SR 291 – Route Development Plan

Freya Street to Scotts Valley Road

MP Back 2.48 to MP 22.31

Washington State
Department of Transportation

Eastern Region Planning Office
Route Development Team

August 2006

Route Development Plans (RDP's) are planning studies on state highway facilities. These studies identify deficiencies and recommend improvement solutions to accommodate existing and future transportation needs. The studies include analysis of operating conditions, environmental issues, population and land use changes, customer needs, as well as right-of-way and other issues affecting the future of a state highway and its neighbors.

The route development process identifies the transportation services desired by our customers, determines competing demands, and integrates the findings into a common vision for the entire transportation system. It is a process that supports investment decisions.

Route development plans are living documents that are periodically updated to address and reflect changing issues along the corridor. They serve as a tool for discussion, utilized to facilitate integration of the needs of the Washington State Department of Transportation and the needs of the customers.

Washington State Department of Transportation

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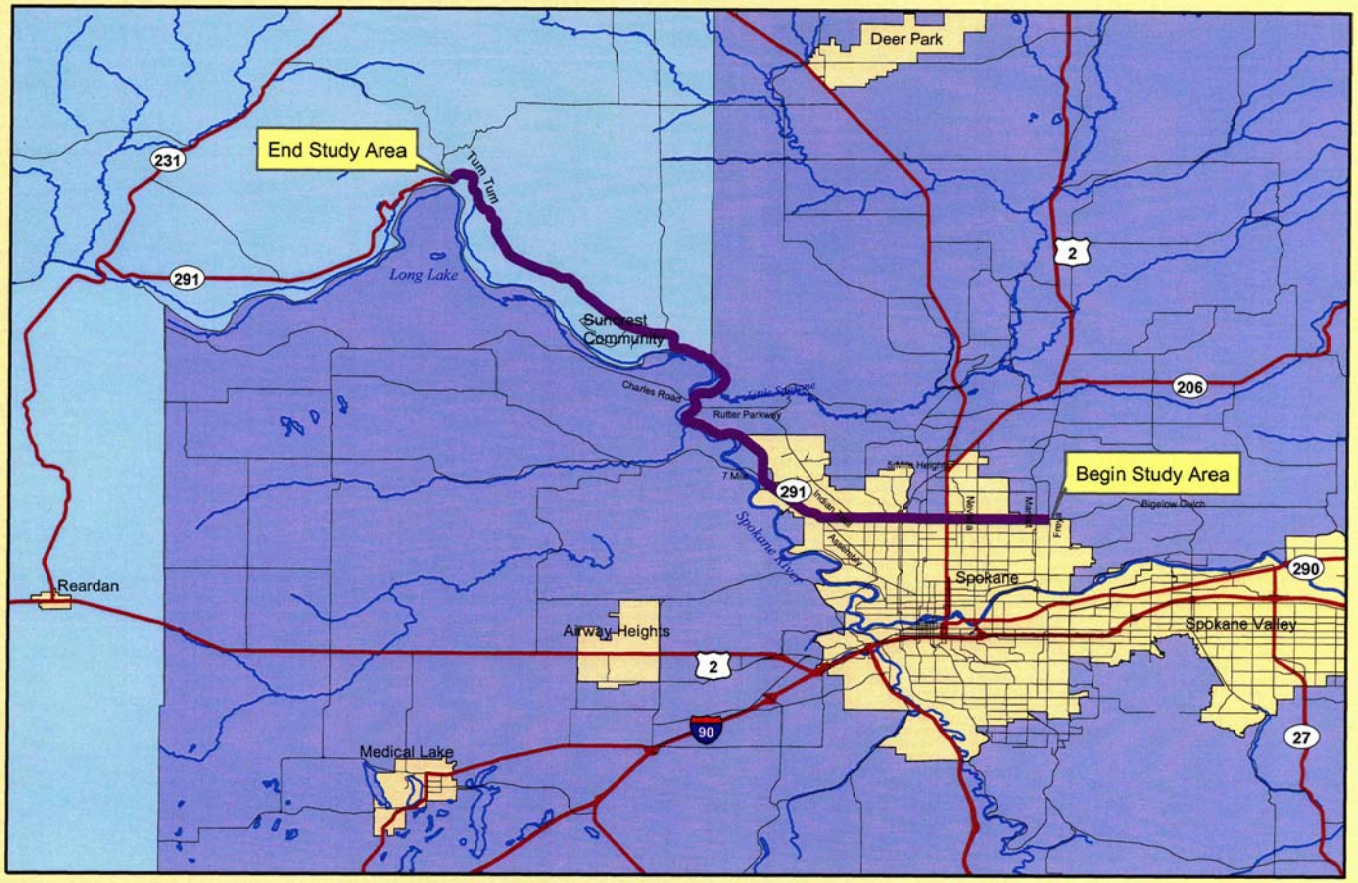

Legend
- SR 291 RDP Limits
- State Highways
- Cities

SR 291 Route Development Plan Vicinity Map

WSDOT ER Planning
July, 2004

0 2 4 8 12 Miles

For more information:
http://www.wsdot.wa.gov/Projects/SR291RDP

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Executive Summary

Eastern Region

SR 291 Route Development Plan

Freya Street to *Scotts Valley Road*

SR 291 Route Development Plan

Route Development Plans

A Route Development Plan (RDP) is a long-range roadway improvement strategy designed to address future, as well as existing safety and capacity problems on a section of state highway. RDP's include a comprehensive assessment of how a roadway currently functions, as well as a projection of how it may operate 20 years into the future. Public input, safety, mobility, land use, and environmental concerns are the primary elements evaluated in a RDP. The Washington State Department of Transportation Eastern Region Planning Office utilizes a four-phased process to develop an RDP for a state highway within its jurisdiction. This process is further detailed in the *"Introduction"* section of this RDP.

Route Development Plan Location

This Route Development Plan addresses the section of SR 291, a Non-NHS route, extending from Division Street (MP 0.00) to a northwestern limit of Scotts Valley Road in Tum Tum (MP 22.31). This Plan also addresses the section of Francis Avenue from Division Street (MP 0.00) back to an eastern limit at Freya Street (MP Back -2.48). The decision was made to look at this particular section of Francis Avenue because it provides a connected highway network from US 395 (North Spokane Corridor) to US 2 (Division Street) to SR 291 (Francis Avenue west).
This section of the SR 291 corridor serves northwest Spokane, the northern Spokane County community of Nine Mile Falls, and the southern Stevens County communities of Suncrest and Tum Tum.

Plan Purpose and Need

The route development plan will address the growing traffic and safety concerns on SR 291 within the study limits by identifying existing and future deficiencies, and propose feasible solutions that the public supports and that will guide transportation investment decisions. SR 291 facilitates traffic as a direct route to SR 231, US 2, and US 395. SR 291 is a major commuter route, connecting rapidly developing communities in northwestern Spokane County and southern Stevens County to the City of Spokane.

Summary of Findings & Recommendations

This Route Development Plan divides the corridor into three distinct sections called "logical breaks". The breaks are based on access control, roadway characteristics, and scope of development. To accommodate existing and projected growth and enhance safety, this route development plan recommends the following ***long-range improvements***:

Freya Street to Nine Mile Road Wye, MP Back -2.48 to MP 3.07

- Construct a consistent 5-lane roadway section, 4 through lanes with a center two – way left turn lane, from Havana Street to Division Street
- Widen Francis Avenue corridor 30-50 feet to the south from Wall Street to Belt Street and construct a 7-lane section along the Francis Avenue corridor
- Construct bike lane connections from NSC interchanges to City bike routes as per the Spokane Regional Pedestrian/Bike Plan
- Purchase Access Rights and consolidate approaches where feasible
- Support and Coordinate efforts with Spokane County's proposed Northwest Urban connector

Nine Mile Road Wye to Charles Road, MP 3.07 to MP 9.20

- Construct a flyover ramp for Assembly Street, a City of Spokane facility, at the Francis Avenue-Assembly Street-Nine Mile Road Wye MP 3.07
- Construct a 4-lane undivided limited access roadway section on a new alignment from MP 6.85 to Vicinity Nine Mile Falls (Phase 1 – Nine Mile Bypass)
- Support and Coordinate efforts with Spokane County's proposed Northwest Urban connector
- Work with the City of Spokane on development of the Barnes Road connection
- Purchase access rights and implement partial access control

Charles Road to Scotts Valley Road, MP 9.20 to MP 22.31

- Purchase limited access control and construct a four-lane undivided highway on a new alignment from Charles Road to Swenson Road (Phase 2 – Nine Mile Bypass)
- Construct passing lanes both northbound and southbound from Wylie Drive to Moriah Drive Vicinity

To enhance safety, and provide partial capacity relief, this route development plan recommends the following ***short to mid-range feasible improvements***:

Freya Street to Nine Mile Road Wye, MP Back -2.48 to MP 3.07

- Pursue Driveway Consolidation along Francis Avenue in the vicinity of 5-Mile Heights Shopping Center (MP 1.23)
- Install Traffic Signal/Roundabout at "A" Street & Francis Ave when warrants are met (MP 2.00)
- Extend Right Turn Lane for additional storage and re-configure traffic islands at Indian Trail Road (MP 2.19)
- Install new 2-phase Traffic Signal or other mitigation at Assembly Street & Nine Mile Rd. *(Developer proposed signal)* (MP 3.07)
- Construct Right Turn Lanes, Left Turn Lane, and Two-Way-Left-Turn-Lanes where warranted

Nine Mile Road Wye to Charles Road, MP 3.07 to MP 9.20

- Rifle Club Road Intersection (MP 3.85) - Construct Acceleration Lane southbound
- Seven Mile Rd. (MP 5.22) - Construct Acceleration Lane southbound
- Construct Right Turn Lanes, and Two-Way-Left-Turn-Lanes where warranted

Charles Road to Scotts Valley Road, MP 9.20 to MP 22.31

- Charles Rd. to Little Spokane River Bridge #291/6 (MP 9.20 to MP 10.04) - Construct Left Turn Lane at Spokane House and a Passing Lane Northbound from Charles Rd. to MP 9.85; increasing posted speed limit from 35 mph to 50 mph
- Nine Mile Vic. and at Swenson Rd – install Intelligent Transportation System - Road Hazard Advisory System
- Swenson Rd. (MP 12.98) - Lengthen Right Turn Lane back to MP 12.78 (End of climbing lane)
- Increase public awareness of the Swenson Cutover Connection, a Spokane and Stevens County facility, as an alternate route
- Construct a Two-Way-Left-Turn-Lane through the Suncrest community from Swenson Road to Wylie Drive (MP 12.98 to MP 14.35)

- Construct Left Turn Lanes, and remaining Two-Way-Left-Turn-Lanes where warranted

Implementation Plan

This RDP identifies a wide variety of proposed improvements that address both congestion relief and safety enhancements over the next 20 years and beyond. This plan recommends that the following implementation steps be utilized:

Short-range Proposals (0 - 6 Years)

Develop a prioritization list with notes on each improvement for the high benefit, short-range proposed projects.

Mid-range Proposals (6 - 10 Years)

Outline key and/or high benefit proposed recommendations made for the next 6-10 years. Work with partner agencies on getting the recommended solutions that are under local jurisdiction into their 6 year plans.

Long-range Proposals (10 – 20 Years)

Outline the ultimate solutions and take steps to get them integrated into the Highway Systems Plan. Begin scoping, securing funding, and ensure that short and mid-term projects are building toward ultimate plans. Support and coordinate with Spokane County on the proposed Northwest Urban Connector.

A detailed summary of the Implementation Plan is provided on pages 60-61.

Current funding of WSDOT highway projects (based on existing revenues) is limited to maintenance, preservation, and traffic operations projects. SR 291 is identified in the 2003 - 2022 Highway System Plan Eastern Region 20-year Mobility Strategies “Congested” Non-NHS list, the Eastern Region 20-year Mobility Strategies “Congested” Non-NHS list, and the “Access Management for Developed Corridors” list. The current programmed budget does not include funding for long-term improvements on this segment of 291.

While committed to operate an efficient, safe, and coordinated corridor, WSDOT Eastern Region continues to pursue funding for proposed improvements. Periodically, during future WSDOT Highway System Plan updates, proposed improvement projects on SR 291 will be re-assessed during funding prioritization in preservation, safety, mobility, economic initiative, and environmental retrofit programs.

Contacts

We encourage your comments and input on this and future Route Development Plans. Please contact us at:

Washington State Department of Transportation
Eastern Region Planning Office
Route Development Team
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Introduction

Eastern Region

SR 291 Route Development Plan

Freya Street to *Scotts Valley Road*

WSDOT Planning

Planning at the WSDOT is a continual, evolving, and flexible process that seeks to facilitate the development and implementation of sound and innovative strategies, incorporating the dynamic issues and needs that face our transportation system. The goal of WSDOT planning is to create an integrated transportation system capable of supporting a vital economy while maintaining sensitivity to the surrounding environment and promoting a positive quality of life. We endeavor to accomplish this goal by integrating the needs of WSDOT with those of stakeholders including cities, counties, the public, Metropolitan Planning Organizations (MPOs), and Regional Transportation Planning Organizations (RTPOs). During implementation of the recommendations, WSDOT will strive to employ context sensitive design.

Eastern Region RDP Process

Route Development Plans identify proposed improvements on a designated section of a state highway that will accommodate safety and capacity requirements for the next 20 years. The RDP process integrates various elements to produce an endorsed highway design solution. Some of these elements are noted below in a brief description of the four-phased process utilized by the WSDOT Eastern Region to develop a RDP for a state highway within its jurisdiction:

Phase 1 *Initiate stakeholder and public involvement.*
Data Collection: inventory existing conditions, identify route deficiencies & future needs, identify existing and projected Level of Service (LOS), and examine route continuity.

Phase 2 *Form a Stakeholder Advisory Committee and an internal WSDOT Eastern Region Steering Committee to focus efforts for creation of a route development plan. The internal WSDOT committee includes representation from Planning, Program Management, Environmental, Construction, Maintenance, Traffic, Local Programs, and Project Development.*

Phase 3 *Identify and develop conceptual design alternatives.*
Evaluate advantages and disadvantages of each alternative.
Present findings to stakeholders and public.

Phase 4 *Revise conceptual design alternatives, if needed.*
Complete the RDP. Present final conceptual design alternatives to stakeholders. Obtain inclusion of general conceptual design alternatives in the Washington State Highway System Plan, and in the comprehensive plans of local jurisdictions, as appropriate.

This Route Development Plan is part of the Washington State Department of Transportation (WSDOT) Eastern Region long-range planning program and is also intended to support local jurisdictions in implementation of the Growth Management Act (GMA) *RCW 36.70A*. The RDP also supports the mission of the Washington State Department of Transportation:

Mission Statement
The Washington State Department of Transportation keeps people and business moving by operating and improving the state transportation systems vital to our taxpayers and communities.

This long-range plan will provide:

- Guidance for regional decision makers regarding future projects on this state route;
- Direction for determining possible mitigation measures for proposed developments;
- Inclusion of improvement solutions in the WSDOT Highway System Plan;
- Guidance for interim projects to ensure the progression towards the long-range objectives;
- Coordination with stakeholders on the future development of this state route; and
- Adoption into regional comprehensive plans.

Stakeholder and Public Involvement

Public involvement is an integral part of the RDP process. As part of WSDOT's plan to emphasize early, continuous, and meaningful involvement, this RDP initiated an aggressive public involvement campaign to promote early and ongoing stakeholder and public input with the open exchange of information, and promoting a greater understanding of the competing needs and concerns of WSDOT, stakeholders and the public. An Advisory Group was established for the SR 291 RDP. This Advisory Group was comprised of representatives from Spokane and Stevens Counties, City of Spokane as well as several neighborhood associations, resulting in over 40 representatives. In addition, WSDOT sent out over 21,000 mailers to citizens along the route, hosted four listening posts along the route, and held open houses to present conceptual alternatives and receive feedback. A web page is also available at http://www.wsdot.wa.gov/projects/sr291rdp that provides further detail about the SR 291 RDP. Ultimately, this public involvement effort leads to RDP alternative solutions strongly supported by WSDOT, stakeholders and the public.

Chronology of Events

The following list is a chronology of stakeholder and public involvement. This list is an overview. It does not include contacts with individual landowners and developers. Those contacts are documented in WSDOT's SR 291, Freya Street to Scotts Valley Road RDP file.

06/10/04 – Eastern Region RDP Steering Committee (ERSC) Kickoff Meeting.

06/24/04 – Letters to interested parties for RDP Advisory Group participation.

07/08/04 – Kickoff RDP Advisory Group Meeting.

08/02/04 – Political Leadership Notifications went out to 30 nearby affected Mayors, City Council Members, County Commissioners, Washington State Representatives, Washington State Senators, US Senators (Washington State), and US Representative (Washington State).

08/03/04 – 21,374 Public information & survey mailers sent.

08/19/04 – Listening Post at Nine Mile Feed & Supplies.

08/24/04 – Listening Post at Safeway (Francis Ave.).

08/26/04 – Listening Post at Suncrest Outpost (Stevens County).

08/27/04 – Listening Post at Fred Meyer (Francis Ave. – East of Division St.).

09/15/04 – SR 291 Route Development Plan presentation to the Citizen's Advisory Committee on Transportation (CACT).

09/29/04 – SR 291 Route Development Plan presentation to the 291 Traffic Safety Corridor Project Steering Committee.

10/27/04 – SR 291 Route Development Plan presentation to the Rocket Velo Racing club (Bicycling). WSDOT conducted a bicycling survey for SR 291.

11/03/04 – First presentation to Eastern Region RDP Steering Committee (ERSC).

11/08/04 – SR 291 Route Development Plan presentation to the Spokane Bicycle Club. WSDOT conducted a bicycling survey for SR 291.

11/18/04 – RDP Advisory Group Meeting #2 to develop preliminary solutions to the concerns identified through the Listening Posts and by the Advisory Group.

11/18/04 – SR 291 Route Development Plan & Public Feedback presentation to the Northwest Neighborhood Council.

01/11/05 – RDP Advisory Group Meeting #3 to develop preliminary solutions for Section #3. This was an evening meeting at the Tum Tum Community Center (Suncrest Area).

01/11/05 – SR 291 Route Development Plan & Public Feedback presentation to the Stevens County Citizen Action Team meeting (SCCAT).

01/24/05 – E-mail update to the Eastern Region RDP Steering Committee (ERSC) on the 2nd and 3rd Advisory Group meetings and the presentation to the Stevens County Citizen Action Team (SCCAT).

03/09/05 – Meeting with Margaret Watson, and Eileen Hyatt, both with Spokane Bicycle Club, Inland Northwest Trails, and WA Bicycle Alliance, to discuss bicycling issues being addressed in the Route Development Plan. Rebecca Smith – WSDOT was also present at the meeting.

06/20/05 – Field review Coordination Meeting with City of Spokane representatives Valla Melvin and Bob Turner. Discussed proposed solutions and potential solutions, data sharing, and implementation steps.

07/06/05 – Second presentation to Eastern Region RDP Steering Committee (ERSC). Update of RDP activities, presentation of improvement ideas to the Committee for feedback and prioritization of analysis efforts. Identified major issues/concerns that may have been missed and the feasibility of each improvement idea. Outlined the remaining scheduled public involvement events for the Group's thoughts, and discussed the overall project schedule.

08/31/05 – ERSC Meeting on the SR 291 Route Development Plan. The RDP Team presented for discussion the improvement alternatives analysis, design layouts, and the associated cost estimates. The meeting helped identify the feasibility of each improvement idea, and identified major improvement ideas to move forward towards recommendation in the Plan.

11/08/05 – November Coordination Meeting with the City of Spokane

11/22/05 – SR 291 RDP Steering Committee meeting was held to discuss the Master Projects List and high priority projects. Consensus was reached on the final recommendations.

12/08/05 – Coordination meeting with the Stevens County Planning office.

12/15/05 – 4th RDP Advisory Group Meeting where we presented and discussed the final recommendations in the Plan, funding/future coordination with the City, and the public involvement activities that were remaining.

02/14/06 – SR 291 RDP Steering Committee meeting was held to discuss Spokane County's Northwest Urban Connector (NWUC) proposal and how it will be discussed in RDP document. The remaining public involvement was also discussed and agreed upon by the Committee.

3/07/06 – 5th RDP Advisory Group Meeting was held to discuss Spokane County's Northwest Urban Connector (NWUC) proposal and how it will be discussed in RDP document. The NWUC and remaining public involvement activities was discussed and consensus was reached by the Group.

4/11/06 thru 4/18/06 – RDP Open Houses (total of 3) for public comments on proposed short-range, mid-range, and long-range improvements to be included in the RDP document.

August 8th, 2006 – Final RDP submitted to Advisory Committee and local agencies.

Open Houses

Open houses were held in April 2006, in east Spokane, west Spokane, and Suncrest. Local citizens identified problems, issues, and concerns along this segment of SR 291 at the initial four listening posts and/or through the website. One of the most common suggestions voiced at the open houses was to have alternate routes or travel options. Some other concerns brought to our attention were: 1) people driving faster since there will be more lanes, 2) signals needed along Francis Ave., and 3) difficulty making left turns off and on to minor roads.

SR 291 Trend Analysis

The counties that this corridor serves have experienced significant growth in recent years. The population data for the counties is detailed below along with the growth experienced by Washington State as a whole:

POPULATION

	Census 1990	Census 2000	Percent Increase	Forecasted Increase (2025)	Population 2003	Population Estimate 2025
Spokane County	361,364	417,939	15.7%	30.3%	*431,027*	*561,627*
Stevens County	30,948	40,066	29.5%	57.1%	*40,776*	*64,057*
Washington State Overall	4,866,669	5,894,121	21.1%	30.1%	*6,131,445*	*7,975,471*

Source: Office of Financial Management (OFM)(February 2002) and U.S. Census Bureau data; As this Route Development Plan was being finalized, the Spokane County Board of County Commissioners were deliberating the adoption of new OFM population growth forecasts for Spokane County, as required by the Growth Management Act. Population forecasts were adopted by the Commissioners in May, 2006.

Analysis Methods

Travel demand modeling for the various scenarios was accomplished using VISUM software. The 2004 base year model was obtained by applying a 2% growth factor to the Spokane Regional Transportation Council's (SRTC) 2003 model with additional model edits. The SRTC 2025 base model, including the same model edits as the 2004 model, was used for the future volumes. Model edits were needed to better reflect actual ground counts and were approved by the SRTC via e-mail on 8/16/05. 2025 forecasts were consistent with the Spokane County and Stevens County Comprehensive plans and the current SRTC Metropolitan Transportation Plan, and included as background assumptions the full build-out of the North Spokane Corridor and the Bigelow Gulch Urban Connector projects.

Unsignalized intersection Level of Service (LOS) was determined using Highway Capacity Software (HCS). Signalized intersection LOS was determined using SYNCHRO 6.

Highway Location, Classification, and Function

Eastern Region

SR 291 Route Development Plan

Freya Street to Scotts Valley Road

Route Location

This Route Development Plan addresses the section of SR 291 extending from Division Street (MP 0.00) to a northwestern limit of Scotts Valley Road (Tum Tum) (MP 22.31). The Plan also addresses the section of Francis Avenue from Division Street (MP 0.00) back to an eastern limit at Freya Street (MP Back -2.48). The SR 291 corridor serves northwest Spokane, the northern Spokane County community of Nine Mile Falls and the southern Stevens County communities of Suncrest, and Tum Tum. There are presently three City Accident Locations (CAL's) along Francis Ave. between MP 1.11 and MP 3.07, and a High Accident Corridor from MP 8.47 to MP 9.52. There is currently a safety improvement project underway to address the High Accident Corridor. The project will re-align Rutter Parkway and widen SR 291 to provide channelization through the Nine Mile Community and at Charles Road. The construction is expected to be completed in October 2006.

Route Continuity

The American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets, 2001 defines route continuity as the provision of a directional path along and throughout the length of a designated route. Accordingly, route continuity is evaluated in terms of operational uniformity, appropriate lane balance, and maintenance of a basic number of lanes.

The goal of route continuity is to ease the driving task. This is accomplished through delineation of the through route and by reducing the need to change lanes and search for directional signing. Ideally, an unfamiliar through driver would not have to change lanes in order to continue on a through route. Although the existing configuration of SR 291 within the limits of this RDP satisfies the goal of route continuity, the long-term corridor concepts presented in this RDP recognize that SR 291 route continuity can be improved. Providing a continuous multi-lane facility and consistent access control from Havana Street to the Suncrest Community in Stevens County would advance the achievement of this goal.

Route Classification and Function

The primary purpose of the SR 291 corridor is to facilitate transportation of people. The segment of SR 291 addressed in this plan serves as the only major commuter route between the metropolitan City of Spokane and the bedroom communities of Nine Mile Falls,

Suncrest, and Tum Tum. In addition, SR 291 provides access to the numerous existing and proposed residential developments along the route.

Highway of Statewide Significance (HSS)

The Highways of Statewide Significance include highways, arterials, and ferry routes that connect major communities across the state and support the state's economy. SR 291 is currently not a Highway of Statewide Significance (HSS).

National Highway System (NHS)

The National Highway System is an interconnected system of principal arterial routes that serve interstate and interregional travel. In addition, these routes meet national defense requirements. SR 291 is currently not a National Highway System (NHS) route.

Design Level Classification

The WSDOT Design Manual provides guidance regarding design standards and processes to be used during project development. The manual recognizes three levels of design for highway projects: Basic, Modified and Full Design Levels. The Design Manual utilizes Design Matrices to identify the design level(s) for a specific project. These matrices focus on primary design elements such as, roadway alignments, intersection geometrics, sight distance, access, and geometric elements for roadway and bridge configurations. There are five matrices, each distinguished by route type:

Design Matrix 1 - Interstate Routes (Main Line)
Design Matrix 2 - Interstate Interchange Areas
Design Matrix 3 – Mainline NHS Routes
Design Matrix 4 - Interchange Areas, NHS and Non-NHS
Design Matrix 5 – Mainline Non-NHS Routes

SR 291, a Non-NHS route, currently falls under the direction of ***Design Matrix 5***, Mainline Non-NHS Routes (Appendix B).

Within future recommendations where new roadway construction is proposed, it is recommended that those areas of SR 291 be subject to full design level standards.

Functional Classification

The state functional classification is the grouping of highways, roads, and streets that serve similar functions into distinct systems or classes within the total existing or future highway network. The objective of functional classification is to define the appropriate role, mobility vs. access, of various highways in providing service and influencing development. Generally, the higher functional classification routes provide mobility, accommodate higher travel speed, serve long distance travel, and place less emphasis on local access. The lower functional classification routes focus on providing access to the land. The functional classification utilized on highways, from highest to lowest is Interstate, principal arterial, minor arterial, and collector. Functional class is important in determining appropriate design levels and priority in the programming process.

The WSDOT Functional Classification of SR 291 is **Rural Collector**. SR 291 is further distinguished by the following sub classifications:

- Division St. (MP 0.00) to Seven Mile Road (MP 5.22) - **Urban Principal Arterial**.
- Seven Mile Road to Vic. Nine Mile Falls (MP 7.53) - **Urban Minor Arterial**.
- Vic. Nine Mile Falls to Scotts valley Road (MP 22.31) - **Rural Collector**.

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). The FGTS is an inventory of the tonnages of freight moving along the highways, streets, and roads of Washington each year. This system provides a method to flag roadways requiring further evaluation to determine if improvements are needed. Further analysis of a roadway is triggered either by changes in the classification of a facility or by specific differences in classification of intersecting routes.

The FGTS classification is a dynamic system requiring periodic re-evaluation of a roadway's classification. The system is affected by changes in the economy, international trade and the transportation industry such as changes in travel patterns, cargoes, and tonnages. Routes are classified by total tonnage of freight carried each year with the designations detailed in the table below:

FGTS Classification System

FGTS Classification	Annual Gross Tonnage	Approximate Number of Large Trucks per Day
T-1	Over 10,000,000	Over 800
T-2	4,000,000 to 10,000,000	320 to 800
T-3	300,000 to 4,000,000	24 to 320
T-4	100,000 to 300,000	8 to 24
T-5*	*Over 20,000 in 60 days	

**The T-5 classification is used in those agricultural areas where harvest occurs over a relatively short period and represents an equivalent to 100,000 tons per year, but compressed into a two-month harvest season.*

The annual FGTS tonnage class for SR 291, Division Street to Seven Mile Road, MP 0.00 to MP 5.22, is **T-4;** the FGTS tonnage class for Francis Avenue, Market Street to Havana Street, MP Back -2.16 to MP Back -2.99, is **T-2**. The FGTS tonnage classifications for intersecting city streets or county roads listed on the system are shown below:

City Street or County Road	FGTS Class	SR 291 FGTS Class at I/S
Market Street	T1	T2
Ash Street	T2	T4
Maple Street	T2	T4
Nine Mile Road	**	T4

*Source: 2005 FGTS Update, Appendix H; **Identified as freight route by local jurisdiction but FGTS Class has not been determined*

The annual tonnage of freight moved along the SR 291 corridor from Seven Mile Road to Tum Tum vicinity is shown below:

County Road	MP	Truck %	Tons / Year
Seven Mile Road	5.22	6.16	88,959
Kendick Road	6.16	5.76	67,467
Whitmore Hill Road	16.05	6.21	24,426
McAlister Road	21.36	5.17	6,237

Access Management and Control Classification

Highway Access Management – The Access Control Classification System and Standards are defined by Washington Administrative Code (WAC) Chapter 468.52. Five classifications have been established for access management on state highways. A description of these classifications is in the table below:

Classification Description Table

Highway Classification & Definition	Typical Speed Limits	Minimum Access Spacing	Access Limitations
Class 1 Mobility is primary function.	50 mph and higher	1320 ft.	1 access connection only to contiguous parcels under the same ownership. Private direct access not allowed unless no other reasonable access exists. (Must use county road system if possible)*
Class 2 Mobility favored over access.	35-50 mph (urban) 45–55 mph (rural)	660 ft.	1 access connection only to contiguous parcels under the same ownership unless frontage >1320'. Private direct access is not allowed unless no other reasonable access exists. (Must use county road system if possible)*
Class 3 Balance between mobility and access in areas with less than maximum build-out.	30-40 mph (urban) 45-55 mph (rural)	330 ft.	1 access connection only to contiguous parcels under the same ownership. Joint access connection for subdivisions preferred, but private access allowed with acceptable justification.
Class 4 Balance between mobility and access in areas nearing maximum build-out.	30-35 mph (urban) 35-45 mph (rural)	250 ft.	1 access connection only to contiguous parcels under the same ownership except with acceptable justification.
Class 5 Access needs may have priority over mobility needs.	25-35 mph	125 ft.	More than 1 access connection per ownership allowed with acceptable justification.

Source: WSDOT Design Manual, Chapter 1435 (December 2003)

Access connection shall continue until such time that other reasonable access to the general street system becomes available and is permitted

Access control is established to preserve the safety and efficiency of specific highways and to preserve the public investment. Control is incorporated by acquiring rights of access from abutting property owners, typically by deed, and by selectively limiting approaches to the facility. Highway facilities with established access control are termed either limited access or managed access-controlled highways. Limited Access facilities have acquired access rights from abutting property owners and are further distinguished as having full, partial or modified access control. A synopsis of access control criteria follows.

Full Access Control Criteria

Fully controlled access highways provide almost complete freedom from disruption by permitting access connections only through interchanges at selected public roads, rest areas, viewpoints, or weighing stations, and by prohibiting all crossings and private connections at grade. *I-90 is an example of a fully controlled access highway.*

Partial Access Control Criteria

Partial access control may be established when warranted on highways other than Interstate. Partial control provides a considerable degree of protection from traffic interference and protects the highway from future strip-type development. Access control on partially controlled highways is exercised to the degree that, in addition to connections with selected public roads, some crossings and private driveway connections may be permitted at grade. Commercial approaches are not allowed within the limits of partial access control. *US 2 from Day Mt. Spokane to Chattaroy (MP 298.48 to MP 306.11) is an example of a partially controlled access highway.*

Modified Access Control Criteria

Modified access control is intended to prevent further deterioration in the safety and operational characteristics of existing highways due to traffic interference associated with strip development by limiting the number and location of access points to the highway. In general, modified access control is applied where some degree of control is desired, but existing and potential commercial development precludes the implementation of partial or full control. *US 2 from Nevada Street to Day-Mt. Spokane (MP 294.10 to MP 298.487) is an example of a highway with modified access control.*

Managed access control regulates access where property rights have not been acquired. Managed access permits are issued either by a local authority (city or town) or by WSDOT.

The access classifications for this segment of SR 291 are detailed in the following table:

SR 291 ACCESS MANAGEMENT CONTROL & CLASSIFICATION TABLE

Beg. MP	End MP	Section Description	Existing Classification	Posted Speed Limit
MP 0.00	MP 3.95	Division Street to Sanitary Landfill Vic.	Access Managed – Class 5	35 MPH
MP 3.95	MP 4.60	Sanitary Landfill Vic. to Spokane City Limits	Access Managed – Class 3	50 MPH
MP 4.60	MP 8.00	Spokane City Limits to Nine Mile Falls Vicinity	Access Managed – Class 2	50 MPH
MP 8.00	MP 9.64	Nine Mile Falls Vicinity	Access Managed – Class 4	35 MPH
MP 9.64	MP 11.17	Nine Mile Falls to Stevens County Line	Access Managed – Class 2	35/50 MPH
MP 11.17	MP 19.82	Stevens County Line to Palmer Lane	Access Managed – Class 2	50 MPH
MP 19.82	MP 22.30	Tum Tum Vicinity	Access Managed – Class 3	50 MPH

Source: Eastern Region Access Management Spreadsheet

Route Classification Plan

The WSDOT Roadside Classification Plan, 1996, (RCP) has been developed to coordinate state highway roadside management. Roadside management encompasses planning, design, construction, and maintenance of the roadside environment. WSDOT policy is to utilize roadside treatments for the protection and restoration of designated roadside character. Roadside character is classified from the roadway user's visual perspective of the landscape. Roadside character is either Natural, which includes Forest and Open, or Built, which includes Rural, Semi-urban, or Urban. Natural character includes forest and open classifications. Built refers to landscape in which human elements and structures are notable or predominant in the overall context. Built character includes rural, semi-urban, and urban classifications. The terrain of the non-urban section of SR 291 is identified as 'rolling'.

The Roadside Character Classification for the SR 291 RDP Corridor is illustrated in the table below.

Begin Mile Post	End Mile Post	Character Classification
0.00	3.10	Urban-Spokane
3.10	5.50	Semi-Urban-Spokane
5.50	9.60	Rural
9.60	13.80	Forest
13.80	17.40	Rural
17.40	18.90	Forest
18.90	21.90	Rural
21.90	22.30	Forest
22.30	27.10	Open

Source: WSDOT Roadside Classification Plan, 1996

Alternate Transportation Options

Public Transportation

Spokane Transit Authority (STA), the primary bus service in Spokane County, currently does not provide service along SR 291 beyond Lyons Road. STA terminates northern bus service in the vicinity of MP 3.57 with a loop route. Passenger rail service does not currently operate north of central Spokane. STA also provides paratransit service for those who qualify under the Americans with Disabilities Act (ADA).

Pedestrian and Bicycle Facilities

SR 291 is a shared roadway bicycle corridor. From Nine Mile Road Wye to Charles Road the existing 6 to 8 foot shoulders can support bicycle interfaces. The proposed 20 year project design will include shoulder widths that can support bicycle traffic along the river section, from the Little Spokane River Bridge MP 10.04 to the Suncrest community MP 12.45.

School Bus Route

School district #325/179 serves the extreme southeast corner of Stevens County and Nine Mile Falls in Spokane County. It includes two elementary schools, one middle school, one high school, and one alternative school. One of the bus routes is along SR 291 with numerous stops at three different times of the day.

Current Land Use and Zoning

The land use patterns are what determine the character of the community and dictate the types and locations for future development, which in turn dictate the traffic patterns. The land use designations for the adjacent areas along SR 291 in Spokane County (MP 0.00 to MP 22.31) are shown on the City of Spokane Land Use Map, Spokane County Comprehensive Plan Land Use map, and Stevens County Land Use Map Pg. 5, all in Appendix E. The predominant land use along SR 291 in Section 1 is General Commercial and Urban Residential, in Section 2 is Light Residential and Open Spaces, and in Section 3 is Urban Residential and Open Spaces.

Existing Facility

Eastern Region

SR 291 Route Development Plan

Freya Street to Scotts Valley Road

Right of Way

Approximate widths from centerline of existing City and WSDOT right-of-way along the SR 291 RDP corridor are:

City Principal Arterial, MP Back -2.48 to MP 0.00, Undivided Multilane – 48 feet to 77 feet

Urban Principal Arterial, MP 0.00 to MP 3.01, Undivided Multilane – 30 feet to 65 feet

Urban Principal Arterial, MP 3.01 to MP 5.22, Undivided Multilane – 30 feet to 175 feet

Urban Minor Arterial, MP 5.22 to MP 6.33, Three-Lane – 75 feet to 100 feet

Urban Minor Arterial, MP 6.33 to MP 7.53, Two-Lane – 30 feet to 80 feet

Rural Collector, MP 7.53 to MP 22.31, Two-Lane – 30 feet to 240 feet

Per WSDOT Design Manual, Figure 440-7a, the recommended right-of-way widths for a Non-NHS Collector route are:

	Undivided Multilane		**Two-Lane**					
Design Class	C-1		C-2		C-3		C-4	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
DHV*	Over 900		Over 501		301-500		300 and Under	
Minimum Right-of-Way	150 ft.	80 ft.	120 ft.	80 ft.	120 ft.	80 ft.	100 ft.	80 ft.

**DHV in Design Year – DHV is the Average Daily Traffic (ADT) multiplied by the percentage of ADT occurring in the peak hour (K).*

There are numerous locations where existing right-of-way along the SR 291 RDP corridor is less than WSDOT recommendations.

Signals

Within the limits of this SR 291 RDP corridor, signals were activated on the dates specified at the following locations:

Cross Street	Location (MP)	Activation Date
Freya Street to Division Street		
Freya Street	MP Back –2.48	November 20, 1984
Market Street	MP Back –2.16	July 07, 1963
Crestline Street	MP Back –1.51	July 03, 1970
Nevada Street	MP Back –0.74	November 27, 1967
Addison Street	MP Back –0.37	January 24, 1972
Division Street to Scotts Valley Road		
Division Street	MP 0.00	1958
Wall Street	MP 0.50	February 08, 1960
Monroe Street	MP 0.66	January 18, 1960
Maple Street	MP 1.12	May 15, 1970
Ash Street	MP 1.18	1966
Alberta Street	MP 1.77	August 22, 1978
Indian Trail Road	MP 2.21	April 04, 1975

Bridges and Structures

There is one bridge within the SR 291 corridor. A description of that structure is provided below.

Location	Bridge Name & Number	Type of Structure	Width	Length	Year Built
MP 10.04	Little Spokane River, Bridge No. 291/6	Prestressed Concrete Girder	28	180	1966

A measure of a bridge's ability to carry vehicle loads, termed structural capacity, determines the assigned "load rating". The load rating identifies whether or not a bridge is "posted" for legal weight vehicles or if the bridge is "restricted" for overweight permit vehicles. Currently, there are no vehicle weight restrictions on this structure. Bridge Condition Reports provide additional details regarding these structures. This report can be found in Appendix C.

Roadway Design Elements

The alignment of a highway greatly impacts the environment, the structure of surrounding communities, and the motoring public. A variety of design elements are carefully combined to provide a highway facility that safely and efficiently serves the motoring public, consistent with the planned function of the facility. Each alignment design element should complement other elements to produce a consistent, safe, and efficient design. There are several principal elements of design common to all highways. These include horizontal and vertical alignment, sight distance, superelevation, and roadway widths. This RDP will address these principal elements only. As shown in Design Matrix 5 (Appendix B), there are many additional design elements that should also be evaluated during project development phase.

Terrain

As differentiated in the 2004 WSDOT State Highway Planning Log the terrain along SR 291 within the limits of the RDP varies as follows:

MP B-2.48 to MP 0.00 – Level Terrain
MP 0.00 to MP 22.31 – Rolling Terrain

Posted Speed

The posted speed limit along the SR 291 RDP corridor ranges from 35 mph to 50 mph as detailed in the table below:

Posted Speed Limit & Desirable Design Speed

Mile Post	Description	Posted Speed Limit (mph)	Desirable Design Speed (mph)
B-2.48	Freya Street to Division Street (City Arterial)	35	N/A
0.00	Division Street to Sanitary Landfill Vic. (Urban)	35	N/A
3.95	Sanitary Landfill Vic. to MP 7.53 (Urban)	50	55
7.53	MP 7.53 to MP 9.80 (Rural)	35	35
9.80	MP 9.80 to MP 12.48 (Rural)	50	55
12.48	MP 12.48 to Vicinity Wylie Drive (Rural)	40	40
14.40	Vicinity Wylie Drive to Scotts Valley Road	50	55

Source: WSDOT State Highway Planning Log, 2004 Planning Report

Design Speed

The choice of a design speed is influenced by functional classification, posted speed, operating speed, terrain, traffic volumes, accident history, access control, and economic (funding) factors. ***However, a geometric design that adequately allows for future improvement is the major criterion, rather than strictly economics.*** It is also essential to consider the geometric conditions of adjacent sections of highway as drivers typically expect to be able to maintain a uniform speed for a significant length of highway. It is desirable that the design speed and the posted speed correlate as follows:

Desirable Design Speed

Route Type	*Posted Speed*	*Desirable Design Speed*
Freeways	All	10 mph over the posted speed
Non-Freeways	45 mph or less	Not less than the posted speed.
	Over 45 mph	5 mph over the posted speed*

Source: WSDOT Design Manual Supplement-Design Speed, Figure 440-1, March 25, 2004
**This is a general guideline—the desired design speed for any one section of highway may differ based on WSDOT policy objectives or specific geometric concerns.*

Per WSDOT Design Manual, Section 440.07, highway arterials that have obvious "street-like" characteristics, operationally and physically, do not require a design speed determination. In these situations, closely spaced intersections and other operational constraints ordinarily inhibit vehicular speeds, neutralizing the design speed factor.

Roadway Geometrics

The typical roadway section of existing SR 291 within the RDP limits, outside of the city limits, is a two-lane facility providing ***11-foot lanes and 1-2 foot shoulders***. The auxiliary lanes on SR 291 are detailed in the following Tables:

Climbing Lanes

SR 291 Northbound		
Mile Post		Length (Miles)
Begin	End	
12.45	12.80	0.35

Source: WSDOT State Highway Log, 2004 Planning Report

Two-Way Left Turn Lanes

Mile Post		Length (Miles)
Begin Lane	End Lane	
0.13	0.44	0.31
0.57	0.61	0.04
0.79	1.09	0.30
1.20	1.72	0.52
1.80	2.20	0.40
3.42	3.52	0.10
3.58	3.79	0.21
3.91	3.96	0.05
5.26	6.33	1.07

Source: WSDOT State Highway Log, 2004 Planning Report

Major Intersection Channelization

Mile Post	Intersection	Northbound		Southbound	
		Left Turn	Right Turn	Left Turn	Right Turn
B-2.48	*Freya Street*	*Lane*		*Lane*	
B-2.16	*Market Street*		*Lane*		*Lane*
B-1.51	*Crestline Street*	*Lane*		*Lane*	
B-0.74	*Nevada Street*	*Lane*		*Lane*	
B-0.37	*Addison Street*	*Lane*		*Lane*	
0.00	US2 / US 395 (Division Street)	Lane	Lane	2 Lanes	Lane
0.26	Whitehouse Street				
0.50	Wall Street				
0.66	Monroe Street				
1.12	Maple Street				
1.18	Ash Street				
1.50	Belt Street				
1.77	Alberta Street				
2.00	“A” Street				
2.21	Indian Trail Road		Lane	Lane	
3.00	Assembly Street	Lane	Taper		
3.07	Nine Mile Road Wye				
3.41	Royal Drive				
3.85	Rifle Club Road				
4.25	Windriver Drive				
5.22	Seven Mile Road	Lane		Lane	Taper
6.16	Kendick Road				Taper
9.11	Rutter-Parkway				
9.20	Charles Road				
12.98	Swenson Road	Lane	Lane	Lane	Lane

Mile Post	Intersection	Northbound		Southbound	
		Left Turn	Right Turn	Left Turn	Right Turn
13.36	Sunrise Drive				
13.82	Suncrest Drive				
14.35	Wylie Drive				
15.13	Moriah Drive	Lane			Taper
15.96	Jergens Road				
16.05	Whitmore Hill Road				
17.89	Lakeview Road				
18.41	Stonelodge Road				
21.36	McAlister Road				
22.31	Scotts Valley Road				

Source: WSDOT State Highway Log, 2004 Planning Report, 2003&2004 Aerial Photographs, and 2005 Srweb 2.2

No-Passing Zones

On the two-lane roadway section of SR 291, MP 6.50 to MP 22.31, within the RDP limits, approximately 81 percent of the northbound and southbound lanes are designated as no-passing zones at the following locations:

SR 291 Northbound			SR 291 Southbound		
Mile Post Limits		Length (Miles)	Mile Post Limits		Length (Miles)
Begin Zone	End Zone		Begin Zone	End Zone	
6.80	8.50	1.70	6.50	6.60	0.10
8.77	9.52	0.75	6.90	8.55	1.65
9.65	14.43	4.78	8.85	9.60	0.75
14.88	15.88	1.00	9.75	14.53	4.78
16.00	16.37	0.37	14.88	16.00	1.12
16.60	16.85	0.25	16.10	16.50	0.40
17.48	17.90	0.42	16.70	17.05	0.35
18.57	18.77	0.20	17.82	18.00	0.18
18.92	RDP Limits	3.39	18.70	18.87	0.17
		12.86	19.00	RDP Limits	3.31
TOTAL ZONE MILES		**25.67**			12.81

Source: WSDOT SR View 2003

Horizontal and Vertical Alignments

The segment of SR 291 corridor addressed in this Route Development Plan is located primarily along rolling terrain with a current posted speed limit of 50 mph. The speed for evaluating design elements on this section is 50 mph. Along Francis Avenue, from Division

Street to vicinity Nine Mile Road, the horizontal alignment consists of a series of horizontal angle points and tangents. Per WSDOT Design Manual Figure 620-1 "Maximum Angle Without Curve" the maximum angle point for a 50 mph design speed is 1°09' deflection. The angle points are detailed in the following table:

Horizontal Angle Points

SR Mile Post	Central Angle (Degrees)	Direction (Lt./Rt.)	Superelevation (ft./ft.)	Maximum Allowable Angle	Exceeds Maximum
0.50	2°54.0'	Rt.	Crown Section	1°09'	Yes
0.60	1°25.9'	Rt.	Crown Section	1°09'	Yes
0.62	1°25.9'	Lt.	Crown Section	1°09'	Yes
0.99	2°42.5'	Lt.	Crown Section	1°09'	Yes
1.49	0°20.5'	Lt.	Crown Section	1°09'	No
2.00	0°01.0'	Rt.	Crown Section	1°09'	No
2.50	0°16.5'	Rt.	Crown Section	1°09'	No
6.54	0°23.4'	Rt.	Crown Section	1°09'	No

Source: WSDOT TRIPS System, Horizontal and Vertical Alignment Report
Approved Right of Way Plans, WSDOT

Horizontal Alignment – Radius and Superelevation
WSDOT evaluates superelevation rates along existing curves utilizing the following equation:

$$R = \frac{6.69*V^2}{(e + f)}$$

Where:
R = The minimum allowable radius of the curve in feet
V = Design speed in miles per hour
e = Superelevation rate in percent
f = Side friction factor based on design speed

Horizontal Curves

PC Mile Post	PT Mile Post	Radius (ft.)	Central Angle (Degrees)	Length (ft.)	Super elevation (ft./ft.)	Speed Limit (mph)	Minimum Allowable Radius (ft.) R=6.69V^2/e+f
2.97	3.02	1433.0	11°45.0'	294	Crown	35	468
3.04	3.13	400	69°02.4'	482	0.06	35	381

PC Mile Post	PT Mile Post	Radius (ft.)	Central Angle (Degrees)	Length (ft.)	Super elevation (ft./ft.)	Speed Limit (mph)	Minimum Allowable Radius (ft.) R=6.69V^2/e+f
3.16	3.38	1400	48°24.6’	1183	0.04	35	420
3.41	3.59	1433	38°13.2’	956	0.06	35	381
4.95	5.15	1433	43°01.2’	1076	0.06	50	836
5.85	6.10	1917	40°35.0’	1358	0.05	50	880
6.81	7.02	1917	40°35.0’	1357.74	0.05	50	880
7.07	7.15	900.0	26°46.0’	420.5	0.06	50	836
7.30	7.46	900.0	54°43.0’	859.5	0.06	50	836
7.88	8.01	1909.0	18°59.1’	627.31	0.05	50	880
8.18	8.30	5000.0	1°41.6’	147.95	0.02	35	512
8.30	8.47	660.0	102°42.3’	1183.0	0.06	35	410
8.83	8.97	800.0	50°42.5’	708.0	0.05	35	431
9.04	9.07	600.0	13°39.8’	143.1	0.05	35	431
9.10	9.13	600.0	18°24.4’	192.75	0.05	35	431
9.21	9.53	926.4	45°16.7’	732.1	0.04	35	455
9.35	9.53	996.9	54°35.3’	949.8	0.05	35	431
9.70	9.78	716.2	36°37.9’	457.9	0.02	35	512
10.17	10.22	715.9	18°58.0’	237.0	0.05	50	880
10.29	10.33	716.2	17°37.0’	220.2	0.05	50	880
10.39	10.44	955.1	13°14.0’	220.6	0.05	50	880
10.45	10.55	716.3	41°42.0’	521.3	0.04	50	929
10.63	10.69	1432.2	11°08.0’	278.3	0.04	50	929
10.71	10.74	1432.8	07°09.0’	178.8	0.03	50	984
10.77	10.81	716.2	20°24.0’	255.0	0.03	50	984
10.95	10.98	1432.5	07°05.0’	177.1	0.03	50	984
11.01	11.06	1444.4	09°45.0’	245.8	0.03	50	984
11.21	11.25	1432.2	08°50.0’	220.8	0.03	50	984
11.34	11.35	954.9	06°00.0’	100.0	0.04	50	929
11.36	11.46	520.9	55°56.0’	508.5	0.06	50	836
11.49	11.58	573.0	51°27.0’	514.5	0.07	50	796
11.61	11.70	573.0	47°00.0’	470.0	0.07	50	796
11.73	11.81	573.0	43°00.0’	430.0	0.04	50	929

PC Mile Post	PT Mile Post	Radius (ft.)	Central Angle (Degrees)	Length (ft.)	Super elevation (ft./ft.)	Speed Limit (mph)	Minimum Allowable Radius (ft.) R=6.69V^2/e+f
11.85	11.91	573.0	29°00.0’	290.0	0.04	50	929
11.95	11.98	573.0	16°36.0’	166.0	0.04	50	929
12.06	12.17	954.9	35°35.0’	593.1	0.06	50	836
12.17	12.38	800.0	79°20.0’	1107.7	0.06	50	836
12.45	12.49	1000.2	11°59.0’	209.2	0.07	40	487
12.61	12.69	370.0	71°36.0’	462.4	0.06	40	540
12.80	12.87	1000.0	21°23.0’	373.2	0.03	40	595
13.0	16.0	NA	NA	NA	--	--	--
16.04	16.14	572.9	48°17.0’	482.8	0.05	50	880
17.76	17.93	1909.8	26°59.0’	899.4	Crown	50	1045
18.67	18.78	1432.4	23°24.0’	585.0	0.06	50	836
19.01	19.14	954.9	40°20.0’	672.2	0.04	50	929
19.28	19.35	477.5	49°32.0’	412.8	0.06	50	836
19.37	19.44	573.0	35°49.0’	358.2	0.04	50	929
19.49	19.55	477.4	37°46.0’	314.7	0.04	50	929
19.64	19.70	477.5	39°28.0’	328.9	0.03	50	984
19.99	20.08	573.0	50°24.0’	504.0	0.03	50	984
20.31	20.40	716.2	36°53.0’	461.0	0.06	50	836
20.44	20.66	1431.9	46°02.0’	1150.4	0.06	50	836
20.93	21.08	573.0	81°10.0’	811.7	0.04	50	929
21.18	21.43	954.9	77°09.0’	1285.8	0.04	50	929
21.51	21.59	716.3	36°31.0’	456.5	0.04	50	929
21.61	21.78	1042.5	46°51’	852.5	0.04	50	929
21.86	22.01	1146.0	41°53’	837.7	0.03	50	984

Source: WSDOT TRIPS System, Horizontal and Vertical Alignment Report
Approved Right of Way Plans, WSDOT; Field Measurements
Horizontal Curve has radius below suggested minimum radius.

Vertical Curves – Section #2 and #3

BVC (mile post)	EVC (mile post)	Length (ft.)	Algebraic Difference in Grades (1) (% Grade)	Design Stopping Sight Distance (ft.)	Design Speed (mph)	Posted Speed (mph)
3.40	3.44	100	-0.36	1896	>80	35
3.67	3.69	200	-0.89	847	65	50
12.91	13.12	200	0.79	30000	>80	35-40
13.29	13.30	100	0.68	30000	>80	50
13.44	13.46	200	-1.87	455	45	50
13.64	13.66	200	1.06	30000	>80	50
14.11	14.13	200	2.22	898	70	50
14.27	14.29	200	-1.13	688	60	50
14.46	14.47	100	-1.16	623	55	50
14.63	14.65	200	0.80	30000	>80	50
14.86	14.87	100	-0.26	2606	>80	50
15.17	15.19	200	-1.32	603	55	50
15.43	15.51	500	1.18	30000	>80	50
15.79	15.80	100	0.31	30000	>80	50
16.31	16.39	450	-0.85	2071	>80	50

Source: Approved Right of Way Plans, WSDOT TRIPS System, Horizontal and Vertical Alignment Report

(1) Algebraic difference is positive for a sag curve and negative for a crest curve.
(2) Approximate curve location and length from TRIPS System
Vertical curve has a design speed less than posted speed.

Utilities

There are numerous aerial and buried utilities located along this segment of the SR 291 corridor. A detailed listing of recorded WSDOT franchises and permits is provided in Appendix D.

WSDOT has recorded the following utility holders within the RDP limits:

- Comcast Cable Co.
- Avista Corporation
- Inland Power & Light Co.
- Spokane County
- City of Spokane
- Stevens Co. PUD #1
- Qwest Corporation
- Bonneville Power Admin.
- Myron G. Bursell (Water)
- Scott J. Forshee (Sewer)

Existing & Future Operating Conditions

Eastern Region

SR 291 Route Development Plan

Freya Street to Scotts Valley Road

Traffic Volumes

Traffic volumes along SR 291 vary according to the time of day, recreational seasons, and if school is in session or not. Existing annual average daily traffic (AADT), PM peak hour traffic (*evening commute),* and turning movement volume data was collected along the mainline and at major county intersections on SR 291 for analysis. The following tables summarize the findings:

SR 291 Average Daily Traffic

Mile Post	Year				K%
	2001	2004	2015**	2025**	
Seven Mile Rd (MP 5.22)	12000	12000	15700	20200	0.09
Rutter-Parkway (MP 9.11)	7900	8600	11300	14400	0.11
Charles Rd (MP 9.20)	9000	10000	13100	16800	0.09
Swenson Rd (MP 12.98)	7100	7700	10100	12900	0.11
Sunrise/Blackstone Dr. (MP 13.36)	*	7800	10200	13100	0.10
Suncrest Drive (MP 13.82)	6900	7000	9200	11800	0.10
Wylie Drive (MP 14.35)	*	5600	7300	9400	0.09
Moriah Drive (MP 15.13)	*	4000	5200	6700	0.10
Jergens Rd (MP 15.96)	*	3600	4700	6000	0.09
Whitmore Hill Rd (MP 16.05)	3100	3100	4100	5200	0.09
Stonelodge Rd (MP 18.41)	*	1800	2400	3000	0.08
McAllister Rd (MP 21.36)	990	1200	1600	2000	0.07
Scotts Valley Rd (MP 22.31)	*	980	1300	1600	0.07

Source*: 1999-2002 Annual Traffic Report and WSDOT TRIPS System*

** Traffic counts not available*
*** Based on 2.5% growth rate from year 2002 & 2003 actual counts*
K% - ratio of design hour traffic to AADT

Level of Service

A level of service (LOS) analysis evaluates the traffic volumes and operational characteristics of a designated segment of a highway. The product of the analysis is a description of the highway's traffic carrying capacity as defined by six levels of service. Level of Service is a qualitative measure describing operational conditions within a traffic stream, generally described in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The LOS was calculated using existing PM peak hour volumes. The table below shows the service range from LOS A, representing the best operating conditions, to LOS F, representing the worst.

Level of Service	Operating Conditions
A	• Free-flow operations at average travel speeds • Vehicles completely unimpeded within the traffic stream • Platoons of three or more vehicles are rare
B	• Reasonably unimpeded operations at average travel speeds • Maneuverability within traffic stream is slightly restricted • Drivers delayed in platoons up to 50% of the time
C *(minimum LOS for Rural highways in Washington)*	• Stable operations • Ability to maneuver becomes more restrictive • Drivers delayed in platoons up to 65% of the time
D *(minimum LOS for Urban highways in Washington)*	• Unstable traffic flow • Small increases in flow may cause substantial increases in delays and speed • Passing demand high but passing capacity approaches zero • Drivers are delayed in platoons for nearly 80% of the time
E	• Significant delays and average travel speeds less than base condition • Adverse progression, passing is virtually impossible
F	• Heavily congested flow with traffic demand exceeding capacity • High delays and queuing expected

Source: Highway Capacity Manual 2000

Level of service analysis for the unsignalized intersections was accomplished using HCS2000 for two-way stop-controlled intersections. Many of the intersections within the RDP limits are unsignalized. WSDOT Eastern Region Planning and Traffic offices have drafted a Signal and Channelization Priority Array that identifies and ranks intersections recommended for signalization.

Level of Service Criteria for Two Way Stop Control Intersections

Level of Service	**Average Control Delay (sec/veh)*
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	>50

Source: Highway Capacity Manual 2000

**Control delay is the total time from when a vehicle stops to when the vehicle departs the intersection*

To provide detailed intersection operational analysis at significant intersections within the RDP limits, turn movement counts were collected. While the LOS at unsignalized intersections is measured in terms of average vehicle delay, the overall intersection LOS is based on the LOS of the worst approach movement. The LOS was calculated using existing PM peak hour volumes. The following table shows the results of the analysis.

Two Way Stop Control Intersections (2004 vs. 2025)

Intersection	2004				2025			
	Minor Rd. Lt	Minor Rd. Rt	SR 291 EB	SR 291 WB	Minor Rd. Lt	Minor Rd. Rt	SR 291 EB	SR 291 WB
"A" Street	159	77	894	1712	202	98	1136	2175
Assembly/Driscoll/ Francis	275	61	620	636	350	77	789	808
Rifle Club Road	92	70	497	928	116	89	632	1180
Seven Mile/Lowell Road	177	6	332	722	225	9	422	917
Kendick Drive	25	--	233	666	31	--	296	846
Rutter-Parkway	--	79	239	797	--	99	304	1013
Charles Road	206	--	231	583	259	--	293	741
Swenson Road	84	75	238	551	107	95	302	701
Sunrise/Blackstone	82	8	178	535	103	10	255	719
Suncrest Drive	187	--	139	344	237	--	262	462
Wylie Drive	85	2	199	285	108	2	252	361
Moriah Drive	64	--	172	264	81	--	217	334
Jergens Road	--	14	100	204	--	17	126	259
Whitmore Hill Road	--	16	100	185	--	20	126	235
Stonelodge Road	24	--	54	73	31	--	68	93
McAllister Road	--	8	43	40	--	10	54	48
Scotts Valley Road	--	2	24	44	--	3	31	56

**2004 values are Peak hour traffic counts. 2025 Peak hour counts based on projected growth factors.*

With the projected traffic volumes in year 2025 for the facility, assuming a 'No Build' condition where no improvements have been made, intersections will operate at the LOS designated in the table below. A traffic signal may be proposed at any of these intersections if at the time of design it meets signal warrants, and a signal is determined to be the appropriate fix.

Two Way Stop Control Intersections Level Of Service (LOS)

Intersection	2004 LOS	2025 (No Build) LOS
"A" Street	E	F
Assembly/Driscoll/ Francis	F	F
Rifle Club Road	F	F
Seven Mile/Lowell Road	F	F
Kendick Drive	B	B
Rutter-Parkway	C	C
Charles Road	C	F
Swenson Road	C	F
Sunrise/Blackstone	C	D
Suncrest Drive	B	B
Wylie Drive	C	C
Moriah Drive	A	B
Jergens Road	B	B
Whitmore Hill Road	A	B
Stonelodge Road	A	A
McAllister Road	A	A
Scotts Valley Road	A	A

**LOS Evaluated by Highway Capacity Software 2000.*

Collisions

WSDOT uses two major programs, the High Accident Location (HAL) and the High Accident Corridor (HAC) programs, to address areas with frequent collisions along state highways.

Threshold criteria for identifying HAL and HAC locations include total points per mile (based on point values assigned to severity of accidents), number of accidents per mile, and average severity per mile. Severity point assignments are shown below.

10 - POINTS PER FATAL ACCIDENT
9 - POINTS PER DISABLING INJURY ACCIDENT
3 - POINTS PER EVIDENT INJURY ACCIDENT
2 - POINTS PER INJURY ACCIDENT
1 - POINT PER PROPERTY DAMAGE ONLY ACCIDENT

Currently, there is one HAC identified on this segment of SR 291. However, there is currently a project to improve the safety of the High Accident Corridor (HAC) on SR 291 in the vicinity of the nine mile community between MP 8.5 and 9.5 to the northwest of Spokane.

The current Rutter Parkway intersection joins SR 291 at a sharp angle and steep grade. The project will relocate SR 291 to the south and west and, as a result, move the SR 291/Rutter Parkway intersection to the small business district in the Nine Mile community. The new intersection will be a "T" configuration and the SR 291 roadway will have an added center turn lane. *(See Appendix A for Design Layout)*

Severity points were calculated for the years 2001 to 2003 and showed a significant decrease in the points (see table below).

Year	Severity Points
2001	317
2002	288
2003	284

The State's Transportation Data Office is supplied with the reported traffic accidents from the Washington State Patrol (WSP) that are $500 or more. This data is compiled and a report is created called "Washington State Annual Highway Collision Data Summary". Accident and fatality rates on a segment of highway are typically compared to statewide rates as well as rates for the region, state functional classification, and county based on single or multi-year periods. The table below shows these comparisons. The most recent year covered by this report (for comparing statewide data) is the 2004 Collision Data Summary.

	2001* SR 291	2002* SR 291	2003* SR 291	WA State 2004	Eastern Region 2004	Rural Minor Arterial 2004	All Minor Arterials 2004	Spokane County 2004
Accident Rate	1.65	1.52	1.62	1.51	1.35	1.29	1.87	1.65
Fatal Acc. Rate	0	1.81	0	0.79	0.95	2.64	2.08	0.71

**Rates are based on 13000 ADT – actual 2000 count;*
Source: Accident Data Run Date: 6/16/2000 (Includes partial accident records)

***Accident Rate = (Number of Accidents) x (1million) / (Section Length) x (AADT) x (365 Days)*

Fatal Accident Rate = (Number of Accidents) x (100million) / (Section Length) x (AADT) x (365 Days)

In 2004, the accident rate for Spokane County was 1.65 accidents per million vehicle miles of travel compared to the statewide and Eastern Region average accident rates of 1.51 and 1.35, respectively. During this same period the average accident rate along minor arterials in rural areas statewide was 1.29. Accident data from November 30, 1998 to November 30, 2001 for SR 291 between MP 12.51 and MP 16.74 reveals the following:

COLLISON TYPE

Type	Number of Collisions	% Total
Entering at Angle	168	30.4%
Rearend	230	41.6%
Off-Road (incl. overturn, etc.)	23	4.2%
Sideswipe opposite dir.	33	6.0%
Head-on	7	1.3%
Pedestrian/Bike	12	2.0%
Other Object	80	14.5%
TOTAL	**553**	**100%**

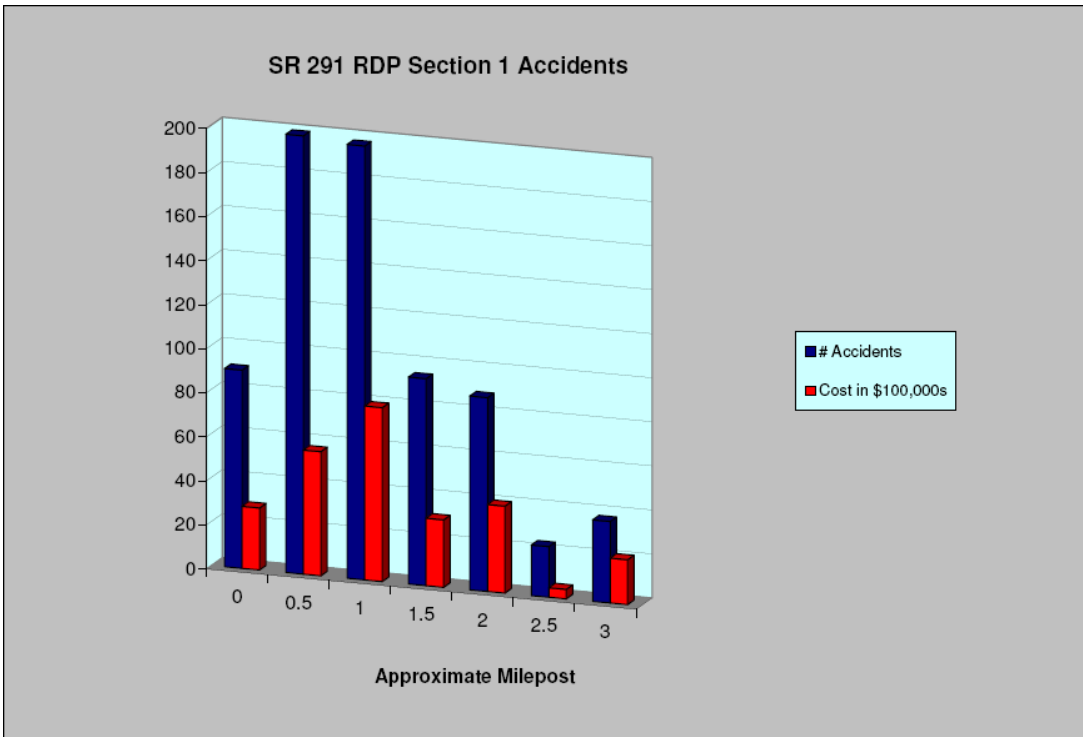
Source: Trips data (Above data contains both full and partial accident records.)

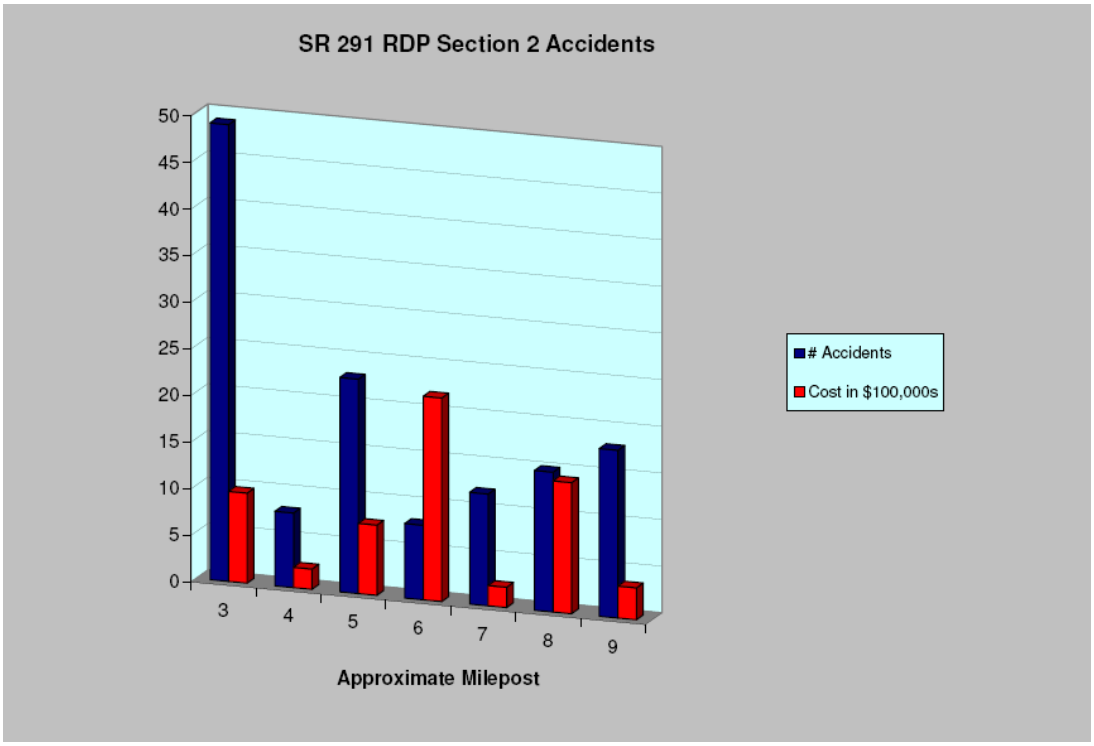
COLLISION SEVERITY

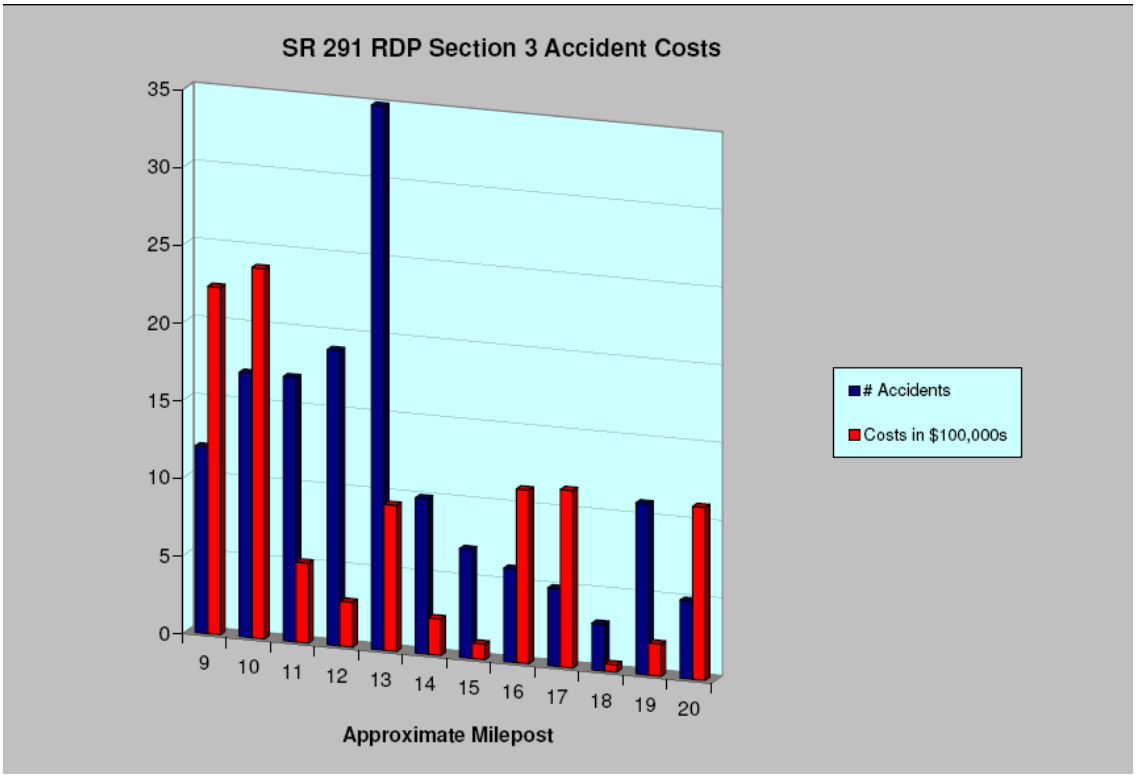
Injury Type	Number of Collisions	% Total
Property Damage Only:	296	53.5%
Injury Accidents:		
Possible Injury	163	29.5%
Evident Injury	68	12.3%
Disabling Injury	9	1.6%
Fatal	2	0.4%
Injury Status Unknown	15	2.7%
Total Accidents	553	100%

Source: Trips Data (Above data contains both full and partial accident records.)

COLLISION COSTS RELATIVE TO ACCIDENTS TOTALS

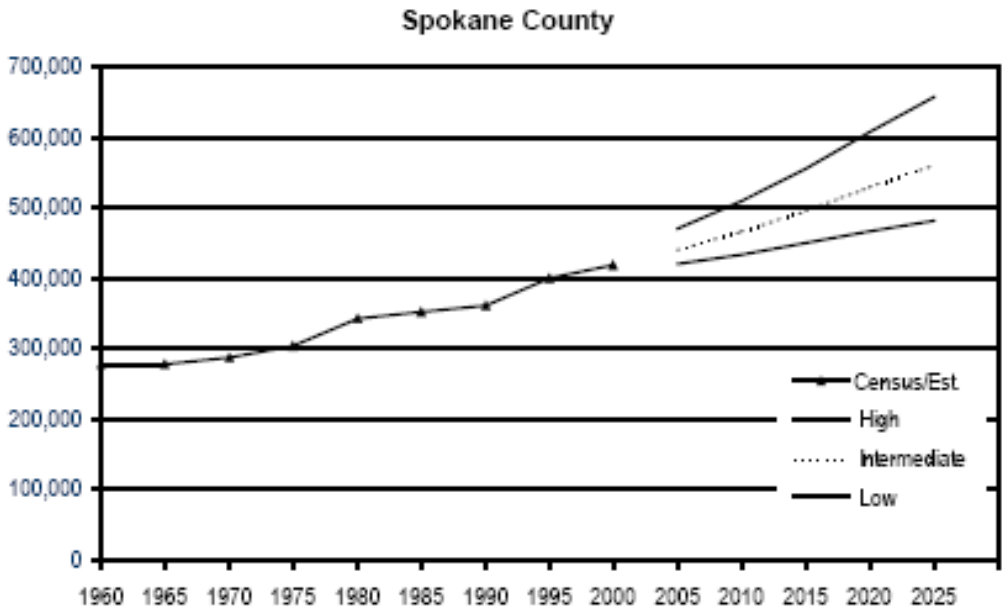




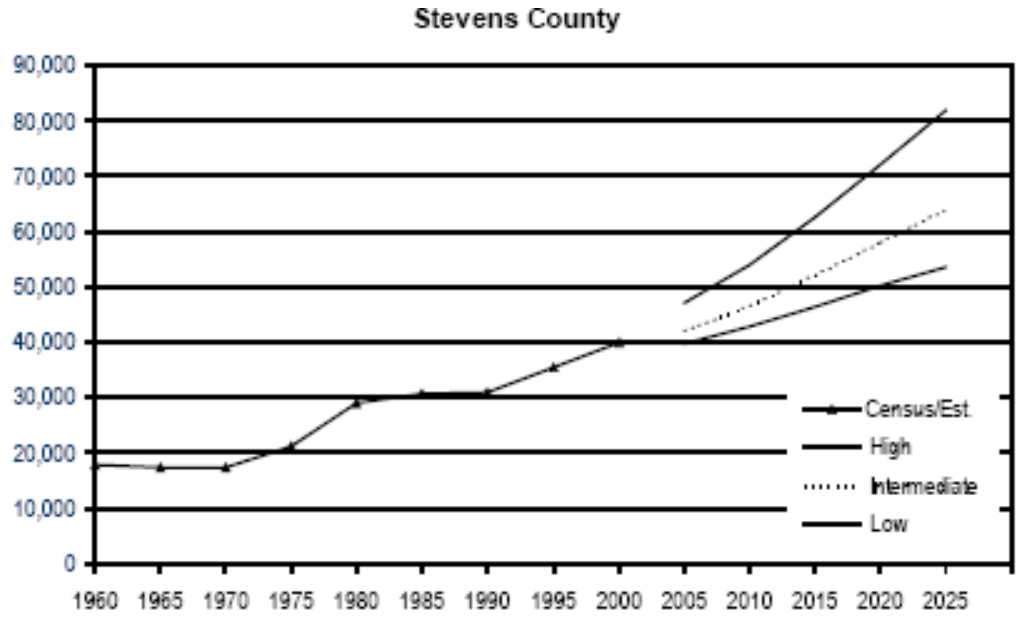


Growth Rates

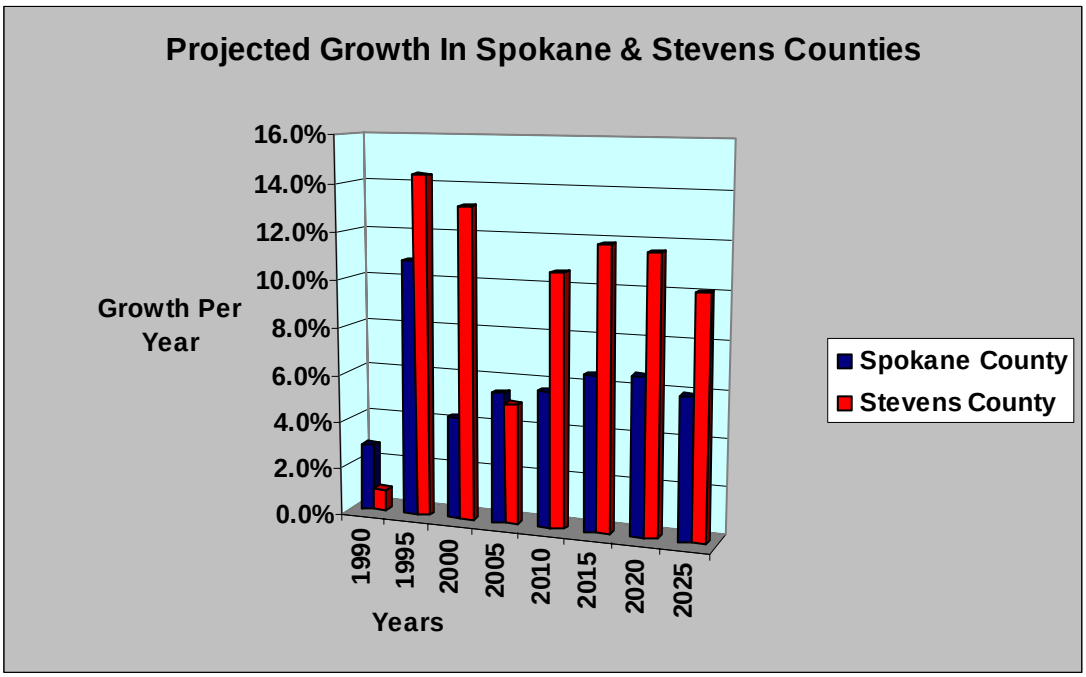
In 1995 the populations in Spokane and Stevens Counties were 400,500 and 35,400 people respectively. These figures in 2005 grew to 441,100 and 42,100, representing 10% growth in Spokane County and a 19% growth in Stevens County over 10 years. The Washington State Office of Financial Management (OFM) is forecasting similar growth trends for these areas through the year 2025. *(See Graphics Next Page)*



Source: OFM Forecast January 2002.



Source: OFM Forecast January 2002



Traffic Growth Rate

Increased traffic generated by a steady expansion in residential and commercial uses throughout the SR 291 Corridor will place increasing demands on the facility. Traffic volumes were projected to 2025 for long term analysis. The 2.5% growth rate was derived from historic counts acquired from WSDOT Traffic Data Office. The table below illustrates projected traffic numbers throughout each section of the SR 291 Corridor study.

Section	Existing	2011	2025
1 – Freya St. to Nine Mile Wye	29,000	32,800	46,400
2 – Nine Mile Wye to Charles Rd.	9,200	10,400	14,700
3 – Charles Rd to Scotts Valley Rd.	7,100	8,000	11,400

Route Improvements

Eastern Region

SR 291 Route Development Plan

Freya Street to Scotts Valley Road

Mobility

Mobility improvement projects support strategies that improve Level of Service (LOS) operations on rural highways, and whenever cost effective, reduce the number of existing or potential access points onto state highways by purchasing access rights or encouraging the consolidation of access through the land development review process. Projects that provide intersection improvements, highway realignment, highway widening, bridge replacement, access improvements, climbing lanes, and passing lanes are examples of mobility projects.

Mobility Improvements Identified in the 2003 – 2022 Highway System Plan

The following proposed mobility improvements on this segment of SR 291 were identified in the **2003 - 2022 Washington State Highway Systems Plan**:

Vicinity	Improvement	Estimated Cost Range ($ in Millions)
MP 0.0 to MP 2.3 Division to G Street	**Intersection Improvements; Intelligent Transportation Systems**	**4.68 to 6.34**
MP 7.53 to 11.07 Ridgecrest to Stevens County	**New Facility; 9 Mile Bypass**	**23.98 to 32.44**
MP 11.07 to 14.31 Stevens County To Suncrest	**New Facility; 9 Mile Bypass**	**9.77 to 13.21**

Source: 2003 - 2022 Washington State Highway System Plan

Spokane County's Urban Connector System

Spokane County is currently developing an Urban Connector System to serve the growing transportations needs in the Spokane vicinity. This comprehensive network of existing and proposed surface arterials will eventually compromise several individual Connector links to serve areas within the region. Initial traffic modeling suggests that a proposed Northwest Urban Connector *(Appendix A – Pg. 74)* would have a positive affect in relieving congestion within the SR 291 Corridor.

Safety

Safety improvement projects support strategies that improve highway geometrics at locations that have a high accident history. For example, safety projects may involve intersection improvements such as left turn channelization and deceleration/ acceleration lanes when traffic volume warrants are met or when collision history qualifies the highway section as a HAL or a HAC.

Current Safety Improvements

Concerned with the safety on SR 291, WSDOT has begun construction of the "Nine Mile Safety Improvements" project to mitigate a High Accident Corridor from MP 8.5 to MP 9.5. The existing Rutter Parkway intersects SR 291 at a sharp angle and on a steep grade. This safety project will re-construct Rutter Parkway on a new alignment, and widen SR 291 to allow for channelization through the Nine Mile Community and at the Charles Road/SR 291 intersection.

Environmental Documentation

SR 291 has the Spokane River and several mapped wetlands within its corridor. The Environmental Review process within WSDOT requires multiple layers of documentation and approvals by outside agencies during the different stages of route development. This documentation includes, but is not limited to, National Environmental Policy Act (NEPA) and State Environmental Policy Act (SEPA) reviews, an Endangered Species Act/Biological Assessment, Hydraulic Reports and Permits, a Documented Categorical Exclusion (DCE), an Environmental Classification Summary (ECS), Wetland Report and Wetland Mitigation Plan (if applicable), and Cultural Resource Surveys and Tribal correspondence. Environmental impacts will be avoided or minimized where possible through design and construction considerations

Environmental retrofit projects support strategies that retrofit elements of the existing highway system to meet environmental requirements that have emerged since the highways were built. It is expected that consideration of any future improvements or developments would include strategies to improve stormwater runoff, fish passage, noise reduction, and air quality where appropriate.

Future Development

As expansion continues in the surrounding areas served by the SR 291 facility, the need to maintain safety and mobility within the corridor will remain a priority. Developers will be required to mitigate safety and traffic impacts generated from development.

Bicycle/Pedestrian

There is steadily increasing interest among a variety of local groups to expand the resources within the SR 291 RDP corridor to provide safer and more accessible use to bicycles and pedestrian traffic. It is expected that consideration of any future improvements would include strategies to accommodate non-vehicular traffic.

Findings & Recommendations

Eastern Region

SR 291 Route Development Plan

Freya Street to Scotts Valley Road

Findings

Currently Francis Avenue, from Freya to Assembly, is congested and functioning at capacity, with most intersections performing at Level of Service 'F'. This urban section of the study carries the highest traffic volumes with no reasonable alternate route corridor available for motorists. An expansion of the existing number of lanes is the only feasible mitigation for the long term. Less costly channelization, intersection improvements, and the potential development of the parallel city street system, are options for short term mitigation. SR 291 corridor is constrained by topography from the Nine Mile Community MP 8.5 to the Little Spokane River MP 10, and severely constrained from MP 10 to the Suncrest Community MP 12.5. Through these areas SR 291 is bordered by the Spokane River to the west, and steep embankments to the east. The embankment slopes vary from vertical rock outcroppings to grades steeper than 2:1 and the embankment height varies from 50 to 120 feet. Alternate routes have been proposed for these sections.

Traffic movements throughout the entire corridor are projected to see significant growth over the next two decades. Public input during the Route Development Study was strongly in favor of mobility and safety mitigation for the SR 291 facility.

The impacts of the North Spokane Corridor to SR 291 were analyzed as part of the study and found to be minimal to the SR 291 facility. Based on preliminary traffic modeling and analysis, Spokane County's proposed Northwest Urban Connector appears to have a positive impact on the SR 291 corridor, especially in Section 1 *Freya Street to Nine Mile Road*.

Recommendations:

In order to meet the growing need for mobility and safety within the SR 291 Route Development Plan study area the following improvements are recommended:

Alternate Routes

There were no feasible alternate routes for **Section 1** identified in the RDP study. Alternate routes for Sections 2 & 3 of the corridor have been identified:

Section 2 Alternative: ($7.65 Million) 2005 Dollars

Four lane undivided limited access roadway section on a new alignment from MP 6.85 to the Little Spokane River Bridge.

Attributes

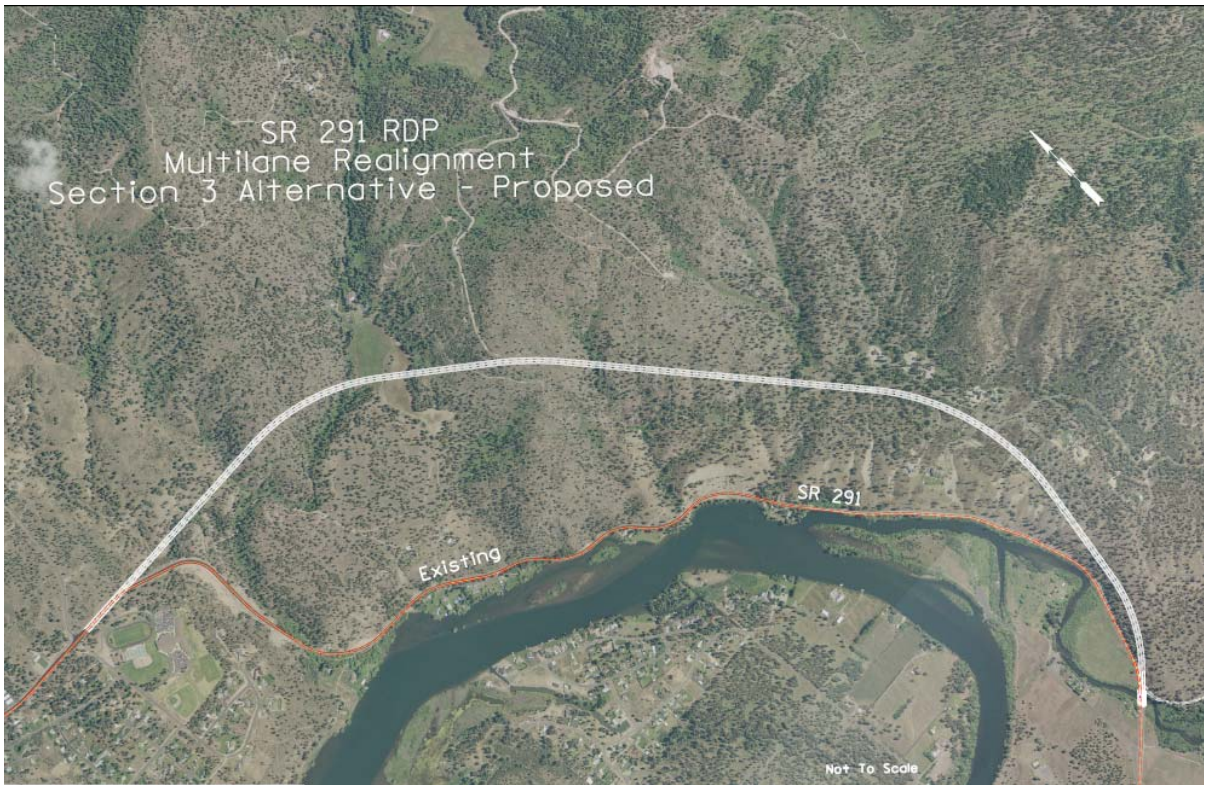
- Improves safety and accommodates bicycle traffic
- Improves capacity and mitigates delay
- Enhanced Route Continuity

Potential Concerns

- Access Control will impact abutting landowners
- Anticipated impacts to the environment
- Additional right-of-way required for the entire length of the corridor
- Potential residential relocations could be required. Exact number will be dependent on final design and local growth.

Section 3 Alternative: ($25.40 Million) 2005 Dollars

A four lane undivided roadway section with access control from the Little Spokane River Bridge to Suncrest.



Attributes

- Improves safety and accommodates bicycle traffic
- Improves capacity and mitigates delay
- Enhanced Route Continuity

Potential Concerns

- Access Control will impact abutting landowners
- Anticipated impacts to environment
- Additional right-of-way required for the entire length of the corridor
- Potential residential relocations could be required. Exact number will be dependent on final design and local growth.

Summary Recommendations

In addition to the above alternate routes the following **long-range** improvements are recommended:

Section 1: Freya Street to Nine Mile Road Wye, MP Back -2.48 to MP 3.07

- Construct a consistent 5-lane roadway section, 4 through lanes with a center two –way left turn lane, from Havana Street to Division Street and implement the proposed intersection improvements associated with the North Spokane Corridor project. With these improvements, east Francis Avenue would be consistent with Spokane County's Bigelow Gulch ultimate roadway section currently being planned
- Widen Francis Avenue corridor 30-50 feet to the south from Wall Street to Belt Street and construct a 7-lane section along the Francis Avenue corridor. During the PM commute this section of Francis experiences severe congestion (MP 0.50 – MP 1.50) *Total Cost: $43,419,000*
- Construct bike lane connections at the NSC interchanges to City bike lanes, as developed, that would ultimately connect the NSC bike path to improvements consistent with the Spokane Regional Pedestrian / Bikeway Plan
- Purchase Access Rights and consolidate approaches

Section 2: Nine Mile Road Wye to Charles Road, MP 3.07 to MP 9.20

- Construct a flyover ramp for Assembly Street, a City of Spokane facility, at the Francis Avenue-Assembly Street-Nine Mile Road Wye MP 3.07
  Total Cost: $3,400,000
- Support and coordinate efforts with Spokane County's Northwest Urban connector proposal, with special emphasis on the Northside Arterial component, ensuring design specifications and partnering whenever possible
- Work with the City of Spokane on development of the Barnes Road connection
  Total Cost: $3,200,000
- Purchase access rights and implement access control

Section 3: Charles Road to Scotts Valley Road, MP 9.20 to MP 22.31

- Construct passing lanes both northbound and southbound from Wylie Drive to Moriah Drive Vicinity

To address more immediate needs for capacity and safety the following ***short to mid-range feasible improvements*** *are recommended*:

Section 1: Freya Street to Nine Mile Road Wye, MP Back -2.48 to MP 3.07

- Driveway consolidation along Francis Avenue and 5-Mile Heights Shopping Center MP 1.23)
- Install Traffic Signal/Roundabout at "A" Street & Francis Ave. when warrants are met *(promotes E-W movement on Wellesley in the PM & safe school crossing)* (MP 2.00)
- Extend right turn lane for additional storage and re-configure traffic islands at Indian Trail Road (MP 2.19)
- Install new 2-phase Traffic Signal or other mitigation at Assembly Street & Nine Mile Rd. *(Developer proposed signal)* (MP 3.07)
- Construct recommended Right Turn Lanes, Left Turn Lane, and Two-Way-Left-Turn-Lanes as warranted or deemed appropriate

Section 2: Nine Mile Road Wye to Charles Road, MP 3.07 to MP 9.20

- Construct Acceleration Lane southbound at Rifle Club Road Intersection (MP 3.85)
- Construct Acceleration Lane southbound at Seven Mile Rd. (MP 5.22)
- Construct recommended Right Turn Lanes, and Two-Way-Left-Turn-Lanes as warranted or deemed appropriate

Section 3: Charles Road to Scotts Valley Road, MP 9.20 to MP 22.31

- Charles Rd. to Little Spokane River Bridge #291/6 (MP 9.20 to MP 10.04) Construct Left Turn Lane at Spokane House and a Passing Lane Northbound from Charles Rd. to MP 9.85; increasing posted speed limit from 35 mph to 50 mph
- Install ITS - Road Hazard Advisory System in Nine Mile Vic. and at Swenson Rd
- Lengthen Right Turn Lane to Swenson Rd. (End of climbing lane MP 12.78 to MP 12.98)
- Increase public awareness of the Swenson Cutover Connection: SR 291 – Swenson Rd. – McKenzie Woolard Rd. – Spotted Rd. – Ridgeway Rd. – Monroe Rd. for north Spokane destination trips (Stevens Co.)
- Construct a Two-Way-Left-Turn-Lane through the Suncrest community from Swenson Road to Wylie Drive (MP 12.98 to MP 14.35) *Total Cost: $ 1,200,000*
- Construct recommended Left Turn Lanes, and remaining Two-Way-Left-Turn-Lanes as warranted or deemed appropriate

The recommendations for long-range and mid to short-range improvements is summarized in the spread sheets on the following pages. Priority is ranked high where the highest impact to mobility or safety can be achieved, where the Benefit/Cost ratio is favorable, or where benefits are most feasible to be achieved at relatively low cost to the overall system. Priorities are always subject to change as demographics, financial constraints, or safety and mobility patterns are affected over time.

Section 1, Freya Street to Nine Mile Road

Improvement	Additional Description	Begin Cross Street	End Cross Street	Section	Short, Mid, Long Range	Low / Med / High Priority	Cost	Expected Benefits or Source
Signal Timing	Coordinate with City of Spokane to improve E-W flows	Market	Alberta	1	Short	High	400K + Studies	$12,856,817 Delay Savings
Additional Lanes	Right-Turn Lanes at all warranted or high B / C intersections	Havana	Assembly	1	Mid	Low		Safety/ Mobility
Intersection Improvements	Construct intersection Improvements consistent with NSC	Freya	Freya	1	Short	High	$ 500,000	Similar to Market
Additional Lanes	Add a left turn lane westbound	Market	Market	1	Short	High		Safety/ Mobility
Intersection Improvements	Construct intersection Improvements consistent with NSC	Market	Market	1	Short	High	$ 400,000	$2,500,000 Delay Savings (B/C 6.3)
Additional Lanes	Extend Two-Way-Left-Turn-Lane	Havana	Addison	1	Short	High	$14,500,000	Safety/ Mobility
Bike Routes	Improve connections as per Spokane Regional Pedestrian/Bike Plan	--	--	1	Mid	Medium		Connectivity
Additional Lanes	7-lane, 30-50 ft wider	Wall	Belt	1	Long	Low	$43,419,000	Low B/C
Driveway consolidation	Center channelization improving turning safety.	Ash	5-Mile Center	1	Short	High	$ 35,100	Safety / CAC (B/C 26.5)
Bus Pullouts	Construct Bus Turnouts & Relocations	Ash	5-Mile Center	1	Short	Low		Safety/ Mobility
Signal/Round-about	Encourages alternate E-W movement	A St	A St	1	Long	Low		Alternate Route
Additional Lanes	Extend Two-Way-Left-Turn-Lane	Indian Trail	Forest Blvd	1	Mid	Low		Safety: High Collisions
Lane Extension	Right Turn-Lane Extension	Indian Trail	Indian Trail	1	Short	High	$ 491,000	Safety/ Mobility
Grade Separation	Flyover	Assembly	Assembly	1	Long	Low	$ 3,400,000	Increased LOS (Street)
Signal/Round-about	Developer-Driven 2-phase signal	Assembly	Assembly	1	Short	High	$ 250,000	Developer Funds

Improvement	Additional Description	Begin Cross Street	End Cross Street	Section	Short, Mid, Long Range	Low / Med / High Priority	Cost	Expected Benefits or Source
Section 2, Nine Mile Road to Charles Road								
Speed Reduction	Extend 35 MPH speed limit to MP 4	Royal	Sanitary Landfill	2	Short	High		
Access Control	Limit new driveways	Woodside	MP 7	2	Long	Low		WTP
Additional Lanes	Acceleration Lane on SR 291 & Right turn lane on RCR	Rifle Club	Rifle Club	2	Short	Low		Public Comments
Signal/Round-about	Public inquiring about a signal, but warrants still not satisfied	Rifle Club	Rifle Club	2	Short	High	$ 250,000	Public Comments
Additional Lanes	Extend 5-lane section	Windriver	MP 7	2	Mid	Medium	$5,000,000	Safety/ Mobility
New Connection	Connects 5-Mile Prairie to Indian Trail Road to SR 291	Barnes Rd	Barnes Rd	2	Mid	Low	$3,250,000	Access / Emergency
Additional Lanes	Acceleration Lane & Deceleration Lane	Seven Mile Rd	Seven Mile Rd	2	Short	Medium		Public Comments
Additional Lanes	Acceleration Lane	Kendick Rd	Kendick Rd	2	Short	Medium		Public Comments
Additional Lanes/ Realign	Nine Mile Safety Improvements - TWLTL, Realign, LTL, Widen	Nine Mile Rd	Rutter Parkway	2	Short	High	$4,540,000	Safety (HAC)
Add ITS	Add Variable Message HARS	Nine Mile Falls	Nine Mile Falls	2	Short	Medium	$ 50,000	Driver Information
Additional Lanes	Extend Two-Way-Left-Turn-Lane	Kendick Rd	Rutter Parkway	2	Long	Low		Safety/ Mobility
Additional Lanes	Acceleration Lane	Ridgecrest Ave	Ridgecrest Ave	2	Short	Low		Public Comments
Realignment	4 lanes undivided limited access	MP 7	LSR Bridge	2	Long	Medium	$7,650,000	Mobility/ Safety
New Connection	Removal of regional trips from Francis Ave (SR 291)	NW Urban	Connector	2	Long	High	$38,000,000	Alternate Route(s)
Section 3, Charles Road to Scotts Valley Road								
Additional Lanes	Add Spokane House left turn lane and WB passing lane	Charles Rd	LSR Bridge	3	Mid	Medium		
Realignment	4 lanes undivided limited access	Charles Rd	Swenson	3	Long	High	$25,400,000	Mobility/ Safety
Widen Shoulder	Add Slow-moving vehicle turnouts	MP 10	MP 11	3	Short	Medium		Travel Time Safety
Add ITS	Add Variable Message HARS	Swenson	Swenson	3	Short	Medium	$ 50,000	Driver Information
Additional Lanes	Lengthen WB right turn lane	Swenson	Swenson	3	Short	Medium		Public Comments
Alternate Route	Intersection Improvements and increased public awareness of route	Swenson	Monroe	3	Short	Medium		Public Comments
Additional Lanes	Add Two-Way-Left-Turn-Lane	Swenson	Wylie Drive	3	Mid	High	$1,200,000	$1,400,000 (B/C 1.4)
Signal/Round-about	Improve Control when warranted with possible north leg added	Suncrest Drive	Suncrest Drive	3	Mid	High	$ 200K – $ 800K	Potential access control

Appendix A

Design Layouts

Eastern Region

SR 291 Route Development Plan

Freya Street to Scotts Valley Road

SR 291 RDP
Havana St. To Division St.
Widening - 5 Lane
(City of Spokane Facility)
Not To Scale
SPOKANE
Division St
Nevada St
Francis Ave
Crestline St
Market St
NSC
Freya St
NSC
Havana St

SR 291 RDP
Wall to Belt Widening (7 Lane)
SPOKANE
Not To Scale
Wall St
Monroe St
Francis Ave
Maple St
Ash St
Belt St

SR 291 RDP
Assembley-Francis
Flyover Ramp
SR 291
Francis Ave.
Driscoll Blvd.
Assembley St.
Not To Scale

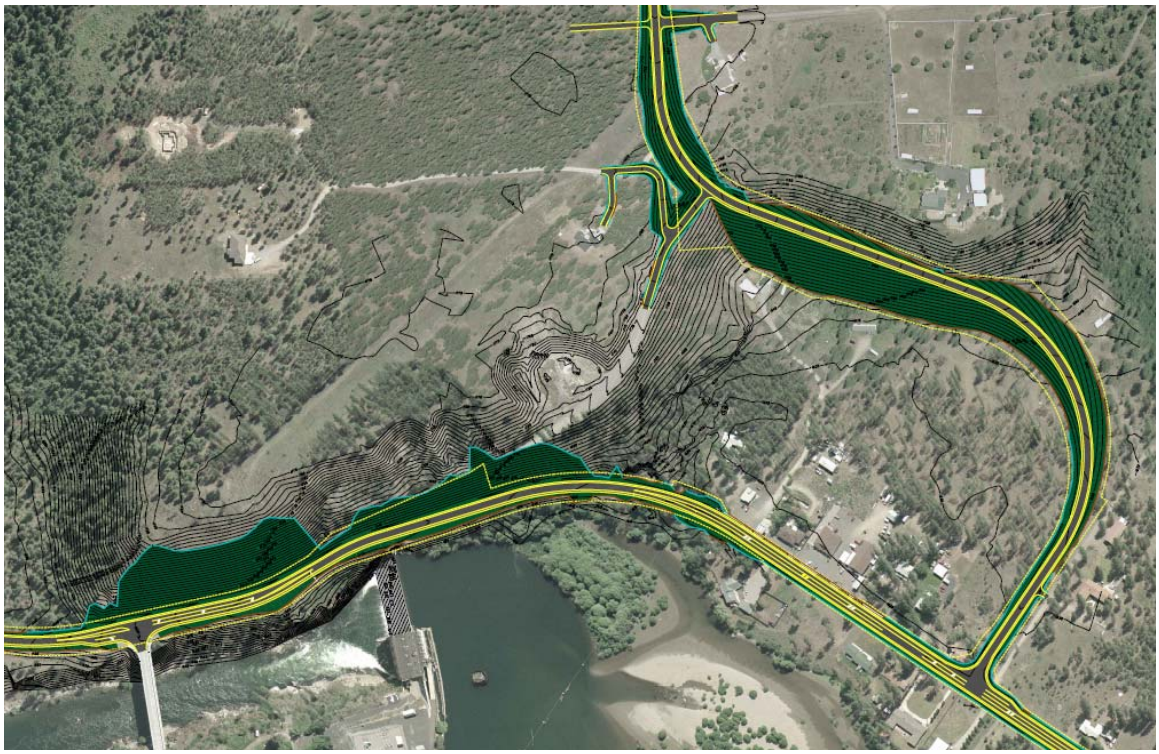
Existing
Barnes Rd
Indian
Trail
Rd
Strong Rd
SR 291
SR 291 RDP
Strong Rd/Barnes Rd
Connector
(City of Spokane Facility)
N

SR 291 RDP
Multilane Realignment
Phase 1 - Proposed
Rutter Parkway
Rutter Parkway
Re-alignment
(Under Construction)
SR 291
Existing
Not To Scale

SR 291 RDP
Multilane Realignment
Phase 2 - Proposed
Existing
SR 291
Not To Scale

Existing Rutter Parkway

Rutter Parkway Re-alignment (Under Construction 2006)

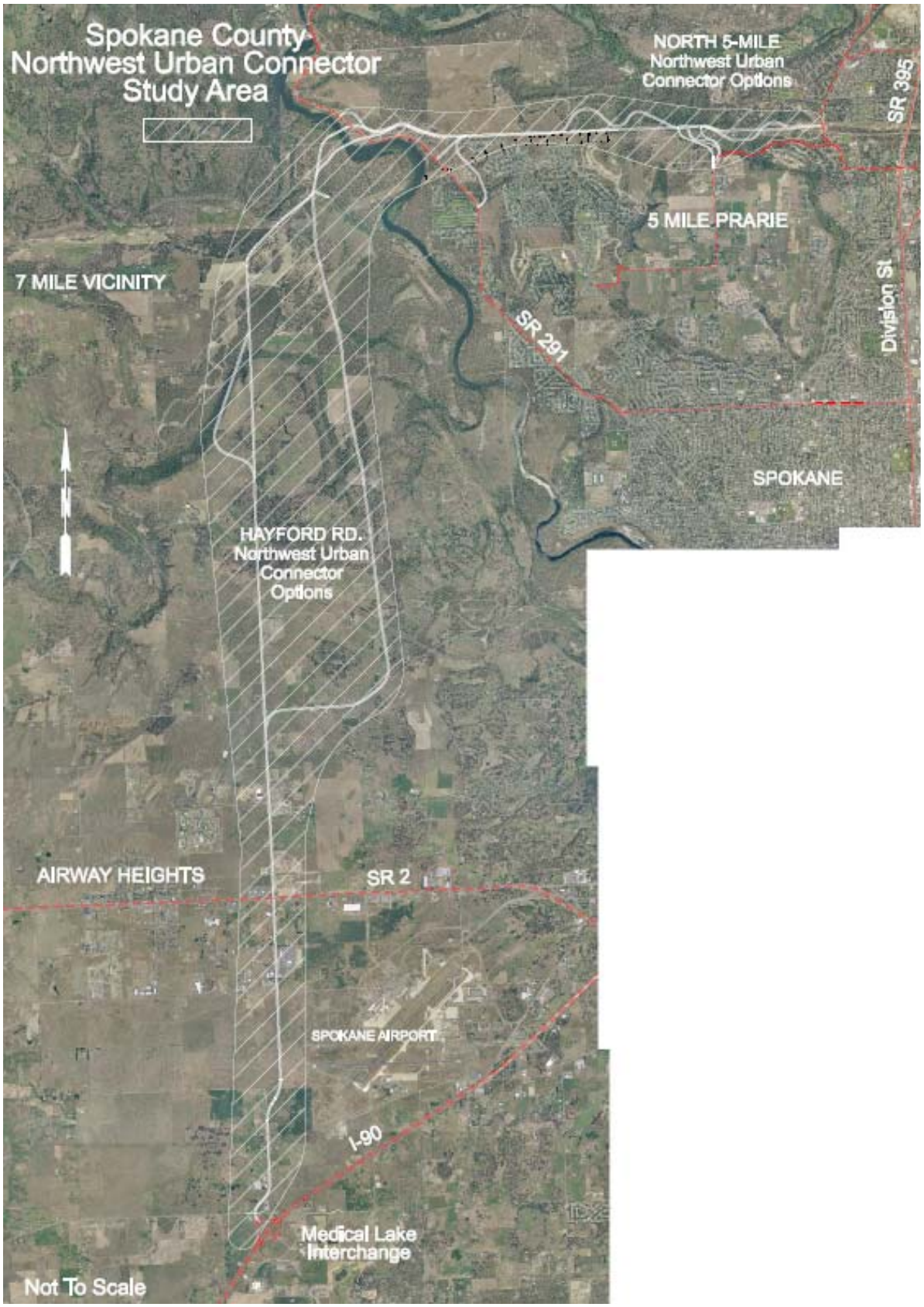


SR 291 RDP
Suncrest Widening
& Two Way Left Turn Lane
Swenson Rd
Draft Roundabout Design
SR 291
Suncrest Dr
Wylie Dr

Suncrest Two Way Left Turn Lane Design Visualization

Before

After


Spokane County
Northwest Urban Connector
Study Area
NORTH 5-MILE
Northwest Urban
Connector Options
SR 395
5 MILE PRARIE
7 MILE VICINITY
SR 291
Division St
SPOKANE
HAYFORD RD.
Northwest Urban
Connector
Options
AIRWAY HEIGHTS
SR 2
SPOKANE AIRPORT
I-90
Medical Lake
Interchange
Not To Scale

Appendix B

Design Matrix

Eastern Region

SR 291 Route Development Plan

Freya Street to Scotts Valley Road

⇩ Project Type															Bridges (11)				Intersections			Barriers		
Design Elements ⇨	Horiz. Align.	Vert. Align.	Lane Width	Shldr Width	Lane Tran-sition	Median Width	Cross Slope Lane	Cross Slope Shldr	Fill/ Ditch Slopes	Access (3)	Clear Zone (18)	Sign, Del., Illumin.	Basic Safety	Bike & Ped.	Lane Width	Shldr Width	Vertical Clear.	Structural Capacity	Turn Radii	Angle	I/S Sight Dist.	Term. & Trans. Section (12)	Std Run	Bridge Rail (19)
Preservation																								
Roadway																								
(5-1) HMA/PCCP												B	B	M			F				B	F	B	F
(5-2) BST																								
(5-3) BST Routes/Basic Safety												B	B								B	F	B	F
(5-4) Replace HMA with PCCP at I/S			EU/M	EU/M		DE/M	EU/M					B	B	M			F					F	B	F
Structures																								
(5-5) Bridge Replacement	M	F	M	M	F		M	M	M		F	F		F	F(2)	F(2)	F	F	M	M	F	F	F	F
(5-6) Bridge Repl. (Multilane)	F(2)	F(2)	F(2)	F(2)	F	F(2)	F(2)	F(2)	F(2)		F	F		F	F(2)	F(2)	F	F	F(2)	F(2)	F	F	F	F
(5-7) Bridge Deck Rehab												B	B	M								F(6)	F(22)	F
Improvements (16)																								
Mobility																								
(5-8) Urban (Multilane)	F(2)	F(2)	F(2)	F(2)	F	F(2)	F(2)	F(2)	(2)	F	F	F		F	F(2)	F(2)	F	F	EU/F	EU/F	F	F	F	F
(5-9) Urban	M	M	M	M	F		M	M	M	F	F	F		F	M	M	F	F	EU/M	EU/M	F	F	F	F
(5-10) Rural	M	M	M	M	F	M	M	M	M	F	F	F		F	M	M	F	F	EU/M	EU/M	F	F	F	F
(5-11) HOV	M	M	M	M	F	M	M	M	M	F	F	F		F	M	M	F	F	EU/M	EU/M	F	F	F	F
(5-12) Bike/Ped. Connectivity	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)		F	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
Safety																								
(5-13) Non-Interstate Freeway	F(2)	F(2)	F(2)	F(2)	F(2)	F(2)	F(2)	F(2)	F(2)	F	F	F		F	F(2)	F(2)	F		F(2)	F(2)	F	F	F	F
(5-14) Intersection (1)			M(4)	M(4)	F				M(4)	F	F	F		M					M(4)	M(4)	F	F	F	F
(5-15) Corridor (1)	M(4)	M(4)	M(4)	M(4)	F	M(4)	M(4)	M (4)	M(4)	F	F	F		M	M(4)	M(4)	F		M(4)	M(4)	F	F	F	F
(5-16) Median Barrier				DE/F																		F(20)	F(20)	
(5-17) Guardrail Upgrades				DE/F																		F	F(23)	
(5-18) Bridge Rail Upgrades																						F	F(22)	F
(5-19) Risk: Roadside									M(4)	EU/F	F	F										F	F	F
(5-20) Risk: Sight Distance	F/M(21)	F/M(21)	F/M(21)	F/M(21)					F/M(21)	F(21)	F(21)	F		F	F(21)	F(21)	F(21)		F/M(21)	F/M(21)	F(21)	F	F	F
(5-21) Risk: Roadway Width			F/M(21)	F/M(21)	F	F/M(21)	F/M(21)	F/M(21)	F/M(21)	F	F	F		F	F(21)	F(21)	F(21)		F/M(21)	F/M(21)	F(21)	F	F	F
(5-22) Risk: Realignment	F/M	F/M	F/M	F/M	F	F/M	F(2)	F(2)	F/M	F	F	F		F	F(21)	F(21)	F(21)		F/M(21)	F/M(21)	F(21)	F	F	F
Economic Development																								
(5-23) Freight & Goods (Frost Free) (8)	EU/M	EU/M	EU/M	EU/M	EU/F	EU/M	M	M	EU/M		F	B	B	EU/F(26)	DE/M	DE/M	F		EU/M	EU/M	EU/F	F	B	F
(5-24) Rest Areas (New)	F	F	F	F	F	F	F	F	F	F	F	F		F	F	F			F	F	F	F	F	F
(5-25) Bridge Restrictions	M	F	M	M	F	M	M	M	M		F	F		EU/F(26)	M	M	F	F	M	M	F	F	F	F
(5-26) Bike Routes (Shldrs)			EU/M	(7)	EU/F			EU/M	EU/M			B	B	F	EU/M	EU/M					B	F	B	EU/F

☐ Not Applicable
F Full design level. See Chapter 440.
M Modified design level. See Chapter 430.
F/M Full for freeways/Modified for nonfreeway
B Basic design level. See Chapter 410.
DE Design Exception
EU Evaluate Upgrade

(1) Collision Reduction (HAL, HAC, PAL), or Collision Prevention (At Grade Removal, Signalization & Channelization). Specific deficiencies that created the project must be upgraded to design level as stated in the matrix.
(2) Modified design level may apply based on a corridor or project analysis. See 325.03(5).
(3) If designated as L/A acquired in the Access Control Tracking System, limited access requirements apply. If not, managed access applies. See 325.03(5).
(4) Full design level may apply based on a corridor or project analysis. See 325.03(5).
(5) For bike/pedestrian design see Chapters 1020 and 1025.
(6) Applies only to bridge end terminals and transition sections.
(7) 4 ft minimum shoulders.
(8) If all weather structure can be achieved with spot digouts and overlay, modified design level applies to NHS highways and basic design level applies to non-NHS highways.

(11) See Chapter 1120.
(12) Impact attenuators are considered as terminals.
(16) For design elements not in the matrix headings, apply full design level as found in the applicable chapters and see 325.03(2).
(18) On managed access highways within the limits of incorporated cities and towns, City and County Design Standards apply to areas outside the curb or outside the paved shoulder where no curb exists.
(19) The funding sources for bridge rail are a function of the length of the bridge. Consult programming personnel.
(20) Applies to median elements only.
(21) Analyses required. See 325.03(5) for details.
(22) Upgrade barrier, if necessary, within 200 ft of the end of the bridge.
(23) See description of Guardrail Upgrades Project Type, 325.03(1) regarding length of need.
(26) Sidewalk ramps must be addressed for ADA compliance. See Chapter 1025.

Design Matrix 5
Main Line Non-NHS Routes
Figure 325-7

Appendix C

Bridge Condition Report

Eastern Region

SR 291 Route Development Plan

Freya Street to Scotts Valley Road

Washington State Department of Transportation

Bridge Deck Condition Report

BRIDGE NUMBER:	BRIDGE NAME:	REGION:	MILEPOST:
291 / 6	LITTLE SPOKANE R	Eastern	10.04

YEAR BUILT / YR WIDENED:	CONTRACT NO.(S):	SUFFICIENCY RATING:
1966	07996 , 15415	61.00

BRIDGE TYPE: PCB

DECK TYPE: Conc cast-in-place

Main Span DECK THICKNESS: 6.5 in.

EXISTING WEARING SURFACE AND DECK PROTECTION TYPE:

LMC Overlay

Year Applied - 1998

Overlay Thickness - 1.5 inches

BRIDGE WIDTH (curb-curb):	BRIDGE LENGTH:
28.0 ft.	180 ft.

AVERAGE DAILY TRAFFIC (ADT):	NUMBER OF LANES:
4,787	2

BRIDGE RAIL TYPE:

Type R Metal Rail & Conc Base

RAIL MEETS CURRENT STANDARDS?:	SIDEWALK / CURB WIDTH:
YES	1.4 Lt 1.4 Rt

VERTICAL CLEARANCE:

NA

Bridge View

BRIDGE DECK SURVEY

		DATE
DELAMINATION RESULTS: 217 sq ft	4.3% of deck	10 / 91
CHLORIDE RESULTS: 40 % are > 2 lbs./CY		7 / 85
REBAR RESULTS: 4 % are < or = 1 inch		7 / 85

EXPANSION JOINTS

Use Std. Plan A7, Transverse Joint Detail 2 at the ends of the bridge deck.

DECK PROTECTIVE SYSTEM RECOMMENDATIONS

PROTECTIVE OVERLAY RECOMMENDED?:	TYPE RECOMMENDED:
NO	None

COMMENTS:

No further deck protection required.

REVIEWED BY:	DATE:
Bruce Thill	6/8/2006

Appendix D

Utility Franchise List

Eastern Region

SR 291 Route Development Plan

Freya Street to Scotts Valley Road

SR	Roadway Type	Beg MP	End MP	Doc No	Doc Type	R/C	AMD	Install Type	Status	Region	County	Approval Date	Expiration Date	Holder Name
291	Mainline	3.57	5.00	7024	UF	O	0	Water Line	A	ER	Spokane County	11/22/1983	11/22/2008	CITY OF SPOKANE
291	Mainline	3.93	5.56	3564	UF	O	0	Natural Gas Line	E	ER	Spokane County	07/19/1965	07/19/1990	WASHINGTON WATER POWER CC
291	Mainline	4.31	5.68	4082	UF	O	0	Telephone Cable	E	ER	Spokane County	03/17/1969	03/17/1994	U S WEST COMMUNICATIONS, INC
291	Mainline	4.32	11.07	60108	UF	O	0	Telephone Cable	A	ER	Spokane County	05/07/1986	05/07/2011	U S WEST COMMUNICATIONS. INC
291	Mainline	4.35	5.73	5117	UF	O	0	Power Cable	E	ER	Spokane County	12/15/1969	12/15/1994	WASHINGTON WATER POWER CC
291	Mainline	4.59	6.29	60064	UF	O	0	Television Cable	A	ER	Spokane County	07/01/1992	07/01/2017	TCI CABLEVISION OF WASHINGTO
291	Mainline	4.60	6.16	60077	UF	R	0	Natural Gas Line	A	ER	Spokane County	02/22/2000	08/01/2020	consolidation
291	Mainline	4.61	4.79	1-SR291-3531	UP	O	0	Power Cable	A	ER	Spokane County	03/07/1973		WASHINGTON WATER POWER CC
291	Mainline	4.80	4.80	1-SR291-3133	UP	O	0	Natural Gas Line	A	ER	Spokane County	12/15/1969		EL PASO NATURAL GAS
291	Mainline	5.00	5.73	7024	UF	O	1	Water Line	A	ER	Spokane County	01/09/1984	11/22/2008	CITY OF SPOKANE
291	Mainline	5.21	5.21	60108	UF	O	3	Telephone Cable	A	ER	Spokane County	12/23/1997	05/07/2011	USW W/O #72WT074
291	Mainline	5.21	5.21	60005 (OLD)	UF	C	27	Telephone Cable	I	ER	Spokane County	12/23/1997	05/07/2011	US WEST W.O. #72WT074
291	Mainline	5.21	5.21	60005 (OLD)	UF	C	32	Telephone Cable	I	ER	Spokane County	09/25/1998		QWEST CORPORATION
291	Mainline	5.21	5.22	60108	UF	O	6	Telephone Cable	A	ER	Spokane County	01/14/2000	05/07/2011	US WEST W.O. #72WT177 WH
291	Mainline	5.21	5.28	60005 (OLD)	UF	C	34	Telephone Cable	I	ER	Spokane County	01/14/2000		QWEST CORPORATION
291	Mainline	5.21	5.28	60108	UF	O	4	Telephone Cable	A	ER	Spokane County	06/16/1999	05/07/2011	USW W/O #92WD399
291	Mainline	5.21	5.28	60005 (OLD)	UF	C	34	Telephone Cable	I	ER	Spokane County	12/03/1997	05/07/2011	U S WEST COMMUNICATIONS. INC
291	Mainline	5.22	5.65	60077	UF	C	2	Natural Gas Line	A	ER	Spokane County	05/07/1996	08/01/2020	AVISTA CORPORATION (WWP)
291	Mainline	5.23	5.29	60108	UF	O	7	Telephone Cable	A	ER	Spokane County	06/05/2001	05/07/2011	QWEST CORPORATION WO # 12W
291	Mainline	5.26	5.35	60077	UF	C	3	Natural Gas Line	A	ER	Spokane County	10/01/1998	08/01/2020	AVISTA (WWP) W/O #687048277
291	Mainline	5.27	5.27	1-SR291-7327	UP	O	0	Water Line	A	ER	Spokane County	04/04/1994		CITY OF SPOKANE
291	Mainline	5.27	5.27	1-SR291-7209	UP	O	0	Telephone Cable	A	ER	Spokane County	02/28/1995		U S WEST COMMUNICATIONS. INC
291	Mainline	5.29	6.33	60108	UF	O	1	Telephone Cable	A	ER	Spokane County	09/19/1989	05/07/2011	U S WEST COMMUNICATIONS, INC
291	Mainline	5.29	6.33	60005 (OLD)	UF	C	5	Telephone Cable	I	ER	Spokane County	09/19/1989	05/07/2011	U S WEST COMMUNICATIONS. INC
291	Mainline	5.30	5.30	1-SR291-6049	UP	O	0	Water Line	A	ER	Spokane County	05/06/1991		CITY OF SPOKANE
291	Mainline	5.47	5.47	1-SR291-7671	UP	O	0	Power Cable	A	ER	Spokane County	10/22/1996		WASHINGTON WATER POWER CC
291	Mainline	5.53	5.53	1-SR291-5699	UP	O	0	Water Line	A	ER	Spokane County	08/25/1987		CITY OF SPOKANE
291	Mainline	5.53	6.34	7024	UF	O	2	Water Line	A	ER	Spokane County	08/17/1989	11/22/2008	CITY OF SPOKANE
291	Mainline	5.56	5.56	5117	UF	O	1	Power Cable	E	ER	Spokane County	08/05/1987	12/15/1994	WASHINGTON WATER POWER CC
291	Mainline	5.56	5.90	3632	UF	O	0	Natural Gas Line	E	ER	Spokane County	02/15/1966	02/15/1991	WASHINGTON WATER POWER CC
291	Mainline	5.69	5.72	1-SR291-6062	UP	O	0	Telephone Cable	A	ER	Spokane County	05/17/1991		U S WEST COMMUNICATIONS. INC
291	Mainline	5.74	5.74	1-SR291-3529	UP	O	0	Telephone Cable	A	ER	Spokane County	03/06/1973		U S WEST COMMUNICATIONS. INC
291	Mainline	5.94	5.94	1-SR291-3834	UP	O	0	Power Cable	A	ER	Spokane County	07/23/1975		WASHINGTON WATER POWER CC
291	Mainline	6.15	6.17	1-SR291-8376	UP	O	0	Power Cable	A	ER	Spokane County	04/12/2001		Avista W/O #0205B
291	Mainline	6.15	6.17	1-SR291-7750	UP	O	0	Power Cable	I	ER	Spokane County	09/16/1997		WWP W/O #C1620
291	Mainline	6.17	6.17	1-SR291-4082	UP	O	0	Power Cable	I	ER	Spokane County	05/16/1977		WWP W/O #L-27691
291	Mainline	6.19	6.32	60077	UF	O	1	Natural Gas Line	A	ER	Spokane County	08/01/1995		AVISTA CORPORATION (WWP)
291	Mainline	6.26	7.92	1-SR291-3084	UP	O	0	Power Cable	A	ER	Spokane County	05/21/1969		WASHINGTON WATER POWER CC
291	Mainline	6.31	6.31	1-SR291-7529	UP	O	0	Television Cable	A	ER	Spokane County	07/21/1995		TCI CABLEVISION OF WASHINGTO
291	Mainline	6.31	6.31	1-SR291-7525	UP	O	0	Power Cable	A	ER	Spokane County	07/19/1995		WASHINGTON WATER POWER CC
291	Mainline	6.32	6.32	1-SR291-7472	UP	O	0	Water Line	A	ER	Spokane County	04/18/1995		CITY OF SPOKANE
291	Mainline	6.42	6.51	1-SR291-7865	UP	O	0	Telecommunication	A	ER	Spokane County	07/14/1998		BPA W/O #250-802
291	Mainline	6.44	6.45	1-SR291-8454	UP	O	0	Power Cable	A	ER	Spokane County	03/06/2003		BPA W/O #AVB-77-X-A
291	Mainline	6.76	6.76	1-SR291-6024	UP	O	0	Telephone Cable	A	ER	Spokane County	11/19/1990		U S WEST COMMUNICATIONS. INC
291	Mainline	6.79	6.79	1-SR291-8264	UP	O	0	Telephone Cable	A	ER	Spokane County	12/14/1999		B19243946
291	Mainline	6.85	6.85	1-SR291-3096	UP	O	0	Power Cable	A	ER	Spokane County	06/27/1969		WASHINGTON WATER POWER CC
291	Mainline	7.62	8.38	NR699	UF	O	0	Power Cable	A	ER	Spokane County			WASHINGTON WATER POWER CC
291	Mainline	8.59	9.14	NR951	UF	O	0	Power Cable	A	ER	Spokane County			WASHINGTON WATER POWER CC

SR	Roadway Type	Beg MP	End MP	Doc No	Doc Type	R/C	AMD	Install Type	Status	Region	County	Approval Date	Expiration Date	Holder Name
291	Mainline	8.62	8.62	1-SR291-7359	UP	O	0	Power Cable	A	ER	Spokane County	05/09/1994		WASHINGTON WATER POWER CC
291	Mainline	8.62	8.62	1-SR291-2696	UP	O	0	Power Cable	A	ER	Spokane County	11/18/1965		WASHINGTON WATER POWER CC
291	Mainline	8.65	8.65	1-SR291-7196	UP	O	0	Telephone Cable	A	ER	Spokane County	02/28/1995		U S WEST COMMUNICATIONS. INC
291	Mainline	8.68	8.69	1-SR291-4208	UP	O	0	Telephone Cable	A	ER	Spokane County	04/27/1978		QWEST CORPORATION
291	Mainline	8.78	8.78	1-SR291-7389	UP	O	0	Miscellanous	A	ER	Spokane County	07/06/1994		WASHINGTON WATER POWER CC
291	Mainline	8.78	8.78	1-SR291-7388	UP	O	0	Miscellanous	A	ER	Spokane County	07/06/1994		WASHINGTON WATER POWER CC
291	Mainline	8.79	8.80	1-SR291-8315	UP	O	0	Power Cable	A	ER	Spokane County	04/26/2000		Avista Corp. W/O #589072807
291	Mainline	8.87	8.87	1-SR291-4981	UP	O	0	Water Line	I	ER	Spokane County	08/10/1981		Myron G. Bursell
291	Mainline	8.94	9.12	NR952	UF	O	0	Telephone Cable	A	ER	Spokane County			U S WEST COMMUNICATIONS, INC
291	Mainline	9.12	9.22	5098 (OLD)	UF	O	1	Telephone Cable	I	ER	Spokane County	03/26/1976	10/14/1994	U S WEST COMMUNICATIONS, INC
291	Mainline	9.12	9.22	5098	UF	O	1	Telephone Cable	E	ER	Spokane County	03/26/1976	10/14/1994	QWEST CORPORATION
291	Mainline	9.12	9.93	5098	UF	O	0	Telephone Cable	E	ER	Spokane County	10/14/1969	10/14/1994	QWEST CORPORATION
291	Mainline	9.12	9.93	5098 (OLD)	UF	O	0	Telephone Cable	I	ER	Spokane County	10/14/1969	10/14/1994	U S WEST COMMUNICATIONS, INC
291	Mainline	9.91	9.99	5098 (OLD)	UF	O	2	Telephone Cable	I	ER	Spokane County	07/29/1977	10/14/1994	U S WEST COMMUNICATIONS, INC
291	Mainline	9.92	9.99	5098	UF	O	2	Telephone Cable	E	ER	Spokane County	07/29/1997	10/14/1994	QWEST CORPORATION
291	Mainline	10.91	11.07	60108	UF	O	2	Telephone Cable	A	ER	Spokane County	10/28/1994	05/07/2011	U S WEST COMMUNICATIONS. INC
291	Mainline	10.94	11.07	60108	UF	O	5	Telephone Cable	A	ER	Spokane County	10/13/1999	05/07/2011	US WEST W.O. #91WE347-1 (Spo
291	Mainline	11.01	11.09	1-SR291-7995	UP	O	0	Power Cable	A	ER	Spokane County	11/11/1998		WWP W.O. #1045089
291	Mainline	11.03	11.03	1-SR291-5248	UP	O	0	Power Cable	I	ER	Spokane County	01/12/1984		WWP W.O. #L-31114
291	Mainline	11.07	11.30	60005	UF	C	35	Telephone Cable	A	ER	Stevens County	10/13/1999	05/07/2011	US WEST W.O. #91WE347-2
291	Mainline	11.07	11.32	60005	UF	C	12	Telephone Cable	A	ER	Stevens County	10/28/1994	05/07/2011	U S WEST COMMUNICATIONS, INC
291	Mainline	11.07	33.09	60005	UF	C	0	Telephone Cable	A	ER	Stevens County	05/07/1986	05/07/2011	Qwest W.O. #43W74PB
291	Mainline	11.10	11.16	1-SR291-5194	UP	O	0	Telephone Cable	A	ER	Spokane County	08/16/1983		QWEST CORPORATION
291	Mainline	11.11	11.17	5878	UF	O	0	Telephone Cable	E	ER	Spokane County	09/03/1976	09/03/2001	U S WEST COMMUNICATIONS, INC
291	Mainline	11.17	11.17	60005 (OLD)	UF	C	5	Telephone Cable	I	ER	Spokane County	01/13/2000		QWEST CORPORATION
291	Mainline	11.85	11.85	1-SR291-7278	UP	O	0	Power Cable	A	ER	Stevens County	11/16/1993		WASHINGTON WATER POWER CC
291	Mainline	12.89	14.16	60020	UF	O	0	Natural Gas Line	A	ER	Stevens County	11/01/1989	11/01/2014	WASHINGTON WATER POWER CC
291	Mainline	12.97	13.00	1-SR291-8187	UP	O	0	Water Line	A	ER	Stevens County	09/29/1999		PUB No. 1 of Stevens County
291	Mainline	12.97	13.10	60005	UF	C	8	Telephone Cable	A	ER	Stevens County	10/19/1994	05/07/2011	U S WEST COMMUNICATIONS, INC
291	Mainline	12.98	12.99	1-SR291-5926	UP	O	0	Miscellanous	I	ER	Stevens County	05/01/1990		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	12.99	12.99	1-SR291-5857	UP	O	0	Power Cable	A	ER	Stevens County	04/06/1989		INLAND POWER & LIGHT CO.
291	Mainline	12.99	12.99	1-SR291-5927	UP	O	0	Miscellanous	I	ER	Stevens County	03/28/1990		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	13.09	13.36	60030	UF	O	0	Power Cable	A	ER	Stevens County	05/03/1989	05/03/2014	INLAND POWER & LIGHT CO.
291	Mainline	13.10	13.35	60005	UF	C	20	Telephone Cable	A	ER	Stevens County	08/13/1996	05/07/2011	QWEST CORPORATION (U.S. West
291	Mainline	13.16	13.85	60005	UF	C	2	Telephone Cable	A	ER	Stevens County	10/19/1988	05/07/2011	U S WEST COMMUNICATIONS, INC
291	Mainline	13.22	13.22	60020	UF	O	4	Natural Gas Line	A	ER	Stevens County	04/18/2000	11/01/2014	AVISTA W/O #540034002/1
291	Mainline	13.24	13.24	60019	UF	O	2	Power Cable	A	ER	Stevens County	08/13/1996	12/30/2013	AVISTA CORPORATION (Washing
291	Mainline	13.24	13.24	1-SR291-5834	UP	O	0	Power Cable	A	ER	Stevens County	01/06/1989		WASHINGTON WATER POWER CC
291	Mainline	13.36	13.36	1-SR291-7590	UP	O	0	Water Line	A	ER	Stevens County	02/07/1996		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	13.37	13.37	60020	UF	O	1	Natural Gas Line	A	ER	Stevens County	08/14/1996	11/01/2014	AVISTA CORPORATION (Washing
291	Mainline	13.59	14.35	60005	UF	C	6	Telephone Cable	A	ER	Stevens County	07/12/1990	05/07/2011	QWEST CORPORATION (U.S. West
291	Mainline	13.81	13.81	1-SR291-5254	UP	O	0	Water Line	A	ER	Stevens County	01/27/1984		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	13.81	14.68	60001 (OLD)	UF	O	1	Television Cable	I	ER	Stevens County	08/21/1986	08/27/2010	SUNCREST CABLEVISION, INC.
291	Mainline	13.82	14.34	60001 (OLD)	UF	O	0	Television Cable	I	ER	Stevens County	08/27/1985	08/27/2010	SUNCREST CABLEVISION, INC.
291	Mainline	13.87	13.87	1-SR291-3953	UP	O	0	Natural Gas Line	A	ER	Stevens County	05/01/1990		WASHINGTON WATER POWER CC
291	Mainline	13.88	14.18	60019	UF	O	1	Power Cable	A	ER	Stevens County	12/09/1993	12/30/2013	WASHINGTON WATER POWER CC
291	Mainline	13.93	13.98	1-SR291-7000	UP	O	0	Telephone Cable	A	ER	Stevens County	09/04/1991		U S WEST COMMUNICATIONS. INC
291	Mainline	14.00	14.00	1-SR291-8482	UP	O	0	Power Cable	A	ER	Stevens County	10/02/2003		IP&L W/O #181284

SR	Roadway Type	Beg MP	End MP	Doc No	Doc Type	R/C	AMD	Install Type	Status	Region	County	Approval Date	Expiration Date	Holder Name
291	Mainline	14.00	14.00	1-SR291-8483	UP	O	0	Television Cable	A	ER	Stevens County	10/02/2003		GPACABLE.com W/O # Suncrest
291	Mainline	14.04	14.69	60177	UF	O	0	Television Cable	A	ER	Stevens County	12/15/2004	12/15/2029	GPA Cable.com W/O #GPA-291
291	Mainline	14.16	14.16	60005	UF	C	48	Telephone Cable	A	ER	Stevens County	11/18/2004	05/07/2011	Qwest W/O #42WN233-WH
291	Mainline	14.16	15.96	60020	UF	O	2	Natural Gas Line	A	ER	Stevens County	12/20/1996	11/01/2014	AVISTA CORPORATION (Washing
291	Mainline	14.34	14.43	60005	UF	C	22	Telephone Cable	A	ER	Stevens County	10/15/1996	05/07/2011	USW W/O #52WN620
291	Mainline	14.35	14.35	1-SR291-5954	UP	O	0	Natural Gas Line	A	ER	Stevens County	05/11/1990		WASHINGTON WATER POWER CC
291	Mainline	14.35	14.35	1-SR291-7437	UP	O	0	Power Cable	A	ER	Stevens County	12/14/1994		INLAND POWER & LIGHT CO.
291	Mainline	14.42	14.42	1-SR291-7049	UP	O	0	Power Cable	A	ER	Spokane County	02/28/1992		INLAND POWER & LIGHT CO.
291	Mainline	14.43	14.96	60005	UF	C	29	Telephone Cable	A	ER	Stevens County	06/10/1998	05/07/2011	USW W/O #82WH632
291	Mainline	15.13	15.13	60020	UF	O	3	Natural Gas Line	A	ER	Stevens County	11/20/1997	12/20/2013	WWP W/O #19201376V08950
291	Mainline	15.13	15.13	1-SR291-8456	UP	O	0	Water Line	A	ER	Spokane County	03/11/2003		PUD No. 1 of Stevens Co. W/O #
291	Mainline	15.29	15.30	1-SR291-7793	UP	O	0	Telephone Cable	I	ER	Stevens County	12/09/1997		USW W/O #72WT871
291	Mainline	15.29	15.30	1-SR291-7438	UP	O	0	Power Cable	A	ER	Stevens County	12/14/1994		INLAND POWER & LIGHT CO.
291	Mainline	16.19	16.19	1-SR291-5634	UP	O	0	Power Cable	A	ER	Stevens County	01/15/1987		INLAND POWER & LIGHT CO.
291	Mainline	16.21	16.21	1-SR291-8495	UP	O	0	Water Line	A	ER	Stevens County	01/29/2004		PUD No. 1 of Stevenes Co. W/O
291	Mainline	16.45	16.45	1-SR291-7434	UP	O	0	Water Line	A	ER	Stevens County	12/01/1994		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	16.52	16.83	60005	UF	C	41	Telephone Cable	A	ER	Stevens County	02/20/2001	05/07/2011	Qwest W.O. #12WA189-DP
291	Mainline	16.66	16.90	60005	UF	C	44	Telephone Cable	A	ER	Stevens County	06/05/2002	05/07/2011	Qwest W.O. #22WD404-DP
291	Mainline	16.90	16.90	1-SR291-5400	UP	O	0	Power Cable	A	ER	Stevens County	04/24/1985		INLAND POWER & LIGHT CO.
291	Mainline	16.91	16.91	1-SR291-7351	UP	O	0	Telephone Cable	A	ER	Stevens County	08/10/1994		USW W.O. #43W72LX
291	Mainline	16.92	16.92	1-SR291-5253	UP	O	0	Water Line	A	ER	Stevens County	01/27/1984		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	17.10	17.25	60005	UF	C	17	Telephone Cable	A	ER	Stevens County	09/19/1996	05/07/2011	QWEST CORPORATION (US West
291	Mainline	17.16	17.16	1-SR291-7441	UP	O	0	Water Line	A	ER	Stevens County	12/20/1994		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	17.25	17.31	60005	UF	C	16	Telephone Cable	A	ER	Stevens County	07/14/1995	05/07/2011	QWEST CORPORATION (U.S. West
291	Mainline	17.30	17.30	1-SR291-5349	UP	O	0	Power Cable	A	ER	Stevens County	10/30/1984		INLAND POWER & LIGHT CO.
291	Mainline	17.32	17.32	1-SR291-7440	UP	O	0	Water Line	A	ER	Stevens County	12/20/1994		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	17.33	17.33	1-SR291-8420	UP	O	0	Water Line	A	ER	Stevens County	03/28/2002		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	17.44	17.44	1-SR291-5290	UP	O	0	Power Cable	A	ER	Stevens County	05/08/1984		INLAND POWER & LIGHT CO.
291	Mainline	17.44	17.51	60005	UF	C	7	Telephone Cable	A	ER	Stevens County	11/27/1990	05/07/2011	U S WEST COMMUNICATIONS, INC
291	Mainline	17.50	17.50	1-SR291-5789	UP	O	0	Power Cable	A	ER	Stevens County	07/14/1988		INLAND POWER & LIGHT CO.
291	Mainline	17.72	17.72	1-SR291-5348	UP	O	0	Power Cable	A	ER	Stevens County	10/29/1985		INLAND POWER & LIGHT CO.
291	Mainline	17.78	17.78	60005	UF	C	23	Telephone Cable	A	ER	Stevens County	10/24/1996	05/07/2011	QWEST CORPORATION (US West
291	Mainline	17.89	17.89	1-SR291-5478	UP	O	0	Water Line	A	ER	Stevens County	09/11/1985		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	17.89	17.89	1-SR291-7296	UP	O	0	Water Line	A	ER	Stevens County	02/10/1994		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	17.92	17.92	60005	UF	C	47	Telephone Cable	A	ER	Stevens County	12/22/2003	05/07/2011	Qwest W/O #32WK595
291	Mainline	18.18	18.18	1-SR291-5252	UP	O	0	Water Line	A	ER	Stevens County	01/27/1984		PUD NO. 1 OF STEVENS COUNTY
291	Mainline	18.27	18.41	60005	UF	C	14	Telephone Cable	A	ER	Stevens County	01/17/1995	05/07/2011	U S WEST COMMUNICATIONS, INC
291	Mainline	18.41	21.06	60005	UF	C	13	Telephone Cable	A	ER	Stevens County	01/24/1995	05/07/2011	U S WEST COMMUNICATIONS, INC
291	Mainline	19.82	20.15	60005	UF	C	1	Telephone Cable	A	ER	Stevens County	10/26/1988	05/07/2011	U S WEST COMMUNICATIONS, INC
291	Mainline	19.83	19.83	60005	UF	C	19	Telephone Cable	A	ER	Stevens County	08/13/1996	05/07/2011	QWEST CORPORATION (U.S. West
291	Mainline	20.00	20.00	60005	UF	C	24	Telephone Cable	A	ER	Stevens County	10/29/1996	05/07/2011	QWEST CORPORATION (US West
291	Mainline	20.33	20.35	60005	UF	C	38	Telephone Cable	A	ER	Stevens County	12/02/1999	05/07/2011	US WEST W.O. #BSW-017 DP
291	Mainline	20.35	20.37	60005	UF	C	36	Telephone Cable	A	ER	Stevens County	10/04/1999	05/07/2011	US WEST W.O. #BSW-008
291	Mainline	20.88	20.88	1-SR291-5635	UP	O	0	Telephone Cable	A	ER	Stevens County	01/20/1987		QWEST CORPORATION
291	Mainline	20.94	20.94	1-SR291-5538	UP	O	0	Power Cable	A	ER	Stevens County	04/15/1986		INLAND POWER & LIGHT CO.
291	Mainline	21.35	21.37	60005	UF	C	40	Telephone Cable	A	ER	Stevens County	02/09/2001	05/07/2011	Qwest W.O. #02WP865-DP
291	Mainline	21.37	21.37	1-SR291-5235	UP	O	0	Power Cable	A	ER	Stevens County	11/14/1983		INLAND POWER & LIGHT CO.
291	Mainline	21.58	22.31	60005	UF	C	9	Telephone Cable	A	ER	Stevens County	04/01/1991	05/07/2011	U S WEST COMMUNICATIONS, INC

SR	Roadway Type	Beg MP	End MP	Doc No	Doc Type	R/C	AMD	Install Type	Status	Region	County	Approval Date	Expiration Date	Holder Name
291	Mainline	22.10	22.10	1-SR291-7722	UP	O	0	Sanitary Sewer Line	A	ER	Stevens County	06/26/1997		FORSHEE, J. SCOTT
291	Mainline	22.16	22.16	60005	UF	C	28	Telephone Cable	A	ER	Stevens County	04/17/1998	05/07/2011	USW W/O #65353-23

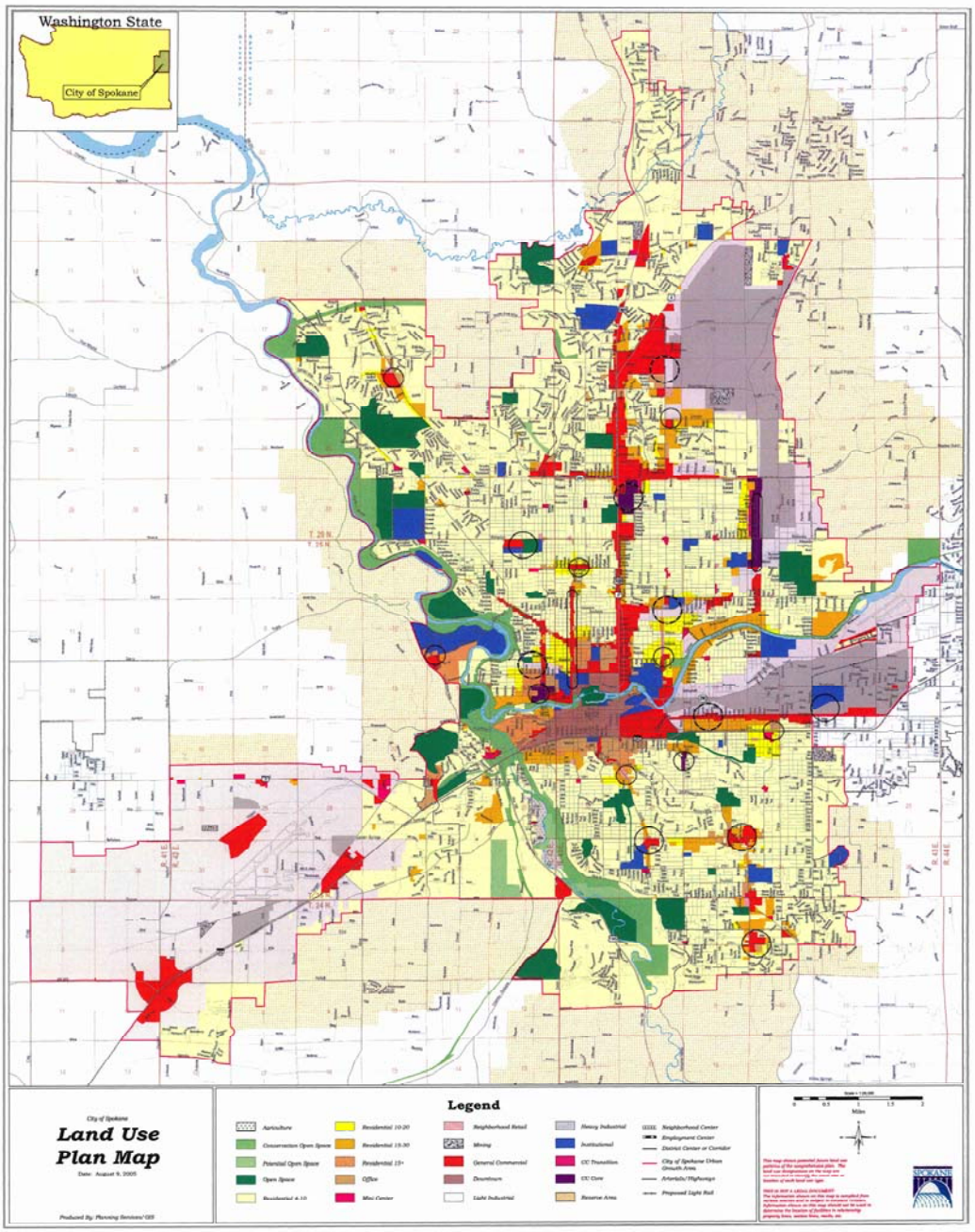
Appendix E

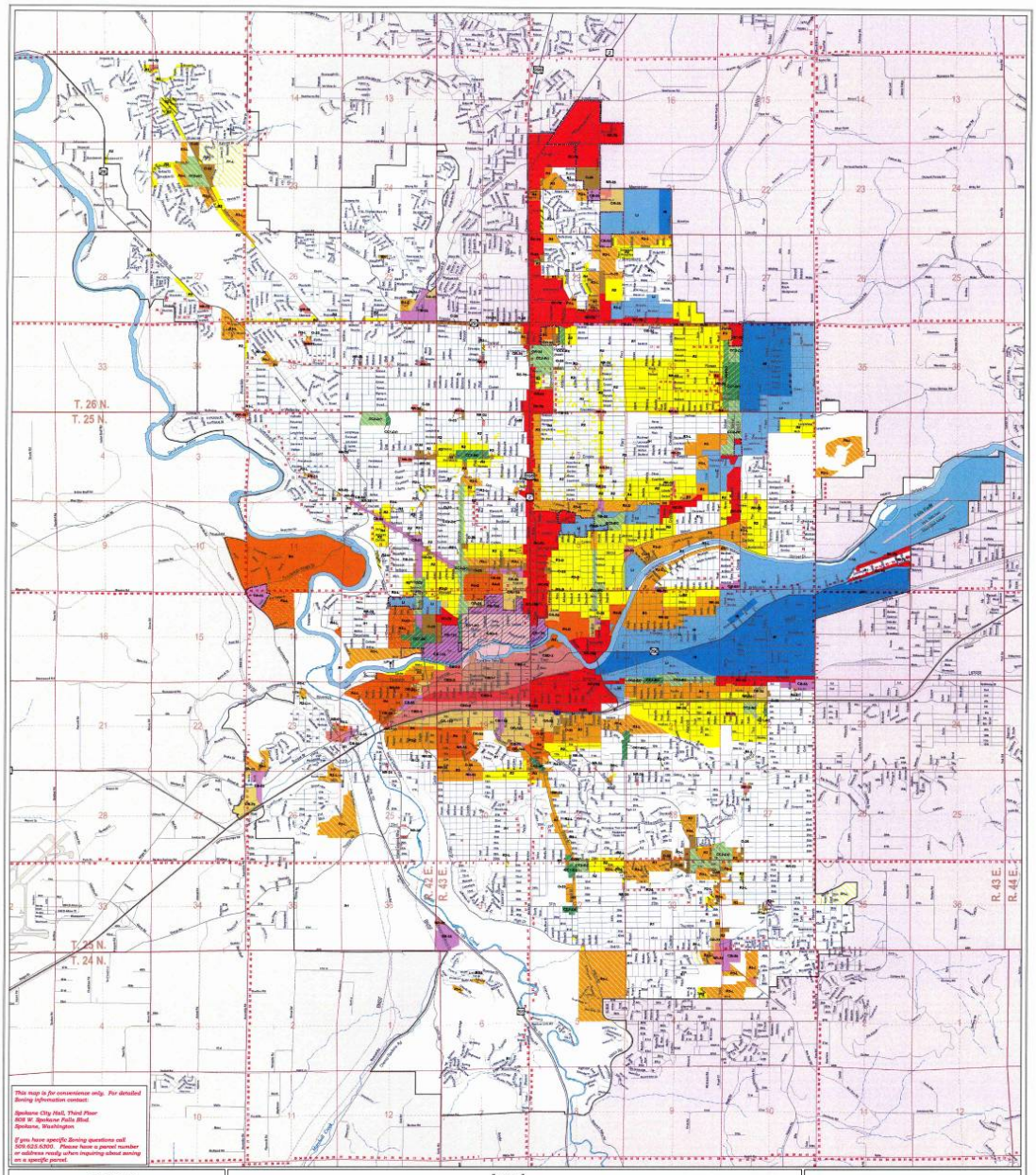
Land Use Maps

Eastern Region

SR 291 Route Development Plan

Freya Street to Scotts Valley Road


Washington State
City of Spokane
City of Spokane
Land Use
Plan Map
Date: August 9, 2005
Produced By: Planning Services/GIS
Legend
Agriculture
Conservation Open Space
Potential Open Space
Open Space
Residential 4-10
Residential 10-20
Residential 15-30
Residential 15+
Office
Misc Center
Neighborhood Retail
Mining
General Commercial
Downtown
Light Industrial
Heavy Industrial
Institutional
CC Transition
CC Core
Reserve Area
Neighborhood Center
Employment Center
District Center or Corridor
City of Spokane Urban Growth Area
Arterials/Highways
Proposed Light Rail
Miles



City of Spokane

Current Zoning

Date: January 10, 2006

Produced By: Planning Services/GIS July 2005

Legend

Base Information

- Highways
- Arterials
- Roads
- River
- Township Lines
- Section Lines
- Quarter Sections
- City Limits

Zoning Classifications

- R1
- R1-L
- R1-Z
- R2
- R2-D
- R2-L
- R3
- R3-D
- R3-L
- R3-Z
- R4
- R4-D
- R4-L
- OR
- O
- NR
- GC
- CB
- CC1
- CC2
- CC4
- LI
- HI
- CBD-1
- CBD-2
- CBD-3
- CBD-4
- CBD-5
- CBD-6

Zoning Overlays

- CC3
- North River

0 0.4 0.8 1.2 1.6 Miles

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 change without notice. Information shown on this map should not be used to determine the location of facilities in relationship property lines, section lines, roads, etc.

Stevens County, Washington
Land Services Dept.: Comp. Plan 2005
Future Land Use Map (Page 5)
"BOCC FINAL REVIEW DRAFT"

Stevens County Land Services Department
215 S. Oak St. – Courthouse Annex
Colville, WA 99114
(509) 684-2401
www.co.stevens.wa.us/landservices/planning

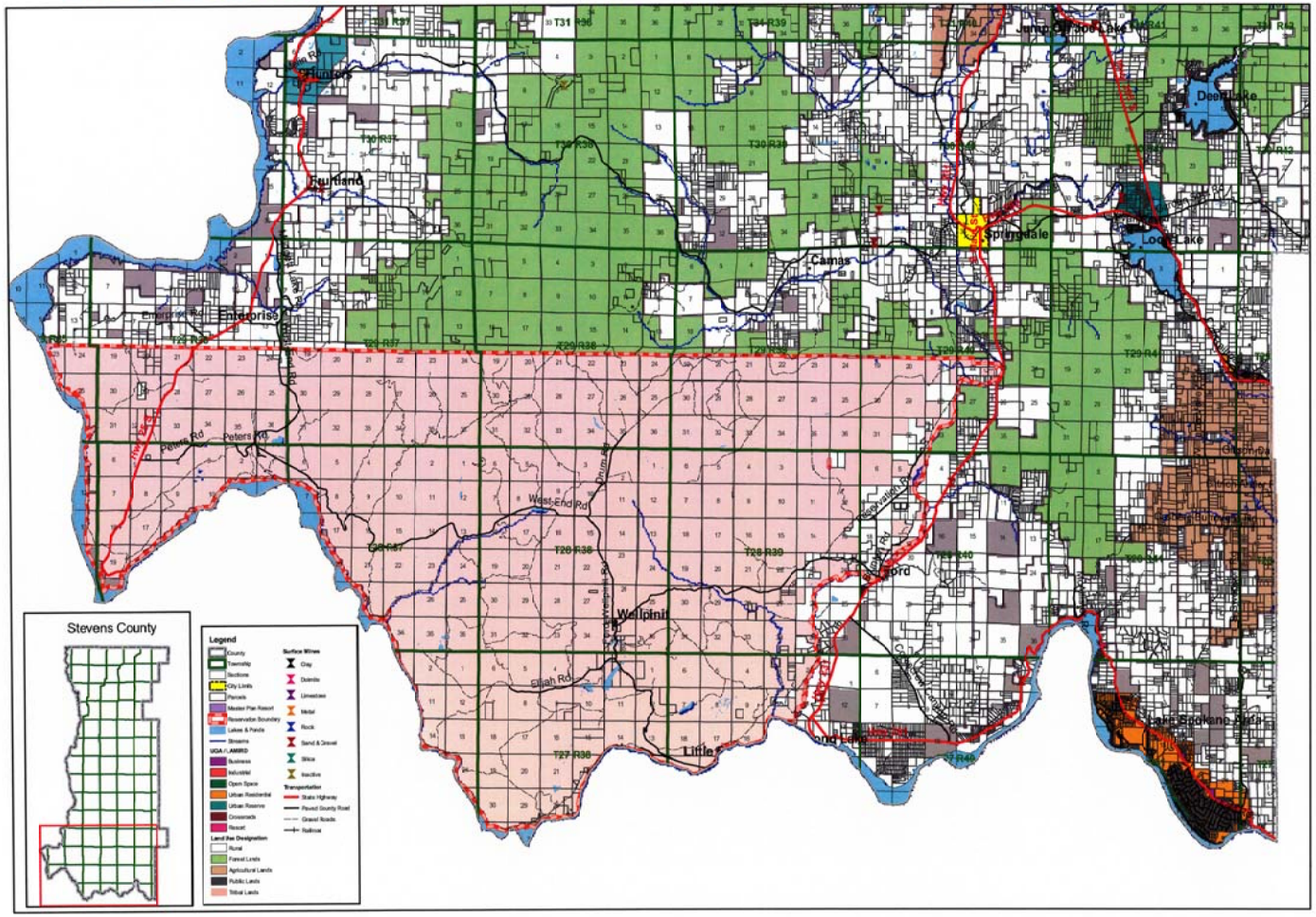
0 1 2 4 6 8 Miles

N

May 2006

Disclaimer
This GIS Data is deemed reliable but provided "as is" without warranty of any representation of accuracy, timeliness, reliability or completeness. These map documents do not represent a legal survey of the land and are for graphical purposes only. Use of this Data for any purpose should be with acknowledgment of the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction, and update.

Prepared by Stevens County GIS



Future Land Use Map (Page 5)
"BOCC FINAL REVIEW DRAFT"