

# Route Development Plan

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## **STATE ROUTE 124**

From Burbank Heights/Junction US 12/ (MP 0.00)

To Waitsburg/Junction US 12/ (MP 44.98)





Washington State Department of Transportation  
South Central Region, Planning Office  
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Route Development Plan  
State Route 124  
Burbank Heights/Junction US 12 to Waitsburg/Junction US 12  
MP 0.00 to MP 44.98

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South Central Region

## Route Development Plan

State Route 124: MP 0.00 to MP 44.98

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## *Executive Summary*

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### Vision Statement

Our vision for SR 124 is to provide safe and efficient transportation for Walla Walla County, moving people and goods throughout the region. Any improvements recommended for this route should be balanced with the preservation of this region's natural, scenic, and recreational resources.

### *RDP* Summary

This *Route Development Plan (RDP)* is a twenty-year plan that enables WSDOT to make informed decisions on future needs. It presents a long-range improvement plan for State Route 124 (SR 124). The study area begins at the US 12 Junction in Burbank Heights at MP 0.00, and ends at the US 12 Junction in Waitsburg at MP 44.98.

SR 124 is an east-west, two lane rural minor arterial in Walla Walla County. The forty-five mile route serves the communities of Burbank Heights, Prescott, and Waitsburg and provides access between the Tri-Cities and southeastern Washington.

Trucks use this route to haul produce and grain products. Many vehicles use this route as a shortcut between Tri-Cities and the eastern portion of US 12 resulting in a savings of 17.1 miles.

The Level of Service (LOS) analysis indicates that SR 124 will have an acceptable congestion level throughout the twenty-year planning period under existing conditions. WSDOT strives to maintain a LOS C on rural highways and a LOS D in urban areas.

### *RDP* Development

This *RDP* was created with the help of an internal Stakeholder Steering Committee including representation from various South Central Region offices. The outside stakeholders who were invited to become involved in the development of this *RDP* include the Benton-Franklin-Walla Walla RTPO, Walla Walla County, Washington State Patrol, the Port of Pasco, and the general public. The *RDP* will be updated periodically to keep pace with changing transportation needs and changes in conditions throughout the corridor.

## Implementation of the *RDP*

The *RDP* identifies proposed improvements that support congestion relief, economic initiatives, and safety requirements for the route during the next 20 years. The major recommended improvements for the SR 124 route include the following:

- The *interim improvement* is to construct left turn channelization at MP 0.00 to MP 0.07 to accommodate left turns at US 12/SR 124 intersection and left turns at SR 124/Hood Park Road. The *ultimate improvement* is to construct an interchange at the US 12 and SR 124 intersection (MP 0.00).
- Realign roadway and flatten slopes at Sunset Drive (MP 0.12 to MP 0.31).
- Construct left turn lane channelization at Sunset Drive (MP 0.31) and a two-way left turn lane from MP 0.31 to N. Lake Road at MP 1.07.
- Realign vertical approaches to RR crossing to improve sight distance for railroad and the intersection at Ice Harbor Road (MP 5.23 to MP 5.31).
- Realign vertical roadway profile east of Burbank Heights (MP 2.10 to MP 11.24).
- Widen pavement to the left and right to face of curb (MP 44.82 to MP 44.89).
- Widen intersection for truck turning movements (MP 44.98).
- New alignment for SR 124 if a Waitsburg bypass is built for US 12 (MP 42.0 to MP 45.41).

The South Central Region recommends that any improvement work done on SR 124 be designed to **Modified Design Level**, with minimum lane widths of **twelve feet** and minimum paved shoulder widths of **four feet**.

## *Chapter 1 Introduction*

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### Vision Statement

Our vision for SR 124 is to provide safe and efficient transportation for citizens of Walla Walla County, moving people and goods throughout the region. Any improvements recommended for this route should be balanced with the preservation of this region's wealth of natural, scenic, and recreational resources.

This *Route Development Plan (RDP)* enables WSDOT to make informed decisions on the future needs for State Route 124 (SR 124). Interested users and affected jurisdictions in the SR 124 study area have come together with WSDOT to create the long-range vision for safety and capacity improvements to the route. This plan will be used to provide further detail to the vision of Washington's Transportation Plan, in particular the 2003-2022 *WSDOT State Highway System Plan (HSP)* element.

### *RDP Summary*

This *RDP* is a twenty-year plan that describes the future development of SR 124, beginning at the US 12 Junction at Burbank Heights (MP 0.00) and ending at the US 12 Junction at Waitsburg (MP 44.98); see *SR 124 Route Development Plan Vicinity Map* on the following page. A detailed description of the existing facility is provided as a basis for the present and projected operating conditions of SR 124. The recommended improvement strategies give priority to enhancing operations, while protecting the recreational importance and environmental qualities of the transportation system in the SR 124 corridor. These recommended improvements are important to assure adequate, consistent, and safe operation of SR 124 in the future while preserving, to the greatest extent possible, the splendor and natural setting of the corridor.



## Chapter 2 Highway Location, Classification & Function

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### Route Location and Study Area

SR 124 is an east-west route in Walla Walla County providing access through the Eureka Flat area and the Touchet River Valley. The study area, shown in Figure 1-1 *SR 124 Route Development Plan Vicinity Map*, includes all of SR 124 and begins at the US 12 Junction at Burbank Heights (MP 0.00) and ends at the US 12 Junction at Waitsburg (MP 44.98). The roadway travels through the unincorporated community of Burbank Heights (MP 0.26) and the towns of Prescott (MP 35.90) and Waitsburg (MP 44.50). The SR 124 route is 44.98 miles long. Improvements for the SR 124/US 12 Intersection at Burbank will be part of a separate interchange study that is ongoing at this time.

### Travel Type

The character of travel in this route section is mainly **interregional and agricultural**. SR 124 is a Farm-to-Market road and is used to haul mostly produce and grain products.

Recreational destinations and points of interest include the Ice Harbor Dam and Fish Ladder, (MP 5.23), Charbonneau Park (MP 8.50), and Fishhook Park (MP 16.04), all on the Snake River. There are also recreational destinations throughout the Touchet River Valley (MP 25.24 – MP 44.98). Recreational trip purposes include boating, hiking, fishing, skiing, and hunting.

### Continuity

The study area begins at the US 12 Junction in Burbank Heights (MP 0.00) and ends at the US 12 Junction in Waitsburg (MP 44.98). At the Burbank Heights Junction, US 12 continues northwest to the Tri-Cities and southeast to Walla Walla. At the Waitsburg junction, US 12 continues easterly 75 miles to Clarkston and the Idaho border and southwesterly to Walla Walla. Table 2-1 compares existing characteristics and classifications of SR 124 with US 12 at these two junctions.

Junctions	Existing Characteristics	Speed limit	Rural or Urban	2002 AADT
<b>Burbank Heights:</b> SR 124 (MP 0.00)	Undivided, two-11 foot lanes	40 mph	Rural	5,400
<b>Burbank Heights:</b> US 12 (MP 295.30)	Divided, four-12 foot lanes	50 mph	Rural	12,000
<b>Waitsburg:</b> SR 124 (MP 44.98)	Undivided, two-12 foot lanes	25 mph	Rural	1,400 <sup>1</sup>
<b>Waitsburg:</b> US 12 (MP 357.59)	Undivided, two-12 foot lanes	25 mph	Rural	5,500

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<sup>1</sup> 2002 AADT located after Bolles Road Junction (MP 40.87)

## Urban Network

The SR 124 route is utilized by several transportation modes and provides access to other types of transportation facilities including river ports, two airplane landing strips, a Union Pacific Railroad line, and Burlington Northern Railroad lines. These transportation facilities are described below.

### Air Transportation

There are two privately owned and operated landing strips in the SR 124 corridor. One is located west of Adkins Road (MP 9.66) and the other is located south west of McFeely Road (MP 29.25). There are also three state owned airstrips in the vicinity. They are located at Lower Granite Dam, Lower Monumental Dam and Little Goose Lock and Dam respectively.

### Deep Water Ports

The Ports of Pasco and Walla Walla are located near the junction of SR 124 and US 12 at Burbank Heights. These are deep-water ports operating on the Snake and Columbia rivers among four other ports. Approximately 4,375,000 tons, mostly grain, travel down the Snake River. Approximately 205,000 tons, mostly oil products and fertilizers, are barged up river<sup>2</sup>. If the movement of goods were shifted from barge to long-haul trucks there could be a substantial increase in truck traffic on SR 124<sup>3</sup>.



### Rail Transportation

A Union Pacific rail line runs parallel to SR 124 between Prescott (MP 36.51) and Waitsburg (MP 44.89). The Blue Mountain Railroad operates this rail line. Union Pacific Railroad has a railroad crossing east of Ice Harbor Drive (MP 5.28).

## Land Use, Zoning, Employment and Population Trends

Land use, zoning, employment and population trends are summarized below for Walla Walla County, the City of Waitsburg, and the Town of Prescott. The City of Waitsburg and the Town of Prescott are the only incorporated areas within the study area.

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<sup>2</sup> Snake River Drawdown, Transportation Impact and Alternative Analysis.

<sup>3</sup> Truck Traffic Impact Analysis of Snake River Drawdown, WSDOT SCR.

Zoning controls what the land can be used for, while land use simply reflects how the land is being used. Zoning is usually more specific and divides a region into industrial, commercial, recreational, residential, and agricultural.

### Walla Walla County

SR 124 provides access for the unincorporated community of Burbank Heights (MP 0.26) and agricultural areas throughout central Walla Walla County. Land use activities<sup>4</sup> in the study area are primarily Agriculture, Rural Residential, Rangeland, and Open Space.

### City of Waitsburg

The City of Waitsburg is considered a small rural community. SR 124 provides access in the west portion of the city and ends in the city center at the US 12 Junction. Land uses adjacent to SR 124 include residential, commercial, public, and mobile home park.

### Town of Prescott

The Town of Prescott is also considered a small rural community. SR 124 serves as Prescott's Second Street, supporting Prescott's commercial, residential, and public land use areas.

### Employment<sup>5</sup>

The range of activities that make up the economic base of Walla Walla County include agriculture, manufacturing, wholesale trade, higher education, and government. While farming provided 3.4% of all jobs statewide in 1999, Walla Walla County's ratio of farming jobs is 11.5%. Manufacturing in Washington State had 13.6% of the job share while it runs 17.4% in Walla Walla County. Roughly half of all jobs in manufacturing in the county were in food processing.

The labor force of Walla Walla County in 1999 totaled 26,220 with 24,450 employed and 1,770 unemployed for an unemployment rate of 6.8%. Statewide in 1999 the unemployment rate averaged 4.2%. The higher average of the county mainly reflects the seasonal nature of food processing and agriculture, which are dominant in the county.

Walla Walla County's employment growth for nonfarm jobs has been moderate, growing from 19,890 in 1989 to 21,640 in 1999, an increase of 8.8%. Employment gain for the state altogether was 29% during the same ten-year period.

### Population Trends

Walla Walla County's population increased by 6,741 persons from 1990 to 2000, a growth rate of 14%. This is less than Washington State's overall population growth of 21% between 1990 and 2000. During this ten-year period, 70% of the growth occurred in

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<sup>4</sup>2001-2020 Regional Transportation Plan For the Benton-Franklin-Walla Walla RTPO

<sup>5</sup> Walla Walla County Profile, Washington State Employment Security, Labor Market and Economic Analysis Branch, October 2000.

the cities of Walla Walla and College Place, 26% of the growth occurred in unincorporated areas, and 4% of the growth occurred in Waitsburg and Prescott.

The population levels for Waitsburg and Prescott have fluctuated up and down during the past fifty-years as shown in Table 2-2.

Table 2-2 also shows the 2022 population forecast for Walla Walla County (intermediate) to be 65,817, an increase of 10,017 persons and a growth rate of 18% during the twenty-year period<sup>6</sup>. Twenty-year forecasts were not available for Prescott or Waitsburg.

City or County	1950 Census	1960 Census	1970 Census	1980 Census	1990 Census	2000 Census	2002 estimate	2022 estimate
Walla Walla County	40,135	42,195	42,176	47,435	48,439	55,180	55,800	65,817
Waitsburg	1,015	1,010	953	1,035	990	1,212	1,210	Not Avail.
Prescott	244	269	242	341	275	314	310	Not Avail.

### Federal and State Classifications

SR 124 is classified as a **Rural Minor Arterial (R2)** for the entire route (federal functional classification).<sup>7</sup> This route is considered a Regionally Significant Highway but is not classified as a Highway of Statewide Significance (**non-HSS**).<sup>8</sup>

### Freight and Goods Transportation System

Major commodities transported in Walla Walla County include produce and grain products. Over 2.2 million tons of freight are transported annually on SR 124<sup>9</sup>. This is considered a **T-3** Freight and Goods



<sup>6</sup> Intermediate Projections of the total resident population for the Growth Management Act, Office of Financial Management, Forecasting Division, January 2002

<sup>7</sup> WSDOT TRIPS State Highway Log

<sup>8</sup> WSDOT Heritage Corridors Program

<sup>9</sup> Freight Update, 2000 Section Summary

Transportation System designation.

## Access Classification

Limiting access to state highways protects the capacity of the highway and improves safety. The access classifications for SR 124 are shown in Table 2-3 and defined in Appendix A.

Segment Mile Posts	Description Of Segment	Existing Access Classification	Planned Access Classification
MP 0.00-0.01	Junction US 12 to Burbank Heights	Partial Limited Access Control	Fully Controlled
MP 0.01-0.31	Burbank Heights	Access Managed Class 3	Fully Controlled
MP 0.31-1.00	Burbank Heights	Access Managed Class 3	Modified Limited Access
MP 1.00 - 3.00	Burbank Heights	Access Managed Class 3	Modified Limited Access
MP 3.00-35.80	Vicinity of W. Lake Road to Prescott West City Limits	Access Managed Class 2	No change
MP 35.80-36.62	Prescott	Access Managed Class 3	No change
MP 36.62-44.46	Prescott East City Limits to Waitsburg West City Limits	Access Managed Class 2	No change
MP 44.46-44.98	Waitsburg	Access Managed Class 5	No change
MP 42.9-45.41	New alignment based on building US 12 Waitsburg bypass <sup>11</sup>	-----	Partial Limited Access Control

<sup>10</sup> South Central Region Access Management Guidebook

<sup>11</sup> Details on US 12 Waitsburg bypass are included in 10-2002 US 12 From Walla Walla (MP 335.30) to Clarkston (MP 432.62) Route Development Plan



## Chapter 3 Description of Existing Facility

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### Strip Maps in Appendix C

The RDP Strip Maps, attached as Appendix C, provide a great deal of information about the existing facility, as well as the improvements WSDOT has proposed. Details shown on the RDP strip maps include:

- Route development standards and improvement strategies.
- Route description: terrain and roadside character.
- Route classifications: functional class, Freight and Goods Transportation System classification, and existing access classification.
- Existing characteristics: lane widths, shoulder widths, posted speed, etc.
- Operating conditions: present and projected AADT, truck percentage, K and D values, and present and projected LOS.
- Aerial photo of route, identifying intersecting roads, bridges, maintenance areas of concern, environmentally sensitive areas, and other important features.

### Lanes and Shoulders

SR 124 is a two lane undivided highway. The pavement designation was recently changed through an approved request to HQ Materials. The first eleven miles has eleven-foot lanes with generally 2-foot shoulders, and is designated as asphalt concrete pavement (ACP). From MP 11.19 to MP 29.59, the highway is currently identified for redesignation from bituminous surface treatment (BST) to hot mix asphalt (HMA), with twelve-foot lanes and generally four-foot shoulders. MP 29.59 to Waitsburg (MP 44.89) is designated as ACP with twelve-foot lanes and four-foot shoulders. From MP 44.89 to the end of the route at MP 44.98 is designated as ACP with twelve-foot lanes and a ten to twelve-foot parking strip on both sides of the roadway. Lane and shoulder widths are shown on the strip maps in Appendix C.

The portion from MP 11.19 to MP 29.59 meets the criteria for designation as ACP. The region has requested the designation be changed to ACP in the spring of 2005 to prepare building the P1 Program during the 2007-2009 biennium.

There is one eastbound slow vehicle turnout west of Prescott from MP 35.02 to MP 35.18. There are two railroad crossings that include eastbound and westbound auxiliary lanes (at MP 5.24-5.31 and at MP 40.18-40.24). The specific locations of these features are shown on strip maps in Appendix C.

### Horizontal and Vertical Alignment

There are a number of curves (horizontal alignment) on SR 124 built for design speeds less than the posted speed limit (see traffic control section below). Because of the rolling terrain, some hills (vertical alignment) have sight distance limitations. Sight distance concerns will be evaluated at the scoping or project level. Improvements will be considered based on the level of improvement and the benefit cost ratio.

## Bridges and Structures

There are six bridges on SR 124. The WSDOT Bridge Office prioritizes structures for repair, rehabilitation, or replacement based on the sufficiency rating, which evaluates the actual structural condition of each structure. There are no clearance restrictions at these bridges and no bridge preservation work is scheduled in the six-year program (2003-2009). Further information regarding these structures is shown in Table 3-1 and displayed on strip maps in Appendix C.

Mile Post	Bridge Name	Bridge Number	Width	Approximate Length	Sufficiency Rating	Year Built
22.62	BN RR OC (RR Abandoned)	124/008	26 feet	158 feet	79.11	1966
25.16	Winnett Canyon	124/012	34 feet	158 feet	97.78	1966
27.48	Harshaw Road OC	124/014	26 feet	158 feet	82.69	1962
35.45	Whetstone Creek	124/020	32 feet	106 feet	95.94	1995
41.17	Touchet River	124/024	32 feet	106 feet	93.28	1984
44.20	Coppei Creek Bridge	124/028	32 feet	106 feet	96.73	1994



Old BN RR Bridge # 124/008 MP 22.62



Winnett Cnyn Bridge 124/012 MP 25.16



Harshaw Rd. Bridge # 124/014 MP 27.48



Whetstone Bridge # 124/020 MP 35.45



Touchet River Bridge # 124/024 MP 41.17



Coppei Creek Bridge # 124/028 MP 44.20

## Major Drainage Structures

The culverts that cross SR 124 do not have any identified fish passage barriers. Any future improvement work involving culverts will require investigating the fish passage capabilities of these culverts. This detailed evaluation will be accomplished at the project level, through coordination with WSDOT Environmental Office and Washington State Department of Fish and Wildlife.

## Intersections and Channelization

SR 124 provides direct connections to two state routes (US 12 and SR 125), thirty-six county roads and nineteen city roads. Additional local access is provided to private driveways. There are four auxiliary lanes on SR 124 that are used as turn outs at railroad crossings (MP 5.28 and MP 40.21). The specific locations of these intersections and auxiliary lanes are shown on strip maps in Appendix C.

## Traffic Control

The speed limit on SR 124 is predominantly 65 mph with some sections that are 60 mph, 40 mph, 35 mph, and 25 mph (see strip maps in Appendix C for further detail). There are curve-warning signs posted for 60 mph advisory speed limit at five curves (MP 23.43 eastbound & MP 23.73 westbound, MP 24.11 eastbound & MP 24.44 westbound, MP 27.84 eastbound, MP 40.69 eastbound & MP 41.23 westbound, MP 41.41 eastbound & MP 41.87 westbound). Other traffic control features on this route include two stop signs for the eastbound direction (MP 44.89 and MP 44.98) and two stop signs for the westbound direction (MP 0.00 and MP 44.92). The traffic control features are displayed on strip maps in Appendix C.

## Terrain

SR 124 travels over **level** terrain for the first 15.96 miles from US 12 at Burbank Heights to Fishhook Park Road (MP 0.00 - MP 15.96) and from Prescott's A Street to US 12 in

Waitsburg (MP 34.94 - MP 44.98). It travels through **rolling** terrain from Fishhook Park Road to Prescott's A Street (MP 15.96 - MP 34.94). The route meets the Touchet River at MP 25.24 and runs parallel with it to MP 44.98.

## Roadside Character

According to the Roadside Classification Plan, the roadside character classifications for the SR 124 route are **Rural** and **Open**, as shown on the strip maps in Appendix C. The classification descriptions are provided in Appendix A: Definitions and Descriptions.

## Right Of Way

The existing right of way (R/W) widths along SR 124 vary from 30 to 110 feet each side of the centerline. Existing R/W widths in areas of proposed improvements are shown in Table 3-2 below. Additional R/W will be needed for improvements in Burbank Heights (MP 0.00 – MP 1.07) and Waitsburg (MP 42.0 – MP 45.41). R/W design standards vary for this route and are shown in Appendix B, Figures 440-6a and 440-6b. The official R/W maps and deeds should be consulted for exact widths when route improvements are being scoped or designed.

Mile Post	Proposed improvement	Existing R/W Width	
		Left of Centerline	Right of Centerline
0.00–0.07	Interim – left turn channelization	75	75
0.00	Ultimate - interchange	75	75
0.12–0.31	Realign roadway and flatten slopes	30-75	30-75
0.31–1.07	Left turn lane channelization & two-way left turn lane	30	30
5.23–5.31	Realign vertical approaches	30	90
7.0–16.0	Realign vertical undulating roadway	30-80	30-110
44.82-44.89	Pave shoulder from traveling lane to curb	Unavailable	Unavailable
42.0-45.41	Realign to bypass Waitsburg	60-unknown	40-unknown

## History of Construction Projects

The pavement for the entire length of the SR 124 roadway has been either overlaid or milled and inlaid within the past ten years. A summary of the construction projects that have occurred over the past ten years is provided in Table 3-2.

TABLE 3-3 SR 124 10-Year Construction History

Date	Mileposts	Title	Description of Work	Cont.#
1989	11.24-17.50	Ash Rd. to MP 17.5	Grading, surfacing, paving	3562
1993	41.38-44.98	Lower Waitsburg Rd. - Touchet Rv Bridge	Grading, surfacing, paving	4317
1995	0.01-1.10, 11.22-17.65	SR 12 Et Al, SCR seals	BST*	4605
	30.54-35.49	PettyJohn Rd. to SR 125	Grading, surfacing, paving	4637
1996	43.10-44.92	SR 124 Vic. Waitsburg	Flood repair	4842
	8.01-41.39	SR 125 to Lower Waitsburg Rd.	Grading, surfacing, paving	4855
1997	1.10-11.19 22.73-30.88	SCR Seals	BST*	5140
	17.61-22.73	MP 17.61 to Railroad Bridge 124/008	Grading, surfacing, paving	5141
2000	0.03-1.10	SR 12 to South Lake Rd.	Paving	5824
	27.48-27.51	Harshaw Rd. Overcrossing & Spring Valley Creek Bridges	Paving	5847
2001	11.24-17.61	2001 Region wide seal	BST*	6042
2002	1.10-11.22	2002 Region wide seal	BST*	6319
	22.65-28.56	RR Bridge to County Rd.	Paving	6361
2003	44.17-44.98	Waitsburg vicinity	Paving	6598
2004	6.62 – 6.74	SR 124/East Jct. SR 12 – Reconstruction	Realign horizontal curve	6699
2004	28.56-44.22	SR 124/McFeely Rd. to Coppei Cr. - Paving	ACP Overlay with safety improvements	6748

\*BST = Bituminous Surface Treatment

### Major Environmentally Sensitive Areas

Some of the major environmentally sensitive areas that are **typical** along SR 124 include a wildlife refuge, WSDOT’s Priority Roadside Sensitive Management Areas, river crossings, 100-year floodplains, confirmed or suspected contaminated sites, anadromous fish presence, and a historic district. The WSDOT Fish Barriers data base indicated there are no fish passages needing correction on SR 124.

The photographs on the following page illustrate some of the major environmentally sensitive areas that are typical along SR 124, providing an overview of some of the sensitive areas along this route. These locations are also shown on the strip maps in Appendix C.

When route improvements are being scoped or designed, the South Central Region’s Environmental Office should be contacted for a more thorough and updated environmental assessment.

### Utilities

The SR 124 corridor includes the following utilities: television cable, telecommunication facilities, telephone cable, natural gas line, power cable, water line, and miscellaneous. When route improvements are being scoped or designed, the South Central Region’s Utility Office should be contacted to determine the type and location of these utilities.



McNary National Wildlife Refuge vicinity  
MP 0.13 looking west



Confirmed or Suspected Contaminated Site  
MP 19.75 vicinity



Roadside Sensitive Management Areas /  
100-Year Flood Plain /  
Anadromous Fish Presence  
MP 25.0 – 44.0 vicinity



Touchet River crossing  
MP 41.15 looking east



Coppei Creek crossing  
MP 43.95 looking west



Waitsburg Historic District  
MP 44.82 looking east

## Chapter 4 Operating Conditions

### Level of Service Analysis

The level of service (LOS) analysis evaluates the operational conditions within a traffic stream on a roadway. Factors used to determine the LOS include lane and shoulder widths, daily traffic volumes, truck percentage, peak hour traffic, the directional factor, and the percent of no-passing zones.

Values for both the congestion index analysis (WSDOT Travel Delay methodology) and the LOS analysis (*Highway Capacity Manual* methodology) are listed in Table 4-1. These values estimate the current and future operational conditions for the study area of SR 124, in the year 2002 and 2022. These values are also recorded on the plan sheets in Appendix C. AADT values from Table 4-2 were used in the analysis.

Additional information regarding the LOS analysis is discussed in Appendix A. Further information regarding the LOS analysis methodology can be found in the Transportation Research Board's *Highway Capacity Manual*, released in late 2000.

MP's	Vicinity	2002		2022	
		LOS	Congestion Index/ Threshold	LOS	Congestion Index/ Threshold
0.0-9.75	US 12 to Ash Rd	C	2.6/5.5	C	3.6 / 5.5
9.75-22.21	Ash Rd to MP 22.21	B	1.8 / 5.5	B	1.8 / 5.5
22.21-26.50	MP 22.21 to Lamar Rd	A	1.1 / 5.5	B	2.6 / 5.5
26.50-27.51	Lamar Rd to Harshaw Rd	B	1.1 / 5.5	B	1.7 / 5.5
27.51-34.12	Harshaw Rd to MP 33.87	A	1.1 / 5.5	B	1.5 / 5.5
34.12-36.65	MP 33.87 to G Street	B	1.0 / 5.5	B	1.3 / 5.5
36.65-44.50	G St to Coppei Creek Bridge	A	0.7 / 5.5	B	0.9 / 5.5
44.50-44.78	Coppei Creek Bridge to Waitsburg west city limits	B	0.7 / 5.5	B	1.0 / 5.5
44.78-44.98	Waitsburg west city limits to US 12	B	1.2 / 5.5	B	1.7 / 5.5

TABLE 4-2 SR 124 Traffic Values<sup>12</sup>

MP's	Vicinity	2002 AADT	Growth Rate <sup>13</sup>	2022 AADT
0.0-9.75	US 12 to Ash Rd	4,196	2.15%	6000
9.75-22.21	Ash Rd to MP 22.21	1,951	2.15%	2,790
22.21-26.50	MP 22.21 to Lamar Rd	1,373	2.15%	1,963
26.50-27.51	Lamar Rd to Harshaw Rd	1,373	2.15%	1,963
27.51-34.12	Harshaw Rd to MP 33.87	1,221	2.15%	1,746
34.12-36.65	MP 33.87 to G Street	1,262	2.15%	1,805
36.65-44.50	G St to Coppei Creek Bridge	1,325	2.15%	1,895
44.50-44.78	Coppei Creek Bridge to Waitsburg west city limits	1,325	2.15%	1,895
44.78-44.98	Waitsburg west city limits to US 12	2,434	2.15%	3480

<sup>12</sup> WSDOT Transportation Data Office

<sup>13</sup> Annual Compound Growth Factors by county and functional classification of roads

## Chapter 5 Route Improvements and Estimates

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### RDP Standards

WSDOT recommends that any improvement work for SR 124 be designed to **Modified Design Level standards** for all geometric improvements, with minimum lane widths of **twelve feet** and minimum paved shoulder widths of **four feet**. This recommendation is consistent with Design Manual matrices for non-NHS routes, will maintain consistency throughout the route, and is based on the travel characteristics described in previous sections and low AADT on this non-HSS route.

### Existing System Constraints

There are relatively few constraints to planned improvements due to the open space or agricultural areas with level or rolling terrain that SR 124 travels through. Creek and river crossings may include environmentally sensitive areas with potential wetlands that would pose a challenge to highway designers.

### Access Classification Improvements

The access classification changes proposed for SR 124 are dependent on improvements planned in the Burbank Heights area. The partial limited access control and access managed class 3 (MP 0.00-0.31) may be changed to fully controlled access after construction of the US 12/SR 124 Interchange, depending on changes to the alignment of SR 124 in this vicinity. The access managed class 3 (MP 0.31-1.00) may be changed to modified limited access after construction of a two way left turn lane.

### Non Motorized Improvements

When major improvements such as widening shoulders are being scoped or designed, the designer should consider incorporating bicycle and pedestrian facilities within the design.

### Safety Needs

The safety needs, shown in Table 5-1 and described below, were identified through an extensive evaluation of accident data and intersection deficiencies. Contact the WSDOT Program Manager for an updated list of safety deficiencies when Improvement strategies are designed.

#### Accident data analysis

Accident data is provided by the Washington State Patrol and recorded in the *TRIPS Standard Accident History Detail Report*. WSDOT analyzes this data to determine

locations and corridors with high pedestrian accidents (*PAL*), high accident locations (*HAL*) and corridors (*HAC*), and high risk of run-off the roadway accidents (*RISK*).

The most recent analysis of data indicates there are **no HAL, HAC, PAL, or RISK** locations within this highway corridor.

During the 1/1999 through 5/2003 period there were 186 accidents throughout this corridor. Of these accidents, 111 were property damage only, 64 involved injuries, 6 fatal accidents, and five with injury status not stated.

### Deficient intersection analysis

The South Central Region Traffic Office prioritizes a region-wide deficiency list of intersections needing signals and/or channelization and SR 124 does not have any intersections on this list. The WSDOT South Central Region Program Manager should be contacted for an updated list of safety deficiencies when any improvement strategies are programmed.

### Collisions with wildlife

The WSDOT Standard Accident History Report from 1/1999 to 5/2003 indicated that 33 out of 186 total accidents (18%) involved non-domestic animals on SR 124. The WSDOT deer kill database lists 126 deer kill incidents for the same three-year period (2000-2003), an average of 42 incidents per year. The majority of these incidents happened between MP 25.0 and MP 43.0, where SR 124 follows the Touchet River. There are four deer crossing warning signs on this route located at: MP 25.34, MP 34.66, 41.24, and 43.77. South Central Region is considering installing special signs tabulating the number of recent deer kill incidents at high deer crossing locations.



SR 124 westbound MP 43.77 Deer Crossing Warning

## Mobility Needs

The Highway System Plan (HSP) lists a level of service (LOS) deficiency from MP 0.00 to MP 0.31 requiring mobility improvements for SR 124. The 03-22 HSP shows the solution as construction of a two way left turn lane in this area. Upon further analysis it is determined that the interim need is to construct a left turn channelization at Sunset Dr. and an ultimate improvement of constructing an interchange at US 12 and SR 124 intersection vicinity.

## Preservation Needs

The entire route will receive pavement rehabilitation throughout the next twenty years. There is no bridge preservation work scheduled for the next six years.

## Route Improvements and Estimate Summary

Proposed route improvements that support capacity improvements, economic initiatives, and safety requirements for SR 124 during the next 20 years are listed in Table 5-1. WSDOT, Benton-Franklin-Walla Walla RTPO, Washington State Patrol, the Port of Pasco, and the general public identified these improvements.

The designer should seek the most current update of the HSP to identify any improvements or deficiencies that may have been included in subsequent updates. It is also important to note that these improvements are conceptual planning solutions and their project scopes will be refined once they reach the programming and design level phases.

The improvements listed in Table 5-1 may not be funded solely by the Department of Transportation and could be a combination of state, local jurisdiction, and/or developer mitigation funds.

MP's	Vicinity	Type of Solution	Solution	Included In:	Estimated Cost (Millions)
0.00	US 12 Intersection (Burbank)	Mobility	<b>Ultimate Improvement:</b> Construct interchange at US 12 and SR 124 intersection	<b>2003-2022 HSP<sup>14</sup></b>	\$11.2–15.1
0.00 - 0.31	Sunset Dr. Intersection (Burbank)	Mobility	<b>Interim improvement:</b> Construct left turn channelization at Sunset Dr.	<b>2003-2022 HSP<sup>15</sup></b>	\$0.25
0.31 – 1.07	Sunset Dr. to N. Lake Rd.	Safety	Construct two-way left turn lane channelization	<b>Public Comments</b>	Not Available
0.20	West of Sunset Dr. (Burbank)	Safety	Realign roadway and flatten slopes	<b>Public Comments</b>	Not Available
44.98	Waitsburg	Safety	Widen intersection for truck turning movements	<b>Public Comments</b>	Not Available

<sup>14</sup> Also listed in Benton-Franklin-Walla Walla RTPO's Regional Transportation Plan

<sup>15</sup> Also listed in Benton-Franklin-Walla Walla RTPO's Regional Transportation Plan

42.9-45.41	Waitsburg	Mobility (US 12)	New alignment based on building US 12 bypass	2003-2022 HSP <sup>16</sup>	Not Available
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## Examples of Improvement Needs

The following photographs show examples of improvement needs listed in Table 5-1 and shown on the strip maps in Appendix C.



Construct Interchange with US 12 (MP 0.0)



Construct left turn channelization at Sunset Drive (MP 0.31)



Realign and flatten slopes at Sunset Drive (MP 0.2)



Widen intersection for trucks making turning movements (MP 44.89)

<sup>16</sup> Details on US 12 Waitsburg bypass are included in 10-2002 US 12 From Walla Walla (MP 335.30) to Clarkston (MP 432.62) Route Development Plan

## Examples of Maintenance Issues

The following photographs show examples of maintenance issues that should be corrected when improvements are made to this route. When route improvements are being scoped or designed, the South Central Region Maintenance Office should be contacted for a more thorough and updated assessment.



**1** Improve drainage near irrigation station (MP 1.08)



**2** Flatten SR 124 dips (MP 10.0)



**3** Improve culverts (MP 40.71 and MP 40.9)



**4** Cracking caused by culvert (MP 43.0)



### Stakeholder Involvement

This *RDP* was created with the help of an internal Stakeholder Steering Committee including representation from **Construction, Environmental, Maintenance, Materials, Planning, Program Management, Project Development, Real Estate Services, Traffic, and the Regional Administrator**. The **Washington State Patrol** was also invited to provide details regarding operating conditions on the route.

External Stakeholders were involved in the development of this *RDP* early in the planning process. The **Benton-Franklin-Walla Walla RTPO** discussed the progress of this project at their monthly meetings, which included representation from the **cities and towns throughout Walla Walla County**. This *RDP* was presented to the RTPO member agencies and the Port of Walla Walla for their review, comment, and verification of consistency with the RTPO Transportation Plans and local comprehensive plans.

The *RDP* was also provided to the **general public** at a local open house on September 9, 2004, for public input and comments on the plan. WSDOT responded to each of the public comments on the *RDP*. Areas of concern brought up at the open house included:

- There is a 3 to 5 minute wait at the Lake Road intersection that results in a safety problem as drivers grow impatient waiting to enter the stream of traffic on SR 124.
- Residents are primarily concerned with issues on US 12 then on SR 124.
- Traffic backs up on SR 124 because it is difficult to pass in the Burbank vicinity.
- The corner by the tree farm should be softened.
- The turn off from Broetje Orchards and other large farms need turn lanes.
- Kids frequently ride their bicycles on the narrow (2') shoulders in the Burbank vicinity. This is an extreme safety hazard.
- It takes 7 to 8 minutes to cross at S. Lake Road, N. Lake Road, and Sunset Drive (near fire station) due to the large amount of farming and other types of traffic.
- Need left turn channelization in Burbank Heights.
- Need a left turn channelization on all legs of the SR 124 and S. Lake Rd. intersection.
- Can't turn at Ice Harbor.

The *RDP* will be updated periodically to keep pace with changing transportation needs and existing conditions. It is important to keep the stakeholders involved during future updates of this *RDP* and as improvement solutions are being implemented.

## Consistency with Other Plans

Development of this *RDP* is consistent with local plans of jurisdictions that the SR 124 route travels through. These plans include

- City of Waitsburg Comprehensive Plan (1998-2018).
- Benton-Franklin-Walla Walla RTPO Regional Transportation Plan (2001-2020).
- WSDOT's Highway System Plan – 2003-2022.
- WSDOT's Washington Transportation Plan – 2003-2022.

## Appendix A: *Definitions and Descriptions*

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### **Access Classifications**

*Limited Access Facilities:* where access rights have been legally acquired, usually purchased, from the abutting property owners by the State. The WSDOT Master Plan for Limited Access Highways lists both established and planned limited access sections for state routes, and designates the type of limited access – full, partial or modified, as defined in detail in Chapter 1420 of the Design Manual.

*Access Managed Facilities:* where the State permits abutting property owners access according to spacing and use guidelines based on the identified access management classification of the highway. Access management intends to provide coordinated vehicle access to the state highway system that is consistent with the local land uses. Typical characteristics of access management classifications are:

*Class 1:* High speeds and volumes, long trips, serving interstate, interregional, and intercity travel. Service to abutting land is subordinate to service of major traffic movements. One mile intersection spacing, minimum private connection spacing at 1320 feet, or one per parcel. Restrictive where multi-lane is warranted.

*Class 2:* Medium to high speeds and volumes, medium to long trips, serving interregional, intercity, and intra-city travel. Service to abutting land is subordinate to service of traffic movement. Restricted to intersections spaced one-half a mile apart, minimum private connection spacing at 660 feet, or one per parcel. Restrictive where multi-lane is warranted.

*Class 3:* Moderate speeds and volumes, short trips, balance between land access and mobility, serving intercity, intra-city and intercommunity travel. Used where land use is less than maximum build-out, but development potential is high. Restricted to intersections spaced one-half a mile apart, less with signal progression analysis, and minimum private connection spacing at 330 feet.

*Class 4:* Moderate speeds and volumes, short trips, balance between land access and mobility, serving intercity, intra-city and intercommunity travel. Used where land use is less than maximum build-out, but development potential is high. Restricted to intersections spaced one-half a mile apart, less with signal progression analysis, and minimum private connection spacing at 250 feet.

*Class 5:* Low to moderate speeds, moderate to high volumes, short trips serving intra-city and intercommunity travel. Service to land access dominant function. One quarter mile intersection spacing, less with signal progression analysis, and minimum private connection spacing at 125 feet.

### **Federal Functional Classification**

A roadway's functional classification indicates its character and the traffic service it provides. The functional classifications used on highways, from highest to lowest

classification, are *Interstate, principal arterial, minor arterial, and collector*. The higher functional classes give more priority to through traffic and less to local access.

### **Freight and Goods Transportation System**

The transportation commission, in cooperation with cities, counties, and regional transportation planning organizations, designated the Freight and Goods Transportation System (*FGTS*). Routes are classified by total tonnage of freight carried each year with the designations shown below:

*T-1*: Over 10 million tons

*T-2*: 4 million to 10 million tons

*T-3*: 300,000 to 4 million tons

*T-4*: 100,000 to 300,000 tons

*T-5*: Over 20,000 tons in 60 days

### **Highways of State-wide Significance**

The Highways of State-wide Significance (*HSS*) include highways, arterials, and ferry routes that connect major communities across the state and support the state's economy. State highways not classified as HSS facilities are referred to as Regionally Significant State Highways, or "*non-HSS*" facilities.

### **Highway System Plan**

The Highway System Plan (*HSP*) is the state highway element of Washington's Transportation Plan. The Highway System Plan forms the basis for development of future state highway programs, projects, and budgets. The plan defines service objectives and proposes strategies for maintaining, preserving, and improving state highways.

### **Level of Service Analysis**

As part of the development of Washington's Transportation Plan (*WTP*), WSDOT has developed the travel delay methodology for evaluating transportation system performance. In 1999, the Washington State Transportation Commission adopted a congestion relief policy underlying the development of the WTP. It states that WSDOT's improvement strategies should:

*"... improve travel time reliability and reduce travel delay for people and freight on the state highway system. These improvements should be measurable and noticeable to the public."*

The travel delay methodology is a performance measurement tool to determine current and future 24-hour congestion conditions on state highways. Highway segments with capacity deficiencies are identified in the Highway System Plan list of needs.

On Highways of Statewide Significance, the congestion index (annual average daily traffic divided by hourly capacity ratio) is used to determine the level of congestion deficiency. Values of 6 for rural highways and 10 for urban highways were established as the deficiency thresholds for capacity improvements. Compared to traditional measures, these values equate roughly to LOS "D" operation in urban areas and LOS "C" in rural areas.

The traditional method of determining level of service is based on the Transportation Research Board's Highway Capacity Manual. This methodology gives LOS values from A through F. LOS A is the highest level of traffic operations and is characterized by virtual free flowing traffic. The levels are scaled down so that LOS E represents flows that approximate capacity, and LOS F characterizes vehicle volumes on the roadway exceeding capacity. For LOS F conditions, flow is sporadic and occasionally completely stopped.

*Daily Traffic Volumes:* The number of vehicles that pass a given point in both directions during a specific period of time is recorded to determine Annual Average Daily Traffic Volume<sup>17</sup> (AADT). The traffic counts are adjusted using various factors such as seasonal, axle, and historical counts for the previous four years.

*Truck Volumes (T-Factor):* The volume of truck traffic, which also includes large recreational vehicle traffic, is displayed as a percentage of truck traffic as compared to total traffic during the peak hour, which is referred to as the T-Factor<sup>18</sup>. The peak hour period is defined as the maximum hourly traffic during the day from actual counts.

*K-Factor:* The K-factor is defined as the percentage of the annual average daily volume occurring in the peak hour. The peak hour is the highest volume hour for the twenty-four hour period.

*Peak Hour Factor:* The peak hour factor is a measure of traffic demand fluctuation within the peak hour. The hourly volume during the peak hour is divided by four times the peak 15-minute flow during the peak hour.

*Directional Factor (D-Factor):* The percent of traffic volume during the peak hour period in the peak direction, as compared to the total daily traffic volume, is the directional factor or D-Factor<sup>19</sup> (%D). The directional factor is also referred to as the peak hour split percent. The peak hour is defined as the maximum hourly traffic during the day from actual counts.

*Growth Factors:* Growth factors are determined by the Traffic Data Office, and supplemented by information from the local jurisdictions.

### **Metropolitan Planning Organization (MPO)**

The agency designated by the Governor to administer the federally required transportation planning process in a metropolitan area. An MPO must be in place in every urbanized area

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<sup>17</sup> WSDOT TRIPS Traffic Count History

<sup>18</sup> WSDOT TRIPS Traffic Count History

<sup>19</sup> WSDOT TRIPS Traffic Count History

over 50,000 in population. The MPO is responsible for the 20-year long-range plan and the Transportation Improvement Program.

## **National Highway System**

The National Highway System (*NHS*) is an interconnected system of principal arterial routes that serves interstate and interregional travel, meets national defense requirements, and serves major travel destinations.

## **Regional Transportation Planning Organizations**

Authorized by the legislature in 1990 as part of the Growth Management Act. Regional Transportation Planning Organizations (*RTPO*) are voluntary organizations with representatives from state and local governments to coordinate transportation planning activities within a region. MPOs also function as a regional transportation planning organization.

## **Roadside Character**

The roadside character describes the general character of the landscape from the pavement edge to the right-of-way boundaries, from the user's perspective. Roadside character is either natural, which includes *Forest* and *Open*, or built, which includes *Rural*, *Semiurban*, or *Urban*. These classifications have the following characteristics:

- Forest:*        Indicating predominantly natural or naturalized forest. Characterized by natural-appearing landforms and native trees and/or understory vegetation.
- Open:*            Indicating a landscape in which sky and sweeping views prevail in a landscape of few or no trees, including prairie, steppe, desert, and agricultural fields. Characterized by natural-appearing landforms and low growing native vegetation or agricultural crops associated with adjacent farming.
- Rural:*            Indicating intermixed built and natural or naturalized elements, with built elements beginning to encroach on the natural environment; human manipulations of the land are evident. Characterized by natural-appearing landforms and vegetation. Vegetation is predominantly native. Non-native vegetation may reflect historical land use.
- Semiurban:*     Characterized by intermixed built and natural or naturalized elements, with built elements prevailing. Is transitional in character. Vegetation is a combination of native and non-native species. Trees and large shrubs are predominant where sufficient right of way is available.
- Urban:*            A predominately built environment characterized by elements that mirror the character of adjacent land use. Vegetation is predominantly non-native (ornamental) trees, shrubs, and groundcover, with remnants of native vegetation. There is a consistent, refined appearance throughout all management zones.

The WSDOT Roadside Classification Plan, 1996, documents the classification process for all WSDOT highways.

The goals of the Roadside Classification Plan are to:

- Promote transportation safety and management efficiency.
- Minimize environmental and social impacts of transportation facility construction and maintenance.
- Facilitate protection and restoration of Washington's natural environment and cultural heritage within state highway roadsides.
- Promote cooperation and communication in roadside management.

### **Safety Programs**

*Pedestrian Accident Location (PAL)* is the designation given to a highway section typically less than 0.25 miles where a two year analysis of pedestrian accident history indicates that the section has a significantly higher than average accident and severity rate.

*High Accident Location (HAL)* is the designation given to a highway section typically less than 0.25 miles where a two year analysis of collision history indicates that the section has a significantly higher than average collision and severity rate.

*High Accident Corridor (HAC)* is the designation given to a highway corridor (one mile or greater in length) where a five-year analysis of collision history indicates that the section has higher than average collision and severity factors.

*RISK* is the designation given to a highway location where geometrics, traffic volumes, and speed limits indicate a high probability of run-off-the-road accidents.

### **Scenic and Recreational Highway System**

The Scenic and Recreational Highways Act of 1967 established the Scenic and Recreational Highways Program in response to the national interest in the highway beautification movement.

Federal funding is available for recognized Scenic and Recreational highways to develop the scenic byway programs and to accomplish corridor planning for maintaining the intrinsic qualities of the corridor.



## Appendix B: *Design Matrix*

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**Modified Design Standards** will govern improvements for SR 124. The minimum acceptable lane width is **twelve feet** with paved shoulder width of **four feet**.

The following pages show the design matrix and related tables current at the time this RDP was approved.



## *Appendix C: Route Development Plan Sheets*

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The following six sheets present a detailed look at the elements described in the previous chapters.