West Plains

Draft Transportation Subarea Plan

March 19, 2014

West Plains Draft Transportation Subarea Plan

The City of Spokane along with its partners: the City of Airway Heights, the City of Medical Lake, the City of Cheney, Spokane County, Spokane International Airport, Washington State Department of Transportation (WSDOT), Fairchild Air Force Base (FAFB), Spokane Tribe, Kalispel Tribe, the Spokane Regional Transportation Council (SRTC), Spokane Transit Authority (STA), Avista, Inland Power & Light and the Cheney School District would like to thank all those who participated in this effort. Without your participation and comment in workshops and stakeholder meetings, this plan would not be possible. And finally thank you to the Washington Department of Commerce for the grant that funded this project.

Executive Summary

The purpose of the West Plains Draft Transportation Subarea Plan is to coordinate the orderly provision of adequate transportation facilities to facilitate the anticipated and desired development in the area. The need for coordinated capital facility planning was identified shortly after annexations in the area by the Cities of Spokane and Airway Heights in 2012.

The West Plains has been the subject of a number of reports and studies over time. During the course of review of these studies and reports, meetings with stakeholders, and the Technical Advisory Committee it became evident that transportation presented the biggest opportunity for coordination and improvement, and with a focused vision for transportation the communities can align their water and sewer improvements.

The process for developing the plan involved an intensive and rigorous public process. Over the course of more than a year the City of Spokane used stakeholder interviews, public workshops, and Technical Advisory Committee meetings to develop and refine this Plan. The significant outcomes and recommendations of the plan include:

- Increase the overall transportation network density in the West Plains to relieve congestion on US Route 2 (US 2) and other state facilities. Routes that parallel US 2 to the north and south have been identified as the most critical connections to relieve the impacts of recent and anticipated development.
- Reserve right-of-way for arterials identified in the updated arterial plan as new development is permitted.
- Accommodate and balance multiple modes of transportation including automobiles, freight, pedestrian, bicycles, and transit as new network density is developed.
- Design and improve US 2 to be an attractive entry to and corridor through Airway Heights and the City of Spokane. Encourage new development to promote a distinct character, present an attractive corridor and ensure that a range of transportation modes are viable, safe and attractive.
- Develop safe and comfortable bike and pedestrian connections between Downtown Spokane and Fairchild Air Force Base and Downtown Spokane and the Airport using a combination of separated shared use paths, sidewalks and bike lanes.
- Proactively coordinate, prioritize and invest in transportation system improvements to keep pace with demand and to facilitate development of industrial land.
- Anticipate the eventual extension of rights-of-way into urban reserve areas, establishing the foundations for networks appropriate for anticipated development types and intensities.

To meet the outcomes and recommendations, the plan provides a number of recommended improvements with cost estimates. The total cost of implementing all the recommended improvements over the next several decades would be over $78 million dollars. Motor vehicle focused capacity projects are estimated to cost nearly $54 million while bicycle, pedestrian, and transit infrastructure improvements are estimated to cost over $24 million. It's expected that to implement a coordinated

transportation plan communities on the West Plains will use several tools, including: subarea impact fees, tax increment financing, and/or others.

The plan concludes with a series of next steps that the West Plains communities and partnering agencies should consider during comprehensive plan updates and project implementation.

Table of Contents

Table of Tables

Table of Figures

1 Summary of Current Conditions and Project Area Background

1.1 Project Area Background

The West Plains, as they are known locally, are generally defined as the plateaued areas north of Medical Lake, west of Latah Creek and the Spokane River, south of Deep Creek ravine, and the western boundary of Fairchild Air Force Base, see Figure 1-A. Jurisdictions in the study area include Spokane County, City of Spokane, City of Airway Heights, Spokane International Airport, and Fairchild Air Force Base. The Cities of Medical Lake and Cheney are also part of the West Plains and have been involved in the planning process.

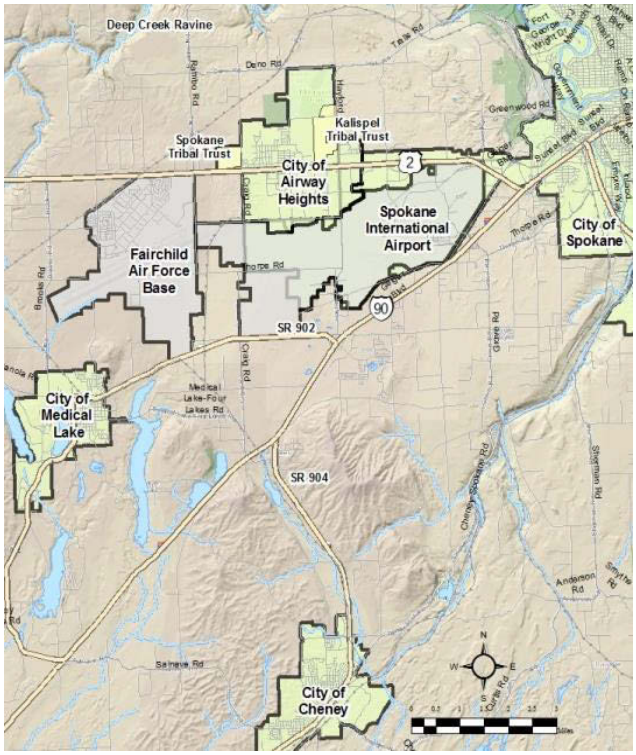

Figure 1-A Greater West Plains planning area

1.2 Demographic Summary

A combination of inexpensive and largely undeveloped land, efficient transportation options, and close proximity to major employment destinations caused the West Plains to grow at a faster rate than Spokane County between the 2000 and 2010 Census. US Census data is used below to provide a picture of area demographics. To more accurately portray the data the survey area does not exactly line up with the project area identified to the right. Figure 1-B shows the area that the following demographic data is discussed. For a full demographic report see Appendix B.

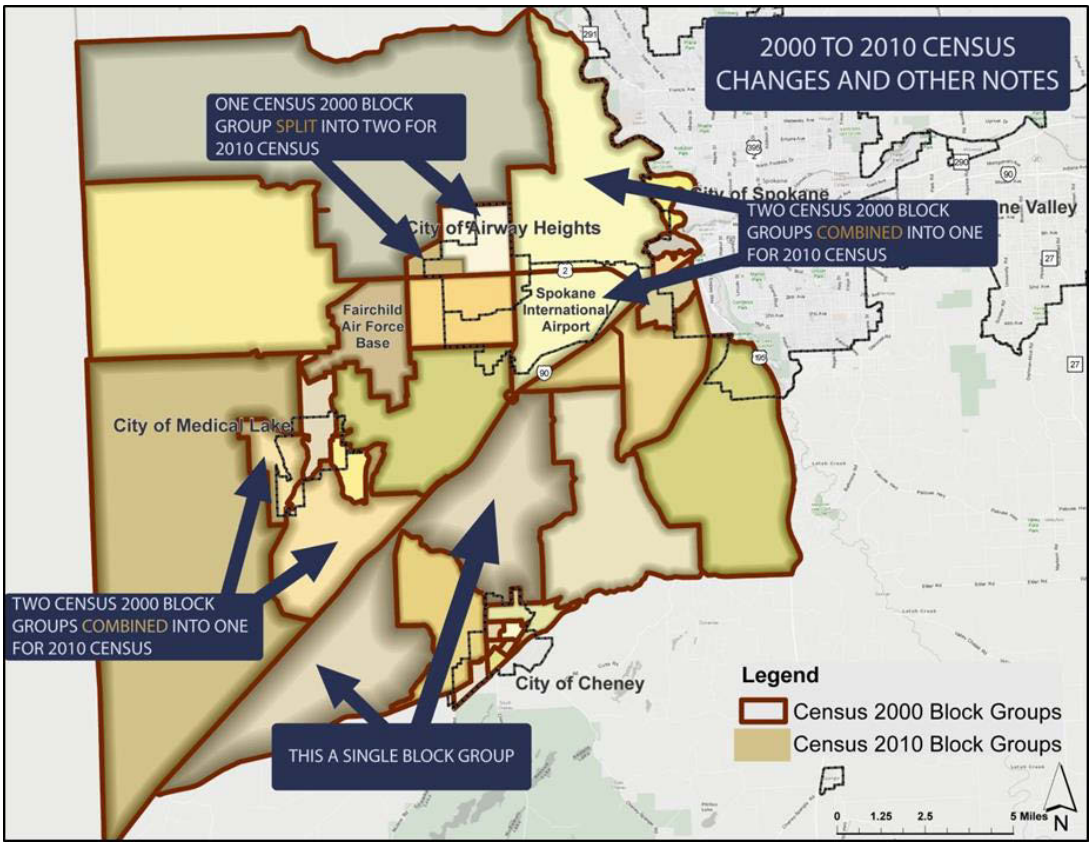

Figure 1-B Census Block Groups of the West Plains planning area. Dialogue boxes show changes from 2000 to 2010 Census.

1.2.1 Population Data

The population of the West Plains increased by nearly 19% between 2000 and 2010, compared to 11.3% for Spokane County as a whole. Most of the growth occurred in and around Airway Heights, Medical Lake, and south of the Interstate 90 (I-90) / State Route 902 (SR 902) Interchange. Notably, Fairchild Air Force Base lost population over the 10-year Census period. The loss of population at Fairchild can be partially attributed to a decrease in the number of aircraft at the base but was mostly attributed to a change in policy that lead to a shift from on-base to off-base housing. It should be noted that the population and household counts shown in Table 1-B only reflect those living on-base. There are a large number of people, both military and civilian, that live off-base and commute to Fairchild for work. For more information on employment at the base see Table 1-D. Table 1-A compares growth rates between the West Plains and Spokane County and Table 1-B shows the changes in population and households for the West Plains area.

Table 1-A Total population changes Spokane County and West Plains

Population	2000	2010	% Change
Total Population - West Plains	40,450	49,838	18.8%
Total Population - Spokane County	417,939	471,221	11.3%

(Source U.S. Census 2000 and 2010)

Table 1-B Population and households for selected Census places within the West Plains

	2000 Population	2000 Households	2010 Population	2010 Households
Cheney	8,832	3,293	10,590(1)	4,183
Airway Heights	4,500	1,727	5,060	1,835
Medical Lake	3,771	1,172	5,060	1,835
Fairchild AFB	4,357	1,114	2,776	858

(1) Includes Eastern Washington University student population, which in 2008, accounted for one-third of Cheney's total.

(Source: U.S. Census 2000 and 2010)

1.2.2 Employment and Income Data

Median household income grew 2.6% on the West Plains, after adjusting 2000 Census data 1.35% to correlate 1999 dollars to 2011 dollars[1]. While still below the Spokane County household median income, the income gap between the County and West Plains shrank 6%. Table 1-C compares median income on the West Plains to that of Spokane County.

Table 1-C Change in median household income of the West Plains

Median Household Income (MHI)	2000	2011	% Change 2000-2010
West Plains MHI (2011 Dollars)	46,394	47,620	2.6%
Spokane County MHI (2011 Dollars)	53,173	51,115	-4%
West Plains MHI as a percentage of Spokane County MHI	87%	93%	6%

(Source: American Community Survey, 5-year estimate, 2011)

Using the Longitudinal Employer-Household Dynamics (LEHD) from the US Census, information was gathered about the West Plains and the surrounding communities in reference to jobs and travel. Three different study boundaries were run: the West Plains study boundary, the Medical Lake municipal boundary, and the Cheney municipal boundary. According to the LEHD model, in 2010, there were a total of 10,434 jobs; fairly evenly distributed, but with larger concentrations in the Transportation and Warehousing (17%), Manufacturing (15%), and Arts, Entertainment and Recreation sectors (12%).

Table 1-D shows the inflow and outflow of employed people within the West Plains, municipal boundaries for the City of Medical Lake, the municipal boundaries for the City of Cheney, the municipal boundary for the City of Airway Heights, and the boundaries of Fairchild Air Force Base. The table shows the number of employees within a selection area in a variety of ways – selection area in this case means corporate limits for cities, the boundaries described in Figure 1-A for West Plains, and the base boundaries for Fairchild AFB. The table shows the number of employees within a selection area, the number of people who travel to the area for work, the number of people who live and work in the area, the number of people who live in the area, and the number of people who leave the selection area for work.

[1] 2011 inflation rate derived from the Department of Labor CPI Inflation Calculator (http://www.bls.gov/data/inflation_calculator.htm). Income data in the 2000 Census is reported in 1999 dollars. Income data for the 5-year (2007-2011) American community survey is reported in 2011 dollars.

The U.S. Census Bureau's Center for Economic Studies gets their employment data for private, state government, and local government jobs from unemployment insurance wage records. Federal employment data come from the Office of Personnel Management which only collects data for most federal civilian positions. Roger Grimes, Base Community Planner at Fairchild Air Force Base reports that the base employs 4,710 military and 1,310 civilian employees, for a total of 6,020 people. In addition to that, 1,818 Reserve and National Guard members travel to the base on their drill weekends. About 5,160 people commute to Fairchild every day.

Table 1-D: Inflow and Outflow of Job Counts

	West Plains		Medical Lake		Cheney		Airway Heights		Fairchild AFB	
	Count	Share	Count	Share	Count	Share	Count	Share	Count	Share
Total Employed in selection area*	10,434	100%	1,869	100%	3,938	100%	3,699	100%	720	100%
Employed in selection area but living outside	9,988	96%	1,651	88%	3,077	78%	3,572	96.6%	707	98%
Employed and living inside selection area	446	4%	218	12%	861	22%	127	3.4%	13	2%
Living in selection area	2,905	100%	1,362	100%	3,053	100%	1,086	100%	459	100%
Living in selection area but employed outside	2,459	85%	1,134	84%	2,192	72%	959	88.3%	446	97%

(Source: U.S. Census Bureau, Center for Economic Studies, 2010)

* Employment data is only available for private, local government, state government, and select federal civilian positions.

Figure 1-C shows the inflow outflow data graphically for the West Plains study area. The data indicate that 96% of those working in the study area live outside the study area and 85% of those living in the area travel outside the area for work. These data suggest that there are a large number of people that travel along roadways to get to and from work. While commute mode data is not available for the West Plains study area, the single occupant vehicle for work commute use in Spokane County is 76%, which indicates a potential high number of SOV traveling to the area for work.

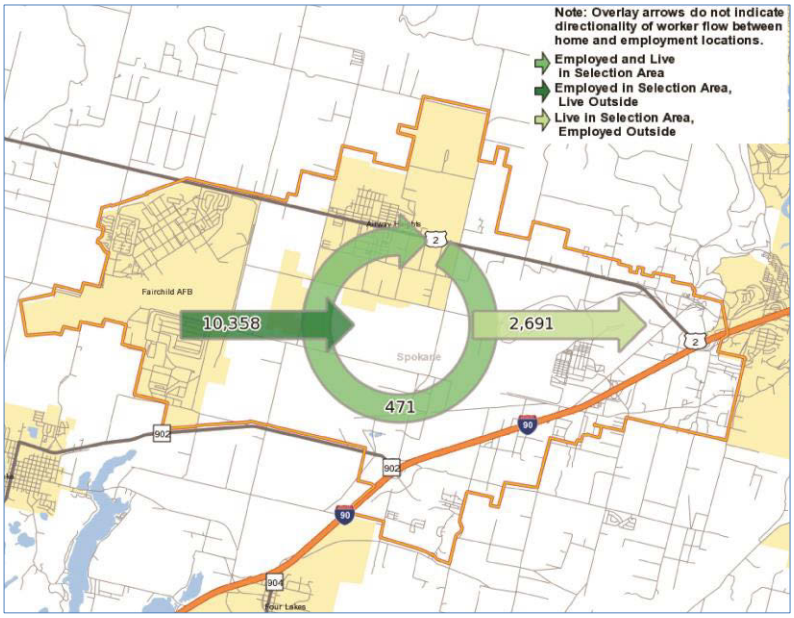

Figure 1-C Inflow and Outflow of Employees

1.3 West Plains Existing Policy Context

This section provides a summary of existing comprehensive plans and transportation studies that have occurred on the West Plains over the years. The section is not intended to supplement or provide greater detail or insight to the respective comprehensive plans and studies but instead provide a context for this effort.

1.3.1 Comprehensive Plans

Review of the current comprehensive plans of the neighboring municipalities shows a lack of facilities coordination, as well as policies and strategies which are generally outdated in regard to the West Plains.

The Comprehensive Plans for the Cities of Spokane, Airway Heights, Medical Lake, and Cheney, along with Spokane County all contain policies that apply to the West Plains that can be summarized as:

- Plan for a variety of transportation modes including walking, bicycling, public transit, carpooling, and single-occupant vehicles on a regional scale to provide more efficient connectivity throughout the West Plains.
- Build streets that accommodate traffic volumes while making them safer and more attractive to pedestrians by incorporating traffic calming measures.
- Ensure that the roadways are created in a way that support and connect the local economies of the region, while remaining sensitive to the natural landscapes and environments.
- Improve the US 2 corridor to support traffic volumes, promote safety and improve aesthetics and pedestrian amenities

The Cities of Cheney and Medical have also included specific policies that call for the preparation of a corridor study for SR 904 between Jensen Road and West Lance Hill Road, and the development of a beautification plan for SR 902.

1.3.2 Transportation Studies

The transportation network in the West Plains was developed as a means to move people through the area to US 2 or I-90 and beyond. While some portions of Airway Heights contain a dense road network, US 2 serves as the primary means of east-west travel on the West Plains. Major turning movement issues exist along the facility. Over the years, a number of transportation studies have been completed for the West Plains, which found the transportation network area to be lacking in connectivity, safe routes for drivers, and pedestrian and bicycle facilities. This portion of the plan summarizes the relevant studies and their major findings as they relate to transportation on the West Plains.

1.3.2.1 Washington State Department of Transportation

In 2003, WSDOT developed its "SR 904 – Cheney to Four Lakes Route Development Plan." The plan recognizes that capacity and safety along the facility is diminishing; noting the numerous off-road and rear-end collisions. The plan recommends the construction of two additional lanes of traffic to increase the facility to a five-lane undivided alignment with the construction of one additional lane through the center for a two-way left-turn lane.

In 2010, WSDOT developed its "US 2 Route Development Plan: Lincoln County Line to I-90" with the goal of determining current deficiencies along the facility. The plan identified that the Hayford Road/US 2 intersection is the most critical congestion point, and outreach efforts indicated several other community-wide concerns, including: intersection safety, pedestrian safety, delay, passing dangers, high speed, and business access. Analysis showed that with intersection control, and some widening of the existing alignment, US 2 will function well for the next 15 to 20 years. However, it is recommended to make improvements to the parallel 21st Ave corridor to relieve congestion.

In 2013, WSDOT published "Land Development Risks Along State Transportation Corridors," which was prepared by the Washington State Transportation Center at the University of Washington. The report identifies the West Plains as a case study and provides factors that could be used to identify adverse risk to state transportation corridors and provides collaborative strategies for managing adverse risk to those corridors. It argued that identifying land at risk for development along state routes can provide opportunities for proactive, collaborative planning to improve access, mobility, and safety while supporting economic development.

1.3.2.2 Spokane Regional Transportation Council

The regional transportation council, SRTC, also released a report entitled West Plains-Spokane International Airport Transportation Study, which looked to determine transportation needs resulting from the increased development that has taken place in the West Plains area. It determined a number of high collision points in the area, specifically along US 2 and at the Geiger Interchange, a lack of north-south and east-west arterials, and few sidewalks or formal pathways for pedestrians and/or bicyclists. The study outlined nine alternatives and alternative 2A was the most highly recommended, which proposed a new 3-lane minor arterial along 21st Ave from the airport interchange to US 2.

1.3.2.3 Spokane Transit Authority – High Performance Transit Network

Future plans for STA include the implementation of a High Performance Transit Network (HPTN), which includes the proposed West Plains Transit Center (Figure 1-D). STA has identified that over 1.4 million boardings took place in 2012 on bus routes serving the West Plains. It hopes to utilize the proposed Transit Center as a connector for travelers from Medical Lake, Airway Heights and Cheney and provide a central West Plains location to connect to other bus lines. Currently riders must travel to downtown Spokane in order to connect to other lines. STA recognizes that the West Plains region continues to grow and the Authority will work to maintain access for populations residing within urban areas. Also part of STA's HPTN is the High Performance Transit lines. In its Comprehensive Plan, STA identifies two lines to the West Plains area; a Red Line (direct service to major designations) to Airway Heights and a Blue Line (connects major regional destinations) to Cheney. The Blue Line is on STA's near-term implementation list and will be tied into the proposed West Plains Transit Center.

Figure 1-D: West Plains transit center project area

1.3.2.4 Spokane International Airport

Located in the middle of the West Plains study area and the recent annexation by the City of Spokane, the Spokane International Airport (SIA) is designated as a Primary Commercial Service airport by the Federal Aviation Administration (FAA). On its property, SIA operates multiple facilities and systems to support passenger and cargo service, while also supporting general aviation and military activity, and managing a business and industrial park on its property to support nearby compatible land use development opportunities. Currently revising its Master Plan, SIA owns 4,914 acres and operates two runways that intersect on the south end of the Airport and create an X-shaped configuration: Runway 3-21 and Runway 7-25. SIA has plans to add a third runway parallel to the existing Runway 3-21. According to the most recent conversations with SIA, planning efforts for the new runway are not expected to take place for at least 20 years. When the third runway is added, it is expected that Hayford Road, south of McFarlane Road will be rerouted as part of the new runway project.

Figure 1-E The existing and proposed runways at SIA

SIA's primary concern is maintaining the free flow of access for cargo and the travel of public both coming and going on Airport access roads. Airport staff advises that any transportation improvements

made in the area must not interfere with that objective. This includes possible improvements at Spotted Road and Flint Road, where they intersect with airport property, and any future arterial improvements parallel to US 2. The majority of roads within the airport property are operated and maintained by the Airport.

1.3.3 Economic Development and Important Projects

1.3.3.1 AIR Spokane

In 2012, Greater Spokane Incorporated spearheaded an initiative called Aerospace Initiative for Recruitment (AIR) Spokane. The 2012 action began after the Washington Aerospace Partnership Boeing 737MAX Opportunity Study concluded that Spokane was a possible site for the expansion of aerospace companies. In order to be prepared for development, GSI identified a preferred site and a SEPA checklist and transportation studies were completed. The transportation studies identified approximately $57,580,000 in local traffic improvements for the City of Spokane, Airway Heights and Spokane County, $10,000,000 in WSDOT improvements for the Geiger Interchange, and $30,000,000 in WSDOT improvements for the Medical Lake Interchange in order to accommodate the site and expected traffic impacts.

1.3.3.2 Geiger Spur Rail Connection and Transload Facility

The Geiger Spur new rail connection and future transload facility are economic development projects in the West Plains area. The new rail connection, completed in 2008, joined the existing rail line to the Airway Heights Industrial Park and replaced the connection that passed through Fairchild Air Force Base. The project maintained connections for the rail dependent companies already in the industrial park and improved the safety of an older, deteriorating rail line.

After receiving $60,000 in 2006 from the Washington State Legislature, WSDOT and Spokane County conducted a study analyzing the need for a new transload facility near the Geiger Spur. The study determined that a transload facility could help support the local economy because of the increased transportation options. The study also revealed that there are approximately 200 acres of available land zoned for industrial uses along the Spur, but the parcels currently lack sewer service. Additionally, it was identified that a well-used facility on the Geiger Spur may necessitate roadway improvements at the intersections of S Hayford Road and W Geiger Boulevard, SR 902, and I-90.

1.3.3.3 Spokane Tribe West Plains Mixed-Use Development

The Spokane Tribe of Indians has land located to the west of Airway Heights. The Tribe has a 10-15 year master plan that includes a 145-acre hotel and casino resort site with supporting highway commercial uses just north of Fairchild Air Force Base along US 2. The first phase of this development, a convenience store, was completed in 2006. At this time the Final Environmental Impact Statement (FEIS) has been completed for the project by the Bureau of Indian Affairs and is awaiting approval of the Record of Decision (ROD).

1.3.4 Joint Land Use Study

In 2007, Spokane County received a grant from the Department of Defense to complete a Joint Land Use Study (JLUS) for Fairchild Air Force Base. A JLUS is a collaborative planning effort involving local

communities, federal officials, residents, business owners, and the military to identify compatible land uses and growth management guidelines near active military installations. The JLUS for Fairchild Air Force Base identified four Military Influence Areas where military operations may impact local communities, and conversely, where local activities may affect the military's ability to carry out its mission. The study outlines 57 regulatory and non-regulatory strategies to protect the health, safety, and welfare of residents and military personnel. The strategies also seek to preserve the ability of the installation to achieve or expand its mission as conditions change, while providing for the growth of the surrounding communities. Chief among these strategies is minimizing residential and other sensitive uses in areas exposed to aircraft noise, as well as uses that gather a large number of people into a small area in locations that have an increased risk of accident.

In 2009, Spokane County was awarded a second grant to lead a collaborative effort to draft model overlay zoning development regulations and comprehensive plan policy to implement the recommendations of the JLUS. Spokane County and the City of Spokane adopted the model regulations in early 2012. The Cities of Airway Heights and Medical Lake have adopted a slightly modified version that is acceptable to their elected officials.

1.3.5 History of Zoning in area

When the City of Spokane annexed its portion of the West Plains it was necessary to convert Spokane County zoning designations to be consistent with those in the City of Spokane. The City's goal was to convert the zoning as closely as possible in order to maintain consistency for residents and business owners in the area. Many elements of the regulations were preserved. Both jurisdictions do not allow residential uses in the West Plains in industrial zones, generally the same land uses are allowed in both jurisdictions' industrial and commercial zones, and setbacks, lot coverage and height requirements are generally less restrictive in the City's industrial and commercial zones.

Additionally, as the Spokane International Airport (SIA) makes up a majority of the West Plains Annexation. The City of Spokane applied new Airfield Overlay Zones applied to the annexation that are significantly larger than Spokane County's previous zones; this is due to updates in airport compatibility best practices. The County later adopted the larger Airfield Overlay Zones as well for the areas still under county jurisdiction.

Land use on SIA property is federally regulated and must be consistent with the Airport's Master Plan. Land use reviews by the Federal Aviation Administration occur periodically at both SIA and Felts Field.

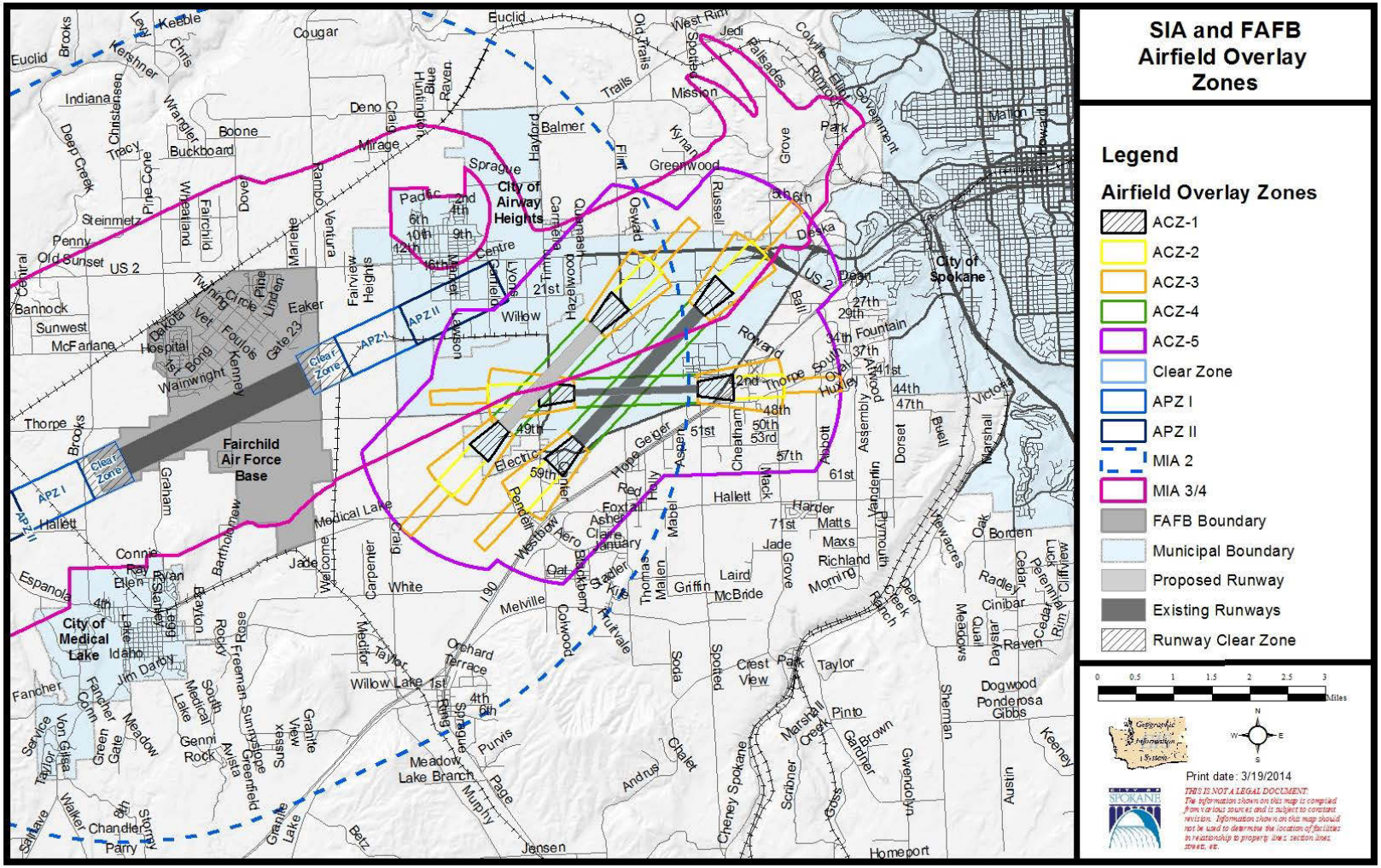

Figure 1-F: Adopted airfield overlay zones to protect both Spokane International Airport and Fairchild Air Force Base.

1.4 Planning Process Summary

In January of 2013, the City of Spokane, Spokane County, Airway Heights, Cheney and Medical Lake together with other state and local agencies started a public process to identify capital facility needs on the West Plains. The public process used an assortment of methods to effectively engage a variety of people to gather input, inform, and build community and stakeholder support for the plan. The process included stakeholder interviews, public workshops, and Technical Advisory Committee meetings.

1.5 Stakeholder Interviews

Early in the West Plains Subarea Planning process, the City of Spokane and the consultant, Studio Cascade, met with a number of stakeholders, some of whom had completed previous studies in the area, large private employers, large private land owners, and interested community groups. Additionally, the interviewees included representatives from Spokane County, City of Medical Lake, Spokane International Airport, and WSDOT. Some of the major themes the stakeholders commented on were: stormwater, transportation, and other capital facilities.

Spokane County has completed stormwater studies in the West Plains area, which indicated that the West Plains contain areas with poor drainage characteristics surrounding the I-90 corridor, to the north of the US 2 and I-90 interchange, and other isolated areas throughout. These issues have significant impacts on development and the management of stormwater, especially related to the development and enhancements to transportation corridors. How stormwater is managed is also a concern to the City of Medical Lake because they are not served by the Spokane-Rathdrum Aquifer, and any regional solution would have to ensure that stormwater captured would stay within their basin.

Perhaps one of the most significant issues and concerns heard from the stakeholders is related to transportation connectivity on the West Plains. Stakeholders expressed a desire to move across the West Plains in a more direct fashion perhaps bypassing existing traffic choke points. Stakeholders felt that freight mobility is important and consideration for truck routes should be given in future improvements. Also of concern was the free flow of traffic in and out of the terminals at the Spokane International Airport with some stakeholders commenting on how the loss of McFarlane Road has been difficult for business travel to and from the airport.

The Spokane International Airport, shared preliminary desired improvements from their master planning process including: safety improvements at Spotted Road; limited access at Flint Road; and adding a new connector between Flint and Inbound to allow for safe right-hand turns and connections with US 2. SIA's projected growth would place planning for the future runway at least 20 years out into the future. The reroute of Hayford Road would occur prior to the construction of the future runway.

The future character of US 2 and ensuring the future improvements included safe bicycle and pedestrian access were also concerns for stakeholders. Stakeholders also wanted to ensure that the improvements to the character were balanced with the present and potential future needs of Fairchild Air Force Base. Interestingly, there was concern related to US 2 being the only major access point to the base and this

lack of connectivity could represent a single point of failure, because of this stakeholders that were familiar with potential projects stated support for parallel routes to US 2 such as 12th and 21st Avenues.

Additional capital facilities that were identified by stakeholders were water, sewer, and schools. In terms of water and sewer, stakeholders felt the lack of water and sewer infrastructure in some areas is constraining potential investors. In terms of schools, the area is mostly served by the Cheney School District, which indicated that residential growth in the area and the difficulty in maintaining pace with their facilities, as well as the added traffic new facilities create.

Based on these interviews and Technical Advisory Committee meetings (discussed below) transportation improvement became the main focus of planning efforts as further public outreach began.

1.6 Noticing

Many different methods and mediums were used to keep the public informed about the project including regular updates to the project website, notices in the Cheney Free Press and the Spokesmen Review, email notices, three public meetings, two online surveys, Facebook page updates, postcards mailed to property residents, owners and taxpayers of record, and communication with the West Plains Chamber of Commerce.

1.7 Public Workshops

The City of Spokane and its partners conducted two public workshops, each designed to elicit community feedback on the project and to receive guidance for shaping an updated arterial roadway plan to provide the increased connectivity that stakeholders and previous studies indicated is needed. Engaging the public and eliciting input was crucial to this project because the results of this project will shape and inform additional planning level work within the West Plains.

Figure 1-G Public Workshop

1.7.1 Workshop 1 – From Screen Lines to Dream Lines – March 21, 2013

This first workshop oriented participants to the process and the scope of the project. In the first portion of the exercise, participants evaluated relevant goals, policies, and recommendations from Airway Heights' Comprehensive Plan, Spokane's Comprehensive Plan, Spokane County's Comprehensive Plan,

SRTC's West Plains-Spokane International Airport Transportation Study, and the Washington Department of Transportation's US 2 Route Development Plan. The exercise affirmed the policy and project directives from the various plans and studies. Some of the major directives from this first exercise include:

- Enhance US 2 through Airway Heights for vehicles, pedestrians, and bike
- Provide for variety of transportation options
- Develop safe and efficient transportation connections between urban centers
- Improve 21st Avenue as a parallel corridor to US 2

In the second portion of the workshop, participants were asked to identify on a map how they moved around on the West Plains. Working in groups of about six, participants used a green dot to identify where they live and three red dots to show where they go on the West Plains. Participants were then asked to identify the existing roads used to reach destinations. In the next step, they were asked to identify preferred routes, pretending they were solely in charge of transportation improvements on the West Plains. Figure 2-A below is a composite image of the results from the second phase of Workshop 1.

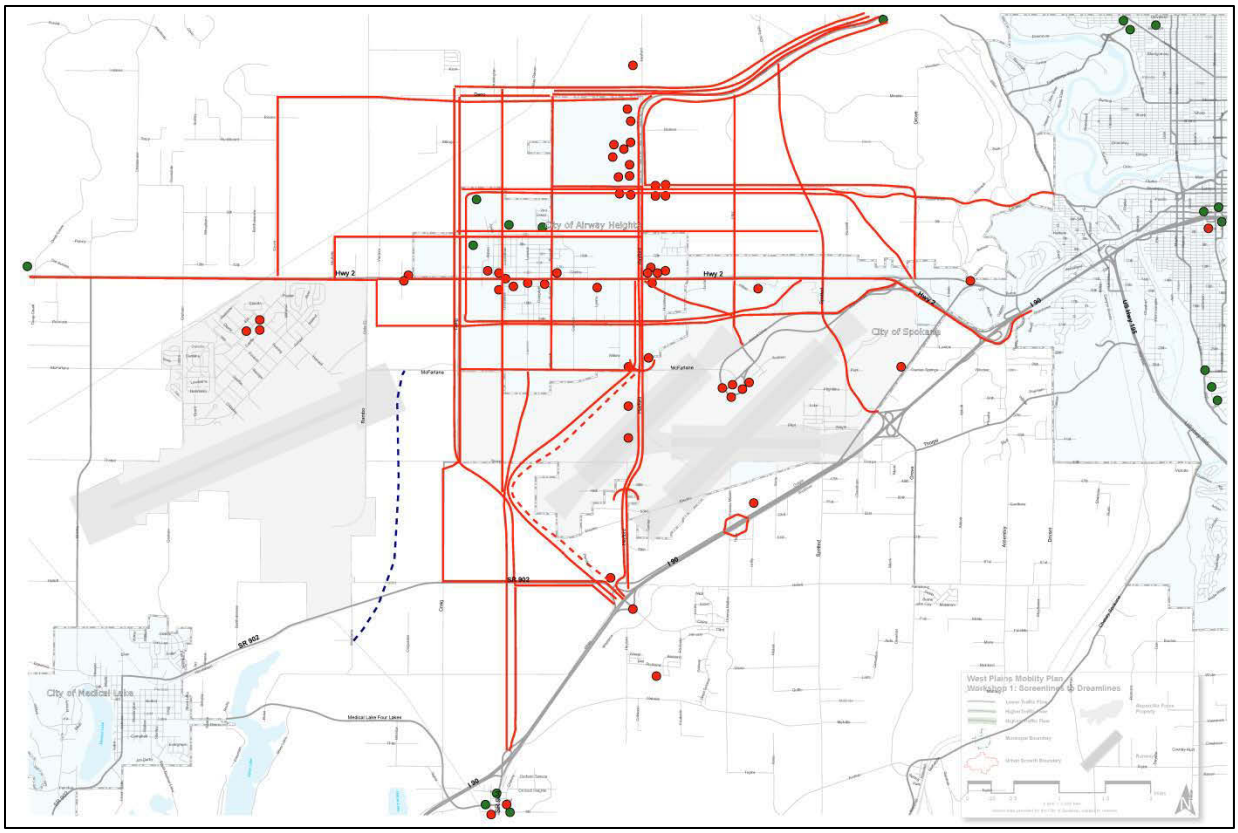

Figure 1-H Summary of a mapping exercise from Workshop 1 showing participants' preferred routes.

The results from Workshop Activity 2 indicate that participants preferred a more integrated transportation network on the West Plains. In Figure 1-H, the green dots show origin points, the red dots destinations, and the red lines preferred routes – dashed indicate alternative routes. The figure is a composite of each group's recommendation; the preferred routes were drawn adjacent to each other in order to show frequency of its occurrence. In general, participants desired more north-south connections from Deno Road to I-90 and more east-west connections parallel to US 2. A surprising outcome was the number of participants preferring improvements to Deno Road and Trails Road, a number of participants indicated they use this route to bypass I-90 and US 2.

1.7.2 Workshop 2 – Putting Lines on the Map – May 16, 2013

Participants in this workshop reviewed results from the March 21 session, learned more about the details of the transportation demand and capacity analysis, forecast deficiencies, and methods to address deficiencies – increasing network density. Then they tackled the exercise at hand: reviewing the alternative developed in response to the March 21 workshop and reviewing the existing and proposed bicycle network. The draft arterial strategy shown in the lighter colored lines in Figure 1-I incorporates the results from the first workshop and staff input for determining roadway type.

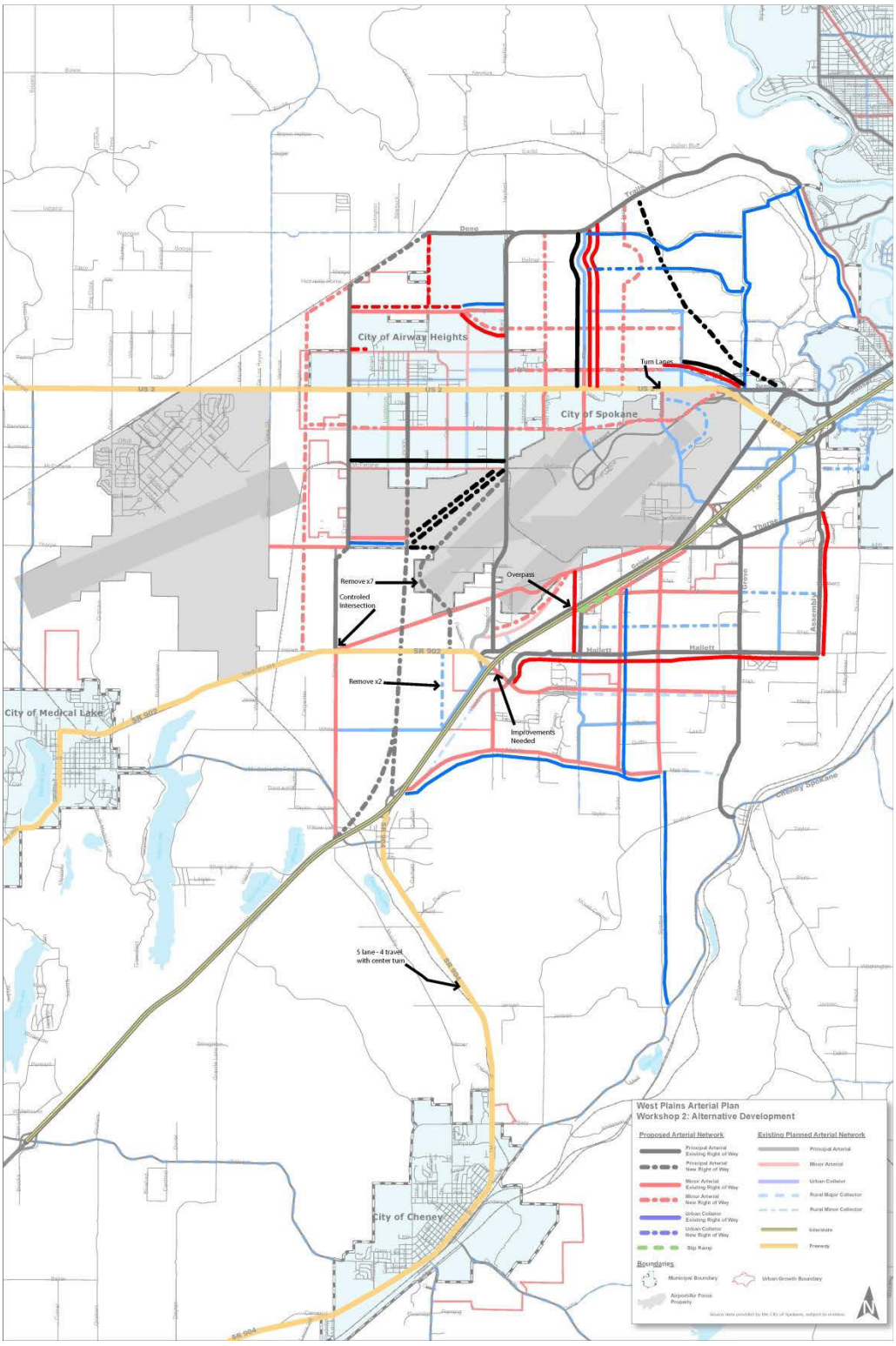

Figure 1-I: Results from Workshop 2 showing West Plains arterial roadway alternatives.

The results from Workshop 2 indicate that participants continued to support the increase in network density but disagreed somewhat with the alternative's roadway classification. The darker colored lines

in Figure 1-I highlight the difference between the alternative presented and that preferred by participants. There was a high level of consensus to improving Flint Road. The type of road they preferred, Principal or Minor Arterial, was more mixed but the general consensus favored a Minor Arterial. Participants also preferred lower classes of arterials for the area south of I-90. Finally, there was an indication that participants desired that the parallel route – 12th Avenue – be connected to US 2 farther east, closer to the intersection of US 2 and Sunset. This idea was then presented in the workshop.

Participants also reviewed and commented on the proposed bicycle network providing recommendations where they felt facilities were needed but unplanned. The bicycle network was chosen as a focus because pedestrian facilities are incorporated into the typical street cross-section of arterials and transit facilities are being planned by Spokane Transit Authority.

1.7.3 Bicycle Advisory Board

The City met with the Bicycle Advisory Board twice during the planning process. The first meeting helped form priorities for the proposed improvements. The Board shared what routes they or people they know use in the West Plains, identified deficiencies and priorities. The Board's biggest priorities for the area are making connections around schools and making a connection from downtown Spokane to Airway Heights and the Airport so people can commute safely by bike to major employers in the area.

At the second meeting the Board provided feedback and discussion that was used to refine draft improvement concepts. Final versions of the concepts discussed at that meeting can be seen in Figures Figure 3-N through Figure 3-X.

1.7.4 Open House – February 12, 2014

An open house was held at the Airway Heights Library Meeting Room on February 12, 2014. Draft concepts based on previous participation were presented for public review, discussion and feedback. Some of the displays included project lists and maps, the long range arterial map, the long range bike plan, concepts for the character of US 2, and the concepts for the proposed shared use path.

Figure 1-J Open House

1.7.5 Online Surveys

Two online surveys were made available to the public on Survey Monkey. The first survey early on in the planning efforts asked participants to rank to importance of goals, polices and recommendations of previous plans and studies. A second survey later in the planning process gathered stake holder's opinions of the proposed concepts for a shared use path on US 2 and Sunset Blvd as well as their opinions regarding which projects should be priorities and the modes of transportation they use in the West Plains.

1.8 Technical Advisory Committee Meetings

Throughout this planning process, the City held Technical Advisory Committee (TAC) meetings to draw on the professional expertise of staff from partner agencies. The TAC met seven times over the course of the Planning process. This committee included Washington State Department of Transportation Eastern Region Office, Spokane Regional Transportation Council, Spokane Transit, Spokane County, City of Medical Lake, City of Cheney, Fairchild Air Force Base, Avista Utilities, Inland Power, City of Airway Heights, Spokane International Airport, Spokane Tribe of Indians, and Kalispel Tribe of Indians.

2 Summary of Selected Current Capital Facilities

Based on previous studies and planning efforts for the West Plains area, discussions with the Technical Advisory Committee, and interviews with other stakeholders planning for transportation, stormwater treatment and water and sewer infrastructure stand out as priorities for the West Plans. The City of Spokane and its partners have been working on parallel stormwater and transportation planning efforts. A summary of the history, challenges, and opportunities related to stormwater treatment on the West Plains can be found in the Appendix C of this plan.

The main body of this plan focuses on the issues around transportation and the planning efforts to address these issues. This planning effort will be ongoing and it is recognized that there is still work to be done in this area. As the vision for transportation facilities has come into focus, the City and its partners can begin to look for opportunities to plan for additional water and sewer facilities concurrently with transportation improvements.

2.1 Transportation

2.1.1 Roads

Past planning efforts identified three areas of need related to transportation; increased safety, improved capacity and more connectivity and access.

2.1.1.1 Safety

Safety was identified as a concern in the 2011 Spokane Regional Transportation Council (SRTC) West Plains-Spokane International Airport Transportation Study and continues to be a concern to participants of this planning effort. Safety at intersections, safety for pedestrians, cyclists and transit riders were all voiced as concerns, especially on US 2.

Figure 2-A: Shopping carts at the bus stop at Hayford and US 2

As vacant and agricultural lands within the West Plains transition to denser urban uses, US 2 is increasingly being used by more modes of transportation in ways that it was not originally designed to accommodate. The interaction of pedestrians and cyclists with relatively high speed vehicle traffic entering and exiting the highway is a concern as these alternative modes of travel increase in the area. Participants also cited safety concerns related to the condition of transit stops on the West Plains. One transit stop on the highway was removed because it lacked a bus pullout and subsequently did not meet WSDOT standards. Many participants shared

incidents of seeing customers of the Wal-Mart at US 2 and Hayford Road crossing the highway at a marked and signaled crosswalk with a shopping cart and leaving the shopping cart at the bus stop.

Un-signalized intersections, especially the intersection of US 2 and Flint Road, are repeatedly brought up as a safety concern. Since this effort began, the City of Spokane and WSDOT were awarded a grant to install a signal and other improvements at Flint and US 2 but other intersections (US 2 and Spotted, Trails and Hayford, Deno and Rambo, etc.) remain a concern.

2.1.1.2 Capacity

A capacity analysis was completed as part of a larger transportation analysis for the study area. The analysis indicated that current traffic throughout the West Plains study area is below adopted thresholds with the exception of US 2 east of the Spokane International Airport on/off ramps. This section is a divided highway with higher speeds and limited access and does not present an immediate concern. Currently, the five lane undivided section of US 2 near Hayford Road is near its design threshold. US 2 congestion relief is expected to be a high priority moving into the immediate future. Future capacity concerns are discussed later for a full methodology and transportation analysis please see Appendix A.

2.1.1.3 Connectivity and Access

The lack of connectivity and access has been a reoccurring theme both in the documents of previous planning efforts and recent discussions. In many cases if a facility shuts down alternative routes are typically miles out of the way. An arterial network to support the existing State facilities has been proposed as a way to distribute local trips and provide alternative routes. This will help to preserve the State routes' capacity and regional function. The Cities of Spokane and Airway Heights, along with Spokane County currently have adopted arterial plans for the West Plains and Urban Growth Area but there is a need to coordinate and update these plans.

Many planning participants expressed the need for more transit options between the various West Plains destinations. Often transit riders with a West Plains origin and West Plains destination have to ride into downtown Spokane to transfer to another bus that takes them back out to the West Plains again. Eastern Washington University students that take the transit bus from the Spokane International Airport to Cheney, veterans that live in Medical Lake and travel to Fairchild Air Force Base for services and Cheney residents that go to Airway Heights for services are some examples of inner West Plains transit users that find it difficult to travel within the West Plains.

The need for pedestrian, bike and greenway connections has also been expressed. There are few sidewalks and even fewer dedicated bicycle facilities on existing roads. The general lack of road connectivity makes getting around within the West Plains without a car a challenge.

2.1.2 WSDOT Limited/Managed Access Classifications for roadways in the West Plains

The Washington State Department of Transportation (WSDOT) classifies state managed highways according to the level of access that is allowed to them. These classifications dictate the character of the roadway and the ability for adjacent land owners to access the roadway. The character of the roadway

includes attributes such as the speed limit, whether intersecting streets can cross at grade, and whether the edge of the roadway will include a curb and gutter or a shoulder. State Highways are either designated limited access or managed access and within those designations there are further classifications and designations that are defined in Table 2-A and Table 2-B. The classifications in the West Plains Subarea are shown in Figure 2-B.

The WSDOT Design Manual Chapter 520.01 states the following about its Highway Access Control System:

> The Washington State Department of Transportation (WSDOT) controls access to the state's highways (with a few exceptions) in order to preserve the safety and efficiency of these highways as well as the public investment. All Washington State highways are distinguished as being either limited access or managed access highways. Control of access is accomplished by either acquiring rights of access from abutting property owners (limited access control) or by regulating access connections to the highway (managed access control). Until limited access rights have been acquired from abutting property owners, the route is a managed access highway. Managed access permits are issued either by a local authority (city or town) or by WSDOT.

Table 2-A WSDOT Managed Access Classifications

Managed Access[2]				
Class	**Access Point Spacing***	**Typical Speed Limits**	**Spacing of Intersecting Roads**	**Limitations**
Class 1	1320 ft	50-65mph	1 mile	One access is allowed only to contiguous parcels under the same ownership. A private access connection is not allowed unless no other reasonable access exists (must use local road/ street system if possible).
Class 2	660 ft	35-50 mph in urbanized areas and 45 to 55 mph in rural areas	½ mile	One access connection is allowed only to contiguous parcels under the same ownership unless frontage is greater than 1320 ft. Private access connections are not allowed unless no other reasonable access exists; must use local road/street system if possible.
Class 3	330 ft	30-40 mph in urbanized areas and 45-55mph in rural areas	½ mile	One access connection is allowed only to contiguous parcels under the same ownership. Joint access connection for subdivisions is preferred; private connections are allowed with justification.
Class 4	250 ft	30-35 mph in urbanized areas and 35-45 mph in rural areas	½ mile	One access connection is allowed only to contiguous parcels under the same ownership, except with justification.
Class 5	125 ft	25-35 mph	¼ mile	More than one access connection per ownership is allowed with justification.

Table 2-B WSDOT Limited Access Classifications

Limited Access[3]
Level of Control
Full Control Access only through interchanges at selected public roads, rest areas, viewpoints, or weigh stations. All at grade crossings and private approaches are prohibited.
Partial Control At-grade intersections are allowed for selected public roads, and approaches for existing private driveways. No commercial approaches are allowed. No direct access if alternate public road access is available.
Modified Control At-grade intersections are allowed for selected public roads, and approaches for existing private driveways. Commercial approaches may be allowed. No direct access if alternate public road access is available.

[2] WSDOT Design Manual Chapter 540

[3] Criteria for each level of control are taken from the WSDOT "Limited and Managed Access Control Comparison Sheet" This document can be accessed at: http://www.wsdot.wa.gov/publications/fulltext/design/access/ComparisonSheet.pdf For more information see WSDOT Design Manual Chapter 530.

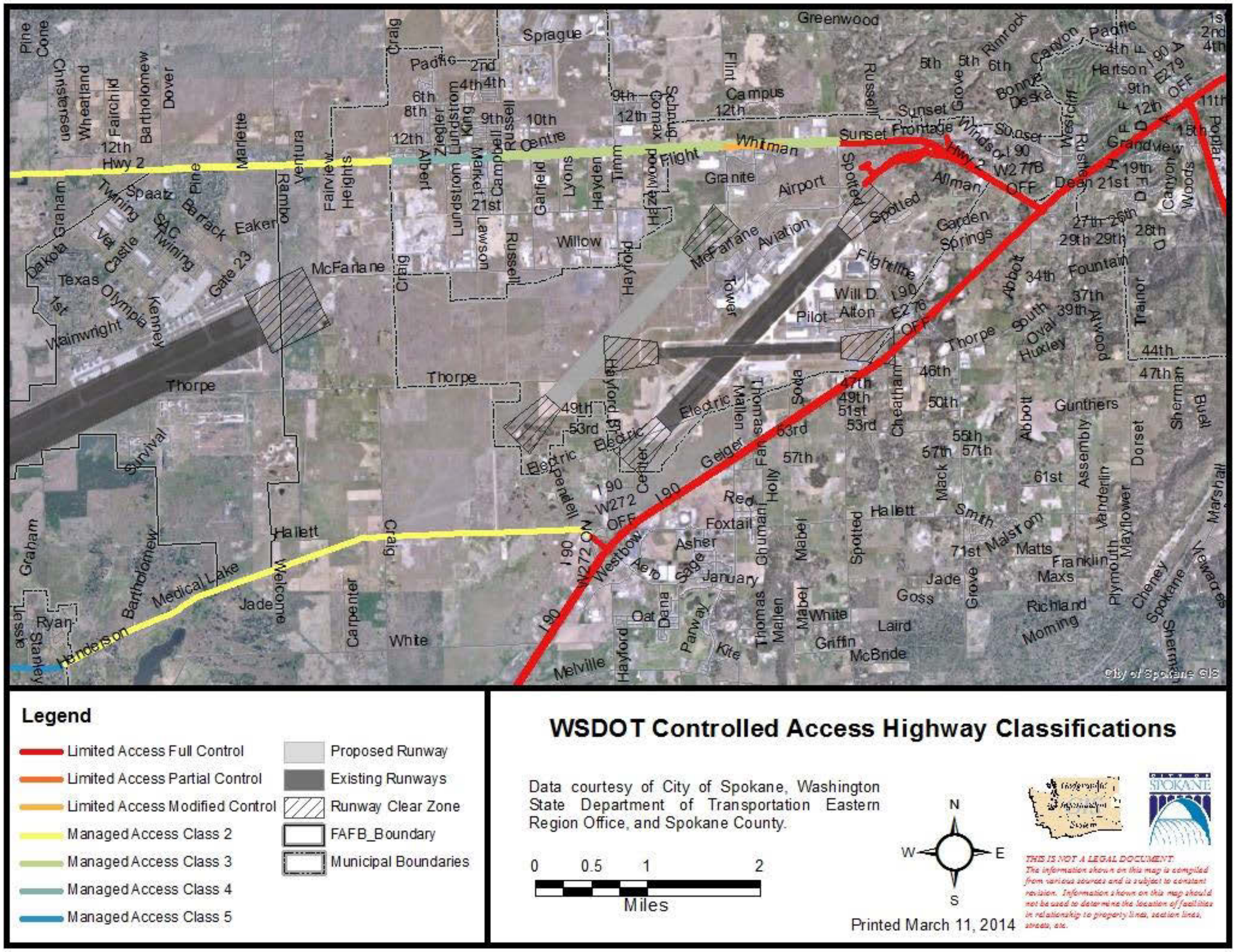

Figure 2-B WSDOT Controlled Access Classifications in the West Plains Subarea

2.1.3 Transit

Spokane Transit Authority (STA), the regional public transportation agency, provides a variety of transportation services to the greater West Plains area. STA provides transit service to Spokane International Airport, Fairchild Air Force Base, Cheney, and Medical Lake through routes 60, 61, 62, 66, and 68. There is also an express route, route 165, between downtown Spokane and Cheney, to provide faster, more direct access. Additionally, there are Park & Ride and Transit Center locations in Cheney, Medical Lake and Airway Heights.

The Kalispel Tribe of Indians also operates a public transportation service, KALTRAN, offered to all members of the general public. While the main route is between North Spokane and the Kalispel Reservation in Usk, KALTRAN does provide service to the West Plains through its Newport-to-Airway Heights service every Friday and Saturday, three times a day. The route travels from the tribe's reservation to Northern Quest Casino. KALTRAN also allows riders to reserve a pickup within ¾ miles of designated routes (on non-service days); however the KALTRAN officials notes that this rarely happens.

2.1.4 Bicycle Facilities

Bicycle facilities are very limited throughout the West Plains area. With the exception of Cheney and one portion of Hayford Road north of US 2 and Airport Drive the West Plains has no other existing signed or marked bike lanes. While signed or marked lanes are not necessary to allow bicycle traffic, the relative speed and existing roadway design makes bicycle travel difficult, except for the more seasoned bike commuters.

2.1.5 Pedestrian Facilities

The pedestrian facilities on the West Plains are also very limited. There is a patchy assortment of sidewalks in limited areas throughout the West Plains but overall the pedestrian facilities necessary to accommodate non-motorized transportation and access to transit are not in place. Figure 2-C shows the pedestrian facilities that were in existence in 2008 as purple lines.

Access across US 2 in the study area is known to be a challenge for pedestrians. There are six controlled crossings in Airway Heights and one at the entrance to FAFB but there are none between Government Way and Hayford Road. Pedestrians can be seen walking along the shoulder of the highway between Airway Heights and Government Way. In response to the lack of pedestrian safety along US 2, Spokane Transit Authority has removed

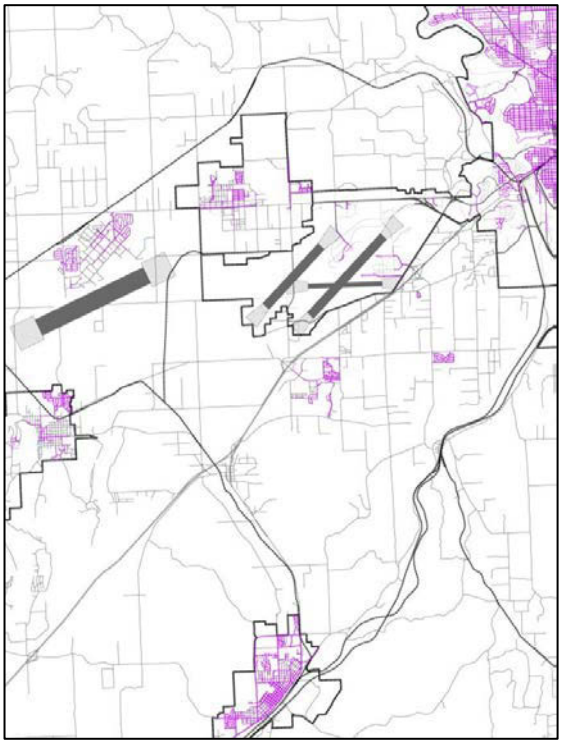

Figure 2-C: Existing pedestrian facilities on the West Plains

bus stops along this corridor until pedestrian access is improved. I-90 has also been identified as a barrier for both pedestrians and cyclists.

2.1.6 Freight

The primary truck routes for the West Plains area include: I-90, US 2, SR 902, SR 904, Hayford Road, Trails Road, Geiger Boulevard, and Aero Road. A review of hourly and average daily traffic (ADT) counts indicate that total truck traffic comprises between 15% and 25% of traffic totals along these roads. The truck sizes range from delivery trucks to interstate semitrailer; heavy trucks with four or more axles comprise between 5% and 10% of the traffic totals. This study anticipates the continued use of these roadways for truck traffic along these routes.

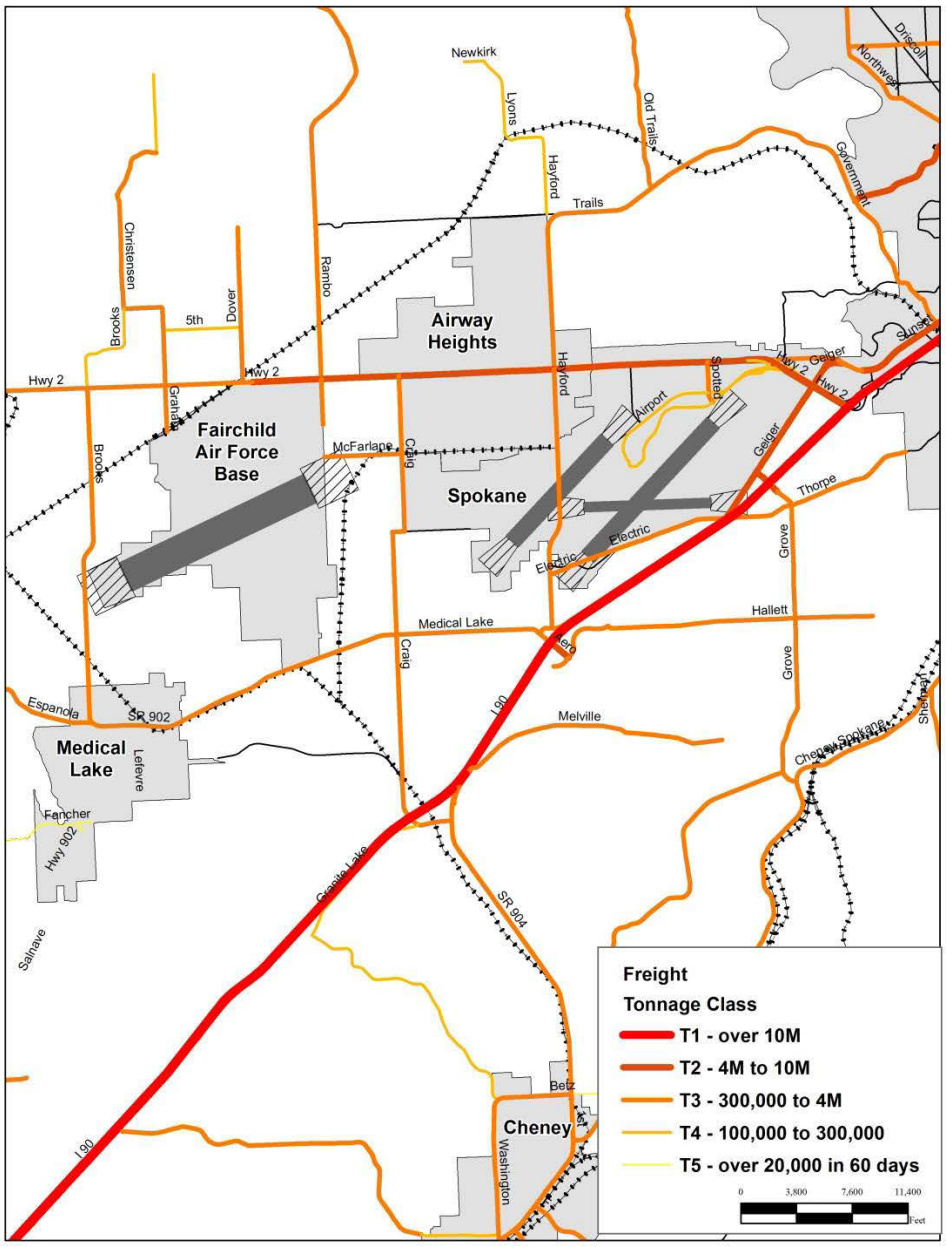

Figure 2-D Freight routes in the West Plains - Source: SRTC 2012

2.2 Industrial Lands Studies

2.2.1 Spokane County Industrial Lands Study

As the West Plains has continued to develop both residentially and industrially, there have been a number of economic development initiatives in the area. In 1999, Spokane County created an Industrial Lands Committee to evaluate the potential of industrial lands within the County, developing a detailed inventory and analysis of available land. The study developed a rating system to evaluate the marketability of lands designated for industrial use. Ranging from Tier 1 to Tier 5, lands designated as

Tier 1 were considered the most marketable lands and had the best attributes for immediate development.

According to the 2000 Industrial Lands Study, out of the 17,682 acres of identified industrial lands in Spokane County, the West Plains contained 8,985 acres. Of those lands, 4,378 acres were considered Tier 1, meaning the properties met 12 different criteria. Those criteria included elements such as being underutilized or vacant, being 2 acres or larger, having access to either an arterial road or I-90, being within 1,000 feet of a water and sewer main, and within a fire district.

2.2.2 City of Spokane West Plains Industrial Lands Analysis

In conjunction with the 2013 West Plains Subarea planning efforts, the City of Spokane prepared an Industrial Lands Study to evaluate the availability and readiness of industrial and commercial land in the West Plains subarea. The full report is attached as Appendix D.

The study was modeled after one completed by Spokane County in 2000. A rating system was developed to evaluate the marketability of land designated for industrial use. The rating system used Geographic Information System data from the City of Spokane, Spokane County and the City of Airway Heights to determine lot size, environmental limitations and availability of infrastructure, both existing and planned. The lands were classified into six tiers. The criteria used to categorize the tiers are summarized below:

- Tier 1 properties are considered ready for development, with all necessary infrastructure in place.
- Tier 1a properties are ready for development, but are smaller than two acres.
- Tier 2 properties are missing one important piece of infrastructure for development: water, sewer or road access.
- Tier 3 properties are missing two of the three important elements of infrastructure.
- Tier 4 properties lack access to all three major elements of infrastructure.
- Tier 5 properties are unlikely to be (re)developed, as they are already sufficiently utilized or are dedicated to aviation use, contain significant critical areas or are within SIA's or FAFB's crash zones.

Table 2-C identifies the total number of acres in each tier and Figure 2-E shows where on the West Plains each of the top four tiers are located.

Table 2-C Acres of industrial and commercial property within West Plains UGA by tier

Tier	Tier 1	Tier 1a	Tier 2	Tier 3	Tier 4	Tier 5	Total
Acres	3,225	96	2,144	2,047	28	6,128	13,668

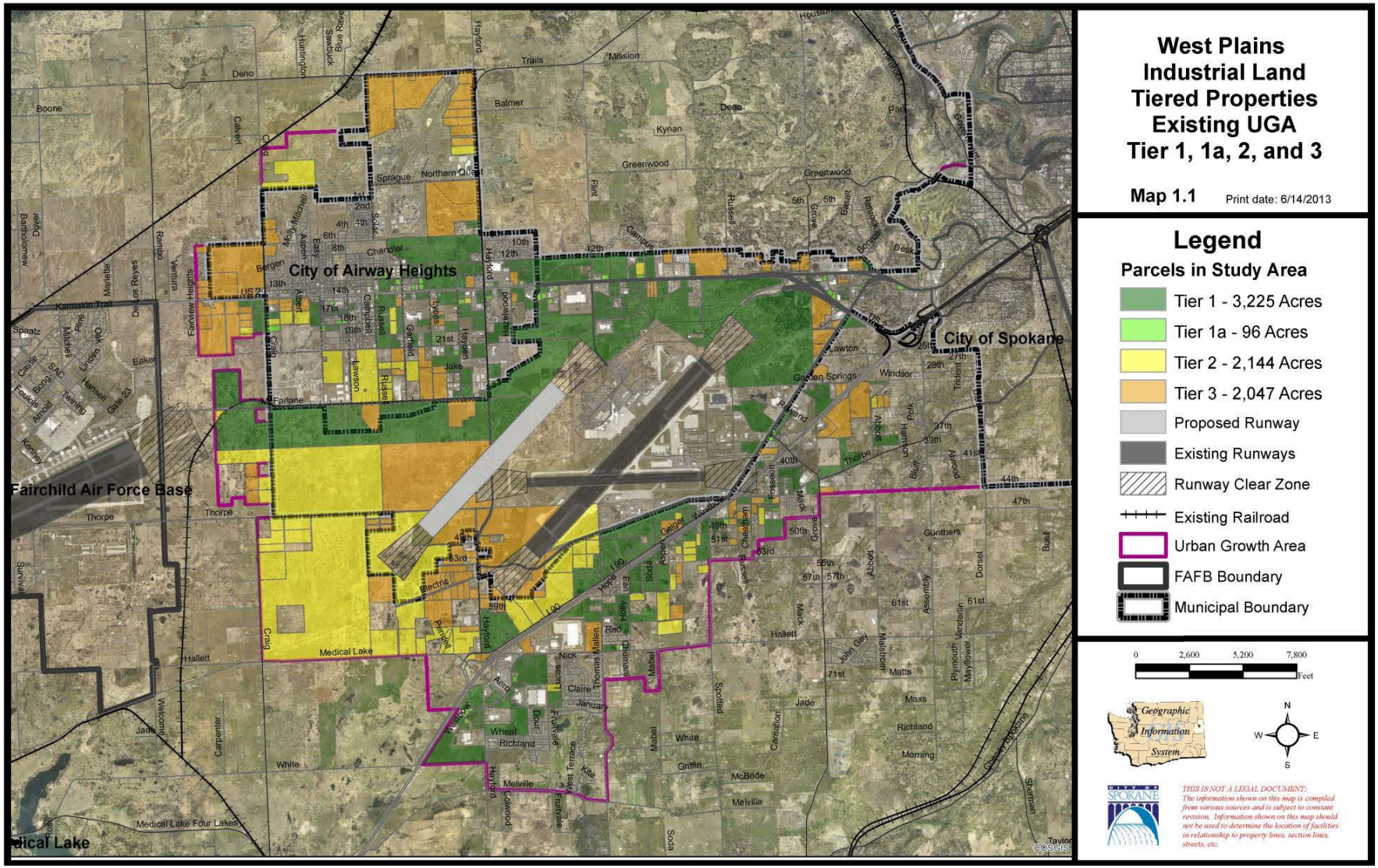

Figure 2-E: Industrial and commercial land properties in the top four tiers from the industrial land study

2.2.2.1 West Plains Subarea Employment Potential

The number of available acres by tier was then used to calculate the employment potential and corresponding transportation infrastructure needs in the West Plains Urban Growth Area (UGA). Relying on assumptions made in the similar Spokane County *2000 Industrial Land Study*, a value of 16 employees per acre was used when projecting employment potential for existing industrial and commercial properties within the UGA. Properties that fell into Tiers 1-4 were calculated using this value. It was assumed that properties under Tier 5 will not be (re)developed and therefore not contribute higher employment numbers to the subarea. These calculated figures were totaled for each of the Transportation Analysis Zones (TAZ) in the West Plains, to allocate prospective trips and determine future needs in the transportation network. Table 2-D shows the forecast employment, based on the West Plains Industrial Land Analysis, for each TAZ in the column labeled "Build-out Potential" and compares this to SRTC employment projections for the same TAZs for the years 2040 and 2070. The 2010 data is intended to provide a baseline. For the full report, please see Appendix D.

Table 2-D: West Plains Employment Numbers by Transportation Analysis Zone

TAZ	2010 Employment	2040 Employment Total[2]	2070 Employment Total[2]	Build-out Potential[1]
459	359	712	1,424	1,664
460	49	2,156	4,312	18,960
461	1,878	2,523	5,046	4,904
462	881	1,966	3,932	5,670
463	0	1,403	2,806	2,680
464	1,246	2,086	4,172	10,876
547	254	365	730	1,483
548	1,167	1,342	2,684	500
550	1,794	2,356	4,712	6,991
551	1,444	2,052	4,104	8,806
552	1,728	2,431	4,862	6,058
553	1,384	1,926	3,852	3,917
556	81	917	1,834	12,692
558	150	460	920	1,818
559	511	1,352	2,704	6,585
				Build-out Total: 93,604

[1]Build Out Potential does not include 2010 Employment figures.
[2]2040 and 2070 Employment Projections include 2010 Employment figures.
(Source: City of Spokane Planning and Development Services and SRTC)

An increase of employment at Fairchild Air Force Base was not included in these calculations but it should be noted that the partner agencies support mission and employment growth at the Base and transportation capacity to accommodate growth should be planned for.

3 Planning Level Transportation Framework Plan

3.1 Methodology

A full description of the methodology used to estimate traffic forecasts in the West Plains can be found in Appendix A; this section is intended to provide only a brief description of the methodology to enhance the understanding of the future conditions.

The traffic forecasts used in this plan were developed based on Spokane Regional Transportation Council (SRTC) travel demand model, which works with local agencies to develop employment and housing projections. SRTC then takes the information in conjunction with locally adopted plans and zoning – to determine types of land uses- and forecasts traffic trips. These trips are then assigned to Transportation Analysis Zones (TAZ) that represent a distinct district within the community. These trips are then assigned to a simulated transportation network to generate a number of trips on a particular roadway. The SRTC model forecasts trips out to 2040.

In some locations forecasts were not available because the travel model lacked some roadway links. To remedy this situation, growth rates were reviewed for various "screen lines" used to compare overall east-west and north-south traffic growths for the study area. A screen line is an imaginary boundary that extends through an area, traversing parallel roadways, and then used as a means for gauging the collective movement of traffic within a region. Figure 3-A shows the screen lines used for the West Plains area used for this study.

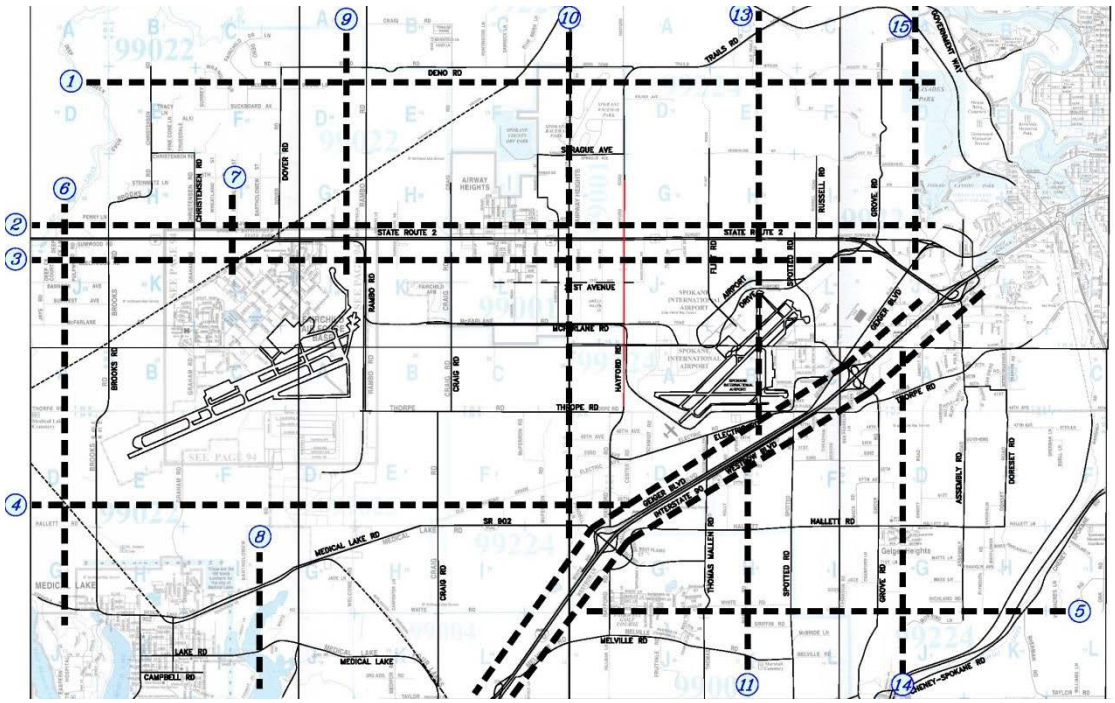

Figure 3-A: West Plains screen lines

Using the SRTC 2040 forecast in conjunction with average daily traffic (ADT) counts a traffic forecast was completed for 2020, 2040, and 2070. These years were selected for the following reasons:

- Year 2020 was evaluated so select improvement recommendations could be identified and prioritized on local transportation improvement plans.
- Year 2040 because it is the horizon year used by local and State agencies.
- Year 2070 was selected as the long-range horizon year to assure that the planned arterial network would have the design capability and capacity to account for traffic well beyond the interim year 2040 forecast horizon year. Initially, a "full build" scenario that reflected the development capacity of all the designated urban areas within the study area was considered. However, preliminary examinations indicate there is a very high availability of vacant lands within the West Plains, and this full build scenario would reflect a housing and employment absorption rate that would nearly surpass the growth of all of Spokane County within the last 50 years. This was therefore considered excessive and beyond the scope of this plan. The 2070 horizon was selected as an alternative to planning for the full build out while still considering the future beyond 2040. It should be noted that forecasts can only be reasonably made for 20-30 years in the future.

ADT volumes were determined to be appropriate for capacity analysis, as opposed to peak hour volumes, because the overall/regional mobility of the West Plains is being evaluated and planned for at a high level.

3.2 Future Conditions for Transportation

Table 3-A below shows the resulting traffic growth progression for the screen lines used in this study.

Table 3-A Screen Line Traffic Volume and Forecast Comparison

	Existing	Forecast Year 2020		Forecast Year 2040		Forecast Year 2070	
	Counts/ADT	ADT	% Grow	ADT	% Grow	ADT	% Grow
Screen Line 1	13,055	15,015	15.0	22,940	75.7	33,860	159.4
Screen Line 2	24,295	26,035	7.2	32,640	34.4	42,865	72.3
Screen Line 3	16,105	18,315	13.7	26,775	66.3	38,565	139.5
Screen Line 4	11,510	12,990	12.8	18,950	64.6	27,170	136.1
Screen Line 5	5,895	6,930	17.6	11,015	86.9	16,675	182.9
Screen Line 6	10,220	11,075	8.4	14,035	37.3	18,250	78.6
Screen Line 7	16,000	17,515	9.5	22,695	41.8	30,090	88.1
Screen Line 8	8,990	9,965	10.9	13,980	55.5	19,490	116.8
Screen Line 9	16,125	17,105	6.1	20,255	25.6	24,815	53.9
Screen Line 10	37,660	40,710	8.1	53,610	42.4	71,240	89.2
Screen Line 11	3,330	3,845	15.5	5,795	74.0	8,520	155.8
Screen Line 12	39,700	42,750	7.7	53,630	35.1	69,020	73.9
Screen Line 13	5,370	6,390	19.0	10,735	99.9	16,665	210.3
Screen Line 14	57,945	62,350	7.6	77,685	34.1	99,495	71.7
Screen Line 15	22,300	23,600	5.8	27,860	24.9	34,005	52.5
Screen Line 16	20,595	22,570	9.6	29,565	43.6	39,480	91.7

3.2.1 Determining Capacity

This study adopts a level-of-service (LOS) C capacity threshold for two separate classes of arterials. This designation was selected and used by consultant Bill White in his West Plains Transportation & Arterial Network Study (Appendix A) as a matter of standard practice for urban/suburban arterials and roadway segments. The two classes are Class 1 and Class 2. The Class 1 arterial has a posted speed of 40 miles per hour (MPH) or greater, with the potential for signalized cross streets every half-mile, and a peak-hour-factor (PHF) of 0.95 or greater. The Class 2 arterial has a posted speed of 35 MPH or less with the potential for signalized cross streets on a 0.25 mile basis, and a PHF of 0.92 or less. Speed is the principal distinction between the two classes.

Table 3-B shows the capacity thresholds to maintain the LOS C standard, as a function of roadway cross sections (i.e. number of lanes) for Class 1 and Class 2 arterials. In the capacity analysis, traffic forecasts that were less than thresholds shown below for various roadway sections within the study area were considered to operate at LOS C or better, and therefore no additional capacity is required. Forecasts that exceeded thresholds highlighted the need for capacity, either in terms of roadway widening or through increasing network density (i.e. adding new arterials). Figure 3-B illustrates the concept of increasing capacity through increased in network density.

Table 3-B West Plains arterial volume thresholds to maintain LOS C or better

Number of Lanes	Class I ADT Threshold	Class II ADT Threshold
2 Lane Roadway	12,400	8,200
3 Lane Roadway	13,600	9,000
4 Lane Roadway	25,600	19,200
5 Lane Roadway	28,200	21,100
6 Lane Roadway	39,400	30,600
7 Lane Roadway	43,300	33,700

Developed using ARTPLAN 2012 (Florida DOT, 2011)

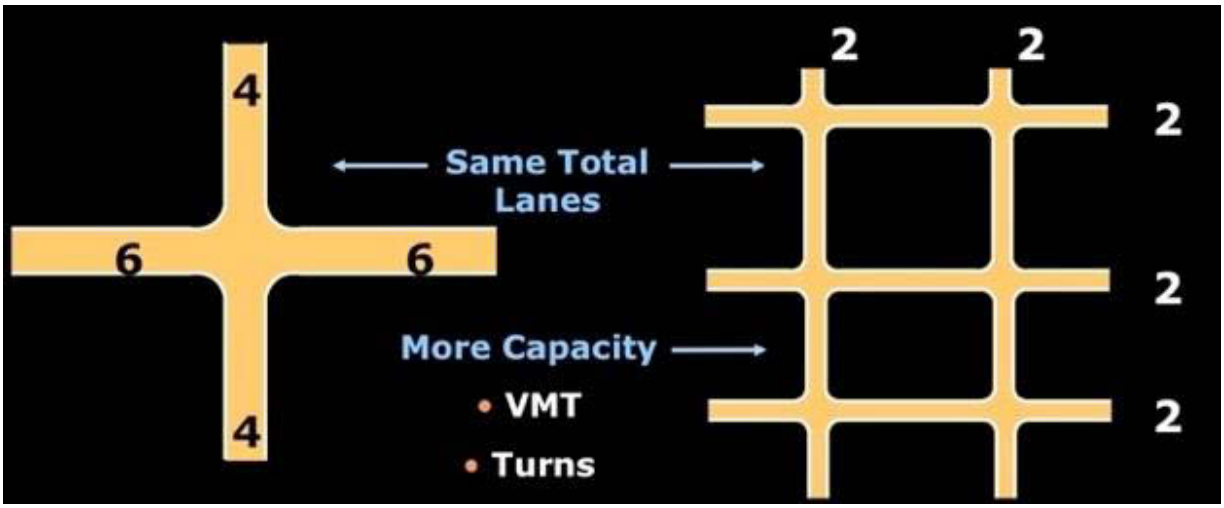

Figure 3-B: Illustrative example of how increased network density increases capacity

3.2.2 Existing and Future Capacity

Comparing the existing and forecast growth in Table 3-C with the capacity thresholds in Table 3-B reveals where capacity issues are most likely to evolve in the future. A summary of capacity issues, defined as "exceptions," is shown on Table 3-C.

Table 3-C Forecast capacity needs by screen line.

	Existing	Year 2020	Year 2040	Year 2070
Screen Line 1	No Exceptions	No Exceptions	1 Exception ** Hayford - S of Trails*	1 Exception ** Hayford - S of Trails*
Screen Line 2	No Exceptions	No Exceptions	No Exceptions	No Exceptions
Screen Line 3	No Exceptions	No Exceptions	No Exceptions	1 Exception ** Brooks - S of US 2*
Screen Line 4	No Exceptions	No Exceptions	No Exceptions	1 Exception ** Craig - N of SR 902*
Screen Line 5	No Exceptions	No Exceptions	No Exceptions	No Exceptions
Screen Line 6	No Exceptions	No Exceptions	No Exceptions	1 Exception ** US 2 - W of Brooks*
Screen Line 7	No Exceptions	No Exceptions	No Exceptions	1 Exception ** US 2 - W of Dover*
Screen Line 8	No Exceptions	No Exceptions	No Exceptions	No Exceptions
Screen Line 9	No Exceptions	No Exceptions	No Exceptions	No Exceptions
Screen Line 10	No Exceptions	No Exceptions	1 Exception ** US 2 - W of Hayford*	2 Exceptions ** US 2 - W of Hayford* ** McFarlane - W of Hayford*
Screen Line 11	No Exceptions	No Exceptions	No Exceptions	No Exceptions
Screen Line 12	No Exceptions	1 Exception ** US 2 - E of Flint*	2 Exceptions ** US 2 - E of Flint* ** Trails - E of Flint*	2 Exceptions ** US 2 - E of Flint* ** Trails - E of Flint*
Screen Line 13	No Exceptions	No Exceptions	No Exceptions	No Exceptions
Screen Line 14	1 Exception - US 2 – E of SIA Ramps	1 Exception ** US 2 - E of SIA Ramps*	3 Exceptions ** US 2 - E of SIA Ramp* ** Trails - @ Government* ** Geiger – E of Grove*	3 Exceptions ** US 2 - E of SIA Ramp* ** Trails - @ Government* ** Geiger - E of Grove*
Screen Line 15	No Exceptions	No Exceptions	1 Exception ** Grove Road @ I-90*	1 Exception ** Grove Road N of I-90*
Screen Line 16	No Exceptions	No Exceptions	No Exceptions	1 Exception ** Grove Road S of I-90*

3.3 Arterial Plan

The functional classification or class hierarchy of arterials used in this study is commonly used by federal, state, and local agencies as a way of organizing roadways into service categories. These service categories are often distinguished by the purpose of a roadway, within the context of the overall arterial network, in moving traffic throughout a community. The functional classifications used in this arterial road plan are principal, minor, and collector arterials; and a highway designation. Except where noted, this plan assumes the existing typical street cross-sections found in Chapter 4 of the City of Spokane's Comprehensive Plan for the functional classifications. The final width of right-of-ways and cross sections of streets will be determined by the transportation policies in the comprehensive plans of partner agencies which are currently being updated and may change.

The arterial network plan presented in this section was developed through the planning process described in Section 2 of this plan and as a result of the “best” practice community planning. This complete network, as shown in Figure 3-C, promotes mobility and levels of capacity commiserate of a fully developed land use and transportation system within the West Plains. However, this level of development is not anticipated within the time horizon/analysis years used in this study, as the West Plains represents a significant land area that will likely take years to develop.

It should be noted that the recommended improvements increase the overall mobility of the arterial network, and do not necessary reflect the minimum improvements needed to assure the adequate operation and safety of roadway segments or intersections. These improvements are usually of reduced scale and cost compared with the network improvements recommended by this plan.

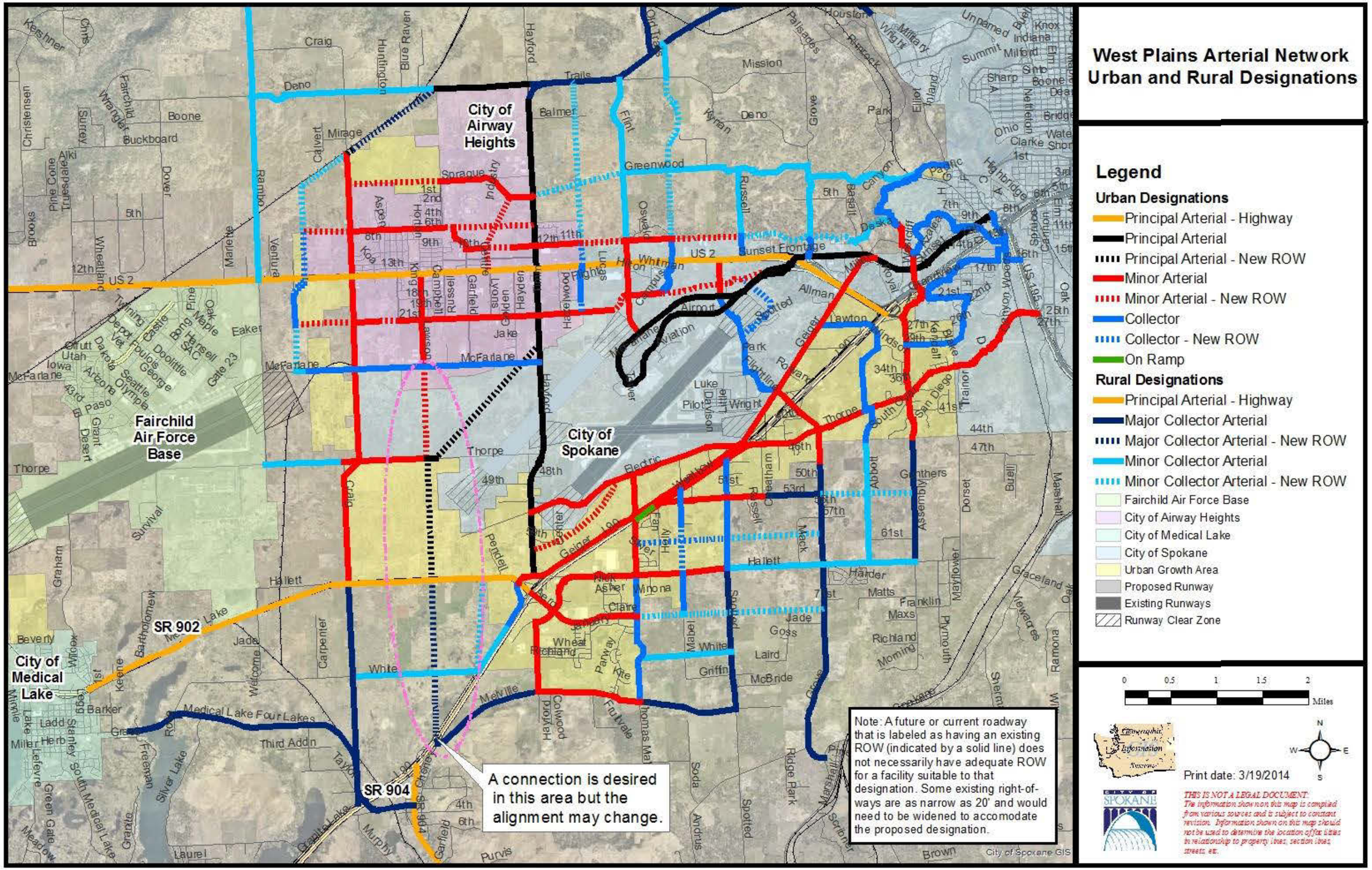

Figure 3-C: West Plains Arterial Network Plan

3.4 Phased Improvement Recommendations

The long-term horizon and potential for build-out conditions within the study area necessitate a phased approach to improvements. This phased approach used the forecast conditions discussed previously as the basis for identifying needed improvements. The plan identifies short, medium, and long term improvement priorities. These priorities can be used to identify mitigation projects for development, impact fees, or be considered against other regional priorities for funding. The list of projects created by consultant Bill White and included in Appendix A were later further refined to create the list seen in Table 3-D and section 3.4.5. It should be noted that 2070 build out range improvements were not developed because there are no means for programing long-term/50 year improvement projects and such long-range forecasts would require calibration and reanalysis in the future to assure improvements make sense in context to more recent land use and traffic patterns within the region.

3.4.1 United States Route 2

East of Hayford Road the forecast traffic volumes will surpass capacity thresholds by 6,000 ADT through year 2040 and by 13,000 ADT through year 2070. West of Hayford to Brookes Roads, traffic volumes will exceed capacity thresholds by 3,000 ADT by year 2070. There were two approaches considered for improving east-west capacity within the US 2 corridor area. The first is to widen the roadway to seven lanes. The second approach includes the development of parallel roadway routes to attract local trips off the highway. Each of these approaches is discussed below.

3.4.2 Widening US 2

Right-of-way is largely available along the already established US 2 corridor and the facility could be widened to provide immediate capacity. For a Class II arterial, widening increases the practical capacity of the highway by 15,000 ADT, which is sufficient to address traffic increases through year 2070. However, the issues associated with this approach can be considerable. First, widening may impact many businesses located along the Highway, requiring the relocation of parking, utility and drainage easements, and even buildings as many businesses especially in Airway Heights are built near the existing right-of-way. Second, pedestrian and bicycle safety would be compromised as pedestrians are forced to cross a wider highway section negotiating high traffic volumes and higher traffic speeds. Finally, the mobility and safety of traffic can decrease along arterials that serve to both move traffic and promote community and property access because of conflicts associated with turning traffic at intersections and driveways.

Figure 3-D: Sprague Avenue with 7-lane street section

Local examples of 7-lane arterials that both accommodate moving traffic and provide property access are demonstrated by the arterials Division Street in Spokane and Sprague Avenue in Spokane Valley, both of which serve similar ADT, have arterial and collector streets intersecting every ¼ to ½ miles, and allow driveway access to commercial businesses, conditions similar to those expected conditions on US

2 in the study area. The results of this design are corridors where traffic mobility is compromised due to high traffic volumes and frequent conflicts from intersections and driveways, resulting in decreased safety for all road users including pedestrians and bicyclists.

3.4.3 Parallel Routes

An alternative to widening is the provision of parallel routes, which provides congestion relief by separating local traffic and shorter (business-to-business) trips from through trips along US 2. The parallel routes also provide opportunities to promote business access, pedestrian/bike facilities, and community character. Both the Washington State Department of Transportation (WSDOT) and SRTC have recommendations to improve the 18th/21st Avenue and the 6th /12th Avenue alignments parallel to US 2. These parallel routes have the potential to increase east-west traffic capacity by over 16,000 vehicles and the roadways could:

- Reduce the impact to businesses and properties along US 2 as no roadway widening would be needed.
- Provide street access to the community and driveway access to businesses.
- Provide pedestrian and bicycle routes with reduced crossing widths and lessor roadway volumes to navigate.
- Allow for roadways to be developed with character and style that is more appealing to the community.

3.4.4 Recommendations

Given the range of anticipated drawbacks, the widening of US 2 is not recommended. The preferred recommendation for US 2 congestion relief is to construct parallel roadways within the alignments explored by WSDOT and the SRTC. North-south roadway extensions would be developed to ensure adequate access to these roadways. The recommendations for these roadways include:

- Construct the 6th/12th Avenue arterial initiating on US 2 near Fairview Heights Road, improving this roadway 0. 5 miles north to the 6th Avenue alignment. The arterial would continue in the 6th Avenue alignment 1.75 miles to Garfield Road, follow Garfield Road ¼ mile south to the 12th Avenue alignment, and then follow the 12th Avenue alignment east to the Campus Drive alignment. A continuation of 12th east may be appropriate in the long term.

  This roadway would provide access to residential neighborhoods and move commuting traffic between US 2 and Hayford Road, supporting major traffic generators. A three lane section should be developed to accommodate through traffic and turning traffic.

  New and improved roadway connections at Deer Heights Road, Campus Drive, and Flint Road would ensure ½ mile spacing to the roadways east of Hayford Road. West of Hayford, a connection will be made at the Hayden alignment between US 2 and the 6th/12th AVE arterial.

  Improved intersections, likely requiring designated turn lanes, signalization, and/or roundabout for safety, are expected on US 2 at Craig Road, Deer Heights Road, Flint Road, Campus Drive (note Flint Road will be improved with a traffic signal summer of 2014). Intersection improvements are also expected on 6th/12th Avenue with Hayford Road.

- Construct the 18th/21st Avenue arterial initiating east of Fairchild Air Force Base, either intersecting with Fairview Heights or departing directly/south from US 2, continuing the roadway south ½ mile to the 21st Avenue alignment. The arterial would follow the 21st Avenue alignment for approximately 3.5 miles, then push south 900 feet over 0.5 miles to align with Granite Avenue in the Northwest Technology Park. After 1/4 mile within the Granite Avenue alignment, the arterial would push 400 feet north over 0.75 miles to align with Tech Park Drive, following the roadway for approximately ¼ mile. The roadway would connect south into Airport Drive, possibly forming a 4-way junction with a future realignment of Spotted Road around the NE end of the runway. This connection will be studied further by Spokane International Airports in 2014.

  It's expected the 18th/ 21st Avenue alignment would predominantly serve as a commercial arterial. The arterial would be designed as a three lane cross section. Fairchild Air Force Base has an existing utility easement along this alignment that would need to be addressed during design.

  The extension of Deer Heights Road and Campus Drive would be constructed from US 2 to the new roadway alignment to adequately provide for local access on a ½ mile basis east of Hayford Road. Roadway connectors within Airway Heights are currently available on a ½ mile basis, so no further connections are recommended. Improved intersections, likely requiring designated turn lanes, signalization, and/or roundabout to assure safety, are anticipated at Craig Road, Deer Heights Road, Campus Drive, and Flint Road (Flint Road will be addressed summer 2014). Intersection improvements at 18th/21st Avenue with Hayford Road and Flint Road are also expected.

3.4.5 Staging/Phasing Recommendations

The recommendations for the parallel routes and connectors are discussed and prioritized as individual projects along with other needed improvements to the area. Projects are not prioritized within the short, medium and long term categories. For example project #1 is not necessarily more of a priority than project #2.

In consultation with traffic engineers from partner agencies City of Spokane Traffic Engineers have updated and modified these recommendation so that they differ slightly from the recommendations made by Bill White in Appendix A.

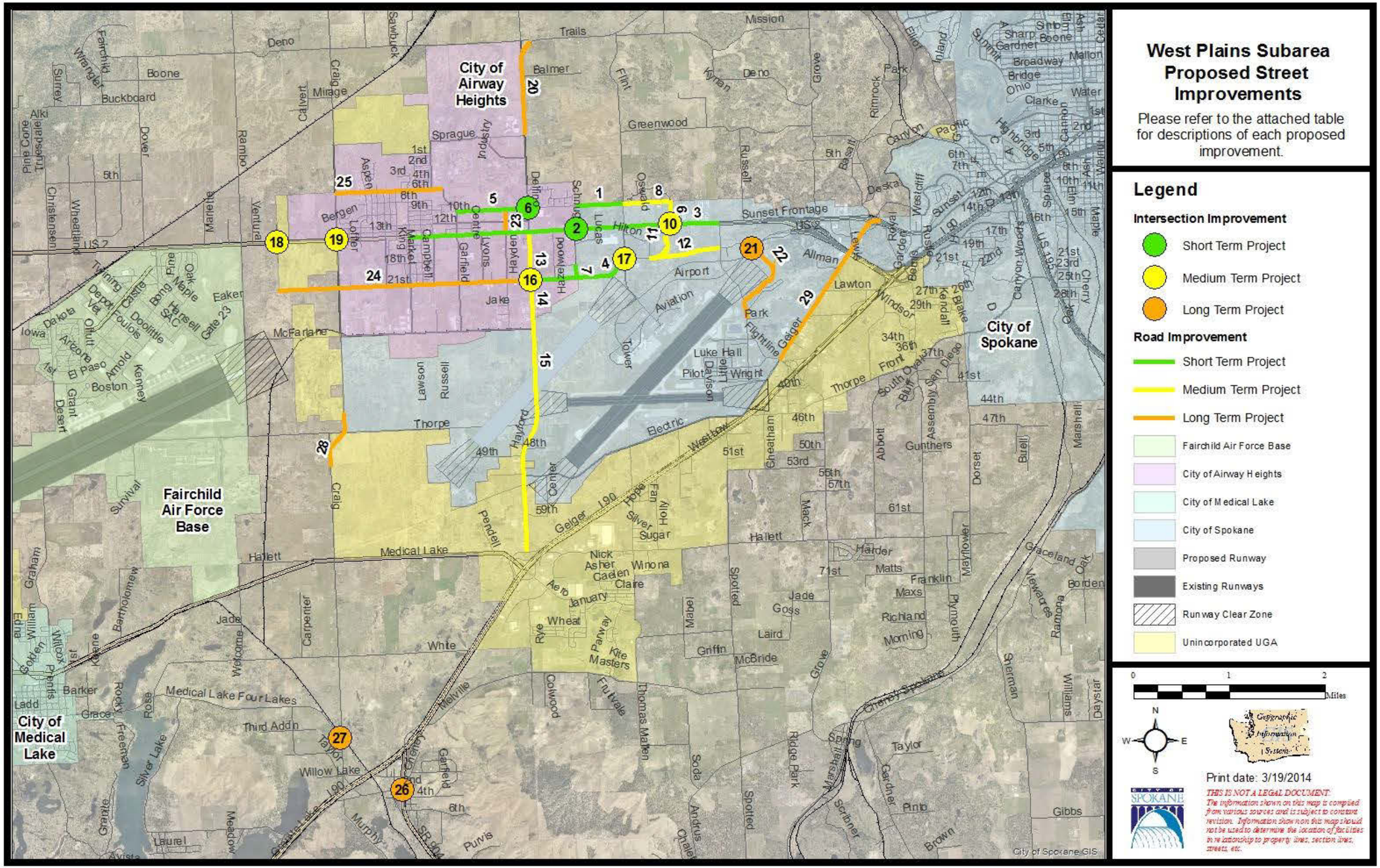

Figure 3-E West Plains proposed street improvements

3.4.5.1 Short Term Improvements

1. 12th Avenue: Deer Heights to Flint

The intersection of US 2 / Hayford Road is already at capacity. Thus, the first logical link is to promote the parallel 12th Avenue connection between north Hayford Road and Flint Road. A ½ mile section of the roadway has already been developed directly east of Hayford Road and a signal will be built at US 2 and Flint Road in 2014. This leaves approximately 1.4 miles to be developed along the 12th Avenue alignment. Sidewalks and bike lanes will be included in the section.

2. US 2/Deer Heights: signal improvements

This project will install a traffic signal at the intersection of US 2 and Deer Heights Road. This will likely be warranted when the industrial/commercial parcels on the north side of US 2 are developed.

3. US 2 Signal communications/ITS equipment from Lawson to Spotted Road

WSDOT maintains three signals within the City of Airway Heights at Lawson, Garfield and Hayford roads. They do not have connectivity with each other or with the Spokane Regional Traffic Management Center. The City of Spokane will be adding a signal at Flint Road in 2014. Future signals are expected at Deer Heights Road and Campus Drive in Spokane, as well as Lawson Road and possibly Craig Road in Airway Heights. This project will update the cabinets and controllers for the three existing Airway Heights signals, and provide communications infrastructure along the corridor. It will tie into the regional network via WSDOT fiber at Spotted Road.

4. 21st Avenue: Hayford Road to Flint Road

This project includes the construction of 21st Avenue as a 3-lane arterial from Hayford Road to Flint Road. The connection at Flint Road will align with the existing section of Granite Avenue on the east side. The road will include bicycle lanes and sidewalks.

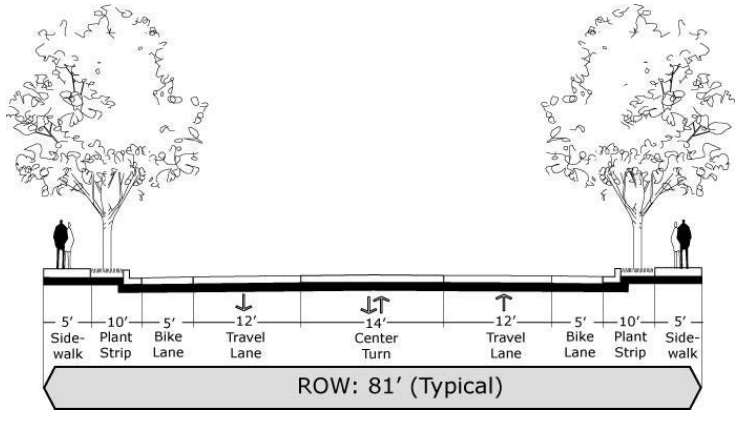

Figure 3-F Proposed cross section of 21st Ave from Hayford Rd to Flint Rd

Note: Sections are for illustration purposes only. The width of sidewalks, bike and vehicle lanes will be determined at the time of design. The City of Spokane is currently updating its street design standards and changes are expected.

5. 6th-12th Avenue: Garfield Road to Hayford Road

A connection to be built along the 6th-12th Avenue alignment between Garfield Road and Hayford Road in Airway Heights.

6. Hayford Road/6th-12th Avenue: intersection improvements

With the connection of the parallel 6th-12th Avenue arterial a traffic signal or roundabout will be needed at Hayford Road. A traffic signal is most likely considering the 5-lane configuration of Hayford Road.

7. Deer Heights Road: south end to 18th-21st Avenue

Deer Heights Road currently extends south of US 2 approximately a ¼ mile. The existing road is built to urban standards with a 42 foot curb to curb width. This project will extend the road to the south and connect it to the new 18th-21st Avenue arterial. Right-of-way has not been dedicated for this project.

3.4.5.2 Mid-Term Improvements

8. 12th Avenue: Flint Road to Campus Drive

A 400 foot section of this road has been constructed to urban standards immediately east of Flint Road. The right-of-way is dedicated for most of the alignment, with the exception of a 900 foot section in the middle where only the north half is dedicated. It is likely that much of this road will be constructed as a condition of continued residential development in the area.

9. Campus Drive: 12th Avenue to US 2

Campus Drive currently connects the 12th Avenue alignment to US 2, but it is gated and accessible only as a fire lane. The road is not paved. It will likely be improved as a condition of future residential development to the north and will include bike lanes.

10. US 2 / Campus Drive traffic signal

A traffic signal at US 2 / Campus Drive is expected to be warranted in the future. This will be the eastern-most signal on US 2, spaced ½ mile from Flint Road.

11. Campus Drive: US 2 to Granite-18th-21st Avenue

A 500 foot section of this road has already been constructed but it stops short of US 2. Technology Blvd. is currently used as the main access to the Northwest Technology Park. The Campus Drive right-of-way is dedicated with a tie into Granite Avenue (future 18th-21st alignment). The junction of Campus Drive with Granite will likely need to be modified to provide a standard 3-legged intersection. The current alignment is curved and does not line up well for a continuation of the 18th-21st arterial to the east.

12. 18th-21st Avenue: Technology Blvd. to Spotted Road

Approximately ¼ mile of this road already exists with the name Granite Avenue. It extends eastward from Flint Road with a 54 foot cross section. This project will extend that roadway east as the three lane 18th-21st Avenue arterial connecting from Technology Blvd. to Spotted Road aligning with Tech Park Drive. As discussed under the Campus Drive project above, some realignment will need to be made to the existing right-of-way between Technology Blvd. and Campus Drive. The section from Campus Drive to Spotted Road currently has no dedicated right-of-way.

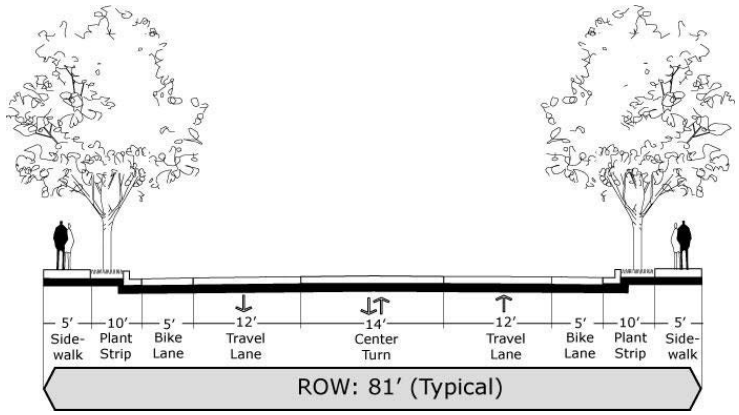

Figure 3-G Proposed cross section of 18th-21st Ave from Technology Blvd to Spotted Rd

Note: Sections are for illustration purposes only. The width of sidewalks, bike and vehicle lanes will be determined at the time of design. The City of Spokane is currently updating its street design standards and changes are expected.

13. Hayford Road: Five lanes from US 2 to 18th-21st Avenue

The five lane section of Hayford Road starts transition back to two lanes approximately 375 feet south of US 2. Hayford Road is expected to need additional lane capacity between US 2 and the 18th-21st Avenue arterial. This project will provide two lanes in each direction with a Two-Way Left Turn Lanes (TWLTL), sidewalks and bike lanes to the intersection with the 18th-21st Avenue arterial.

14. Hayford Road: Three lanes from 18th-21st Avenue to McFarlane Road

South of 18th-21st Avenue the traffic volumes on Hayford will decrease some. But a TWLTL is still desirable to separate turning traffic from through traffic. This project will provide that TWLTL along with sidewalks and bike lanes.

15. Hayford Road: widening from McFarlane to I-90

This project would improve Hayford Road from McFarlane to I-90 by widening the shoulders as part of a paving project. A larger investment in this section of road is not anticipated due its likely future realignment for the Spokane Airport's third runway.

16. Hayford Road/18th – 21st Avenue intersection

This project will construct a traffic signal or roundabout at the intersection of Hayford Road with the 18th-21st Avenue arterial.

17. Flint Road / 18th-21st Avenue

This project will construct a traffic signal or roundabout at the intersection of Flint Road with the 18th-21st Avenue arterial.

18. US 2 / Fairview Heights Road / Spokane Tribe entrance

This project will construct a two-lane roundabout on US 2 on the west edge of the Spokane Tribe property and another one halfway between there and Craig Road. The north end of a new roadway will connect near the existing SpokoFuel gas station and will likely curve back to the west and connect with Fairview Heights Road.

19. US 2 / Craig Road: signal or intersection improvements

This project will construct a traffic signal or roundabout at the intersection of US 2 / Craig Road. The roundabout was the preferred improvement concept in the Spokane Tribe's study.

3.4.5.3 Long-Term Improvements

20. Hayford Road: 5 lanes from Northern Quest to Deno Road

The five lane section of Hayford Road north of US 2 transitions back into two lanes starting about 900 feet north of Northern Quest Casino. This project will continue the five lane section north to Deno Road and include bike lanes.

21. Airport Drive / Spotted Road / 18th-21st Avenue

The original idea for the 18th-21st Avenue was to tie back into US 2 near Spotted Road. Upon further study, it was determined that an intersection at this location would be difficult due to the high speeds and existing infrastructure. A better route would be to connect the 18th-21st Avenue to the existing infrastructure connecting Airport Drive to Sunset Highway and US 2. One concept would be to provide a roundabout at the junction of Airport Drive with 18th-21st Avenue. Another idea would be to grade separate the two roads, possibly putting 18th-21st Avenue underneath Airport Drive with ramps to complete the connection. 18th-21st Avenue would then continue south as the realigned Spotted Road (see next project). These concepts are being studied further by Spokane International Airport through the use of a Surface Transportation Program grant in 2014.

22. Spotted Road realignment from Park Drive to Airport Drive

This project would realign Spotted Road south of Airport Drive. The new alignment would skirt around the northeast end of the runway to be clear of the crash zone. The concept is being studied by Spokane International Airport in 2014.

23. Hayden Road: US 2 to 6th-12th Avenue

This project will construct a road along the Hayden Road alignment from US 2 to 6th-12th Avenue in Airway Heights. The connection to US 2 will not be signalized and may have turn restrictions due to the close proximity to Hayford Road. The alignment already has dedicated right-of-way.

24. 18th-21st Avenue from Fairview Heights Road to Hayford Road

A new three lane roadway connection would be developed from US 2 south 0.5 miles to the 21st Avenue alignment. New roadway would be developed along the alignment 1.15 miles to Lundstrom Street. Widening would occur for the remaining 1.5 miles along 21st Avenue to Hayford Road. The entire alignment would require sidewalk or paved pathways, with bike lanes included along the roadway.

25. 6th-12st Avenue from Spokane Tribe entrance to Garfield Road

The roadway alignment is partially improved to a 40 foot pavement width with swales, buffers and sidewalks. Thus, this roadway section should be matched, requiring a new roadway 0.5 miles along Fairview Heights Road and then 0.85 miles east along the 6th Avenue alignment to nearly Aspen Street. 6th Avenue is improved with two lanes, swales, and sidewalks for 0.15 miles to Ziegler Street, at which point widening and the construction of sidewalks is required 0.75 miles (minus some sidewalk section) to Garfield Road. Widening and sidewalks would be needed along most of a 0.25 mile section of Garfield Road to the West 12th Avenue alignment (Not to be confused with a second 12th Avenue alignment further south). Partial widening and sidewalk would be needed along a 0.2 mile section, and then a full roadway section would be needed the remaining 0.5 miles along the W. 12th Avenue alignment to tie in with Hayford Road. Bike lanes will be added to the existing roadway and included in the design of the new segment connecting to the Spokane Tribe property.

26. Medical Lake – Four Lakes Rd. / SR 904 Intersection Improvements

This project will improve the intersection of Medical Lake – Four Lakes Road with SR 904. The intersection currently has a northbound left turn pocket and short southbound right deceleration lane. Future improvements could include a traffic signal or roundabout.

27. Craig Road / SR 904 / Medical Lake-Four Lakes intersection turn lanes

This project widens SR 904 to provide a turn pocket for the left turn from SR 904 to northbound Craig Road.

28. Craig Road/Thorpe Road: realignment of T-intersections

The two intersections of Craig Road and Thorpe Road are offset T's separated by ¼ mile. This project would realign one side to provide a higher-speed curved connection rather than two 90 degree turns.

29. Geiger Blvd: Three lanes from Grove to Sunset Highway

Volume demands indicate the need for a three lane roadway by year 2040. This is a location where the differential between three and four to five lanes is less intuitive as this is not a likely commuter route. As such, it is recommended that traffic conditions and volumes be reviewed before the design and implementation of this project to determine trends and predict what cross section may ultimately be needed. For the purpose of this plan, a three lane section was estimated in cost projections, but reserving right-of-way for five lanes should be considered.

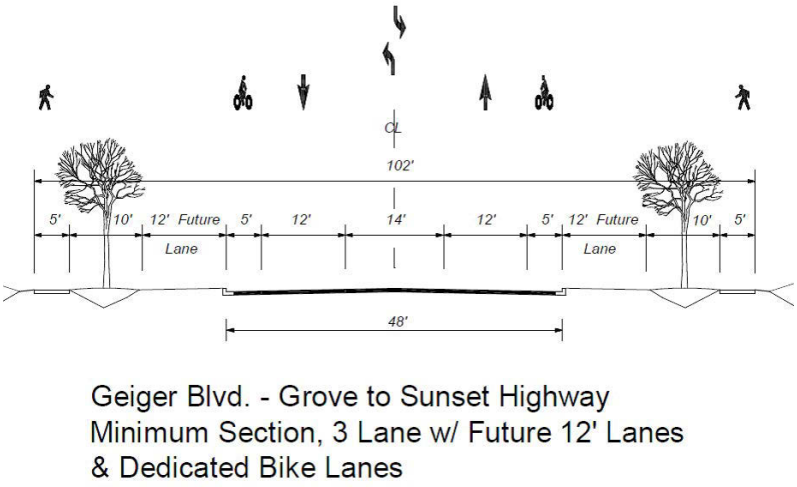

Figure 3-H Possible cross section of Geiger Blvd between Grove and Sunset Hwy

Note: Sections are for illustration purposes only. The width of sidewalks, bike and vehicle lanes will be determined at the time of design. The City of Spokane is currently updating its street design standards and changes are expected.

3.4.5.4 Other Improvement projects

This plan focuses on improvement projects that can be implemented by the local agencies alone or in partnership with WSDOT. There are other projects related to I-90 that will be WSDOT led and funded, and also STA projects that have separate funding sources. A brief discussion of these projects follows.

I-90 Eastbound New on-ramp

Between the Medical Lake (Exit 272) and the Geiger (Exit 276) interchanges is a long uninterrupted stretch of I-90. One idea to reduce congestion at these interchanges is to provide a slip ramp from the fronting Westbow Blvd for EB traffic to enter the freeway. A likely location for the slip ramp would be in the vicinity of Soda Road.

Grove Road/Geiger Interchange

Grove Road will experience capacity issues north and then south of the I-90 interchange by year 2040. Field visits have confirmed congestion issues have developed within the interchange area during peak hours, and there are high levels of development programmed around the interchange. As such, WSDOT has petitioned Washington legislators to fund interchange improvements within the State Transportation Improvement Program over the next six years. They will continue pursuing funds until

interchange improvements are addressed. Improvements will likely include improving ramp junctions/intersections with lanes and signalization (or roundabouts), and improving the roadway up to and including intersection improvements of the Flightline Boulevard/Geiger Boulevard/Grove Road intersection. There is a 0.25 mile section of the roadway that falls outside WSDOT jurisdiction aligned south of the Interchange to Thorpe Road. Some improvement to the Thorpe Road/Grove Road intersection, including the provision of turn lanes, would be of benefit to accommodate peak hourly turn movements. This project has not been highlighted specifically as it is a minor improvement, and dependent upon WSDOT.

SR 902 - Medical Lake Interchange Improvements

WSDOT has plans to improve the Medical Lake interchange to accommodate future growth. The project includes interchange reconstruction and moving the Hayford Road intersection away from the ramp terminals.

SR 904 5 Lane Widening

In 2003, WSDOT completed a route development plan for SR 904. To accommodate traffic growth, enhance safety and preserve capacity, the plan recommends providing a 5-lane undivided alignment from the Cheney city limits to Four Lakes.

West Plains Transit Center

This STA project will develop a transit center at the SR 902 – Medical Lake Road interchange. Cheney, Medical Lake, and Airway Heights are served by transit routes. However, transit riders wishing to travel between Cheney and Airway Heights must first ride to downtown Spokane and back. The transit center will improve connectivity between these cities by providing a place for customers to change buses on the West Plains. It will also function as a park and ride for commuters and improve transit access to the residential and industrial areas near Exit 272. STA currently has design funding and is initiating that process for the facility.

3.4.6 Freight

This study anticipates the continued use of US 2, SR 902, SR 904, Hayford Road, Trails Road, Geiger Boulevard, and Aero Road for truck traffic. As Craig, Thorpe, Hallet, and Assembly Road develop over time they should be designed to support truck traffic, via widening and structural (pavement/base) improvements. Additionally, areas that may promote high levels of truck activity should also approach roadways design to accommodate truck traffic, even if they are not designated as principal arterial.

3.5 Planning Level Cost Estimates

Planning level cost estimates were developed to help partner agencies plan capital projects for the region. Estimates were developed based on the best quantity and material data available at the time, with quantity information developed from Google GIS maps and local agency street cross section information (number and width of lanes, sidewalks, buffers, and swales. Material data, including typical

structural sections (i.e. material thickness), with material costs was developed based on information provided by City of Spokane Engineers. Additional cost estimate information is provided in Appendix E.

Table 3-D: Project budget for recommended West Plains capacity projects

	Base Year Budget
Short Term Projects	
1. 12th Avenue: Deer Heights to Flint Road	$1,865,000
2. US 2/Deer Heights: signal or intersection improvements	$1,000,000
3. US 2 Signal communications/ITS from Lawson to Spotted Road	$1,775,000
4. 21st Avenue: Hayford Road to Flint Road/Granite Avenue	$3,384,000
5. 6th-12th: Garfield to Hayford	$2,200,000
6. Hayford Road/6th/12th: signal or intersection improvements	$800,000
7. Deer Heights Road: south end to 18th - 21st	$610,000
	$11,634,000
Medium Term Projects	
8. 12th Avenue: Flint Road to Campus Drive	$1,930,000
9. Campus Drive: 12th Avenue to US 2	$1,080,000
10. US 2/Campus Drive: Signal or intersection improvements	$1,000,000
11. Campus Drive: US 2 to Granite-18th-21st	$800,000
12. 18th-21st Avenue: Technology Blvd to Spotted Road/Tech Park Drive	$2,050,000
13. Hayford Road: Five Lanes from US 2 to 21st Ave	$2,250,000
14. Hayford Road: Three lanes from 21st Avenue to McFarlane Road	$1,535,000
15. Hayford Road: Widened two lanes from McFarlane to I-90	$4,302,000
16. Hayford Road/18th/21st: signal or intersection improvements	$800,000
17. 18th-21st /Flint Road: signal or intersection improvements	$800,000
18. US 2 / Fairview Heights/ Spokane Tribe entrance: signal or intersection improvements	$1,000,000
19. US 2 / Craig Rd: signal or intersection improvements	$1,000,000
	$18,547,000
Long Term Projects	
20. Hayford Road: Widened five lanes from Northern Quest to Deno Road	$2,090,000
21. Airport Drive / Spotted Road / 18th-21st grade separation	TBD - Airport Study
22. Spotted Road realignment from Park Drive to Airport Drive	TBD - Airport Study
23. Hayden Road: US 2 to 6th -12th Ave	$1,092,000
24. 21st Ave: Fairview Heights Road to Hayford Road	$5,178,000
25. 6th-12th Avenue: Spokane Tribe entrance to Garfield Road	$9,875,000
26. Medical Lake - Four Lakes Rd/SR 904: signal or intersection improvements	$800,000
27. Craig Rd/ Medical Lake- Four Lakes intersection turn lanes	$43,000
28. Craig Rd/Thorpe Road: realignment of T-intersections	$906,000
29. Geiger Boulevard: Three lanes from Grove to Sunset Hwy	$3,650,000
	$23,634,000
Total West Plains Recommended Capacity Projects Through Year 2040 - Project Budgets	**$53,815,000**

As shown, recommended improvements have a present day total cost of $53,815,000. Construction cost estimates neglect right-of-way acquisition and any environmental remediation factors. It should also be mentioned that costs should be considered conservative on the higher end, as several contingencies were assumed in analyses. However, conservative estimates are appropriate when seeking/establishing moneys for improvement projects.

3.6 Non-Motorized Transportation Recommendations

3.6.1 Introduction

A lack of bicycle and pedestrian access has been identified as a major issue in the West Plains Subarea where the few facilities that exist generally lack connection. A Bicycle Network Map (Figure 3-K) has been created in conjunction with the Arterial Network Map (Figure 3-C) to lay out a network that would allow people to choose non-motorized modes of transportation to travel throughout the area. The plan incorporates shared use paths, bike lanes, shared roadways, bikable shoulders, and roads where bicycles are prohibited from riding.

Figure 3-I A family riding bicycles on a shared use path

The need for facilities is most apparent along US 2 and Sunset Boulevard where people often walk and ride bicycles. The Long Range Bike Plan proposes a shared use path stretching from Government Way to Fairchild Air Force Base's main gate at Mitchell Drive. An increase in pedestrian amenities along US 2 will improve safe access to Spokane Transit Authority service.

3.6.2 Long Term Bicycle Network Plan

The West Plains Subarea Long Range Bike Network Plan (Figure 3-K) proposes subarea wide bicycle connections. There may be additional connections needed within each city and/or within Fairchild Air Force Base but those connections are not included within the scope of this plan. The intent of identifying planned long range bike facility designations is that as vehicle improvements are made to existing streets and roads, or new connections are made, the designated bike facilities would be installed concurrently. The in some locations limited right-of-way along US 2 may require that building setbacks and/or landscape areas be maintained in order to have a location to place sidewalks and/or pathways.

The plan below contains a designation for rural areas new to the region; "Bikable Shoulder." A bikable shoulder, as depicted in Figure 3-J, is an unmarked paved shoulder, outside of striped road edges that is at least four feet wide. The shoulders are designed with a skip pattern rumble strip to allow bicyclists to smoothly enter and exit the bicycle lane. Bike-safe drainage inlets are used. The surface is smooth and consistent. Signs to remind motorists to be alert for cyclists may be installed. In many cases, paved shoulders are an efficient way to incorporate bike facilities into rural roads. Paved shoulders benefit all roadway users, because they provide space for motorist emergencies, and for emergency vehicles;

improve sight lines; and help to maintain the edge of the roadway. In rural areas, pedestrians commonly use paved shoulders as a place to walk.

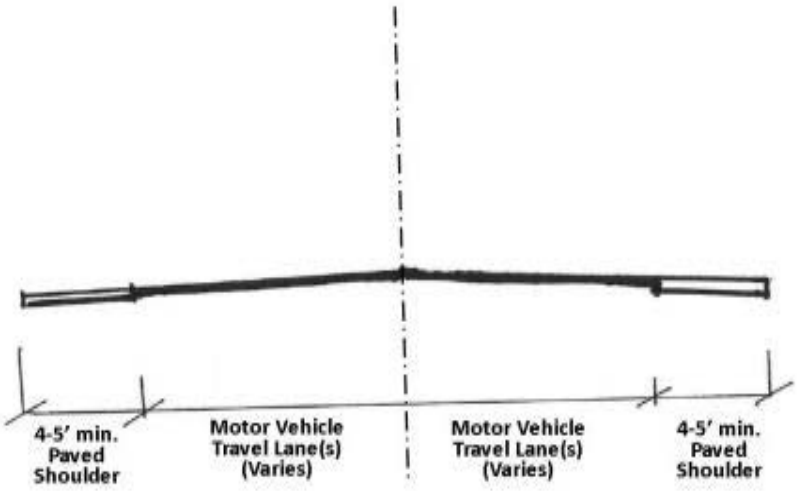

Figure 3-J Cross section of a road with a "bikable shoulder"

A main feature of the proposed network is a shared use path on Sunset Blvd and US 2 from Government Way to the FAFB main gate. Long term this facility would provide a bicycle and pedestrian connection between Downtown Spokane, Airway Heights and eventually Fairchild Air Force Base. A bicycle connection from US 2 to Spokane International Airport is also proposed. The rest of the facilities will provide access through the area at reasonable intervals as the arterial system and supporting streets develop over time.

Note: This map proposes a plan for subarea wide bicycle connections. Connections between destinations within individual jurisdictions are not included within the scope of this plan.

West Plains Subarea Long Range Bike Plan

Legend

Facility Type

- Shared Use Path
- Shared Use Path-Connection Desired
- Bike Lane
- Bike Lane - Alternate Route
- Shared Roadway
- Bikable Shoulder
- Bicycles Prohibited
- Planned West Plains Transit Center
- Streets
- Railroad Tracks
- Fairchild Air Force Base
- City of Airway Heights
- City of Medical Lake
- City of Spokane
- Unincorporated UGA
- Proposed Runway
- Existing Runways
- Runway Clear Zone Clear Zone

0 0.5 1 2 Miles

Geographic Information System

N W E S

THIS IS NOT A LEGAL DOCUMENT. The information shown on this map is compiled from various sources and is subject to constant revision. Information shown on this map should not be used to determine the location of facilities in relationship to property lines, section lines, streets, etc.

Print date: 3/19/2014

Figure 3-K West Plains Long Range Bike Plan

3.6.3 Phased Projects for Improving the Bicycle and Pedestrian Infrastructure

A list of recommended bicycle and pedestrian infrastructure improvement projects has been compiled in Table 3-E. Figure 3-L shows a map with the location and extent of the projects displayed according to their expected start date. These projects begin to implement the long range bicycle plan (Figure 3-K) and address a variety of other identified needs. Many factors went into their placement in the short, medium, or long term categories but some included the perceived need for the project, available funding, and the timing of road projects that they could be included with. Projects are not prioritized within the short, medium and long term categories. For example project # 1 is not necessarily more of a priority than project #2.

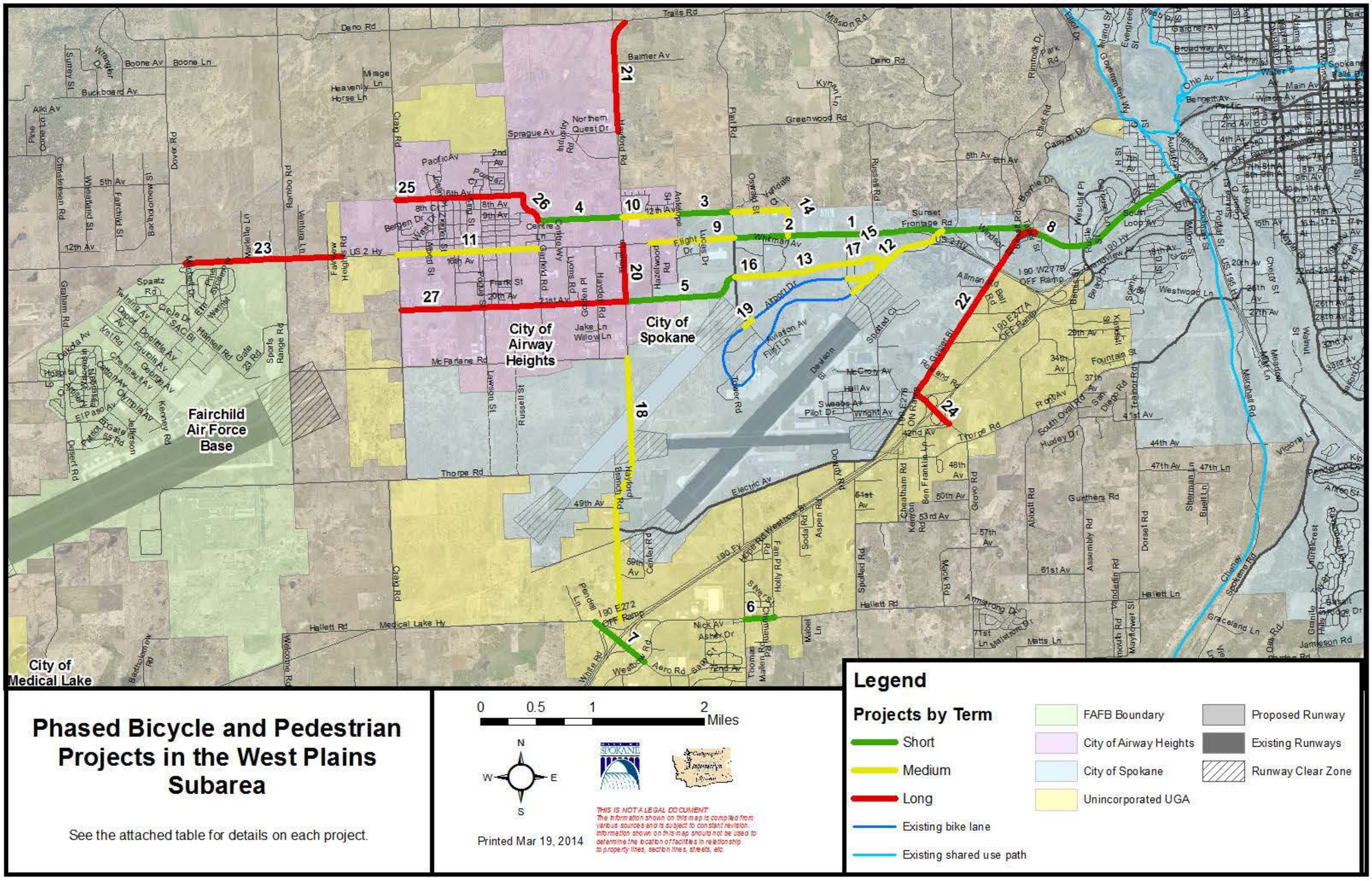

Figure 3-L West Plains Phased Bicycle and Pedestrian Projects

Table 3-E Phased Bicycle and Pedestrian Projects in the West Plains

		Est. Project Cost
Short Term Projects		
1.	Construct a shared use path on the north side of US 2 between Sunset Frontage Rd and Spotted Rd.	$1,170,000
2.	Construct a shared use path on the north side of US 2 between Spotted Rd and Flint Rd. Include amenities for ADA compliant bus stops at both Spotted and Flint on the north and south sides. Provide controlled pedestrian crossing at both intersections.	$1,060,000
3.	Include bike/ped facilities in the design of 12th Ave between Deer Heights and Flint.	*
4.	Include bike/ped facilities in the design of the 6th/12th Ave corridor (currently 10th Ave alignment in AH) between Garfield and Hayford. Include amenities for bus stops on either side of Hayford at 9th and 12th.	*
5.	Include bike/ped facilities in the design of the 18th/21st corridor between Hayford and Flint.	*
6.	Sidewalk infill on the south side of Hallett Rd between Thomas Mallon Rd and Holly Rd. Provide a crosswalk at Holly Rd and Hallett (Snowden Elementary).	$90,000
7.	Construct the West Plains Transit Center including bike/ped access to the immediate vicinity.	$12,000,000+
8.	Add a bike/ped facility to Sunset Blvd corridor between Government Way and the west end of Sunset Frontage Rd.	$2,300,000
		$16,620,000
Medium Term Projects		
9.	Construct a shared use path on the north side of US 2 between Flint and Hazelwood.	$1,010,000
10.	Stripe bike lanes on 12th Ave between Hayford and Deer Heights.	$55,000
11.	Implement the City of Airway Heights Highway 2 Revitalization Plan between Garfield and Craig Rd. This involves constructing a shared use path on the south side of US 2 and relocating the sidewalk on the north side away from vehicular traffic. Include the necessary pedestrian infrastructure for bus stops on both sides of US 2 at Craig Rd.	$2,200,000
12.	Construct a separated path or lane from the north side of US 2 to the start of the bike lanes at Spotted Rd.	$1,400,000
13.	Include bike/ped facilities in the design of the 18th/21st corridor between Technology Blvd and Spotted Rd.	*
14.	Include bike/ped facilities to the design of 12th Ave between Flint and Campus, and Campus Rd between 12th and US 2.	*
15.	Include bicycle access in the redesign of Airport Way/Spotted Rd.	*
16.	Stripe bike lanes on Granite Ave (18th-21st) e/o Flint Rd.	$52,000
17.	Stripe bike lanes on Tech Park Drive e/o Spotted.	$67,000
18.	Add bike/ped facilities to Hayford Rd between McFarlane and I-90 when it is widened.	*
19.	Construct pedestrian amenities for ADA compliant bus stop at Flint Rd and Airport Way.	$60,000
		$4,844,000

Long Term Projects		
20.	Add bike/ped facilities to Hayford Rd between US 2 and 21st when it is widened.	*
21.	Add bike/ped facilities to Hayford Rd between Northern Quest and Deno Rd when it is widened.	*
22.	Add bike/ped facilities to Geiger Blvd between Grove and Sunset Hwy when it is widened.	*
23.	Construct shared use path on US 2 between Spokane Tribe property and Mitchell Dr (FAFB Main Gate). Construct pedestrian amenities for ADA compliant bus stops on both sides of US2 at Rambo Rd.	$1,800,000
24.	Include bike/ped facilities in the reconstruction of the Geiger Interchange.	*
25.	Add bike/ped facilities to 6th Ave between Garfield and Craig as needed.	$765,000
26.	Add bike/ped facilities on Garfield Rd between 6th and 10th Ave.	$220,000
27.	Include bike/ped facilities in the design of the 21st Ave corridor between Craig and Hayford.	*
		$2,785,000

* This project is a proposed component of a larger transportation project. See Table 3-D for the complete project cost.

3.6.4 Concepts for the US 2 and Sunset Boulevard

The following concepts have been prepared to demonstrate what a shared use path on US 2 and Sunset Blvd between Government Way and Fairchild Air Force Base could look like. The character of the landscape takes many forms along this length of roadway and subsequently, the character and layout of the trail will change with it. Some of the attributes that change include the width of the right-of-way, the character of the surrounding development, and the speed of the traffic. Figure 3-M shows where each concept discussed in the remainder of this section could be applied.

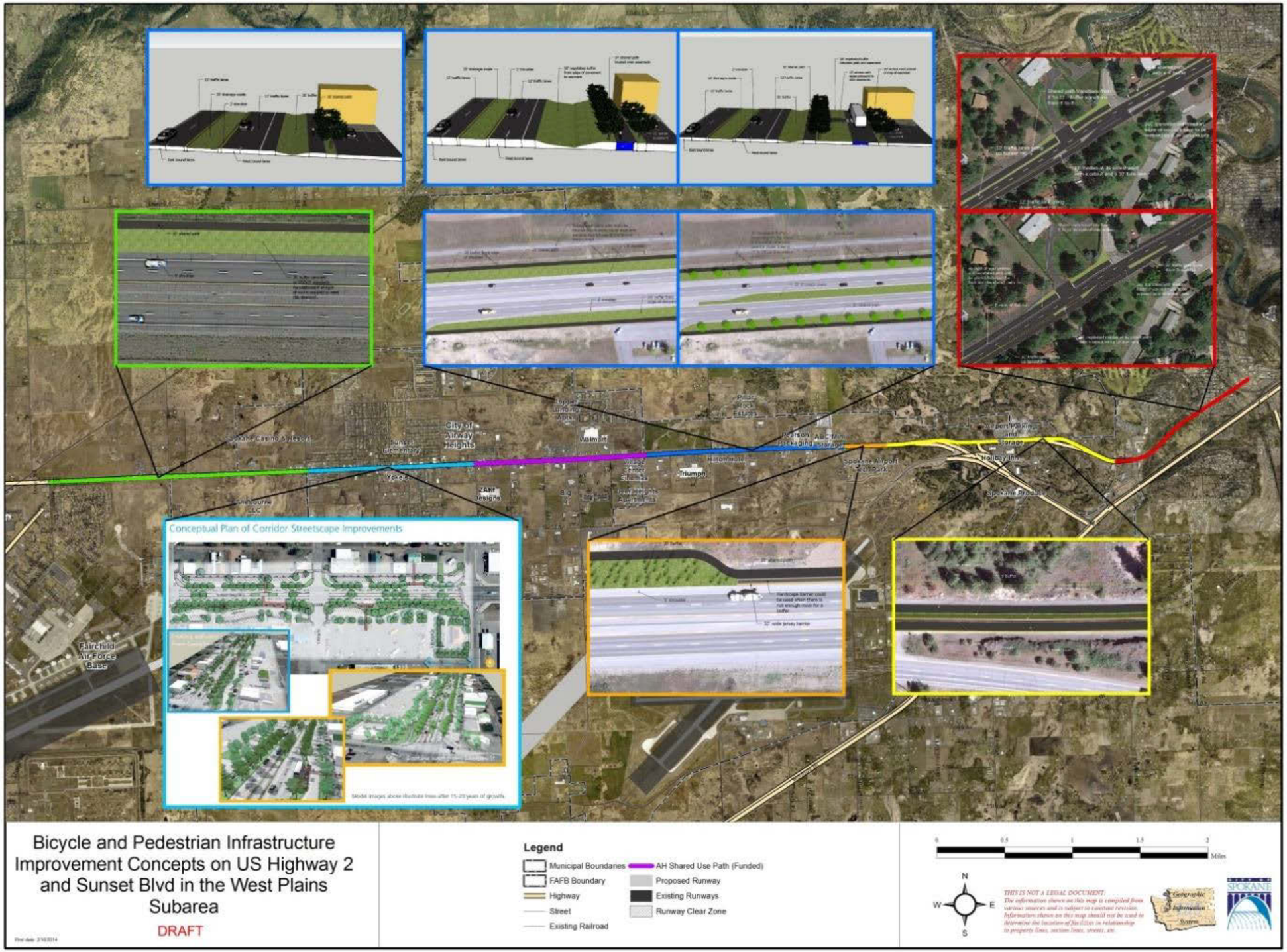

Figure 3-M Location of each concept for the West Plains Trail

The shared use path seen in Figure 3-N would provide a more enjoyable and safe way for a person to walk or ride a bicycle from Airway Heights to the Fairchild Air Force Base main gate at Mitchell Drive. Although the concept shows a 10 foot wide shared use path and 26 foot wide buffer the width of the path and the buffer would be determined in later design phases. Many members of the public have noted that they would prefer a wider shared use path to have enough room for fast moving bikes and slow moving pedestrians. An enhanced crossing would be provided at the intersection of US 2 and Mitchell Drive to allow cyclists and pedestrians to safely cross the highway. This section of the shared use path would be a longer term improvement.

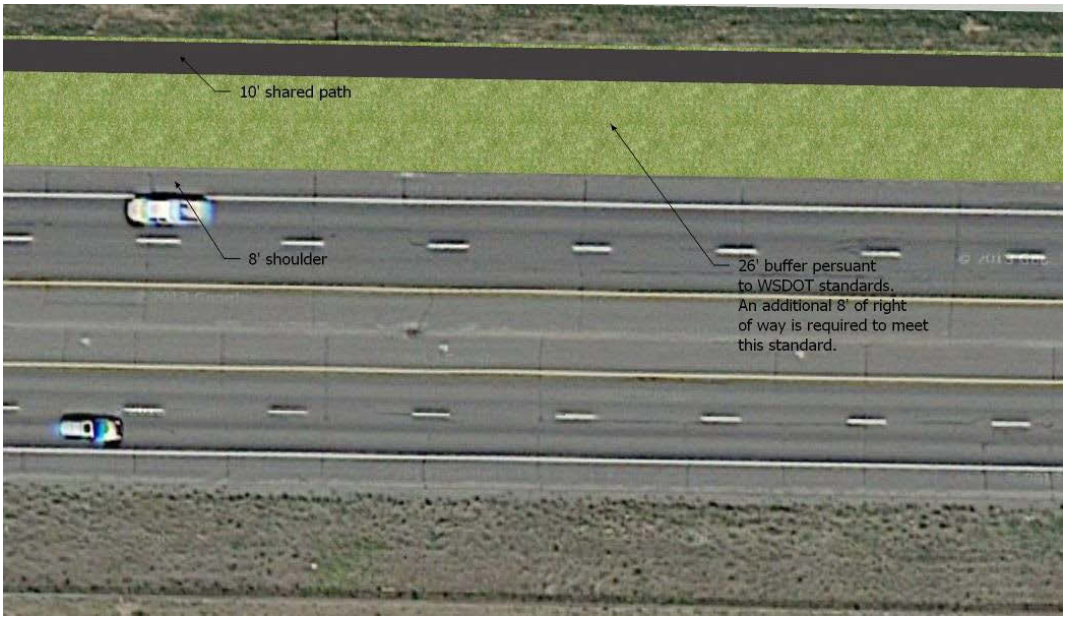

Figure 3-N Shared use path on the north side of US 2 between Mitchell Drive and Craig Road

The City of Airway Heights has created plans (Figure 3-O) for improving the streetscape in their town center particularly between Lawson and Lundstrom Streets. This plan includes planted medians, and landscaped paths on both sides of the roadway. Ultimately, something like this could also be applied from Craig Road to Garfield Road. The City of Airway Heights has already secured funding for a shared use path on the north side of US 2 between Garfield and Deer Heights Road. Construction is expected to begin in 2014.

Figure 3-O Concept for streetscape improvements in Airway Heights between Craig Road and Deer Heights

Deer Heights Rd is the eastern edge of the Airway Heights city limits and the rest of the corridor to the east is in the City of Spokane. The section between Deer Heights and Spotted road is expected to transition into a more urban environment in the future. As development occurs, bicycle and pedestrian access and safety needs to be addressed. A separated shared use path is recommended for the north and south sides of Highway 2. The concepts displayed in Figure 3-P and Figure 3-Q show what that may look like. Figure 3-Q includes trees in the buffer between the path and vehicle lanes. This concept could only work if the speed limit on the highway was reduced as the facility becomes more urban. WSDOT has established safety clear zones related to vehicle travel speeds. This concept also shows a vegetated median that could be used for drainage. This concept could only be implemented if the facility were rebuilt because it is currently sloped to drain to the outside edges.

Figure 3-P Shared use path between Deer Heights and Spotted Road - Concept 1

Figure 3-Q Shared use path between Deer Heights and Spotted Road - Concept 2

Figure 3-R, Figure 3-S, and Figure 3-T demonstrate three ways the shared use path could be positioned in relation to US 2 and future development. Figure 3-R demonstrates how the path could be placed on an existing sewer easement with a buffer between it and the vehicle traffic with the added protection of a row of trees. Figure 3-S demonstrates how the path could be placed closer to the roadway with a smaller buffer and an internal circulation lane could be built on the sewer easement. Figure 3-T demonstrates how the path could be placed close to the roadway with a smaller buffer and structures close to the path. Whatever layout is used, utility access will need to be maintained so utility workers can access utility pipes for routine maintenance and repairs.

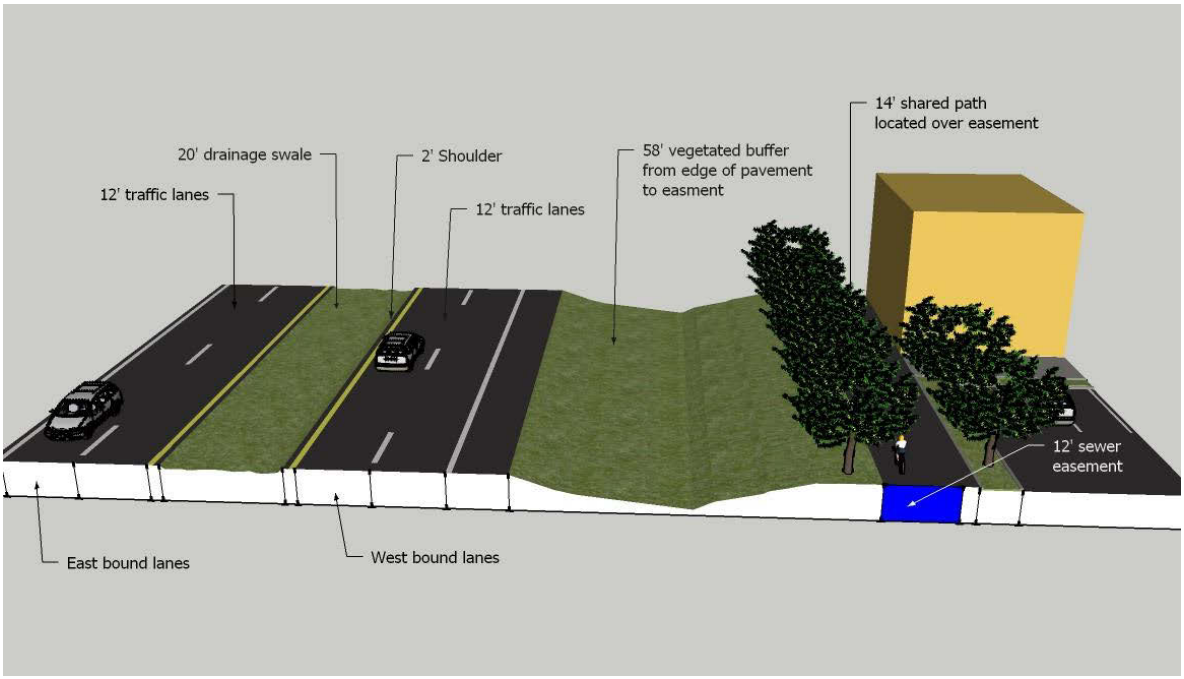

Figure 3-R Cross section concept of a shared use path between Deer Heights and Spotted Road with a 72' setback

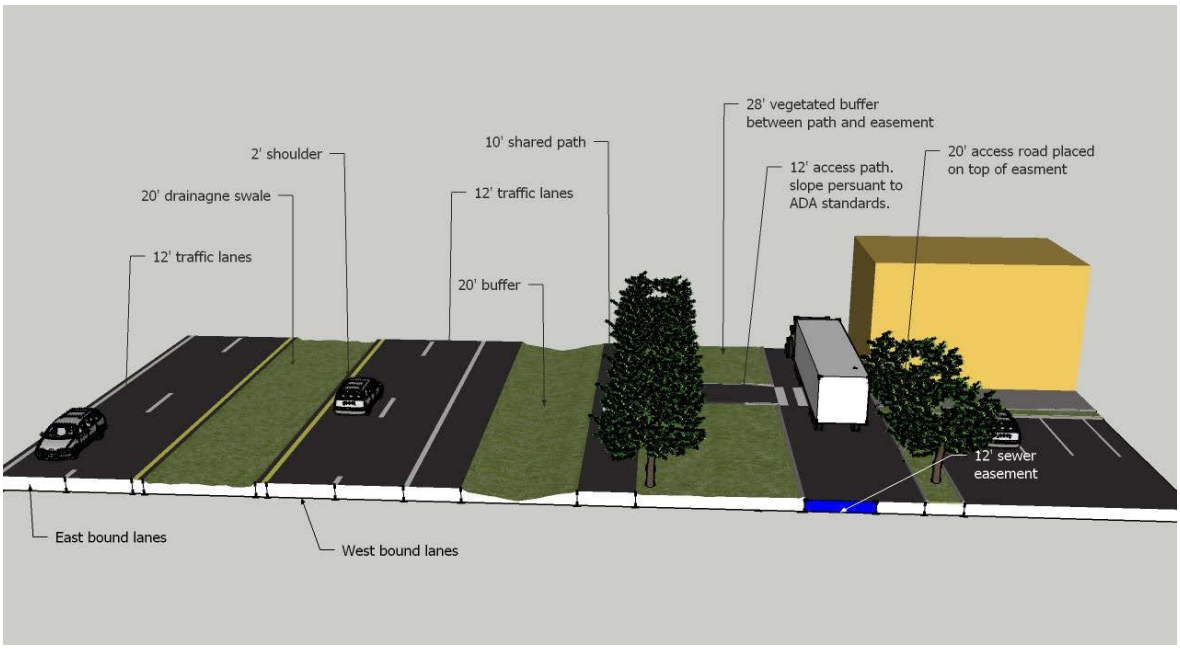

Figure 3-S Cross section concept of a shared use path between Deer Heights and Spotted Road with a 78' setback

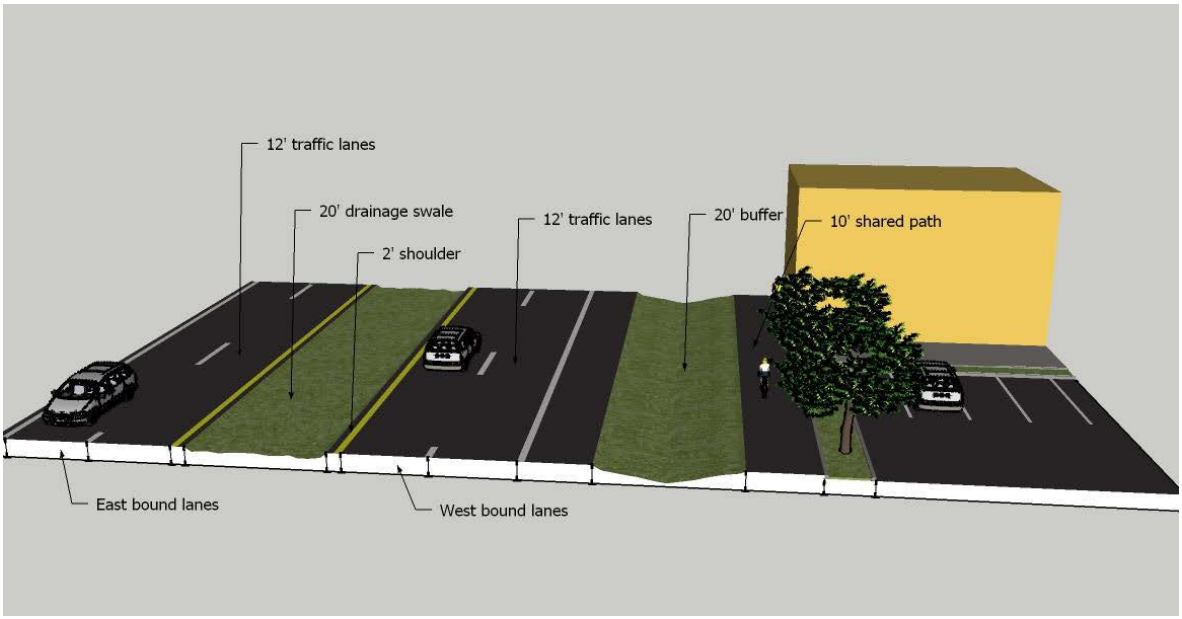

Figure 3-T Cross section concept of shared use path between Deer Heights and Spotted Road with a 30' setback

Figure 3-U is a concept for where the right-of-way narrows just west of Russell Rd. In the relatively narrow sections of the corridor, the shared use path could be separated from vehicular traffic by a jersey barrier or other hardscape barrier while in the wider sections, a wide vegetated barrier could be used.

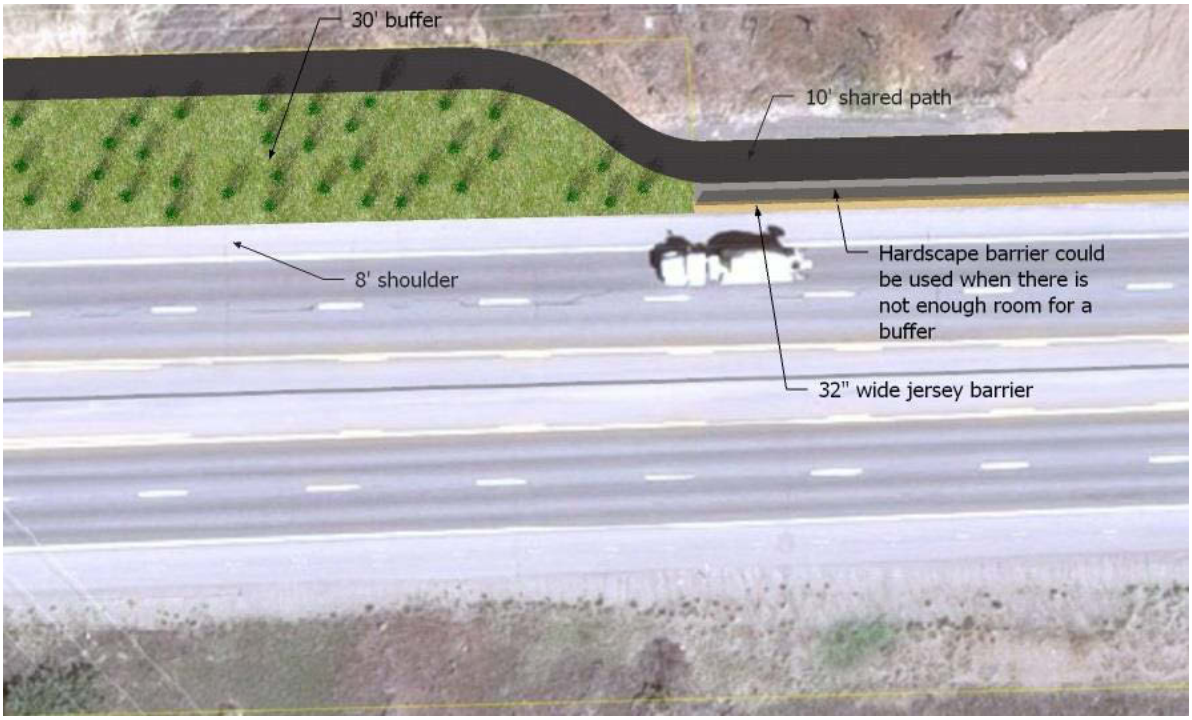

Figure 3-U Shared use path transitioning from a wide buffer to a narrow one

Recent traffic studies have shown that Sunset Boulevard has surplus capacity beyond current and projected vehicle counts and could be reduced to one lane in either direction. On this section of roadway (displayed in Figure 3-V), one of the westbound lanes would be repurposed as a shared use path with a 6 foot buffer and a jersey barrier protecting cyclists and pedestrians from motor vehicle traffic. This general layout could potentially be applied between Russell and Assembly.

Figure 3-V West Plains Trail with a narrow buffer and a jersey barrier

The concepts shown in Figure 3-W and Figure 3-X demonstrate how one eastbound lane would be eliminated as it descends Sunset Hill while two westbound lanes would be maintained, allowing a climbing lane for slower vehicles. The extra space could be used for vegetated medians and a shared use path on the north side. This path would be separated from traffic by a curb and a narrow vegetated or hardscape buffer. This general layout would potentially be applied between Assembly and Government Way.

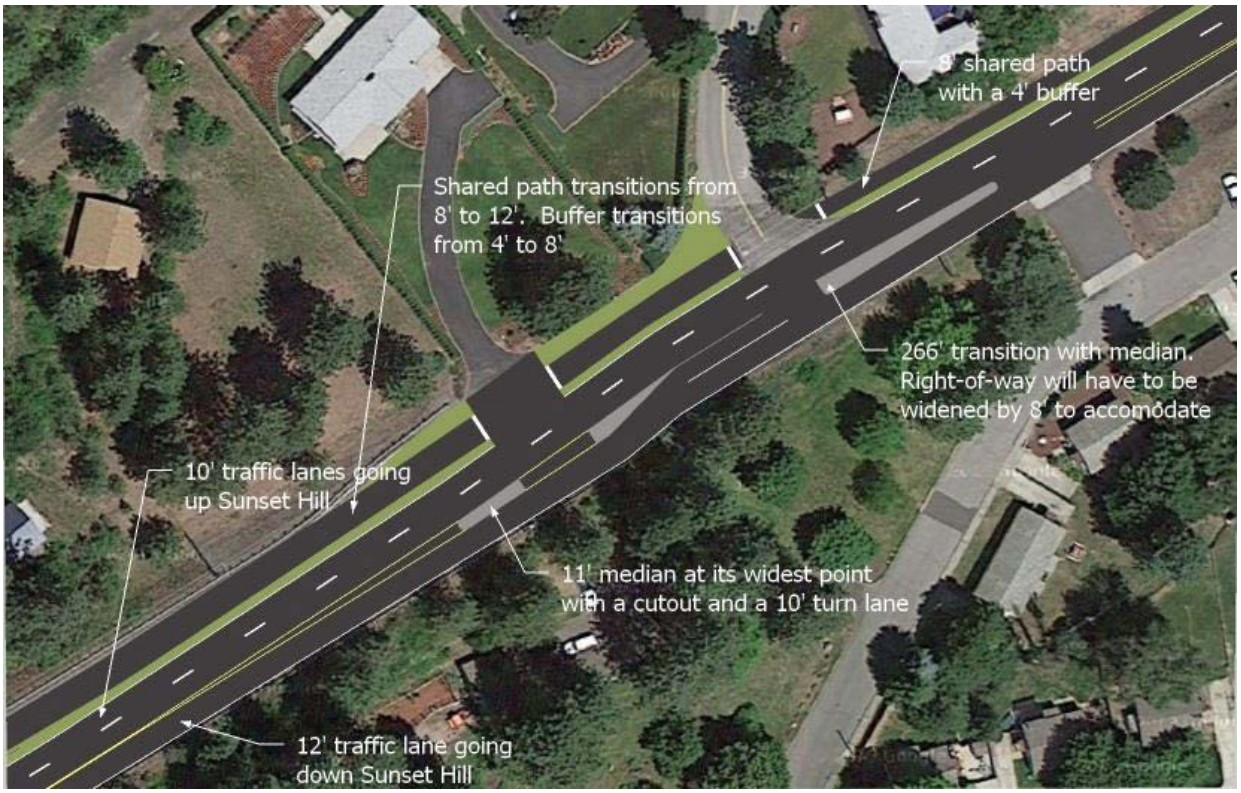

Figure 3-W Sunset Hill road diet concept 1

Figure 3-X Sunset Hill road diet concept 2

Figure 3-Y Lynnwood Interurban Trail from Highway 99 Subarea Plan 2011

3.7 Recommendations for Development Character of the US 2 Corridor

The following recommendations are provided to promote a distinct character and quality of development along the US 2 Corridor. These recommendations are also intended to improve and maintain property values and present an attractive face to potential investors in the subarea.

Because of the scale of development, the large aviation facilities and industrial character of the West Plains it is expected that the automobile will continue to be the primary method of transportation for the area. US 2 is an important freight corridor and is expected to remain as such. In addition to improving the appearance of the corridor the following strategies will help make other modes of transportation a viable, safe and attractive option for residents, employees and visitors to the area. These strategies can help provide a more attractive environment for employees in the area to recreate, get a meal or run errands.

3.7.1 Use landscaping to improve the appearance of the corridor as the gateway to Airway Heights and the West Plains Subarea.

Landscaping can be used to break up the expanse and soften the visual impact of the Highway, promote compatibly of new development with surrounding uses, strengthen a unified character, provide shade and reduce stormwater runoff.

Recommendations:

a) Install trees between the proposed shared use path or sidewalk and highway vehicle lanes or street vehicle lanes and in vegetated median where travel speeds and clear zones allow.

Figure 3-Z Cross section of a well landscaped street

b) Where trees are not appropriate because of established safety standards other vegetation such as low maintenance native grasses, shrubs and other plants can be used in swales and low-profile barriers or other vegetated areas.

Figure 3-AA Aurora Avenue (SR 99) in Shoreline - Source: WSDOT

Figure 3-BB SR 99 in Des Moines –Source: Federal Highway Administration

Figure 3-CC SR 99 in Des Moines –Source: Federal Highway Administration

c) Take advantage of opportunities to ingrate stormwater treatment and improve aesthetics.

d) Coordinate species and patterns of landscaping along the corridor to present a unified character.

3.7.2 Minimize the impact of new surface parking lots.

Large surface parking lots located between the right-of-way and buildings detract from the character of the corridor and can be difficult for pedestrians to navigate.

Recommendations

a) Locating surface parking behind buildings or to the side of buildings instead of between building and the street will minimize the visual impact of surface parking lots on the highway, streets, shared use paths, and open space corridors.

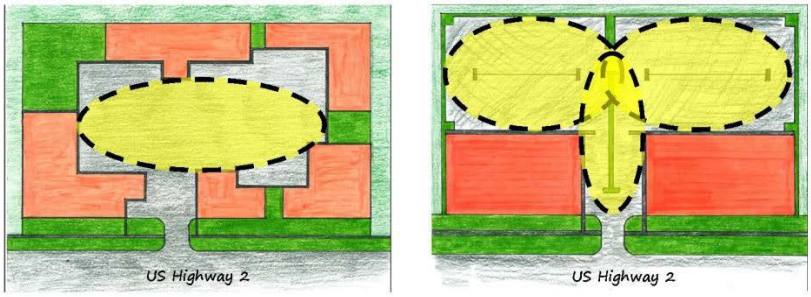

Figure 3-DD Parking located to the side and rear of buildings

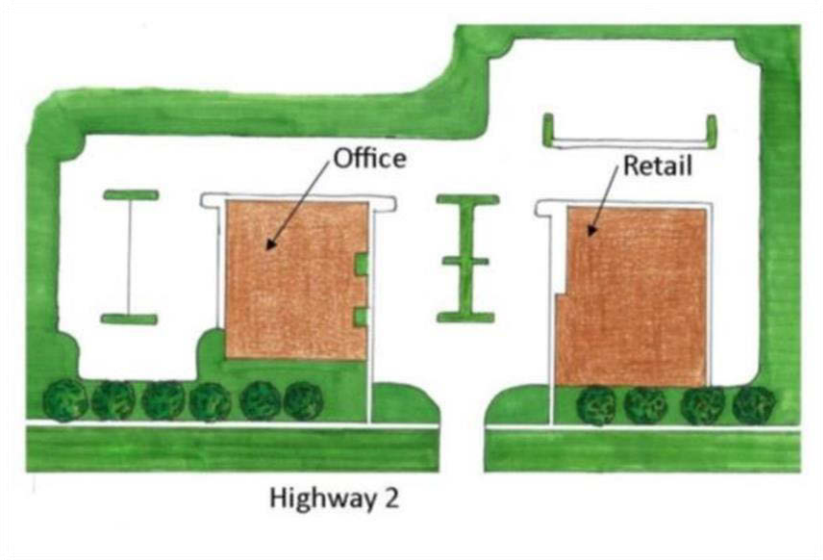

Figure 3-EE Parking lot placement

a) Highway frontage that is occupied by more than 300 linear feet of adjoining surface parking is not recommended.

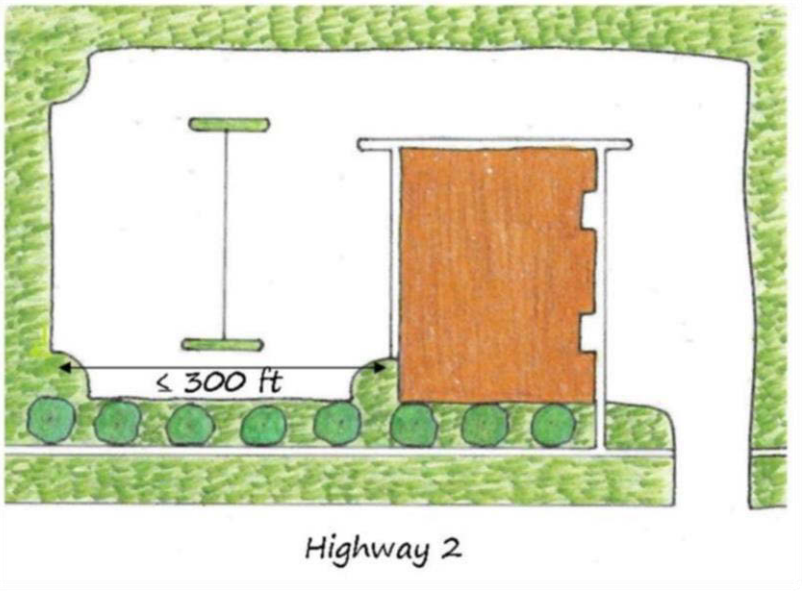

Figure 3-FF Parking occupying less than 300 linear feet of highway frontage

3.7.3 Increase Connectivity

As the properties along the corridor fill in, interconnectivity between sites for both vehicles and pedestrians will enhance the usability and quality of the corridor.

Recommendations:

a) Develop local streets to support the proposed arterial network. Block lengths exceeding 660 feet in length are not recommended except where highway access control requires longer distances between intersections.

b) Provide internal vehicular and pedestrian connections between sites so re-entry to the highway is not required.

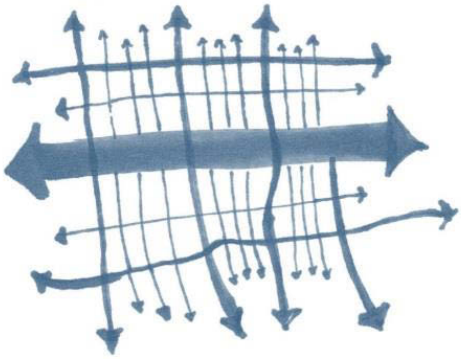

Figure 3-GG Street Network

c) Design on-site systems of pedestrian walkways to provide direct access and connections to and between the following:

- The primary entrance or entrances to each building;
- Any sidewalks or walkways on adjacent properties that extend to the boundaries shared with adjoining sites.
- Any sidewalk system along the perimeter streets adjacent to the development;
- Any compatible adjacent land uses;

- Adjacent bus stops;
- Any adjacent or on-site public park, trail system, open space area, greenway, or other public or civic use; and
- Any existing or planned shared-use paths.

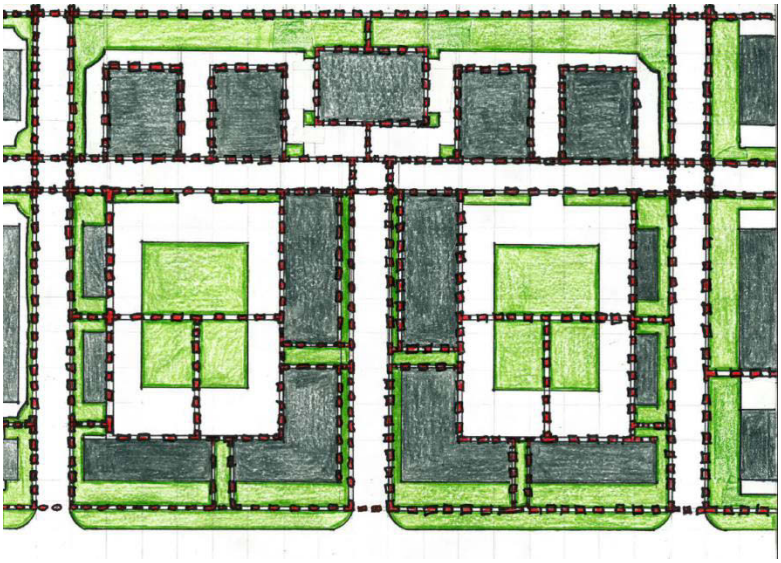

Figure 3-HH Conceptual site plan for connections within a property

d) Pedestrian pathway connections off the proposed shared use path into development sites are recommended every 350 feet.

Figure 3-II Pedestrian pathway connections

e) Connect parking areas to adjacent sites.

3.7.4 Design of new buildings to enhance the corridor

High quality site planning and building design for new development will ensure that all types of development occurring along Highway enhance the character and visual interest of the corridor. New development should be designed with the comfort and safety of pedestrians in mind.

a) Establish the relationship and orientation of buildings to one another, to existing adjacent developments, adjacent pathways and open space corridors, and to the highway.

b) Use local design standards to ensure that primary building entrances are clearly distinguishable and easily accessible from primary streets, pedestrian pathways, public plazas, and parking areas.

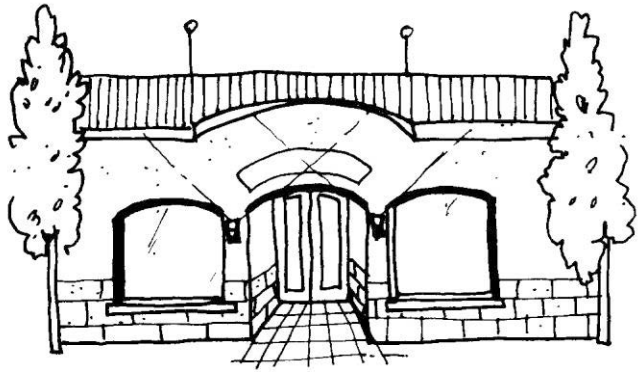

Figure 3-JJ Entrance flanking windows and prominent roof form distinguish entrance.

c) Even though a business's front door will face at least some of its parking, building designs that do not present a rear or blank façade to the highway or other right-of ways are recommended.

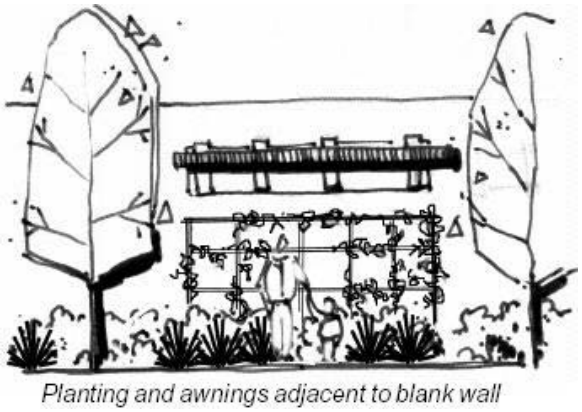

Figure 3-KK Conceptual design for blank wall treatment

d) Arrange and group buildings so that their primary orientation complements one another and adjacent, existing development by:

- Framing the corner of an adjacent street intersection or entry point to the development;
- Framing and enclosing a pedestrian and/or vehicle access corridor within the development site;
- Framing and enclosing on at least three sides parking areas, public spaces, or other site amenities;
- Framing and enclosing outdoor spaces for pedestrians between buildings;

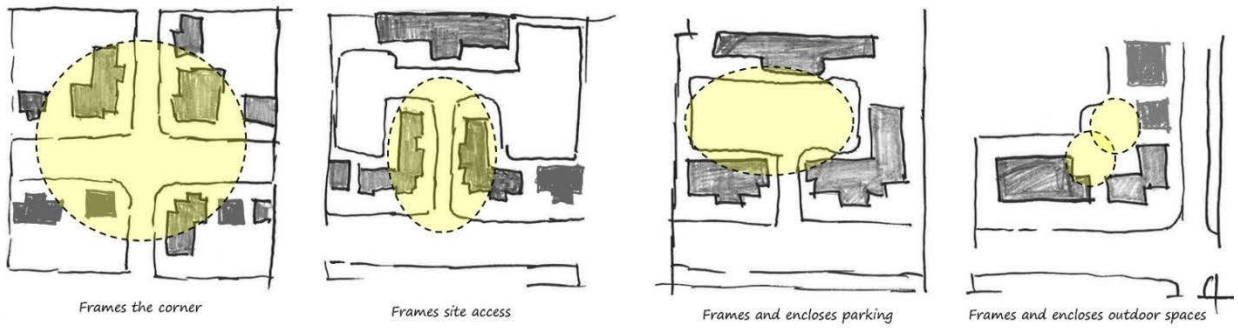

Figure 3-LL Building arrangement and grouping

e) Locate, loading docks, truck parking, trash collection, drive-through facilities, and other service functions away from the highway and oriented toward on-site service access points to the maximum extent feasible.

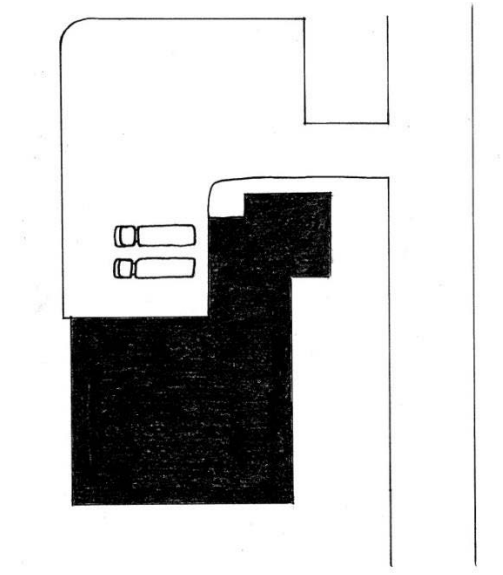

Figure 3-MM Location of loading docks

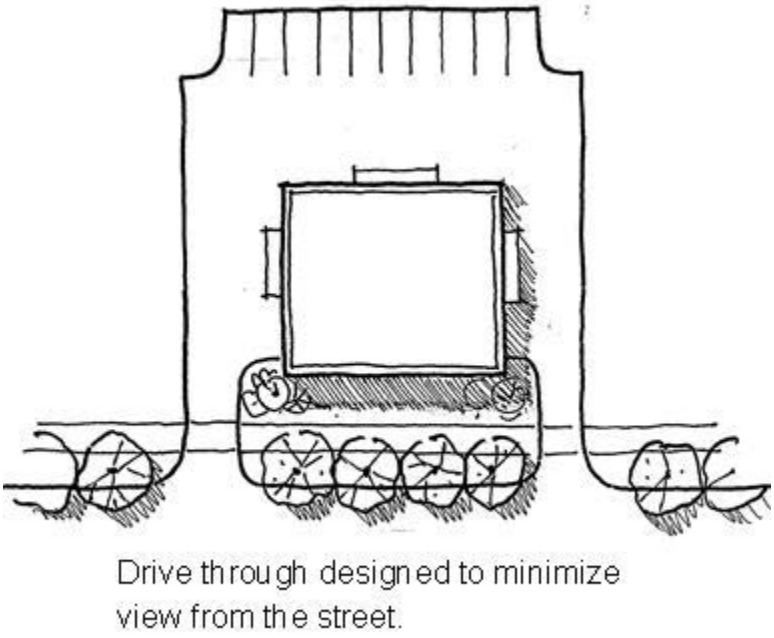

Figure 3-NN Location of a drive through

f) On sites with multiple uses consider the location of uses on the site within the context of surrounding uses, streets, sidewalks and pathways. For example locate restaurants, convince retail and other uses likely to be accessed by pedestrians on the site where it will be most accessible to sidewalk, paths and nearby residential where applicable.

3.7.5 Aviation Themed Elements

The West Plains is home to two aviation facilities, and a growing number aerospace related business. The City of Airway Heights logo and gateway features have an aviation element to them. The aviation/aerospace theme could be enhanced with elements throughout the corridor to tell the story of the history of the area and desire for a future in the aerospace industry and establish sense of place unique to the subarea in the region.

Figure 3-OO Welcome sign with aviation theme

Figure 3-PP Aerospace Industry

Recommendations:

a) Develop a palate of coordinated aviation themed features. These elements could include:

- Gateway features;
- Public art;
- Directional Signs;
- Pavers;
- Banners;
- Bus stop benches, shelters, bike racks.

Figure 3-QQ Gateway feature

Figure 3-RR Aviation related features

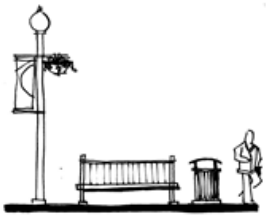

Figure 3-SS Pedestrian amenities

4 Collaborative Solutions for Implementation

4.1 Many Interests

The West Plains Urban Growth Area and surrounding rural areas have a variety of service providers governed by many different agencies. In 2012, the Cities of Airway Heights and Spokane both completed annexations that resulted in a shared boundary for the first time. The City of Spokane's recent annexation to the west includes a majority of the property owned by Spokane International Airport and territory north of the airport, surrounding both sides of US 2. Airway Heights' annexation extended the city east of Hayford Road to Deer Heights Road. Spokane County still retains jurisdiction over a good portion of land designated as urban located to the south of the Airport along both sides of I-90. The City of Spokane provides a portion of the City of Airway Heights water supply, in addition to providing water and sewer service to most of the unincorporated West Plains area. The cities of Medical Lake and Cheney also identify themselves as part of the greater West Plains and are each located within a few miles of the Airport.

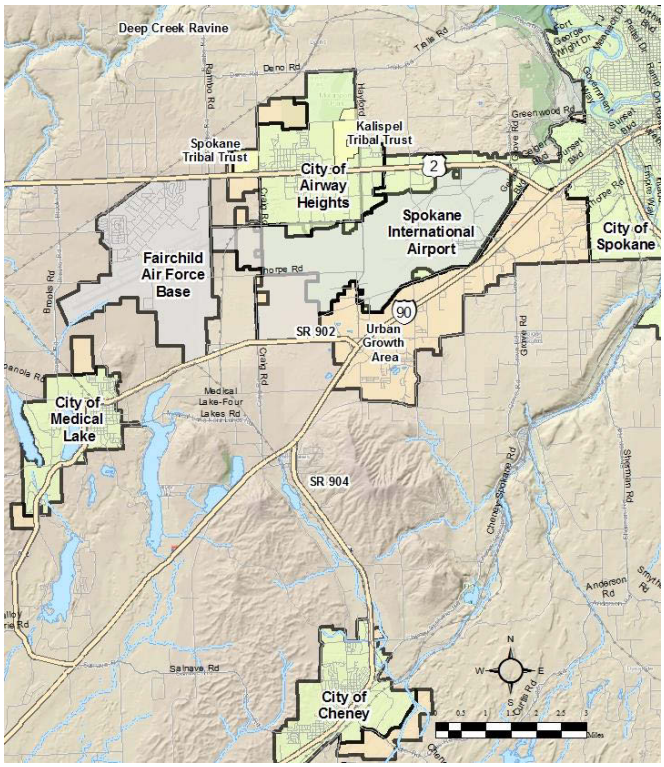

Figure 4-A: Planning Partners in the West Plains

While it is located in the City of Spokane, Spokane International Airport is governed by its own board of directors. The Airport's Master Plan, not city ordinances, prescribes how airport property is developed. Fairchild Air Force Base is operated by the Federal Government and with the exception of a few services is independent of local government. Both the Airport and the Base are considered critical to not only the economy of the West Plains but the entire Spokane region.

Critical to the economy of the area are the State owned and operated highways and freeways. The Washington State Department of Transportation (WSDOT) has jurisdiction of US 2, I-90, SR 902 and SR 904. US 2 runs east and west though the Cities of Spokane and Airway Heights. I-90 runs southeast of Spokane, though the unincorporated Urban Growth Areas under the jurisdiction of the County. SR 902 and SR 904 connect Medical Lake and Cheney, respectively, to rest of the West Plains.

The Spokane Tribe of Indians and Kalispel Tribe of Indians both have tribal trust lands located in the City of Airway Heights. Tribal trust lands are not subject to local ordinances and tribes are not mandated to

pay local taxes and fees on these lands. However, both tribes have negotiated agreements with the City of Airway Heights to pay some fees for utility and other urban services.

Other players in the region include; the Cheney School District, who serves most of the area, Avista and Inland Power and Light Company.

The nature of the West Plains necessitates collaboration among many jurisdictions and agencies in order to effectively deliver all of the needed urban services. Collaboration between adjoining jurisdictions is important in any planning process, but is especially critical in the West Plains subarea; many jurisdictions and agencies have authority, are dependent on shared infrastructure and all have a vested interest in protecting and leveraging major public facility investments. At minimum, jurisdictions want to ensure they are not working against each other. Beyond that, there is opportunity to leverage and coordinate the investments and existing assets to more effectually deliver services and ensure orderly growth.

Across the country local jurisdictions are facing the rising costs of delayed facility maintenance and a high demand for new infrastructure improvements. Additionally, state and federal officials have advised that resources for infrastructure projects will become scarcer in the future. To best take advantage of limited resources and to best position the West Plains subarea to be able to go after and receive the limited funding that will likely be available this effort is coordinating infrastructure plans.

4.2 Coordinated Planning

The draft coordinated arterial plan, long range bike plan, improvement concepts for US 2 and Sunset Boulevard, and prioritized improvements lists are proposed to be incorporated into each jurisdiction's respective comprehensive plans and capital facilities plans. It is recommended that the Cities of Airway Heights and Spokane implement the concepts within this plan to encourage quality development patterns along the urban section of US 2 to improve the appearance of the corridor, maintain property values long term, and promote usability and safety by a variety of transportation modes. Collaborative planning on other priorities discussed in this plan, including identifying joint solutions for stormwater treatment, and planning for water and sewer service will also continue.

4.3 Preserving Right-of-Way

One key strategy in implementing an adopted transportation plan is to ensure that right-of-way is reserved for the designated corridors as new development is permitted by partner jurisdictions. Having a vetted plan for the area's traffic network offers predictability for developers and provides guidance regarding the desired future network as development proposals are coordinated. If adequate right-of-way is not reserved as the area develops the cost of addressing transportation network problems will be amplified by the need to acquire property for right-of-way after development is already in place. This is often cost prohibitive.

4.4 Options for Transportation Improvement Capital Funding

While having a coordinated plan improves the position of the partner agencies to compete for state and federal funds, a coordinated plan and funding strategy is also a requirement when seeking local funding opportunities for needed improvements.

4.4.1 Local Option: Transportation Impact Fees

The use of impact fees is one funding strategy in which the cost of new facilities can be paid for by those who will benefit from them. Impact fees are charges assessed by local governments against new development projects that attempt to recover the cost of providing the public facilities required to serve the new development. Impact fees may only be used to fund facilities, such as roads, schools, and parks, that are directly associated with the new development. Jurisdictions may only collect the proportionate share of the cost of public facilities that benefit the new development. Impact fees cannot be used to correct existing deficiencies in public facilities. Setting fee schedules for impact fees is a complex process typically involving a rate study after eligible projects are identified. Typically impact fees do not recover the full cost of a new facility since these fees must be directly and proportionately related to the impacts associated with new development.

The City of Airway Heights currently has a transportation impact fee of $800 per residential unit for new residential units that will impact the intersection of US 2 and Craig Road. The City of Spokane has a transportation impact fee system that was adopted prior to its annexation in the West Plains and does not include any projects within the West Plains area. The City of Spokane is currently in the process of developing a transportation impact fee system appropriate for the West Plains. Spokane County does not collect formal transportation impact fees. Within the West Plains area the partner jurisdictions do require project improvements through implementation of State Environmental Policy Act (SEPA) mitigations or as conditions of approval for hearing examiner decisions in order to meet concurrency standards.

Municipalities are not allowed to collect impact fees outside of their jurisdiction, but other jurisdictions can collect mitigation fees on behalf of improvements needed in other jurisdictions. Spokane County routes development applications for review to the cities within the County if they are likely to have an impact on neighboring jurisdiction's facilities. If the cities can demonstrate that a proposal will impact City transportation facilities, they can request that the County collect a fee or other mitigation proportionate to the offsite impact as condition of approval.

Even though some coordinated mitigation is occurring through the environmental review process, a coordinated impact fee system may provide better predictability and consistency in the collection of fees because the fees are already set rather than negotiated for each individual development. Formally established impact fees can also result in more proactive planning for infrastructure systems because the fees are based on a list of pre-established projects. Traffic engineers have remarked that the way traffic mitigations were administered in the West Plains in the past has resulted in "Band-Aid fixes" that address impacts to facilities immediately adjacent to a proposed development but do not address the cumulative impacts on the entire network.

As the City of Spokane looks to establish impact fees in the West Plains it will be important to coordinate with the City of Airway Heights and Spokane County. Development in one jurisdiction often impacts the transportation facilities in the others and several identified traffic projects are located in more than one jurisdiction. For example 21st Avenue, a minor arterial, proposed to remove vehicle trips from US 2

would transverse the boundary between Airway Heights and the City of Spokane and portions of the Airport property.

The partner jurisdictions are mindful of creating environments that are attractive to development and that do not place themselves at an economic disadvantage. For example, if the City of Spokane established impact fees within the subarea, but the City of Airway Heights did not, there is the potential that it could put the City of Spokane at a competitive disadvantage when developers look for a location to site their business. The Cities of Spokane and Airway Heights and Spokane County may benefit from collaborating to identify the full range of infrastructure projects based on this ongoing planning effort and adopting an interlocal agreement to implement corresponding impact fees. This would result in a coordinated plan to fund needed transportation improvements as the area develops further and no jurisdiction would be at a competitive disadvantage because of their impact fees. While implementing a multi-jurisdictional impact fee system will be a political and coordination challenge it could be one of the best tools to help finance a well-coordinated transportation network that positions the area to achieve its development goals.

4.4.2 Local Option: Transportation Benefit District

Another option for collaborative funding of infrastructure is the establishment of a Transportation Benefit District (TBD). In Washington State, a TBD is a quasi-municipal corporation that can range in size from a portion of a city to multiple counties and can collect sales taxes, motor vehicle licensing renewal fees, excess property tax levies, tolls, access late comer and development impact fees and form local improvement districts. Funds may be used for transportation improvements within the district if they are consistent with local, regional or state plans. Projects are selected based on established criteria. A TBD can hire employees, staff, and services, enter into contracts acquire, hold, and dispose of real and personal property, and can sue and be sued. The City of Spokane formed a TBD in 2011 that encompasses the entire boundaries of the City of Spokane and collects a $20 vehicle licensing fee to help fund transportation projects.

The legislative authority of a county or city may create a TBD. The county or city proposing to create a TBD may include other counties, cities, port districts, or transit districts through interlocal agreements. When a district includes more than one jurisdiction, the governing body must be composed of at least five members including at least one elected official from the legislative authority of each participating jurisdiction.

By state law, in order to use any of the revenue collection options available to TBDs a majority approval vote by the electorate is required for districts where the boundaries do not include the entire territory of the jurisdictions that established the TBD. This requirement limits the utility of this funding mechanism for a TBD consisting of, for example, the West Plains portion of the City of Spokane, the entirety of the City of Airway Heights and West Plains portion of the Spokane County Urban Growth Area. Gaining voter approval of a new fee or tax would likely require an extensive outreach campaign.

4.4.3 Local Option: Property Taxes allocated for Transportation Improvements

In addition to a growing demand for investment in public facilities, local jurisdictions are faced with a resistance to increases in property taxes in order to fund infrastructure improvements. Tax increment financing (TIF) is a method of redistributing property tax collections within designated areas to finance infrastructure improvements within these designated areas. A TIF district may be established by local ordinance. The main principle behind this financing tool is that when there is a public investment in an area, such as a new road, the value of the properties surrounding the investment goes up, as does the property tax collected on the properties. The pre-defined infrastructure investment is financed against the anticipated increase in property taxes collected for the area that results from the investment. To minimize the risk of using this financing option it is best to use it when private investment is very likely to occur following the public investment. There is greater risk when using a TIF to finance infrastructure when private development in an area is not anticipated in the near future because there may not be the property tax revenue increase needed to pay back the district's debt. The use of TIF can also be controversial because it diverts tax revenues from general operation funds.

4.5 Summary

Past development review and project coordination that often results in limited joint review of single development proposals is not keeping up with the transportation needs within the West Plains subarea. The current coordinated planning effort was identified as being needed to implement a transportation network that adequately serves the future needs of the area. There are several tools available to the partner agencies to implement a coordinated transportation plan. Subarea impact fee coordination requires partners to agree on priority projects and to act in good faith to adopt corresponding fees. Forming a joint Transportation Benefit District would also require an interlocal agreement and the vote of the electorate in order to use any of the available funding mechanisms. Jurisdictions considering the use of TIF must determine if a desired investment is worth diverting tax funds away from other jurisdictional service delivery needs. Each tool has different hurdles to implementation. As the partner agencies look to take the next steps in this process these are some of the strategies they will be considering.

4.6 Next Steps

The purpose of this plan was to provide an analysis of the capital facility needs on the West Plains and to identify improvements and next steps to address growth on the West Plains. This plan has analyzed capital facilities on the West Plains with an emphasis on transportation facilities. It is the intent of the plan to provide guidance and focus for upcoming comprehensive plan updates. The following list is a summary of key take away points, some of the points are policy oriented and some are more program oriented. The next steps should include the following:

1. Align jurisdictional transportation policy by updating City of Spokane, City of Airway Heights, and Spokane County transportation elements.
2. Design and improve US 2 to be an attractive entry to and corridor through Airway Heights and the City of Spokane.
3. Consider strategies to promote the recommended new development design concepts for US 2.
4. Cooperate with WSDOT regarding parallel routes to relieve US 2 congestion.

5. Cooperate with SIA to improve access to 21st Ave via Spotted Rd and Flint Rd.
6. Design and implement a funding package to achieve network density through developer contributions, special district financing, agency contributions and other appropriate mechanisms.
7. Coordinate with jurisdictions on the West Plains to increase network density by providing more north-south and east-west connections throughout the West Plains.
8. Explore the concept of a "slip ramp" on the south side of I-90 between SR 902 and Geiger interchanges with WSDOT.
9. During development review and/or roadway widening, preserve rights-of-way for the planned network connections in accordance with the recommendations of this plan.
10. Sustain inter-jurisdictional and interagency transportation system planning in the West Plains.
11. Anticipate the eventual extension of rights-of-way into urban reserve areas, establishing the foundations for networks appropriate for anticipated development types and intensities.
12. Prioritize and invest in transportation system improvements to keep pace with demand and to facilitate development of industrial land.
13. Adopt updates to freight designation plans that suit the West Plains' needs, improving access to the airport, the land surrounding it, the freeway interchanges and railroad spurs and sidings, including designating truck routes and wider pavement/material section.
14. Pursue a separated shared use path from Government Way to the Fairchild Air Force Base gate along Sunset Boulevard and US 2 and implement pedestrian and bicycle facilities area wide as the street network density increases.
15. Continue to work with officials at Fairchild Air Force Base to ensure US 2 has the capacity to support any future growth and change of mission.

5 Appendices

5.1 **Appendix A:** *Technical Support Memorandum: West Plains Transportation & Arterial Network Study*

5.2 **Appendix B:** *West Plains Demographics: Changes from 2000 to 2010*

5.3 **Appendix C:** *West Plains Geology & Hydrology: Stormwater Management Planning of the West Plains Subarea of Spokane*

5.4 **Appendix D:** *2013 West Plains Industrial Lands Analysis*

5.5 **Appendix E:** *Calculating Transportation Cost Estimates*