban areas. However, the Spokane region has struggled with air quality issues in the past and, like many areas across the country, residents have grappled with rising transportation costs.

Spokane’s regional roadway network is comprised of a series of streets and highways owned and operated by local jurisdictions and the Washington State Department of Transportation (WSDOT). Roadways are characterized by their function in a community as well as their function in the overall transportation system. Based on their function, roadways are designed and constructed to ensure the movement of people and goods in a manner that is both safe and efficient. In Spokane County, there are 4,386 centerline miles and 9,285 lane miles of roadway (see Table 2.1 for detail). Federal Functional Classification (FFC) data is collected on an annual basis and imported into SRTC’s travel demand model with each model update. The roadway network in the travel demand model includes all roadways classified as collector or higher. In addition, a number of local roads are activated to better reflect local travel patterns and transit operations.

### Federal Functional Classifications

Local governments are struggling with financial challenges, particularly how to fund upkeep and improvements to 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 current roadway system:

#### Freeways and Divided Highways

Freeways and highways carry a large amount of traffic at high speeds. They have limited access with freeway interchanges typically a mile or more apart.

#### Principal Arterials

Principal Arterials carry large volumes of traffic to major destinations

throughout the metropolitan area. Very often, principal arterials connect to state highways and county roads going to outlying areas. Typically, a principal arterial will have at least two lanes in each direction with curbs and sidewalks. Most major intersecting streets are controlled with traffic lights and have provisions for public transportation services.

**Minor Arterials**

Minor arterials connect residential business districts into the larger transportation system by accumulating traffic from lower classifications of roadways. These roads can have a variety of design characteristics, based on what part of the community they are located in and the amount of activity surrounding them. Typically minor arterials have a mix of residential and commercial/retail activity along them. The classification is based more on how they contribute to connecting the transportation system than on the volume of traffic using them.

**Table 2.1 2012 Roadway Miles by Federal Functional Classification**

Rural				Urban			
FFC No/ Type	Centerline Miles	Lane Miles	% L-M	FFC No/ Type	Centerline Miles	Lane Miles	% L-M
1 Interstate	17	66	1	11 Interstate	28	144	3
2 Principal Arterial	64	169	4	12 Other Freeways	18	66	1
6 Minor Arterial	21	41	1	14 Principal Arterial	176	625	13
7 Major Collector	421	844	18	16 Minor Arterial	231	506	11
8 Minor Collector	307	613	13	17 Urban Collector	176	357	8
9 Local Access	1,460	2,919	63	19 Local Access	1,468	2,936	63
<b>TOTAL</b>	<b>2,288</b>	<b>4,652</b>		<b>TOTAL</b>	<b>2,097</b>	<b>4,633</b>	

Source: WSDOT and SRTC

**Collectors**

Collectors bring together traffic generated for a variety of local land uses onto one roadway that connects to either a minor or principal arterial. Typically collectors are streets with one lane in each direction, traverse neighborhoods at low volumes and slower speeds, and are not designed to carry trips through a community or carry heavy vehicles, except in commercial or industrial areas.

**Local Streets**

Local streets provide direct access to individual properties and are designed to meet the specific needs of the local neighborhood. They have slower speeds and lower volumes with traffic control being limited to yield and stop signs. These roads may or may not be paved or have curbs and sidewalks. While all other classifications may have some degree of access, the local street category represents the highest ability to gain access to the transportation system. As mentioned previously, a small number of local roads are activated in the travel demand model to better reflect local travel patterns and transit operations.

**Regional Travel Demand Model Street Typology**

In simplistic terms, the FFC System provides five broad categories in which to classify roadways based on their primary function: to provide land access or to provide mobility. To better reflect field-operating conditions unique to a specific roadway, the SRTC Regional Travel Demand Model has numerous categories of street typology in which capacity, directionality, transport systems, speed, and other attributes are further differentiated.

**Map 2.1** illustrates the Federal Functional Classification System for the Spokane Metropolitan Planning Area.

**Bridges**

Since the 2007 tragedy of the Interstate 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 Engineer’s 2009 Infrastructure Report Card, 26 percent of the nation’s bridges are structurally deficient or functionally obsolete. An estimated \$17 billion investment is needed annually to fix the back log of bridge deficiencies in the United States<sup>4</sup>. The importance of bridge inspections, maintenance, repair, and reconstruction, or replacement if necessary, is an area of strong emphasis in Horizon 2040.

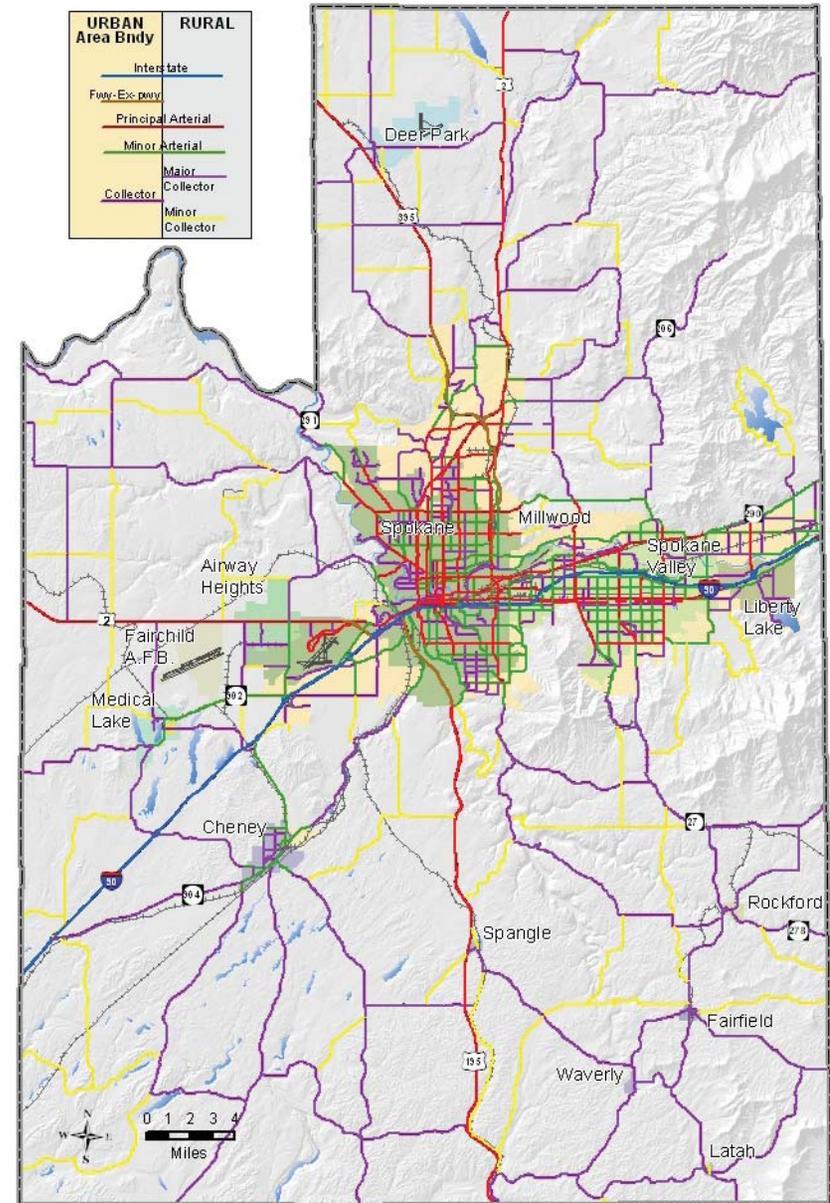
There are 355 bridges in Spokane County, of which 163 are maintained by Spokane County, 148 by WSDOT and 44 by the City of Spokane. Spokane County inspects and/or maintains bridges in the City of Spokane Valley and in the smaller cities and towns in addition to ones in the unincorporated area of the County. Of the 163 bridges listed in Spokane County’s inventory, 15 are classified functionally obsolete (FO), and 11 are rated structurally deficient (SD). WSDOT has 148 bridges in Spokane County with 35 rated functionally obsolete and nine structurally deficient. Of the City of Spokane’s 44 bridges, three are functionally obsolete and one is structurally deficient.

### FREIGHT TRANSPORTATION SYSTEM

Spokane County is the heart of the Inland Northwest and serves as the regional hub for the movement of people, goods and services. Fifty four 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 commodities transported by truck (electronics, apparel, food, and other consumer goods) which have a higher cost per pound and may

4 2009 Infrastructure Fact Sheet. ASCE. [http://infrastructurereportcard.org/sites/default/files/RC2009\\_bridges.pdf](http://infrastructurereportcard.org/sites/default/files/RC2009_bridges.pdf)

Map 2.1 Federal Functional Classification



Source: WSDOT FFC

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. Typically, the most time-sensitive and expensive products move by air freight.

The top commodities exported from the county are lumber/wood products, food/kindred 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 with the inclusion of pulp, paper or allied products. Secondary traffic is also a major part of the activity. Secondary traffic represents the movement of goods within the area and is an indicator of logistics activity 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 developing strategies to raise the competitive profile of the area. The Inland Pacific Hub (IPH) is a public-private partnership established by and composed of public and private sector representatives from Idaho and Washington. The goal of the IPH was to examine the feasibility of establishing the Inland Pacific region as a multi-modal global gateway to increase domestic and international commerce. The effort was completed in two phases between 2009 and 2012 and continues as a forum for regional transportation leaders in both the public and private sector to discuss implementation of the recommended strategies.

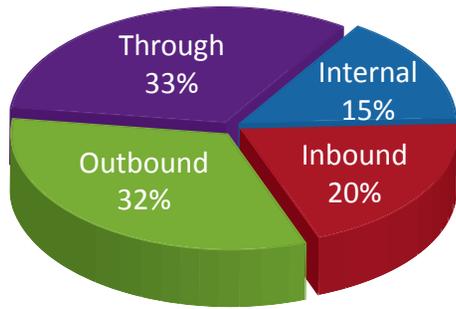
**Phase 1** of the IPH effort was an economic development and regional freight movement analysis referred to as the Inland Pacific Hub Transportation Study. The study was a planning effort to

optimize future transportation improvements to move shipments with maximum safety and efficiency 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. Phase 1 included an outreach effort aimed at helping regional businesses to provide information about freight activity levels, supply chain structures, and opinions on transportation services in the Inland Pacific Hub region.

**Phase 2** involved the development of a Transportation Investment and Project Priority Blueprint based on the findings and recommendations derived from the results of 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 2040. For more information on the Inland Pacific Hub see the project website: <http://www.inlandpacifichub.org/>.

### ***Trucking***

Trucking is the dominant mode of freight transport in the Spokane area. More commodities flow outbound via truck (31.8 percent) than inbound via truck (20.5 percent). This finding points to the likelihood of many empty trucks returning to the area. Through-traffic accounts for 33 percent of tonnage and 45 percent of value. Combined, inbound and outbound truck flows are concentrated to the west and south of Spokane County. Flows to and from the north represent only 1.6 percent of tonnage for all inbound and outbound



**Truck Flows by Type**

flows. The IPH study findings suggest some unrealized potential for increased export and import trade with northern markets.

Directional flow analysis was used in the IPH study

to identify truck related lane balance issues that directly impact trade gaps, access, and economic return. Lane balance has been identified as one of the more consistent and overarching modal issues throughout the IPH study. All directional lanes serving the IPH study area are unbalanced with outbound tonnages higher than inbound tonnages.

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 the highways and roads most heavily used by trucks and provides factual 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 for roads within their jurisdiction to the 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 (Table 2.2):

**Table 2.2 FGTS Classification**

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

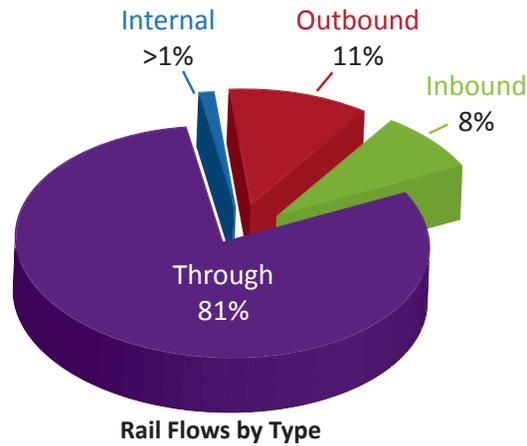
Washington’s Strategic Freight Corridors are those routes that carry four million or more gross tons of freight annually (T-1 and T-2). Tonnage values are derived from truck traffic count data that is converted into average weights by truck type.

Semi-tractor combinations and trucks with trailers over 10,000 gross 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 nearest the pickup or delivery if the destination is not located on a truck route. Trucks that cannot avoid using non-truck routes for any reason are asked to call the jurisdiction they will be traveling through prior to the trip, so officials can plan in advance for disruption to other traffic or facilities this may cause. **Map 2.2** shows the current Freight and Goods Transportation System in Spokane County.

### **Rail**

Rail transportation has been part of Spokane’s history since its beginning in the mid-1800s. Great Northern, Milwaukee Road, Union Pacific, and Northern Pacific Railway all had major operations in Spokane’s Central Business District. The Great Northern and Union Pacific train station were located where Riverfront Park is today. Since the railroads were developed as charter right of ways, most rail lines predate a majority of Spokane’s history. As such, the community grew along and around the railroad. This created a physical barrier

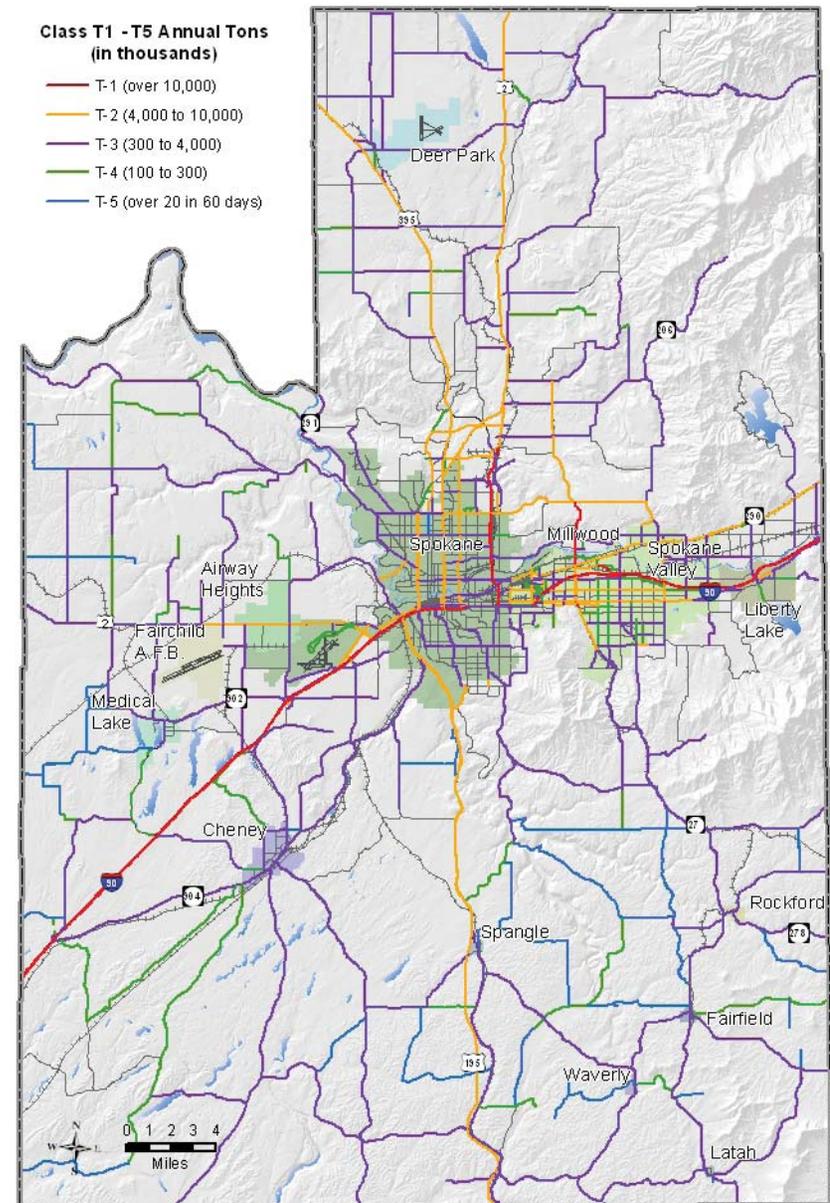
to surface transportation as automobiles became more commonplace. In 1914, to improve safety and reduce conflict between the community and railroads, a rail viaduct was constructed through the full length of Spokane's downtown area. This reduced the number of accidents and whistle blowing, but also limited opportunities for people and vehicles to cross under the tracks.



Over the years, rail industry bankruptcies, acquisitions, and mergers have reduced the number of operating railroads in Spokane County. Today, Burlington Northern Santa Fe (BNSF) and Union Pacific (UP) are the two mainline operators serving the region. Spokane County also has several short lines and branch lines. Union Pacific provides rail service to Canada through Eastport, Idaho as well as general freight rail operations in eastern Washington and northern Idaho. Union Pacific 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 or Chicago.

BNSF has a dominant influence in both its operations and impact on the community. Spokane is situated on the BNSF mainline that

Map 2.2 - Freight and Goods Transportation System



Source: WSDOT

serves between Portland/Seattle and Chicago. With the increased international trade activity between the United States and Pacific-rim countries, rail service provides an efficient method of transporting containerized freight from the deep-water ports in Puget Sound and Portland to the east coast and mid-west. Presently, BNSF operates approximately 55-60 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 constructed the Argonne Road underpass of the BNSF mainline in the early 1990s to reduce blocking Argonne Road traffic. Construction of the Havana Street Bridge in the City of Spokane was intended to accomplish the same thing. The Bridging the Valley (BTV) study conducted in 2006 proposed a program of safety improvements and projects that would grade separate trains from automobiles in order to reduce the wait time at specific train track crossings, improve public safety by reducing the potential for train-vehicle and train-pedestrian collisions and mitigate noise pollution caused by train whistles. The BTV projects stretch from the City of Spokane to Athol, Idaho.

The proposed BTV projects include:

- Construction of approximately 19 separated grade crossings within the BNSF corridor. This will modify eight existing crossings and create approximately 11 additional grade separated crossings. The program will construct additional track capacity on the BNSF corridor between Spokane and Athol, which today consists of both single and double mainline track. This area will be expanded by generally adding one track — with occasional need for two additional tracks in some locations — to the existing mainline within the railroad right of way;

- Installing improvements to the existing Centralized Train Control signaling system;
- Constructing a new two-track bridge over the Spokane River near Pines and SR290 (Trent);
- Constructing a new UPRR Yard;
- Providing other track improvements in yards and connections; and
- Removing a majority of the UPRR mainline and the associated crossings.

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 at: <http://www.bridgingthevalley.org/btv.html>.

### Rail Freight Operations

Spokane County has one transload facility. Inland Empire Distribution Systems, Inc. (IEDS) is located in the Spokane Industrial Park on Sullivan Road. The IEDS facility includes 400,000 square feet of warehouse space, 120,000 square feet of uncovered space, an overhead crane, a 16-ton forklift and segregated facilities for consumer, chemical, industrial, and forest products. Both the BNSF and the UP serve the IEDS facility.

According to the TRANSEARCH™ database analyzed for the IPH study, rail traffic accounts for 43 percent of all tonnage (71.5 million tons) and 20 percent of the value (\$95.4 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.

In 2008, the Geiger Spur rail connection to the Airway Heights Industrial Park was completed. It replaced a previous line that ran through Fairchild Air Force Base. This spur line connects to the Palouse River and Coulee City rail line which connects to the BNSF mainline at the City of Cheney. The Geiger Spur provides an important link to the national rail system for new businesses that may be recruited to the area as well as for existing customers to the south and west of Airway Heights.

As mentioned, BNSF and UP operate multiple lines to west coast ports that pass through Spokane. Operations on those mainlines are approaching capacity and face constraints including numerous at-grade crossings and existing single track sections. Spokane County has 214 at-grade railroad crossings. The BTV study addressed the major problem areas. However, capacity constraints could be a bigger issue for the region in the future. The constrained lines are in a 70-mile corridor between Spokane and Sandpoint, Idaho. Theoretical capacity is based on ideal conditions and operations. Practical capacity is determined by considering factors such as possible disruptions, signal problem, human decisions, weather, possible equipment failures, supply and demand imbalances, and seasonal demand. Practical capacity is roughly 60 percent of the theoretical capacity and provides reliable service. At higher percentages, rail congestion increases rapidly and service reliability deteriorates quickly. The theoretical capacity for this corridor is 78 trains per day while the practical capacity is 56.<sup>5</sup>

Recent proposals to build new export facilities or expand operations at ports in western Washington and Oregon have spurred public debate regarding the impact of additional train traffic to the

<sup>5</sup> 2007-2026 Washington Transportation Plan. HDR, Inc. (prepared for WSDOT) <http://www.wsdot.wa.gov/planning/wtp/datalibrary/DocumentLibrary.htm>

environment, public health, safety, commodities movement, and the operation of the existing transportation network. Two of the most high profile projects so far are the proposed Gateway Pacific Terminal (GPT) in the Cherry Point industrial area in Whatcom County and modifications to the BNSF's Custer Spur line that serves that area. The U.S. Army Corps of Engineers, the Washington Department of Ecology, and Whatcom County are the lead agencies for the environmental impact statement (EIS) for the proposed projects. Several public meetings were held across the state in 2012, including one in Spokane, for the scoping of the EIS.

Although all of the information about the proposal is not yet available, the GPT is described as a dry bulk goods export facility. However, most of the commentary has centered on the coal loads that will pass through our area. Some local elected officials, community leaders, and members of the public have expressed concern about the potential environmental and health issues from burning coal and from coal dust. There has also been a desire voiced about understanding the impact of additional train traffic to our existing transportation network including the potential for increased delay and congestion near at-grade rail crossings. The impact to current commodities movements has been raised as an issue as well. Since the mainlines through the Inland Northwest are already near capacity, there is concern that local import and export capabilities via rail will be adversely affected. The exact number of additional trains that would be generated if the projects are approved is not yet known. SRTC staff has contacted the lead agencies and requested the information from the study that is pertinent to our planning area be provided when available. SRTC will continue to closely monitor the potential impact to our regional transportation system and the related air quality conformity.

## AIR TRANSPORTATION

In addition to ground transportation, the Spokane area also has public and private use airports that provide access to the national aviation system. These airports are recognized by the National Plan of Integrated Airport Systems (NPIAS), meaning they are eligible to receive Federal-aid funding to ensure they are kept up to acceptable standards. Spokane International Airport (SIA) and Felts Field are two key airports, providing general aviation, freight and goods movement via air cargo, and air passenger service to the community. The City of Spokane and Spokane County jointly own Spokane International Airport, Felts Field Airport, and the Airport Business Park. The Airport Business Park is operated as a separate entity by the Airport Board per a joint agreement between the City and County. The Spokane Airport Board, consisting of seven appointees from the two governmental bodies, operates these facilities which are funded using airport generated revenue and grants. No funding for these facilities comes from local public tax dollars. Spokane County is one of only two counties in the State of Washington without a port district but the feasibility is currently being studied by local business leaders.

**1,487,913** enplanements in 2011



In 2011, SIA had over 3 million total passengers (approx. 1.5 million enplanements) and more than 54,000 tons of cargo. Felts Field had almost 60 thousand total operations and more than 31 tons of cargo at its facility in 2011. The IPH study found that the total value

of airfreight transported via the area facilities was \$374 million in 2007. Inbound air cargo tonnage in the IPH study area is expected to increase 21 percent by 2027 with outbound tonnage increasing by 19 percent. The fastest growing commodity groups are expected to be Primary Metal Products, Misc. Mixed Shipments, and Machinery and Electrical Equipment.

In recent years, improvements to both Felts Field and SIA have increased the area's potential for growth and development in the aviation industry. These improvements include a new air traffic control tower in 2007, airport access development, terminal building expansions, recent runway expansions and improvements as well as operational improvements. Completion of the Category 3 landing system and runway/taxiway rehabilitations at Spokane International have improved the ability for certified aircraft to land in conditions that would have previously been prohibitive.

**434,215,608 lbs**  
of landed weight in 2011



SIA is designated as a primary commercial service airport in the NPIAS for this region. SIA is the second busiest passenger and cargo airport in the State of Washington. It provides air passenger service from major carriers such as United, Delta, Southwest, and Alaska Airlines. Regional commuter service, with regular schedules to almost 30 cities throughout the northwest, provides linkages to communities economically tied to the Inland Northwest. International flights are available to British Columbia and Alberta, Canada. While SIA also has fixed base operations serving private and business aircraft needs, its primary role is air passenger and air cargo transportation.

Felts Field Airport is designated as an air cargo and reliever airport for Spokane International Airport. Felts Field's role is primarily based on its air cargo and general aviation activity. Fixed base operations at the airport provide air taxi, maintenance, and servicing for personal, business, and commercial aviation operations. Located along the Spokane River, Felts Field is susceptible to foggy conditions but has an Instrument Landing System (ILS) enabling Category 2 level approaches during adverse weather conditions. This approach system, while not as sophisticated as at SIA, provides reliable service to the general aviation, business, and air cargo operations using the airport.

Local airports such as at Mead, Deer Park, and the Coeur d'Alene Airport provide an important contribution to the regional transportation system. These general aviation airports provide opportunities for 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 radio/navigational aids, their ability to reduce air traffic for practice operations and general activity at Felts Field or Spokane International makes them an integral part of the overall transportation system.

SIA is in the process of updating its 30-year master plan. The plan will include a summary of existing conditions, a forecast of future operations, an environmental review, a financial plan and planned facilities to meet future needs. More information is available on the SIA master plan website: <http://www.meadhunt.com/client/Spokane/master-plan.html>.

The Aerospace Initiative Recruitment (AIR) Spokane project is an effort by the Inland Northwest Aerospace Consortium

(INWAC) to promote the aerospace industry in our region. INWAC currently has over 80 companies participating, totaling 8,100 workers representing an annual payroll of nearly \$325 million. These companies include original equipment manufacturers, raw material producers, and those specializing in avionics, machining, composites, heat treating/metal treating, the defense sector as well as commercial enterprises. The AIR Spokane project is also intended to ensure potential development sites for aviation related companies are certified in advance. Several sites in close proximity to SIA, Interstate 90 and the Geiger Spur railroad line are already certified.

Spokane County is also home to Fairchild Air Force Base (FAFB), the largest employer in Eastern Washington. Over 5,100 military personnel and civilian employees work at FAFB. The base was established in March 1942 and renamed Fairchild Air Force Base on November 1, 1950 in honor of General Muir Stephen Fairchild. FAFB is currently home to the 92nd Air Refueling Wing of the Air Mobility Command's Eighteenth Air Force. FAFB's annual economic impact is estimated at \$427 million.<sup>6</sup>

## **NONMOTORIZED TRANSPORTATION**

Nonmotorized or active transportation (bicycling and walking) collectively represents approximately 11 percent of total trips in Spokane County.<sup>7</sup> This is an increase from 2006 when active transportation accounted for 9 percent of trips. The American Community Survey reports that non-motorized transportation used for commuting to work is approximately 4 percent.

<sup>6</sup> "Team Fairchild". 92nd Air Refueling Wing Public Affairs. January 13th, 2012.

<sup>7</sup> According to survey results from the 2010 Non-motorized Transportation Pilot Program (NTPP) [www.srtc.org/ntphtml](http://www.srtc.org/ntphtml).

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

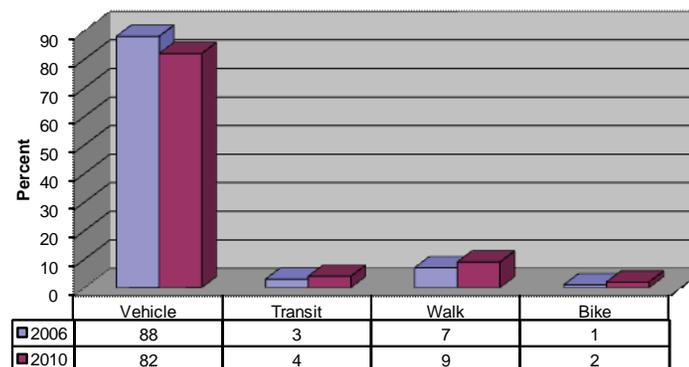
- reduce out-of-pocket cost for residents, especially for short trips less than five miles;
- impact obesity rates by providing more options for physical activity;
- support the use of public transit;
- reduce air pollution by providing options to using motorized vehicles; and
- aid planning for future population growth and transportation demand by offering needed alternatives.

### **Pedestrian Mode**

Walking is the oldest and most universal form of travel. It requires no fare, no fuel, no license and no registration. With the exception of devices to enhance the mobility of the disabled, walking demands no special equipment and is the most affordable and accessible form of transportation. While the majority of pedestrian trips are less than a mile, pedestrian trips that connect to transit significantly increase the distance a person can travel without reliance on an automobile. Pedestrian access to transit is an important way to increase the competitiveness 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 which is an increase from seven percent in 2006 (Figure 2.4).

An inventory of sidewalks within the Public Transportation Benefit Area (PTBA) was surveyed and compiled by STA with the assistance of Washington State University (WSU). The inventory serves as a useful tool for jurisdictions to determine where gaps and barriers exist and helps in transit route planning and active transportation planning for users. The most recent statistics from the inventory indicate that within the PTBA, 67.4 percent of possible sidewalks

**Figure 2.4 NTPP Survey % of Mode Share**



Source: Nonmotorized Transportation Pilot Program Survey, 2010

are missing (Table 2.3). This statistic assumes sidewalks should be installed on both sides of the street, which may not always be necessary or feasible.

**Table 2.3 Sidewalks**

Total Possible Sidewalks	4,897.7 miles
Total Existing Sidewalks	1,598.7 miles
Percent of Possible Sidewalk Gaps in Network	67.4%

The pedestrian system is in various stages of condition; in the City of Spokane sidewalks are installed during initial development of a property. Where neighborhoods and business districts have been established since the early 1900s many sidewalks have deteriorated to the point of needing replacement or substantial rehabilitation. Unfortunately, there is no systematic program to keep sidewalks maintained or replaced after their useful life; although the City of Spokane’s recent Pedestrian Plan update deals with the need to address this issue. The City of Spokane Valley’s sidewalks are generally newer and in better condition but many arterials and most local streets are missing sidewalks altogether. In 2011, the City developed a Bicycle and Pedestrian funding, with a focus on areas near schools and transit bus stops.

In the unincorporated areas surrounding the City of Spokane, sidewalk development is intermittent. Spokane County road standards historically did not require the installation of 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.

### ***Regional Pedestrian Priorities***

If people are to walk safely, conveniently, efficiently and comfortably they need an environment and facilities designed to meet their needs. With this in mind, SRTC and the Spokane Regional Health District in 2009 created the Spokane Regional Pedestrian Plan with a goal to increase walking in our community. The Plan is to be used as a resource for local jurisdictions and provides the following recommendations:

- incorporate attributes of a pedestrian-accessible environment;
- incorporate complete street policies that are designed to enable safe access for all users;
- build sidewalks with design elements that encourage use;
- maximize access to and use of shared use paths and trails;
- follow crosswalk designs and subsequent 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.

The full plan can be found at: [http://www.srtc.org/bike\\_ped\\_documents.html](http://www.srtc.org/bike_ped_documents.html).

Various surveys conducted for SRTC also disclosed information on behavior and characteristic of active transportation in Spokane, as well as attitudes towards walking and biking. Having this information available to planners is critical to help us improve the use of active transportation modes.

### ***Safe and Complete Streets***

Complete Streets are roads designed and operated with all users in mind including motorists, bicyclists, public transportation riders, and pedestrians of all ages and abilities. Stemming from the Spokane Regional Pedestrian Plan process and the Spokane Transportation Vision project, SRTC adopted a Safe and Complete Streets Policy and Checklist in 2012. The intent of the policy is to ensure that all users are routinely considered during the planning, designing, building, and operating stages of roadways. It will also ensure that elements of the Safe and Complete Streets policy are incorporated into Horizon 2040.

The checklist that goes along with the Safe and Complete Streets Policy is the mechanism to implement the Policy. SRTC conducts an occasional “calls for projects” when transportation funding is available. Local jurisdictions are invited to submit projects they would like to see funded. The projects are ranked and prioritized and the ones determined to be top priorities are funded. The Safe and Complete Streets Policy requires that projects submitted during a “call for projects” must be accompanied by a SRTC Safe and Complete Streets Checklist to show that the needs of all users have been considered when designing the project. Also, any new project seeking to be included in the annual Transportation Improvement Program (TIP) after January 1, 2013, will have to be submitted with a SRTC Safe and Complete Streets Checklist.

## Bicycle Mode

Bicycling is also a low cost transportation mode available to many in the community. Bike travel is becoming a more common mode of transportation; it provides a low-cost transportation alternative for meeting the needs of the young, the elderly, persons with disabilities, and others who do not have access to an automobile or choose not to use one. Bike transportation can improve mobility and safety, enhance the economy, improve the health of the community, and help protect our environment. 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 Spokane 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 (figure 2.4).

Many of the Guiding Principles and Policies, found in Chapter 1 of this plan, are supportive of bicycling along with the Complete Street Policy and Checklist. 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 non-motorized transportation system. Recent improvements include a new portion of a regional trail, the Fish Lake Trail from Cheney to Spokane, as well as enhancing existing trails such as the Centennial Trail along the Spokane River eastward into Idaho. These enhancements have increased the popularity of bike transportation in Spokane. Several jurisdictions have also updated their bicycle plans recently to include the potential for more high quality bicycle accommodations.

In the State of Washington, bicycles are, by law, vehicles. Therefore, they are allowed on all public streets and roads, except those specifically excluded because of safety considerations. In Spokane, bicycling on sections of Interstate 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 26 miles have bicycling prohibitions. Additionally, approximately 1,070 miles include Class I-Class IV bicycle facilities.

The classifications are as follows:

- **Class I- Shared Use Path** - Facilities on separated right-of-way and with minimal cross flow by motor vehicles.
- **Class II-Bike Lane** - Portion of the roadway, which has been designated by striping, signing, and pavement marking for the exclusive use of the bicyclists.
- **Class III-Signed Shared Roadway** - Signed lane allowing both vehicular traffic and bicycle traffic.
- **Class IV-Shared Roadway** - Lane allowing both vehicular traffic and bicycle traffic without designation.
- **Class IX-Bicycles Prohibited** - Bicycles are prohibited from using the roadway.

Key bicycle corridors have been established to guide and direct public investment in the system. An example of this is the Centennial Trail, which provides a backbone route by which bicyclists can avoid high volume arterials and congested intersections from the Spokane Valley to the Spokane Central Business District (CBD).

Also, the Children of the Sun Trail, being constructed as part of the US 395 North Spokane Corridor project, is another example of a new regional bike and pedestrian facility.

## Bicycle Network Inventory

In Spokane County there are 186 miles of paved bike lanes and paths (2.7 miles per 1,000 residents). Additional secondary paths and bike routes are being established to continue the network throughout the community. From an infrastructure standpoint, local jurisdictions continue to make necessary improvements to streets and arterials designated in their comprehensive plans. **Map 2.3** shows the current identified bicycle network in Spokane County. Bicycling in the Spokane area over the last 15 years has changed significantly from primarily recreational use to include substantial commuter use. Bicycling is also being used by employers subject to the Commute Trip Reduction Efficiency Law as a means to reduce the single occupant motor vehicle rates and vehicle miles of travel. Many employers have installed bike lockers and shower facilities to accommodate bicycle commuters.

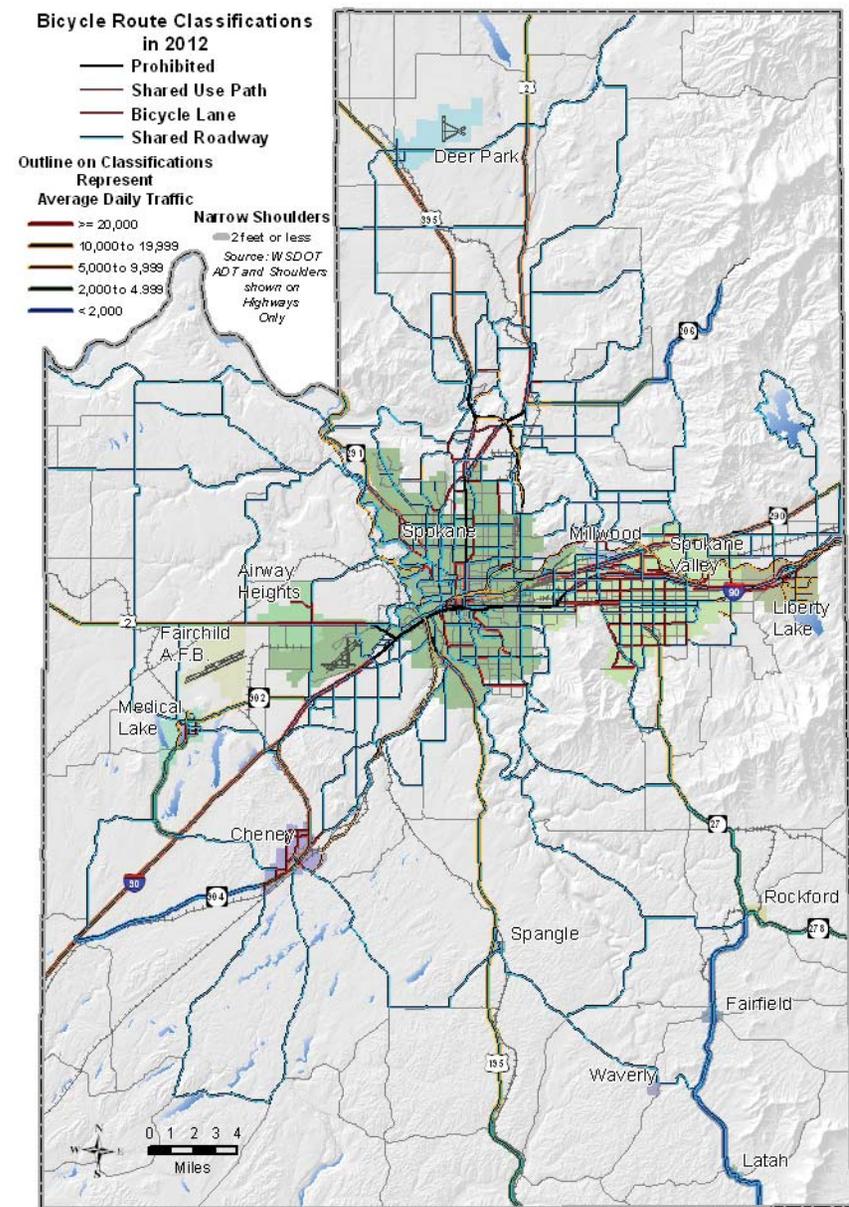
## PUBLIC TRANSPORTATION SYSTEMS

In the Spokane region there is one fixed route public transportation system, operated by Spokane Transit Authority, and several 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.

SRTC works with STA to develop and update the Spokane County Coordinated Public Transit-Human Services Transportation Plan. A list of public transportation providers can be found in that document on the SRTC website at [www.srtc.org](http://www.srtc.org).<sup>8</sup> Even with almost 30 organizations providing public transit, there is still a need

<sup>8</sup> [http://www.srtc.org/Documents/Documents-Maps/Other\\_documents/Coordinated%20Human%20Services%20Plan%202012%20Update%20Final.pdf](http://www.srtc.org/Documents/Documents-Maps/Other_documents/Coordinated%20Human%20Services%20Plan%202012%20Update%20Final.pdf)

Map 2.3 2012 Spokane Regional Bicycle Network



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.

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 better 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. Besides KALTRAN and SMS, there are few services (especially ones affordable to people on fixed incomes) that provide transportation between Spokane and outlying areas. STA provides fixed route, paratransit, and vanpool services in the Public Transportation Benefit Area (PTBA). The PTBA is 248 square miles encompassing 14 percent of the county area and 84 percent of the population.<sup>9</sup> STA currently operates 38 fixed routes with a fleet of 156 buses. More than 11 million passenger trips are provided on the STA bus route system annually. There are 10 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  $\frac{3}{4}$ -mile of all fixed routes. STA's vanpool program is a service for commuters that provides a

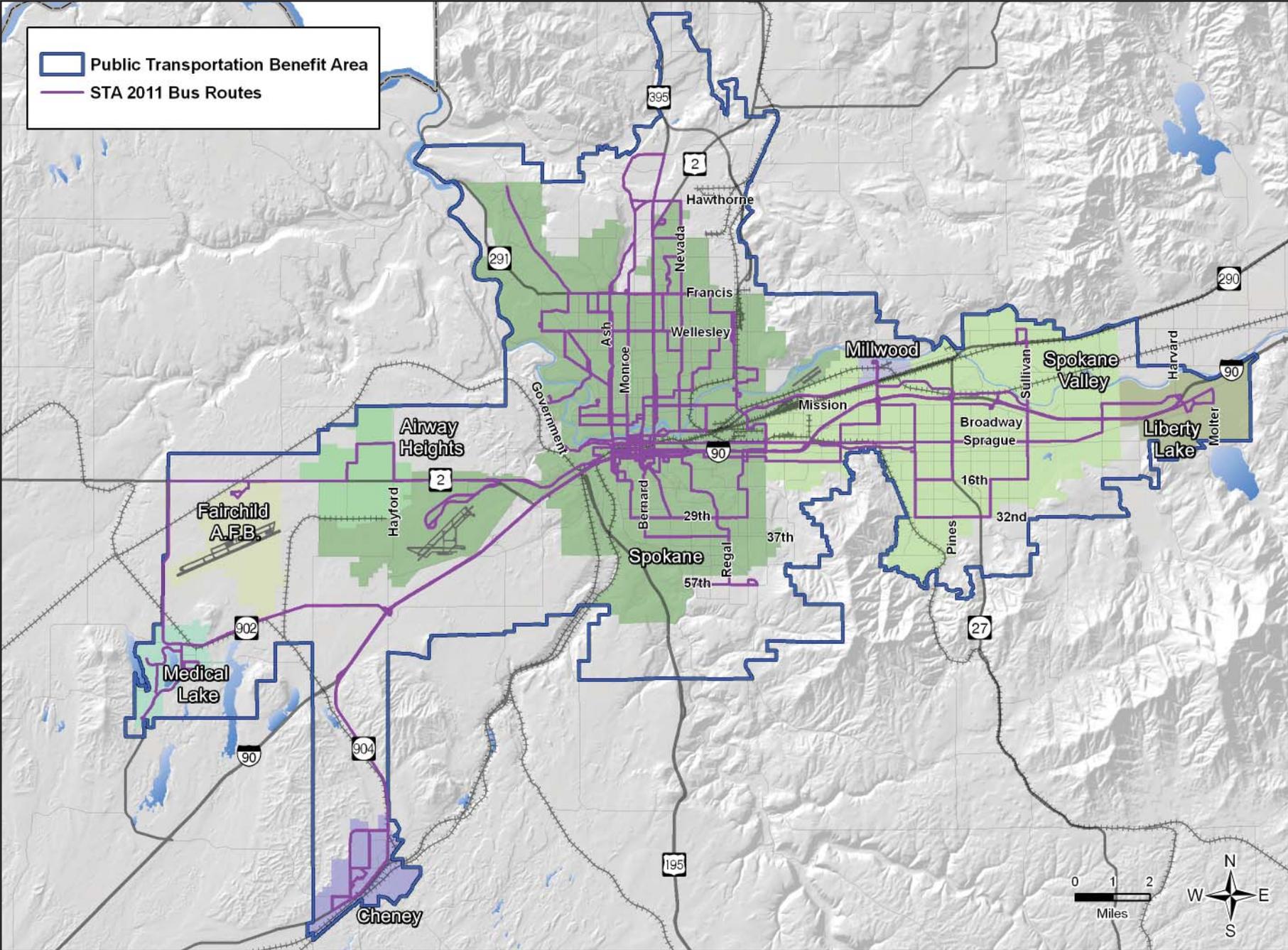
12 or 15 passenger van for a group of 5 to 15 persons. The users pay a fee based on the number of passengers and the mileage traveled.

**Map 2.4** shows STA transit routes in Spokane County.

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<sup>9</sup> WA State Office of Financial Management, PTBA population estimate 2012.

Map 2.4 Spokane Transit Authority Bus Routes



# ANALYSIS OF THE EXISTING TRANSPORTATION SYSTEM

## PLANNING ASSUMPTIONS

As part of the development of Horizon 2040 and other planning processes at SRTC, staff has assessed the existing transportation systems and region-wide programs. This assessment includes the use of tools to aid in the technical analysis as well as extensive feedback received from numerous outreach efforts and public involvement opportunities. In order to effectively plan for the future, we must understand where we stand today and the primary drivers that will influence transportation needs going forward.

The principal determinants of any long-range travel demand forecast are the planning assumptions about the growth and distribution of population, employment, developed land, and individual travel preferences. SRTC is federally certified to conduct regional transportation modeling, and provides modeling services to public jurisdictions and agencies in Spokane County. SRTC uses a four step model as its primary tool for the travel forecasting. The following subsections detail the travel demand model that is used by SRTC and the basis for the data used in the model.

## TRAVEL DEMAND MODEL

Modeling is a method of evaluating the performance of the transportation system and forecasting how the public will use it now and in the future. There are several ways this can be done using modeling computer software to represent how travel choices are made. Models were used extensively in the Horizon 2040 process.

The model contains inventories of existing roadway facilities and all existing and planned housing, shopping and employment in the area. Using the model, transportation planners can estimate future traffic volumes in order to be proactive in managing traffic congestion and building transportation facilities to accommodate demand. Currently, facilities included in the model are roads and public transit, but bike lanes and pedestrian facilities may be represented in the future. SRTC has a page on its website devoted to modeling, the kinds of modeling performed at SRTC and the programs used. That information can be found at <http://www.srtc.org/modeling.html>.

Because the model is a complex tool, Federal transportation planning regulations require documentation of the input assumptions and methods used for developing forecasts [23 CFR 450.316]. To satisfy this requirement, SRTC has created SRTC Travel Forecasting Documentation. This document 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. The travel forecasting documentation is also available on the SRTC website.

## *Regionally Significant Projects*

One way the model is used is to evaluate regionally significant projects. SRTC classifies a transportation project as regionally significant if it:

- Cannot be grouped in the TIP and/or State TIP (STIP)<sup>10</sup>, and/or it is not listed as an exempt project type in the

<sup>10</sup> 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.

Environmental Protection Agency’s (EPA’s) regional transportation conformity regulation (40 C.F.R. part 93)<sup>11</sup>; 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, 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).
- Is determined by the SRTC Policy Board or the Interagency Consultation Group to have the potential for adverse emissions impacts for any reason.

### ***Modeling to Evaluate Scenarios***

The model is also used to evaluate potential transportation scenarios. The Federal Highways Administration (FHWA) encourages scenario planning in the transportation planning process because it can enhance a community’s ability to anticipate future growth trends while prioritizing the use of limited resources. Scenario planning employs a wide range of possible future situations to facilitate public decision-making on land use policies and transportation investments. It provides a glimpse into the future and helps visualize “what could be.”

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<sup>11</sup> 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 it has potentially adverse emissions impacts for any reason. 40 CFR § 93.127 identifies several project types that are exempt from regional emissions

The scenario planning process involves identifying major sources of change, considering how driving forces could combine to determine different future conditions, creating scenarios considering the implications of different strategies in different environments, analyzing the implications to see how scenarios interact, 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. The model is one tool used for scenario analysis in Horizon 2040.

### ***Macroscopic Transportation Modeling Analysis***

Travel demand models have limited capabilities to accurately estimate changes in operational characteristics (such as speed, delay, and queuing) down to the individual road segment or intersection level. Macroscopic models, such as SRTC’s, are based on the deterministic relationships of the flow, speed, and density of the traffic stream. 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 facility level.

Macroscopic models employ equations on the conservation of flow and on how traffic disturbances ripple through the system. They can be used to predict the extent of congestion caused by traffic demand or incidents in a network. However, they cannot model the interactions of vehicles on alternative design configurations. The SRTC model is essentially a mathematical model that assesses current conditions and forecasts demand based on projections of future employment and household demographics.

### **Air Quality Modeling**

Spokane is designated as an attainment area for Carbon Monoxide (CO) and Particulate Matter (PM<sub>10</sub>), operating under maintenance plans since August 2005. On-road mobile sources such as vehicles produce an estimated 67 percent of the total CO emissions for the Spokane area. SRTC is charged with air quality modeling to ensure that future transportation choices will not impact air quality in a negative way as required by Federal Transportation Conformity regulations.

CAL3QHC and MOVES (Motor Vehicle Emission Simulator) are used for air quality modeling. MOVES estimates the emissions generated by vehicles for a broad range of pollutants. CAL3QHC is used for project-level air quality analyses using MOVES emissions data and intersection level traffic information. For Horizon 2040, a regional air quality analysis was conducted to ensure that the Spokane Region is in compliance with the CO Motor Vehicle Emissions Budget (MVEB) as outlined in the 2005 CO Maintenance Plan. More information on air quality monitoring can be found in the Environmental Considerations section of this chapter.

### **LAND USE**

A key aspect of SRTC's travel demand model is land use. The model contains inventories of existing roadway facilities and of all housing, shopping and employment in the area. To predict where people will take trips throughout the area, SRTC uses the following land use data in the model: housing units, employees, hotel rooms and higher education commuter students.

#### **Land Use Categories**

For modeling purposes, the land uses mentioned above are broken down into detailed 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 is likely to generate more traffic than an office. The type of trips and time of day they are taken differ as well. Table 2.4 below shows the land use categories used in the SRTC model:

**Table 2.4 Land Use Categories**

Land Use Type	Description	Unit Measurement
1	Single Family Residential	# of units/zone
2	Multi-Family Residential	# of units/zone
3	Hotel/Motel	# of rooms or camp spaces/zone
4	Agriculture, Forestry, Mining, Industrial, Manufacturing, and Wholesale	# of employees/zone
5	Retail Trade (Non-Central Business District)	# of employees/zone
6	Services and Offices	# of employees/zone
7	Finance, Insurance, and Real Estate Services (FIRES)	# of employees/zone
8	Medical	# of employees/zone
9	Retail Trade (CBD)	# of employees/zone
10	Students University	# of higher education commuter students/zone
11	Education Employees	# of employees/zone
12	University Employees	# of employees/zone

#### **Transportation Analysis Zones**

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 tabular information such as an address. Using Geographic Information Systems (GIS), the land use totals are grouped by areas known as Transportation Analysis Zones (TAZs), which are the primary units of analysis in the SRTC travel demand model. There are 519 TAZs in Spokane County, as shown in **Map 2.5**.

### **2010 Land Use Development**

SRTC staff used a number of data sources to establish the land use values for the 2010 base year model. A number of steps are taken to insure the accuracy of the base land use data. Specific checks are done on most of the larger employers in the county, especially those with over 50 employees. Staff takes a number of other precautions, such as checking totals compared to source data for example, to ensure the base land use data is accurate.

### *Population*

SRTC does not directly use population in the model but instead housing units. However, SRTC provides the population number for Spokane County and the jurisdictions within for public information purposes. The source of the population figure is the U.S. Census Bureau.

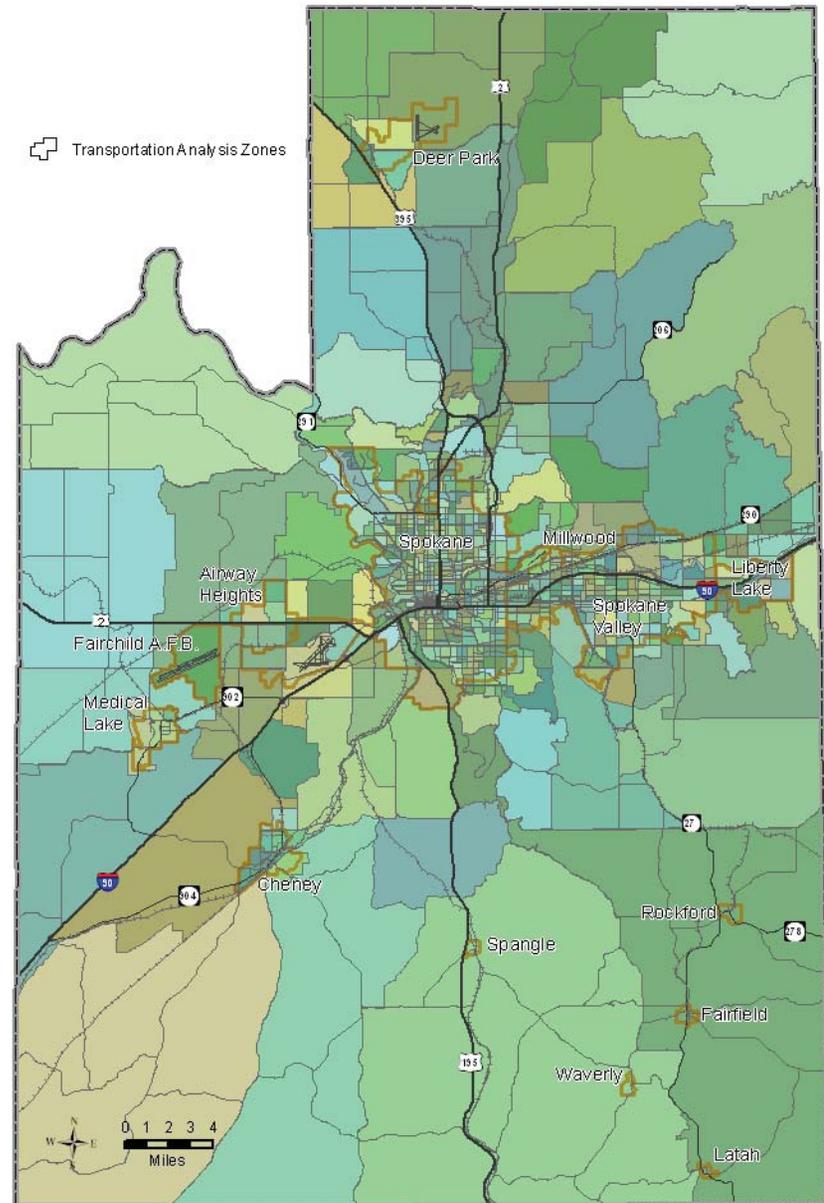
### *Housing Units*

For travel demand modeling, the SRTC model uses single-family (SF) and multi-family (MF) housing units to represent where people live as part of the trip generation process. For both categories, staff used the housing unit counts directly from the 2010 Decennial Census. (See **Map 2.6**)

### *Vacancy Rates*

Vacancy rates for housing units are available in the 2010 Census. SRTC staff used this data to calculate a vacancy rate for each TAZ

**Map 2.5 Transportation Analysis Zones (TAZ) - 2010**



in Spokane County. The rate was applied to the SF and MF housing units in each TAZ, allowing the model to reflect a higher level of accuracy in determining trip generation.

### Employment

The primary source for employment data is Washington State’s Employment Security Department (ESD). This dataset contains the majority of the employers and establishments in Spokane County. This includes locations, number of employees, and industrial classifications, among other attributes. Staff takes measures to ensure the confidentiality of individual establishments is maintained, per agreement with ESD. Staff research supplements the ESD data in cases where clarification or further detail is needed. For example, many employers report their information to ESD at a single location such as a headquarters, instead of the multiple office locations their employees report to. In these cases staff research supplements the data for purposes of transportation modeling. (See **Map 2.7**)

### Hotel and Motel Rooms

For LU3 (Hotel/Motel), SRTC uses data from the Washington State Department of Health (DOH) on transient accommodations. This data includes employee counts and number of rooms. Staff research supplements the data for LU3 provided by DOH in cases of absent or unclear information.

### Higher Education Commuter Students

The LU10 category consists of higher education commuter students. SRTC staff calculates the totals for this category by contacting the higher education institutions throughout Spokane County. Generally, higher education establishments provide SRTC with their total enrollment, and total resident student population. The resident student population is subtracted from total enrollment

to determine the commuter student population. When available, other non-commuting populations such as online-only students are removed from the commuter student population as well.

A summary of the 2010 totals for the generalized land use categories is shown in Table 2.5.

**Table 2.5 2010 Land Use Values**

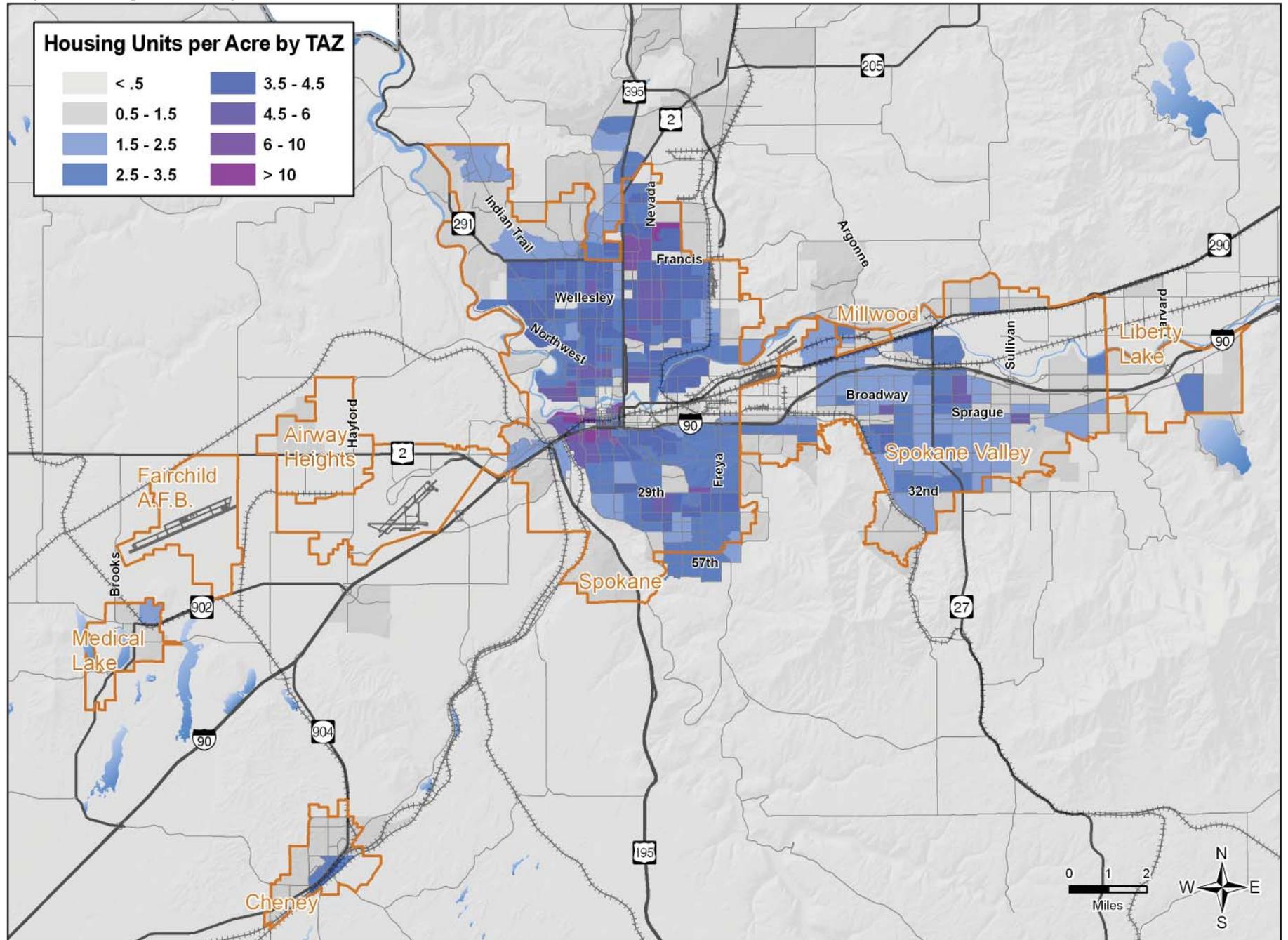
	2010 Base
Population	471,221
SF Housing Units	147,508
MF Housing Units	39,659
Employment	194,546
Hotel Rooms	6,732
Higher-Education Commuter Students	25,405

### ACTIVITY CENTERS & VACANT LANDS

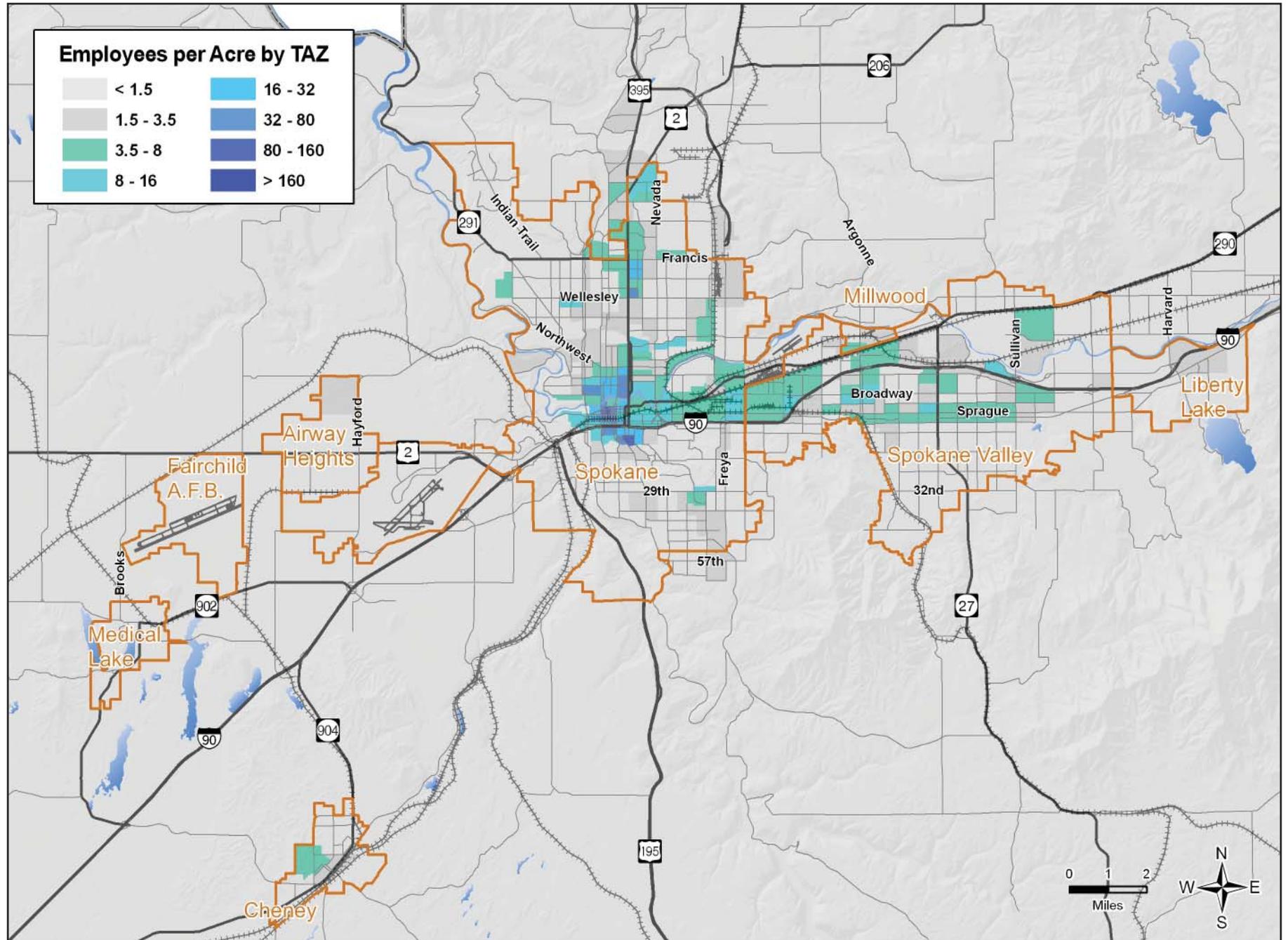
SRTC analyzed 2010 employment concentrations, densities, and types in order to designate certain areas as activity centers throughout the County. These activity centers are areas of regional significance with high concentrations and densities of employment. General areas with over approximately 2,300 employees were deemed activity centers. After further review these centers were designated one of three types: Transit Focused, Freight Focused, and Mixed Focus. Identifying these Centers aids SRTC and other agencies in planning for transportation needs and investments.

The methodology used was similar to that used by the Center for Transit-Oriented Development. Certain employment types were found to be more conducive to higher transit use. These were titled Transit Focused Centers. Other centers were more freight focused. Others still were noticeably mixed use and designated as such.

Map 2.6 Housing Unit Density - 2010



Map 2.7 Employment Density - 2010



**Map 2.8** displays the centers. These centers correlate well with major industrial and commercial areas. Nearly all of the centers are in close proximity to highways; most of them are near I-90 or the north Division corridor.

SRTC staff also performed a basic analysis on vacant lands in Spokane County. Using GIS technology, properties that were vacant and had the reasonable likelihood of being developed were identified. **Map 2.9** 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, including the West Plains, East Valley and Liberty Lake areas, and North Spokane. As development occurs, SRTC uses these tools to support decision makers shaping the transportation system.

#### LAND USE – EXISTING CONDITIONS ANALYSIS

As with most communities with origins in the late 1800s, Spokane's land use is a mosaic of past economic conditions and development philosophy. At the turn of the 20th century, Spokane enjoyed prosperity as the center for the Inland Northwest. Higher density neighborhoods with homes and parks demonstrated that quality neighborhoods were an integral part of Spokane's fabric. Neighborhood retail centers were also created, thereby avoiding long trips for routine needs to be filled. With the post-war era, however, the car found a more dominant role in daily life. It increased access to distant areas and family mobility, resulting in the desire to move outside the City limits to areas with less expensive land and larger lots.

Lower density suburban developments had lower cost infrastructure requirements, making urban density developments in the City less competitive in the marketplace. As a result, residential and commercial development inside the City of Spokane became

stagnant, evidenced by the slow growth rate in the City between 1960 and 1990. The existing and projected housing density maps in this section provide a look at how development densities have lessened as the Spokane Metropolitan Area grew over time. 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.

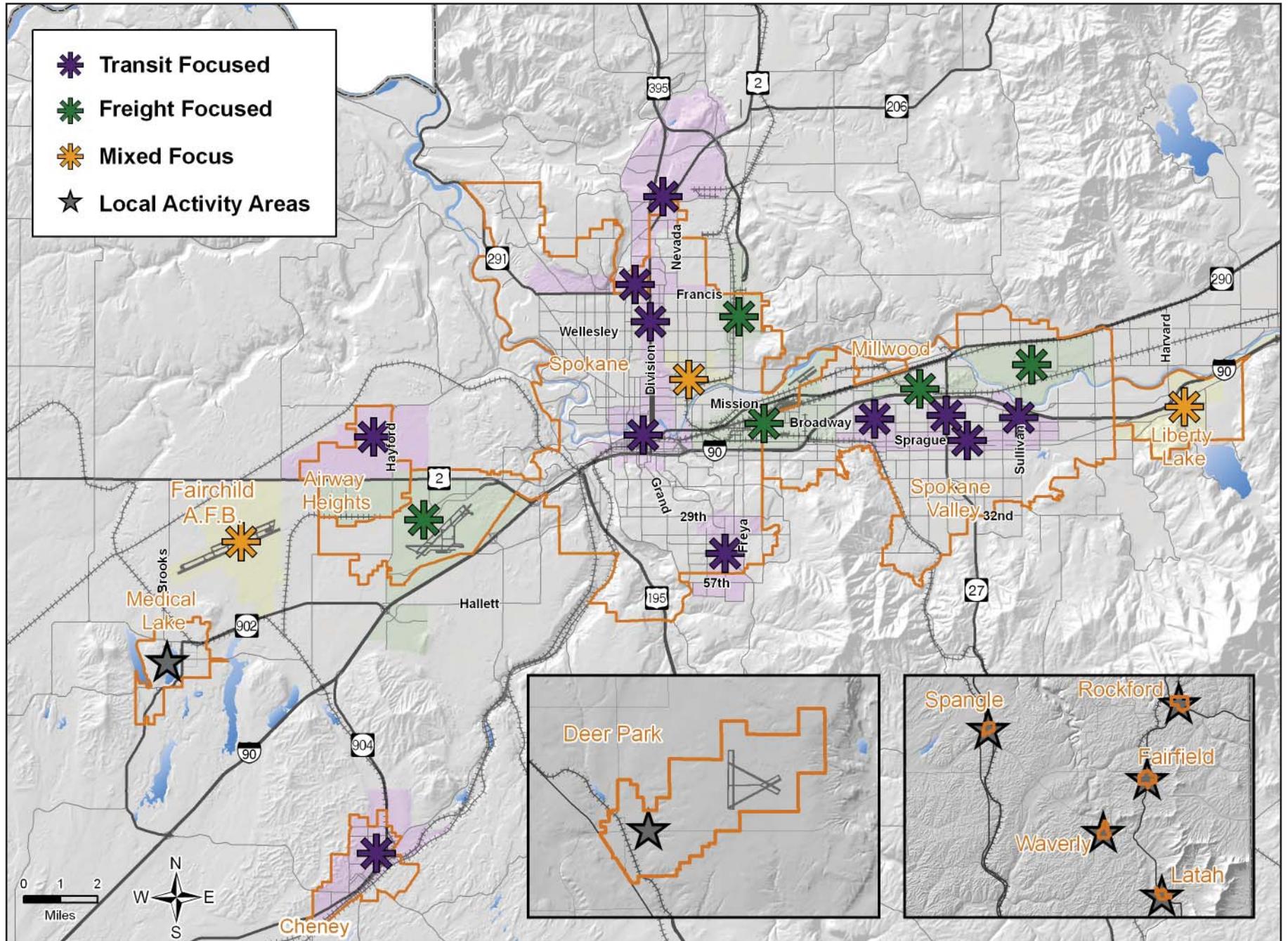
Additionally, land that was left previously undeveloped in the City of Spokane and the City of Spokane Valley has also seen renewed interest in being developed. The close proximity to existing infrastructure such as sewer, water, roads, and electrical utilities makes these properties once again competitive in the market place. This is directly related to the ability to avoid expensive infrastructure investments on the part of the developer. As a result, infilling with smaller but higher density residential developments is becoming more commonplace. The Kendall Yards development in the City of Spokane is one such example.<sup>12</sup> This approach increases overall population density but also creates problems where previous infrastructure investments were not designed to handle the additional demand. However, the continued regional development trend is dominated by low density housing on the outskirts of the urbanized area.<sup>13</sup>

The Northeast Public Development Authority (NEPDA) is an example of a public/private effort for industrial and manufacturing development/redevelopment. The NEPDA seeks to leverage infrastructure investments while implementing targeted area development strategies.

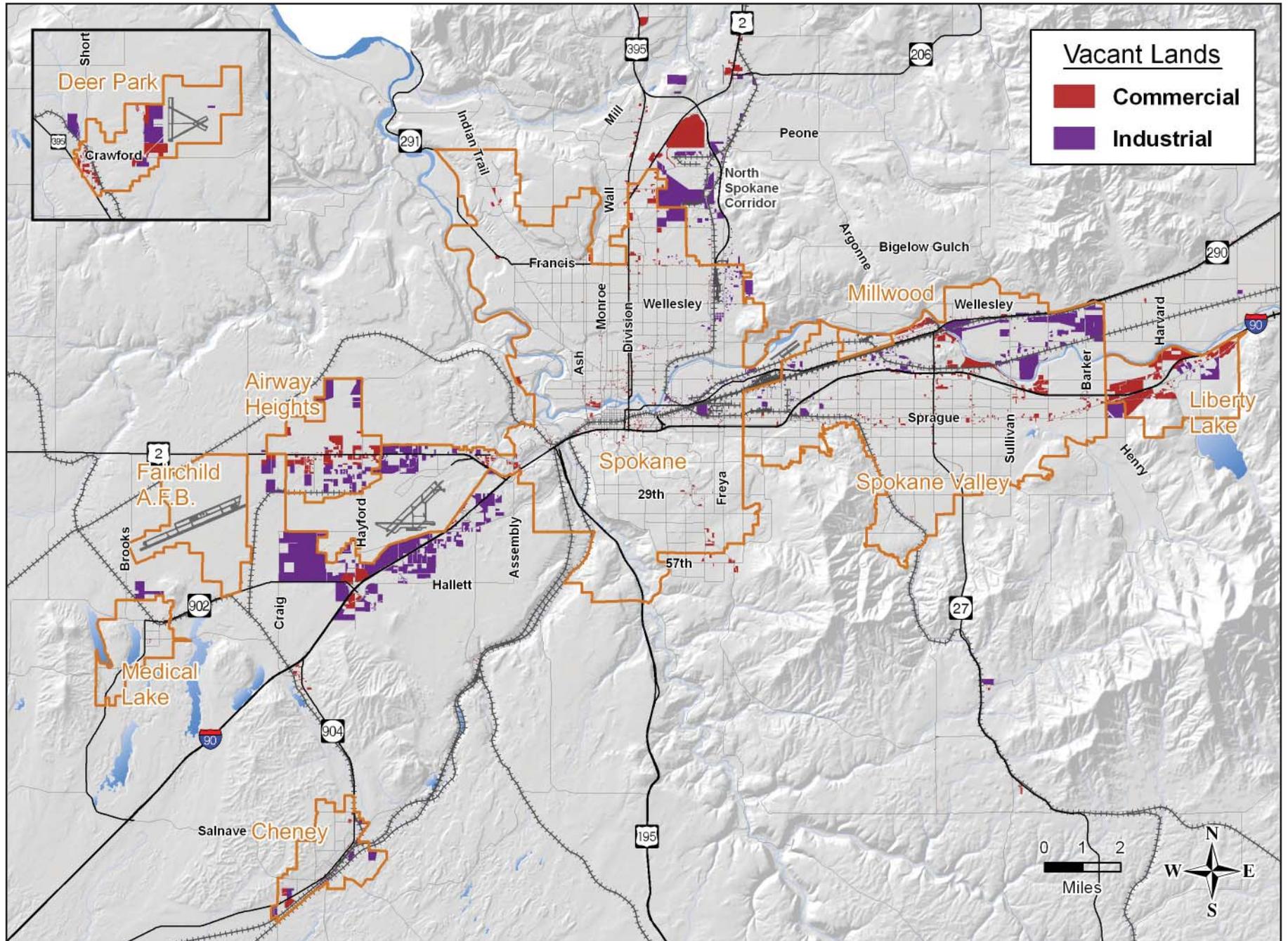
<sup>12</sup> <http://www.kendallyards.com/>

<sup>13</sup> <http://www.sightline.org/research/graphics/spokane-area-growth-1990-2000-animated-map/>

Map 2.8 Employment Activity Centers - 2010



Map 2.9 Vacant Lands



Commercial and retail land uses have also seen similar changes. Retail and commercial activities that were once targeted to neighborhoods have been reconfigured to larger facilities that cater to a larger market area. Neighborhood stores gave way to shopping centers, which in turn have given way to regional shopping malls and big box retailers. Consistent with local comprehensive plans and codes, strip commercial development has flourished along principal arterials. Direct access to arterials, visibility from the road, and a constant flow of traffic makes drive-by oriented retail and commercial land use highly sought after by the development community. Streets such as Division Street and Sprague Avenue typify this.

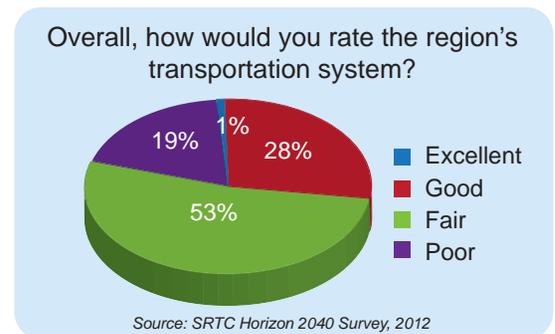
## STATE OF THE REGIONAL TRANSPORTATION SYSTEM

The Horizon 2040 outreach process has resulted in a wealth of information about the state of the region’s transportation systems. In 2012, SRTC held a series of roundtables on specific transportation issues, hosted cost estimation and revenue forecasting workshops and co-sponsored forums on the relationship of land use and transportation, specifically in urban corridors. Continuous public involvement activities also included an online survey, community meetings, and a formal comment period. All of these aided in ascertaining the public’s assessment of the state of our existing transportation systems and programs.

SRTC conducted a survey<sup>14</sup> during the second half of 2012 and the results show that nearly 53 percent of the respondents feel the

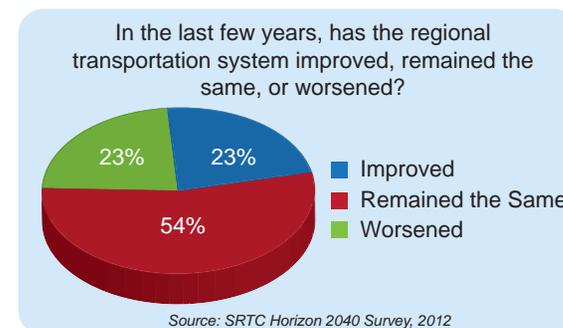
14 The Horizon 2040 Survey was conducted online using Survey Monkey™ from September to December 2012. Survey forms were also handed out at the Horizon 2040 roundtable meetings. The survey was not meant to be a statistically valid sample of the Spokane County population. It was intended to be another tool for public outreach to gather public comments and gauge opinions about the state of the regional transportation system. A total of 457 surveys were completed. For more information about the survey, please see Appendix X.

region’s transportation system is in fair condition. More than twenty seven percent of the survey participants feel the system is in good shape while 18.5 percent rated it poor



and only 1.3 percent feel it’s in excellent condition. Roadway conditions are generally rated as fair to poor while traffic signals, transit service, parking, signage and sidewalks/crosswalks are rated more favorably. The sidebar graphics in blue boxes throughout this section show additional results from the survey.

The 2012 roundtable meetings focused on transportation-related issues including: Bicycling/Pedestrian/Health Impacts; Road and Freight Movement; Seniors and Veterans; Public Transit; People with Disabilities and Transportation Challenges; and Transportation for Young People. Common themes about the existing condition of our regional transportation system were focused on keeping up with demand while maintaining the infrastructure already in place. While there is a clear recognition of the funding constraints for our region, participants felt that preservation, maintenance and



safety should be the top priorities but also some capacity enhancements are desired. Concern was expressed about the condition of local streets, especially

in the City of Spokane. The need to address the condition of our region’s bridges and prioritize which ones to fix first was stated. For more information on the Horizon 2040 public involvement process including feedback from the roundtables, survey results, workshops and forums, please see **Appendix A**.

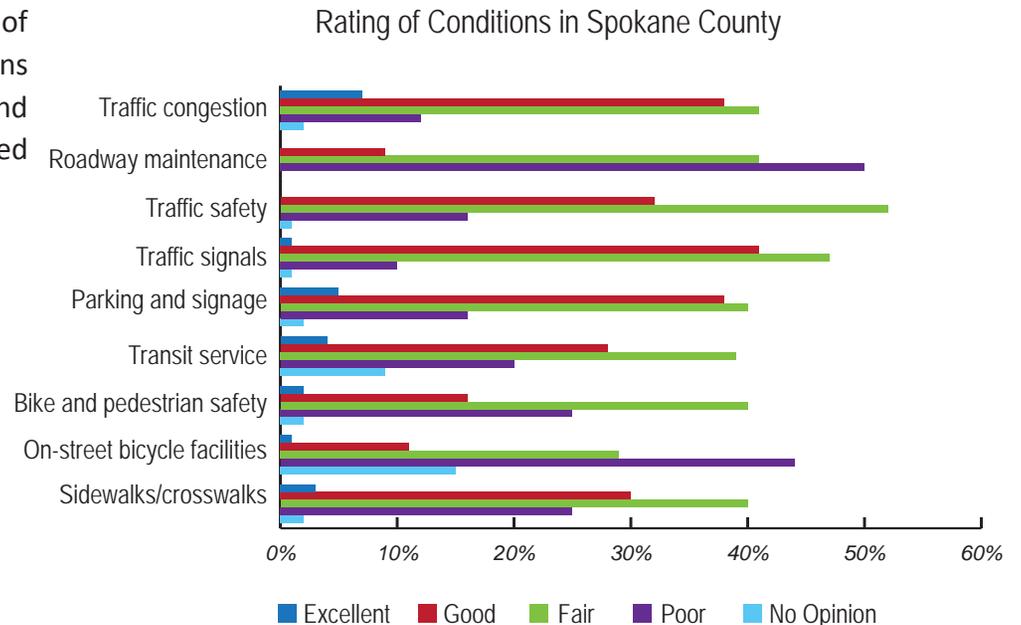
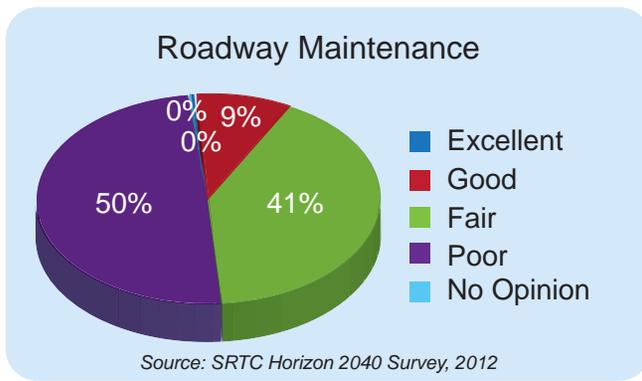
The state of specific elements of the existing transportation system in our region is addressed in the following sub topics.

### SYSTEM OPERATIONS, 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 signing, crack filling, pothole patching, and small overlays. Other operational activities can include winter snow plowing, de-icing or sanding as well as dust control and street sweeping in fair weather months. Regionally, there is a backlog of maintenance work due to insufficient funding. Many jurisdictions report that it would takes millions more dollars to catch up and keep up with street maintenance needs. In 2008, WSDOT estimated

their entire maintenance backlog for the Eastern Region was \$85 million. For the years 2009-2011, WSDOT planned investments of nearly \$16.8 million to start catching up with the backlog. WSDOT has an approximate maintenance backlog in Spokane County of \$500,000 to \$750,000 per biennium and estimates an additional unfunded maintenance cost for new facilities of almost \$900,000 per biennium. The City of Spokane in 2006 stated that it had a street maintenance backlog of \$6 million.

One approach to help address the maintenance backlog is to increase funding through taxes, levies or vehicle license tab fees. The City of Spokane established 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 sole 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. The TBD also allocates ten percent of the funding for the implementation of their 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: <http://www.spokanecity.org/government/tbd/>.

The following table (2.6) summarizes the regional pavement conditions. Spokane County reports an average pavement condition index (PCI) countywide of 69. WSDOT’s evaluation is illustrated in Figure 2.5.

**Table 2.6 Regional Pavement Conditions**

Pavement Condition by City					
City	Functionally Classified Arterial C/L Mileage <sup>1</sup>	Weighted Arterial PCI Scores <sup>2</sup>	Functionally Classified Collector C/L Mileage <sup>1</sup>	Weighted Collector PCI Scores <sup>2</sup>	Weighted Combined PCI Scores <sup>3</sup>
Airway Heights			1.50	82	82
Cheney	4.49	70	6.34	75	73
Deer Park			2.78	71	71
Fairfield			1.78	75	75
Medical Lake			6.11	51	51
Millwood	0.96	59	1.43	60	60
Spokane	158.25	73	63.75	71	72
Spokane Valley	90.34	64	32.61	67	65

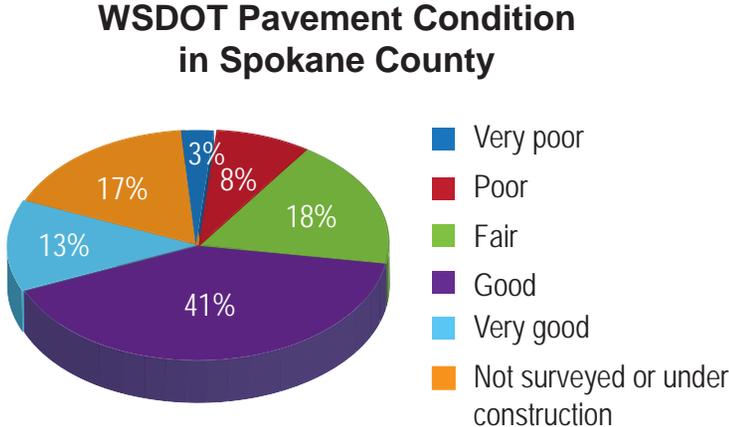
1 Federally functionally classified arterial and collector mileage from WSDOT functional class database, effective 1-25-09  
 2 Arterial and collector Pavement Condition Index (PCI) scores weighted on segment length.  
 3 Combined city PCI scores weighted on arterial and collector mileage

Source: Washington’s City Arterials Condition Report 2010. WSDOT

Preservation involves proactive maintenance to reduce costly and disruptive rehabilitation or replacement of assets before the end of their 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.”<sup>15</sup> As in regions throughout the country, funding for preservation programs in Spokane County continues to lag behind need.

Pavement conditions continue to decline due to budget shortfalls. Forty-three percent of the state highways pavement condition was rated “very good” in 2008 but in 2010 only 32 percent was at that level. TRIP, a national transportation research agency, lists the Spokane region as the 19th worst for highway and major road condition. As previously mentioned, the City of Spokane’s TBD is one approach to helping address the gap in funding for preservation programs. Discussions about a larger TBD, possibly for the entire Spokane County, continue between elected officials

**Figure 2.5 WSDOT Pavement Condition in Spokane County**



Source: WSDOT 2010 Statewide Pavement Performance Report (report produced 1/24/2012)

15 <http://www.fhwa.dot.gov/pavement/preservation/091205.cfm>

and transportation leaders. Previous analysis for the TBD indicated that regionally there is approximately \$40 million a year in unmet maintenance and preservation needs.

The following table (2.7) shows the maintenance and operations expenditures by jurisdiction in Spokane County for the years 2009-2011.

**Table 2.7 Roadway Maintenance and Operations Expenditures by Jurisdiction**

	2009	2010	2011
Spokane County	\$12,485,404	\$13,593,048	\$12,192,124
WSDOT*	6,960,000	6,414,000	7,060,600
Airway Heights	114,934	153,488	186,058
Cheney	476,539	119,780	140,044
Deer Park	611,250	517,206	657,159
Fairfield	41,200	15,693	25,592
Latah	30,126	11,953	10,300
Liberty Lake	582,077	511,964	667,544
Medical Lake	73,767	86,183	85,115
Millwood	350,783	142,495	-
Rockford	21,542	20,928	13,871
Spangle	24,496	-	16,795
Spokane	16,872,390	16,872,390	17,845,207
Spokane Valley	4,284,144	3,802,331	4,395,221
Waverly	4,846	4,030	3,668
<b>Total Cities</b>	<b>23,488,094</b>	<b>22,258,441</b>	<b>24,046,574</b>
<b>Total Co. &amp; Cities</b>	<b>35,973,498</b>	<b>35,851,489</b>	<b>36,238,698</b>
<b>Total Co. &amp; Cities &amp; State</b>	<b>\$42,933,498</b>	<b>\$42,265,489</b>	<b>\$43,198,698</b>

\*WSDOT Fiscal Year July 1 through June 30, Maintenance Costs for Spokane County

## REHABILITATION, RECONSTRUCTION AND IMPROVEMENTS

Pavement rehabilitation is defined as a structural or functional enhancement of a pavement which produces an extension in service life by substantially improving pavement condition and ride quality.<sup>16</sup> This can also include improving the load-carrying capacity. Reconstruction usually involves replacing most if not all of the pavement surface or structure. The addition of new assets to increase mobility and safety is referred to as improvements.

Only a few rehabilitation, reconstruction or improvement projects have been completed in our region in the last few years. Several are planned for the near future but, absent a new source of funding, the majority of the jurisdiction's budgets are expected to be oriented towards maintenance, operations and preservation programs. Continued work by WSDOT on US 395 North Spokane Corridor and the construction of a new interchange at US 195 and Cheney-Spokane Road, as well as the City of Spokane Valley's Mansfield Avenue connection and the Sullivan Road West Bridge, are a few of the rehabilitation, reconstruction or improvement projects currently programmed. For more detail on planned projects for the region, see Chapter 4. Additional detail on programmed projects is listed in SRTC's Transportation Improvement Program (TIP) available at: [http://www.srtc.org/tip\\_page.html](http://www.srtc.org/tip_page.html).

## BRIDGE CONDITIONS

Of the 355 bridges in Spokane County, 269 are included in the FHWA Bridge Program's National Bridge Inventory (NBI). According to NBI data, 21 of those bridges are structurally deficient and 65 are functionally obsolete.<sup>17</sup> Structurally deficient (SD) means a bridge

16 [http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_w35-a.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_w35-a.pdf)

17 U.S. Department of Transportation, Federal Highway Administration Bridge Programs, National Bridge Inventory <http://www.fhwa.dot.gov/bridge/nbi/county09c.cfm#wa>

requires repair or replacement of a certain component, such as cracked or spalled concrete or potentially the entire bridge itself. Being structurally deficient does not imply that the bridge is in danger of collapse or unsafe to the traveling public.<sup>18</sup> Functionally obsolete (FO) means that the design of a bridge is not suitable for its current use and indicates the inability to handle current traffic volume, speed, size or weight.<sup>19</sup>

The current costs to address SD bridges is estimated at \$226 million and FO bridges is nearly \$568 million. Over \$1.9 billion in bridge improvements for our region are listed in the NBI. **Map 2.10** shows the FO and SD bridges in Spokane County.

## TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS (TSMO)

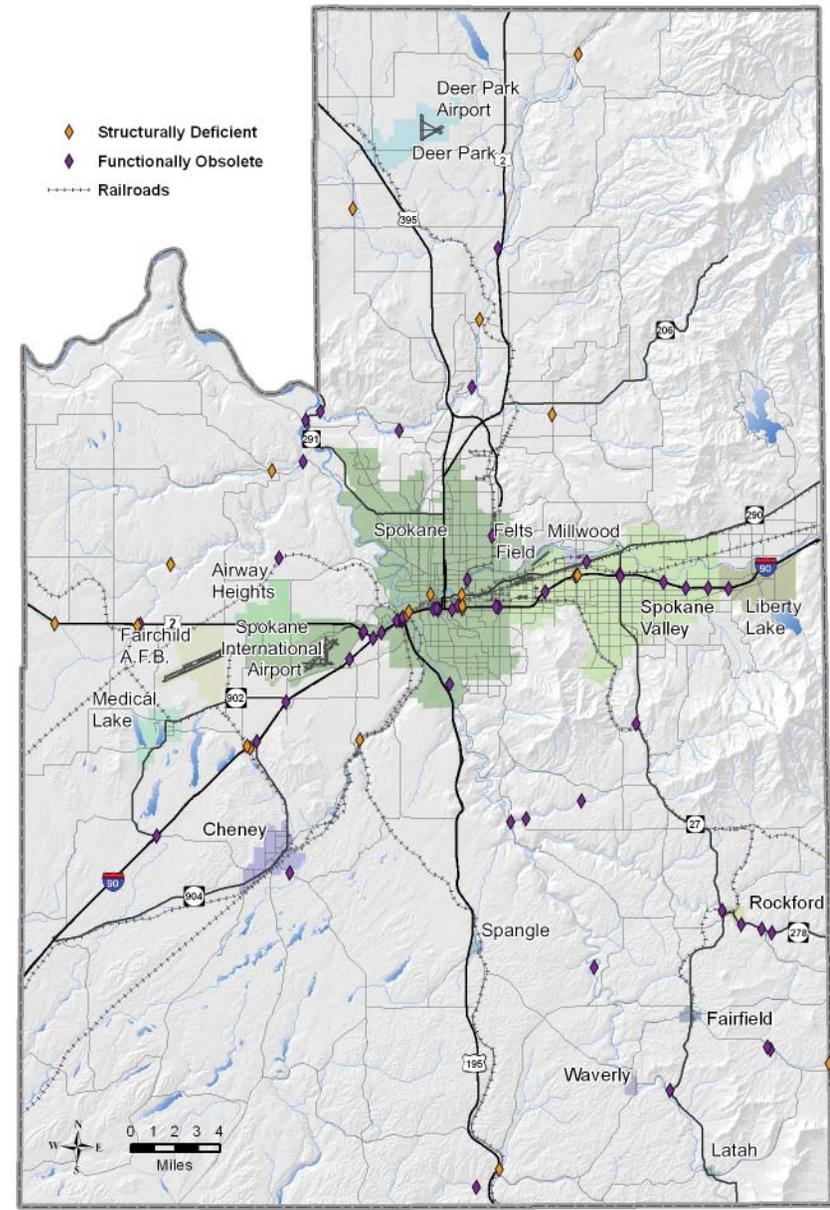
Numerous transportation and traffic systems operate in our region today. SRTC and its regional partners have worked to develop a regional transportation systems management and operations (TSMO) strategy for Spokane County and the surrounding areas. TSMO is a way to integrate multi-modal, cross-jurisdictional systems, services, and projects to optimize the performance of the existing infrastructure. TSMO includes systems, services, and projects that are designed to preserve capacity and improve security, safety, and reliability of transportation systems.<sup>20</sup> Regional TSMO projects can include signal coordination, traffic incident management, emergency preparedness, security programs, traffic management centers as well as many other examples of Intelligent Transportation Systems (ITS).

18 Source: WSDOT [http://www.wsdot.wa.gov/NR/rdonlyres/6A570363-EC34-4010-986E-591A89CEA6FB/0/StructurallyDeficientBridges\\_Sept2011.pdf](http://www.wsdot.wa.gov/NR/rdonlyres/6A570363-EC34-4010-986E-591A89CEA6FB/0/StructurallyDeficientBridges_Sept2011.pdf)

19 Minnesota DOT: <http://www.dot.state.mn.us/i35wbridge/pdfs/bridgenspectiondefs.pdf>

20 [http://plan4operations.dot.gov/reg\\_trans\\_sys.htm](http://plan4operations.dot.gov/reg_trans_sys.htm)

**Map 2.10 Structurally Deficient and Functionally Obsolete Bridges**



Source: National Bridge Inventory, 2011.

The Spokane Regional Transportation Management Center (SRTMC) was created as a multi-jurisdictional control facility to enhance and support advanced transportation management capabilities. The primary purpose of the SRTMC is to coordinate day-to-day operations of the regional transportation system, respond to events and incidents on area roadways to maximize efficiency and safety of the transportation network and to facilitate better route choices for travelers through communication. The SRTMC utilizes an expansive network of communication infrastructure to achieve its purpose. Additional capabilities of the SRTMC include data collection and management for uses of performance measurement, facilitating public transportation, and facilitating emergency response.

The SRTMC is a cooperative effort by the Cities of Spokane and Spokane Valley, STA, Spokane County, WSDOT and SRTC. The SRTMC opened in November 2003 and currently operates 24 hours a day, 7 days a week. Some of the systems utilized by SRTMC include closed circuit cameras, dynamic message signs, highway advisory radio stations, traffic measurement stations, and signal monitoring and control. SRTMC staff is able to monitor the current status of these systems and the data can be used for the measurement of system performance. Please see the following webpage for more information about the SRTMC: <http://www.srtmc.org/>.

The Spokane region has updated the regional ITS plan in 2013. Some of the strategies and projects in this plan include: integration of regional traffic control systems; expanding management capabilities; provision of better and more timely traveler information; improved data and communications connectivity; and, backup and redundancy of management resources. The ITS Plan strategies are discussed in more detail in Chapter 4.

## **TRAFFIC CONDITIONS**

Critical to any successful transportation planning program is the accurate collection of traffic volume data throughout the metropolitan area. Traffic counts are used in part to determine which roads should be functionally classified, which roads are close to exceeding their designed capacity, whether traffic signals or turning lanes should be installed, and to ensure SRTC's regional travel demand model reasonably reflects actual traffic conditions for the region. The process of ensuring the accuracy of the model requires traffic counts be taken at key locations throughout the planning area.

SRTC collects traffic counts conducted by the jurisdictions in Spokane County as well as WSDOT Eastern Region. For the purpose of developing the SRTC Travel Demand Model, the AM, mid-day and PM peak hour periods have been used in the past but recent improvements to the model also allow all day analysis. More detailed traffic volume data is available through SRTC or the individual agencies conducting the counts.

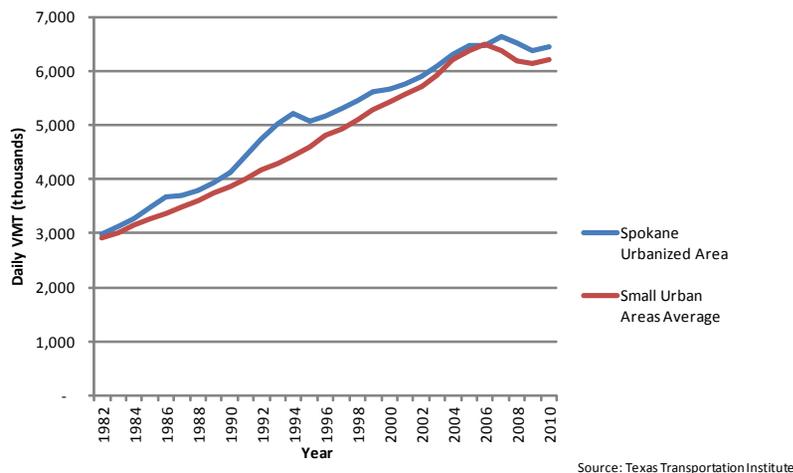
## **VEHICLE MILES TRAVELED (VMT)**

Vehicle miles traveled (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. VMT is estimated by multiplying traffic volumes on a roadway segment by the segment's length. For the purposes of long range transportation planning, VMT is estimated primarily on the regional network. Daily VMT from the SRTC travel demand model is approximately 8.4 million. This includes VMT on all roadways classified collector or higher and a handful of local access roads.

*“VMT is influenced by factors such as population, age distribution, and the number of vehicles per household. However, the greatest factor by far is how land uses are arranged. A more tangible measure of car use may be per capita VMT, which is the number of miles driven per person per day. For example, residents of an auto-oriented neighborhood in Atlanta (the most sprawling city in America), drive an average of 39 miles per person each weekday, which is 30% more than those who live in the most walkable neighborhood.”<sup>21</sup>*

The following graph (Figure 2.6) illustrates historical daily VMT for the Spokane urbanized area in comparison to other small urban areas as defined by the Texas Transportation Institute. This VMT number only includes arterials, highways and freeways in the urbanized area. As stated previously, SRTC monitors VMT using the travel demand model for collectors and higher for the entire county.

**Figure 2.6 Historic Vehicle Miles Travelled (VMT)**



21 <http://streetswiki.wikispaces.com/Vehicle+Miles+Traveled>

## CONGESTION

Results from the travel demand model aid SRTC staff in identifying current and future congested roadways. Congested roadways are defined as those where volumes exceed 75 percent of capacity. This is referred to as volume to capacity (V/C), expressed as a ratio or percent. Although additional factors can influence congestion, for the purposes of model analysis, capacity exceeding 75 percent serves as a “red flag” indicating that these locations require further evaluation. Additionally the information is presented to indicate V/C at 75 percent, 85 percent, 95 percent, 105 percent, and those that are more than 105 percent. Results from the model aids SRTC staff in identifying current and future congested roadways. Facilities with 95 percent or greater V/C ratio are considered the most congested roadways in the regional model. (See **Map 2.11**).

Figure 2.7 indicates the amount of the regional system (percent of peak VMT) which is historically at congested levels compared to other small urban areas.

**Figure 2.7 Historic Congestion (% of peak VMT)**

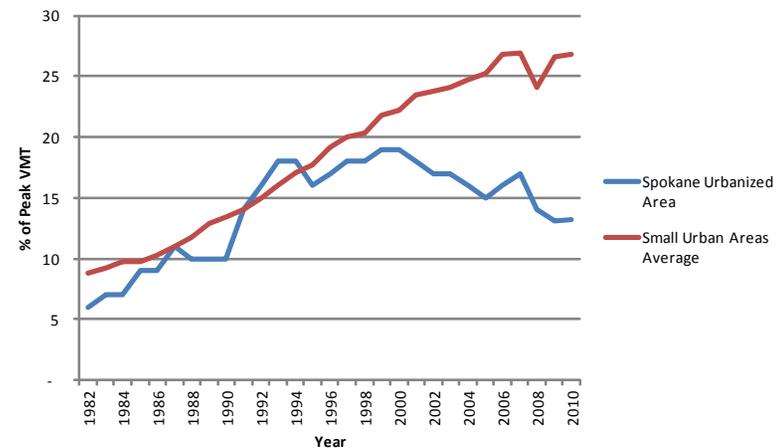
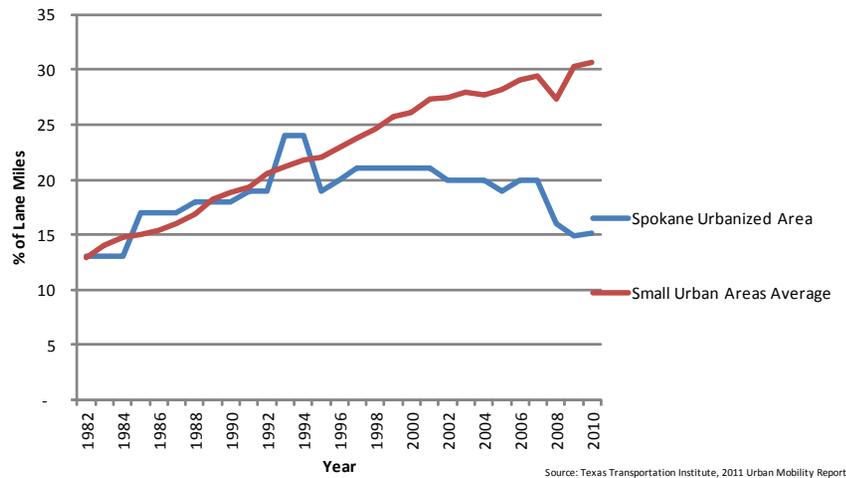
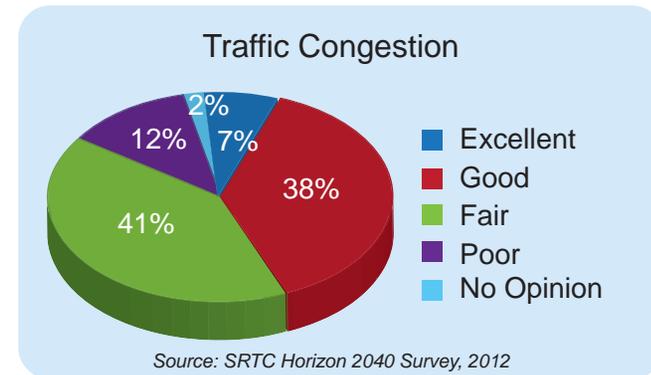


Figure 2.8 illustrates another way of looking at historic regional system congestion (percent of lane miles of roadway), again compared to similar small urban areas in the western United States.

**Figure 2.8 Historic Congestion (% of lane miles)**



The importance of traffic flow was heard repeatedly at the Horizon 2040 roundtables. Of particular concern, not only to private vehicle mobility but also to freight movement, was the state of our region’s bridges. Two bridges specifically were mentioned numerous times: the Sullivan Road Bridge in Spokane Valley and the Greene Street Bridge in the City of Spokane. There is general recognition that our region has very little congestion that occurs for only a limited period of time in the peak commute periods. However, almost everyone that participated in our outreach activities realizes that without adequate funding for maintenance and preservation, conditions could deteriorate not due to a lack of capacity but because of failing infrastructure. In fact, only 12 percent of respondents rated traffic congestion as poor in a 2012 Horizon 2040 survey.



## FREIGHT MOVEMENT

Freight movement conditions in Spokane County are generally good. However, there is recognition of the vital importance of freight fluidity, especially in relation to regional economic vitality. A strong emphasis on freight mobility, particularly its influence on economic development, was voiced repeatedly in public outreach efforts for this plan. Several bottlenecks for freight movement were identified including Argonne Road, Sullivan Road and Bigelow Gulch. Participants in a road/freight roundtable agreed that these corridors (including Freya/Green/Market until the North Spokane Corridor is complete) should be part of the region’s freight priority network. Concern about utilizing rail freight for the benefit of the region and reducing conflicts at railroad crossings was also heard.

The IPH Phase 1 findings included the identification of a strong need for improved north-south commodities movement in order to tap into Canadian and other domestic markets. Improving the highway infrastructure and access to north-south rail lines was viewed as critical to improving trade opportunities with Canada. This will also help in addressing the regional lane imbalance or back-haul issue.

A significantly larger portion of freight movement is outbound than inbound, particularly on trucks. This leads to a back-haul problem

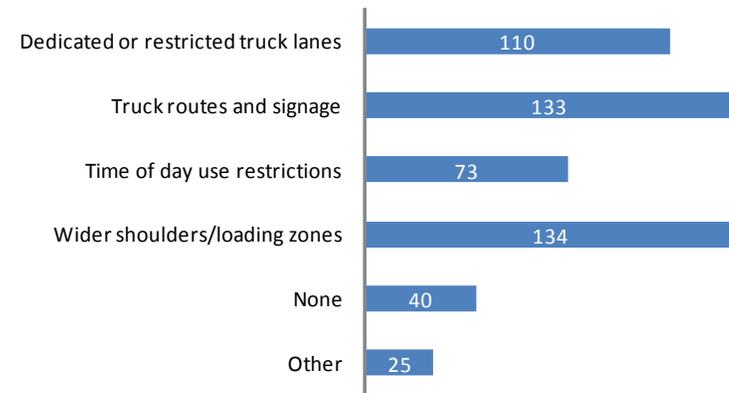


as many trucks travel back empty. This imbalance becomes an issue for many shippers, as it raises average per unit costs, and can be a barrier to increasing truck movements and attracting new shippers. At the same time, these empty loads present an opportunity to ship other commodities back into the region and potentially lower costs for some products.

Improvements in intermodal connections were also found to be crucial in order to raise the competitive profile of the region. Several inland port models were analyzed and it was concluded that the region is already a crossroads. However, implementing elements of some if not all of the inland port models will help the region leverage freight mobility for the highest economic benefit.

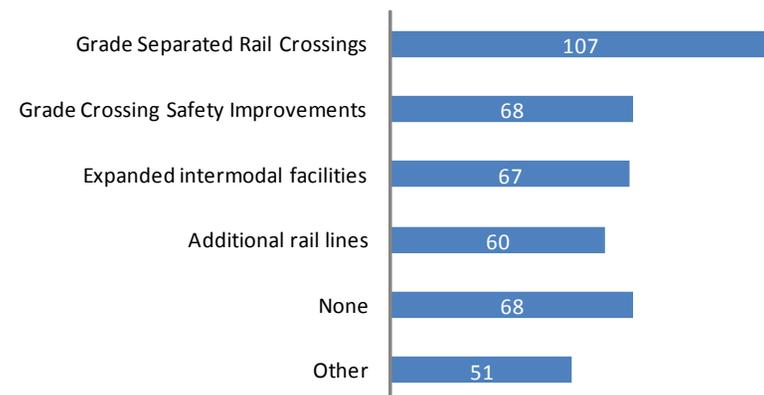
The Phase 1 study identified the need to reduce the large percentage of through-freight. Through-freight creates costs in terms of using road and rail capacity and from the accompanying wear and tear on the transportation system but generates relatively small economic benefits, which mostly come from transportation support services (lodging, truck stops, etc). The IPH study pointed out that reducing the imbalance of through-freight will be possible if the region improves its position as a hub for changing modes and pursues an aggregation, consolidation and distribution center model.

### Which Improvements are Needed for Trucking?



Source: SRTC Horizon 2040 Survey, 2012

### Which Improvements are Needed for Rail?



Source: SRTC Horizon 2040 Survey, 2012

## PUBLIC TRANSPORTATION

STA operates 33 fixed bus routes with a fleet of 154 buses. There are 10 park & ride lots throughout the service area. 10,831,987 passenger trips were taken on fixed route buses in 2011. The average fixed route weekday ridership was 33,114, average Saturday ridership was 15,235, and average Sunday ridership was 6,556. Paratransit in 2011 provided 485,551 passenger trips and vanpool service provided 232,816 passenger trips. **Table 2.8** shows the route numbers, names, and ridership numbers for the top ten routes by ridership.

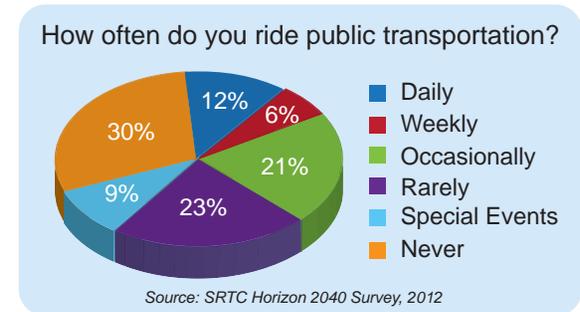
**Table 2.8 Top STA Routes by Ridership**

Route #	Route Name	2011 Annual Ridership
90	Sprague	1,190,020
25	Division	1,008,328
24	Monroe	705,352
33	Wellesley	624,418
66	Eastern Washington University	495,254
27	Crestline	437,051
44	29th Avenue	431,380
61	Highway 2	424,487
20	Spokane Falls Community College	379,170
45	Regal	371,308

STA's current budget reflects \$75 million in revenues with the bulk from local sales tax (\$42 million) and operating revenues (\$11 million). STA receives Federal Transit Administration (FTA) Section 5307 funding totaling \$7.5 million, a major source of revenue for preventive maintenance. Operation of the fixed route system alone is a \$40.5 million endeavor. Paratransit operations are nearly \$12 million annually, more than 19 percent of STA's budget. As costs for labor, benefits, materials and services continue to rise, it is vitally

important for the region to develop sustainable funding solutions for public transportation.

Despite shrinking revenues, Spokane Transit continues to be very successful in providing cost effective service while serving a growing number of riders. "Spokane Transit delivers over 20 percent more service for the taxpayer dollar than other urban system in Washington State.



STA is second only to King County in the number of passengers carried per hour of service delivered in large urban areas and provides the most efficient Paratransit service of all urban systems in the State."<sup>22</sup> Sales tax provides about 68 percent of the agency's operating revenue. The downturn in the economy has negatively impacted sales tax revenue in the PTBA, necessitating the reduction of service by 2 percent in 2010 and 7 percent in 2011. Despite the service reductions, overall ridership was not as negatively impacted, mostly due to the nature of the efficiency-based cuts. In fact, STA experienced their third highest year for ridership in 2012 with over 11 million rides. Vanpool ridership also increased by 8 percent with approximately 250,000 commute trips provided.

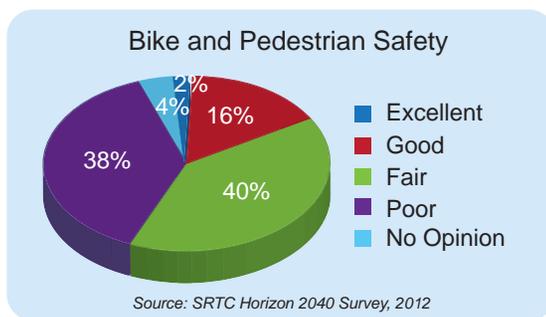
In 2010, Spokane Transit completed a comprehensive plan called Connect Spokane (most recently updated in 2012). Connect Spokane reflects principles for the provision of public transportation in the PTBA. The plan lists policies to guide decisions for the future of transit service and details strategies STA will undertake to meet

<sup>22</sup> STA press release January 3, 2013. <http://www.spokanetransit.com/newsroom>

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.”<sup>23</sup> For more information about Connect Spokane please see the STA website: <http://www.spokanetransit.com/about-sta/view/comprehensive-plan>

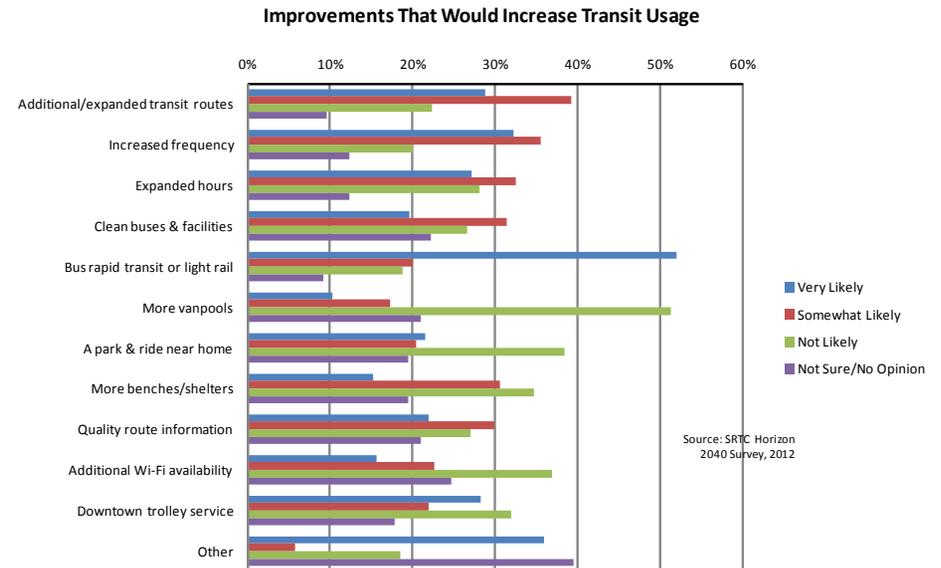
The first planned piece of the HPTN is the Central City line. The Central City Transit alternatives Analysis (CCTAA) was completed in 2011 with a locally preferred alternative (LPA) approved by regional stakeholders. The LPA identified Modern Electric Trolley (MET) as the preferred mode along a corridor from Gonzaga University through the University District and the downtown Spokane central business district to the Browne’s Addition neighborhood. The CCTAA and planning for the HPTN is described in more detail on STA’s website: <http://www.spokanetransit.com/about-sta/view/planning-initiatives/>.

There was consensus during the roundtables that, although our public transportation system has greatly improved recently, there is still a desire for additional transit



services in more rural areas of Spokane County. Most attendees understand the funding difficulties for public transit, especially

<sup>23</sup> [http://www.spokanetransit.com/files/content/Connect\\_Spokane2010\\_Amended2012\\_OP.pdf](http://www.spokanetransit.com/files/content/Connect_Spokane2010_Amended2012_OP.pdf)

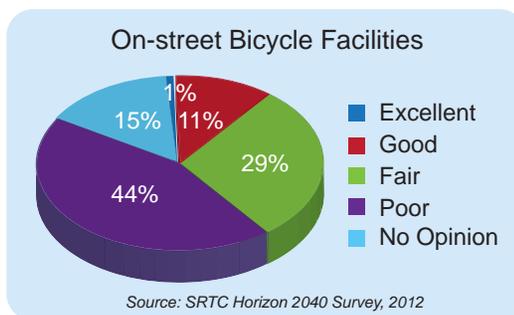


during the recent economic downturn. For example, one of the most commonly requested transit connections is between Spokane and the Idaho cities of Coeur d’Alene and Post Falls. However, much of the public is not aware Idaho does not have a local transit financing mechanism to fund a bi-state service. Clearly, outreach and education efforts are needed as well as alternative funding approaches to implement such a service.

Requests for more transit service including higher frequency, later hours, additional routes, and new park & rides are common. 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. Continued interest in high capacity public transportation options such as light rail or bus rapid transit continues to be one of the most prevalent topics in our outreach activities. The support for the prioritization of corridors for high performance transit has been heard as well.

## NONMOTORIZED CONDITIONS

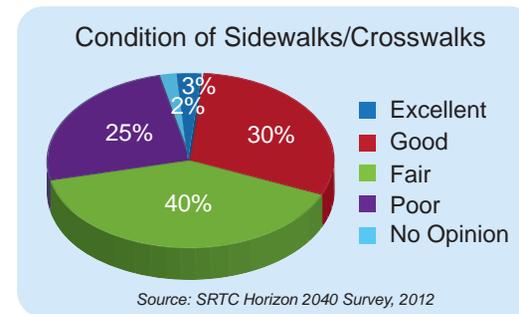
Generally, the public is aware of improvements that have been made to the bicycle and pedestrian infrastructure in our region. However, there is still a lot of work to do to enhance the ability of the public to make safe and convenient trips by bike, in a wheelchair or on foot. Overall connectivity of the nonmotorized networks and safety of its users are of primary importance to SRTC, local agencies and the responsible jurisdictions. While traffic safety for drivers and passengers has improved, there has been a recent uptick in fatalities for pedestrians and bicyclists.<sup>24</sup> In 2011, there was a 3 percent increase in fatalities for pedestrians and an 8.7 percent increase for bicyclists. However, the overall trend has been a decrease in fatalities for both types of users. 2011 was still one of the safest in the last 30 years. Theories about why there has been a spike recently include factors such as pedestrian and bicyclist inattention as well as the increase of overall numbers of walkers and bicyclists.<sup>25</sup> Local efforts such as the Spokane Regional Health District's "Stickman Knows" campaign have made significant impact in educating the public.



While additional bicycle network elements have been added and the aforementioned increase in mode share for walkers and cyclists have been encouraging, there are still areas of concern for

24 NHTSA <http://www-nrd.nhtsa.dot.gov/Pubs/811701.pdf>

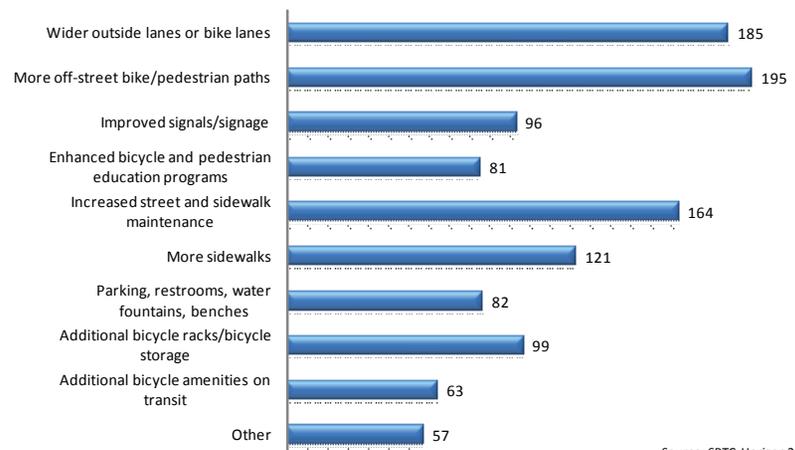
25 "What's Behind the Rise in Cyclist and Pedestrian Deaths?" Angie Schmitt. Streetsblog. <http://streetsblog.net/2012/12/11/whats-behind-the-rise-in-cyclist-and-pedestrian-deaths/>



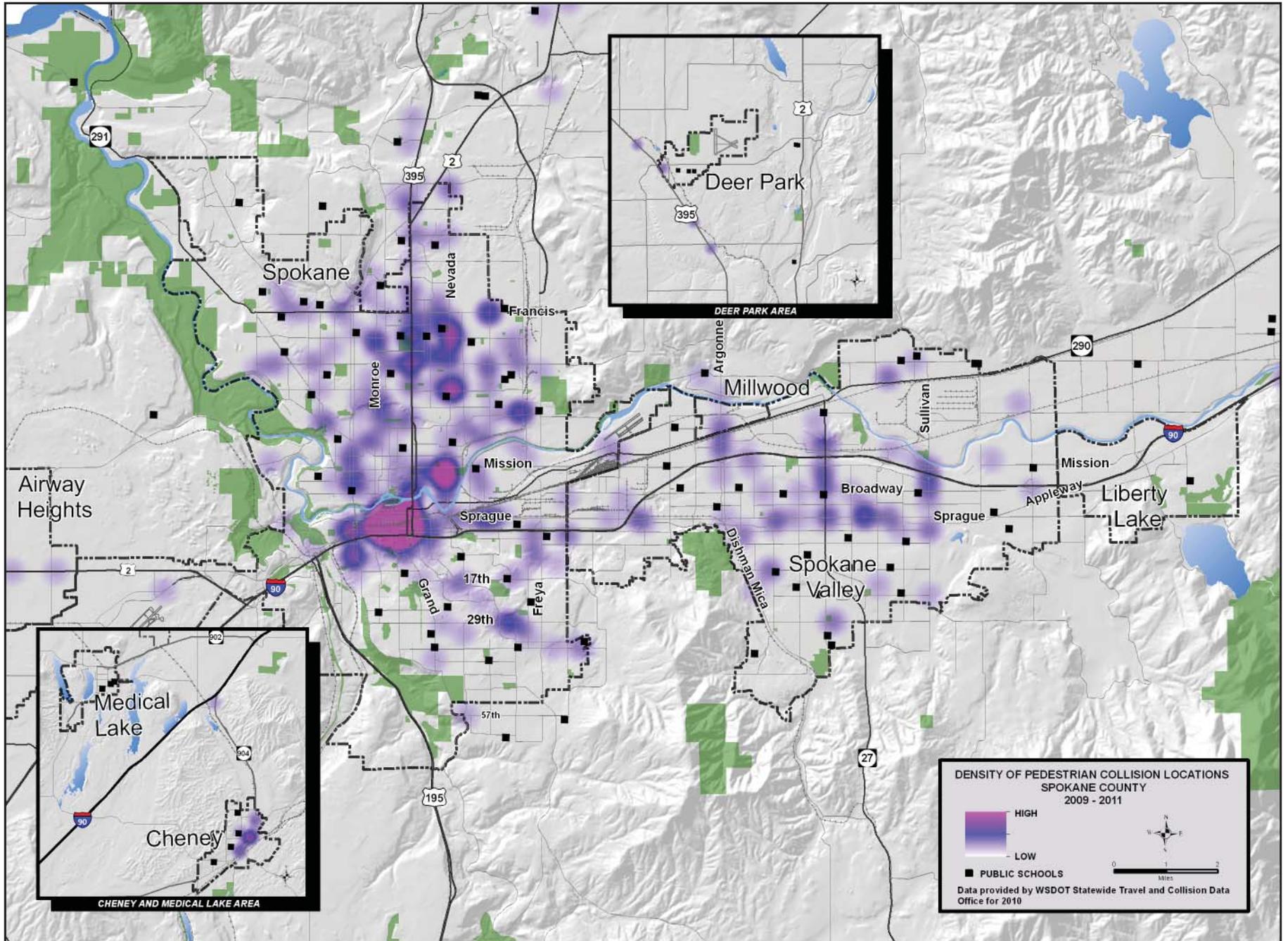
the safety of pedestrians and bicyclists. Several areas that have seen a concentration of accidents include the downtown Spokane CBD, the Division Street Corridor, West Central, the northeast neighborhoods of the City of Spokane, and the Argonne and Sullivan corridors in Spokane Valley. See **Map 2.12** and **Map 2.13**.

Inadequate maintenance (including snow removal), the lack of sidewalks in some areas or gaps in the existing sidewalk network are frequent comments received by this agency regarding nonmotorized transportation.

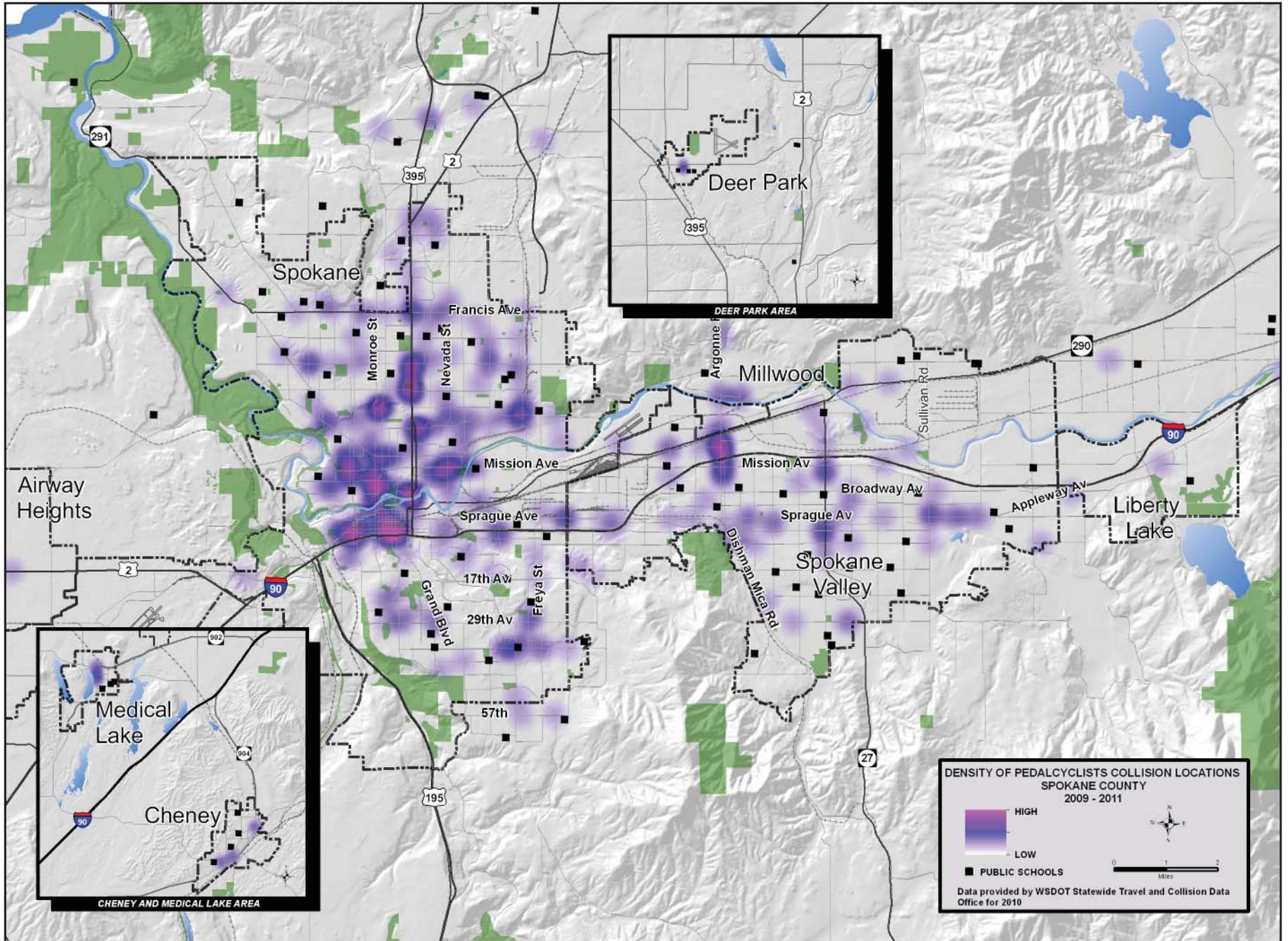
### What improvements would increase your bicycling or walking?



Map. 2.12 Pedestrian Collision Locations



Map 2.13 Bicyclist Collision Locations



## COMMUTE TRIP REDUCTION

Spokane County's Commute Trip Reduction (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. The CTR program requires regional and local coordination between employers, local jurisdictions, planning organizations, transit systems, and the state to reduce commute drive alone trips in targeted urban areas.

Along with the 2008 Spokane Regional CTR Plan, the area supports seven local CTR plans from Airway Heights, Cheney, Medical Lake, the City of Liberty Lake, the City of Spokane Valley, the City of Spokane and Spokane County. A Growth and Transportation Efficiency Center (GTEC) plan for downtown Spokane was also created to address the area's high concentration of jobs and/or population. This was an experimental state-funded program, which existed from 2008 to 2011 to create non-traditional CTR programs that reduced Single Occupancy Vehicle trips within the downtown area.

In 1993, CTR was implemented in Spokane County at affected worksites with 100 or more employees. Additionally the program supports voluntary worksite participants. As reported by the 2012 worksite survey, there were almost 8400 participants in the CTR program. Most recent measurements in the combined 2011 and 2012 CTR worksite surveys indicate of 101 CTR-Affected (i.e., mandatory) Worksites:

- 26 (26%) made goal of at least a 10% reduction in drive alone rate and/or 13% reduction in VMT
- 27 (27%) made at least a 50% reduction in drive alone rate and/or 13% reduction in VMT
- 16 (16%) made some progress toward goal(s)

Additionally for the 19 Voluntary Worksites:

- 8 (42%) made goal of at least a 10% reduction in drive alone rate and/or 13% reduction in VMT
- 2 (11%) made at least a 50% reduction in drive alone rate and/or 13% reduction in VMT

With the population in Spokane County expected to grow, the importance of the CTR Program for managing demand on the transportation system is greatly increased. The Spokane County CTR office works with hundreds of employers to match employees with alternative transportation methods to driving alone. At a regional level, SRTC relies on travel demand management programs like CTR to help with congestion management requirements.

## CONGESTION MANAGEMENT

Congestion management is the application of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods. A congestion management process (CMP) is a systematic and regionally-accepted approach for managing congestion. It provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management to meet state and local goals. The CMP is intended to move these congestion management strategies into funding and implementation stages.

The CMP, as defined by federal regulation, is intended to serve as a systematic process that provides for safe and effective integrated management and operation of a multimodal transportation system. The process includes:

- Development of congestion management objectives

- Establishment of measures of multimodal transportation system performance
- Collection of data and system performance monitoring to define the extent and duration of congestion and determine the causes of congestion
- Identification of congestion management strategies
- Implementation activities, including identification of an implementation schedule and possible funding sources for each strategy
- Evaluation of the effectiveness of implemented strategies

A CMP is required in metropolitan areas with population exceeding 200,000, known as Transportation Management Areas (TMAs). Federal requirements also state that the CMP shall be developed and implemented as an integrated part of the MTP planning process. In TMAs designated as ozone or carbon monoxide maintenance areas, the CMP takes on a greater significance. Federal law prohibits projects that result in a significant increase in carrying capacity for single occupant vehicles (SOVs) from being programmed in these areas unless the project is addressed in the region’s CMP. The CMP must provide an analysis of reasonable travel demand reduction and operation management strategies. If the analysis demonstrates that these strategies cannot fully satisfy the need for additional capacity and additional SOVs are warranted, then the CMP must identify strategies to manage the SOV facility safely and effectively along with other travel demand reduction and operation management strategies appropriate for the corridor.

SRTC is currently updating the existing CMP process. A multi-jurisdictional working group meets regularly and is developing the regional congestion management objectives. The new CMP objectives will be incorporated into this Horizon 2040 Plan.

Additional CMP components will be complete prior to the next update of the long range plan in 2017.

## **SAFETY & SECURITY**

Horizon 2040 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 continued safety and security of the regional transportation system. SRTC monitors certain aspects of the transportation system including collision information, education initiatives and other safety and security efforts.

### **TRAFFIC SAFETY**

Traffic volumes and congestion affect traffic safety. However, many other factors including behavioral and physical design also impact these conditions. Safety on our nation’s roads has improved due to advances in technology and the continued efforts of enforcement and public education campaigns. According to the U.S. Department of Transportation’s National Highway Traffic Safety Administration (NHTSA), traffic fatalities have declined by 1.9 percent from 2010 to 2011 and by 26 percent since 2005.<sup>26</sup> However, there are areas where fatalities have increased nationally. Fatalities in large truck crashes increased by about 20 percent in 2011.<sup>27</sup> Driver inattention also continues to be a concern as distraction-affected accidents increased by 1.9 percent from 2010 to 2011. However, it is

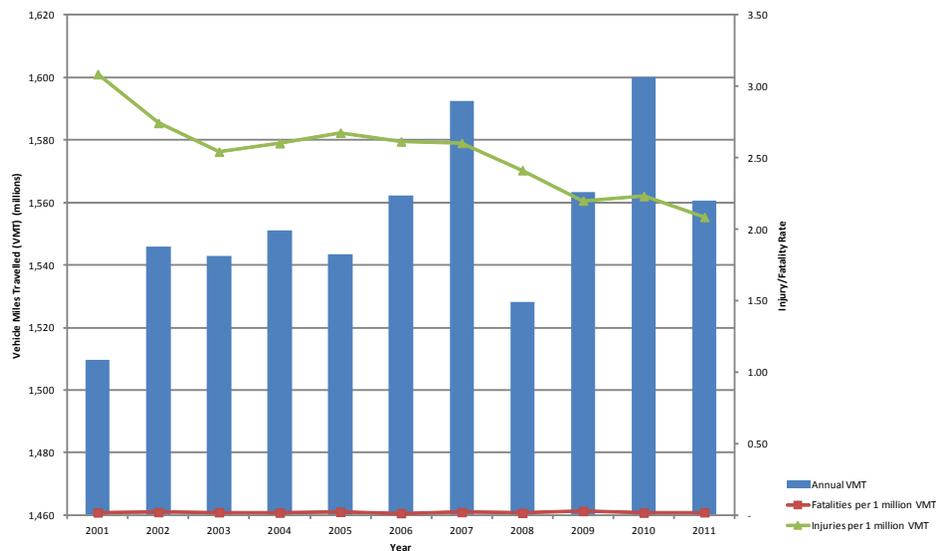
<sup>26</sup> NHTSA(<http://www.nhtsa.gov/About+NHTSA/Press+Releases/2012/New+NHTSA+Analysis+Shows+2011+Traffic+Fatalities+Declined+by+Nearly+Two+Percent>)

<sup>27</sup> 2011 Motor Vehicle Crashes: Overview. NHTSA <http://www-nrd.nhtsa.dot.gov/Pubs/811701.pdf>

important to recognize that these may be isolated incidents and that the overall trend is fewer fatalities and serious injuries.

Regional and local efforts to educate the public on a variety of driving safety issues in recent years appear to have been successful. The Washington State primary seat belt and impaired driving laws, as well as enforcement and media campaigns appear to have proven effective. Traffic fatalities have dropped to 448 in 2010 from 649 in 2005, according to the Washington State Department of Transportation. There were 147 traffic fatalities in Spokane County from 2006 through 2010, of which 47 percent involved alcohol or drug impaired drivers. In 2010, there were 5.51 traffic fatalities per 100,000 population in Spokane County, down 44 percent since 1994. This is far lower than the state and national rates, 6.81 and 10.65 respectively.<sup>28</sup>

**Figure 2.9 Spokane County Injury and Fatality Rates per Million Vehicle Miles Travelled (VMT)**



28 NHTSA, Fatality Analysis Reporting System (FARS) information 2010.

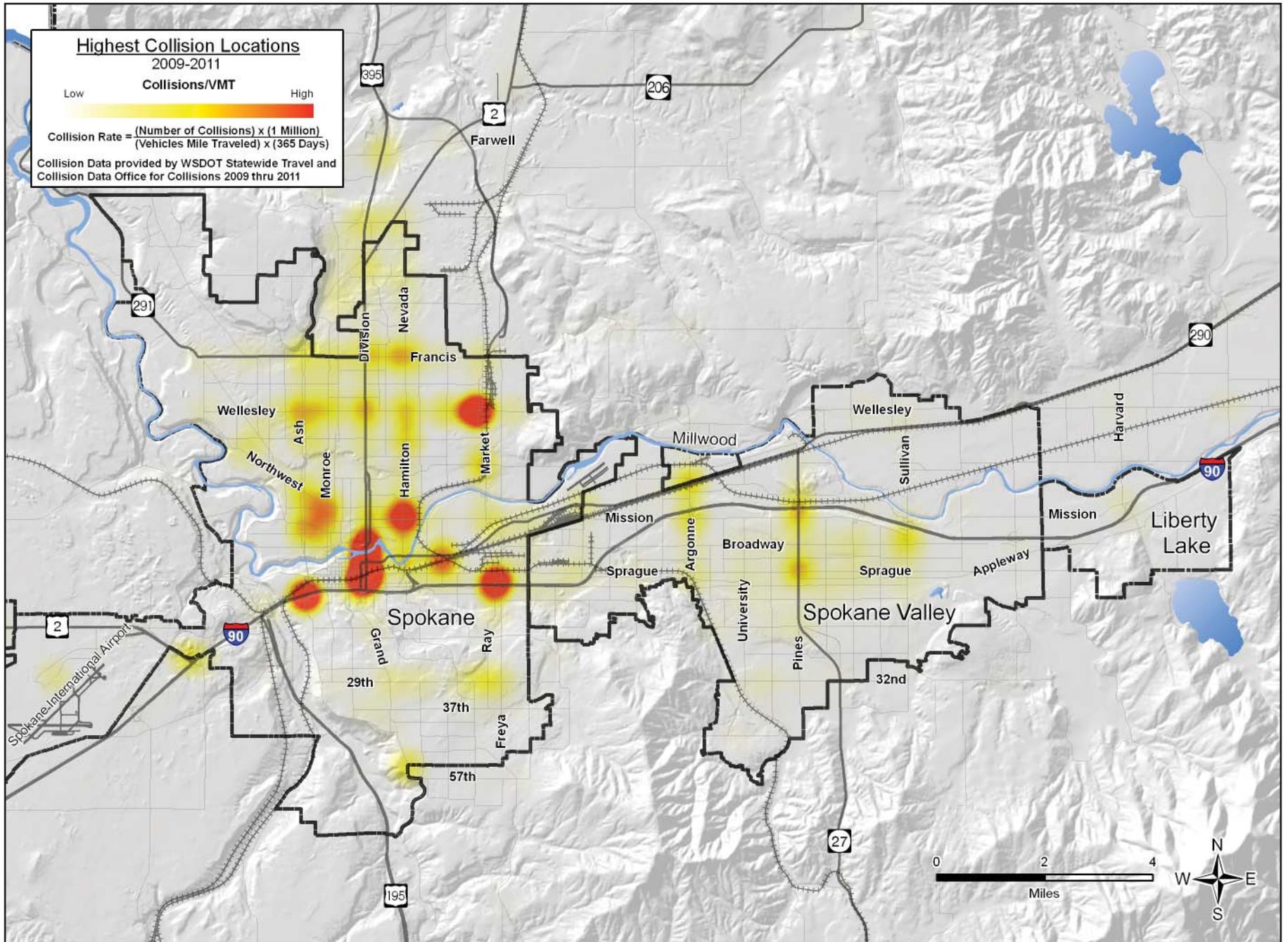
**Map 2.14** is an illustration of the corridors and intersections with the highest number of collisions in Spokane County for 2010. The map shows that the Division-Ruby corridor, especially near the Spokane River, has a high rate of collisions. Other high collision corridors include: the interchange between Interstate 90 and Highway 2 near Spokane International Airport; Market and Wellesley; Francis and Nevada; 29th near the intersections with Regal, Ray and Freya; Hamilton and Trent; Pines and Sprague; Sullivan and Broadway; and Harvard and Mission near the Interstate 90 interchange for Liberty Lake.

While we're below the national average, there is still much room for safety improvements. This has prompted Washington State, the region and local agencies to emphasize traffic safety. In an effort to increase local roadway safety and decrease accidents on area roads, Metropolitan Transportation Plans 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. The *Target Zero: Strategic Highway Safety Plan*<sup>29</sup> was developed to identify Washington State's traffic safety needs and guide investment decisions in order to achieve significant reductions in traffic fatalities and serious injuries. Target Zero provides a comprehensive framework of specific goals, objectives, and strategies for reducing traffic fatalities and disabling injuries.

SRTC continues to coordinate with the Washington State Department of Transportation (WSDOT) to develop steps to consider safety in the transportation arena. At the core of Target Zero are traffic safety emphasis areas and proven strategies/countermeasures that target problems on Washington roadways including:

29 More info is available at <http://www.wsdot.wa.gov/planning/SHSP.htm>

Map 2.14 Highest Collision Locations



- Driver and Occupant Behaviors
- Other Special Users, including young drivers, motorcycle riders, etc.
- Roadway Design
- Emergency Medical Services
- Traffic Information Systems

Some of the strategies recommended to make Washington’s roads safer include:

- Simplify and streamline the DUI arrest process
- Develop education messages in multiple languages
- Increase use of photo-radar automatic speed enforcement and use revenue generated for traffic safety
- Employ traffic calming devices where appropriate
- Target children 7-15 years of age to make sure they are buckled up properly
- Improve areas for drivers to pull off road to get sleep when drowsy
- Revoke licenses and impound vehicles of unlicensed drivers
- Expand crosswalk enforcement
- Install roundabouts instead of stoplights or four-way stops
- Enhancement of ITS systems
- Development of coordinated incident response plans
- Development of safer vehicles

It is the intent of SRTC to continue to collaborate with WSDOT and other local agencies, both on this MTP and on everyday projects and activities, to achieve the vision of Target Zero. The aim is to reduce traffic fatalities and serious injuries to zero by the year 2030.

## TRANSPORTATION SYSTEM SECURITY

One important consideration of Horizon 2040 is the security of the regional transportation system. Transportation system security can be defined as the freedom from intentional harm and tampering that affects both motorized and nonmotorized travelers, and may also include natural disasters. Security goes beyond safety and includes the planning to prevent, manage, or respond to threats of a region and its transportation system and users.<sup>30</sup> Many jurisdictions, including the agencies mentioned below, have developed emergency preparedness plans to address the possibility of emergencies that could impact the regional transportation network, including everything from blown tires to terrorist attacks and natural disasters.

### *Washington State Department of Transportation*

The Washington State Department of Transportation (WSDOT) defines an emergency as a situation involving natural phenomena, disasters, casualties, national defense or security measures. WSDOT has a **Disaster Plan** and an **Emergency Relief Manual** in which they detail their response to such events. The purpose is to reduce the vulnerability of the state transportation system from the effects of disasters, to respond effectively to the occurrence of disasters, and assist in the recovery of the aftermath of any emergency involving damage to the transportation system.

The Disaster Plan addresses Level II and III emergencies. Level II emergencies are situations that cannot be resolved with resources from the impacted area and may involve several agencies from more than one region. Level III emergencies are catastrophic events that

<sup>30</sup> The Transportation Planning Process: Key Issues, A Briefing Book for Transportation Decisionmakers, Officials, and Staff. Transportation Planning Capacity Building Program. Federal Highway Administration, Federal Transit Administration. Updated September 2007. Publication Number: FHWA-HEP-07-039.

may require massive amounts of resources from local, state, and federal governments. Examples of Level II or III emergencies would be avalanches, earthquakes, forest fires, dam failures, nuclear materials incidents, landslides, tsunamis, volcanic eruptions, and many more possible disasters.

Level I emergencies are isolated incidents that are routinely handled at the region level. These incidents may require regional incident response teams or maintenance employees to provide traffic control at the scene and to assist the State Patrol in clearing the roadway. Level I emergencies are not addressed in the WSDOT Disaster Plan.

The Disaster Plan lays out the following:

- Which departments or regional offices and personnel will be responsible for certain functions and duties in case of emergency
- How often emergency training and exercise drills will be conducted
- How to activate Emergency Operations Centers
- How heat and power will be provided to WSDOT facilities in case of emergency
- How emergency traffic control will be conducted in case of emergency
- How the repair and maintenance of highways will be conducted in case of disaster
- How damage assessment will be conducted
- How emergency public, air, water and rail transportation will be conducted in case of disaster
- How information will be disseminated to the public in times of emergency
- How federal assistance will be requested
- Many more policies to follow in case of emergency or disaster

For more information or to view the WSDOT Disaster Plan, please see: <http://www.wsdot.wa.gov/publications/manuals/fulltext/M54-11/DisasterPlan.pdf>.

### ***Spokane County***

Spokane County's Department of Emergency Management (DEM) and Local Emergency Planning Committee (LEPC) are responsible for coordinating and facilitating resources to minimize the impact of major emergencies and disasters on people, property, and the environment. DEM promotes a ***Comprehensive Preparedness Guide*** that provides guidance to local jurisdictions about response and recovery planning for possible natural and human-caused disasters. The ***Spokane County Comprehensive Emergency Management Plan*** has a section devoted to transportation. The Plan defines the responsibilities of the primary (lead) and support agencies to mitigate, prepare for, respond to, and recover from emergencies and disasters. The responsibilities include:

#### Local jurisdictions

- Identify transportation needs which could result from various major disasters
- Maintain transportation resource lists and plans
- Coordinate with private industry on use of privately owned vehicles
- Coordinate with Law Enforcement Agencies, Fire Services and Public Works

#### Spokane County Public Works

- Coordinate and report damage assessment of land transportation routes
- Identify alternate emergency land transportation routes
- Deploy Public Works units to areas in need of debris removal or road restoration operations

- Task other department units for assistance when necessary
- Deploy personnel and equipment to evaluate damaged bridges and roadways, and to take actions to restore them to a usable condition

#### Spokane Transit Authority (STA)

- Provide bus transportation resources
- Serve as Transportation Operations Center (Command Post + Dispatch Center) when needed
- Provide Support in the Emergency Coordination Center
- Uses transportation communication links to provide damage assessment information
- Coordinate recovery/replacement of emergency vehicles transporting people
- Coordinate mobilization of emergency transportation services
- Coordinate resource lists with the Spokane County DEM

#### Spokane Department of Emergency Management (DEM)

- Coordinate resource use
- Support Incident request
- Activate the Emergency Coordination Center

#### Ambulance Companies

- Provide vehicles and personnel for emergency use
- Provide medical transport

#### Commercial and Private Bus Companies

- Provide vehicles and personnel for emergency use

#### Fire Services

- Coordinate ambulance transportation support
- Provide damage assessment of transportation routes

#### Law Enforcement Agencies

- Provide damage assessment of transportation routes
- Provide traffic control
- Escort emergency transport vehicles when needed
- Provide security for transportation staging areas when needed

For more information on Spokane County’s Emergency Management Plans, please see their website: <http://www.spokanecounty.org/EmergencyMgmt/content.aspx?c=2667>.

#### ***Spokane Transit Authority***

In addition to their participation in the Spokane County Comprehensive Emergency Management Plan, STA addresses compliance with the State’s Safety Transportation Goal:

**Safety: provide for and improve the safety and security of transportation customers and the transportation system.** STA continues to regard safety as a high priority. STA operates in a safe and efficient manner, maintains safe facilities and maintains a regular maintenance program on all vehicles and facilities. STA was a recipient of the Gold Standard Award from the Transportation Security Administration (TSA) for achieving the highest rating a mass transit system can achieve under the TSA’s Baseline Assessment for Security Enhancement (BASE) program.<sup>31</sup>

It is the duty of Spokane Transit Authority’s Security Coordinator to facilitate resources to be utilized in case of emergency or disaster. STA responds to emergencies using an ‘All Hazards’ approach. That means there are basic response actions taken initially on most emergencies, regardless of what the emergency or disaster is. Once

<sup>31</sup> Spokane Transit Authority Transit Development Plan, 2012-2017.

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, etc.) are implemented.

In addition, STA has a code of conduct that allows drivers to refuse service to anyone not following the rules. The STA Operators Handbook has several sections devoted to emergency instructions, depending on the severity of the event. The book covers possible emergencies ranging from general accidents to disputes, intoxicated riders, riders carrying weapons, and vehicle fires. It also includes general rules for ejecting passengers from a vehicle and a list of items that are not allowed on STA vehicles. In all cases of emergency, dispatch will call 911 or STA Security, as necessary.

STA has continued the installation of security cameras at their park & ride and operations facilities. STA also annually evaluates customer security through surveys asking for rider's assessment of their personal safety and the driver's safety. STA's goal is a rating of 5 on a scale of 1 to 5, with 5 being the highest. Their average is 4.5 as of July 2012.

## **ENVIRONMENTAL CONSIDERATIONS**

When planning for our future transportation system, it is essential to consider potential impacts to the environment. Traditionally, the MTP considers potential adverse impacts transportation will have on various environmental factors and the human environment. However, it is important to note that this Environmental Considerations section does not include National Environmental Policy Act (NEPA)-level evaluation in the transportation planning process. Rather, SRTC intends for planning studies to be of sufficient disclosure to provide a foundation for the inclusion of planning

decisions in the NEPA and associated State Environmental Policy Act (SEPA) process.

### **Air Quality**

Although the Spokane planning area is in compliance with clean air standards, the region continues to strive to maintain and improve air quality. Fine particulate matter, air toxics, and ozone are significant air quality concerns. These pollutants pose a range of health impacts – such as respiratory ailments, heart disease and cancer – which is why the region supports and implements programs and policies designed to reduce their emissions, and the risk of exposure to them.

Spokane has been able to achieve and maintain the National Ambient Air Quality Standards (NAAQS) for both Carbon Monoxide (CO) and Particulate Matter (PM-10). In December 2000, the Environmental Protection Agency (EPA) determined that Spokane attained the monitored NAAQS for both CO and PM<sub>10</sub>. On August 29, 2005 EPA approved the CO Maintenance Plan. Therefore, Spokane is classified as an attainment area working under a maintenance plan for CO.

On August 30, 2005 EPA approved the PM<sub>10</sub> Limited Maintenance Plan (LMP). The PM-10 Plan outlines the minimal risk that PM<sub>10</sub> from motor vehicles would contribute to a PM-10 violation. Therefore, emissions budgets are treated as essentially not constrained for the maintenance period. Although a PM-10 regional budget test is not necessary, the Spokane region is still subject to other transportation conformity requirements of 40 CFR part 93, subpart A. Please see **Map 2.15** for the current CO and PM-10 boundaries under the regional maintenance plan.



PM-2.5 and ozone will be the pollutants to focus most on in the future because both have had their NAAQS lowered by EPA recently. At this point, the Spokane region is easily achieving the ozone standard. We do run fairly close to the PM-2.5 standard.

As responsible stewards to the environment, SRTC is aware of the effects of transportation-related pollutants that contribute to regional haze and GHG. In 2008 and 2009 the Washington State Legislature adopted numerous state directives to encourage sustainable transportation solutions to minimize the transportation impacts to climate change. RCW 47.01.440 details the adoption of statewide goals to reduce annual per capita vehicle miles traveled by 2050 with specific statewide benchmarks set for 2020, 2035, and 2050. In addition, the legislature passed RCW 70.235.020 that reduces overall emissions of GHG in the state to 1990 levels by 2020, with additional reduction targets for 2035 and 2050. SRTC supports reducing per capita VMT and GHG emissions. The policies outlined in Horizon 2040 are well aligned with these statewide directives. The Horizon 2040 Guiding Principle for Stewardship indicates that transportation decisions should minimize negative impacts to the natural environment. Additionally, protecting air quality is called out specifically as a policy.

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. An example of a regional air quality strategy being used in the Spokane Metropolitan Area is the deployment of ITS technology on the regional transportation system to provide monitoring and response capability to redirect traffic. This is accomplished by alerting traffic about incidents or congestion using highway advisory radio (HAR) and variable message signs (VMS), and using

pre-determined traffic control plans that are implemented at the Spokane Regional Transportation Management Center. This approach can reduce vehicle miles traveled and auto emissions that result from non-recurring incidences.

Other regional and local air quality strategies include:

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

### Water Quality

When planning and implementing new transportation projects in the Spokane region, the impacts to water quality must be carefully considered. Washington state law (RCW 90.48.080) prohibits the discharge of polluting matter into waters of the state. There are water quality standards for the protection of both surface and ground water (see <http://www.ecy.wa.gov/programs/wq/links/standards.html>).

Pollutants in stormwater runoff can include trash, dirt, oils, road grime, metals, and nutrients that encourage algal growth and result in aquatic problems. Bacteria, pathogens, and toxics can accumulate in the sediments and bioaccumulate in the food chain. Toxics, such

as polychlorinated biphenyls (PCBs), are of particular concern in the Spokane river basin and stormwater runoff is a major source of the PCB contamination in the Spokane River.

The Spokane Valley-Rathdrum Prairie Aquifer provides the primary supply of drinking water for the Spokane area. During the last glacial ice age, numerous cataclysmic floods inundated parts of Northern Idaho and Eastern Washington as a result of the rapid draining of Glacial Lake Missoula when ice dams broke. These floods deposited thick layers of sand, gravel, cobbles, and boulders in the Spokane Valley. Water from adjacent lakes, mountain streams, the Spokane River and precipitation flows through these flood deposits supplying the aquifer. The Spokane Aquifer has been designated by the U.S. Environmental Protection Agency (U.S. EPA) as a “Sole Source Aquifer”. The sole source designation increased public awareness of the aquifer and supported the development of special management practices to protect it. (Reference - *The Spokane Valley-Rathdrum Prairie Aquifer Atlas 2009 Update*).

Transportation projects contained in the MTP that have discharges to surface waters may be regulated directly or indirectly under **National Pollutant Discharge Elimination System (NPDES) Permits** (see <http://www.ecy.wa.gov/programs/wq/stormwater/index.html>).

The cities of Spokane and Spokane Valley, and Spokane County are regulated under the Eastern Washington Phase II Municipal Stormwater Permit. Transportation projects in these jurisdictions must comply with applicable permit requirements. The Washington State Department of Transportation is regulated under the Washington State Department of Transportation NPDES Municipal Stormwater Permit.

A major effort is currently underway to eliminate sources of PCBs to the Spokane River in order to achieve the water quality standard for the river. PCBs can be a contaminant in pigments used in paints and has also been found in building and construction materials, such as concrete. PCB surveys using EPA Method 1668 C should be made prior to any demolition activities to determine if PCB is present. Should PCBs be found, demolition practices must be designed to prevent PCB from entering the river. In order to avoid introduction of PCBs into the Spokane River, building materials that are used during construction should be certified to be free of PCBs, as demonstrated by a laboratory analysis. Similar considerations should be made to prevent the introduction of the metals lead, zinc, and cadmium to the river.

*The Spokane Regional Stormwater Manual has equivalency to Ecology’s Stormwater Management Manual for Eastern Washington* and establishes stormwater project design and management standards for the Spokane region in order to protect water quality, natural drainage systems, and down-gradient properties as urban development occurs (see [http://www.spokanecounty.org/data/engineers/srsm\\_apr08final/SRSM\\_April2008Final.pdf](http://www.spokanecounty.org/data/engineers/srsm_apr08final/SRSM_April2008Final.pdf)).

The Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load Water Quality Improvement Report establishes a management implementation plan to reduce nutrients in the Spokane River and Lake Spokane in order to prevent low oxygen, excessive algae blooms, and the degradation of downstream water quality. This TMDL establishes wasteload allocations for the maximum amount of total phosphorus, carbonaceous biochemical oxygen demand, and ammonia that can be discharged to the Spokane River from stormwater discharges. Efforts should be made to avoid new direct discharges and to eliminate old direct discharges to the Spokane River, and work towards the concept of

“zero discharge” by eliminating these discharges entirely. At the same time, discharges to ground should not endanger groundwater resources, or result in the degradation of down-gradient surface waterbodies.

Understanding the unique geology of our region is essential to protecting water quality and preserving wetlands and critical areas. Wetlands and critical areas have been defined to address and offset losses caused by transportation related projects. Priority should be given to preserving wetlands and limiting transportation-related impacts to these areas.

### Noise Impact Guidelines

Each agency involved in developing transportation projects is encouraged to consider the impacts of noise from roadways as well as land use changes when planning transportation construction projects for the future. Mitigation of traffic noise to meet Federal guidelines is encouraged through appropriate land use and site design including buffers, and landscaping and enhancements that blend with the site environment.

### Hazardous Materials

Overseeing management and disposal of hazardous and dangerous waste is performed by the Washington State Department of Ecology (DOE). The Hazardous Waste and Toxics Reduction Program (HWTRP) is responsible for monitoring and controlling the generation, treatment, storage, and disposal of hazardous wastes in Washington. Vehicle related contaminants such as copper from brake pads, zinc from tire usage and vehicle drips and leaks can wash into storm drains and water bodies. As brake pads wear down, copper and other metals are deposited on roadways, where

they are washed into our streams and rivers. In urban areas, brake pads account for up to half of the copper entering our waterways. Copper is highly toxic to fish and other aquatic species. Tires have been identified as a potential source of zinc pollution, which is also harmful to aquatic life. Information about management of hazardous wastes and HWTRP can be found at <http://www.ecy.wa.gov/programs/hwtr/index.html>. On the remediation side, both the Toxics Cleanup Program and Spill Response Program are responsible for responding to pre-existing and current releases of hazardous substances to surface waters, ground water or soils.

### Endangered and Threatened Species

Another environmental consideration when planning transportation projects is the presence of federally listed endangered and threatened species. According to the U.S. Fish and Wildlife Service (USFWS), the existence of the following species has been documented in Spokane County:

- Bull Trout – Columbia River DPS – Listed Threatened
- Water howellia (plant) - Listed threatened
- Spalding’s silene (plant) - Listed threatened
- Ute Ladies’-tresses (plant) - Listed threatened

A biologist will review the project, identify whether species could be impacted and attempt to avoid, minimize, or eliminate these impacts. A Biological Assessment will be written to document the biologist’s conclusions and the rationale to support those conclusions in regard to the effect of the project on listed species. This assessment will result in 1 of 3 effect determinations from that the project will have on species:

“No effect” on the species

“May affect, not likely to adversely affect” the species, or

“May affect, likely to adversely affect” the species

USFWS will review and consult with the project proponent to achieve the best result possible for the listed species. This may require additional analysis and consultation if there will be an adverse effect to a protected listed or threatened species.

### Cultural Resources

Any project receiving federal funding, license, or approval must undergo review under Section 106 of the National Historic Preservation Act. Section 106 compliance involves identifying stakeholders with a potential interest in historic properties within the project area. The project proponent works with these consulting parties to identify significant archaeological sites, historic buildings and structures, and locations of traditional cultural importance, and then to determine the level of effect the project will have on these properties. If the project is expected to alter the historic character of any historic property, a mitigation plan must be developed and concurred upon by the consulting parties. Typical mitigation measures include project redesign, data recovery excavations at archaeological sites, public education and interpretation, and providing support for traditional resources and cultural practices. The consultation process is designed to foster collaborative and creative solutions enabling projects to move forward while also considering and minimizing the effect on significant historic sites (those determined eligible for the National Register of Historic Places in consultation with stakeholders).

State-funded capital construction projects must comply with Governors Executive Order 05-05, a state level process generally

mirroring Section 106. The directive of 05-05 is to “work with the Department of Archaeology and Historic Preservation and the Tribes to avoid, minimize, or mitigate adverse effects to cultural resources”. Like Section 106, 05-05 is intended to set up a collaborative framework for developing solutions in partnership with consulting parties.

Consulting parties for Spokane County undertakings include the Washington State Department of Archaeology and Historic Preservation, the Spokane County and City of Spokane Historic Preservation Officer, the Spokane Tribe of Indians and the Coeur d’Alene Tribe. Other Indian tribes also place cultural importance on portions of Spokane County as well, and should be contacted depending on the location of the undertaking.

### Environmental Consultation

As described in Chapter 1, SRTC regularly coordinates with agencies and stakeholders as part of committees, advisory groups, outreach efforts, program development and project-level planning. SRTC also has established requirements to seek involvement and comments from the public and agencies. SRTC’s Public Participation Policy can be found at [www.srtc.org](http://www.srtc.org). The following agencies and jurisdictions will be consulted on this plan and future projects to enhance environmental consultation and coordination efforts.

Federal Agencies:

- Environmental Protection Agency
- U.S. Army Corp of Engineers
- U.S. Fish and Wildlife Service
- U.S. Forest Service

#### State Agencies:

- Department of Ecology
- Department of Fish and Wildlife
- Department of Natural Resources
- Governor’s Office
- Office of Archaeology and Historic Preservation

#### Tribal Groups:

- Spokane Tribe
- Kalispel Tribe
- Coeur d’Alene Tribe
- Salish/Kootenai Tribe
- Colville Tribe

#### Local agencies

- Spokane Regional Clean Air Agency
- Spokane Regional Health District

## QUALITY OF LIFE

The term “Quality of life” can be broadly defined, sometimes being referred to as “livability” or more simply the “suitability for human living.” The 2009 Partnership for Sustainable Communities effort spearheaded by the U.S. Department of Transportation, U.S. Department of Housing and Urban Development, and the Environmental Protection Agency emphasized the role of providing transportation options in improving livability. As mentioned in Chapter 1, the Partnership’s six livability principles were carefully considered by SRTC during the development of the Horizon 2040 Guiding Principles and Policies. These principles are reflected in the strategies listed in Chapter 4 of this plan. The following livability principles are incorporated into federal policies and funding programs:<sup>32</sup>

<sup>32</sup> <http://www.sustainablecommunities.gov/aboutUs.html>

### **Provide more transportation choices**

Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation’s dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health.

### **Promote equitable, affordable housing**

Expand location- and energy-efficient housing choices for people of all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing and transportation.

### **Enhance economic competitiveness**

Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers, as well as expanded business access to markets.

### **Support existing communities**

Target federal funding toward existing communities—through strategies like transit-oriented, mixed-use development and land recycling—to increase community revitalization and the efficiency of public works investments and safeguard rural landscapes.

### **Coordinate and leverage federal policies and investment**

Align federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.

### **Value communities and neighborhoods**

Enhance the unique characteristics of all communities by investing in healthy, safe, and walkable neighborhoods—rural, urban, or suburban.

Transportation is directly related to quality of life by influencing the “general well-being of individuals and societies.”<sup>33</sup> For the purposes of this plan, the impacts to our regional quality of life from the physical transportation environment as well as operational management strategies and programs are considered. Clean air, water and soils, as well as affordable access to employment, housing, education, recreation, health care, and other vital services all are ways that transportation can play a large role in a community’s quality of life.

*Livability in transportation is about using the quality, location, and type of transportation facilities and services available to help achieve broader community goals such as access to good jobs, affordable housing, quality schools, and safe streets. This includes addressing road safety and capacity issues through better planning and design, maximizing and expanding new technologies such as intelligent transportation systems (ITS) and quiet pavements, and using travel demand management (TDM) approaches in system planning and operations. It also includes developing high quality public transportation to foster economic development, and community design that offers residents and workers the full range of transportation choices. And, it involves strategically connecting the modal pieces—bikeways, pedestrian facilities, transit services, and roadways—into a truly intermodal, interconnected system. (Livability in Transportation Guidebook. FHWA, 2010)*

In 2012, a study analyzed the City of Spokane’s street design standards in relation to public health. The study compared Spokane’s standards with other cities, reviewed research about the standard’s

33 Recommendations Memo #2 Livability and Quality of Life Indicators. CH2M HILL. 2011

influence on public health, and provided recommendations to meet national best practice standards. The Center for Disease Control (CDC) recommends the following transportation strategies (among others) to address health issues, particularly our country’s epidemic of obesity and related consequences:

- Enhance infrastructure supporting bicycling and walking;
- Improve access to public transportation;
- Enhance personal and traffic safety in areas where persons are or could be physically active.<sup>34</sup>

Other research reviewed for the study showed the close correlation of land use and transportation network design with overall health. “At a broader scale, the study found that mixed land uses, residential and employment density, and street connectivity are all positively correlated with fewer vehicle miles traveled, greater use of transit, and increased physical activity.”<sup>35</sup>

Some examples of indicators that can be used to evaluate the quality of life in the Spokane region include air pollutant levels, transit accessibility, change in mode share, and percentage of household income spent on housing and transportation costs together.

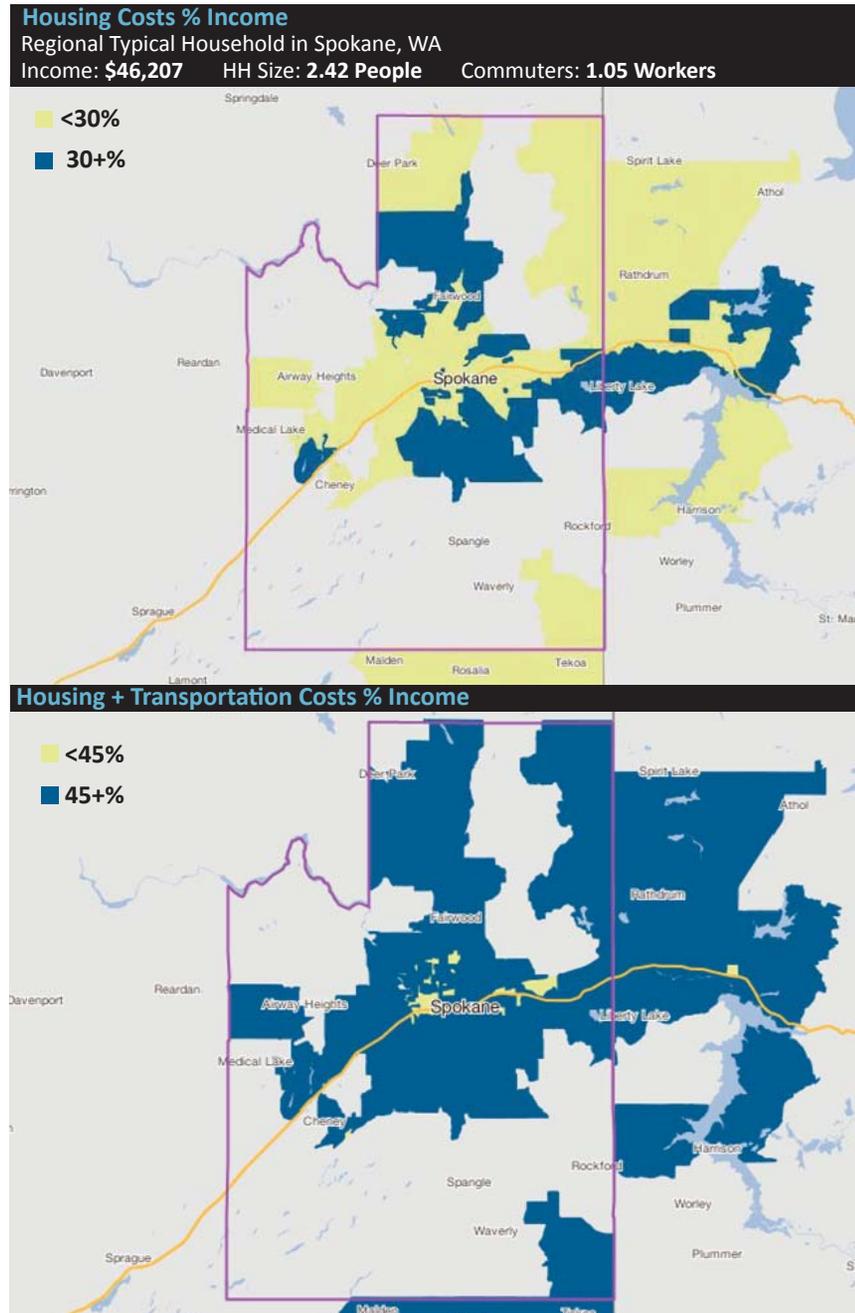
The H+T Affordability Index by the Center for Neighborhood Technology illustrates the decrease in affordability when both housing and transportation costs are represented. (See Figure 2.10). Their definition of affordability is when transportation and housing costs take up no more than 45 percent of a household budget.<sup>36</sup>

34 Healthy Streets, Healthy Cities. An Assessment of the City of Spokane’s Street Design Standards. Allison Crnic and Paul Moore. 2012

35 IBID

36 The Center for Neighborhood Technology’s Housing and Transportation (H+T®) Affordability Index. <http://htaindex.cnt.org/>

**Figure 2.10 Housing and Transportation Costs Affordability Index**



## ECONOMIC VITALITY

The role of transportation in preserving and enhancing our region’s economic vitality may seem obvious. However, it is more than just about jobs and the transport of goods and services. Transportation influences many of the aforementioned quality of life issues that directly affect employees and the overall business climate. Transportation issues such as access, congestion, safety, and reliability are primary factors for businesses looking to locate in our region. However, businesses are increasingly factoring in quality of life elements such as access to affordable housing, health care, education, and recreation in their location decisions.<sup>37</sup>

In fall 2012, SRTC partnered with the Spokane Regional Health District to host a series of forums titled “Urban Corridors and Why We Should Ride Them All the Way to the Bank.” Urban economist Dena Belzer came to Spokane to discuss the relationship of transportation and economic development and the possibility of implementing urban corridors in our area. Urban transportation corridors (UTCs) are areas that can accommodate more services and employment as well as offering housing nearby and a full range of multimodal options for residents and employees. Ms. Belzer studied the relationship between transportation and economic development while here and shared insights about our region.

The shifting demographic patterns in our region mean there is less demand for suburban development. The larger population of elderly, single persons or households without children dispels the idea that we should continue to plan our transportation systems around traditional residential land use - single family homes on large suburban lots. According to the 2010 Census, only 28 percent of households in Spokane County have families with children.

<sup>37</sup> Quality of Life Factors into Business Location Decision. Area Development Online, Site and Facility Planning. 2009

The largest employers in Spokane County include Fairchild Air Force Base with over 5,700 employees, Spokane Public Schools with nearly 3,200 employees, Providence Sacred Heart Medical Center & Children’s Hospital with 3,100 employees, and local, state, and federal government operations with over 33,000 employees. The following table (2.9) shows the top employers for Spokane County.

**Table 2.9 Spokane County’s Top Employers**

COMPANY NAME	FULL TIME EMPLOYEES	BUSINESS ACTIVITY
92nd Air Force Refueling Wing Fairchild Air Force Base	5,794	Military
Spokane Public Schools	3,191	Education
Providence Sacred Heart Medical Center & Children’s Hospital	3,138	Health Care
City of Spokane	2,008	Government
Spokane County	1,929	Government
Northern Quest Resort & Casino	1,753	Hotel/Casino
Deaconess Medical Center	1,418	Health Care
URM Stores Inc.	1,347	Distribution
Wal-Mart Stores	1,332	Retail
Central Valley School District	1,248	Education
Community Colleges of Spokane	1,193	Education
Gonzaga University	1,134	Education
West Corp.	1,122	Customer Service
Eastern Washington University	1,088	Education
Avista Corp.	1,012	Utility
U.S. Postal Service	891	Distribution
Kaiser Aluminum Corp.	850	Manufacturing
Providence Holy Family Hospital	844	Health Care
Inland Northwest Health Services	835	Health Care
PAML	831	Health Care

Source: Journal of Business - 2012 Market Fact Book

***Our nation’s highways, transit systems, railroads, airports, ports and inland waterways drive our economy, enabling industry to achieve the growth and productivity that have made America strong and prosperous.***

*A Federal Highway Administration study concluded that for each \$1 billion of federal spending on highway construction nationwide, nearly 28,000 jobs are generated annually, including approximately 9,500 in the construction sector, approximately 4,300 jobs in industries supporting the construction sector and approximately 14,000 other jobs induced in non-construction related sectors of the economy.*

*The Federal Highway Administration estimates that each dollar spent on road, highway and bridge improvements results in an average benefit of \$5.20 in the form of reduced vehicle maintenance costs, reduced delays, reduced fuel consumption, improved safety, reduced road and bridge maintenance costs and reduced emissions as a result of improved traffic flow.*

*Fifty-nine percent of the \$216 billion worth of commodities delivered annually from sites in Washington is transported by trucks on the state’s highways. An additional 15 percent is delivered by parcel, U.S. Postal Service or courier, which use multiple modes, including highways.*

Source: Key Facts About Washington’s Surface Transportation and Federal Funding. TRIP. 2012. [http://www.tripnet.org/docs/Fact\\_Sheet\\_WA.pdf](http://www.tripnet.org/docs/Fact_Sheet_WA.pdf)

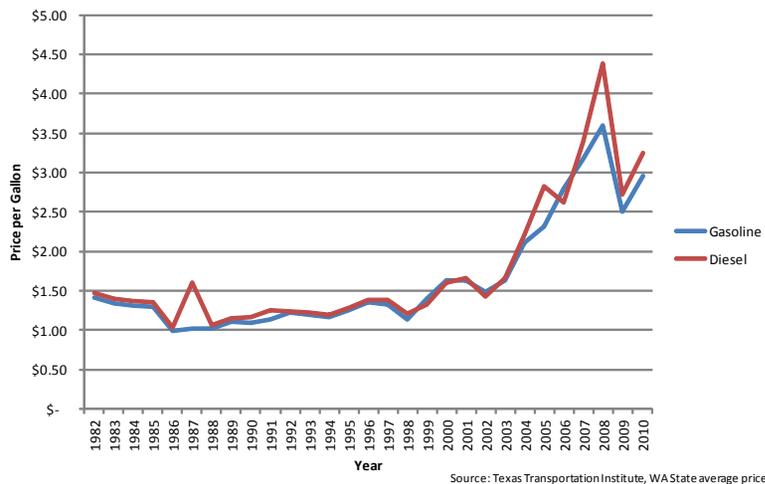
Government is the largest employer in Spokane County due in part to Fairchild Air Force Base and several major state employers including Eastern Washington University and State of Washington offices for eastern Washington, located in Spokane.

According to the most recent economic impact study for tourism expenditures in Washington State, tourism generated \$859 million in travel spending in 2007, creating over 10,000 jobs and \$60 million in tax revenues.<sup>38</sup> Travel spending has increased by 4.8 percent over the past seven years in Spokane County.

## ENERGY

SRTC monitors energy prices and efficiencies as part of its planning processes. The impact of fuel prices, primarily gasoline, and diesel for private vehicles and transportation fleets, has resulted in changing behavior. The correlation of fuel prices to transit ridership, traffic volumes, and vehicle miles travelled are all important for the

Figure 2.11 Historic Fuel Prices



38 Washington State County Travel Impacts 1991 – 2007, Washington Tourism Office, September 2008

purposes of planning. SRTC continues to monitor global, national and regional energy issues as they influence transportation systems and programs.

## SUMMARY OF EXISTING CONDITIONS

Spokane’s transportation system is starting to feel the strain of population growth as area roads are becoming more congested. With the population expected to grow by approximately 165,000 people by 2040, there could be even more cars, the potential for increased congestion, and the possibility of more traffic accidents. Public awareness campaigns have shown to be effective in reducing the number of fatal collisions in recent years and programs such as CTR are gaining participants who find alternate ways to commute; helping to reduce congestion.

Currently, transit service is very effective despite declining revenues. However, additional public transportation options are needed. Some outlying areas do not have access to the STA system. Many people commute daily from north Idaho to Spokane County or vice versa. A mode of public transportation between Spokane, Post Falls, and Coeur d’Alene would be a major asset to the region. Exploring alternative approaches to funding and operations of such a service will be necessary in order for it to be implemented.

Improvements are also needed to the area nonmotorized transportation system. In public meetings, many people have expressed concerns regarding the safety and convenience of riding bikes in Spokane, due to both inconsiderate drivers and a lack of bike lanes. Safety concerns have also been voiced by users of area sidewalks; many are too close to fast moving traffic, there are stretches of roadway with no sidewalks, or the sidewalks that exist are in decrepit condition. While there are limited funds available

to fix sidewalks, a recent push by government agencies to increase nonmotorized transportation usage could eventually remedy this. During the course of construction projects, most jurisdictions are either adding sidewalks or repairing older ones. Some agencies are also striping new bike lanes on existing roads, and some jurisdictions are studying the concept of developing ‘bicycle boulevards’ and greenways. Complete Street policies are being reviewed by various agencies for adoption through resolution or ordinances.

In other words, like many metropolitan areas, Spokane is struggling to retrofit its aging transportation system in the face of tight budgets, more stringent requirements, and an increasing amount of drivers. 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:

- **Additional funding resources needed for operations, maintenance and preservation**

The issue of the region’s aging infrastructure must be addressed. The first steps have been taken toward this, with a shift in thinking in recent years from building new facilities toward spending available transportation funds on maintenance and operations instead. Following this new 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 what are to be considered ‘priority’ areas and how to spend this money most effectively.

At the same time, there is also a need to complete new roadways and bridges. This will require balancing with our other needs when considering the limited amount of funds available.

- **Addressing the region’s structurally deficient and functionally obsolete bridges**

Data shows that 34 percent of the area’s bridges are considered functionally or structurally obsolete. Nearly \$1.9 billion in improvements are necessary for regional bridges, many of which are located in important freight and vehicular transportation corridors.

- **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.

- **Implementing solutions to improve traffic safety**

Safety has improved over the past several decades, but it is still important to keep working toward improved traffic safety. There are several priority areas for traffic safety but overall, roadway design and other efforts, such as education, are needed.

- **Implementing solutions in order to improve pedestrian and bicycle connectivity, accessibility and safety**

Again, one size doesn’t always fit all when it comes to transportation. 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 essential.

- **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.

- **Implementing transportation-related measures to sustain and enhance the region’s quality of life**

As mentioned earlier in this chapter, the population of the Spokane region is expected to grow significantly by the

year 2040. 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. The decisions being made now 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 2040.

