United States Code Annotated
Title 23. Highways (Refs & Annos)
Chapter 1. Federal-Aid Highways (Refs & Annos)

23 U.S.C.A. § 101

§ 101. Definitions and declaration of policy

Currentness

(a) Definitions.--In this title, the following definitions apply:

(1) Apportionment.--The term "apportionment" includes unexpended apportionments made under prior authorization laws.

(2) Asset management.--The term "asset management" means a strategic and systematic process of operating, maintaining, and improving physical assets, with a focus on both engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the lifecycle of the assets at minimum practicable cost.

(3) Carpool project.--The term "carpool project" means any project to encourage the use of carpools and vanpools, including provision of carpooling opportunities to the elderly and individuals with disabilities, systems for locating potential riders and informing them of carpool opportunities, acquiring vehicles for carpool use, designating existing highway lanes as preferential carpool highway lanes, providing related traffic control devices, designating existing facilities for use for preferential parking for carpools, and real-time ridesharing projects, such as projects where drivers, using an electronic transfer of funds, recover costs directly associated with the trip provided through the use of location technology to quantify those direct costs, subject to the condition that the cost recovered does not exceed the cost of the trip provided.

(4) Construction.--The term "construction" means the supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a highway or any project eligible for assistance under this title, including bond costs and other costs relating to the issuance in accordance with section 122 of bonds or other debt financing instruments and costs incurred by the State in performing Federal-aid project related audits that directly benefit the Federal-aid highway program. Such term includes--

(A) preliminary engineering, engineering, and design-related services directly relating to the construction of a highway project, including engineering, design, project development and management, construction project management and inspection, surveying, assessing resilience, mapping (including the establishment of temporary and permanent geodetic control in accordance with specifications of the National Oceanic and Atmospheric Administration), and architectural-related services;

(B) reconstruction, resurfacing, restoration, rehabilitation, and preservation;

(C) acquisition of rights-of-way;

(D) relocation assistance, acquisition of replacement housing sites, and acquisition and rehabilitation, relocation, and construction of replacement housing;

(E) elimination of hazards of railway-highway grade crossings;

(F) elimination of roadside hazards;

(G) improvements that directly facilitate and control traffic flow, such as grade separation of intersections, widening of lanes, channelization of traffic, traffic control systems, and passenger loading and unloading areas;

(H) improvements that reduce the number of wildlife-vehicle collisions, such as wildlife crossing structures; and

(I) capital improvements that directly facilitate an effective vehicle weight enforcement program, such as scales (fixed and portable), scale pits, scale installation, and scale houses.

(5) County.--The term "county" includes corresponding units of government under any other name in States that do not have county organizations and, in those States in which the county government does not have jurisdiction over highways, any local government unit vested with jurisdiction over local highways.

(6) Federal-aid highway.--The term "Federal-aid highway" means a public highway eligible for assistance under this chapter other than a highway functionally classified as a local road or rural minor collector.

(7) Federal lands access transportation facility.--The term "Federal Lands access transportation facility" means a public highway, road, bridge, trail, or transit system that is located on, is adjacent to, or provides access to Federal lands for which title or maintenance responsibility is vested in a State, county, town, township, tribal, municipal, or local government.

(8) Federal lands transportation facility.--The term "Federal lands transportation facility" means a public highway, road, bridge, trail, or transit system that is located on, is adjacent to, or provides access to Federal lands for which title and maintenance responsibility is vested in the Federal Government, and that appears on the national Federal lands transportation facility inventory described in section 203(c).

(9) Forest development roads and trails.--The term "forest development roads and trails" means forest roads and trails under the jurisdiction of the Forest Service.

(10) Forest road or trail.--The term "forest road or trail" means a road or trail wholly or partly within, or adjacent to, and serving the National Forest System that is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources.

(11) Highway.--The term "highway" includes--

(A) a road, street, and parkway;

(B) a right-of-way, bridge, railroad-highway crossing, tunnel, drainage structure including public roads on dams, sign, guardrail, and protective structure, in connection with a highway; and

(C) a portion of any interstate or international bridge or tunnel and the approaches thereto, the cost of which is assumed by a State transportation department, including such facilities as may be required by the United States Customs and Immigration Services in connection with the operation of an international bridge or tunnel.

(12) Interstate System.--The term "Interstate System" means the Dwight D. Eisenhower National System of Interstate and Defense Highways described in section 103(c).

(13) Maintenance.--The term "maintenance" means the preservation of the entire highway, including surface, shoulders, roadsides, structures, and such traffic-control devices as are necessary for safe and efficient utilization of the highway.

(14) Maintenance area.--The term "maintenance area" means an area that was designated as an air quality nonattainment area, but was later redesignated by the Administrator of the Environmental Protection Agency as an air quality attainment area, under section 107(d) of the Clean Air Act (42 U.S.C. 7407(d)).

(15) National Highway Freight Network.--The term "National Highway Freight Network" means the National Highway Freight Network established under section 167.

(16) National Highway System.--The term "National Highway System" means the Federal-aid highway system described in section 103(b).

(17) Natural infrastructure.--The term "natural infrastructure" means infrastructure that uses, restores, or emulates natural ecological processes and--

(A) is created through the action of natural physical, geological, biological, and chemical processes over time;

(B) is created by human design, engineering, and construction to emulate or act in concert with natural processes; or

(C) involves the use of plants, soils, and other natural features, including through the creation, restoration, or preservation of vegetated areas using materials appropriate to the region to manage stormwater and runoff, to attenuate flooding and storm surges, and for other related purposes.

(18) Operating costs for traffic monitoring, management, and control.--The term "operating costs for traffic monitoring, management, and control" includes labor costs, administrative costs, costs of utilities and rent, and other costs associated with the continuous operation of traffic control, such as integrated traffic control systems, incident management programs, and traffic control centers.

(19) Operational improvement.--The term "operational improvement"--

(A) means (i) a capital improvement for installation of traffic surveillance and control equipment, computerized signal systems, motorist information systems, integrated traffic control systems, incident management programs, and transportation demand management facilities, strategies, and programs, and (ii) such other capital improvements to public roads as the Secretary may designate, by regulation; and

(B) does not include resurfacing, restoring, or rehabilitating improvements, construction of additional lanes, interchanges, and grade separations, and construction of a new facility on a new location.

(20) Project.--The term "project" means any undertaking eligible for assistance under this title.

(21) Project agreement.--The term "project agreement" means the formal instrument to be executed by the Secretary and the recipient as required by section 106.

(22) Public authority.--The term "public authority" means a Federal, State, county, town, or township, Indian tribe, municipal or other local government or instrumentality with authority to finance, build, operate, or maintain toll or toll-free facilities.

(23) Public road.--The term "public road" means any road or street under the jurisdiction of and maintained by a public authority and open to public travel.

(24) Resilience.--The term "resilience", with respect to a project, means a project with the ability to anticipate, prepare for, or adapt to conditions or withstand, respond to, or recover rapidly from disruptions, including the ability--

(A)(i) to resist hazards or withstand impacts from weather events and natural disasters; or

(ii) to reduce the magnitude or duration of impacts of a disruptive weather event or natural disaster on a project; and

(B) to have the absorptive capacity, adaptive capacity, and recoverability to decrease project vulnerability to weather events or other natural disasters.

(25) Rural areas.--The term "rural areas" means all areas of a State not included in urban areas.

(26) Safety improvement project.--The term "safety improvement project" means a strategy, activity, or project on a public road that is consistent with the State strategic highway safety plan and corrects or improves a roadway feature that constitutes a hazard to road users or addresses a highway safety problem.

(27) Secretary.--The term "Secretary" means Secretary of Transportation.

(28) State.--The term "State" means any of the 50 States, the District of Columbia, or Puerto Rico.

(29) State funds.--The term "State funds" includes funds raised under the authority of the State or any political or other subdivision thereof, and made available for expenditure under the direct control of the State transportation department.

(30) State strategic highway safety plan.--The term "State strategic highway safety plan" has the same meaning given such term in section 148(a).

(31) State transportation department.--The term "State transportation department" means that department, commission, board, or official of any State charged by its laws with the responsibility for highway construction.

(32) Transportation systems management and operations.--

(A) In general.--The term "transportation systems management and operations" means integrated strategies to optimize the performance of existing infrastructure through--

(i) the implementation of multimodal and intermodal, cross-jurisdictional systems, services, and projects designed to preserve capacity and improve security, safety, and reliability of the transportation system; and

(ii) the consideration of incorporating natural infrastructure.

(B) Inclusions.--The term "transportation systems management and operations" includes--

(i) actions such as traffic detection and surveillance, corridor management, freeway management, arterial management, active transportation and demand management, work zone management, emergency management, traveler information services, congestion pricing, parking management, automated enforcement, traffic control, commercial vehicle operations, freight management, and coordination of highway, rail, transit, bicycle, and pedestrian operations; and

(ii) coordination of the implementation of regional transportation system management and operations investments (such as traffic incident management, traveler information services, emergency management, roadway weather management, intelligent transportation systems, communication networks, and information sharing systems) requiring agreements, integration, and interoperability to achieve targeted system performance, reliability, safety, and customer service levels.

(33) Tribal transportation facility.--The term "tribal transportation facility" means a public highway, road, bridge, trail, or transit system that is located on or provides access to tribal land and appears on the national tribal transportation facility inventory described in section 202(b)(1).

(34) Truck stop electrification system.--The term "truck stop electrification system" means a system that delivers heat, air conditioning, electricity, or communications to a heavy-duty vehicle.

(35) Urban area.--The term "urban area" means an urbanized area or, in the case of an urbanized area encompassing more than one State, that part of the urbanized area in each such State, or urban place as designated by the Bureau of the Census having a population of 5,000 or more and not within any urbanized area, within boundaries to be fixed by responsible State and local officials in cooperation with each other, subject to approval by the Secretary. Such boundaries shall encompass, at a minimum, the entire urban place designated by the Bureau of the Census, except in the case of cities in the State of Maine and in the State of New Hampshire.

(36) Urbanized area.--The term "urbanized area" means an area with a population of 50,000 or more designated by the Bureau of the Census, within boundaries to be fixed by responsible State and local officials in cooperation with each other, subject to approval by the Secretary. Such boundaries shall encompass, at a minimum, the entire urbanized area within a State as designated by the Bureau of the Census.

(b) Declaration of Policy.--

(1) Acceleration of construction of Federal-aid highway systems.--Congress declares that it is in the national interest to accelerate the construction of Federal-aid highway systems, including the Dwight D. Eisenhower National System of Interstate and Defense Highways, because many of the highways (or portions of the highways) are inadequate to meet the needs of local and interstate commerce for the national and civil defense.

(2) Completion of interstate system.--Congress declares that the prompt and early completion of the Dwight D. Eisenhower National System of Interstate and Defense Highways (referred to in this section as the "Interstate System"), so named because of its primary importance to the national defense, is essential to the national interest. It is the intent of Congress that the Interstate System be completed as nearly as practicable over the period of availability of the forty years' appropriations authorized for the purpose of expediting its construction, reconstruction, or improvement, inclusive of necessary tunnels and bridges, through the fiscal year ending September 30, 1996, under section 108(b) of the Federal-Aid Highway Act of 1956 (70 Stat. 374), and that the entire system in all States be brought to simultaneous completion. Insofar as possible in consonance with this objective, existing highways located on an interstate route shall be used to the extent that such use is practicable, suitable, and feasible, it being the intent that local needs, to the extent practicable, suitable, and feasible, shall be given equal consideration with the needs of interstate commerce.

(3) Transportation needs of 21st Century.--Congress declares that--

(A) it is in the national interest to preserve and enhance the surface transportation system to meet the needs of the United States for the 21st Century;

(B) the current urban and long distance personal travel and freight movement demands have surpassed the original forecasts and travel demand patterns are expected to continue to change;

(C) continued planning for and investment in surface transportation is critical to ensure the surface transportation system adequately meets the changing travel demands of the future;

(D) among the foremost needs that the surface transportation system must meet to provide for a strong and vigorous national economy are safe, efficient, resilient, and reliable--

(i) national and interregional personal mobility (including personal mobility in rural and urban areas) and reduced congestion;

(ii) flow of interstate and international commerce and freight transportation; and

(iii) travel movements essential for national security;

(E) special emphasis should be devoted to providing safe and efficient access for the type and size of commercial and military vehicles that access designated National Highway System intermodal freight terminals;

(F) the connection between land use and infrastructure is significant;

(G) transportation should play a significant role in promoting economic growth, improving the environment, and sustaining the quality of life; and

(H) the Secretary should take appropriate actions to preserve and enhance the Interstate System to meet the needs of the 21st Century.

(4) Expedited project delivery.--

(A) In general.--Congress declares that it is in the national interest to expedite the delivery of surface transportation projects by substantially reducing the average length of the environmental review process.

(B) Policy of the United States.--Accordingly, it is the policy of the United States that--

(i) the Secretary shall have the lead role among Federal agencies in carrying out the environmental review process for surface transportation projects;

(ii) each Federal agency shall cooperate with the Secretary to expedite the environmental review process for surface transportation projects;

(iii) project sponsors shall not be prohibited from carrying out preconstruction project development activities concurrently with the environmental review process;

(iv) programmatic approaches shall be used to reduce the need for project-by-project reviews and decisions by Federal agencies; and

(v) the Secretary shall identify opportunities for project sponsors to assume responsibilities of the Secretary where such responsibilities can be assumed in a manner that protects public health, the environment, and public participation.

(c) It is the sense of Congress that under existing law no part of any sums authorized to be appropriated for expenditure upon any Federal-aid highway which has been apportioned pursuant to the provisions of this title shall be impounded or withheld from obligation, for purposes and projects as provided in this title, by any officer or employee in the executive branch of the Federal Government, except such specific sums as may be determined by the Secretary of the Treasury, after consultation with the Secretary of Transportation, are necessary to be withheld from obligation for specific periods of time to assure that sufficient amounts will be available in the Highway Trust Fund to defray the expenditures which will be required to be made from such fund.

(d) No funds authorized to be appropriated from the Highway Trust Fund shall be expended by or on behalf of any Federal department, agency, or instrumentality other than the Federal Highway Administration unless funds for such expenditure are identified and included as a line item in an appropriation Act and are to meet obligations of the United States heretofore or hereafter incurred under this title attributable to the construction of Federal-aid highways or highway planning, research, or development, or as otherwise specifically authorized to be appropriated from the Highway Trust Fund by Federal-aid highway legislation.

(e) It is the national policy that to the maximum extent possible the procedures to be utilized by the Secretary and all other affected heads of Federal departments, agencies, and instrumentalities for carrying out this title and any other provision of law relating to the Federal highway programs shall encourage the substantial minimization of paperwork and interagency decision procedures and the best use of available manpower and funds so as to prevent needless duplication and unnecessary delays at all levels of government.

CREDIT(S)

(Pub.L. 85-767, Aug. 27, 1958, 72 Stat. 885; Pub.L. 86-70, § 21(e)(1), June 25, 1959, 73 Stat. 146; Pub.L. 86-624, § 17(a), July 12, 1960, 74 Stat. 415; Pub.L. 87-866, § 6(a), Oct. 23, 1962, 76 Stat. 1147; Pub.L. 88-423, § 3, Aug. 13, 1964, 78 Stat. 397; Pub.L. 89-574, § 4(a), Sept. 13, 1966, 80 Stat. 767; Pub.L. 90-495, §§ 4(a), 8, 15, Aug. 23, 1968, 82 Stat. 816, 819, 822; Pub.L. 91-605, Title I, §§ 104(a), 106(a), 107, 117(d), 130, 141, Dec. 31, 1970, 84 Stat. 1714, 1716, 1718, 1724, 1732, 1737; Pub.L. 93-87, Title I, §§ 105, 106(a), 107, 108, 152(1), Aug. 13, 1973, 87 Stat. 253 to 255, 276; Pub.L. 93-643, § 102(b), Jan. 4, 1975, 88 Stat. 2281; Pub.L. 94-280, Title I, §§ 107(a), 108, May 5, 1976, 90 Stat. 430, 431; Pub.L. 95-599, Title I, § 106, Nov. 6, 1978, 92 Stat. 2693; Pub.L. 97-424, Title I, §§ 126(c), 159, Jan. 6, 1983, 96 Stat. 2115, 2135; Pub.L. 100-17, Title I, §§ 102(b)(3), 108, 109, 133(b)(2), (3), Apr. 2, 1987, 101 Stat. 135, 146, 171; Pub.L. 101-427, Oct. 15, 1990, 104 Stat. 927; Pub.L. 102-240, Title I, §§ 1001(g), 1005, 1006(g)(1), 1007(c), Dec. 18, 1991, 105 Stat. 1916, 1922, 1927, 1931; Pub.L. 104-59, Title

III, §§ 301(b), 311(b), Nov. 28, 1995, 109 Stat. 578, 583; Pub.L. 105-178, Title I, § 1201, June 9, 1998, 112 Stat. 164; Pub.L. 109-59, Title I, §§ 1122, 1909(a), Aug. 10, 2005, 119 Stat. 1196, 1470; Pub.L. 110-244, Title I, § 101(h), June 6, 2008, 122 Stat. 1574; Pub.L. 112-141, Div. A, Title I, §§ 1103, 1301(c), 1501, July 6, 2012, 126 Stat. 419, 528, 560; Pub.L. 114-94, Div. A, Title I, § 1103, Dec. 4, 2015, 129 Stat. 1328; Pub.L. 117-58, Div. A, Title I, §§ 11103, 11123(a), 11525(a), Nov. 15, 2021, 135 Stat. 453, 499, 607.)

Notes of Decisions (36)

23 U.S.C.A. § 101, 23 USCA § 101
Current through P.L. 117-102. Some statute sections may be more current, see credits for details.

End of Document

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75 years benesch [protect2.fireeye.com] [nam12.safelinks.protection.outlook.com] [nam12.safelinks.protection.outlook.com]

From: Robert Lochmiller <rlochmiller@spokanevalley.org>
Sent: Tuesday, December 8, 2020 2:04 PM
To: Mays, Ellis <EMays@benesch.com>; Jeff Morse <jmorse@spokanevalley.org>
Cc: Gloria Mantz <gmantz@spokanevalley.org>; Mary R. Schroll <MRSCHROL@up.com>; Morgan Bishop <morgan@csrow.com>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Ellis,

City is OK with this and would like to proceed with the agreement. City will likely need some RR flagging for the City's contractor to complete the road improvements within the UPRR ROW too. So, if the City's contractor isn't able to work within the UPRR ROW at the same time of the UPRR construction work, then we should probably add another 15 days to the flagging.

Let us know, if there is anything is needed from us to proceed with the ROW/permanent easement needed for the project.

Thanks,
Rob

Robert Lochmiller, PE | Senior Engineer
10210 E. Sprague Avenue | Spokane Valley, WA 99206
(509) 720-5010 | rlochmiller@spokanevalley.org

City of Spokane Valley

From: Mays, Ellis <EMays@benesch.com>
Sent: Monday, December 7, 2020 3:56 PM
To: Jeff Morse <jmorse@spokanevalley.org>
Cc: Gloria Mantz <gmantz@spokanevalley.org>; Robert Lochmiller <rlochmiller@spokanevalley.org>;

Mary R. Schroll <MRSCHROL@up.com>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Jeff,

Please see attached for reference.

I have attached the following, with explanation:

1. Exhibit C – Exhibit to the agreement which includes the total cost of UPRR work to include construction management, flagging, track, and signal work. I have estimated the work on UPRR ROW to be 15 days or less (please advise if otherwise).
2. Detailed Surface Estimate
3. Detailed Signal Estimate
4. Signal Design Front Sheet
5. AREMA Annual Maintenance Costs – Annual maintenance cost that the City will be billed for on a yearly basis for the maintenance of traffic control devices at this location

With your concurrence I will proceed with a draft agreement using the ROW exhibits previously sent by the City.

Thanks,

Ellis A. Mays | Project Manager

Alfred Benesch & Company | 3017 Douglas Blvd, Ste 300, Roseville, CA 95661
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From: Mays, Ellis
Sent: Tuesday, December 1, 2020 8:19 AM
To: Jeff Morse <jmorse@spokanevalley.org>
Cc: Gloria Mantz <gmantz@spokanevalley.org>; Robert Lochmiller <rlochmiller@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Jeff,

I do know that the signal design is not yet complete, however, I spoke with the design consultant yesterday and I believe it will be forthcoming very shortly. As soon as I get it I will forward it to you for your approval.

Thanks,

Ellis A. Mays | Project Manager

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From: Jeff Morse <jmorse@spokanevalley.org>
Sent: Tuesday, December 1, 2020 7:26 AM
To: Mays, Ellis <EMays@benesch.com>
Cc: Gloria Mantz <gmantz@spokanevalley.org>; Robert Lochmiller <rlochmiller@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Ellis

Do we have an update on the signal design process? It's been a few weeks and I want to stay on top of this and keep it moving forward as much as possible.

Thanks you.

JEFF MORSE

Jeff Morse | Engineering Technician – CAD Administrator
10210 E. Sprague Avenue | Spokane Valley, WA 99206
Phone: (509) 720-5022 | jmorse@spokanevalley.org

From: Mays, Ellis <EMays@benesch.com>
Sent: Wednesday, November 4, 2020 9:37 AM
To: Robert Lochmiller <rlochmiller@spokanevalley.org>; Jeff Morse <jmorse@spokanevalley.org>
Cc: Gloria Mantz <gmantz@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Understood – we will continue to work towards that!

Thanks,

Ellis A. Mays | Project Manager

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From: Robert Lochmiller <rlochmiller@spokanevalley.org>
Sent: Wednesday, November 4, 2020 9:28 AM
To: Mays, Ellis <EMays@benesch.com>; Jeff Morse <jmorse@spokanevalley.org>
Cc: Gloria Mantz <gmantz@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Ellis,

It usually takes 4 to 5 weeks for FHWA to certify the ROW. With that, we would like to see the C&M agreement by the first week of January to review it. Then typically takes us two weeks to get Council approval, so our manager could sign it.

Thanks,
Rob

From: Mays, Ellis <EMays@benesch.com>
Sent: Tuesday, October 27, 2020 5:41 PM
To: Robert Lochmiller <rlochmiller@spokanevalley.org>; Jeff Morse <jmorse@spokanevalley.org>
Cc: Gloria Mantz <gmantz@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Rob,

How long will it take to certify after the agreement? What is the hard date for the City to have an agreement in their hands for review?

Thanks,

Ellis A. Mays | Project Manager

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From: Robert Lochmiller <rlochmiller@spokanevalley.org>
Sent: Tuesday, October 27, 2020 4:26 PM
To: Mays, Ellis <EMays@benesch.com>; Jeff Morse <jmorse@spokanevalley.org>
Cc: Gloria Mantz <gmantz@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Ellis,

City prefers to bid our projects in the winter season (Nov.-Feb), prior to the following construction season, for the best bid results. We like to advertise this project by February at the latest, for construction in Summer 2021. With federal funds on this project, we need the C&M agreement executed, so the feds can certify our right-of-way. Without right-of-way certification, the feds will not let us obligate the construction funds and we cannot proceed to bid advertisement.

Thanks,
Rob

From: Mays, Ellis <EMays@benesch.com>
Sent: Monday, October 26, 2020 5:38 PM
To: Jeff Morse <jmorse@spokanevalley.org>
Cc: Robert Lochmiller <rlochmiller@spokanevalley.org>; Gloria Mantz <gmantz@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Jeff,

Can you remind me your optimal bid date? What's the date all contracts will be need to be executed?

Thanks,

Ellis A. Mays | Project Manager

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From: Jeff Morse <jmorse@spokanevalley.org>
Sent: Monday, October 26, 2020 6:56 AM
To: Mays, Ellis <EMays@benesch.com>
Cc: Robert Lochmiller <rlochmiller@spokanevalley.org>; Gloria Mantz <gmantz@spokanevalley.org>
Subject: FW: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Ellis I have not heard back from you regarding the estimated time line for completion of the signal design. We are coming up on the end of the year fast and I am concerned about making our optimal bid time for the 2021 construction season.

Sincerely.

JEFF MORSE

Jeff Morse | Engineering Technician – CAD Administrator
10210 E. Sprague Avenue | Spokane Valley, WA 99206
Phone: (509) 720-5022 | jmorse@spokanevalley.org

From: Jeff Morse
Sent: Monday, October 19, 2020 2:35 PM
To: 'Mays, Ellis' <EMays@benesch.com>
Cc: Robert Lochmiller <rlochmiller@spokanevalley.org>; Gloria Mantz <gmantz@spokanevalley.org>; Mary R. Schroll <MRSCHROL@up.com>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Ellis

Thanks you for the information on what to expect next. Do you have a time line on when the design will be completed?

Thanks

JEFF MORSE

Jeff Morse | Engineering Technician – CAD Administrator
10210 E. Sprague Avenue | Spokane Valley, WA 99206
Phone: (509) 720-5022 | jmorse@spokanevalley.org

From: Mays, Ellis <EMays@benesch.com>
Sent: Monday, October 19, 2020 12:13 PM
To: Jeff Morse <jmorse@spokanevalley.org>
Cc: Robert Lochmiller <rlochmiller@spokanevalley.org>; Gloria Mantz <gmantz@spokanevalley.org>; Mary R. Schroll <MRSCHROL@up.com>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Jeff,

The estimate has not been completed yet, however, I can provide the after steps.

When the estimate is received I will create a project estimate which will include the signal estimate, surface estimate, flagging costs, and other construction related cost. Pending your approval of that estimate and the new annual signal maintenance free UPRR will draft the construction agreement for the city to review and execution.

Thanks,

Ellis A. Mays | Project Manager

Alfred Benesch & Company | 3017 Douglas Blvd, Ste 300, Roseville, CA 95661
C 402-427-4231 | **E** emays@benesch.com| **W** www.benesch.com [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [nam12.safelinks.protection.outlook.com] [nam12.safelinks.protection.outlook.com] [nam12.safelinks.protection.outlook.com]

From: Jeff Morse <jmorse@spokanevalley.org>
Sent: Monday, October 19, 2020 11:17 AM
To: Mays, Ellis <EMays@benesch.com>
Cc: Robert Lochmiller <rlochmiller@spokanevalley.org>; Gloria Mantz <gmantz@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Ellis

I hope all has been going well for you. I am checking the status of the signal design. It has been about 3 months since we finalized the layout around the tracks. What is the status of the design and if it is completed what is our next step?

Sincerely.

JEFF MORSE

Jeff Morse | Engineering Technician – CAD Administrator
10210 E. Sprague Avenue | Spokane Valley, WA 99206
Phone: (509) 720-5022 | jmorse@spokanevalley.org

From: Mays, Ellis <EMays@benesch.com>
Sent: Monday, September 28, 2020 11:58 AM
To: Jeff Morse <jmorse@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Jeff,

I do not have an exact measurement of the process, however typical estimates are 3 months. I will let you know if I hear any new information.

Thanks,

Ellis A. Mays | Project Manager

Alfred Benesch & Company | 3017 Douglas Blvd, Ste 300, Roseville, CA 95661
C 402-427-4231 | **E** emays@benesch.com | **W** www.benesch.com [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [nam12.safelinks.protection.outlook.com] [nam12.safelinks.protection.outlook.com] [nam12.safelinks.protection.outlook.com]

From: Jeff Morse <jmorse@spokanevalley.org>
Sent: Monday, September 28, 2020 11:50 AM
To: Mays, Ellis <EMays@benesch.com>
Cc: Robert Lochmiller <rlochmiller@spokanevalley.org>; Gloria Mantz <gmantz@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Ellis

This email is in regards to the signal design. I am checking the status and to see if you have an ETA for the signal design.

Sincerely.

JEFF MORSE

Jeff Morse | Engineering Technician – CAD Administrator
10210 E. Sprague Avenue | Spokane Valley, WA 99206
Phone: (509) 720-5022 | jmorse@spokanevalley.org

From: Mays, Ellis <EMays@benesch.com>
Sent: Sunday, September 6, 2020 3:28 PM
To: Jeff Morse <jmorse@spokanevalley.org>
Cc: Robert Lochmiller <rlochmiller@spokanevalley.org>; Gloria Mantz <gmantz@spokanevalley.org>; Betty Young - Utilities and Transportation Commission (UTC)/Rail Safety (betty.young@utc.wa.gov)

<betty.young@utc.wa.gov>; Turcott, Mike (UTC) <mike.turcott@utc.wa.gov>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Jeff,

I will pass this on to UPRR, however, it is typical that they do not sign until the agreement is circulating. I am hopeful that I will receive the signal estimate soon so that I can provide it to the city for concurrence and subsequently I can ask UPRR to draft that agreement.

Thanks,

Ellis A. Mays | Project Manager

Alfred Benesch & Company | 3017 Douglas Blvd, Ste 300, Roseville, CA 95661
C 402-427-4231 | **E** emays@benesch.com | **W** www.benesch.com [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [nam12.safelinks.protection.outlook.com] [nam12.safelinks.protection.outlook.com] [nam12.safelinks.protection.outlook.com]

From: Jeff Morse <jmorse@spokanevalley.org>
Sent: Thursday, September 3, 2020 11:07 AM
To: Mays, Ellis <EMays@benesch.com>
Cc: Robert Lochmiller <rlochmiller@spokanevalley.org>; Gloria Mantz <gmantz@spokanevalley.org>; Betty Young - Utilities and Transportation Commission (UTC)/Rail Safety (betty.young@utc.wa.gov) <betty.young@utc.wa.gov>; Turcott, Mike (UTC) <mike.turcott@utc.wa.gov>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Ellis

Attached is the UTC petition document. Rob has signed for the City and I added the crossing exhibit for reference. Once Mary Schroll has signed, please return and I will forward onto Betty and Mike at UTC.

Thank you for your work on this project.

Sincerely.

JEFF MORSE

Jeff Morse | Engineering Technician – CAD Administrator
10210 E. Sprague Avenue | Spokane Valley, WA 99206

Phone: (509) 720-5022 | jmorse@spokanevalley.org

From: Mays, Ellis <EMays@benesch.com>
Sent: Thursday, September 3, 2020 7:14 AM
To: Jeff Morse <jmorse@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Jeff,

Good catch – it should be 81 ft (10 panels) – that is how I requested the estimate.

Thanks,

Ellis A. Mays | Project Manager

Alfred Benesch & Company | 3017 Douglas Blvd, Ste 300, Roseville, CA 95661
C 402-427-4231 | **E** emays@benesch.com | **W** www.benesch.com [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [nam12.safelinks.protection.outlook.com] [nam12.safelinks.protection.outlook.com] [nam12.safelinks.protection.outlook.com]

From: Jeff Morse <jmorse@spokanevalley.org>
Sent: Thursday, September 3, 2020 7:07 AM
To: Mays, Ellis <EMays@benesch.com>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Ellis

I just noticed the distance for the new crossing surface seems short. The plans dimension it at almost 81' and the description in section 7 is 64'. I will change to 81' unless you say otherwise.

Take Care.

JEFF MORSE

Jeff Morse | Engineering Technician – CAD Administrator
10210 E. Sprague Avenue | Spokane Valley, WA 99206
Phone: (509) 720-5022 | jmorse@spokanevalley.org

From: Mays, Ellis <EMays@benesch.com>
Sent: Wednesday, September 2, 2020 4:35 PM
To: Jeff Morse <jmorse@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Jeff,

My intent was simply to provide the roadway configuration. It can probably be removed from the parenthesis. Other than that it looks good.

Thanks,

Ellis A. Mays | Project Manager

Alfred Benesch & Company | 3017 Douglas Blvd, Ste 300, Roseville, CA 95661
C 402-427-4231 | **E** emays@benesch.com | **W** www.benesch.com [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [linkprotect.cudasvc.com] [nam12.safelinks.protection.outlook.com] [nam12.safelinks.protection.outlook.com] [nam12.safelinks.protection.outlook.com]

From: Jeff Morse <jmorse@spokanevalley.org>
Sent: Wednesday, September 2, 2020 2:03 PM
To: Mays, Ellis <EMays@benesch.com>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C

Ellis

Here is a snap shot of the narrative in Sections 6 and 7. I was a little confused about what you intended in Section 6 with regards to the travel lanes. I think I captured your intent. Please review and let me know.

Section 6 – Current Warning Devices

Provide a complete description of the warning devices currently located at the crossing (vehicle and pedestrian), including signs, gates, lights, train detection circuitry and any other warning devices.

One cantilever and one quad gate/flasher for each direction of travel. Southbound gate/flasher has side flashers for eastbound Euclid Avenue travel. (1 driving lane southbound and 1 driving lane northbound) Nine (9) flasher sets and two (2) bells total.

Two stop bars, two W10-1 approach signs, and two RR Xing pavement markings and W10-4 on the parallel roads, Euclid Avenue north and south sides of the tracks.

Section 7 – Description of Proposed Changes

Describe in detail the number and type of proposed automatic signals (vehicle and pedestrian), gates or other warning devices, and/or changes to train detection circuitry. Please describe any other proposed changes at the crossing, including changes to the crossing surface, signage, pavement markings, etc. If sidewalks are being installed, please provide information on who will maintain them. (Attach additional information sheets, if needed.)

One cantilever, and one quad gate/flasher for each direction of travel. Northbound cantilever provides flasher for both lanes. Southbound cantilever also has 2 sidelights for eastbound Euclid Avenue and westbound access road travel. (2 driving lanes northbound, 1 driving lane southbound and 1 multi-use path on east side to be maintained by City). Nine (9) flashers and three (3) bells total.

Two stop bars, two W10-1 approach signs, two W10-4 approach signs, two RR Xing pavement markings and other signage in accordance with the MUTCD.

Replace concrete crossing surface with new wider 64 ft concrete crossing surface in order to accommodate traffic lanes and multi-use path.

Thanks

JEFF MORSE

Jeff Morse | Engineering Technician – CAD Administrator
10210 E. Sprague Avenue | Spokane Valley, WA 99206
Phone: (509) 720-5022 | jmorse@spokanevalley.org

From: Mays, Ellis <EMays@benesch.com>
Sent: Wednesday, September 2, 2020 9:11 AM
To: Jeff Morse <jmorse@spokanevalley.org>
Subject: RE: 0313 Barker Rd UP crossing - Spokane Valley, WA, MP 0012.990, DOT 662526C
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MENKE JACKSON BEYER, LLP

Attorneys at Law

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ANTHONY F. MENKE
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QUINN N. PLANT
SEANN M. MUMFORD
AZIZA L. FOSTER

Of Counsel
ROCKY L. JACKSON
G. SCOTT BEYER

March 22, 2022

Washington Utilities and Transportation Commission
1300 S Evergreen Park Drive SW
P.O. Box 47259
Olympia, WA 98504-7250

RE: City of Spokane Valley v. Union Pacific Railroad Company
UTC Dockets TR-210809 & TR-210814 (Consolidated)

Dear Secretary of the Hearings Board:

This office represents the City of Spokane Valley.

Attached for filing you will find the following:

- Prefiled Testimony of Brett Johnson;
- Prefiled Testimony of Robert Lochmiller; and
- Prefiled Testimony of Gloria Mantz;
- Exhibit List; and
- Certificate of Service.

Please contact our office if you have any questions.

Very truly yours,

s/Julie M. Kihn
MENKE JACKSON BEYER, LLP
Legal Assistant

Enc.

cc: Cary P. Driskell, City Attorney, City of Spokane Valley
Gloria Mantz, Engineering Manager, City of Spokane Valley

Dockets TR-210809 and TR-210814 (*Consolidated*)
CERTIFICATE OF SERVICE

I hereby certify that I have this day served Prefiled Testimony of Brett Johnson, Prefiled Testimony of Robert Lochmiller, Prefiled Testimony of Gloria Mantz, Exhibit List, and this Certificate of Service upon the persons and entities listed below by electronic mail:

For Office of Attorney General,
Utilities and Transportation Division

Jeff Roberson
Assistant Attorney General
Office of the Attorney General
Utilities and Transportation Division
P.O. Box 40128
Olympia, WA 98504-0128
(360) 664-1188
jeff.roberson@utc.wa.gov
betsy.demarco@utc.wa.gov

For Union Pacific Railroad Co.

Rachel Tallon Reynolds
Jean Y. Kang
1111 Third Avenue, Suite 2700
Seattle, Washington 98101
(206) 436-2020
Rachel.Reynolds@lewisbrisbois.com
Jean.Kang@lewisbrisbois.com
Elizabeth.Pina@lewisbrisbois.com
bjsokoli@up.com

DATED at Yakima, Washington this 22nd day of March, 2022.

s/Julie M. Kihn
Legal Assistant
Menke Jackson Beyer, LLP
807 North 39th Avenue
Yakima, WA 98902
(509) 575-0313
julie@mjbe.com

COMPLAINANT'S EXHIBIT LIST

City of Spokane Valley v.
Union Pacific Railroad Company (aka UPRR) DKT Nos. TR-210814 and TR-210809

NUMBER	WITNESS	A/R	DATE	DESCRIPTION
Exh. BJ-1T	Brett Johnson			Pre-filed testimony (2 pages)
Exh. RL-1T	Robert Lochmiller			Pre-filed testimony (4 pages)
Exh. RL-2	Robert Lochmiller			Photos of current warning devices (3 pages)
Exh. RL-3	Robert Lochmiller			Proposed warning device layout (2 pages)
Exh. GM-1T	Gloria Mantz			Pre-filed testimony (7 pages)
Exh. GM-2	Gloria Mantz			Powerpoint of project phasing (6 pages)
Exh. GM-3	Gloria Mantz			City Safety grant award (4 pages)
Exh. GM-4	Gloria Mantz			STBG grant award (3 pages)
Exh. GM-5	Gloria Mantz			Breakdown of project funding (2 pages)
Exh. GM-6	Gloria Mantz			Comprehensive Plan SEPA analysis (103 pages)
Exh. GM-7	Gloria Mantz			Northeast Industrial Area Planned Action Ordinance SEIS (138 pages)

Exh. BJ-1T

BEFORE THE WASHINGTON STATE UTILITIES AND TRANSPORTATION COMMISSION HEARINGS BOARD

CITY OF SPOKANE VALLEY, a municipal corporation, Complainant, v. UNION PACIFIC RAILROAD COMPANY (aka UPRR) Respondent.	DKT. NO. TR-210814 TR-210809 PREFILED TESTIMONY OF BRETT JOHNSON

Please state your full name and job title.

My name is Brett Johnson. I am currently the Acting Local Programs Engineer, Eastern Region for the Washington State Department of Transportation. For the previous four years I was the Assistant Local Programs Engineer, Eastern Region for the Washington State Department of Transportation and will return to that role once a Local Programs Engineer is hired.

Are you familiar with the Barker Road Corridor Improvement Project?

Yes. I am familiar with the project. The Washington State Department of Transportation Local Programs administers all programs within Washington State that utilize federal funding from FHWA and some state funded projects. Specifically, as Assistant Local Programs Engineer, Eastern Region, I help administer all programs in the

Eastern Region, which includes Spokane Valley, that utilize federal funds from the Federal Highway Administration ("FHWA") and some state funded projects.

Are federal aid funds being used to upgrade the UPRR railroad crossing at Barker Road?

Yes. Federal funds will be used to upgrade the crossing and associated warning devices and the roadway improvements at the UPRR – Barker Road crossing.

DECLARATION

I, BRETT JOHNSON, declare under penalty of perjury under the laws of the State of Washington that the foregoing PREFILED TESTIMONY OF BRETT JOHNSON is true and correct to the best of my knowledge and belief.

DATED THIS 18th day of March, 2022.

Brett Johnson

BRETT JOHNSON

Exh. RL-1T

BEFORE THE WASHINGTON STATE UTILITIES AND TRANSPORTATION COMMISSION HEARINGS BOARD

CITY OF SPOKANE VALLEY, a municipal corporation, Complainant, v. UNION PACIFIC RAILROAD COMPANY (aka UPRR) Respondent.	DKT. NO. TR-210814 TR-210809 PREFILED TESTIMONY OF ROBERT LOCHMILLER

Please state your full name and job title.

My name is Robert Lochmiller. I am the Senior Engineer for the City of Spokane Valley Engineering Division.

Are you familiar with the Barker Road Corridor Improvement Project?

Yes. I am familiar with the project. In my role as Senior Engineer, I was the project manager for and oversaw the design of the Barker Road Corridor Improvement Project, including the improvements to the Barker Road and Euclid Avenue intersection.

Can you explain the current warning devices at the rail crossing?

Currently, there is one cantilever and one quadrant gate with a flasher for each direction of travel. The southbound quadrant gate has side flashers for eastbound Euclid Avenue travel. There is one driving lane southbound and one driving lane northbound and a

total of nine flasher sets of lights and two warning bells. There are two stop bars, two W10-1 approach signs, two RR Xing pavement markings and a W10-4 approach sign on the parallel roads, Euclid Avenue north and south sides of the tracks. Photos of the existing warning devices are attached as Exhibit A.

Can you explain the proposed modifications at the rail crossing?

When it comes to the actual warning devices, the proposed modifications include one cantilever and one quadrant gate with flashers for each direction of travel. The northbound cantilever will provide flashers for both lanes of travel. The southbound cantilever also has two sidelights for eastbound Euclid Avenue and the westbound access road. In total, there will be nine flashers and three warning bells. The City will also install two stop bars, two W10-1 approach signs, two W10-4 approach signs, two RR Xing pavement markings and other signage in accordance with the Manual on Uniform Traffic Control Devices ("MUTCD").

When it comes to other improvements at the crossing, the City will add eight-inch high concrete medians on Barker Road to both the southbound and northbound approaches to block traffic from trying to go around the railroad crossing arms while they are down. The median curb also extends further south to block left turns out from Hattamer Lane. This was specifically requested by UPRR in order to block traffic from making a left turn onto Barker Road and who may not see the flashing warning devices on Barker Road when a train is approaching. Next, the City will provide additional railroad warning flashers in the direction of the driveway on the east side of Barker Road, north of the tracks, to notify vehicles of trains approaching and crossing. The City will also increase the roadway's radius for eastbound Euclid Avenue traffic turning southbound on Barker Road. The City

will also increase the southbound lane width. This allows for larger trucks to make the right turn from Euclid Avenue onto Barker Road without encroaching into opposite lanes of travel and/or jumping over the curb/guardrail and hitting the railroad crossing structures on the inside of the turn.

There will also be a northbound left turn pocket on Barker Road for turns onto Euclid Avenue. This provides storage for traffic and helps reduce rear-end collisions for northbound Barker Road. There will also be a paved pedestrian multi-use path off the roadway. This path will be separated from the lanes of traffic by a curb and gutter. Currently there are no pedestrian facilities for pedestrians to cross the railroad, only a narrow shoulder. The City will also pay UPRR to replace the concrete crossing surface with a new wider 81 foot concrete panel crossing surface in order to accommodate traffic lanes and multi-use path. Lastly, the City will add additional driveway approaches for railroad staff to access the area and pull off the roadway. The City's approved crossing layout is attached as Exhibit B.

Why did the City design those specific improvements?

The City designed these specific improvements at the request of and with the help of UPRR. The City contacted UPRR in July of 2019 to begin the process of acquiring a construction and maintenance agreement to allow construction of the road improvements. UPRR then told the City all of the required improvements that the City was going to have to fund. The City will construct all road improvements up until the concrete panels abutting the railroad line. UPRR will then construct the concrete panels and all of the new signal and gate equipment needed for the revised crossing, which the City will reimburse UPRR for. With the exception of the additional turning lane and pedestrian path, the additional road and

crossing improvements were included as UPRR was concerned about traffic safety as there had been nine blocked crossings, 18 unsafe motorists, and one vehicle on the tracks reported at this location.

DECLARATION

I, ROBERT LOCHMILLER, declare under penalty of perjury under the laws of the State of Washington that the foregoing PREFILED TESTIMONY OF ROBERT LOCHMILLER is true and correct to the best of my knowledge and belief.

DATED THIS 17th day of March, 2022.

ROBERT LOCHMILLER

Exh. RL-2

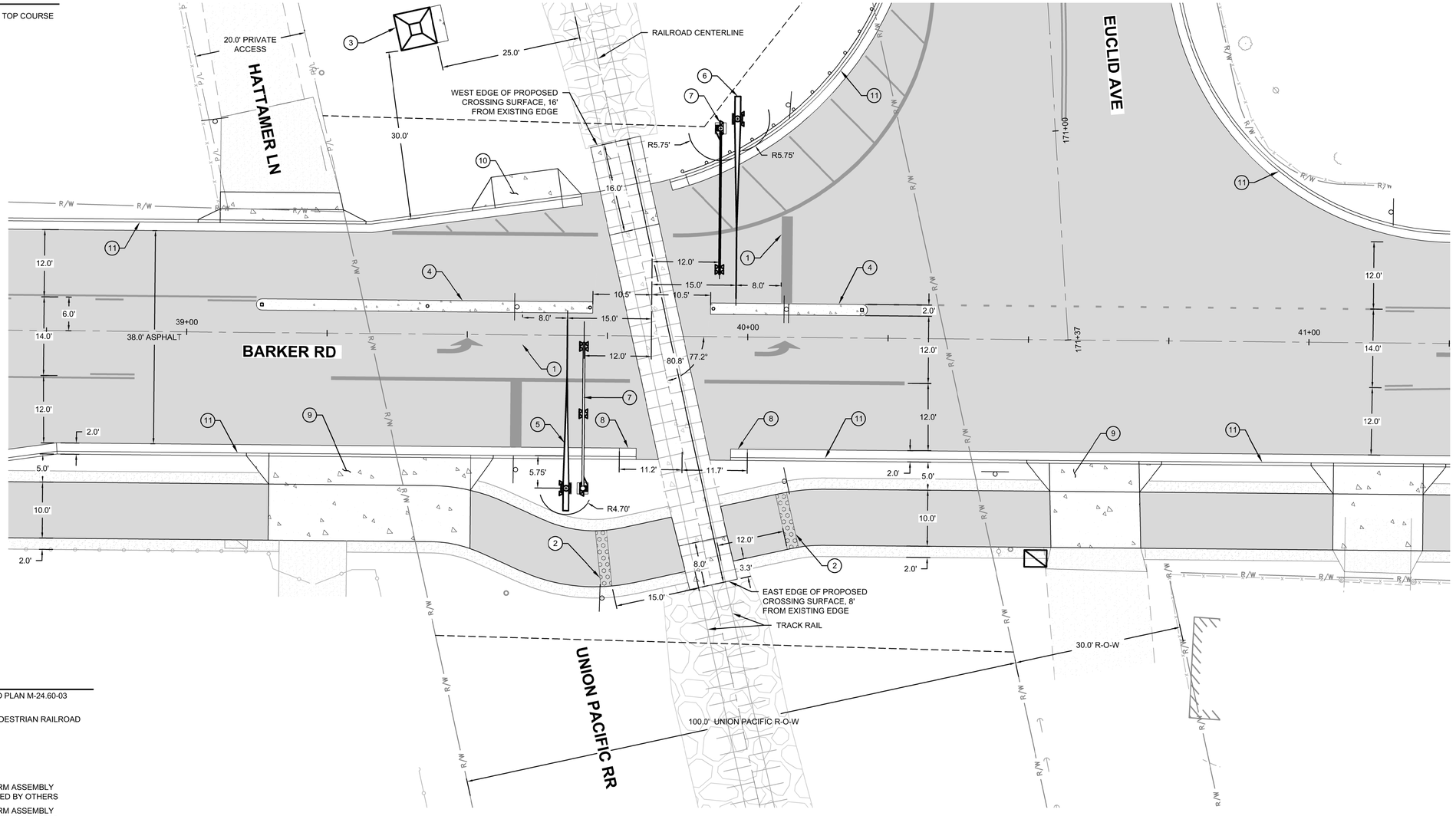
EXHIBIT A


RAILROAD
CROSSING
Eucl
Barker
Jct

EXHIBIT B

LEGEND

- CRUSHED SURFACE TOP COURSE
- CONCRETE
- ARTERIAL HMA



KEYNOTES

1. PLASTIC - STOP BAR, PER WSDOT STANDARD PLAN M-24.60-03 W: 2.0'
2. 2' x 16' DETECTABLE WARNING SURFACE, PEDESTRIAN RAILROAD CROSSING, WSDOT STD PLAN F-45.10-02
3. SIGNAL CABINET
4. 8" HIGH CEMENT CONCRETE MEDIAN
5. ACTIVE TRAFFIC CONTROL DEVISE - GATE ARM ASSEMBLY (ARM LENGTH = 30'), PROVIDED AND INSTALLED BY OTHERS
6. ACTIVE TRAFFIC CONTROL DEVISE - GATE ARM ASSEMBLY (ARM LENGTH = 32'), PROVIDED AND INSTALLED BY OTHERS
7. ACTIVE TRAFFIC CONTROL DEVICE - CANTILEVER ASSEMBLY WITH FLASHERS, PROVIDED AND INSTALLED BY OTHERS
8. CURB TERMINATION, CITY STD PLAN S-R02
9. TYPE 1 CONCRETE APPROACH SEPARATED SIDEWALK, SPOKANE VALLEY STD PLAN R-110 RAMP DEPTH = 5' SIDEWALK DEPTH = 10'
10. CEMENT CONCRETE DRIVEWAY TYPE 4, WSDOT STD PLAN F-80.10-04 AND 4" CSTC DEPTH = 5'
11. CURB & GUTTER TYPE B, SPOKANE VALLEY STD PLAN R-102

0 5 10 20

Know what's below **Call** before you dig.

REVISIONS			
NO.	DATE	DESCRIPTION	BY

CITY OF SPOKANE VALLEY
COMMUNITY & PUBLIC WORKS DEPARTMENT
10210 EAST SPRAGUE AVENUE
SPOKANE VALLEY, WA. 99206
(509) 720-5000

DRAWN BY JAM
DESIGNED BY JAM

EXHIBIT
JULY 1, 2020

0313 BARKER - UNION PACIFIC CROSSING

UNION PACIFIC RR CROSSING LAYOUT
BARKER RD / UNION PACIFIC CROSSING, SPOKANE VALLEY, WA
MP 0012.99, DOT 662526C

SHEET 1

Exh. GM-1T

BEFORE THE WASHINGTON STATE UTILITIES AND TRANSPORTATION COMMISSION HEARINGS BOARD

CITY OF SPOKANE VALLEY, a municipal corporation, Complainant, v. UNION PACIFIC RAILROAD COMPANY (aka UPRR) Respondent.	DKT. NO. TR-210814 TR-210809 PREFILED TESTIMONY OF GLORIA MANTZ

Please state your full name and job title.

My name is Gloria Mantz. I am the City Engineer for the City of Spokane Valley Engineering Division, and was previously the Engineering Manager until February 2022.

Are you familiar with the Barker Road Corridor Improvement Project?

Yes. I am familiar with the project. In my prior role as Engineering Manager, and now City Engineer, I oversaw the entire project, including project design, and helped obtain funding from various sources for the project.

Can you explain what the Barker Road Corridor Improvement Project will entail?

The Barker Road Corridor Improvement Project provides an important upgrade to a connecting route between two of the region's most important T-1 and T-2 freight routes, I-90 and SR-290. Further, the project meets the demand placed on the existing roadway by its

heavy freight traffic and builds capacity to receive the anticipated industrial growth along the corridor.

As part of the proposed reconstruction and widening project, the substandard and aging Barker Road was replaced with two 12-foot wide lanes of travel, a 12 to 14 foot wide center turn lane, and a curb and gutter, all with new arterial pavement sections. The remaining unimproved section is composed of two 13-foot wide lanes of travel, with three-foot wide shoulders at the railroad crossing. In 2015, the surveyed pavement condition index (PCI) score along the corridor varied between 31 to 43 out of 100 and the corridor has only continued to degrade. A 2016 chip-seal project has allowed the corridor to slow its degradation and improved the surface conditions, but the pavement's strength continues to underperform.

The Barker/BNSF grade separation ("Barker GSP") to the north of the project was approved and predicated upon the widening of Barker Road, especially at the Euclid Avenue offset intersection. The additional third lane is needed to handle the increased traffic flow as development to the north occurs, reduce rear-end and turning related crashes, and to minimize queuing lengths at the railroad crossing. The project will also improve the intersections of Euclid Avenue and Barker Road by providing corner radii that can accommodate large truck movements. Associated drainage improvements will be provided, as well as a 10-foot wide shared-use pathway on one side of the roadway. As development to the north occurs, not only will vehicle traffic along Barker Road increase, but so will pedestrian traffic.

Currently, there is no infrastructure to allow pedestrians to utilize the Barker corridor. With the improvements, there will be a multi-use path that will be available for

both pedestrian and bike traffic. Due to the curb and gutters that are to be installed, pedestrians and bikes will be separated and protected from traffic.

Can you explain the phasing of Barker Road Corridor Improvement Project?

Initially, the project to improve Barker Road from the Spokane River to Trent Avenue (terminating at the Barker GSP project) was to be constructed in two phases, both of which were initiated in August of 2018. The first phase would see Barker Road widened to three lanes from Euclid Avenue West to Trent Avenue. This phase was constructed in 2019. The second phase was to see Barker Road widened to three lanes from the Spokane River to Euclid Avenue East. A multi-use pedestrian path that would span the entire project was supposed to be constructed during phase two. Coordination with UPRR started in early 2019. The City needed a Crossing Agreement with UPRR in order to certify the Right of Way and advertise the project. Construction on phase two was originally planned for 2020. However, due to UPRR delays, phase two was split into two additional phases.

The first phase, or Project II(A), was to widen Barker Road from the Spokane River to Euclid East – or the south termini of the railroad crossing. The Washington State Department of Transportation ("WSDOT") did not approve the inclusion of the multi-use path during this project phase. The second phase, or Project II(B), was to widen Barker Road from Euclid East to Euclid West, or the north termini of the railroad crossing where phase one improvements ended. Project II(A) construction was substantially completed in the spring of 2021. Due to continuing setbacks with UPRR regarding who was to pay maintenance costs for the rail crossing, ultimately leading to the City's petition and complaint, Project II(B) had to be phased again.

Project II(B)(1) saw the City gain WSDOT approval to construct the multi-use path from the Spokane River to Euclid East. This phase is expected to be completed in the spring of 2022. Project II(B)(2) is to modify the at-grade railroad crossing at Barker Road and Euclid Avenue to widen Barker Road to three lanes and to construct the multi-use path from Euclid East to Trent Avenue. This phase of the project is currently on hold pending the resolution of this case. Several PowerPoint slides created by the City to depict the phasing of the project are attached as Exhibit A.

What portion of the project is at issue in the City's UTC petition?

The portion of the project at issue in the City's UTC petition is the sub-project to modify the at-grade railroad crossing at the Barker Road and Euclid Avenue to widen the intersection to three lanes.

Is the Barker Road Corridor Improvement Project funded by federal funds?

Yes. The entire Barker Road Corridor Improvement Project is funded, in part, by federal funds.

What kind and amount of federal funding does the City currently have available for the project?

This project has two sources of federal funding, which the City obtained through grants. The first is a Highway Safety Improvement Program ("HSIP") grant in the amount of $267,000. This award is specifically for the multi-use path only. Exhibit B is the award to the City of these funds. The second is a Surface Transportation Block Grant ("STBG") awarded by the Spokane Regional Transportation Council ("SRTC") in the amount of $2,050,000. Exhibit C is the award to the City of these funds.

Will the portion of the project modifying the at-grade crossing at Barker Road and Euclid Avenue utilize federal funds?

Yes. Federal funds will be utilized for the portion of the project to modify the at-grade crossing at Barker Road and Euclid Avenue.

What is the funding for the stage of the project to modify the at-grade crossing at Barker Road and Euclid Avenue?

This stage of the project will utilize $841,464 in federal funding; $307,800 in state funding; and $294,726 in local funding for a total project cost of $1,444,000. Exhibit D is a true and correct copy of the funding breakdown for this project.

Will the Barker Road Corridor Improvement Project improve public safety?

Yes. The Barker Road Corridor Improvement Project will improve public safety.

How will the Barker Road Corridor Improvement Project improve public safety?

The project will improve the public safety by providing a two-way left-turn lane along the corridor's full length to reduce rear-end and turning related crashes and to minimize queuing issues and potential conflicts at the railroad crossing; a curb and gutter to prevent vehicle run-offs; and, a separated, 10-foot wide shared use pathway that will protect people walking and biking from heavy freight traffic on the main vehicle travel lanes.

Based on the latest counts outside of the construction season, Barker Road sees 6,600 vehicles per day from Euclid Avenue to Trent Avenue and 12,800 vehicles per day from the Spokane River to Euclid Avenue. Barker Road is a designated T-3 freight corridor south of Euclid Avenue and a T-3 freight corridor north of Euclid Avenue. The Freight and Goods Transportation System ("FGTS") classifies freight corridors in Washington based upon annual freight tonnage moved, including truck, rail, and waterway freight corridors. A T-3 designation means Barker Road carries 300,000 to 4 million gross tons annually. Traffic volumes have historically grown by more than 5% annually and are projected to grow even faster when the Barker GSP is completed. As vacant parcels continue to build-out,

increased traffic flows and turning movements will be mitigated by the addition of the two-way left turn lane. Federal Highway Administration ("FHWA") studies show two-lane roads that add a center two-way left turn lane experience up to 50% reduction in crashes and further suggest that adding curbs to a roadway will decrease run-off crashes by 11%.

In 2018, in the City's Strategic Risk-Based Safety Assessment using the FHWA Systemic Safety Project Selection Tool, this corridor was identified as a Priority 2 location, exhibiting characteristics associated with angle, excessive speed, and hit fixed object fatal and serious injury crashes. This project was selected from the systemic list due to previous identification as a needed safety improvement.

When were these safety concerns first identified by the City?

The City first documented concerns along the Barker Corridor when it conducted its State Environmental Policy Act ("SEPA") analysis for its 2016 Comprehensive Plan update. A copy of this analysis is attached as Exhibit E. The City issued a Determination of Significance ("DS") for the update and prepared an Environment Impact Statement ("EIS"). This study identified that significant adverse impacts to the roadway travel level of service ("LOS") were expected to occur along Barker Road between Euclid Avenue and I-90, regardless of the alternative chosen.

The City then adopted a Planned Action Ordinance in the Northeast Industrial Area ("NIA-PAO"), for which a Supplemental EIS ("SEIS") was conducted. A copy of this analysis is attached as Exhibit F. The NIA-PAO is located in the City's northeast quadrant, bounded by Flora Road on the west, Trent Avenue on the north, the Union Pacific line on the south, and the city limits on the east. The approximate center of the project area can be further located at 47°41' 32.2"N 117°09'48.2"W. The SEIS identified that Barker Road is

the primary north-south street through the study area and has the highest existing traffic volumes in the study area. Due to the high traffic volumes, the City has concerns about queuing at the UPRR at-grade crossing. When gates are down at the UPRR crossing during the PM peak hour, queues typically build up to about 500 feet southbound and 225 feet northbound (with the queue typically spilling onto both directions of Euclid Avenue).

What will happen if the City cannot widen this intersection?

If the City cannot widen this intersection, there will be a massive bottleneck caused by turning vehicles blocking the through lanes. Barker Road has already been widened to three lanes everywhere but the intersection of Barker Road and Euclid Avenue. The development of the NIA-PAO has continued and is nearing completion regardless of whether or not the City obtains permission to conduct improvements to the Barker Road crossing at Euclid Avenue. There will be three lane roads to the north and the south that will have to converge into two lanes at the crossing. A third lane helps with left turn movement. Without this third lane, there will be queuing issues causing traffic to back up, which would affect traffic and public safety.

DECLARATION

I, GLORIA MANTZ, declare under penalty of perjury under the laws of the State of Washington that the foregoing PREFILED TESTIMONY OF GLORIA MANTZ is true and correct to the best of my knowledge and belief.

DATED THIS 16 day of March, 2022.

Gloria Mantz

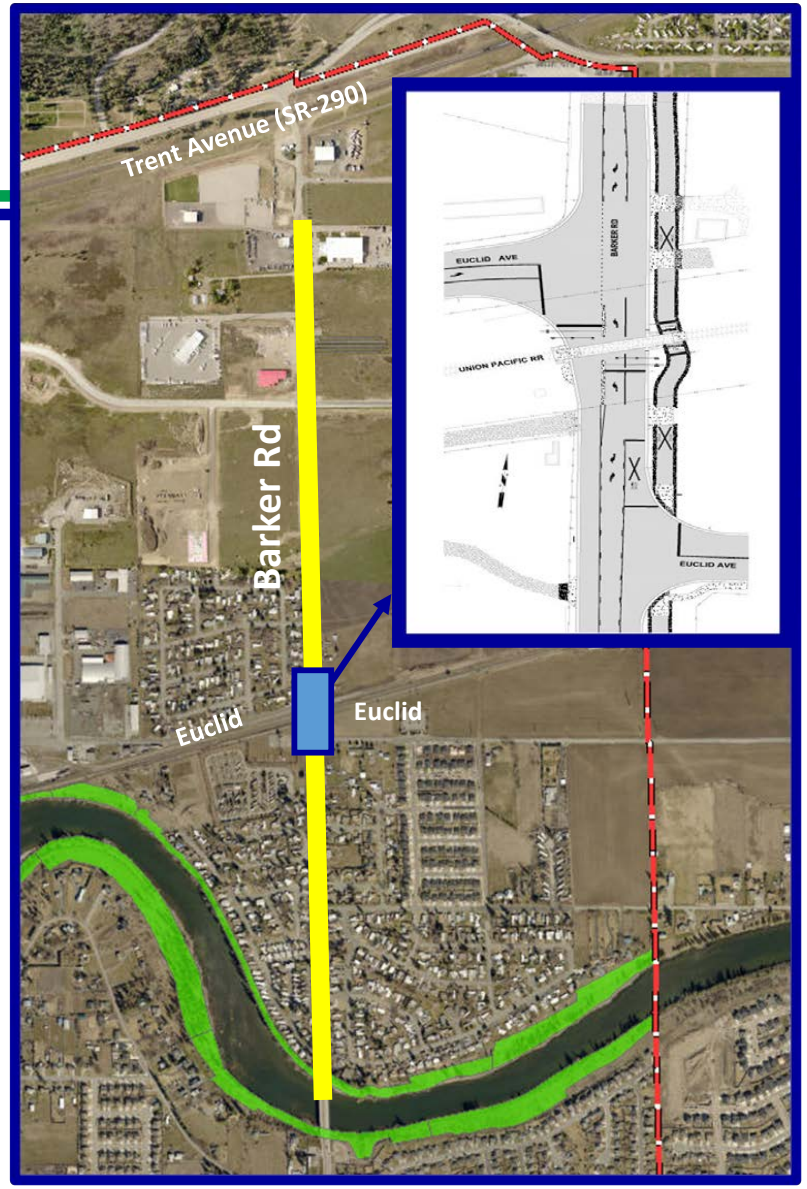
GLORIA MANTZ

EXHIBIT A

Project Scope & Funding

- Widening Barker Road from Spokane River to Trent
- Multi-use path
- Sewer Extension (funded by Spokane County)
- Signal modifications at the UPRR Crossing
- Secured Grants

STBG	Federal	$2,050,000
City Safety*	Federal	$267,000
FMSIB**	State	$1,680,000



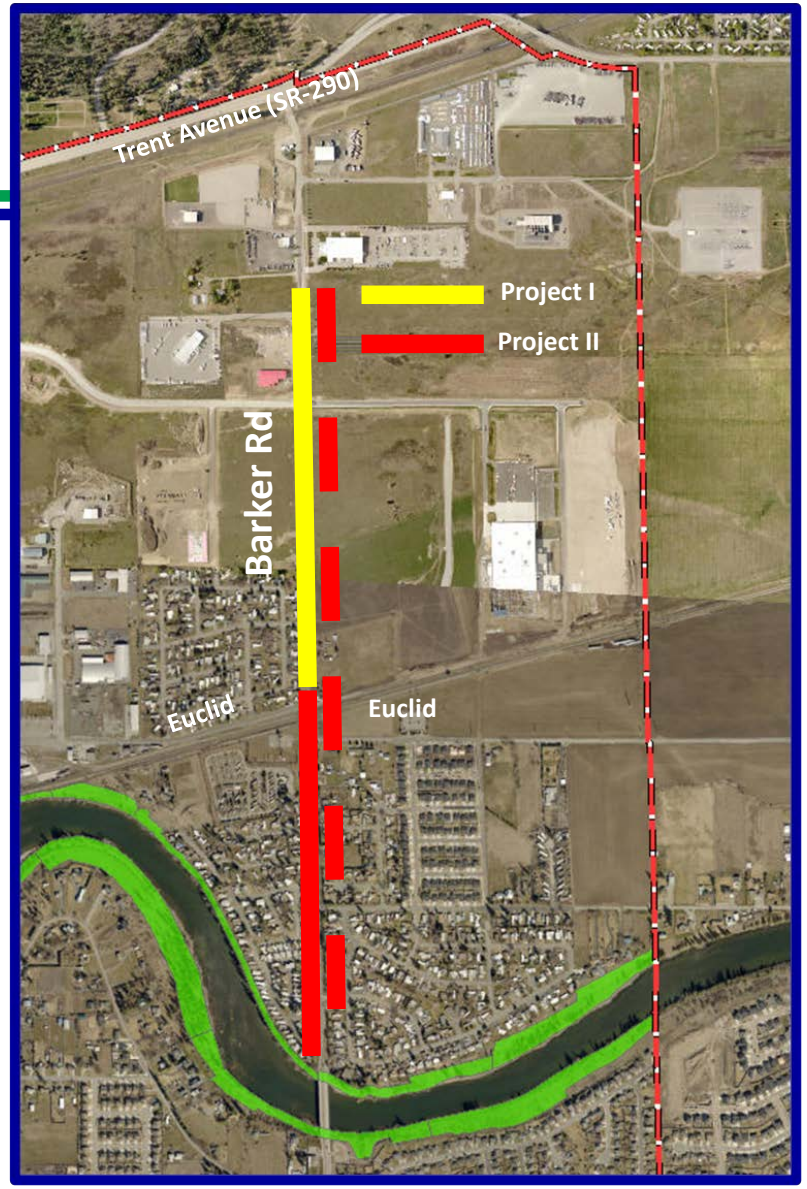
1

* FOR MULTI-USE PATH ONLY, 10% MATCH WAIVED IF OBLIGATED BY SEPTEMBER 2021

** ASSUMES TOTAL PROJECT COST OF $8.4M FMSIB PAYS 20% OF PROJECT COSTS

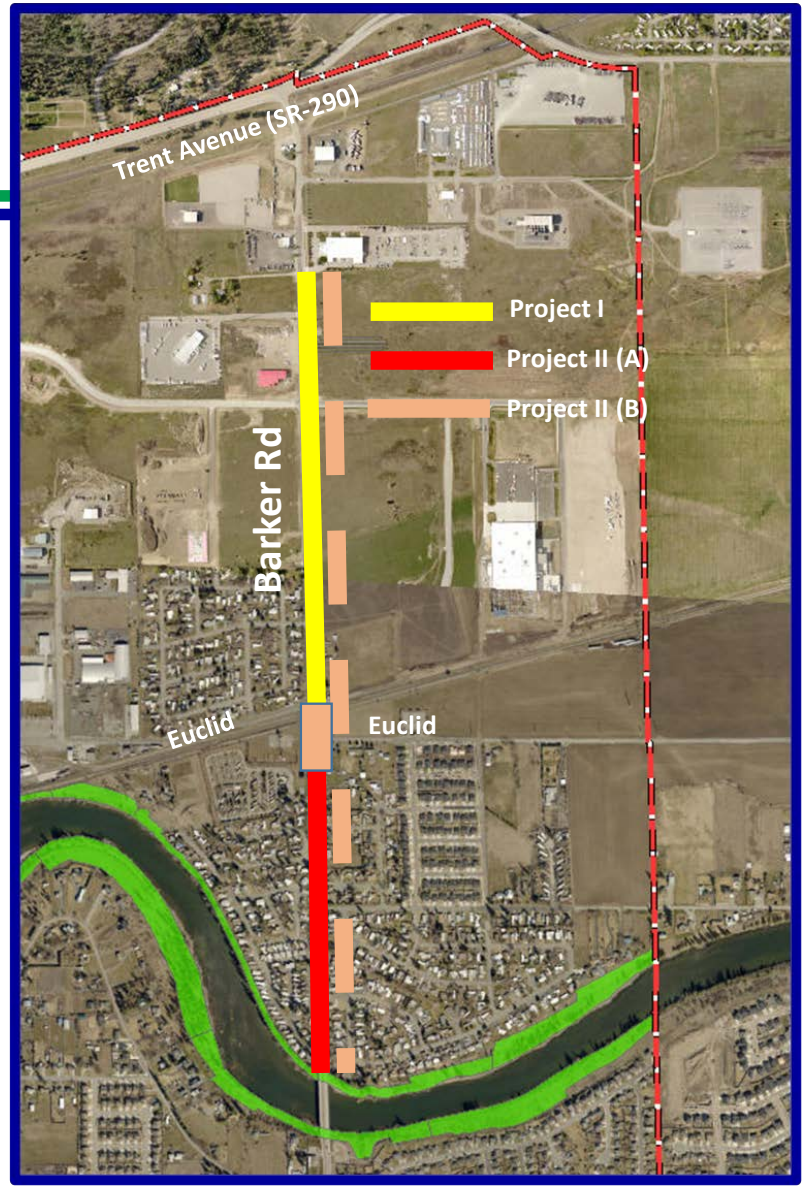
Project Concept

- Original Plan – Construct the Project in two phases:
  - Project I – Euclid to Trent
  - Project II – Spokane River to Euclid with Multi-use path for entire project
    - UPRR coordination started early 2019
    - Need Crossing Agreement to certify ROW and advertise project
- Both phases were initiated in August 2018
- Project I – Constructed in 2019
- Project II – Planned for Construction in 2020



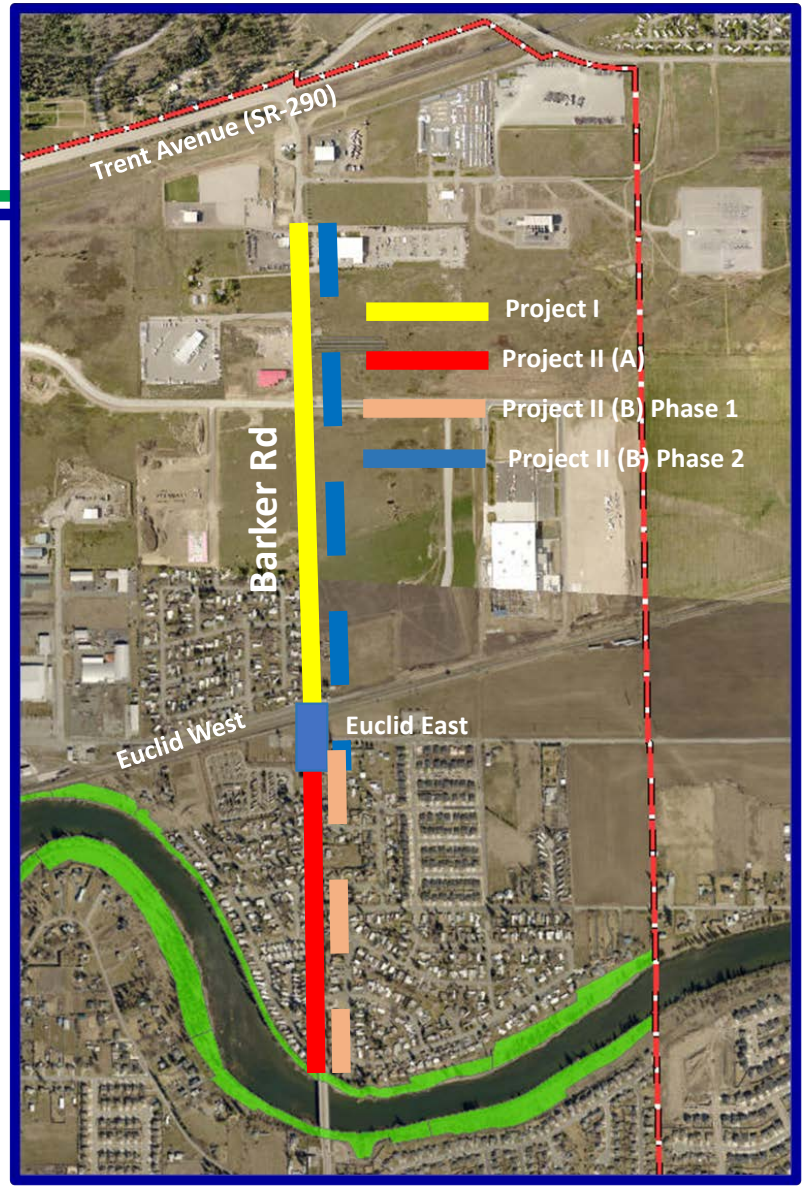
Project Revision

- Due to UPRR delays, Project II was split into two additional phases
  - Project II (A) Spokane River to Euclid (East)
    - WSDOT did not approve inclusion of multi-use path
  - Project II (B) Euclid East to Euclid (West) with multi-use path from river to Trent
- Project II (A) Construction
  - Began late Summer of 2020
  - Completed Spring of 2021



Project Revision #2

- June 2021, City received a Draft Crossing Agreement from UPRR
  - Requires payment of $8,670 per year for the signal maintenance
  - City is challenging this requirement
  - Project on hold until Crossing Agreement is executed
- After this setback, WSDOT allowed construction of the multi-use path from the river to Euclid (East) south of UPRR ROW to proceed
- Project II (B) Phased <u>Again</u>
  - Phase 1: Multi-use path from river to Euclid (East) – Spring of 2022
  - Phase 2: Barker & Euclid Intersection and multi-use path from Euclid (East) to Trent – Currently on Hold



Bid Award & Next Steps

Bid Award

- Project II (B) – Phase 1 was advertised August 20, 2021
- Opened 6 bids on September 10, 2021
  - Barcott Construction – Lowest, Responsive, Responsible Bidder
- Motion to Award Construction Contract to Barcott Construction, LLC

Next Steps

- Construction of this Phase begins in Spring 2022
- Continue to pursue crossing agreement execution for Final Phase
  - Design of last project phase is at 100 percent
  - Certify ROW and advertise rest of the project

EXHIBIT B

Washington State Department of Transportation

Transportation Building
310 Maple Park Avenue S.E.
P.O. Box 47300
Olympia, WA 98504-7300
360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

January 7, 2019

Mr. Bill Helbig
City Engineer
City of Spokane Valley
10210 East Sprague Avenue
Spokane Valley, Washington 99206

N Barker Road Corridor –
Spokane River to E Euclid Avenue
FFY 2018 City Safety Selections
Federal Funding

Dear Mr. Helbig:

WSDOT is pleased to advise you that the above mentioned safety project was recently selected. The federal funding is limited to the amount shown below:

N Barker Road Corridor –
Spokane River to E Euclid Avenue **$231,000**

Scope: See attached Project Summary – delivered as one contract.
NOTE: Projects require a ten percent local match per phase (preliminary engineering/design, right-of-way, and construction) for all eligible federal expenditures. If the construction phase is authorized by April 30, 2021, then the construction phase is eligible for 100 percent funding (no local match required). Federal funds cannot be used as match for any phase. Scope and funding modifications are not allowed.

In order to meet state and federal requirements, the following are required:

- Project expenditures incurred before receiving notice from Local Programs of federal fund authorization are not eligible for reimbursement.
- Please refer to the Local Programs webpage for detailed information, including: (http://www.wsdot.wa.gov/localprograms/)
  - ✓ Local Agency Guidelines (LAG) manual for the requirements regarding programming, authorization, reimbursement, etc.;
  - ✓ Projects utilizing federal funds must be included in your current Transportation Improvement Program (TIP) as a complete programmed project. Once your TIP amendment is approved, WSDOT will amend the Statewide Transportation Improvement Program (STIP);
  - ✓ Funding and billing forms;
  - ✓ Quarterly Project Reporting is required to be completed by the end of March, June, September, and December each year. To access the database you will need an account name and password. Your account name is **Spokane Valley** and your password is **SpoVa759**. The password is case sensitive.

Bill Helbig
City Engineer
City of Spokane Valley
FFY 2018 City Safety Selections
January 7, 2019

- If the project is not actively pursued, or becomes inactive (23 CFR 630), the project is at risk of being cancelled, funds repaid, and reprogrammed.
- FHWA requires that all projects are ADA compliant upon completion or the federal funds must be repaid.

As a reminder, Local Programs requires all agencies to submit monthly progress billings to ensure timely reimbursement of eligible federal expenditures.

For assistance please contact Keith Martin, your Region Local Programs Engineer, at 509.324.6080.

Sincerely,

Kathleen B. Davis
Director
Local Programs

KBD:me:sas
Enclosure
cc: Sabrina Minshall, Executive Director, SRTC
Keith Martin, Eastern Region Local Programs Engineer

Project Summary

Program: 2018 City Safety Program
Date: December 2018
Agency: City of Spokane Valley
Contact: Gloria Mantz, Engineering Manager, 509-720-5014, gmantz@spokanevalley.org
Project Title: N Barker Rd. Corridor – Spokane River to E. Euclid Ave.
Project Number: Not yet assigned

Project Description: Reconstruct and widen Barker Road between the Spokane River and E. Euclid Ave. from two lanes to two lanes with a center two-way left turn lane, curb, gutter, swales, and a shared use path.

Detailed Project Description: Awarded 2018 City Safety Program funds are to be applied only to the project's shared-use path and ADA features.
On Barker Rd. for approximately 2,800 linear feet from the Spokane River and Euclid Avenue:

1. Reconstruct and widen the existing two lanes for a two-way left turn lane. Remove existing asphalt pavement and install an asphalt pavement arterial street section across the three lanes.
2. Add curb, gutter, and swales on both sides of the road.
3. On the east side of Barker Road, add a 10'-wide shared use path with 1'-wide (min.) gravel shoulders on each side.
4. Construct ADA compliant features and revise drainage and utilities as needed to accomplish the above work.

Project Schedule (Estimated)*:

Project added to the Statewide Transportation Improvement Program (STIP)	03/19
Project agreement signed with WSDOT Local Programs	05/19
Begin PE (PE phase authorized by FHWA through WSDOT Local Programs)	11/18
Community/stakeholder engagement complete	N/A
Environmental documents (required for every project) approved by WSDOT Local Programs	12/19
Right-of-way completed (certification by FHWA through WSDOT Local Programs)	02/21
Contract advertised	03/21
Contract awarded	04/21
Construction complete	10/22

Spokane Regional Transportation Council (SRTC) funds will be available on January 1, 2021. City of Spokane Valley will request to SRTC that funds be made available earlier, as early as January 1, 2020. If this occurs, the right of way and construction dates will be eligible to be moved to one year earlier.

Project Cost and Award Amount:

Phase	Total cost	Local Match	Funding from FMSIB	Funding from SRTC	City Safety Program Amount awarded
Preliminary Engineering	$476,300	$476,300	$0	$0	$0
Right-of-Way	$127,300	$17,200	$0	$110,100	$0
Construction	$3,485,700	$551,500	$763,300	$1,939,900	$231,000
Total	**$4,089,300**	**$1,045,000**	**$763,300**	**$2,050,000**	**$231,000**

Construction funds must be obligated by April 30, 2021 to waive the 10% match requirement for the construction phase.

If you agree to the project summary described above, please sign or electronically sign below and return to Susan Bowe at BoweS@wsdot.wa.gov.

Concurrence: I agree to the project summary described above.

Approving authority name (print): Mark Calhoun

Approving authority signature: Mark Calhoun Date: 12/13/18

EXHIBIT C

SRTC SPOKANE REGIONAL TRANSPORTATION COUNCIL
421 W. RIVERSIDE AVE. SUITE 500 • SPOKANE WA 99201 • 509.343.6370 • WWW.SRTC.ORG

December 20, 2018

The Honorable Rod Higgins
City of Spokane Valley
11707 E Sprague Ave
Spokane Valley WA 99206

Project: Barker Corridor Reconstruction & Widening
Award Amount: $2,050,000
Program: Urban Surface Transportation Block Grant (STBG)

Dear Mayor Higgins;

Congratulations! On November 8, 2018, the Spokane Regional Transportation Council (SRTC) Board of Directors selected City of Spokane Valley's Barker Corridor Reconstruction & Widening project for funding as part of the 2018 SRTC Call for Projects. Thank you for you and your staffs' hard work.

SRTC is excited to offer City of Spokane Valley a partial funding award of $2,050,000 from the Urban STBG program.

This project will be included in the 2019-2022 SRTC Transportation Improvement Program (TIP) amendment for Board consideration at the January 18, 2019 Board meeting. Once the TIP Amendment is approved, it will be included in the State Transportation Improvement Program (STIP.) After the funding is programmed into the STIP, you may seek obligation of the federal funds through WSDOT Local Programs consistent with the funding policies outlined in the most current SRTC TIP Guidebook.

Attached is an Acceptance of Funding Agreement outlining conditions of the award that must be signed by an official having authority. **Please the attached agreement no later than January 16, 2018**. Again, congratulations and we look forward to working with the City of Spokane Valley. If you have any questions, please do not hesitate to contact me at (509) 343-6370 or at sminshall@srtc.org

Sincerely,

Sabrina C. Minshall, AICP
Executive Director, Spokane Regional Transportation Council

cc: Arne Woodard, Council Member, City of Spokane Valley
Adam Jackson, City of Spokane Valley
Keith Martin, WSDOT-Eastern Region Local Programs

SRTC SPOKANE REGIONAL TRANSPORTATION COUNCIL
421 W. RIVERSIDE AVE. SUITE 500 • SPOKANE WA 99201 • 509.343.6370 • WWW.SRTC.ORG

Agency: City of Spokane Valley
Address: 11707 E Sprague Ave, Spokane Valley, WA 99206
Project: Barker Corridor Reconstruction & Widening
Award Amount: $2,050,000
Partial Award: Yes
Program: Urban Surface Transportation Block Grant
Elected Official Contact: Mayor Rod Higgins
SRTC Board Member(s) Council Member Arne Woodard
Staff Member: Adam Jackson

Conditions of Award:

- All programming is subject to the SRTC TIP Guidebook. The TIP Guidebook is updated yearly.
- Eligible activities and conditions are subject to all federal, state, and laws, regulations, and Board guidance
- The project must be delivered in its entirety per the description in the original application unless scope or other changes are approved in writing by SRTC.
- If a partial award, the applicant is responsible for securing all additional funds on the project in addition to local match. If the award is a full award, the applicant is responsible for securing all required match.
- Availability of local funds must be demonstrated for the year the project is programmed.
- If a project receives a partial funding award, and is unable to secure additional, non-local funds for the project prior to delivery, programming may be delayed upon request with approval of the SRTC Board, and agencies can re-submit under a subsequent call for projects; additional funding is not guaranteed.
- Any change of use of SRTC funds for phases (PE, ROW, CN), or geographical segments of a project must be approved in writing and in advance of changes so administrative modifications or amendments can be made. This applies to changes necessitated by reasons such as but not limited to the securing of additional fund sources, costs savings or increases, or design modifications.

Agreed to and Approved:

Mark Calhoun

~~Mayor Rod Higgins~~ Mark Calhoun, City Manager
City of Spokane Valley

1/1/2019
Date

Sabrina C. Minshall

Sabrina C. Minshall, AICP, Executive Director
Spokane Regional Transportation Council

12-20-18
Date

EXHIBIT D

Washington State S. T. I. P.

2022 to 2025

(Project Funds to Nearest Dollar)

MPO/RTPO: SRTC Y Inside N Outside **February 14, 2022**

County: Spokane

Agency: Spokane Valley

Func Cls	Project Number	PIN	STIP ID	Imp Type	Total Project Length	Environmental Type	RW Required	Begin Termini	End Termini	Total Est. Cost of Project	STIP Amend. No.
04	9932(068)		WA-12679	03	1.180	CE	Yes	Spokane River (south limit)	Barker GSP at SR 290 (north limit)	1,924,000	2201 AdMod

Barker @ UPRR Crossing

Reconstruct Barker Rd at UPRR crossing and the offset intersection of Euclid Ave. and provide shared use path from Spokane River to Grade separation project limits on SR290.
CN will be completed in two phases: Phase 1 includes the Shared-use path from the Spokane River to just south of the east leg of the Euclid intersection. Phase 1 funding includes HSIP, FMSIB and local funds. Phase 2 includes the UPRR crossing, offset intersection improvements at Euclid Ave., and the remaining shared-use path from the UPRR crossing to the Barker GSP limits at the north limits of the project. Phase 2 funding includes STP(UL), FMSIB, and local dollars.

Funding

Phase	Start Date	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total
CN	2023	STP(UL)	841,464	FMSIB	307,800	294,736	1,444,000
		Project Totals	**841,464**		**307,800**	**294,736**	**1,444,000**

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
CN	0	1,444,000	0	0	0
Totals	**0**	**1,444,000**	**0**	**0**	**0**

EXHIBIT E

Appendix A: SEPA Analysis

FACT SHEET

NAME OF PROPOSAL

The 2017-2037 Comprehensive Plan, Final Environmental Impact Statement (FEIS) and supporting Development Regulations

PROPONENT

City of Spokane Valley

LOCATION

The City of Spokane Valley is located in eastern Spokane County between the City of Spokane and the City of Liberty Lake. It is generally located by the coordinates: 47°39'28" N 117°14'52" W. The planning area consists of the City of Spokane Valley's municipal boundaries, totaling approximately 39 square miles.

ACTION TAKEN

The adoption of the City of Spokane Valley Comprehensive Plan update and supporting development regulations to meet Growth Management Act (GMA) requirements for periodic updates.

EIS ALTERNATIVES

Two action alternatives meeting the City of Spokane Valley's objectives were analyzed in the Draft Comprehensive Plan/DEIS: *Citizen Focus* (Alternative 2) and *Community Prosperity* (Preferred Alternative), and as required by SEPA a *No Action* Alternative. All the alternatives would accommodate the City's population allocation for 2037 of 14,650 for a total 2037 population of 109,913 without the need for an urban growth area expansion. The action alternatives are described in detail in Appendix A of the Comprehensive Plan/FEIS.

Community Prosperity (Preferred Alternative), assumes the implementation of the *Citizen Focus* Alternative, the preservation of the Low Density Residential designation as presented in the *No Action* Alternative, and the implementation of community priorities developed in the public visioning process. The key features of this Alternative include:

- Rename five land use designations.
- Consolidate four land use designations (Medium Density Residential, Office, Community Commercial and Light Industrial) into appropriate existing land use designations.
- Create one new land use designation (Industrial Mixed Use).
- Create transitional zoning provisions to protect single-family zones from multi-family, commercial, mixed use, and industrial zones.
- Allow for a 5,000 square foot lot size in the R-3 zone but retain six units per acre density in order to allow infill within City's unique development pattern.
- Propose a corridor Level of Service (LOS) standard in addition to existing intersection LOS standards.

Citizen Focus Alternative, assumes the implementation of the Citizen-Initiated Amendment Requests (CARs) related to Land Use Map changes. The CARs process allowed community members to propose changes to the adopted Comprehensive Plan's Land Use Map or to existing policy language. All of the CARs considered for this Alternative are site-specific future Land Use Map amendments. As part of the analysis some of the CARs were expanded to include nearby parcels to avoid creating unique islands of a land use designations.

This Alternative also proposes changes to the existing policy framework. The key features of the proposed changes include:

- Eliminate redundancies and to create clear and concise policy statements.
- New policies to support the City's economic development initiatives.
- Allow for a 5,000 square foot lot size in the R-3 zone but retain the six units per acre density in order to allow infill within City's unique development pattern.
- Propose a corridor LOS standard in addition to existing intersection LOS standards.

The *No Action* Alternative assumes that existing land use designations and regulations would remain in effect, the existing zoned-density in the City would not be increased and the existing UGA boundary would remain unchanged. This Alternative assumes that development would occur within the City in a manner consistent with previously adopted plans and policies.

LEAD AGENCY

City of Spokane Valley
11707 East Sprague Avenue Suite 106
Spokane Valley, WA 99216

SEPA RESPONSIBLE OFFICIAL

Mike Basinger, AICP, Senior Planner
509-720-5331
mbasinger@spokanevalley.org

REQUIRED APPROVALS AND/OR PERMITS

The following approvals are required for approval of the Comprehensive Plan, associated development regulation amendments, and DEIS:

- Spokane Valley City Council – Adoption.
- Spokane Valley City Council - Issue Final EIS.

While not necessary for approval for the Comprehensive Plan, the following processes are also required:

- Spokane Regional Transportation Council – Transportation Element - certification.
- Washington State Department of Community Development – coordination of state comments.
- City of Spokane Valley – development and building permit review for any future development proposals.

AUTHORS AND PRINCIPAL CONTRIBUTORS TO THIS EIS

This City of Spokane Valley Comprehensive Plan/FEIS has been prepared under the direction of the City of Spokane Valley, as SEPA Lead Agency.

PREVIOUS ENVIRONMENTAL DOCUMENTS

Per WAC 197-11-635, this Draft Comprehensive Plan/FEIS builds upon and incorporates by reference the following environmental documents:

- City of Spokane Valley Comprehensive Plan Draft and Final Supplemental EIS, November 4, 2005
- City of Spokane Valley Shoreline Master Program, September 3, 2015

DATE OF ADOPTION AN ISSUANCE OF THIS COMPREHENSIVE PLAN/FEIS

December 13, 2016

SUMMARY OF CHANGES FROM THE DRAFT EIS

- Added a policy to support xeriscaping, water conservation, and sustainable park management methods.
- Designated parcels 55173.1018 and 55173.1005 as Single Family Residential (SFR) and zone the same parcels as Single Family Residential Urban (R-3) from Multiple Family.
- Designated the parcels located in the area south of Bow Avenue, west of Barker Road, north of Sprague Avenue, and east of Greenacres Road as Single Family Residential (SFR) and zone the same parcels as Single Family Residential Urban (R-3) from Corridor Mixed Use.
- Removed SVMC 19.40.100 (small residential dwellings and small residential dwellings – supportive housing) provisions in Title 19 SVMC.
- Amended proposed SVMC 19.70.020 and Table 19.70-1, Residential Standards, to provide for a maximum density of 22 units per acre and a maximum building height of 50 feet in the Multifamily Residential (MFR) zone.
- Amend proposed SVMC 22.70.070(D) adding language to provide that full screening is required when a multifamily project abuts a single family residential use in multifamily zones.
- Designate parcel 45091.9100 as Mixed Use (MU) and zone the same parcel as Mixed Use (MU).
- Minor updates per comments from the Washington State Department of Transportation, Spokane Regional Transportation Council, and Spokane Transit Authority.
- Minor modifications and grammatical corrections as proposed by City staff.

AVAILABILITY OF THE COMPREHENSIVE PLAN/FEIS AND SUPPORTING REGULATIONS

Notice of Availability and copies of the Comprehensive Plan/FEIS and supporting development regulations have been distributed to agencies, organizations, and individuals noted on the Distribution List (Section 3.3 of this document).

The complete 2017-2037 Comprehensive Plan, FEIS, and supporting regulations are available for download at the project website: www.spokanevalley.org/CP.

Copies of these documents are also available for public review at the following location:

Spokane Valley City Hall
11707 East Sprague Avenue Suite 106
Spokane Valley, WA 99206

SECTION 1: SUMMARY OF ALTERNATIVES

The City of Spokane Valley proposes changes to its Comprehensive Plan map, designations, and policies are proposed in order to achieve the City's long-range planning vision as articulated in Chapter 1 of the Comprehensive Plan. This appendix provides a summary and concise impact analysis of two action alternatives: Citizen Focus (Alternative 2) and Community Prosperity (Preferred Alternative), and as required by SEPA a No Action Alternative. All the alternatives would accommodate the City's population allocation for 2037 of 14,650 for a total 2037 population of 109,913 without the need of an Urban Growth Area expansion. Each of the alternatives is discussed briefly below.

No Action

The **No Action Alternative** assumes that existing adopted policy, land use designations, zoning districts, and regulations would remain in effect for the next 20-years. This alternative assumes that the City of Spokane Valley would develop in a manner consistent with previously adopted plans and policies.

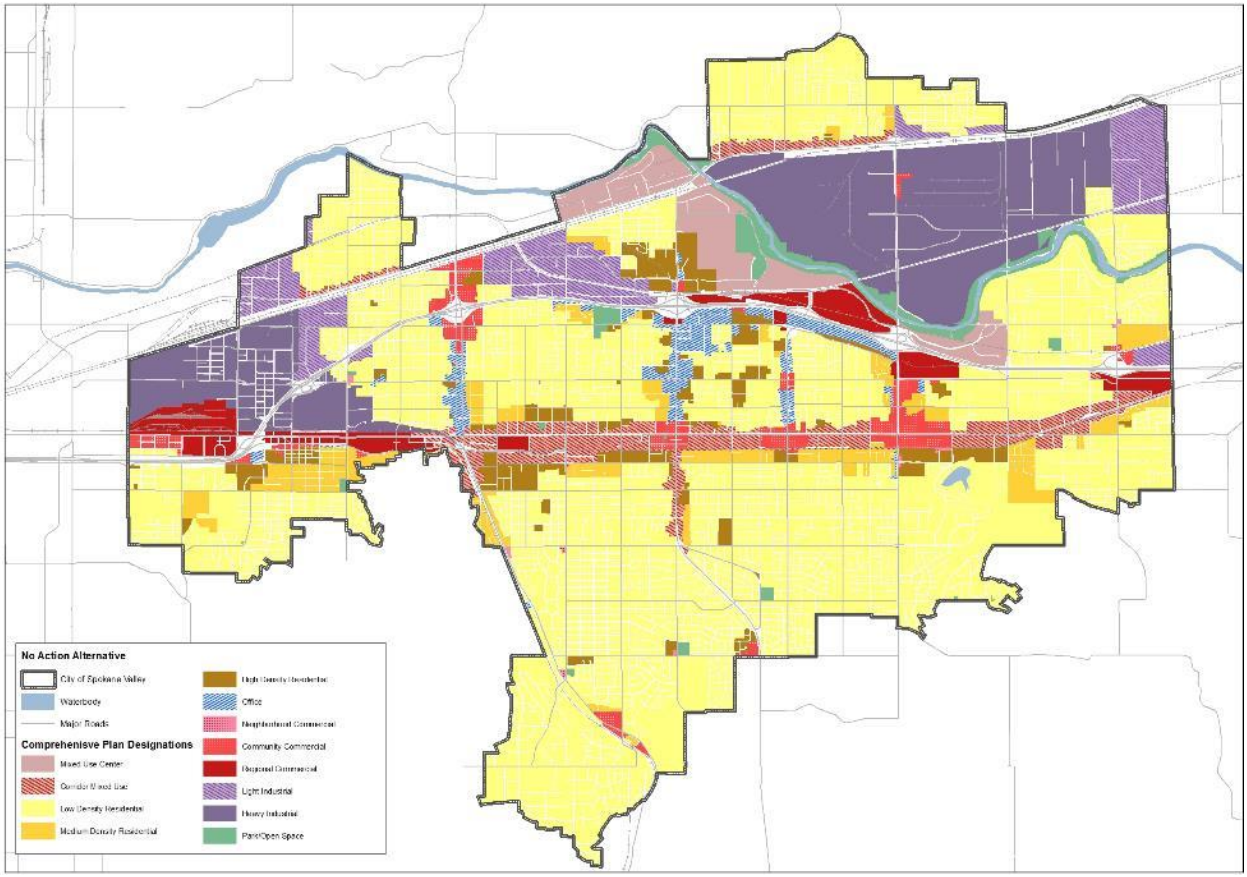


Figure 1: No Action Alternative Map

Citizen Focus Alternative

The **Citizen Focus Alternative** assumes the implementation of Citizen-Initiated Amendment Requests (CARs). The CARs process allowed community members to propose changes to the adopted Comprehensive Plan's Land Muse Map or to existing policy language. There were a total of twenty-six CARs proposed for the City's consideration. After review by the Planning Commission and City Council, twenty-three of the CARs were passed through to be considered during the formal comprehensive plan update process.

All of the site specific land use map amendment requests are considered as part of this alternative. Additionally, the various text amendment requests that were forward for consideration are also considered as part of both the Citizen Focus and Community Prosperity alternatives.

As part of the process for the site specific amendments, a few of the CARs were expanded to include nearby parcels to increase the feasibility of the proposed land use change and to avoid creating islands of a land use designations. The CARs as considered in this alternative can be seen in Figure 2. This alternative assumes that land use designations outside of the CARs shown in Figure 2 would not change. The insets show the future land use designations around the CARs to provide context only.

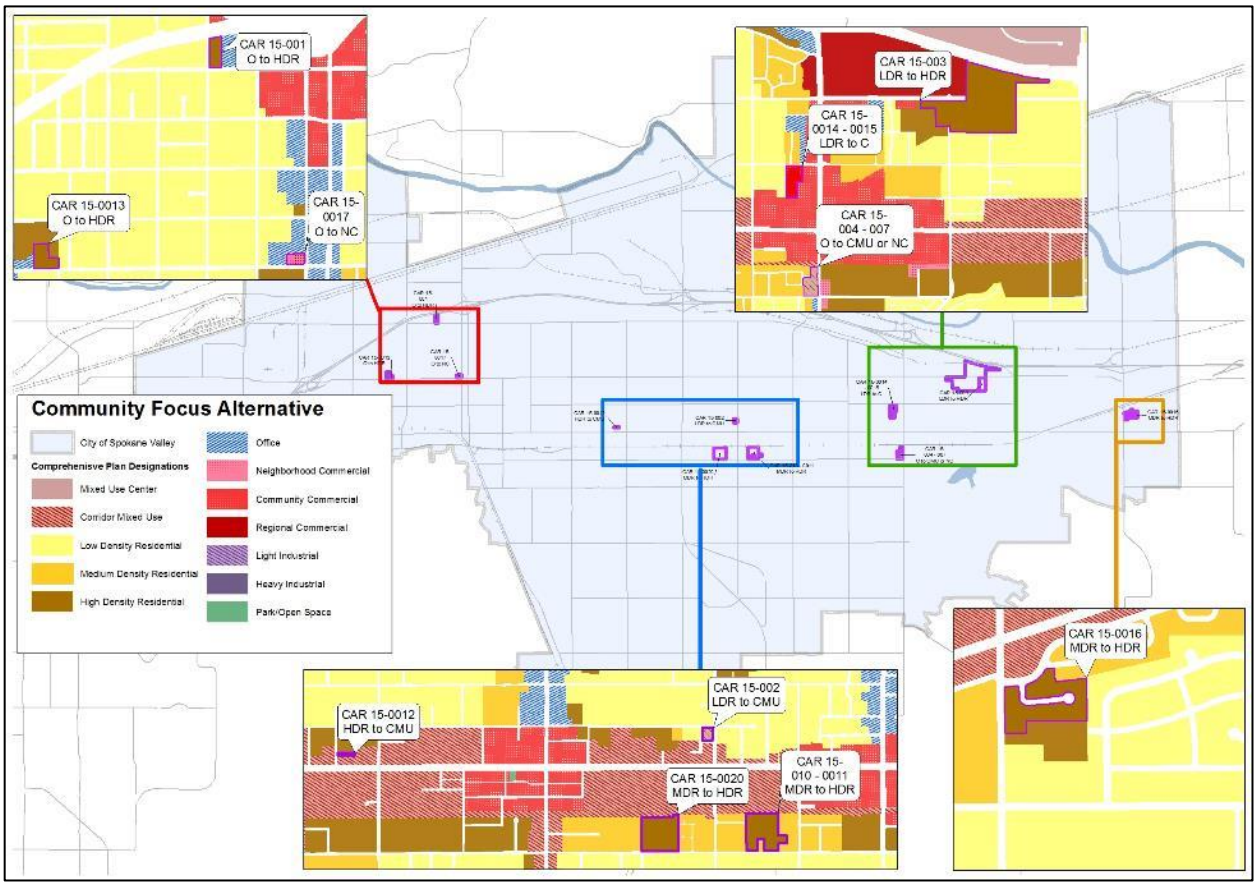


Figure 2: Citizen Focus Alternative

In addition to the Land Use Map changes, this alternative also proposes significant changes to the existing policy framework, as presented in Chapter 2 of the draft Comprehensive Plan. The majority of the changes are intended to eliminate redundancies, create clear and concise policy statements, and enhance the readability of the comprehensive plan. Additional changes to the policy framework are directed at supporting the City's economic development desired initiatives.

Community Prosperity Alternative

The **Community Prosperity Alternative** is the City's preferred alternative and is reflected by the proposed comprehensive plan and supporting regulations, it includes the policy changes presented in Chapter 2 of the Comprehensive Plan. The alternative includes the map amendments of the Citizen Focus alternative, except where the request was for an Office designation those were changed to Corridor Mixed Use. The alternative preserves the Low Density Residential designation, including density limitations as presented in

the No Action. Finally, the alternative proposes a set of goals, policies, and actions that implement the community priorities developed in the public visioning process and refined through a joint Planning Commission and City Council workshop. The proposed draft Comprehensive Plan and supporting regulations proposed for the update are the clearest reflection of the proposed changes.

The Community Prosperity Alternative assumes significant changes beyond the existing conditions. The alternative proposes: renaming four land use designations, eliminating four land use designations, and creating one new land use designation. Table 1 shows the relationship between the existing and proposed land use designations, showing which designations are being renamed, eliminated, or created.

Table 1: Existing to Proposed Land Use Designations

Existing Land Use Designations (2006)	Proposed Land Use Designations (2016)
Low Density Residential	Single Family *(name change)*
Medium Density Residential (*eliminate*)	Single Family (*name change*) and Multifamily (name change)
High Density Residential	Multifamily (*name change*)
Office (*eliminate*)	Corridor Mixed Use
Corridor Mixed Use	
Community Commercial (*eliminate*)	
Neighborhood Commercial	Neighborhood Commercial
Regional Commercial	Regional Commercial
Mixed Use Center	Mixed Use (*name change*)
	Industrial Mixed Use (*new*)
Light Industrial (*eliminate*)	*(Consolidated to Industrial)*
Heavy Industrial	Industrial (*name change)*
Parks and Open Space	Parks and Open Space

Generally, most of the designations that are proposed to be eliminated are being re-designated, for example, the new Industrial designation consolidates the existing Light Industrial and Heavy Industrial designations, and the Office and Community Commercial designations are proposed to be designated Corridor Mixed Use. Figure 3 shows the proposed alternative and how the consolidations and designation changes apply to the City of Spokane Valley.

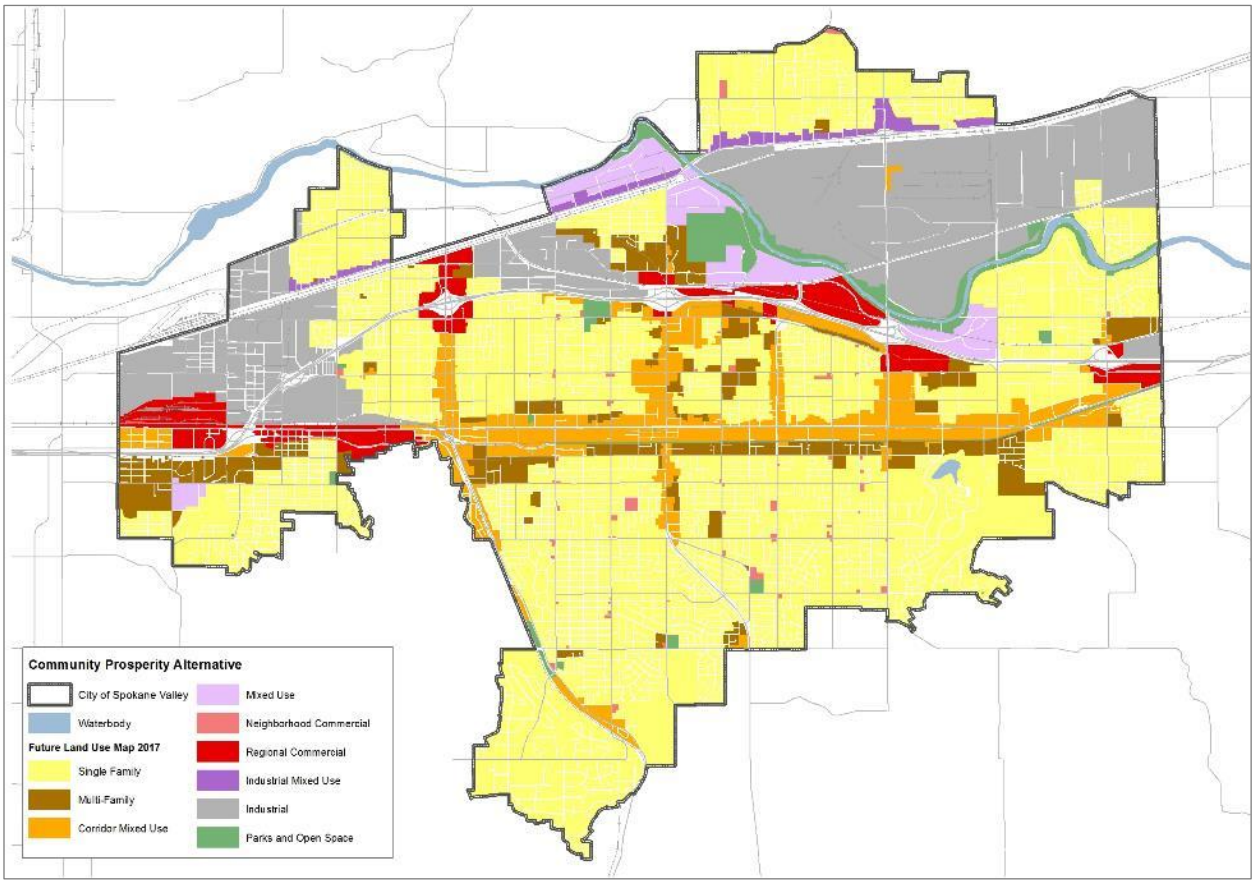


Figure 3: Community Prosperity Alternative

In addition to the changes to the Land Use Map, this alternative also proposes changes to the existing policy framework. The majority of the changes are intended to eliminate redundancies and to create clear and concise policy statements. Additional changes to the policy framework are directed at supporting the City's economic development desired initiatives.

1.1: Economic Welfare Analysis

Under all of the EIS Alternatives, Spokane Valley would experience increased development in order to accommodate new residents and jobs. It is expected that all alternatives would see the same general increase in employment. However, it is expected that the Community Prosperity alternative with its strategic focus on economic development would see increases industrial development and related employment. While the Citizen Focus alternative would have similar policy changes as the Community Prosperity alternative, the lack of corresponding Land Use Map changes would likely limit increases in industrial development. In an effort to be concise, where impacts are similar they are discussed together, and differences between the alternatives are noted.

Priority Infrastructure Investment

No Action, Citizen Focus, and Community Prosperity Alternatives

Infrastructure investment is expected to progress as it has in the past, consistent with the goals and policies of the comprehensive plan, capital improvement program, and transportation improvement program.

In addition to being consistent with adopted plans and programs, the Community Prosperity and Citizen Focus alternatives include strategic actions that target infrastructure investment opportunities and identify potential partnerships. These alternatives also provide mechanisms to help the City prioritize improvements. Chapter 7 of the Comprehensive Plan identifies that funding is adequate to meet future needs. It also identifies community and economic development priorities that are not necessary capital projects but rather aspirational to further the City's economic development initiatives. These policy changes are likely to increase development, especially with land use map changes proposed in the Community Prosperity alternative. Specific infrastructure improvements may need to be evaluated under a separate SEPA process.

Site Certification

No Action Alternative

The No Action alternative assumes that the existing policy framework will not change. The existing policy framework does not contain policy support or guidance to develop a certified sites program or process, as such, the No Action alternative is likely to see the same amount of industrial development that is consistent with past trends, but less than what would be anticipated under either of the other alternatives.

Citizen Focus and Community Prosperity Alternative

As part of the new goals and policies and strategic actions the City will work toward identifying appropriate third party certification for industrial sites at the north-eastern edge of the City. It is likely that the site certification would increase the desirability of the industrial land in the area.

Under the Community Prosperity alternative the north-eastern industrial area is proposed to be designated Industrial which would allow heavy manufacturing, processing, and assembly types of uses. Under the Citizen Focus alternative, sites may be certified but the area would retain the Light Industrial designation, which would allow the same development type as the No Action alternative.

Retail and Tourism

No Action Alternative

The No Action alternative assumes that the existing policy framework will not change. However, in 2016 the City completed two studies, one focused on retail and one on tourism; both these studies included a number of goal, policies, and strategies on improving the retail and tourism sectors within the City. Under the No Action alternative, both of these studies would not be incorporated into the comprehensive plan; however, it is possible that under a separate process the strategies and related actions may be

implemented but without an overall context provided in the Comprehensive Plan which could result in duplicative unnecessary investment.

Citizen Focus and Community Prosperity Alternative

Both the Citizen Focus and Community Prosperity alternatives propose policy changes that include the incorporation of the goals, policies, strategies and related actions of two recent studies: Retail Improvement and Tourism Improvement.

The Retail and Tourism studies include a goals, policies, strategies, and related actions to improve the retail and tourism sectors of the City's economy, which are likely to increase demand and development in these sectors. While each of the studies calls for some fairly specific actions, none of the actions are detailed enough the warrant a detailed analysis of their impacts. However, a second phase of the Tourism study will conduct a feasibility analysis on specific projects, which if developed may require a separate SEPA analysis.

Mitigation Measures

Each of the proposed alternatives, in varying degrees, contribute to the economic welfare of the City. The preferred alternative proposed as presented in the Comprehensive Plan has an overall positive impact on the economic welfare of the City and no mitigation measures are proposed to address those impacts.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts on land use are expected with implementation of the mitigation measures.

1.2: Land Use Analysis

Land Use Patterns

No Action and Citizen Focused Alternative

The land use patterns for both the No Action and Citizen Focus alternatives are similar. Based on past trends since the adoption of the comprehensive plan in 2006 and the existing conditions reports completed as part of this comprehensive plan[1], the City of Spokane Valley would expect the following:

- Continued new office development within the Mixed Use Center designation along the Spokane River corridor.
- Continued high vacancy rates for commercial/office space in the Office designation along the major north-south arterials.
- Continued development within the Regional Commercial designation especially along Indiana Avenue around the Spokane Valley Mall and the Auto Row area along Sprague Avenue.
- The Community Commercial designation along Sullivan Road is likely to see continued development.
- The Corridor Mixed Use is likely to see continued slow and steady improvements along Sprague, and increased development near the proposed City Hall building at Sprague and Dartmouth.
- The Medium Density Residential designation and corresponding zone is likely to see very little development.
- The City will likely see increased requests to amend the Land Use Map from Medium Density to High Density.
- The High Density designation is likely to seen increased development as demand increased for this housing typology.
- The Citizen Focus alternative is likely to see increased multiple family development east of Sullivan Road on Broadway Avenue and around McDonald Road of north 4th Avenue.
- Without changes to the low density residential development standards the Low Density Residential designation would likely continue to see small isolated infill development, at a slower pace than adjacent jurisdiction with more flexible standards.

Community Prosperity Alternative

The land use patterns for the Community Prosperity alternative is similar to both the No Action and Citizen Focus alternatives in terms of overall intensity but there are several distinct differences. The differences identified below assume the implementation of the supporting regulation changes discussed in the Additional Elements of the Environment of this analysis. Under this alternative, the City of Spokane Valley would expect the following:

- Continued new office development within the Mixed Use designation along the Spokane River corridor.
- New multi-family and mixed use development along the major north-south arterials, south of Sprague Avenue between the Appleway Trail and 4th Avenue; and near Broadway Ave and Shamrock Road
- Continued development within the Regional Commercial designation especially along Indiana Avenue around the Spokane Valley Mall and the Auto Row area along Sprague Avenue.
- Continued commercial development along Sullivan Road consistent with past development patterns.
- Increased development near the proposed City Hall building at Sprague and Dartmouth.
- Increased industrial development in the north-eastern corner of the City.

[1] Existing Conditions Housing and Economic Trends, September 2015 and Transportation System Existing Conditions, August 2015

- An increased number of single-family home infill developments with the implementation of more flexible development standards; however, the overall allowed density will remain unchanged.

Land Use Designations and Zoning

Land Use Conversion

The land use conversion section discusses land use designation changes (for example, changing Office to Corridor Mixed Use), but does not involve changes from one type of land use to another (from single family residential to an office). However, while it is recognized that a change of land use designation can imply a change in an allowed use, this section keeps the level of detail at the appropriate planning level -- that is, general levels of intensity and use types.

No Action and Citizen Focus Alternative

Both the No Action and Citizen Focus alternatives assume that the currently adopted land use designations from 2006 would remain. Table 2 provides a summary of those land use designations.

Table 2: No Action and Citizen Focus Land Use Designations

Designation	Description
Low Density Residential (LDR)	The Low Density Residential (LDR) Comprehensive Plan designation addresses a range of single-family residential densities from one dwelling unit per acre up to and including six dwelling units per acre. This designation would be implemented through a series of zoning designations that would allow a range of minimum lot sizes.
Medium Density Residential (MDR)	The Medium Density Residential designation represents an opportunity to provide a range of housing types to accommodate anticipated residential growth. Zoning will allow densities up to 12 dwelling units per acre in the Medium Density Residential designation. Multi-family residential zones should be used as transitional zoning between higher intensity land uses such as commercial and office, to lower density single family neighborhoods. Additionally, Medium Density Residential areas should be located near services and high capacity transit facilities or transit routes.
High Density Residential (HDR)	This designation provides for existing multi-family residential development developed at a density in excess of 12 units per acre. Additionally, High Density Residential (HDR) designated areas are also located in areas near higher intensity development. Generally, this designation is appropriate for land which is located adjacent to the arterial street system served by public transit, and is in close proximity to business and commercial centers. Offices are permitted in the High Density Residential areas.
Regional Commercial (RC)	Regional Commercial allows a large range of uses. A wide range of development types, appearance, ages, function, and scale. It covers the "strip" retail areas along Sprague Avenue which includes the automobile dealerships located along the western end of the Sprague Avenue corridor and the "big box" retail area found in the Sullivan Road area from Sprague Avenue north to the Interstate 90 interchange, and includes the Valley Mall and Wal-Mart.
Community Commercial (C)	The community commercial classification designates areas for retail, service and office establishments intended to serve several neighborhoods. Community Commercial areas should not be larger than 15-17 acres in size and should be located as business clusters rather than arterial strip commercial development. In addition, light assembly or other unobtrusive uses not traditionally located in commercial zones may be allowed with appropriate performance standards to ensure compatibility with surrounding uses or zoning districts.
Neighborhood Commercial (NC)	The neighborhood commercial classification designates areas for small-scale neighborhoods serving retail and office uses. Neighborhood business areas should not be larger than two acres in size, and should be located as business clusters rather than arterial strip commercial developments.
Office (O)	This comprehensive plan designation is intended primarily for office development with limited retail or commercial uses. Retail and commercial uses are limited to those that are clearly subordinate to the primary office use, or the retail function primarily serves the office uses in close proximity to the retail or commercial use.

Designation	Description
Corridor Mixed-Use (CMU)	Corridor Mixed-use is intended to enhance travel options, encourage development of locally serving commercial uses, multi-family apartments, lodging and offices along major transportation corridors identified on the Comprehensive Plan Land Use Map. Corridor Mixed-use recognizes the historical low-intensity, auto-dependent development pattern, and focuses on a pedestrian orientation with an emphasis on aesthetics and design. The Corridor Mixed-use designation is primarily used along Sprague Avenue.
Mixed-use Center (MUC)	The Mixed-use Center designation would allow for two or more different land uses within developments under this designation. Mixed-use developments can be either vertical or horizontally mixed, and would include employment uses such as office, retail and/or lodging along with higher density residential uses, and in some cases community or cultural facilities. Compatibility between uses is achieved through design which integrates certain physical and functional features such as transportation systems, pedestrian ways, open areas or court yards, and common focal points or amenities.
Light Industry (LI)	The Light Industry designation is a planned industrial area with special emphasis and attention given to aesthetics, landscaping, and internal and community compatibility. Uses may include high technology and other low-impact industries. Light Industry areas may incorporate office and commercial uses as ancillary uses within an overall plan for the industrial area. Non-industrial uses should be limited and in the majority of cases be associated with permitted industrial uses. The Light Industry category may serve as a transitional category between heavy industrial areas and other less intensive land use categories.
Heavy Industrial (HI)	Heavy industry is characterized by intense industrial activities, which include, but are not limited to, manufacturing, processing, fabrication, assembly/disassembly, freight-handling, and similar operations. Heavy industry may have significant noise, odor or aesthetic impacts to surrounding areas.
Parks and Open Space (POS)	The Parks and Open Space designation is intended to protect parks, open space, and other natural physical assets of the community.

Citizen Focus Alternative

Table 3 summarizes the CARs the amount of acres by land designation changes; it only shows only those designations where land is converting from one designation to another designation. The rows show the existing comprehensive plan designation and the columns show the proposed comprehensive plan designations. Using Low Density Residential as an example, 40.39 acres are converting to High Density Residential, 4.03 acres to Commercial, and .75 acres to Corridor Mixed Use for a total of 45.17 acres of Low Density Residential converting to another designation. This alternative proposes a total of 72.27 acres of change to the Land Use Map. All of the proposed changes are from a less intense designation to a more intense designation with most the land area changing from the Low Density Residential to High Density Residential.

Table 3: Changes to Existing Comprehensive Plan Designations in Acres for Citizen Focus Alternative

		Proposed Comprehensive Plan Designation				
		High Density Residential	Neighborhood Commercial	Commercial	Corridor Mixed Use	***Total***
Existing Comp Plan Designation	Low Density Residential	40.39	0.0	4.03	0.75	***45.17***
	Medium Density Residential	18.39	0.0	0.0	0.0	***18.39***
	Office	3.41	0.78	1.37	3.15	***8.71***
	Total	***62.19***	***0.78***	***5.4***	***3.9***	***72.27***

Community Prosperity Alternative

The Community Prosperity Alternative proposes eight land use designations described in Table 4:

Table 4: Community Prosperity Alternative Land Use Designations

Designation	Description
Single Family Residential (SFR)	Allows for single-family development with densities ranging from 1 – 6 dwelling units per acre. This designation has three zoning districts that have a range of minimum lot sizes.
Multifamily Residential (MFR)	Allows for multi-family development, near commercial centers, arterial streets, and public transit lines. The implementation includes transitional standards to protect the single-family designation.
Neighborhood Commercial (NC)	Allows for the development of small-scale retail and office uses while allowing for single family homes. Located within neighborhood areas along arterials, the size of development and types of businesses are intended to serve nearby residents.
Regional Commercial	Allows for range of commercial development. It includes areas like Auto Row along Sprague, the Valley Mall, and areas along arterials near Interstate 90. Generally, the development in these areas serve the region.
Corridor Mixed Use (CMU)	Allows for uses like light manufacturing, retail, multifamily, and offices along major corridors. Corridor Mixed-use recognizes the historical low-intensity, auto-dependent development pattern along Sprague Avenue, and the north-south arterials.
Mixed Use (MU)	Allows for a mix of uses, either vertical or horizontally mixed. Includes uses like office, retail, lodging, and residential. Mixed Use is generally located near the Spokane River and Centennial Trail.
Industrial Mixed Use (IMU)	Allows for light manufacturing, retail, offices, and light industrial types of uses like contractor and towing yards. The Industrial Mixed Use is located along Trent Avenue.
Industrial (I)	Allows for industrial development like manufacturing, fabrication, assembly, and freight-handling. Implemented by one zone and transitional and buffer standards to protect adjacent non-industrial areas from impacts.
Parks, Recreation, and Open Space (POS)	The purpose of this district is to protect and provide for parks, open space, and other natural physical assets of the community.

Table 5 summarizes how the existing land use designations relate to the proposed land use designations of the Community Prosperity alternative. It shows how the existing land use designations are allocated to the proposed designations in acres. The next sub-sections provide an analysis of Table 5.

Designation Name Changes

The Community Prosperity proposes changing the name of four existing land use designations:

- Low Density Residential (LDR) → Single Family Residential (SFR)
- High Density Residential (HDR) → Multiple Family Residential (MFR)
- Mixed Use Center (MUC) → Mixed Use (MU)
- Heavy Industrial (HI) → Industrial (I)

The proposed name changes are not expected to result in substantial impacts as the allowed uses, intensity of uses, and density are expected to remain the same as the No Action alternative. However, the new Multiple Family Residential designation is expected to have density increases, in locations in close (1/4 mile) to transit, parks and open space, and other daily goods. The expected densities are expected to be similar to existing densities (22 units per acre). Impacts from this density will be mitigated through transitional zoning provisions; additional analysis of the density increase are evaluated under the Transportation and Housing sections of this analysis.

Designation Eliminations

The Community Prosperity alternative proposes to eliminate three existing land use designations, shown in Table 5 as blue shaded rows with underlined text. The three designations proposed for elimination are: Medium Density Residential (MDR), Office (O), and Community Commercial (C). The following bullets summarize the reasoning and expected impacts of these eliminations:

Medium Density Residential (MDR)

- The elimination of the Medium Density Residential designation is based on the Housing and Economic Trends Existing Condition Report. The report identified four policy considerations:
    - Allow housing types not currently allowed in the MF-1 zone
    - Rezone /designation to allow higher densities
    - Support additional housing types by adjusting minimum lot size, setbacks, lot width, and other development
    - Use the multi-family tax exemptions in the MF-1 zone
- While some form of the above policy considerations are incorporated into the Community Prosperity alternative, the biggest and most encompassing change was incorporating approximately 606 acres of MDR into the higher intensive designations of MFR, RC, CMU, MU, and IMU.
- The change to higher intensive uses is expected to allow multiple family development on property.
- Areas of the MDR designation where existing development patterns are single family houses but more intensive in terms of density, around 12 units per acre, were designated LDR.
- The designation to LDR is not expected to have any significant impacts as LDR is less intensive than MDR

Office (O)

- The elimination of the Office designation is based on the Housing and Economic Trends Existing Condition Report. The report identified the following relevant policy considerations:
    - The existing vacant land in the O designation is likely not suitable for new office development based on sites used for past office development projects
    - Change policy or regulations to allow other types of uses such as residential uses
- The Community Prosperity alternative proposes to designate nearly all of the O designation to CMU and a much smaller amount to RC.
- The change to CMU is expected to increase development within the north-south corridors, most likely with multi-family development. While this is an increase in development the intensity similar to an office type of development
- The change to RC is not expected to have any significant impacts and was done to avoid creating stand-alone land use islands where Office was adjacent to RC.

Community Commercial (C)

- The elimination of the C designation is proposed as part of a larger effort to simplify and streamline the Comprehensive Plan. The C designation was incorporated into CMU or RC.
- A major difference between the C and the CMU is that the implementing zoning district in CMU allows some light industry and multiple-family development and the C zone does not. In the implementing zone for RC allows for entertainment uses and the C zone does not.
- Another difference is the allowed height in the C zone it is 35 feet and in the RC the allowed height is 100 feet and in the CMU it is 50 feet.
- Differences in use are addressed through zoning standards, and height are addressed with transitional provisions.
- Most of the C designation was located at Sprague and major arterials; most of these areas are developed, so these areas are not likely to see new development.
- The change of C to CMU and RC is not expected to have any significant impacts because of the similarity of allowed uses and the already intensive development at C locations.

Light Industrial (LI)

- The elimination of the LI designation is proposed as part of a larger effort to simplify and streamline the Comprehensive Plan. The LI designation was eliminated and its land incorporated into Heavy Industrial (HI), Regional Commercial (RC), and Industrial Mixed Use (IMU).
- Areas where the LI designation was incorporated into HI, proposed as the new Industrial (I) designation, would allow previously prohibited uses: Animal processing/handling; Beekeeping-commercial; Assembly-heavy; Manufacturing-heavy; Power plant; Processing-heavy; Railroad yard, repair shop and roundhouse.
- About ½ of the LI to I change is around the Montgomery Avenue industrial area. The area is characterized by a diverse range of existing industrial uses. Another main area of conversion is near Felts Field Airport and west of Park Road between I-90 and the Burlington Northern Santa Fe mainline, which is also characterized by variety of industrial types of uses.
- Another areas of LI to I conversion is in the northeastern corner of City. This area is mostly vacant, except for major solar energy operation and is adjacent to heavy industrially zoned land and between two main rail lines.
- The areas already characterized by industrial development may see slow development, but the vacant industrial land is likely to see a marked increase in development.
- The new Industrial (I) designation is subject to transitional provisions to protect adjacent lower intensive designations and other Federal and State regulations, including but not limited to: Clean Air Act, Clean Water Act, and stormwater regulations.
- The transitional provisions will protect these lower intensity designations through setbacks, screening, and height limitations.
- Vacant industrial land in the north-east portion of the City will likely see increased development with improved sewer access.

Additional Designation Considerations

A few of the changes identified in Table 5 warrant additional discussion:

- There are 6 acres of LDR land proposed to be designated I. The change could be categorized as a housekeeping amendment as the changes eliminated pockets of LDR in former Light Industrial areas (now Industrial). It's not expected this change will create significant impacts and with the implementation of transitional provisions to protect lower intensity designations.
- The Community Prosperity alternative converts approximately 53 acres of Corridor Mixed Use (CMU) to Parks and Open Space (POS). This change is a result of converting the publically owned property identified for the Appleway Trail to POS. This area is part of the planned Appleway Trail and is publically owned, and would not significantly impact available acres of CMU lands.

- Approximately 100 acres of Mixed-use Center (MUC) is being converted to Parks and Open Space (POS). This change is a result of designating Department of Natural Resources land near Mirabeau Park.
- Approximately 150 acres of CMU is proposed to be designated to the new Industrial Mixed Use (IMU) designation, which is described in Table 4. Generally, the new designation would allow CMU types of uses and more industrial types of uses like contractor yards. The IMU is expected to not allow multiple family uses. The IMU designation is limited to the Trent Avenue corridor.
- The 12 acres of LDR that was designated as POS is City owned land that serves as a drainage way. The change more accurately the long-term intended use of the property. The change is not expected to have significant impacts on single-family available lands.
- Approximately 27 acres of Low Density Residential (LDR) is being converted to Neighborhood Commercial (NC). This change is a result of the community priorities. However, the NC zone allows single-family development as an outright permitted use, so it's not expected this change would result in significant impacts.
- Other minor changes reflect housekeeping adjustments to eliminate spilt land use designations or zoning; the changes align land use designations to property lines and/or adjustments to create logical boundaries for designations.

Table 5: Summary of Land Use Designation Changes - Community Prosperity

		Proposed Comprehensive Plan Designations									
		SFR	MFR	NC	RC	CMU	MU	IMU	I	POS	*Total*
Existing Comprehensive Plan Designations	LDR	10,460	248	27		57	11	1	15	12	***10,831***
	MDR	255	360		24	153	34				***826***
	HDR	4	767	3	16	8					***798***
	O				*6*	*391*					***397***
	NC			7		9					***16***
	C				*133*	*336*					***469***
	RC				628	22					***650***
	CMU	16				690		150		52	***908***
	MUC						543			100	***643***
	LI				2			48	972		***1,022***
	HI	1							3,048		***3,049***
	POS						2			430	***432***
	Total	***10,736***	***1,375***	***37***	***809***	***1,666***	***590***	***199***	***4,021***	***594***	**20,027**

Numbers have been rounded to the next nearest whole number

Population and Employment

Residential and Commercial Land Capacity

No Action, Citizen Focus, and Community Prosperity Alternatives

Based on the Land Quantity Analysis[2] completed for the periodic update of the comprehensive plan, the City has a capacity for an additional 9,076 housing units and 19,980 additional people. The City has adopted an initial population target of 14,650 as recommended by Steering Committee of Elected Officials for Spokane County. Given the estimated 2037 capacity (19,980) and the projected growth (14,650) the City of Spokane Valley can accommodate its projected population in all of the alternatives.

The City can accommodate its projected growth within its jurisdictional boundaries. However, both the Citizen Focus and Community Prosperity alternatives propose policy it identify and assess opportunities to annex lands within the UGA, and that such expansions should be planned for.

The City has no formal target or allocation for employment; however, the City has as part of its periodic update conducted an analysis of available commercial and industrial lands[2]. The analysis identified approximately 1,250 acres of buildable acres within the City. Approximately 46 percent of that area is industrial land on the City's north-east side. While vacancies in industrial land have been decreasing, it's expected that the existing supply of undeveloped industrial land can accommodate future demand, and the policy changes regarding office and commercial land are also expected to meet future demand.

Community Prosperity Alternative

The Community Prosperity alternative proposes various land use designation changes as discussed earlier. These changes while significantly simplifying the implementation of the plan, increase the estimated residential capacity by almost 4,000 people. Most of the increase results from changing a portion of the Medium Density Residential designation to the new Multi-Family Residential designation. The remainder is the result of changing Office, which prohibits multiple family development to Corridor Mixed Use which allows multiple family development. The increase in capacity is not expected to have significant impacts.

Preservation of Neighborhoods

No Action Alternative

The No Action alternative assumes that the currently adopted policies and regulations would remain unchanged. The existing regulatory framework provides for a relational set-back for multifamily housing adjacent to residential zoning or uses. In part, it requires an additional foot of setback for every foot above 25 feet starting at the setback line.

Citizen Focus and Community Prosperity Alternative

Both the Citizen Focus and Community Prosperity alternatives would result in significant policy changes that include policies, strategic actions, and potential regulations to preserve the character of neighborhoods, and allow for amenities in proximity to neighborhoods. The following are the key features of the Citizen Focus and Community Prosperity alternatives to preserve neighborhoods:

- Both alternatives include transitional provisions to manage the interface of higher intensity designations and zones to lower intensity designations or zones. While these provisions are included in the Citizen Focus alternative, without the land use map changes associated with the Community Prosperity alternative their use within the context of the Citizen Focus alternative would likely be minimal.

[2] ECONorthwest Memorandum, June 24, 1015, Subject: Spokane Valley Residential Land Capacity Needs

- Under both Citizen Focus and Community Prosperity alternatives the allowed density would remain at 6 units per acre for all LDR implementing zones except for the R-1 which is 1 unit per acre.
- The Community Prosperity alternative proposes a change in the zoning regulations that consolidates the current R-3 and R-4 zones into a new zone, which would allow a minimum lot size of 5,000 square feet, which would allow greater flexibility and promotes reinvestment in single family neighborhoods. However, the current density of 6 dwelling units per acre, the same as No Action and Citizen Focus alternatives, would remain.
- The Citizen Focus alternative does not propose a change in minimum lot sizes, which would likely limit infill development and encourage the aggregation lots to accommodate infill development.
- The Citizen Focus alternative assumes the preservation of the Multi-family 1 (MF-1) zone as it exists, which includes areas that have established single-family residences. Under the Citizen Focus alternative these area could redevelop at 12 units per acre.
- The Community Prosperity alternative assumes that the established single-family residential areas are designated single-family, preserving the existing neighborhood.
- The Community Prosperity alternative designates multiple family development where services like transit and daily goods are available.

Mitigation Measures

- Transitional zoning provisions that protect lower intensity designations from impacts of higher intensity designations.
- Streamline the permitted use matrix to ensure that uses from eliminated designations and their related zoning districts are permitted in new and/or consolidated designations and zoning districts.
- Updated supplementary standards to require additional controls in order to protect public health, safety, and welfare.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts on neighborhoods are expected with implementation of the mitigation measures.

1.3: Transportation Analysis

Under all of the EIS Alternatives, the City of Spokane Valley would experience increased development in order to accommodate new residents and employment in the City. This new development would have impacts on the transportation network, which is primarily dominated by the automobile but also accommodates walking, biking, and public transit. These impacts would result in additional needs for transportation facilities and improvements. However, the alternatives differ in scope, intensity and locations for these improvements.

This section summarizes the operations and characteristics of the transportation system under the different alternatives. In general, the analysis focuses on the difference between the No Action and the Community Prosperity Alternatives since they represent the least intense and most intense development alternatives, respectively. Modeling results were evaluated for the Citizen Focus Alternative and they were found to be very similar to the Community Prosperity Alternative, although with slightly less traffic generation/roadway travel impact.

A description of the existing transportation conditions is summarized in the Transportation Element of the Comprehensive Plan and in the Transportation Existing Conditions Report.[3]

Roadway Travel

Roadway travel impacts are assessed using the Level of Service (LOS) concept[4]. For small projects, LOS is often calculated at intersections. However, for large-area plans such as a comprehensive plan, it is a corridor LOS is often used to summarize conditions. This analysis uses a combination of corridor and intersection LOS. Intersection LOS analysis was focused at the busiest signalized intersections for PM peak hour conditions, the busiest time of the day. Table 6 identifies the intersections and corridors analyzed for this EIS.

Table 6: Study Intersections and Corridors

Intersection	Type of Traffic Control
1 - Argonne Rd/Trent (SR 290)	Signal
2 - Pines Rd/Trent (SR 290)	Signal; (assumes BNSF grade separation and reconfigured intersection by 2037)
3 - Pines Rd/Mirabeau Pkwy	Signal
4 - Sullivan Rd/Wellesley Ave	Signal (a new traffic signal is assumed by 2037)
5 - Sullivan Rd/Trent (SR 290) WB	Signal
6 - Sullivan Rd/Trent (SR 290) EB	Signal
7 - Argonne Rd/I-90 WB Ramp	Signal; (a new southbound lane approaching the intersection and three-lane overpass of I-90 assumed by 2037)
8 - Argonne Rd/I-90 EB Ramp	Signal; (a new southbound lane approaching the intersection and three-lane overpass of I-90 assumed by 2037)
9 - Mullan Rd/I-90 WB Ramp	Signal
10 - Mullan Rd/I-90 EB Ramp	Signal
11 - Pines Rd/Mansfield Ave	Signal
12 - Pines Rd/Indiana Ave	Signal
13 - I-90 WB Off Ramp (Pines Interchange)/Indiana Ave	Signal
14 - Pines Rd/I-90 EB Ramps	Signal
15 - Pines Rd/Mission Ave	Signal

[3] Transportation Systems Existing Conditions, August 2015, submitted by Fehr & Peers

[4] The definition of LOS from 2010 Highway Capacity Manual is in the Transportation Element

Intersection	Type of Traffic Control
16 - Mirabeau Pkwy/Mansfield Ave	Signal (a new traffic signal is assumed by 2037)
17 - Mirabeau Pkwy/Indiana Ave	Signal
18 - Evergreen Rd/Indiana Ave	Signal
19 - Evergreen Rd/I-90 WB Ramps	Signal
20 - Evergreen Rd/I-90 EB Ramps	Signal; (assumes additional southbound left turn lane by 2037
21 - Mission Connector/Mission Ave	Side-street stop
22 - Sullivan Rd/Indiana Ave	Signal; (assumes dual westbound left turn land by 2037)
23 - Sullivan Rd/I-90 WB On Ramp	Roundabout
24 - Sullivan Rd/I-90 EB Ramps	Roundabout
25 - Sullivan Rd/Mission Ave	Signal
26 - Sullivan Rd/Broadway	Signal
27 - I-90 WB Off Ramp (Sullivan)/Indiana Ave	Signal
28 - Barker Rd/Mission Ave	Signal
29 - Barker Rd/I-90 WB Ramp	Signal
30 - Barker Rd/I-90 EB Ramp	Signal
31 - Fancher Rd/Broadway	Signal
32 - Thierman Rd/Broadway	Signal
33 - I-90 WB Ramp/Broadway	Signal
34 - I-90 EB Ramp/Broadway	Signal
35 - Argonne Rd/Broadway	Signal
36 - Mullan Rd/Broadway	Signal
37 - Carnahan Rd/8th Ave	Signal or roundabout (by 2037)
38 - Fancher Rd/Sprague Ave	Signal
39 - Thierman Rd/Sprague Ave	Signal
40 - Thierman Rd/Appleway Blvd	Signal
41 - Dishman Mica Rd/Appleway Blvd	Signal
42 - University Rd/Sprague Ave	Signal
43 - University Rd/Appleway Blvd	Signal
44 - Pines Rd/Sprague Ave	Signal
45 - Evergreen Rd/Sprague Ave	Signal
46 - Sullivan Rd/Sprague Ave	Signal
47 - Barker Rd/Appleway Blvd	Signal
48 - Barker Rd/Sprague Ave	Signal or roundabout (by 2037)
49 - SR 27/16th Ave	Signal
50 - Bowdish Rd/Dishman Mica Rd	Signal
Corridor	**Segment**
Argonne/Mullan	Between Trent and Appleway
Pines Road	Between Trent Avenue and 8th Avenue
Evergreen Road	Between Indiana Avenue and 8th Avenue
Sullivan Road	Between Wellesley Avenue and 8th Avenue
Trent Avenue	Between Argonne Road and Barker Road
Sprague Avenue/Appleway	Between Fancher Road and Park Road

For the purposes of this analysis, impacts to roadway travel are based on whether LOS exceeds the thresholds established in the Transportation Element of the Comprehensive Plan, which uses both corridor and intersection LOS.

To evaluate LOS, the results of the Spokane Regional Transportation Council's (SRTC) regional travel demand forecasting model were used to forecast ADT and peak hour intersection volumes. The regional travel model works by estimating the trip generation (for vehicles and transit) from land use inputs that are

varied for each of the alternatives. The horizon year for the regional travel demand forecasting model is 2040 which reasonably corresponds to the 2037 horizon date for the Comprehensive Plan update.

Corridor LOS

Corridor LOS is evaluated using average daily traffic (ADT) volume thresholds shown in Table 7, it uses the average LOS conditions along the length of the entire corridor being measured. Corridor LOS acknowledges that some intersections may experience greater congestion than the corridor as a whole. Using the thresholds below, the length-average ADT-to-LOS D volume threshold ratio is calculated. So long as the ratio is less than or equal to 1.00, the corridor is defined as operating at LOS D or better.

Table 7: Roadway Corridor Level of Service ADT Thresholds

	Average Corridor Daily Traffic Threshold						
	Number of Through Lanes on Two-Way Streets*			Number of Through Lanes on One-Way Streets			
Level of Service	2 Lanes	4 Lanes	6 Lanes	2 Lanes	3 Lanes	4 Lanes	5 Lanes
A-B	<2,780	<5,050	<7,350	<3,030	<4,410	<5,700	<6,910
C	2,780-5,570	5,050-10,100	7,350-14,700	3,030-6,060	4,410-8,820	5,700-11,410	6,910-13,830
D	5,570-14,490	10,100-28,200	14,700-41,800	6,060-16,920	8,820-25,080	11,410-32,440	13,830-39,330
E	14,490-18,800	28,200-34,100	41,800-48,900	16,920-20,460	25,080-29,340	32,440-37,950	39,330-46,010
F	>18,800	>34,100	>48,900	>20,460	>29,340	>37,950	>46,010

* All two-way streets assume the presence of a median/turn lanes. Per Florida DOT's implementation of the HCM, a 5 percent capacity factor increase is applied to roads with medians or turn lanes.
Source: 2010, Highway Capacity Manual; 2013 Florida Department of Transportation Q/LOS Handbook; 2016 Fehr & Peers.

Intersection LOS

Intersection LOS was analyzed using *Highway Capacity Manual* methods in the Synchro 9 software package. Intersection LOS is based on average control delay, which is the amount of delay caused by the traffic signal/stop sign and the queues that form at signals. The LOS thresholds for signalized and unsiganlized intersections are shown below.

Table 8: Intersection Level of Service Control Delay Thresholds

Level of Service	Signalized Intersection: Seconds of Control Delay	Unsignalized Intersection: Seconds of Control Delay
A	0-10	0-10
B	10-20	10-15
C	20-35	15-25
D	35-55	25-35
E	55-80	35-50
F	> 80	>50

Note: Delay for LOS evaluation is averaged across all movements for signals and all-way stop-controlled intersections. The highest-delayed approach is evaluated for side-street stop-controlled intersections.
Source: 2010 Highway Capacity Manual.

Roadway Network Impacts of Changing the LOS Standard

The proposed Comprehensive Plan, and Citizen Focus alternative, uses both corridor and intersection LOS which is different than the No Action alternative which uses only intersection LOS. In general, the proposed LOS policy allows for additional congestion at certain intersections along the designated Major Arterial Corridor. This approach to a comprehensive arterial congestion analysis is consistent with the

SRTCs regional transportation planning policies and the Congestion Management Process that happens to overlap with several corridors. The implications of the LOS policy change are also described below, although the overall assessment of roadway travel performance is assessed using the new LOS policy included in the proposed Comprehensive Plan.

Using corridor or area-wide arterial LOS is common in built out areas where there is less available right-of-way to constantly expand intersections and roadways. For example, at a built-out intersection like Sullivan Road and Sprague Avenue, maintaining LOS D conditions would require dual-left turn lanes on all approaches resulting in substantial impacts to adjacent businesses and properties. Now consider this type of widening at all intersections that do not meet the LOS D threshold shown in Table 9 and the City would face a significant challenge related to the cost and right-of-way impacts of maintaining LOS D conditions everywhere in the community. Thus, the impacts of changing the LOS policy to consider corridor and intersection LOS allows some additional congestion at intersections but to reduces land use, maintenance costs, and capital costs of providing ever-larger transportation infrastructure.

No Action Alternative

The results of the No Action roadway travel LOS analysis is summarized in the following tables and figure.

Table 9: No Action Alternative Intersection PM Peak Hour LOS Results

Intersection	Delay	LOS
1 - Argonne Rd/Trent (SR 290)	*105*	*F*
2 - Pines Rd/Trent (SR 290)	*53*	*D*
3 - Pines Rd/Mirabeau Pkwy	*38*	*D*
4 - Sullivan Rd/Wellesley Ave	*13*	*B*
5 - Sullivan Rd/Trent (SR 290) WB	*15*	*B*
6 - Sullivan Rd/Trent (SR 290) EB	*3*	*A*
7 - Argonne Rd/I-90 WB Ramp	*23*	*C*
8 - Argonne Rd/I-90 EB Ramp	*25*	*C*
9 - Mullan Rd/I-90 WB Ramp	*20*	*C*
10 - Mullan Rd/I-90 EB Ramp	*54*	*D*
11 - Pines Rd/Mansfield Ave	*33*	*C*
12 - Pines Rd/Indiana Ave	*43*	*D*
13 - I-90 WB Off Ramp (Pines Interchange)/Indiana Ave	*21*	*C*
14 - Pines Rd/I-90 EB Ramps	*44*	*D*
15 - Pines Rd/Mission Ave	*47*	*D*
16 - Mirabeau Pkwy/Mansfield Ave	28	C
17 - Mirabeau Pkwy/Indiana Ave	16	B
18 - Evergreen Rd/Indiana Ave	*25*	*C*
19 - Evergreen Rd/I-90 WB Ramps	*22*	*C*
20 - Evergreen Rd/I-90 EB Ramps	*15*	*B*
21 - Mission Connector/Mission Ave	*13*	*C*
22 - Sullivan Rd/Indiana Ave	*55*	*D*
23 - Sullivan Rd/I-90 WB On Ramp	*12*	*B*
24 - Sullivan Rd/I-90 EB Ramps	*33*	*C*
25 - Sullivan Rd/Mission Ave	*17*	*B*
26 - Sullivan Rd/Broadway	*47*	*D*
27 - I-90 WB Off Ramp (Sullivan)/Indiana Ave	36	D
28 - Barker Rd/Mission Ave	55	D
29 - Barker Rd/I-90 WB Ramp	10	A
30 - Barker Rd/I-90 EB Ramp	41	D
31 - Fancher Rd/Broadway	55	D
32 - Thierman Rd/Broadway	30	C
33 - I-90 WB Ramp/Broadway	42	D
34 - I-90 EB Ramp/Broadway	10	A

Intersection	Delay	LOS
35 - Argonne Rd/Broadway	*30*	*C*
36 - Mullan Rd/Broadway	*18*	*B*
37 - Carnahan Rd/8th Ave	23	C
38 - Fancher Rd/Sprague Ave	*57*	*E*
39 - Thierman Rd/Sprague Ave	*22*	*C*
40 - Thierman Rd/Appleway Blvd	*178*	*F*
41 - Dishman Mica Rd/Appleway Blvd	29	C
42 - University Rd/Sprague Ave	26	C
43 - University Rd/Appleway Blvd	18	B
44 - Pines Rd/Sprague Ave	*82*	*F*
45 - Evergreen Rd/Sprague Ave	*53*	*D*
46 - Sullivan Rd/Sprague Ave	*61*	*E*
47 - Barker Rd/Appleway Blvd	40	D
48 - Barker Rd/Sprague Ave	16	B
49 - SR 27/16th Ave	70	E
50 - Bowdish Rd/Dishman Mica Rd	25	C

Note: Italicized intersections are part of a Major Arterial Corridor. LOS impacts for Major Arterial Corridors are not assessed for individual intersections, but along the entire corridor.

Table 10: No Action Alternative Major Arterial Corridor PM Peak Hour LOS Results

Corridor	Corridor Average ADT/LOS D Capacity Ratio	LOS
Argonne/Mullan between Trent and Appleway	0.57	D
Pines Road between Trent Avenue and 8th Avenue	0.96	D
Evergreen Road between Indiana Avenue and 8th Avenue	0.80	D
Sullivan Road between Wellesley Avenue and 8th Avenue	0.95	D
Trent Avenue between Argonne Road and Barker Road	0.82	D
Sprague Avenue/Appleway between Fancher Road and Park Road	0.76	D

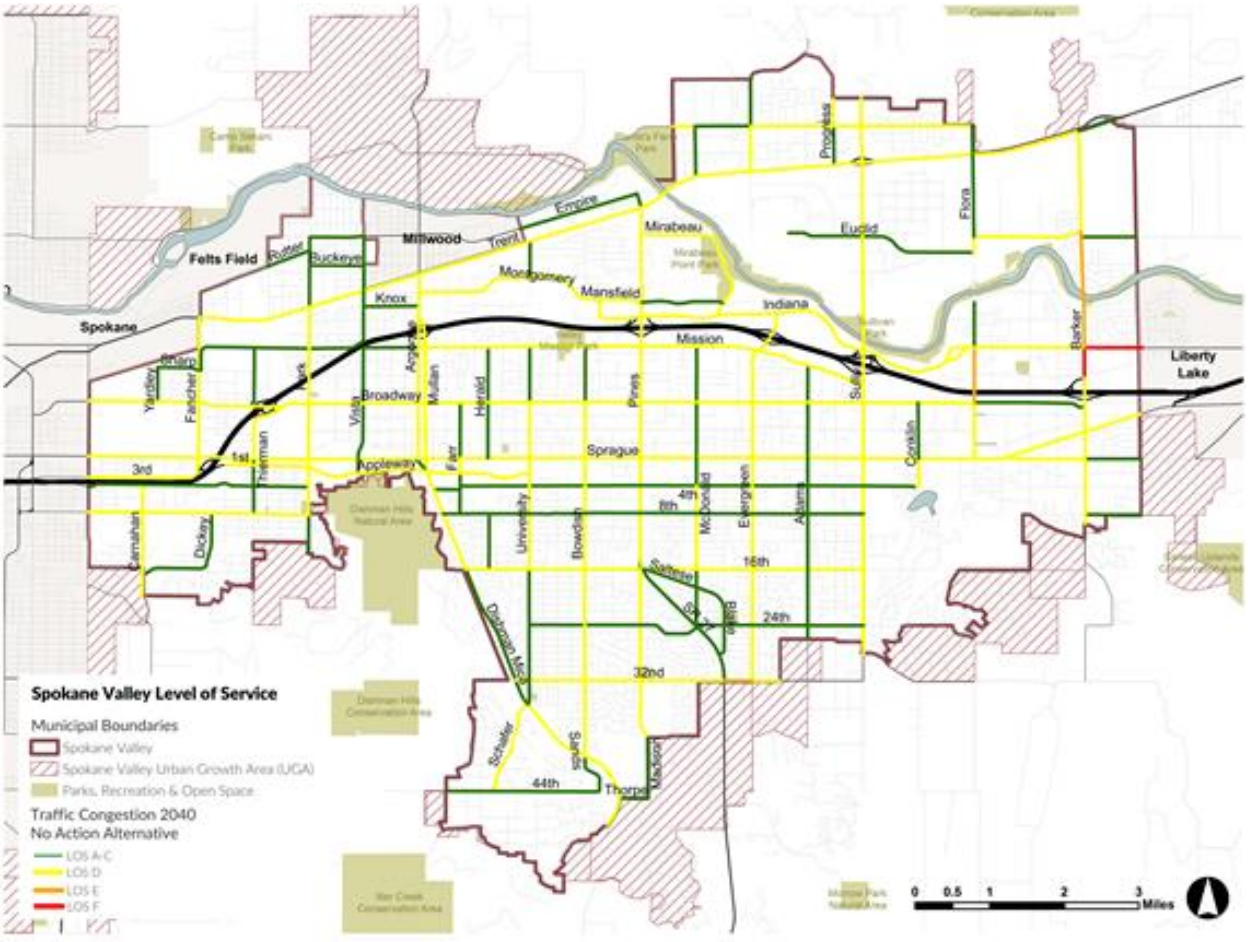


Figure 4: No Action Alternative Roadway Segment LOS Results

As shown in the data above, under the No Action Alternative, significant adverse roadway travel LOS impacts are expected at the following intersections and roadway segments:

- SR 27/16th Avenue
- Mission Avenue between Barker Road and Liberty Lake
- Barker Road between Euclid Avenue and I-90
- Sullivan Road south of 24th Avenue
- 32nd Avenue between SR 27 and Evergreen Road

There are other intersections and roadway segments that are operating at LOS E or F, as shown in Table 9, but these locations are subject to the proposed corridor LOS standard. If the existing intersection only LOS were considered, then these additional locations would fail to meet the intersection only LOS standard, and require additional mitigation.

Citizen Focus Alternative and Community Prosperity Alternative

While there are slight differences in land use assumptions between the Citizen Focus Alternative and the Community Prosperity Alternatives, in terms of travel demand and roadway travel impacts, the two alternatives are very similar. In all cases, the delay/LOS under the Community Prosperity alternative is slightly worse than the Citizen Focus alternative, so the results of the Community Prosperity alternative are used to summarize potential roadway impacts for both Alternatives.

The results of the Community Prosperity alternative roadway travel LOS analysis is summarized in tables and figure below.

Table 11: Community Prosperity Alternative Intersection PM Peak Hour LOS Results

Intersection	Delay	LOS
1 - Argonne Rd/Trent (SR 290)	*109*	*F*
2 - Pines Rd/Trent (SR 290)	*54*	*D*
3 - Pines Rd/Mirabeau Pkwy	*41*	*D*
4 - Sullivan Rd/Wellesley Ave	*9*	*A*
5 - Sullivan Rd/Trent (SR 290) WB	*40*	*D*
6 - Sullivan Rd/Trent (SR 290) EB	*3*	*A*
7 - Argonne Rd/I-90 WB Ramp	*23*	*C*
8 - Argonne Rd/I-90 EB Ramp	*26*	*C*
9 - Mullan Rd/I-90 WB Ramp	*20*	*C*
10 - Mullan Rd/I-90 EB Ramp	*49*	*D*
11 - Pines Rd/Mansfield Ave	*33*	*C*
12 - Pines Rd/Indiana Ave	*44*	*D*
13 - I-90 WB Off Ramp (Pines Interchange)/Indiana Ave	*21*	*C*
14 - Pines Rd/I-90 EB Ramps	*44*	*D*
15 - Pines Rd/Mission Ave	*47*	*D*
16 - Mirabeau Pkwy/Mansfield Ave	28	C
17 - Mirabeau Pkwy/Indiana Ave	16	B
18 - Evergreen Rd/Indiana Ave	*25*	*C*
19 - Evergreen Rd/I-90 WB Ramps	*23*	*C*
20 - Evergreen Rd/I-90 EB Ramps	*15*	*B*
21 - Mission Connector/Mission Ave	*15*	*C*
22 - Sullivan Rd/Indiana Ave	*62*	*E*
23 - Sullivan Rd/I-90 WB On Ramp	*15*	*B*
24 - Sullivan Rd/I-90 EB Ramps	*35*	*C*
25 - Sullivan Rd/Mission Ave	*16*	*B*
26 - Sullivan Rd/Broadway	*49*	*D*
27 - I-90 WB Off Ramp (Sullivan)/Indiana Ave	38	D
28 - Barker Rd/Mission Ave	53	D
29 - Barker Rd/I-90 WB Ramp	11	B
30 - Barker Rd/I-90 EB Ramp	43	D
31 - Fancher Rd/Broadway	57	E
32 - Thierman Rd/Broadway	18	B
33 - I-90 WB Ramp/Broadway	40	D
34 - I-90 EB Ramp/Broadway	5	A
35 - Argonne Rd/Broadway	*30*	*C*
36 - Mullan Rd/Broadway	*19*	*B*
37 - Carnahan Rd/8th Ave	28	D
38 - Fancher Rd/Sprague Ave	*62*	*E*
39 - Thierman Rd/Sprague Ave	*32*	*C*
40 - Thierman Rd/Appleway Blvd	*195*	*F*
41 - Dishman Mica Rd/Appleway Blvd	29	C
42 - University Rd/Sprague Ave	47	D
43 - University Rd/Appleway Blvd	21	C
44 - Pines Rd/Sprague Ave	*82*	*F*
45 - Evergreen Rd/Sprague Ave	*54*	*D*
46 - Sullivan Rd/Sprague Ave	*61*	*E*
47 - Barker Rd/Appleway Blvd	39	D
48 - Barker Rd/Sprague Ave	16	B

Intersection	Delay	LOS
49 - SR 27/16th Ave	74	E
50 - Bowdish Rd/Dishman Mica Rd	28	C

Note: *Italicized intersections are part of a Major Arterial Corridor. LOS impacts for Major Arterial Corridors are not assessed for individual intersections, but along the entire corridor.*

Table 12: Community Prosperity Alternative Major Arterial Corridor PM Peak Hour LOS Results

Corridor	Corridor Average ADT	LOS
Argonne/Mullan between Trent and Appleway	0.58	D
Pines Road between Trent Avenue and 8th Avenue	0.96	D
Evergreen Road between Indiana Avenue and 8th Avenue	0.82	D
Sullivan Road between Wellesley Avenue and 8th Avenue	0.97	D
Trent Avenue between Argonne Road and Barker Road	0.84	D
Sprague Avenue/Appleway between Fancher Road and Park Road	0.78	D

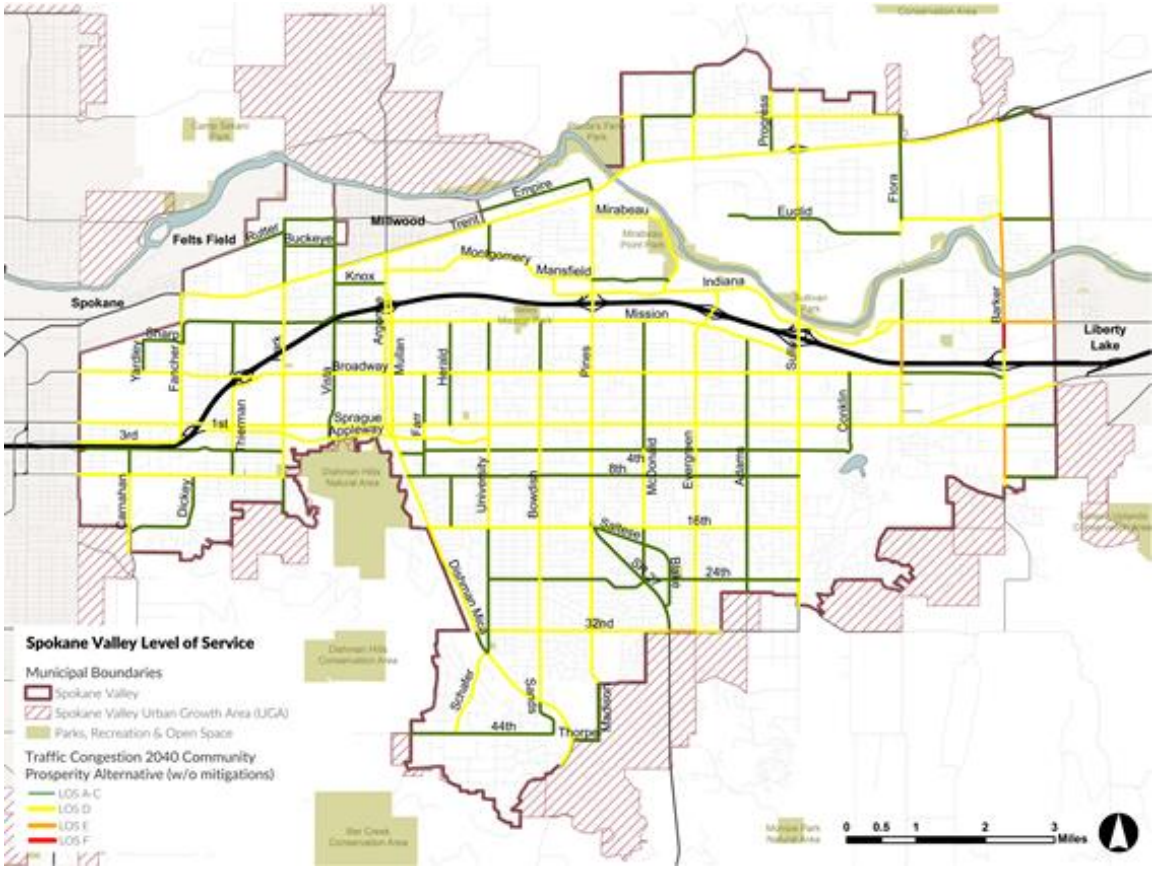


Figure 5: Community Prosperity Roadway Segment LOS Results

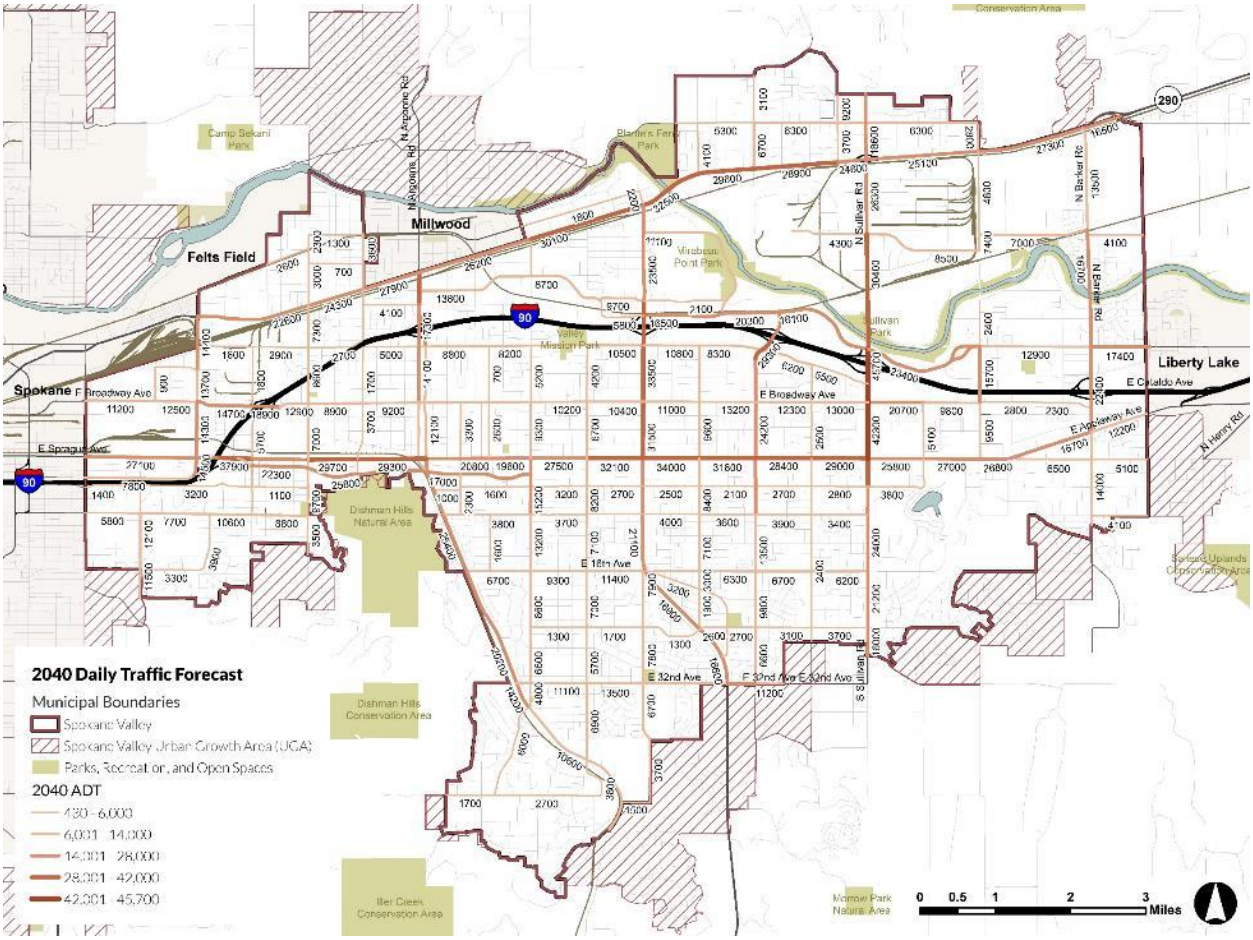


Figure 6: Community Prosperity Volume Map

As shown in the tables and figure above, under the Community Prosperity alternative, significant adverse roadway travel LOS impacts are expected at the following intersections and roadway segments:

- Fancher Road/Broadway
- SR 27/16th Avenue
- Mission Avenue between Barker Road and Liberty Lake
- Barker Road between Euclid Avenue and I-90
- Barker Road between Sprague Avenue and 8th Avenue
- Flora Road between Indiana Avenue and Broadway
- Sullivan Road south of 24th Avenue
- 32nd Avenue between SR 27 and Evergreen Road

There are other intersections and roadway segments that are operating at LOS E or F, as shown in Table 9, but these locations are subject to the proposed corridor LOS standard. Under the proposed corridor LOS standard, these locations do not constitute a roadway travel LOS impact. Mitigation measures to address the roadway travel impacts are listed at the end of this chapter.

Non-motorized Travel

In 2011, Spokane Valley adopted the Bike and Pedestrian Master Program, a long-term plan that identifies a comprehensive bicycle and pedestrian network and a strategy to implement the improvements over time. Over the past several years, Spokane Valley has been implementing the program through the construction of new multi-use trails, bike lanes, signage, and sidewalks.

No Action, Citizen Focus, and Community Prosperity Alternatives

Each of the alternatives include policy support to continue implementation of the Bike and Pedestrian Master Program including connections to the regional trail network. However, the No Action alternative would continue its policy support through an independent element. Both the Citizen Focus and Community Prosperity alternatives integrate the Bike and Pedestrian Master Program into the plan where appropriate, generally the Transportation Element, but other elements like Land Use, Economic Development, and Housing may include related components.

All alternatives would continue implementing development standards and City funding priorities for non-motorized project implementation are the same for all alternatives. Overall, the infrastructure to support non-motorized travel and the resulting environment for biking and walking is expected to improve for all alternatives by 2037. Therefore, no significant adverse impacts are identified for non-motorized travel for any alternative and no mitigation measures are necessary.

Public Transit

Public transit in Spokane Valley is provided by the Spokane Transit Authority (STA), which is a regional agency that provides transit throughout the Spokane metropolitan area. STA has a comprehensive long-range plan for transit called *Connect Spokane*. This document outlines a vision for transit in the region, goals/policies related to transit service, and a map of future high performance transit routes.

Spokane Valley supports transit through policies to maintain reasonable roadway operations, commute trip reduction programs[5], and planning/permitting support for transit infrastructure projects. This type of support would continue for all three alternatives, however, the land use patterns have different implications as described below. Overall, all the alternatives would result in a beneficial outcome for transit service in Spokane Valley and no mitigation measures are necessary.

No Action Alternative

Under the No Action alternative, growth would continue following past trends. The high density residential zones along Sprague Avenue and Pines Road north of I-90 would likely see continued development. The area around the new City Hall area is likely to see additional development activity as well. As noted in the land use section, substantial single-family infill development is not expected. The additional higher-density development is expected to have beneficial impacts on transit by encouraging additional ridership on existing and planned transit routes.

Citizen Focus Alternative

The Citizen Focus alternative is very similar to the No Action alternative in terms of development impacts to transit. Under this alternative, there is somewhat greater potential for transit-supportive development along the Sprague Avenue corridor because of rezoning from medium to high density residential.

Community Prosperity Alternative

The Community Prosperity alternative closely aligns with the land use/transit goals of Connect Spokane by emphasizing infill development and higher density mixed-use development along existing and planned transit routes. Specifically, the areas along the major north-south arterials, south of Sprague Avenue between the Appleway Trail and 4th Avenue; and near Broadway Ave and Shamrock Road will see more transit-supportive development than the other alternatives. These areas roughly align with STAs proposed High Performance Transit network and existing transit centers.

[5] Spokane Valley has an adopted Commute Trip Reduction Implementation Plan Update: 2015-2019 that outlines a series of actions that the Valley will coordinate with CTR employers to assist in meeting city-wide mode share goals.

Freight and Rail Travel

Spokane Valley is situated along major national freight corridors for both trucks and trains. The City of Spokane Valley is also home to a substantial number of manufacturing and distribution facilities that rely on freight corridors, these areas are generally located between I-90 and the Burlington Northern Santa Fe (BNSF) tracks.

No Action, Citizen Focus, and Community Prosperity Alternatives

All the alternatives include policy support to continue the implementation of key elements from Bridging the Valley, a major freight and safety enhancement proposal for the Spokane Region. Specifically, Spokane Valley supports the continued efforts to grade separate the BNSF mainline from major roadway crossings like Pines Road and Barker Road. Grade separation projects enhance the speed and reliability of rail freight by reducing the number of conflicts with vehicle traffic. All alternatives also have policies to maintain reasonable roadway operations to ensure access between businesses and the national freight networks.

As noted in the Roadway Travel section above, the Citizen Focus and Community Prosperity alternatives include a revised LOS standard this change is not expected to have a substantial impact on freight travel as most freight movement occurs outside of the peak commute period. Overall, there are no significant adverse impacts to freight and rail travel anticipated for any of the alternatives. No mitigation is necessary beyond the measured identified for roadway travel identified in the mitigation measures.

Highways of Statewide Significance

Spokane Valley has one highway of statewide significance (HSS), I-90, that runs through the City. While the Valley's LOS policies do not apply to HSS facilities, the GMA requires that the Comprehensive Plan EIS evaluate the performance of the HSS facilities within Spokane Valley. This section summarizes the results of the I-90 analysis.

No Action, Citizen Focus, and Community Prosperity Alternatives

LOS for freeway segments are also defined by the Highway Capacity Manual. WSDOT has a LOS D standard for the freeways within the urban Spokane area. Below is the 2040 PM peak hour LOS result for I-90 just east of Argonne/Mullan, where the freeway narrows to three lanes in each direction:

Table 13: Freeway LOS Results: Segment between Argonne/Mullan and Pines Road – 2040 PM Peak Hour

Alternative	PM Peak Hour Volume		Density (vehicles per lane per mile)		LOS	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
No Action	4,845	4,586	29.9	28.0	D	D
Citizen Focus	4,877	4,590	30.1	28.0	D	D
Community Prosperity	4,930	4,591	30.5	28.0	D	D

As shown in Table 13, all freeway segments are expected to operate at an acceptable LOS and no significant adverse impacts to HSS facilities are expected. No mitigation is required.

Mitigation Measures

This section summarizes the mitigation measures identified to address the roadway travel impacts described above. While no impacts or mitigation were defined for transit, pedestrian, bike, or freight modes, it is important to recognize that the City is expected to continue investing in these modes, often with grants and funds from state, regional, and federal sources. Therefore, future Transportation Improvement Plan lists are likely to include improvements for these modes and projects like the mitigation measures outlined below.

Based on the results of the roadway travel impacts, a mitigation measure project list, Table 14, has been identified to reduce the significance of the roadway travel impacts.

Table 14: Mitigation Project List

Intersections	Description
Fancher/Broadway	Widen to include east and westbound left-turn lanes and remove split phase
Argonne/Trent	Add a second westbound left-turn lane
SR 27/16th Ave	Widen to include east and westbound left-turn lanes and remove split phase
Theirman/Appleway	Optional intersection reconfiguration: remove one lane of eastbound approach on Appleway; do not allow left turns off Appleway or right turns off Sprague; Sprague and Appleway through movement timed to run concurrently; extend Davis St through between Sprague and Appleway (southbound only with bike lane). The final configuration of this intersection will be determined as part of the North Spokane Corridor project.
Barker/Sprague	Signalize intersection/roundabout
Evergreen/32nd	Signalize intersection/roundabout
Bowdish/32nd	Signalize intersection/roundabout
Sullivan/Indiana	Add a second westbound left-turn lane
4th/Pines	Intersection Improvements (e.g., traffic signal, turn lanes, access control, etc.)
4th/Evergreen	Intersection Improvements (e.g., traffic signal, turn lanes, access control, etc.)
Roadway Segment	**Description**
8th (Havana to Park)	Widen to urban 3-lane standards
Carnahan (8th to city limit)	Widen to 3-lane urban section
Sullivan (24th to city limit)	Widen to 5-lane urban section
Barker (Euclid to Appleway)	Widen to 5-lane urban section
Mission (east of Barker)	Widen to 4-lane urban arterial with turn lanes at key intersections
32nd (SR 27 to Evergreen)	Widen to 4-lane urban arterial with turn lanes at key intersections
Sullvan (Kiernan to Wellesley)	Widen to 5-lane urban section
Barker (Appleway to city limits)	Widen to 3-lane urban section
Flora (Indiana to Sprague)	Widen to urban 3-lane section; consider limiting left-turn access between Indiana and Broadway
Mission (Flora to Barker)	Widen to 3-lane urban section
Conklin (Broadway to Sprague)	Widen to 3-lane urban section
Valleyway (Adams to Flora)	Widen to 3-lane urban section
Transportation System and Demand Management (Non-Capacity Projects)	**Description**
Intelligent Transportation Systems	Continue implementing Intelligent Transportation Systems (ITS), which include signal coordination, adaptive signal control, incident reporting, and other technologies. Coordinate with the Regional Transportation Management Center.
Commute Trip Reduction and Transportation Demand Management Programs	Implement the Spokane Valley Commute Trip Reduction Implementation Plan Update: 2015-2019. Work with employers to provide information, marketing materials, training, and support to reduce drive-alone commuting to workplaces in Spokane Valley.
Coordinate with Spokane Transit Authority	Continue to work with Spokane Transit Authority to implement transit service improvements, including High Capacity Transit on major corridors in Spokane Valley to provide other options to driving.
Encourage Infill and Higher Density Development	As identified in the Land Use Element, infill and higher density development is envisioned along many of the Valley's major arterial and transit routes. This development generates fewer auto trips than comparable lower density development that is not near transit and other commercial uses.
Pedestrian and Bicycle Infrastructure	Continue to implement the non-motorized transportation network identified in the Pedestrian and Bicycle Master Program to provide other options to driving in the community.

With the improvements listed in Mitigation Project List table, intersection and roadway segment operations improve. Table 15 summarizes the intersection LOS and Figure 5 summarizes the roadway segment LOS results for the Community Prosperity alterative with mitigations.

Table 15: Community Prosperity Alternative with Mitigation - Intersection PM Peak Hour LOS Results

Intersection	Delay	LOS
1 - Argonne Rd/Trent (SR 290)	***96***	***F***
2 - Pines Rd/Trent (SR 290)	*54*	*D*
3 - Pines Rd/Mirabeau Pkwy	*41*	*D*
4 - Sullivan Rd/Wellesley Ave	*9*	*A*
5 - Sullivan Rd/Trent (SR 290) WB	*40*	*D*
6 - Sullivan Rd/Trent (SR 290) EB	*3*	*A*
7 - Argonne Rd/I-90 WB Ramp	*23*	*C*
8 - Argonne Rd/I-90 EB Ramp	*26*	*C*
9 - Mullan Rd/I-90 WB Ramp	*20*	*C*
10 - Mullan Rd/I-90 EB Ramp	*49*	*D*
11 - Pines Rd/Mansfield Ave	*33*	*C*
12 - Pines Rd/Indiana Ave	*44*	*D*
13 - I-90 WB Off Ramp (Pines Interchange)/Indiana Ave	*21*	*C*
14 - Pines Rd/I-90 EB Ramps	*44*	*D*
15 - Pines Rd/Mission Ave	*47*	*D*
16 - Mirabeau Pkwy/Mansfield Ave	28	C
17 - Mirabeau Pkwy/Indiana Ave	16	B
18 - Evergreen Rd/Indiana Ave	*25*	*C*
19 - Evergreen Rd/I-90 WB Ramps	*23*	*C*
20 - Evergreen Rd/I-90 EB Ramps	*15*	*B*
21 - Mission Connector/Mission Ave	*13*	*C*
22 - Sullivan Rd/Indiana Ave	*48*	*D*
23 - Sullivan Rd/I-90 WB On Ramp	*13*	*B*
24 - Sullivan Rd/I-90 EB Ramps	*35*	*C*
25 - Sullivan Rd/Mission Ave	*16*	*B*
26 - Sullivan Rd/Broadway	*48*	*D*
27 - I-90 WB Off Ramp (Sullivan)/Indiana Ave	38	D
28 - Barker Rd/Mission Ave	53	D
29 - Barker Rd/I-90 WB Ramp	11	B
30 - Barker Rd/I-90 EB Ramp	43	D
31 - Fancher Rd/Broadway	27	C

Intersection	Delay	LOS
32 - Thierman Rd/Broadway	29	C
33 - I-90 WB Ramp/Broadway	52	D
34 - I-90 EB Ramp/Broadway	5	A
35 - Argonne Rd/Broadway	*30*	*C*
36 - Mullan Rd/Broadway	*19*	*B*
37 - Carnahan Rd/8th Ave	28	D
38 - Fancher Rd/Sprague Ave	***62***	***E***
39 - Thierman Rd/Sprague Ave	*32*	*C*
40 - Thierman Rd/Appleway Blvd	***24***	***C***
41 - Dishman Mica Rd/Appleway Blvd	29	C
42 - University Rd/Sprague Ave	47	D
43 - University Rd/Appleway Blvd	21	C
44 - Pines Rd/Sprague Ave	***82***	***F***
45 - Evergreen Rd/Sprague Ave	*54*	*D*
46 - Sullivan Rd/Sprague Ave	***65***	***E***
47 - Barker Rd/Appleway Blvd	39	D
48 - Barker Rd/Sprague Ave	16	B
49 - SR 27/16th Ave	34	C
50 - Bowdish Rd/Dishman Mica Rd	29	C

Note: *Italicized intersections are part of a Major Arterial Corridor. LOS impacts for Major Arterial Corridors are not assessed for individual intersections, but along the entire corridor.*

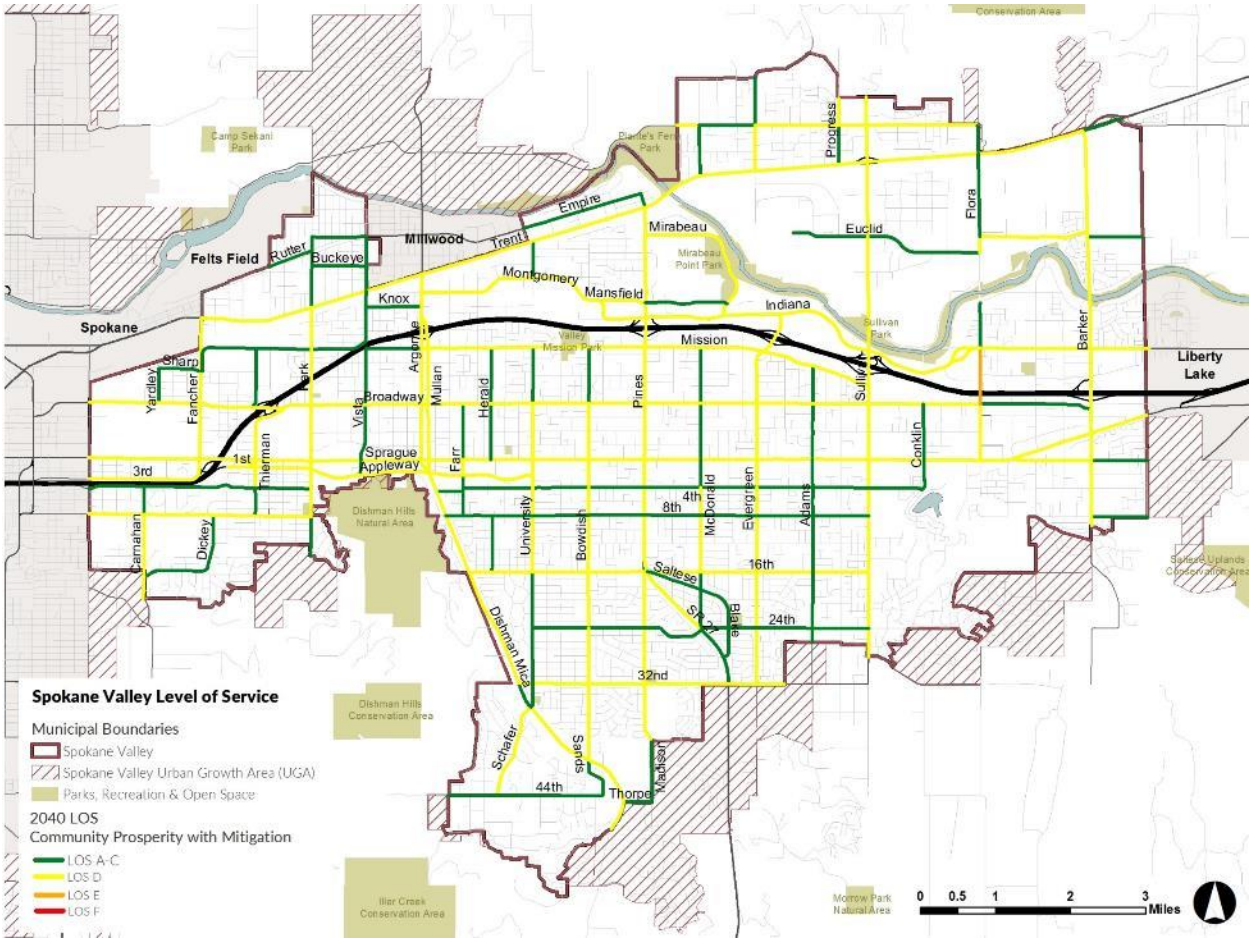


Figure 7: Community Prosperity Roadway Segment with Mitigation LOS Results

As shown in Tables 15 and Figure 5, with the mitigations in place only the segment of Flora Road between Indiana Avenue and Broadway is expected to operate at LOS E conditions, exceeding the City's LOS threshold. All of the intersections that are outside of the Major Arterial Corridors operate at LOS D or better and several of the intersections on the Major Arterial Corridors also have LOS improvements, although capacity enhancements will only be implemented to address safety concerns or after other non-capacity solutions are evaluated.

Addressing the LOS E condition on Flora Road would be an expensive project, as it would require replacement of the bridge over I-90 and close coordination with WSDOT. A close evaluation of the ADT on this segment shows that it is just over the LOS E threshold and some minor modifications to the roundabouts at Flora Road/Indiana Avenue and Flora Road/Broadway, along with some strategic access management along the corridor could result in LOS D conditions. These types of solutions should be evaluated before any widening be considered.

Significant Unavoidable Adverse Impacts

The mitigation measures described above would result in Spokane Valley meeting the new proposed LOS standard, with the possible exception of Flora Road between Indiana and Broadway. However, with the intersection improvements and access control described above, it is probable that that segment could also be managed to maintain LOS D conditions overall.

While this mitigation strategy generally meets the new LOS policy, it is important to note that the new LOS policy allows for some additional peak hour congestion and thus roadway travel impacts compared with the current LOS policy. As noted in Table 15, there are some intersections on the Major Arterial

Corridors that cannot operate at LOS D conditions without substantial and expensive intersection widening projects that would have a major impact on surrounding property owners. While the City of Spokane Valley may ultimately pursue some additional widening at these locations, it is not in the best interest of the City to have a policy that compels such expensive and disruptive intersection construction projects. Therefore, we find that the change in LOS policy could result in a significant and unavoidable adverse impact to roadway travel for all alternatives. We believe that the tradeoff in accepting slightly more peak hour traffic congestion is justified based on the cost savings, improvement to urban form, and reduced property owner impacts.

1.4: Housing Analysis

Under all Alternatives the City of Spokane Valley would experience additional development in order to accommodate new residents and jobs. The new development would lead to new housing both single-family and multifamily as compared to existing conditions. The impacts related to housing are discussed in more detail in the following sections. The impacts are expected to be similar for the No Action and Citizen Focus alternatives; any differences between these two alternatives are noted.

Housing Location

No Action and Citizen Focus Alternative

Under the No Action and Citizen Focus alternatives, future housing would be accommodated by existing designations: Low Density Residential – LDR (6 units per acre), Medium Density Residential – MDR (12 units per acre), High Density Residential – HDR (22 units per acre), Corridor Mixed Use – CMU (22 units per acre), and Mixed Use Center – MUC (22 units per acre).

Table 6 shows the number of acres by designation that accommodates housing for the No Action and Citizen Focus alternatives. It also shows as a percentage of total land, including non-residential designations, which can accommodate housing. The Citizen Focus alternative removes land from the LDR and MDR designations (identified in *italics*) and adds land to the HDR and CMU designations (identified in **bold**), for additional information see the Land Use Conversion section of this document.

Table 14: Housing Designations Comparison No Action and Citizen Focus

Designation	No Action Acres	No Action % of Total	Citizen Focus Acres	Citizen Focus % of Total
LDR	10,866.89	54%	*10,821.72*	54%
MDR	826.64	4%	*808.25*	4%
HDR	796.46	4%	**858.65**	4%
CMU	836.28	4%	**840.18**	4%
MUC	692.55	3%	692.55	3%

Figure 4 shows those designations that accommodate housing. The No Action alternative assumes that the location of existing designations that accommodate housing would remain the same. The Citizen Focus alternative assumes minor increase of CMU (about 4 acres) and a bigger increase in HDR (about 62 acres). The location of these increases are adjacent to higher intensity designations, so the impacts to are minimal. The majority of HDR increase in the Citizen Focus alternative is proposed along Broadway Avenue east of Sullivan Road, the exact location of this change can be found in the land use section above and its transportation impacts are discussed in the transportation section.

New single-family dwellings would continue to be added on vacant lands and on partially developed lands where lots can be further subdivided. No new areas are designated for single-family development. It's not expected any significant impacts would result from the location of housing.

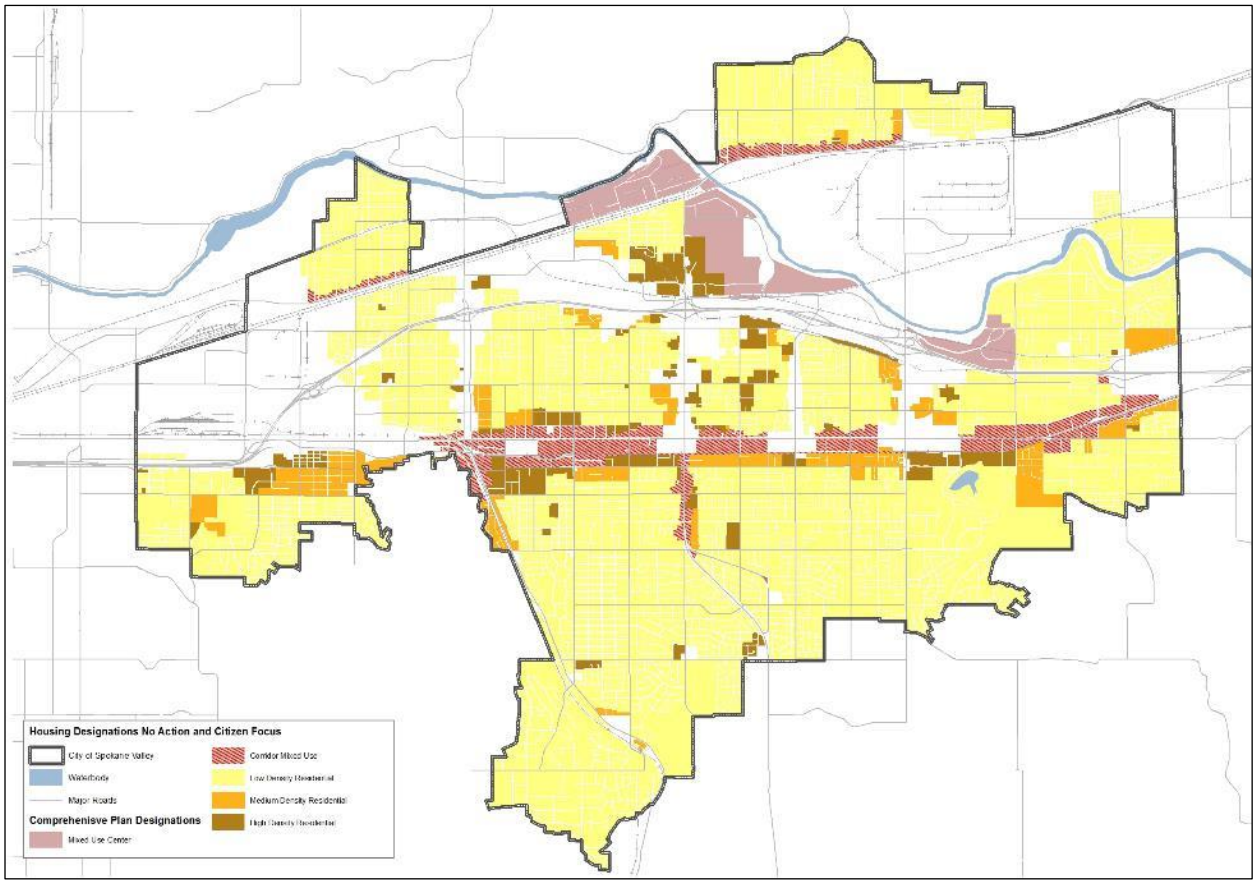


Figure 8: Housing Locations No Action and Citizen Focus Alternatives

Community Prosperity Alternative

Under the Community Prosperity alternative, future housing would be accommodated by the following designations: Single Family Residential – SFR (6 units per acre), Multiple Family Residential – MFR, Corridor Mixed Use – CMU, and Mixed Use– MU. The Community Prosperity alternative assumes that there would not be a density limit in the MFR, CMU and MU designations in locations with access to services like open space and parks and public transit.

Table 7 shows the number of acres by designation that accommodates housing for the Community Prosperity and No Action alternatives. It also shows as a percentage of total land, including non-residential designations, which can accommodate housing. It shows increased acreages in **bold** and decreased acreages in *italics*.

The Community Prosperity alternative MFR designation includes all existing HDR and most MDR, but as the table indicates the amount of land designated multiple family in the Community Prosperity alternative is lower than the No Action alternative. However, the Community Prosperity substantially increases the amount of CMU, which allows multiple family development. It's likely the CMU designation will see increased multiple family development.

Table 15: Percentage of Land for Residential Use

Community Prosperity Designations (2016)	Acres	% of Total	No Action Designations (2006)	Acres	% of Total
Single Family Residential (SFR)	**10,921**	**54%**	Low Density Residential (LDR)	10,867	54%
Multiple Family Residential (MFR)	*1,261*	*6%*	Medium Density Residential (MDR)	827	4%
			High Density Residential (HDR)	796	4%

Corridor Mixed Use (CMU)	**1,621**	**8%**	Corridor Mixed Use (CMU)	836	4%
Mixed Use (MU)	*684*	*3%*	Mixed Use Center (MUC)	693	3%

Source: City of Spokane Valley, 2016.

Figure 5 shows the locations of those designations that accommodate housing. The Community Prosperity alternative is similar to the No Action and Citizen Focus alternatives in where housing is allowed; however, the Community Prosperity alternative designated major north-south corridors (Argonne, Pines, and Evergreen) as CMU. This change from Office to Corridor Mixed Use, opens those corridors to multiple family development where it was previously prohibited. Another new multiple family location is along 4th Avenue near Havana.

New single-family dwellings would continue to be added on vacant lands and on partially developed lands where lots can be further subdivided. No new areas are designated for single-family development, these areas are seen in Figure 5 as yellow. It's not expected any significant impacts would result from the location of housing.

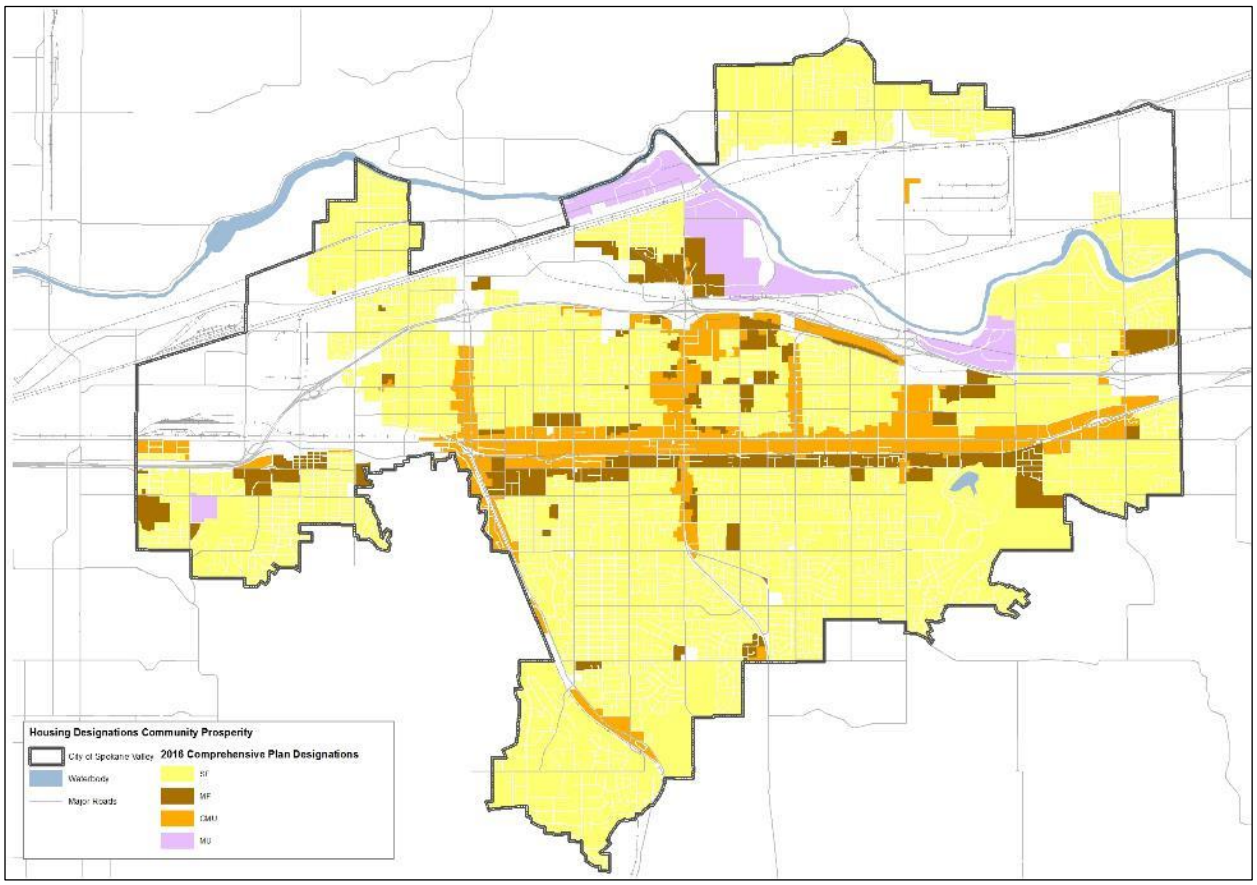


Figure 9: Community Prosperity Housing Locations

Housing Affordability

One of the goals of GMA is to provide Washington residents with affordable housing options. In general attached dwellings are often more affordable than single-family detached dwellings. All the alternatives would add single-family and multifamily dwellings in Spokane Valley, but the Citizen Focus and Community Prosperity alternatives would provide more opportunity for multifamily dwellings as discussed below.

No Action Alternative

Under the No Action Alternative, residential development would continue in accordance with the trends of the existing Comprehensive Plan. Residential development would likely intensify in the future as compared to exiting conditions as partially used or vacant lots were developed. However, the No Action Alternative would provide less residential development than under either the Citizen Focus or Community Prosperity alternatives. Most the development would occur as single-use, lower density residential development than under the action alternatives.

Citizen Focus Alternative

Under the Citizen Focus alternative, residential development would generally be similar to the No Action alternative with a few exceptions. Figure 6 shows those areas that the Citizen Focus alternative changes the designation from the No Action alternative to increase multiple family housing opportunities. The Citizen Focus alternative proposed approximately 62 acres of new HDR designated land, at 22 units per acre this could potentially result in 1,364 dwelling units over the No Action alternative.

In addition to multiple family opportunities, the Citizen Focus alternative also includes policy changes to allow for a variety of housing types, like tiny homes, cottage homes, accessory dwelling units. There are also policies to reduce the minimum lot size in a new zone called SFR-3, a consolidation of the existing R-3 and R-4 zones. While the policy does not increase density it's expected that the decreased lot size enhances flexibility and would increase the number of single family lots developed in the City and increase affordability.

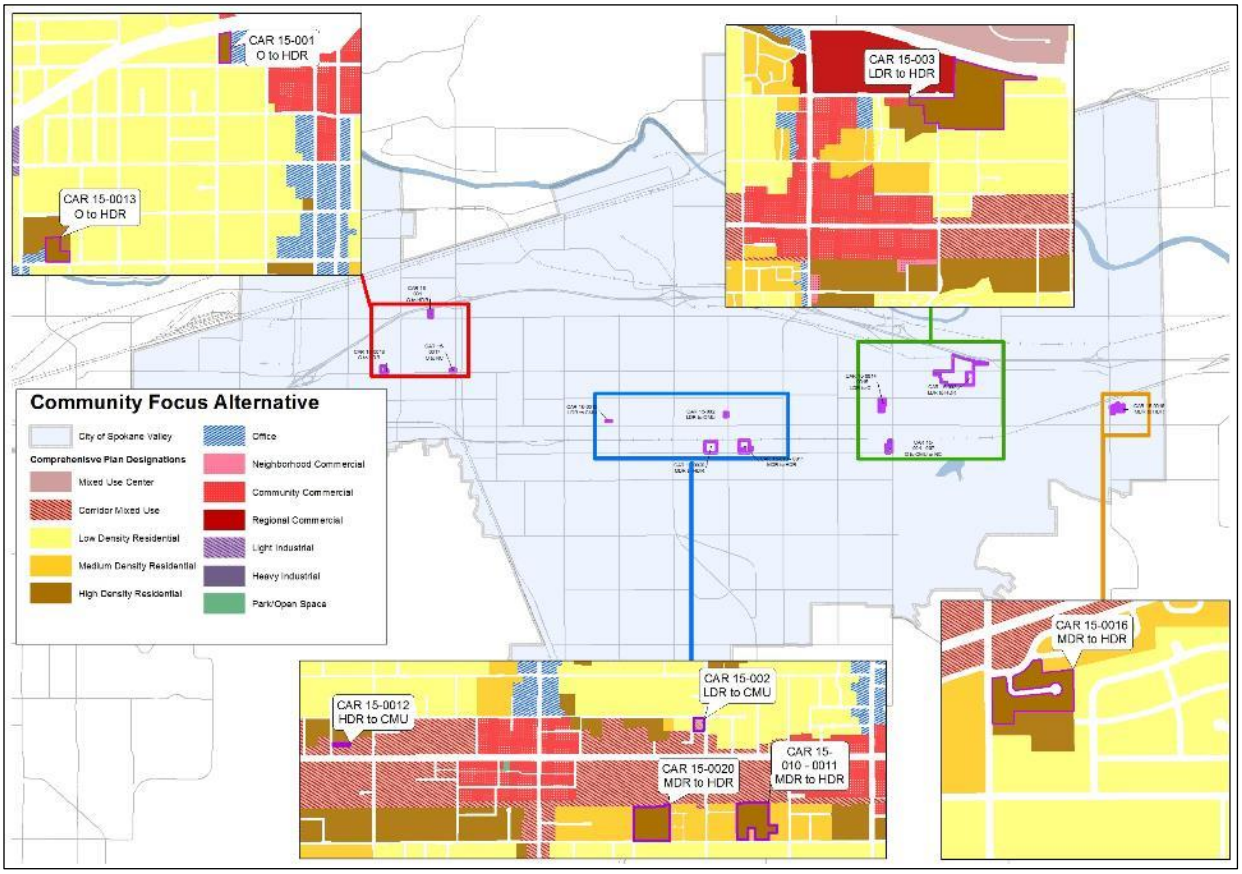


Figure 10: Citizen Focus Multiple Family Expansions

Community Prosperity Alternative

Under the Community Prosperity alternative, single-family residential development would generally be similar to the No Action alternative. Like the Citizen Focus alternative, the Community Prosperity alternative includes policies to reduce the minimum lot size in a new zone called SFR-3, a consolidation of the existing R-3 and R-4 zones. While the policy does not increase density it's expected that the decreased lot size enhances flexibility and would increase the number of single family lots developed in the City and increase affordability.

The Community Prosperity includes the eliminating the MDR designation and allocating portions of that designation into other residential and mixed use designations. Table 8 shows the relationship of residential land between the Community Prosperity and No Action alternatives. The table shows a loss of 362 acres multiple family land; however, the alternative has an increase of 785 acres for the Corridor Mixed Use designation, which allows multiple family development. It is not expected that all of the new CMU land would develop with multiple family type development, but it's likely that CMU will see an increase in multiple family development especially where it took the place of Office.

Another policy change assumed by this alternative is the removal of density limitations for multiple family development. Instead where multiple family development is allowed the MFR, CMU, and MU designations, a set of transitional provisions would drive the number of units developed. For the sake of analysis the analysis – especially transportation, assumes up to 40 units per acre.

Table 16: Community Prosperity Acres for Residential Uses Comparison

Community Prosperity Designations (2016)	Acres	No Action Designations (2006)	Acres	Difference
Single Family Residential (SFR)	10,921	Low Density Residential (LDR)	10,867	54
Multiple Family Residential (MFR)	1,261	Medium Density Residential (MDR)	827	(362)
		High Density Residential (HDR)	796	
Corridor Mixed Use (CMU)	1,621	Corridor Mixed Use (CMU)	836	785
Mixed Use (MU)	684	Mixed Use Center (MUC)	693	(8)

Housing Capacity

No Action and Citizen Focus Alternatives

Based on the Residential Land Capacity Needs[6], the No Action and Citizen Focus alternatives have an estimated population capacity of 19,980 and estimated dwelling unit capacity of 9,076. The City has adopted a population target of 14,650 as recommended by Steering Committee of Elected Officials for Spokane County.

The No Action and Citizen Focus alternatives have a potential surplus of 2,697 dwelling units within the 20-year planning horizon. This estimate is based on a total estimated housing need of 6,379 (3,962 single family and 2,417 multiple family) in 2037, and a total capacity of 9,076 dwelling units, and the following assumptions:

- 14,650 people will need housing by 2037
- 2.5 people per single family unit and 2.0 people per multiple family unit
- 67% of future dwelling units will be single family (based on 2016 Office of Financial Management estimates)

[6] ECONorthwest Memorandum, June 24, 1015, Subject: Spokane Valley Residential Land Capacity Needs

- 33% of future dwelling units will be multiple family (based on 2016 Office of Financial Management estimates)

Table 17: Estimated Housing Capacity for the No Action and Citizen Focus Alternatives

	Forecast Need Population (2037)	Percent Share of Housing	People / Unit	Forecast Need Housing (2037)
Single Family	14,650	67%	2.5	3,962
Multiple Family	14,650	33%	2.0	2,417

Community Prosperity Alternative

The Community Prosperity alternative estimates population capacity of 21,852 and estimated dwelling unit capacity of 9,784. The higher capacity is due to the conversion of Medium Density Residential to designations that allow higher densities (this change is discussed in the land use section of this analysis). Using the same population target and assumptions identified in No Action and Citizen Focus alternatives, the Community Prosperity alternative has a potential surplus of 3,405 housing units (total capacity 9,784 minus total estimated need 6,379).

Mitigation Measures

Proposed changes to the City of Spokane Valley's Comprehensive Plan land use map, land use designations, goals, policies to address potential housing impacts include:

- The adoption of residential housing options that allow a diverse range of housing types, including cottage housing, accessory dwelling units, tiny homes.
- Amended residential development standards to support infill and redevelopment opportunities.
- Adopt policies to support ongoing work efforts with partner agencies to provide housing services for special populations such as those living in poverty, the elderly, disabled, and mentally ill.

Significant Unavoidable Adverse Impacts

No significant impacts on housing are expected with implementation of the mitigation measures.

1.5 Natural Environment

Under all of the EIS Alternatives, the City of Spokane Valley would experience increased development in order to accommodate new residents and employment in the City. This new development could have impacts on various elements of the natural environment including: earth; air; water; and plants and animals. . This section includes a brief discussion of these additional elements of the environment and the potential impacts resulting from development that occurs pursuant to each of these alternatives. This section considers each of the elements of the natural environment as a group and at a level of detail appropriate to the scope of this non-project proposal.

The Natural Environment Element of the Comprehensive Plan describes existing conditions of the elements of the natural environment in the City. In summary, the majority of Spokane Valley is already developed for residential, commercial, and industrial uses, leaving only limited opportunities for unaltered natural environment. Majority of the undeveloped areas within the City are located along the Spokane River and local streams including associated riparian areas and wetlands. There are about 326 acres within the shoreline buffer, approximately 60 percent of this area is publically owned and maintained as public open space.

These elements of the natural environment that constitute the majority of the undeveloped and unaltered natural environment in the city are located in the shoreline and are more specifically described and evaluated in the City's extensive analysis prepared for the 2015 Shoreline Master Program Update. The relevant documents include the City's Shoreline Master Program, dated September 3, 2015 and the following supporting documents: Inventory and Characterization Report, dated September 7, 2010; No Net Loss Report, dated May 31, 2013; and Cumulative Impacts Analysis, dated September 26, 2014. These documents are incorporated by reference and are made available for public review at the Spokane Valley Planning Department, City Hall 11707, East Sprague Ave #106. In summary, these documents describe the elements of the natural environment within the riparian corridor of the Spokane River and the extensive state ownership of many of those areas. They explore in detail the Spokane River in segments and characterize ecological functions of the natural elements of the environment within each segment (including biodiversity, native plant and animal community integrity, etc.). The Shoreline Master Program and its associated supporting documents, which are unchanged by the underlying proposal, ensure no net loss of existing ecological functions and values. Accordingly, the Shoreline Master Program is the regulatory mechanism that provides adequate protection for the majority of the undeveloped areas within the City.

More generally, the Natural Environment Element of the draft Comprehensive Plan describes existing air quality conditions and designates and identifies the location of specific elements of the natural environment throughout the city, including: wetlands, aquifer recharge areas, fish and wildlife habitat areas, frequently flooded areas, geologically hazardous areas, and surface water bodies. The location of these critical areas were part of the evaluative process for land use map and development regulation changes proposed in the preferred alternative.

As described below, it is not anticipated that development pursuant to any of the alternatives will have significant adverse impacts on the natural environment, in light of the existing conditions of the natural environment in the City. Additionally, development pursuant to the Citizen Focus and Community Prosperity Alternatives will be consistent with updated development regulations, including critical areas regulations that are expressly designed to protect those aspects of the natural environment.

No Action Alternative

Development under the No Action Alternative would continue under existing policies and development regulations. The alternative would continue to see increases of residential, commercial, and industrial development over present conditions. This alternative assumes no changes to the existing development regulations, including the critical area regulations, which under the other alternatives have been updated to include best available science. However, the Shoreline Master Program, adopted in 2015 would protect critical areas within shoreline jurisdiction, where the majority of undeveloped areas exist. The existing

critical areas ordinance under current code that currently applies in areas outside of the shoreline jurisdiction is a holdover from the City's incorporation in 2003 and has not been updated to incorporate best available science.

Citizen Focus and Community Prosperity Alternatives

New development under the Citizen Focus and Community Prosperity alternatives would occur under a new set of development regulations. Residential, commercial, and industrial development is expected to intensify in the future as compared to exiting conditions and the No Action alternative. In addition to minor housekeeping amendments, the alternatives include the following amendments to the development regulations, which have been described earlier in this environmental review:

- Updated critical area regulations to incorporate best available science.
- Transitional provisions to protect lower intensity uses from higher intensity uses that include setbacks, buffering, and high limitations.
- State Environmental Policy Act Categorical Infill exemption for multi-family and mixed use development in four areas: Carnahan Infill Area, Mirabeau Infill Area, East Sprague Infill Area, and East Broadway Infill Area.
- Streamlined permitted use table with supporting supplementary standards.
- Residential housing options to allow for a variety of housing types and a diversity of housing design and development to ensure compatibility with surround single-family development.
- Eliminating density limitations in the MFR, CMU, and MU implementing zones to provide for greater flexibility.

Development pursuant to these regulations will accommodate projected population growth. That development is unlikely to have significant adverse impacts to the natural environment because the regulations facilitate development in appropriate locations that are already characterized by development where the natural environment has been altered previously. For example, development that would qualify for the infill exemption would occur, by definition, on underutilized and underdeveloped lots that are within areas of existing development. Similarly, elimination of density limitations to provide for greater flexibility will increase development in altered areas, outside of the natural environment. Most importantly, any development will be consistent with updated critical areas regulations that incorporate best available science and are designed to mitigate impacts to the natural environment, for example, development in the Carnahan Infill Area where there is identified flooding issues.

Mitigation Measures

Both the Citizen Focus alternative and the preferred alternative proposed as presented in the Comprehensive Plan and supporting development regulations accommodate projected growth while mitigating any impacts to the natural environment, in particular through adoption of updated critical areas regulations. No additional mitigation measures are necessary. While the No Action alternative would allow development in altered areas and would continue to protect the majority of the unaltered natural environment in the City through the existing shoreline master program, it does not include the updated critical areas regulations (including best available science) that would apply outside of the shoreline and provide important mitigation.

Finally, under any alternative, many development projects, especially those of a larger scale, will trigger project-level SEPA review in which the lead agency can evaluate impacts of the specific development be evaluated when project details are proposed.

Significant Unavoidable Adverse Impacts

No significant impacts on the natural environment are expected with the mitigation measures identified.

SECTION 2 ENVIRONMENTAL IMPACT SUMMARY:

2.1 Alternative Comparison Matrix

Alternatives

	No Action	Citizen Focus	Community Prosperity (Preferred)
ECONOMIC WELFARE			
Infrastructure investment and priority			
	Infrastructure investment is expected to progress as it has in the past consistent with adopted plans, policies and programs.	Similar to No Action but includes strategic actions to target investment opportunities and infrastructure improvements.	Same as Citizen Focus.
Site Certification			
	No change to the existing policy framework, which does not have policy support for a Certified Sites program.	New policies and actions that support pursuing a Certified Sites program in the City's north-east industrial area.	Same as Citizen Focus and creating a single industrial designation, which would allow for more industrial uses in Light Industrial areas. See Section 1 for related mitigation measures.
Retail and Tourism Strategies			
	Existing policy framework will remain the same. Recent retail and tourism policies and strategies studies would not be incorporated into the Comprehensive Plan.	Includes significant policy changes to incorporate the policies and strategies of recent retail and tourism studies, which are likely to increase retail and tourism related development. The tourism study will recommendations for several site specific project that may need separate SEPA analysis.	Same as Citizen Focus.

Alternatives

	No Action	Citizen Focused	Community Prosperity (Preferred)
LAND USE/ PLANS AND POLICIES			
Land Use Patterns			
	Land use patterns would continue as provided for in the 2014 Comprehensive Plan (initially adopted in 2006). The 2014 plan continued with the core values of neighborhood preservation growing and preserving the economy, and responsive and consistent regulations. The land use patterns will continue with low density residential uses predominately to the south with a mix of commercial development along Sprague Ave. The underused office corridors along Argonne and Pines north of Sprague would remain as office. Along the south side of river from Pines to Flora would continue as the major hub for mixed use commercial on the north side of the river would continue as the major industrial center. Higher density residential would continue mixed throughout the city generally adjacent to commercial and office uses especially south of Sprague.	Similar to No Action with very minor site specific changes.	The land use patterns are generally similar to both No Action and Citizen Focus alternatives with a couple notable differences. The first difference is allowing non-office development in the underperforming office corridors. Another difference is increasing the density of multi-family development south of Sprague. With the implementation of associated zoning provisions, this alternative will also see increased single-family infill development; however, this development will be at the same density of the No Action and Citizen Focus alternatives.
Land Use Designations and Zoning			

	This alternative assumes no change from the 2006 adopted future land use and zoning map.	Similar to the No Action alternative with about 72 acres converting from a lower intensity designation to higher density designation, nearly 86% of the change is converting from low density single-family (6 units per acre) or medium density multifamily (12 units per acre) to high density multifamily (22 units per acre)	The Community Prosperity proposes several changes to the future land use and zoning map. The changes are summarized, below: • **Name Changes** – some of these changes are a consequence of combining designations (light and heavy industrial become Industrial). Other Mixed Use Center changed to reflect the intent better (Mixed Use). • **Designation Elimination** – an effort was made to eliminate redundancies, streamline wording, and remove inefficiencies. The Office and Commercial designations changed to Corridor Mixed Use and the Medium Density Residential (a multi-family designation) changed to Multi-Family Residential • **New Designation** – a new Industrial Mixed Use designation was created to accommodate the industrial like character along Trent Avenue (changed from Corridor Mixed Use) • **Other Changes** - this alternative designated the Appleway Trail as Parks and Open Space and similar housekeeping changes like removing split designations.

	No Action	Citizen Focused	Community Prosperity (Preferred)
Population			
Population Allocation/ Target			
	The No Action Alternative accommodates the City's 20 year population allocation of 14,650 for a total population of 109,913 in 2037.	Same as No Action.	Same as No Action.
Preservation of Neighborhoods			
	The existing regulations and protections for neighborhoods would remain the same; these include a relational setback which requires building heights to be stepped back from the property line.	Includes new regulations to protect lower intensity designations from higher intensity designations, for example, single family from multi-family. These regulations build on the existing relational setback adding buffers and screening and/or allowing smaller buildings along property line in effort to protect neighborhoods.	The same as the Citizen Focus alternative, and the use of the Categorical Infill exemption where services are available and higher intensity development is planned for and can be accommodated.

Alternatives

	No Action	Citizen Focus	Preferred
TRANSPORTATION			
Roadway Travel			

	The No Action alternative would result in LOS impacts at the following intersections and roadway segments: • SR 27/16th Avenue • Barker Road/Sprague Avenue • Mission Avenue between Barker Road and Liberty Lake • Barker Road between Euclid Avenue and I-90 • Sullivan Road south of 24th Avenue • 32nd Avenue between SR 27 and Evergreen Road There other intersections and roadway segments that are operating at LOS E or F, as shown in Table 9, but these locations are subject to the proposed corridor LOS standard. If the existing intersection only LOS were considered, then these additional locations would fail to meet the intersection only LOS, and require additional mitigation.	The Citizen Focus alternative would result in LOS impacts at the following intersections and roadway segments: • Fancher Road/Broadway • SR 27/16th Avenue • Barker Road/Sprague Avenue • Mission Avenue between Barker Road and Liberty Lake • Barker Road between Euclid Avenue and I-90 • Barker Road between Sprague Avenue and 8th Avenue • Flora Road between Indiana Avenue and Broadway • Sullivan Road south of 24th Avenue • 32nd Avenue between SR 27 and Evergreen Road There other intersections and roadway segments that are operating at LOS E or F, as shown in Table 9, but these locations are subject to the proposed corridor LOS standard. Mitigation measures to address the roadway travel impacts are listed at the end of this chapter.	Same as Citizen Focus alternative
Non-motorized Travel			

	The No Action alternative would continue support of non-motorized travel through the Bike and Pedestrian Master Program as an independent element of the Comprehensive Plan. Implementation of that element will continue through the construction of new multi-use trails, bike lanes, signage, and sidewalks.	The Citizen Focus alternative would continue the support of non-motorized travel similar to the No Action alternative, however, the components of the Bike and Pedestrian Master Program have been incorporated into other various elements of the Comprehensive Plan notably the Transportation Element and the Economic Development Element.	Same as Citizen Focus alternative.
Public Transit			
	Growth would continue consistent with past trends with higher density residential development occurring along Sprague and Pines Road north of I-90. However, development is likely to occur at a slower pace since new higher density multiple-family development would require an associated rezone request. However, these areas are generally along existing and planned transit routes.		
Freight and Rail Mobility			
	Includes policy support for implementing Bridging the Valley, a major freight and safety enhancement proposal for the Spokane Region that aims to reduce the number of conflicts with vehicle traffic. Includes policies to maintain roadway operations to ensure access between businesses and the national freight networks.	Same as No Action alternative.	Same as Citizen Focus alternative.

Alternatives

	No Action	Citizen Focus	Preferred
HOUSING			
Housing Location			
	Future housing would be accommodated by the existing designations in their existing locations. The majority of land within, 54% is designated Low Density Residential followed by 4% Medium Density Residential, High Density Residential, and Corridor Mixed Use. Mixed Use Center is 3% of – MUC (22 units per acre). There is a one-to-one relationship between comp plan designations to zoning districts for all designations except Low Density Residential which has four implementing zones R-1, R-2, R-3, and R-4.	Generally the same as the No Action alternative but with minor shifts from one designation to another. These shifts include reducing Low Density Residential by about 45 acres and reducing Medium Density Residential about 20 acres and increasing High Density Residential by about 61 acres and Corridor Mixed use by about 4 acres. The alternative also includes policy changes that reduce the number of Single Family zones to three (R-1, R-2, and R-3), and in the R-3 zone allow for a minimum lot size of 5,000 square feet but retain the density limit of 6 units per acre. (This change accommodates the unique development pattern of the City allowing for easier infill development.)	The Community Prosperity alternative several changes to streamline the comprehensive plan and implementing regulations: • Rename the High Density Residential to Multiple Family Residential (MFR). • Eliminating the Medium Density Residential designation, and absorbing the majority of designation into the new MFR designation. • Reduce the number of multiple family zones to one. • Reduce the number of single family residential zones to three (R-1, R-2, and R-3) • Allow for a 5,000 square foot lot size in the R-3 zone but retain the 6 units per acre density. (This change accommodates the City's unique development pattern for infill development.)

Housing Affordability			
	The development of housing and the provision of housing would occur under the existing policy framework. While residential development would continue, vacant and partially used lots would likely continue to be a challenge to single family development. The Medium Density Residential designation which is not marketable under existing standards would likely remain vacant. In general it's expected housing affordability would be reduced.	This alternative would provide for affordable housing similar to the No Action alternative in regards to single family development but would see increased multiple family development in areas that were designated High Density Residential from other designations. This alternative includes policy changes to allow for a variety of housing types like tiny homes, cottage housing, and accessory dwelling units. This alternative also includes policy changes that would allow for a smaller minimum lot size but retain the density limit of 6 units per acre. (This change accommodates the unique development pattern of the City allowing for easier infill development.)	This alternative would be similar to the Citizen Focus but would provide substantially more multiple family development by converting most of Medium Density Residential to a higher density multiple family designation and a mixed use designation.
Housing Capacity			
	There is a potential surplus of 2,697 dwelling units within the planning horizon. Based on a total estimated housing need of 6,379 for 2037 and a total capacity of 9,076 dwelling units.	Same as No Action	This alternative has a higher total dwelling unit capacity of 9,783 due to the conversion of Medium Density Residential to a higher allowed density and Office to Corridor Mixed Use which allows multiple family dwellings. Therefore there is greater has a potential surplus than the other alternatives - 3,404 housing units (total capacity 9,783- total estimated need 6,379).

	No Action	Citizen Focus	Preferred
NATURAL ENVIRONMENT			
	Development would continue under existing policies and development regulations, including the critical area regulations, which is a holdover from the City's incorporation in 2003 and has not been updated to incorporate best available science would not include updates to include best available science. However, the Shoreline Master Program, adopted in 2015 would protect critical areas within shoreline jurisdiction.	In addition to the No Action alternative, this alternative proposes a new set of development regulations that include the following: • Updated critical area regulations to incorporate best available science. • Transitional provisions to protect lower intensity uses from higher intensity uses that include setbacks, buffering, and high limitations. • SEPA Categorical Infill exemption for multi-family and mixed use development in four areas • Streamlined permitted use table with supporting supplementary standards. • Residential housing options to allow for a variety of housing types and a diversity of housing design and development to ensure compatibility with surround single-family development. • Eliminating density limitations in the MFR, CMU, and MU implementing zones to provide for greater flexibility.	Same as Citizen Focus alternative

SECTION 3: NOTICES

3.1 Determination of Significance and Scoping

DETERMINATION OF SIGNIFICANCE
AND REQUEST FOR COMMENTS ON SCOPE OF EIS

Description of Proposal
The Proposal is the update of the City of Spokane Valley Comprehensive Plan to meet Growth Management Act Requirements for periodic update by June 30, 2017. The Comprehensive Plan's inventory, goals, policies, and future land use map are anticipated to be updated, including the following chapters: natural environment, land use, economic development, parks, housing, capital facilities, utilities, and transportation. It's expected that the goals and policies of the 2016 shoreline master program, will be incorporated into the Plan. The update will also incorporate recent studies on retail recruitment and tourism and lodging.

Proponent
City of Spokane Valley

Location of Proposal
The planning area consists of the City of Spokane Valley and its associated urban growth area, approximately 38 square miles. The City of Spokane Valley is located in eastern Spokane County, further located by the coordinates: 47°40'24" N 117°14'22" W.

Lead Agency
City of Spokane Valley

EIS Required
The City of Spokane Valley, as the lead agency, has determined this proposal is likely to have a significant adverse impact on the environment. An environmental impact statement (EIS) is required under RCW 43.21C.030 (2)(c) and will be prepared.

An EIS that evaluates planning-level proposals, such as changes to a city comprehensive plan, is referred to as a programmatic EIS. A programmatic EIS does not evaluate the impacts associated with a specific development project; rather, it contains broader, planning level analyses that emphasize cumulative impacts, policy-level alternatives, and program-level mitigation measures. The City of Spokane Valley Comprehensive Plan Update EIS will contain programmatic analyses of potential significant impacts associated with adoption of the EIS Alternatives. Individual development projects occurring under the policies of the updated Comprehensive Plan will be subject to any SEPA review required by state, county, and city regulations.

Areas of Change
Key amendments to the Comprehensive Plan that will be considered include but are not limited to:

- Consolidation of the Neighborhoods Element into the Housing Element and Land Use Element.
- Consolidation of the Bike and Pedestrian Element into the Transportation Element.
- Policy to support the community's desire for improved connections and safety for bicycles and pedestrians.
- Incorporation of the Shoreline Master Program's Goals and Policies.
- Identification of the water system plans from the water districts serving the City of Spokane Valley and incorporation of relevant water plan information into the comprehensive plan.
- Incorporation of the Parks, Recreation, and Open Space Plan by reference.
- Changes to the Future Land Use Map and/or existing Land Use Designations. Generally the expected changes are for the Multi-family, Office, and Mixed Uses designations, and may include redesignation of property, changes to allowable intensity/ density, changes in supported uses.

- Policy to support multi-family development in areas served by transit.
- Changes to the Residential designations that increase opportunity for infill development.
- Policy to support small-scale housing types especially Accessory Dwelling Units, Micro-housing units, Cottage Style Housing, and other types of small-scale housing.
- Changes in the Neighborhood Commercial designation that would support neighborhood-oriented commercial uses.
- Changes to the Industrial designations that account for modern industrial type uses such as clean technologies and manufacturing.
- Policy that improves quality, compatibility and aesthetics of new development so that existing neighborhood character is preserved.
- Policy to support the creation of special/ unique places that focuses on community character and streetscapes.
- Policy to support regional and local economic development strategies, including Spokane Valley Chamber of Commerce Big 5 Initiatives and retail recruitment and tourism strategies.
- Policy to support and prioritize improvements to enhance freight mobility.
- Reorganization of the Plan to improve readability and efficiency.
- Other updates as required by the periodic review requirement of the Revised Code of Washington 36.70A.130

Elements of the Environment

The lead agency has preliminarily identified the following elements for analysis in the EIS: ***Transportation, Land Use, Housing, and Economic Welfare***.

Scoping and Commenting

Agencies, affected tribes, and members of the public are invited to comment on the scope of the EIS. You may comment on alternatives, mitigation measures, probable significant adverse impacts, and licenses or other approvals that may be required.

Comments on the scope of the EIS must be received **on or before 5:00 pm February 29, 2016.** The following options are available to provide comments on the scope: **1)** via email to Lori Barlow at Lbarlow@spokanevalley.org or **2)** in writing to Lori Barlow, City of Spokane Valley, 11707 E Sprague Avenue, Suite 106, Spokane Valley, WA 99216.

See City of Spokane Valley's website (www.spokanevalley.org) Comprehensive Plan Update under the Community and Economic Development Department's webpage for additional information on the Spokane Valley Comprehensive Plan Update process (www.spokanevalley.org).

Appeals

An appeal of this determination shall be submitted to the Community and Economic Development Department within fourteen (14) calendar days after the date issued. The appeal must be written and specific factual objections made to the City's threshold determination. Appeals shall be conducted in conformance with Spokane Valley Municipal Code (SVMC) 17.90 Appeals, and any required fees pursuant to the City's adopted Fee Schedule shall be paid at the time of appeal submittal. Pursuant to WAC 197-11-680, appeals shall be limited to a review of a final threshold determination.

Responsible Official

John Hohman, Community and Economic Development Director
SEPA Official
City of Spokane Valley
11707 E Sprague Ave Suite 106
Spokane Valley, WA 99216

Date: 1-29-16 Signature: _____

3.2 Draft EIS and Document Availablity

NOTICE OF ISSUANCE AND AVAILABILITY
OF THE CITY OF SPOKANE VALLEY
DRAFT 2017-2037 COMPREHENSIVE PLAN
AND DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
AND SUPPORTING DEVELOPMENT REGULATIONS

Notice is hereby given that the City of Spokane Valley has issued the Draft 2017-2037 Comprehensive Plan and Draft Environmental Impact Statement (DEIS) and supporting development regulations. The Comprehensive Plan and DEIS are an integrated document and are available for public review and comment. The updates are intended to meet the City's mandated periodic update requirements.

The City of Spokane Valley is the Lead Agency for the DEIS. The analysis was undertaken to meet the direction of the State Environmental Policy Act (SEPA). The non-project DEIS evaluates the environmental impacts of two action alternatives and a no-action alternative.

PROPONENT: City of Spokane Valley

LOCATION OF PROPOSAL: The Spokane Valley Comprehensive Plan addresses property within the City.

LEAD AGENCY: City of Spokane Valley

DRAFT CONTENTS: The City prepared an update to the Spokane Valley Comprehensive Plan and supporting development regulations to meet its periodic update requirements. The Comprehensive Plan and DEIS are an integrated document non-project programmatic Draft EIS. The Comprehensive Plan evaluates growth and land use for a 20 year planning horizon. The DEIS reviews potential impacts of proposed goals, policies, alternative land use plans, and other features of the Comprehensive Plan at a non-project programmatic level of analysis.

DRAFT COMPREHENSIVE PLAN / DEIS DATE OF ISSUANCE: September 16, 2016

REVIEW PERIOD: Following the issuance of the Draft Comprehensive Plan and DEIS, a 60-day comment period commences. The public and other reviewers are invited to comment on the draft document. You may submit written comments on the document no later than **5:00 p.m. November 15, 2016**. All written comments must be received by that date and time.

Written comments via mail or email must be submitted to:

Community and Economic Development Department
11707 East Sprague Ave., Suite 106
Spokane Valley, WA 99206
Email: mbasinger@spokanevalley.org

Please note that comments received in response to the draft document, including names and addresses of those who comment, will be considered part of the public record on this proposed action and will be available for public inspection.

PUBLIC HEARINGS SCHEDULED:
September 22, 2016 - 6:00 p.m. (Planning Commission scheduled)
November 8, 2016 – 6:00 p.m. (City Council scheduled)

DOCUMENT AVAILABILITY:
The complete 2016-2036 Comprehensive Plan and DEIS are available for download at the project website: www.spokanevalley.org/CP.

Copies of these documents are also available for public review at the following location:

Spokane Valley City Hall
11707 East Sprague Avenue Suite 106
Spokane Valley, WA 99206

Copies are also available for purchase upon advanced notice for the cost of printing (estimated at $12) from the City of Spokane Valley at 11707 East Sprague Ave., Suite 106, Spokane Valley, WA 99206.

If you have special accommodation needs, please contact the City of Spokane Valley at (509)-921-1000.

SEPA RESPONSIBLE OFFICIAL: Mike Basinger, AICP, Senior Planner

CITY CONTACT: Mike Basinger, AICP, Senior Planner

DATE: September 16, 2016

_____
Carrie Koudelka, CMC
Spokane Valley Deputy City Clerk
PUBLISH: 9-16-2016

3.3 Distribution List

City of Spokane Valley

City Officials
- Mayor and City Council
- Planning Commission

City Manager
City Clerk
City Attorney
Community and Economic Development Director
Human Resources Director
Finance Director
Parks & Recreation Director
Police Chief
Public Works Director

Other Agencies

Local

City of Liberty Lake
City of Spokane
City of Millwood

County

Spokane County Fire District No. 1
Spokane County Fire District No. 8
Spokane County Building and Planning
Spokane County Division of Utilities
Spokane County Water District No. 3

State

Department of Archeology & Historic Preservation
Department of Resource and Conservation
Department of Commerce
Department of Ecology & SEPA Register
Department of Fish & Wildlife
Department of Natural Resources
Department of Transportation
Department of Health

Tribal

Spokane Tribe of Indians

Federal

Federal Aviation Administration (FAA) – Seattle District
Federal Emergency Management Agency (FEMA), Region X
National Marine Fisheries Service - NOAA
U.S. Army Corps of Engineers – Seattle District
U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS)
U.S. Environmental Protection Agency, Region X
U.S. Department of Homeland Security, Region X

Utilities

CenturyLink
Avista Utilities
Comcast
Inland Power & Light
Consolidated Irrigation District No. 19
East Spokane Water District No. 1
Model Irrigation District No. 18
Modern Electric Water Company
Vera Water and Power
Trentwood Irrigation District
Hutchinson Irrigation District
Carnhope Irrigation District
Irvin Water District
Orchard Avenue Irrigation District #6
City of Spokane Water Service

Media

Spokane Valley Herald
Spokesman Review

Schools

Central Valley School District No. 356
East Valley School District No. 361
West Valley School District No. 363

Other

Spokane County Joint Aquifer Board
Spokane Regional Health District
Spokane Regional Transportation Council
Spokane Transit Authority
Spokane County Library District
Spokane Regional Clean Air Agency
Holiday Trailer Court
Kaiser Aluminum
Pinecroft Mobile Home Park
Spokane Business & Industrial Park

3.4 Final EIS and Document Availablity

[To be inserted after adoption]

SECTION 4 RESPONSE TO COMMENTS

4.1 Comments and Responses on the Scope

No comments were received on the scope of the EIS.

4.2 Comments and Responses on the DEIS

#	Name	Comment	Sprague and Barker	Response
1	Arthur, Andrew	I do not agree with changing anything without a proper notice, and vote by the people that live in the area.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Public Notice –** The City provided notice and opportunities for public comment consistent with local and state regulations and the City's public participation program.
2	Arthur, Ashley	This is me, my voice, saying "no" or disapproving of this "land use designation" of apartments and no restrictions building heights.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3).

#	Name	Comment	Sprague and Barker	Response
				The proposal currently under consideration by the Council includes this change. **Building Heights –** The City Council directed staff, after public testimony, to change the proposed Multiple Family zone (MFR) to include a maximum height limit of 50 feet and a maximum density of 22 units per acre. These maximum limits are the same as the existing zoning code for High Density Residential (MF-2) that was adopted in 2006. See Spokane Valley Municipal Code (SVMC) 19.70.020.
3	Calvin, Casandra and Dawud, Jamal	Against the land use and zoning change at the corner of Sprague and Barker, for the following reasons: • The area has always been a residential neighborhood, and apartments do not fit in with the rest of the community • Difficulties with traffic on Barker, that adding over 100 new residents will make the congestion so much worse. • The schools are bursting at the seams, even with the new addition to Greenacres Elementary it isn't going to add enough room for an apartment building	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Schools –**

#	Name	Comment	Sprague and Barker	Response
				As part of the development and coordination of the proposed plan all the school districts, including Central Valley School District 356 were notified of the draft plan. No school district indicated an inability to serve projected population and meet adopted level of service standards. Additionally, in 2015, the Central Valley School District passed a construction bond and received a grant to reduce class size, the projects include a new elementary school and related boundary adjustments, which increase Central Valley School District's capacity.
4	Rambo, Jay	Support of the changes to the Comprehensive Plan as it relates to the proposed re-zoning (and corresponding permitted uses) for the commercial zoning designations.	N	Comment noted
5	Clark, Marshall	Supports the proposed changes to the Comprehensive Plan and related re-zoning for commercial designations.	N	Comment noted
6	Colombo, Barbara	I am opposed to the rezoning of the corner of Barker and Sprague into high density residential, and the corridor mixed use moving further back from Appleway into residential areas.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change.
7	Cote, Kathryn	I writing this to give my concerns on the rezoning of land on the corner of Sprague and Barker. My concern is:	Y	**Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation

#	Name	Comment	Sprague and Barker	Response
		• Apartments will increase traffic and bring in crime. • Decreased property values.		Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Crime –** There is no conclusive evidence that multi-family designations, like the Multiple Family Residential, increase crime. The available data illustrates a greater connection between socio-economic status and crime than between high-density multiple family housing and crime. (Jianling Li and Jack Rainwater, "The Real Picture of Land-Use Density and Crime: A GIS Application"). **Property Values -** Changes to land use designations can increase or decrease property values. However, there is no conclusive evidence that multi-family designations, like the Multiple Family Residential, diminish property value. In fact, there is evidence that homes that are not located in multifamily areas appreciated at an average annual rate of 3.59 percent between 1987 and 1997, compared with a higher appreciation rate of 3.96 percent for houses near multifamily buildings. For the 1997- 1999 period, the figures were 2.66 percent and 2.90 percent, respectively. (National Association of Home Builders, "Multifamily Market Outlook," Washington, DC, November 2001, pp. 3-4.) Another study looked at data from the 2000 US Census and compared house values in those communities with the share of multifamily housing in those communities. The conclusion: working communities with multifamily dwellings actually have higher property values than other types of working communities; in fact, "the high multifamily areas had the highest home values, the mixed-stock areas the next highest, and the single-family areas had the lowest." (Alexander von Hoffman, Eric Belsky, James

#	Name	Comment	Sprague and Barker	Response
				DeNormandi, and Rachel Bratt, "America's Working Communities and the Impact of Multifamily Housing," Cambridge, MA: Joint Center for Housing Studies, 2004.)
8	Crapo, Dennis	Request to designate and rezone property to CMU, NW of Sands and Bowdish and south to railroad tracks.	N	**Comment noted –** This proposal is not currently under consideration. After considering public testimony, the City Council directed staff to not change the land use designation and zoning.
9	Currier, Danyel	Barker road is not ready for one more car let alone 300. On a more personal note, my house is on one acre directly in the middle of this if this were to happen it would destroy my home that we have worked so hard for.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D.
10	Mr & Mrs McLean	I would like to say NO to apartments in our neighborhood!	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that

#	Name	Comment	Sprague and Barker	Response
				would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. Comment noted
11	Neldon, Mitchell	Concerns regarding a rezoning provision that involves a parcel of land at the corner of Sprague and Barker Roads. • Surrounding this property are single family homes. Allowing development of two or three story apartments would be psychologically devastating for the effected families. • There are no grocery stores within walking distance for tenants. • Public transportation is not available to individuals with disabilities, elderly persons or anyone else who does not have access to private transportation.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Neighborhood Character –** The proposed plan and supporting development regulations include Transitional Regulations (Spokane Valley Municipal Code 19.75) that reduce potential impacts of higher intensity uses to lower intensity uses. **Daily Goods** – comment noted **Public Transit -** The intersection of Sprague and Barker is approximately 1/4 mile from Spokane Transit Authority route 98, which has approximate ½ hour weekday service and 1 hour weekend and holiday service. The intersection is also within the Paratransit Service Area which

#	Name	Comment	Sprague and Barker	Response
				offers door-to-door service for clients that meet eligibility requirements
12	Nelson, Doug	I live across from Sprague and Barker property and I didn't receive any notice and there were no signs on the property letting neighbors know that the zoning was going to be changed.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Public Notice –** The City provided notice and opportunities for public comment consistent with local and state regulations and the City's public participation program.
13	Petersen, Larry R	No to the apartments on the corner of Sprague and barker and any more changes to the land use regulations.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change.
14	Phillipson, Andy	I am **NOT** in favor of high density housing in our area. Traffic is a killer and I have not seen this city comply with the requirement of GMA is so far as infrastructure keeping up with growth	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for

#	Name	Comment	Sprague and Barker	Response
				parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Infrastructure and Growth –** The development of the comprehensive plan, including the Land Use, Transportation, and Capital Facilities elements considered available public services. Further, the City in Spokane Valley Municipal Code 22.20 requires concurrency review for projects. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D.
15	Riley, Meghan	No to changing farm land to apartments. For areas where apartments are common, there are usually higher incidence of crime, vandalism, etc. I urge those in charge to please realize as a whole, this community does not want these zonings. A park for our families? Yes. A few single family houses? Sure. But apartments? No. A strip mall? Absolutely not.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3).

#	Name	Comment	Sprague and Barker	Response
				The proposal currently under consideration by the Council includes this change. **New "Special District" such as Historical Rural Agricultural Conservation District" / Preserve Rural Character or Farm Land–** The proposed plan and supporting regulations do not anticipate these "districts". Further, the City is obligated to plan under the Growth Management Act ("GMA"), ch. 36.70A RCW. Under that law Spokane Valley is by definition an urban growth area which is required to support urban development at urban densities. To the extent that the comment requests that the City encourage rural development or rural densities within the UGA, the suggestion is inconsistent with the GMA.
16	Schultz, Kevin	Do not allow zoning for multi-story apartments to be approved for the northeast corner of Barker and Sprague. • Traffic on Barker is already pushing the capacity of the 4-way stop at the intersection. • Schools and Barker road beyond their intended capacities.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to

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				function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Schools –** As part of the development and coordination of the proposed plan all the school districts, including Central Valley School District 356 were notified of the draft plan. No school district indicated an inability to serve projected population and meet adopted level of service standards. Additionally, in 2015, the Central Valley School District passed a construction bond and received a grant to reduce class size, the projects include a new elementary school and related boundary adjustments, which increase Central Valley School District's capacity.
17	Southern, Charles and Janice	We are the current owners of parcel # 55173.1019 located on Barker Road. We are in favor of the new comprehensive plan and zoning changes. We assume that the plan will address the traffic on Barker Road and especially the intersection of Sprague Ave. and Barker Road. 2nd letter My name is Charles Southern. I own parcels 55173.1019 and 55173.1020 on Barker road which are currently zoned multi family. I would like my current zoning to stay as it is now and not be down zoned. Thank you for your attention in this matter.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to

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				function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D.
18	Walton, Matthew	Barker Road is currently under tremendous pressure from the current traffic flow and with the opening of Chapman Rd as a through road several years ago combined with the continued expansion of Morningside Heights, Barker doesn't need more traffic. In fact, I would argue that adding multi-residential zoning will unnecessarily increase the traffic congestion of South Barker Rd, create additional gridlock on the I-90 westbound onramp from Barker and create safety issues. Our neighborhood also doesn't need new high-density housing. With high-density housing comes additional short term traffic, increases in crime and a population which is generally "transient," meaning tenants who are not interested in setting down roots in their community and getting to know their neighbors. This will fundamentally change the Greenacres area in a way that will damage what makes this our home.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D.
19	Willis, Ann	We don't agree on the rezoning.		Comment noted

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20	Frederiksen, Daniel and Cassandra	Reject a request to change the zoning of the property at 4 North Barker Road - Parcel #55173.1005. • Central Valley School District is stressed and struggling to keep up with the rapid development in the area an unplanned apartment complex would impact the quality of the schools. • Public facilities and services necessary to support development are present without decreasing current service levels below locally established minimum standards. • Development of two and three-story buildings would be inconsistent with the single family character of the area and cannot be mitigated by the bulk standards in the SVMC. • The location is not conducive to multifamily development since the nearest commercial services and public transit stop is approximately 1,000 feet to the north. • The proposed amendment would increase densities from 6 dwelling units per acre up to 22 dwelling units per acre. • The proposed amendment is inconsistent with the intent of the HDR land use designation, which is to act as a buffer between residential uses and higher intensity land uses such as commercial or office uses.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Schools –** As part of the development and coordination of the proposed plan all the school districts, including Central Valley School District 356 were notified of the draft plan. No school district indicated an inability to serve projected population and meet adopted level of service standards. Additionally, in 2015, the Central Valley School District passed a construction bond and received a grant to reduce class size, the projects include a new elementary school and related boundary adjustments, which increase Central Valley School District's capacity. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Neighborhood Character –**

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				The proposed plan and supporting development regulations include Transitional Regulations (Spokane Valley Municipal Code 19.75) that reduce potential impacts of higher intensity uses to lower intensity uses. **Public Transit -** The intersection of Sprague and Barker is approximately 1/4 mile from Spokane Transit Authority route 98, which has approximate ½ hour weekday service and 1 hour weekend and holiday service. The intersection is also within the Paratransit Service Area which offers door-to-door service for clients that meet eligibility requirements **High Density Residential Designation-** The High Density Residential (HDR) designation is proposed to be replaced with the Multifamily Residential (MFR) designation. Accordingly, the intent of the HDR designation is not relevant to the proposal under consideration. Moreover, the "intent" to which the commenter refers is actually taken from the Medium Density Residential (MDR) designation from the current comprehensive plan ("Multifamily residential zones should be used as transitional zoning between higher intensity land uses, such as commercial and office, to lower density single-family neighborhoods"). The current proposal eliminates the MDR designation and implementing zone, Medium Density Residential (MF-1). Additionally, the MDR designation was not considered under any alternative for the property at Sprague and Barker. While the property at Sprague and Barker is not inconsistent with the MFR description and purpose, the City Council directed staff to retain the existing Low Density Residential and R-3 zone for this proposal considered for adoption.
21	Ewasko, Brian Anthony	Reject a request to change the zoning of the property at 4 North Barker Road – Parcel #55173.1005.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for

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		• Central Valley School District is stressed and struggling to keep up with the rapid development in the area an unplanned apartment complex would impact the quality of the schools. • Public facilities and services necessary to support development are present without decreasing current service levels below locally established minimum standards. • Development of two and three-story buildings would be inconsistent with the single family character of the area and cannot be mitigated by the bulk standards in the SVMC. • The location is not conducive to multifamily development since the nearest commercial services and public transit stop is approximately 1,000 feet to the north. • The proposed amendment would increase densities from 6 dwelling units per acre up to 22 dwelling units per acre. • The proposed amendment is inconsistent with the intent of the HDR land use designation, which is to act as a buffer between residential uses and higher intensity land uses such as commercial or office uses.		parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Schools –** As part of the development and coordination of the proposed plan all the school districts, including Central Valley School District 356 were notified of the draft plan. No school district indicated an inability to serve projected population and meet adopted level of service standards. Additionally, in 2015, the Central Valley School District passed a construction bond and received a grant to reduce class size, the projects include a new elementary school and related boundary adjustments, which increase Central Valley School District's capacity. **Neighborhood Character –** The proposed plan and supporting development regulations include Transitional Regulations (Spokane Valley Municipal Code 19.75) that reduce potential impacts of higher intensity uses to lower intensity uses. **Public Transit –** The intersection of Sprague and Barker is approximately ¼ mile from Spokane Transit Authority Route 98, which has approximately ½ hour weekday service and 1 hour weekend and holiday service. The intersection is also with the Paratransit Service Area which offers door-to-door service for clients that meet eligibility requirements.

22	Smith, Clyde and Zita (3 letters)	Against the rezone at Sprague and Barker. • The traffic on Barker Road is already very heavy and at peak hours it can back up at least a quarter mile or more. With high density multifamily buildings, basically large apartment buildings, the traffic would become horrendous. • The Central Valley School District (Greenacres Middle and Elementary, and Central Valley High Schools) are already overcrowded due to so many students living in this area. • High density multifamily development is inconsistent with the mostly peaceful quiet single family residential area. • Lack of commercial shopping services and medical facilities nearby. Property north Sprague and Barker (V. Southern) • We feel this piece of property should be rezoned back to low-density and the other piece with the mobile homes also rezoned to low density Building Heights • Do not eliminate the building heights	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Schools –** As part of the development and coordination of the proposed plan all the school districts, including Central Valley School District 356 were notified of the draft plan. No school district indicated an inability to serve projected population and meet adopted level of service standards. Additionally, in 2015, the Central Valley School District passed a construction bond and received a grant to reduce class size, the projects include a new elementary school and related boundary adjustments, which increase Central Valley School District's capacity. **Neighborhood Character –** The proposed plan and supporting development regulations include Transitional Regulations (Spokane Valley Municipal Code

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				19.75) that reduce potential impacts of higher intensity uses to lower intensity uses. **Property north of Sprague and Barker (V. Southern)** Rezone parcels 55173.1019 and 55173.1020 to SFR. No change is proposed for these two parcels. The currently adopted zoning is HDR and the proposed zoning is MF. **Building Heights –** The City Council directed staff, after public testimony, to change the proposed Multiple Family zone (MFR) to include a maximum height limit of 50 feet and a maximum density of 22 units per acre. These maximum limits are the same as the existing zoning code for High Density Residential (MF-2) that was adopted in 2006. See Spokane Valley Municipal Code (SVMC) 19.70.020.
23 / 34	Vinway	This new comprehensive plan has proposed a zone change for me at 117N. Barker to a Corridor Mix Use. **I strongly oppose this change**. • We have a traffic problem, • Overcrowding of schools, • The closest shopping is 2 miles away. • Emergency responders have a hard time getting down Barker Road • Keep the Medium Density Residential in the Sprague and Barker area – including the area west of Barker to Greenacres Road.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under

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				all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Schools –** As part of the development and coordination of the proposed plan all the school districts, including Central Valley School District 356 were notified of the draft plan. No school district indicated an inability to serve projected population and meet adopted level of service standards. Additionally, in 2015, the Central Valley School District passed a construction bond and received a grant to reduce class size, the projects include a new elementary school and related boundary adjustments, which increase Central Valley School District's capacity. **Medium Density Residential –** Preserving the existing Medium Density Residential designation and MF-1 zoning was considered under two of the No Action and Citizen Focus alternatives. The preferred alternative eliminated the Medium Density Residential designation and associated MF-1 zone based on the Housing and Economic Trends Existing Condition Report. No change to the preferred alternative regarding the Medium Density Residential designation MF-1 zone has been made.
24	Krajack, Scott	The parcel of land at the northeast corner of Barker and Sprague matches all of the criteria set by City of Spokane Valley staff, to be zoned for higher density residential development. This criteria is consistent with all of the parcels being proposed for this land use. Supports the Transitional Setbacks as proposed by draft code.	Y	Comment noted

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25	Lathan, Athlan and Rachelle	Opposed to the comprehensive plan and zoning change on the corner of Baker and Sprague to Multiple Family based on the following potential issues: • The city and county are currently experiencing staffing shortages in law enforcement. The proposed zoning plan would increase population and crime without sufficient law enforcement to handle such possibility. • The intersection of Barker and Sprague cannot handle the existing traffic and poses a safety issue for pedestrians and children walking to school. • The last and most crucial issue is our schools. Our children are already attending overcrowded school, and the elementary schools and the middle school in our community currently DO NOT have the capability to hold any more students.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Schools –** As part of the development and coordination of the proposed plan all the school districts, including Central Valley School District 356 were notified of the draft plan. No school district indicated an inability to serve projected population and meet adopted level of service standards. Additionally, in 2015, the Central Valley School District passed a construction bond and received a grant to reduce class size, the projects include a new elementary school and related boundary adjustments, which increase Central Valley School District's capacity. **Emergency Responders (Police and Fire) –**

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				As part of the development and coordination of the proposed plan both fire protection and law enforcement were provided notice of the proposed plan and supporting regulations. No service provider indicated an inability to serve the projected population and land use and meet adopted level of service standards.
26	Olson, Ryan	I support the zone change of the parcel of land at the northeast corner of Sprague and Barker in the Spokane Valley to multifamily. • This intersection is a very busy intersection in the Spokane Valley and it needs to be fixed. I believe that a traffic light will be the best solution at Barker and Sprague. • Multifamily at this site will require the installation of sidewalks, curbs and improvements to the intersection and along the property boundaries which are much needed along with providing additional funds to help improve the Barker and Sprague intersection.	Y	Comment noted **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Infrastructure and Growth –** The development of the comprehensive plan, including the Land Use, Transportation, and Capital Facilities elements considered available public services. Further, the City in Spokane Valley Municipal Code 22.20 requires concurrency review for projects.
27	Alexander, Kim	Opposes the comprehensive plan and zoning change at Sprague and Barker single home residential zoned areas into multiuse zoning areas to be used for building businesses or high density apartments or condos or plats. • Congestion is already at an all-time high with traffic on Barker road at a	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3).

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		standstill in mornings and afternoons into the evening; unsafe roads (see I-90 Barker Exit • Lack of public notification for public input about the 20 year growth plan • School over-crowding- leading to restructuring of school districts causing student displacement from home areas and more bussing • Insufficient public services including, police and fire protection, safe thoroughfares for pedestrians, students who must walk to school, bicyclers and wildlife; sewer, and, water; solid waste/landfill problems; proper drainage for run off leading to flooding; road repair/maintenance; parks/greenspace • Increase in water pollutants; increase of air pollution, heat sinks from impervious surfaces, increase in ozone and C02 during air emissions • Lake of projection for wildlife and natural area (wetlands) • Lack of public mass transit to new areas with increased population densities; • A distinct change of the face of the area from farming/agricultural/rural to over-crowded urban sub-urban city life; and decreased single family residential property values with		The proposal currently under consideration by the Council includes this change. **Schools –** As part of the development and coordination of the proposed plan all the school districts, including Central Valley School District 356 were notified of the draft plan. No school district indicated an inability to serve projected population and meet adopted level of service standards. Additionally, in 2015, the Central Valley School District passed a construction bond and received a grant to reduce class size, the projects include a new elementary school and related boundary adjustments, which increase Central Valley School District's capacity. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Non-motorized Transportation –** The proposed plan identifies recommended pedestrian and bicycle improvements, Sprague Avenue and Barker Road near and at their intersection are identified for non-motorized improvements. **Neighborhood Character –** The proposed plan and supporting development regulations include Transitional Regulations (Spokane Valley Municipal Code 19.75) that reduce potential impacts of higher intensity uses to lower intensity uses.

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		increased high density often subsidized complexes Create a "Special District" such as a "Historical Rural Agricultural Conservation District" to disallow urban growth. Opposed to charging people a use tax to ride their bicycles on the roads of the City of Spokane Valley to pay for road repairs etc		**Public Transit -** The intersection of Sprague and Barker is approximately 1/4 mile from Spokane Transit Authority route 98, which has approximate ½ hour weekday service and 1 hour weekend and holiday service. The intersection is also within the Paratransit Service Area which offers door-to-door service for clients that meet eligibility requirements **Emergency Responders (Police and Fire) –** As part of the development and coordination of the proposed plan both fire protection and law enforcement were provided notice of the proposed plan and supporting regulations. No service provider indicated an inability to serve the projected population and land use and meet adopted level of service standards. **Infrastructure and Growth –** The development of the comprehensive plan, including the Land Use, Transportation, and Capital Facilities elements considered available public services. Further, the City in Spokane Valley Municipal Code 22.20 requires concurrency review for projects. **Public Notice –** The City provided notice and opportunities for public comment consistent with local and state regulations and the City's public participation program. **Natural Environment including Wildlife –** The proposed Comprehensive Plan and supporting development regulations include updated critical areas regulations that incorporate best available science and are designed to mitigate impacts to the natural environment by development (Spokane Valley Municipal Code 21.40). Critical areas include wetlands, critical wildlife habitat, frequently flooded areas, geologically hazard areas, and critical aquifer recharge areas. Any new development will be subject to these updated critical areas regulations.

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				New "Special District" such as Historical Rural Agricultural Conservation District" / Preserve Rural Character or Farm Land– The proposed plan and supporting regulations do not anticipate these "districts". Further, the City is obligated to plan under the Growth Management Act ("GMA"), ch. 36.70A RCW. Under that law Spokane Valley is by definition an urban growth area which is required to support urban development at urban densities. To the extent that the comment requests that the City encourage rural development or rural densities within the UGA, the suggestion is inconsistent with the GMA. **Bicycle Road Tax –** The proposed plan and supporting regulation do not propose a tax on bicycle use, comment noted.
28	Torres, Oscar	Request to change the Land Use designation on parcel 45091.9100 (known as the International Church Foursquare Gospel) from Low Density Residential to Mixed Use	N	Comment noted. This request was included in the final land use map of the comprehensive plan.
29	Crace, Courtney	Disapprove of the proposed Land Use Designation change at the corner of Sprague and Barker as the proposed land use is inconsistent with the neighborhood character, overcrowding of people, increased traffic, depreciated home values, impeding natural wildlife Keep builders and developers out of Greenacres/Saltese Flats uplands, Valleyford, Mica and away from all of the gorgeous rural areas our city has to offer. There needs to be restrictions on who can buy, and what can be built; and apartments, businesses and housing developments should be banned. The	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was

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		land should be kept in large acre parcels with strict building guidelines for homeowners only.		circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Neighborhood Character –** The proposed plan and supporting development regulations include Transitional Regulations (Spokane Valley Municipal Code 19.75) that reduce potential impacts of higher intensity uses to lower intensity uses. **Natural Environment including Wildlife –** The proposed Comprehensive Plan and supporting development regulations include updated critical areas regulations that incorporate best available science and are designed to mitigate impacts to the natural environment by development (Spokane Valley Municipal Code 21.40). Critical areas include wetlands, critical wildlife habitat, frequently flooded areas, geologically hazard areas, and critical aquifer recharge areas. Any new development will be subject to these updated critical areas regulations. **New "Special District" such as Historical Rural Agricultural Conservation District" / Preserve Rural Character or Farm Land–** The proposed plan and supporting regulations do not anticipate these "districts". Further, the City is obligated to plan under the Growth Management Act ("GMA"), ch. 36.70A RCW. Under that law Spokane Valley is by definition an urban growth area which is required to support urban development at urban densities. To the extent that the comment requests that the City encourage rural development or rural densities within the UGA, the suggestion is inconsistent with the GMA.

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				Other comments noted
30	Lafrance, Rod	If I'd known of the meeting, I would have been a speaker at the meeting. Yes, I am against apartments at that location. Do what's right! A simple R4 zone.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Public Notice –** The City provided notice and opportunities for public comment consistent with local and state regulations and the City's public participation program.
31	Chalpin, Blair	Concerned about the proposed high density multi-family changes to the areas north east of Barker and Sprague, and the changing the entire block north west of Barker and Sprague to mixed use commercial is quite alarming. Opposed to the removal of limits on the number of units and structure height on any area zoned High Density. Both Sprague Avenue and Barker Road are severely undersized for the existing volume of traffic, and these roads cannot support continued increases in traffic brought by proposed zoning changes like this.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public

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		Also obvious is area schools cannot accommodate more children, especially the special needs segment. Lastly, the changes are not in character with the existing neighborhoods. A continued overdevelopment of rural Greenacres without the necessary infrastructure is not good planning.		comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Schools –** As part of the development and coordination of the proposed plan all the school districts, including Central Valley School District 356 were notified of the draft plan. No school district indicated an inability to serve projected population and meet adopted level of service standards. Additionally, in 2015, the Central Valley School District passed a construction bond and received a grant to reduce class size, the projects include a new elementary school and related boundary adjustments, which increase Central Valley School District's capacity. **Building Heights –** The City Council directed staff, after public testimony, to change the proposed Multiple Family zone (MFR) to include a maximum height limit of 50 feet and a maximum density of 22 units per acre. These maximum limits are the same as the existing zoning code for High Density Residential (MF-2) that was adopted in 2006. See Spokane Valley Municipal Code (SVMC) 19.70.020. **Neighborhood Character –** The proposed plan and supporting development regulations include Transitional Regulations (Spokane Valley Municipal Code 19.75) that reduce potential impacts of higher intensity uses to lower intensity uses. Comment noted
32	Kaiser, Suzan	Against the land use change at the northeast corner of Sprague and Barker.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the

#	Name	Comment	Sprague and Barker	Response
		The roads in this area are already hard to manage, the roundabout concept seems to escape those that do travel these roads as it is and to add more traffic to this already congested area is not something I want to see happen. The construction is already a huge bottle neck and unwelcome congestion point, adding changes that are not well signed or navigated. I have lived in this area for less than 2 years and the amount of traffic, drugs, theft and general road rage and racing has doubled in this short time. It is not easy to get police to respond as it is to issues, adding more unwelcome issues to this area is unwarranted. I have no interest or desire in seeing more apartments to house additional traffic and riff raff added to this area.		Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Crime –** There is no conclusive evidence that multi-family designations, like the Multiple Family Residential, increase crime. The available data illustrates a greater connection between socio-economic status and crime than between high-density multiple family housing and crime. (Jianling Li and Jack Rainwater, "The Real Picture of Land-Use Density and Crime: A GIS Application"). **Emergency Responders (Police and Fire) –** As part of the development and coordination of the proposed plan both fire protection and law enforcement were provided notice of the proposed plan and supporting regulations. No service provider indicated an inability to serve the projected population and land use and meet adopted level of service standards. Comment noted

#	Name	Comment	Sprague and Barker	Response
33	Werden, Gene	My home is located within 400 feet of the above property. I would like the zoning on the subject property to remain the same as it is now. There are no sidewalks on E. Sprague near Barker road available for school children or other foot traffic. There are no bicycle lanes. Vehicle traffic is backed up several times at that intersection every day, with no signal or roundabout. There are no curbs on Barker Road. The schools are crowded. Adding high density housing adds to the problems. Under construction, new, near-new, and existing multi-family units are plentiful in Spokane Valley. We could use more entry level single family residences. Balanced residential growth for Spokane Valley is more valuable than just higher numbers of units.	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Schools –** As part of the development and coordination of the proposed plan all the school districts, including Central Valley School District 356 were notified of the draft plan. No school district indicated an inability to serve projected population and meet adopted level of service standards. Additionally, in 2015, the Central Valley School District passed a construction bond and received a grant to reduce class size, the projects include a new elementary school and related boundary adjustments, which increase Central Valley School District's capacity. **Non-motorized Network (Sidewalks and Bike Lanes)-**

#	Name	Comment	Sprague and Barker	Response
				The proposed plan identifies recommended pedestrian and bicycle improvements, Sprague Avenue and Barker Road near and at their intersection are identified for non-motorized improvements. **Single family housing type –** The proposed plan provides opportunity for single-family development types; it keeps the majority of land use (54%) as SFR which is equal to existing land use and zoning.
33	Dodd, Janie – Fuller Center	• Request some type of provision to consider clusters (villages) for the working poor/homeless to have a single low payment to be inclusive for the entire village. Suggest a cost per village of small residential clusters and cottages be totaled into one "package" along with a check sheet of what you (the City) will need for each cluster. Including the cost of recording a deed restriction required in 19.40.040(C)2. • Request that a group of inspectors specifically trained for these "clusters or villages" and we have the same inspector throughout our entire process. • Request that any "changes" be given in a written form similar to a change order process. Then, if the next inspector were to disagree, this, too, would be put in writing and our organization could take the different assessments to a city moderator for a	N	Comments noted. The entire section of 19.40.100 Development Standards – All provisions related to small residential dwellings have been removed from the supporting regulations. The proposed plan and supporting regulations do not propose any changes to existing fee structure, amount of fees, or processing for inspections. Changes to these elements are not proposed at this time. The size of cottage style housing has been increased to 900 square feet. All homes are subject to the same energy code.

#	Name	Comment	Sprague and Barker	Response
		24 hour turn around with a final decision. • Include provisions to allow small residential dwellings to have an ADU. • Suggest increasing the maximum building size of cottage units to 900 sq. feet. • Support the optional varied height, size proportionality, orientation, roof lines, doors, windows and building materials. • Development standards for Manufactured homes on individual lots, B3, are required to have an R Factor/energy code as to the State Energy code. We hope this requirement is consistently required for all homes in Spokane Valley. • The setbacks in Table 19.40-2 should be consistently given for all types of homes.		
34 / 23	Vinson, Wayne And Vinway (email)	This new comprehensive plan has proposed a zone change for me at 117 N. Barker to a Corridor Mix Use. From Apple way to Sprague on Barker, Barker to Greenacres RD. I strongly opposes this change, for the following: • We have a traffic problem, • Over-crowding of schools, • The closest shopping is 2 miles away, • Emergency responders have a hard time getting down Barker RD.		Repeat Letter from Vinway above. **Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –**

#	Name	Comment	Sprague and Barker	Response
		• Bus stop is at Appleway and Barker on the Northwest corner. As for future use of the land along Appleway Ave. East or West of Barker that is the old railroad line which is now the Appleway Trail. The only building going up in this area maybe mini strip malls. Only after removal of the Appleway trail and even at that there will be very little parking. In short there is will be no big development in this area for years and years. There is no need to rezone this property at this time. Please keep this area the same at medium density residential. Make both West: Greenarces RD to Barker RD, Bow RD to Sprague and East of Barker the same Medium Density residential and this includes that High Density property between Apple way and Sprague East of Baker RD		The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Schools –** As part of the development and coordination of the proposed plan all the school districts, including Central Valley School District 356 were notified of the draft plan. No school district indicated an inability to serve projected population and meet adopted level of service standards. Additionally, in 2015, the Central Valley School District passed a construction bond and received a grant to reduce class size, the projects include a new elementary school and related boundary adjustments, which increase Central Valley School District's capacity. **Medium Density Residential –** Preserving the existing Medium Density Residential designation and MF-1 zoning was considered under two of the No Action and Citizen Focus alternatives. The preferred alternative eliminated the Medium Density Residential designation and associated MF-1 zone based on the Housing and Economic Trends Existing Condition Report. No change to the preferred alternative regarding the Medium Density Residential designation MF-1 zone has been made.

#	Name	Comment	Sprague and Barker	Response
35	Konkright, Kelly	Requests that the City Council keep 721 N. Bowdish Road zoned for multi-family housing rather than the Neighborhood Commercial designation currently proposed in the Comprehensive Plan Update. There simply is not a market for Neighborhood Commercial uses on this lot. It is in the middle of a residential neighborhood, and there are sufficient NC-type services a few blocks to the south on Sprague Avenue, approximately one (1) mile to the east on Pines Street, and to the west along Argonne/Mullan Road. The only realistic way to re-develop this property is under multi-family zoning, which it has always had while I have owned the property.	N	After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for 721 N. Bowdish from Neighborhood Commercial, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Multiple Family Residential and zone the same parcel Multiple Family Residential (MFR). The proposal currently under consideration by the Council includes this change.
36	Scott, Susan	In the matter of 19.40.090 Development standards -small residential dwellings, in particular Section C. supportive housing, I would ask that you following the Planning Commission's recommendation to delete this portion of the plan for further consideration through a future code text amendment.		After considering public testimony, the City Council directed staff to revise the portion of the supporting development regulation 19.40.090 Development standards – small residential dwellings that would resolve the Commenter's concerns, consistent with the recommendation by the Planning Commission.
37	Nelson, Doug	Want an investigation as to why the 2 northern parcels At Sprague and Barker (55173.1019 and 55173.1020) are zoned high density (with no restrictions). Against the Planning Commission's recommendation. When the parcel was zoned high density by Spokane County there were severe restrictions as to the	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family

#	Name	Comment	Sprague and Barker	Response
		type of building and the purpose of the building.		Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Building Heights** – The City Council directed staff, after public testimony, to change the proposed Multiple Family zone (MFR) to include a maximum height limit of 50 feet and a maximum density of 22 units per acre. These maximum limits are the same as the existing zoning code for High Density Residential (MF-2) that was adopted in 2006. See Spokane Valley Municipal Code (SVMC) 19.70.020.
38	Blake, Timothy	I have autism. I don't want apartments to be built in front of my house because there will be too many people for our neighborhood and bully's too. My concerns are there would be more traffic and it would be unsafe for children like me because there would be bad people. More pollution and sound would cause the beautiful outdoors to be ruined and swinging wouldn't be relaxing. It would be a much smarter idea to add in a park because the neighborhood has no parks	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D.

#	Name	Comment	Sprague and Barker	Response
39	Mathison, Addy	I am afraid that bad people will live in the apartments that could be built. I am concerned the animals will run out of habitats. Maybe instead of building apartments you could build me a playground	Y	**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Natural Environment including Wildlife –** The proposed Comprehensive Plan and supporting development regulations include updated critical areas regulations that incorporate best available science and are designed to mitigate impacts to the natural environment by development (Spokane Valley Municipal Code 21.40). Critical areas include wetlands, critical wildlife habitat, frequently flooded areas, geologically hazard areas, and critical aquifer recharge areas. Any new development will be subject to these updated critical areas regulations.
40	Beecher, David	Well maybe it's about time for me to get involved with politics. I do know one thing, you and your people (City Hall) are out of touch with the people in the City of Spokane Valley. I think it's time to drain the swamp and go back to county government. You should listen to the people, so for the next council meeting I would suggest changing the meeting to a place to hold the crowd that will show up. You don't hold the same values your taxpayers do. How can you represent these people		Comment noted

#	Name	Comment	Sprague and Barker	Response
		when there is no districts? And this is the best part, when asked about a situation the previous Mayor said it was above his pay grade. Above his pay grade what kind of answer is that? I will tell you, drain your swamp. Isn't Social Media Great. How about I show you how it works. Lets start stirring the swamp!		
41	Pavelich, Sandy	I would like to reply to many areas of your new plan but I will begin with just a few: • The idea that you would change developer requirement for adequate parking is very short sighted If I lived in a development and cars were parked on both sides of the street and say someone's car breaks down and fire trucks cannot get through will be another shortsighted example of protecting the public. • Another comment I have concerns traffic. On your map you have that traffic counts were last taken around the painted hills golf course in 2014. That is incorrect.	N	**Parking -** Council has recommended changes to allow a reduction in parking requirements for non-residential development that is within ½ mile of a frequent transit route at the conclusion of the public comment period. The current draft under consideration includes changes to Title 22.50. The Fire Department reviews all site and building permits to ensure consistency with the International Fire Code. **Traffic Counts –** Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes an updated figures for Average Daily Traffic.
42	Pavelich, Dan	The plan does not designate as a significant 100 year flood plain area the boundaries currently identified by FEMA, being principally the land previously used as the Painted Hills Golf course of which approximately 70 acres are within the 100 year FEMA Flood Plain map.	N	**Natural Environment including Frequently Flooded Areas-** The proposed Comprehensive Plan and supporting development regulations include updated critical areas regulations that incorporate best available science and are designed to mitigate impacts to the natural environment by development (Spokane Valley Municipal Code 21.40). Critical areas include wetlands, critical wildlife habitat, frequently flooded areas, geologically

#	Name	Comment	Sprague and Barker	Response
				hazard areas, and critical aquifer recharge areas. Any new development will be subject to these updated critical areas regulations. Frequently flooded areas include those areas are designated by the Federal Emergency Management Agency (FEMA) as the 100-year floodplain and are shown in Figure 51.

#	Name	Comment	Sprague and Barker	Response
43	Thornburg, Steve and Karla	We are totally against rezoning this parcel to allow for any type of apartment complex, It should stay low density residential so to stay in line with the rest of our neighborhoods, Our infrastructure is already stressed to their limits with all the development to the south and east of Barker and Sprauge.		**Sprague Avenue and Barker Road Land Use Map Changes –** After considering public testimony, the City Council directed staff to revise the portion of the comprehensive plan in a manner that would resolve the Commenter's concerns. Specifically, the Council's revision would change the land use designation for parcels 55173.1018 and 55173.1005 from Multiple Family Residential, as had been proposed in the draft Comprehensive Plan that was circulated for public comment, to Single Family Residential and zone the same parcels Single-Family Urban (R-3). The proposal currently under consideration by the Council includes this change. **Traffic –** The DEIS analyzed the existing traffic conditions as well as the projected traffic impacts from the Multiple Family Residential designation that had been proposed in the DEIS that was circulated for public comment (see Section 1.3 Transportation Analysis). Following changes proposed by Council since the public comment period, the proposal currently under consideration designates the parcels as Single Family Residential, which most closely resembles existing traffic conditions. Nevertheless, under all alternatives, the Sprague and Barker intersection is projected to function with a level of service (LOS) B. This LOS standard meets or exceeds the adopted LOS of D. **Infrastructure and Growth –** The development of the comprehensive plan, including the Land Use, Transportation, and Capital Facilities elements considered available public services. Further, the City in Spokane Valley Municipal Code 22.20 requires concurrency review for projects.

AGENCY COMMENTS			
#	Page #	Comment	Response
Spokane Transit Authority			
1		The draft policy to, "Maximize the density of development along major transit corridors and near transit centers," is a sound policy that will allow more people to benefit from the community's transit investments. The draft plan also further recognizes the need to prioritize sidewalks near transit stops and other uses that generate a large number of pedestrian trips, improve multimodal connectivity, and work with STA to provide bus shelters at strategic locations. Spokane Transit is supportive of this language as well as proposed changes to the Comprehensive Plan Land Use Map that propose mixed-use and multifamily designations near existing and planned transit lines.	Comment noted
2		Require site design to provide accessible pedestrian connections (sidewalks or pathways) for the most direct route possible between multifamily and commercial buildings and adjacent bus stops	No change made as no changes are proposed to the street standards at this time and we do not have design standards in the code. **Non-motorized Network (Sidewalks and Bike Lanes)-** The proposed plan identifies recommended pedestrian and bicycle improvements, Sprague Avenue and Barker Road near and at their intersection are identified for non-motorized improvements.
3		Allow for a reduction in the amount of required off-street parking for sites located near transit lines with service every 15 minutes or more often for twelve hours or more each regular weekday.	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes changes to Title 22.50 to address the suggestion made by the Commenter.

AGENCY COMMENTS			
#	**Page #**	**Comment**	**Response**
4		Design planned arterials to accommodate future bus service. This includes considering the locations of bus stops in the design of landscaping and swales to avoid costly retrofits later or creating a barrier to the introduction of service. Plan for safe and convenient pedestrian crossings at regular intervals on these streets.	Current proposal does not include any proposed changes to existing street standards.
5		Street connectivity, defined as densely spaced streets that connect with one another to form a street grid of shorter blocks, facilitates more direct travel, placing more area within walking distance of a stop, limit cul-de-sacs or closed-end street designs to circumstances in which barriers prevent full extensions. If full street connection is prevented, then provide bicycle and pedestrian access ways approximately every 300 to 500 feet.	Comment noted, connectivity standards exist in the current street standards except for elements related to bikes and pedestrians. Current proposal does not include any proposed changes to existing street standards.
6		Connectivity between bike lanes and transit lines, especially in low-density industrial areas is important. Local bike networks should connect with existing transit lines and be free of barriers such as curbs or fences.	No change made as no changes are proposed to the street standards at this time.
7		Encourage the placement of buildings on sites in a way that limits the distance a pedestrian will have to walk across parking lots from adjoining streets.	Comment noted. The changes proposed now allow buildings to be built to the street creating the potential for shorter walking distances.
Washington State Department of Transportation			

AGENCY COMMENTS			
#	Page #	Comment	Response
1	5-76	Need to add language here. This travel pattern highlights the need for network development as the freeway system alone cannot accommodate this demand in the future. Travel demand strategies will also be an important aspect in dealing with traffic increases.	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes the following change to the comprehensive plan to address the suggestion made by the Commenter. "This travel pattern highlights the need for network development, as the freeway system alone cannot accommodate this demand in the future. Travel demand strategies will also be an important aspect in dealing with increasing traffic."
2	5-88	Need to revise map. Map is not clear as some of the busiest corridors like Sullivan and Sprague show little or no traffic in certain locations. This is a result of no 2015 traffic count being available in that area. Suggest that the map also use previous years traffic counts to reflect more data. Also a different color needs to be used to reflect where no data is available.	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes an updated map to address the suggestion made by the Commenter
3	5-89	Need to add "For Highways of Statewide Significance (HSS) that WSDOT sets the LOS standard. Please contact WSDOT for current LOS standards".	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes changes to the comprehensive plan and address the suggestion by the Commenter to clarify the HSS LOS standard.
4	7-123	Need to add statement: I-90 is a HSS facility under the jurisdiction of WSDOT. Maintain WSDOT adopted LOS standards on I-90 and the Ramp Terminals	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes the following change to the comprehensive plan to address the suggestion by the Commenter. ""I-90 is a HSS facility under the jurisdiction of WSDOT. Maintain WSDOT adopted LOS standards on I-90 and the ramp terminal intersections with city streets."

AGENCY COMMENTS			
#	**Page #**	**Comment**	**Response**
EIS			
5	18	The identified improvements need to be called out in the table. For instance the roundabout that will be constructed at the Barker Interchange, improvements to Pines and Mission, etc.	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes updates to Table 6 to identify planned and likely improvements.
6	19	What is the corridor length being proposed? What is shown in the table # 6 does not seem consistent with the maps in Chapter #5 of the Comp. Plan. Suggest the interchange area with I-90 be its own corridor. For instance on Pines this could be from Mission on the south side to Indiana on the north side.	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes updates to Chapter 5 of the comprehensive plan to update the tables/maps to be consistent with the corridor lengths in the EIS, the lengths in Table 6 are correct.
7	19	Believe this should refer to Table 7	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes an updated reference to address the suggestion made by the Commenter.
8	22	The projected LOS seems higher than what is found in the field for Sullivan, Pines and potentially Barker.	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes an updated table title to be clearer.
Spokane Regional Transportation Council			
1	3	The Introduction Element indicates a robust public, jurisdiction, and agency involvement process (p. 1-17). For improved consistency with the GMA, the Transportation Element should describe the City's process for outreach to other jurisdictions and agencies as it relates to transportation LOS and land use impacts.	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes new section in Chapter 1 that includes a description of the agency outreach process.

AGENCY COMMENTS			
#	Page #	Comment	Response
2	3	The EIS Transportation Analysis section (p. 25) states that it supports CTR programs and the Transportation Element policy T-P15 states that the City will "Encourage all Commute Trip Reduction employers in the City to achieve travel reduction goals." To improve consistency with the GMA, both documents should reference the City's Commute Trip Reduction Implementation Plan Update: 2015-2019 and demonstrate its commitment to its CTR program in terms of improved coordination, assisting with identifying infrastructure and cultural barriers to meeting state-mandated CTR goals, assisting with marketing and public outreach, and promoting community leader support.	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes an updated policy T-P15 and added a footnote to page 25 of the EIS to reference the Commute Trip Reduction Implementation Plan Update: 2015-2019.
3	4	Horizon 2040 identifies the segments of Sprague Avenue and Appleway Boulevard that travel through Spokane Valley as part of an Urban Transportation Corridor (UTC) (p. 4-37 of Horizon 2040) and encourages local jurisdictions to address future planning related to the corridors. The City's Land Use and the Transportation elements do not address this corridor. During the 2017 update to Horizon 2040, SRTC will consider the value of keeping this UTC segment in the plan.	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes updated language related to the Sprague/Appleway UTC in the Land Use Element, see page 4-65 under Attracting New Development in New Areas; page 4-66 Creating Catalytic Development and in Transportation Element page 5-92, Supporting Economic Development.

AGENCY COMMENTS			
#	**Page #**	**Comment**	**Response**
4	4-5	The Transportation Element states that "The rationale for evaluating corridor LOS is to align with the SRTC CMP" (p. 5-89), that its policy is to "Use transportation demand management techniques and technologies to move people, vehicles and goods safely and efficiently throughout the City's transportation system." (policy T-P17, p. 2-28), and that "Overall, it is the City's policy to consider strategies such as transportation demand management, access restrictions, design modifications, transit enhancements, and intelligent transportation systems prior to adding new lane capacity to the system, particularly for single-occupancy vehicles." (p. 5-94). Of the 20 proposed mitigation projects to address roadway LOS impacts, 13 are lane addition or road widening projects and 7 are intersection treatments. To improve consistency with Horizon 2040 and pursuant to the CMP, the Transportation Element mitigation project list should also list additional non-capacity adding strategies considered in addition to lane addition or road widening strategies.	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes an updated transportation mitigation list that includes the City's ongoing non-capacity strategies to address mobility along congested corridors.
5	5	The Transportation Element, policy T-P1 states that the City intends to "Continue to pursue funding for the Bridging the Valley (BTV) program to reduce rail/vehicle collisions, improve emergency access, eliminate vehicle waiting times, reduce noise, and improve traffic flow." From the regional perspective, Bridging the Valley is a long-term, unfunded project. Further, as stated in Horizon 2040 (p. 2-10), "The priority of BTV projects continues to be evaluated by regional decision makers, especially in light of limited transportation funding resources and the need to secure commitment from the railroads."	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration includes and amended T-P1 to clarify the continued importance to the City to pursue funding for BNSF mainline separation projects. The policy now reads: "Continue to pursue funding for the BNSF mainline separation projects of Bridging the Valley program to reduce rail/vehicle collisions, improve emergency access, eliminate vehicle waiting times, reduce noise, and improve traffic flow."
Washington State Department of Ecology			

AGENCY COMMENTS			
#	Page #	Comment	Response
1		Floodplain regulations and goals for future improvement are well described in the document. Referencing SVMC Chapter 21.30, Floodplain Regulations, in the CAO and Comp Plan is Ecology's recommended practice. One minor comment on Comp Plan page 10-159, Frequently Flooded Areas section: Figure 49 is referenced for the location of the floodplain, when it should be Figure 51.	Council has recommended changes to address this concern at the conclusion of the public comment period. The current draft under consideration include updated figure numbers and cross-references.

EXHIBIT F

Northeast Industrial Area Planned Action Ordinance SEPA Analysis

FACT SHEET

NAME OF PROPOSAL

The City of Spokane Valley Northeast Industrial Area Planned Action Ordinance.

PROPOSED ACTION

The City of Spokane Valley plans to adopt a Planned Action Ordinance (PAO) to support and streamline environmental permitting in the City's Northeast Industrial Area. The PAO designation would apply to industrial development within the envelope analyzed in this SEIS.

PROPONENT

City of Spokane Valley

LOCATION

The proposal is located in the City of Spokane Valley's northeast quadrant bounded by Flora Road on the west, Trent Avenue on the north, the Union Pacific line on the south, and the city limits on the east. The approximate center of the project area can be further located at 47°41'32.2"N 117°09'48.2"W.

PREVIOUS ACTION TAKEN

The City of Spokane Valley completed an Environmental Impact Statement (EIS) on the 2017- 2037 Comprehensive Plan. This 2017 Planned Action Supplemental EIS incorporates by reference and supplements the analysis contained in the 2017 – 2037 Comprehensive Plan EIS.

DATE OF IMPLEMENTATION

2017–2040 –Market driven phased development

LEAD AGENCY

City of Spokane Valley
10210 E Sprague Avenue
Spokane Valley, WA 99206

SEPA RESPONSIBLE OFFICIAL

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REQUIRED APPROVALS AND/OR PERMITS

Planned Action Ordinance adoption by Spokane Valley City Council.

AUTHORS AND PRINCIPAL CONTRIBUTORS TO THIS EIS

This City of Spokane Valley Comprehensive Plan/Final Environmental Impact Statement has been prepared under the direction of the City of Spokane Valley, as SEPA Lead Agency.

DATE OF DRAFT SEIS ISSUANCE

November 23, 2018

DATE OF COMMENTS DUE

January 22, 2019

AVAILABILITY OF THE SEIS

Notice of Availability and copies of the Comprehensive Plan/FEIS and supporting development regulations have been distributed to agencies, organizations, and individuals noted on the Distribution List (Section 3.3 of this document).

The complete 2017-2037 Comprehensive Plan, FEIS, and supporting regulations are available for download at the project website: www.spokanevalley.org/CP.

The complete NIA-SEIS and associated draft development code are available at: www.spokanevalley.org/PlannedAction

Copies of these documents are also available for public review at the following location:

Spokane Valley City Hall
10210 East Sprague Avenue
Spokane Valley, WA 99206

Section 1: Concise Summary of Alternatives

Appendix A: *Existing Transportation Conditions Report for Spokane Valley Northeast Industrial Area PAO*

Appendix B: *Spokane Valley Northeast Industrial Area PAO Traffic Analysis for Phase 1, Phase 2, and Phase 3*

Appendix C: *Infrastructure Plan for the Spokane Valley Northeast Industrial Area PAO*

Appendix D: *General Sewer Summary Packet for Planned Action Ordinance Applications*

SECTION 1.0: SUMMARY

1.1 Introduction

This section summarizes the information contained in the Planned Action Supplemental Environmental Impact Statement (SEIS) for the City's Northeast Industrial Area (NIA-SEIS). It contains a summary of impacts, mitigation measures, and significant unavoidable adverse impacts. The summary is intentionally brief; the reader should consult individual sections of the SEIS for detailed information concerning the affected environment, impacts, and mitigation measures.

1.2 Proposed Action and Location

Proposed Action

An adoption of an ordinance designating a portion of the City of Spokane Valley's Northeast Industrial Area as a Planned Action for the purposes of the *State Environmental Policy Act* (SEPA) compliance. The Planned Action designation would apply to proposed industrial development within the envelope analyzed in this SEIS. The Planned Action designation would apply to development that occurs through the end of 2040.

Location

The proposal is located in the City of Spokane Valley's northeast quadrant bounded by Flora Road on the west, Trent Avenue on the north, the Union Pacific line on the south, and the city limits on the east, and includes the south ¾ of Section 6, the west ½ of Section 5, and a north portion of Township 25 North, Range 45 East, Willamette Meridian. The approximate center of the project area can be further located at 47°41'32.2"N 117°09'48.2"W (see Figure 1).

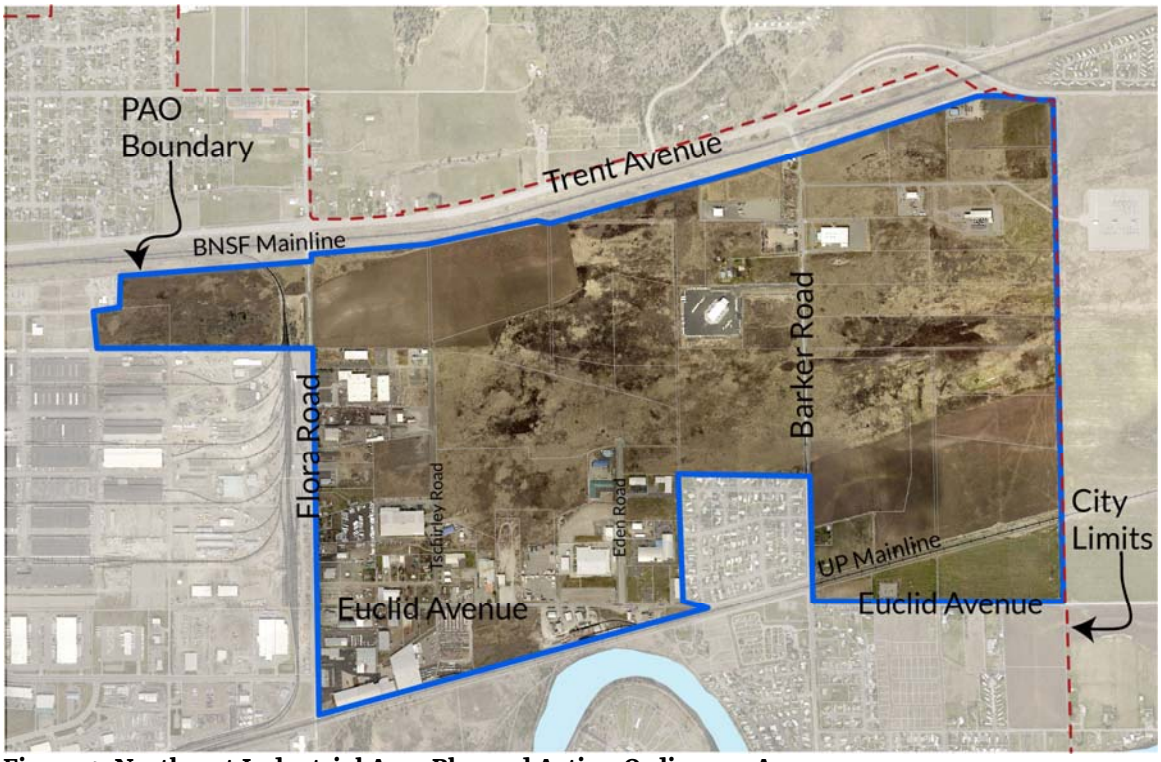

Figure 1: Northeast Industrial Area Planned Action Ordinance Area

1.3 Discussion of Alternatives and Phasing

The SEIS dos not evaluate discrete alternatives since it proposes to use the adopted alternative in the 2017-2037 Comprehensive Plan and FEIS as the ceiling for build-out. Instead, this SEIS provides additional project level detail for a defined geographic area for elements not adequately addressed in the original document (Transportation – systems, traffic, circulation; Water – runoff/absorption, supply; Air – quality, odor). In other words, the Northeast Industrial Area – Supplemental Environmental Impact Analysis (NIA-SEIS) is an implementation to the adopted FEIS instead of offering an alternative to it.

1.4 Summary of Potential Impacts and Mitigation Measures

Table 1-1 provides a summary of the environmental impacts for each element of the environment evaluated in Section 3 of the SEIS. For a complete discussion of the elements of the environment considered in this SEIS, please refer to Section 3.

Table 1: Summary of Potential Impacts and Mitigation Measures

Environmental Element	Impacts	Mitigation
Air Quality	Increased industrial development is likely to increase impacts to air quality including ambient air quality, point source impacts, and increased motorized transportation emissions.	– Use existing regulations for ambient air quality and transportation related emissions. – Provide notice to agency(ies) responsible for point source pollution permits
Surface Water and Water Runoff	Increased development on vacant land will increase impervious surface from rooftops, parking area and access drives.	– Stormwater facilities will comply with the Spokane Regional Stormwater Manual and use Best Management Practice (BMP) techniques to address stormwater
Historic and Cultural Resources	Increased development will increase land disturbance activities. The area has been previously disturbed by homesteading, residential subdivisions, roadway construction, utilities, railroad lines, and major industrial development.	– Require an inadvertent disturbance plan that includes procedures for the discovery of cultural materials and human skeletal material
Utility Provision	Increased development will require water, sewer, telecommunication, natural gas, and power.	– Various improvements already identified in respective improvement programs (water & sewer). – Ensure adequate notice for potential projects during land use or building permit action.
Transportation	Increased demand on various local and arterial streets.	– Various transportation improvements, including grade separation of Barker, widening of Barker, and Barker I-90 interchange

1.5 Issues to be Resolved

Adoption of the Planned Action Ordinance supports development and expansion of the Northeast Industrial Area (NIA) with industrial development consistent with the City of Spokane Valley Comprehensive Plan 2017-2037. The key environmental issue facing decision makers is the impact of additional traffic on the area roadways and the mitigating measures to address such impacts.

1.6 Significant Unavoidable Adverse Impacts

Transportation

The development of the NIA would generate additional traffic volumes on the area's transportation network. Increases in congestion at intersections and along corridors will result in significant, unavoidable, adverse impacts on the transportation system. However, the improvements proposed will increase capacity and mitigate undesired impacts, reducing the impacts on the system to the adopted level of service.

SECTION 2.0: DESCRIPTION OF PROPOSAL

2.1 Introduction

The 2017-2037 Comprehensive Plan and FEIS covered the analysis for the industrial designation in the proposed area through the year 2037. This SEIS adds additional information to support the adoption of a Planned Action for industrial development in the area. The proposal assumes an approximate total of 4,000 employees within the project area; 3,200 more over existing conditions. The employees generally translates to approximately 4 to 6 million square feet of building area.

2.2 Planned Action Process

Planned Action Overview

WAC 197-11-164 defines a Planned Action. The City proposes to designate the Northeast Industrial Area as a Planned Action, pursuant to SEPA and implementing rules. As shown in Figure 1, the project area is generally bounded Flora Road on the west, Trent Avenue on the north, the City limits on the east, and the Union Pacific mainline and Euclid Avenue on the south. Spokane Valley will follow applicable procedures, described generally below, to review proposed projects within the project area through the land use review process associated with each project to determine their impacts and impose any appropriate development conditions.

Planned Action EIS

The significant environmental impacts of projects designated as Planned Actions must be identified and adequately analyzed in an EIS (WAC 197-11-164). The City anticipates supplementing the 2017-2037 Comprehensive Plan and FEIS with additional project level detail for elements not adequately addressed in the original document for the Planned Action. This supplement includes transportation analysis, water, runoff/absorption, supply; and air quality and odor.

Planned Action Ordinance

According to WAC 197-11-168, the ordinance designating the Planned Action shall:

- Describe the type(s) of project action being designated as a Planned Action;
- Describe how the Planned Action meets the criteria in WAC 197-11-164 (including specific reference to the EIS that addresses any significant environmental impacts of the planned action);
- Include a finding that the environmental impacts of the Planned Action have been identified and adequately addressed in the EIS, subject to project review under WAC 197-11-172; and
- Identify any specific mitigation measures other than applicable development regulations that must be applied to a project for it to qualify as the Planned Action.

Following the completion of this SEIS process, Spokane Valley will adopt the Planned Action designation by ordinance in 2017.

2.3 Environmental Review

2017-2037 Comprehensive Plan and FEIS

The City of Spokane Valley completed the 2017-2037 Comprehensive Plan and Environmental Impact Statement in December of 2016. The elements of the environment that were considered in the EIS included economic welfare, land use, transportation, housing, and natural environment. This Planned Action Supplemental EIS incorporates by reference and

supplements the analysis contained in the 2017-2037 Comprehensive Plan and Environmental Impact Statement.

2.4 Proposed Action

The proposal is to adopt a Planned Action for the City of Spokane Valley's Northeast Industrial Area. The area that would be the subject to the Planned Action is seen in Figure 1. The proposal assumes the build-out proposed in the Comprehensive Plan EIS, roughly an additional 4–6 million square feet of industrial development and 4,000 employees (3,200 over existing conditions) over the 20 year plan horizon. These growth levels are consistent with the adopted comprehensive plan and represent the analysis ceiling for the Planned Action. Since the Planned Action assumes the same level and type of growth analyzed in the comprehensive plan, this analysis does not contain distinct alternatives.

2.5 Benefits and Disadvantages of Delaying the Proposed Action

The Proposed Action includes adoption of a Planned Action Ordinance for future development in the Northeast Industrial Area. There is no benefit to delaying the implementation of the Proposed Action. The expected and planned for growth in the area is allowed under existing policy and regulation, and the Planned Action allows for a comprehensive analysis of impacts of the planned for growth and a more efficient permit process.

2.6 Major Issues to be Resolved

Adoption of a Planned Action Ordinance would support development and re-development of the area to an industrial character consistent with the comprehensive plan. The key environmental issue facing decision-makers is the impact of additional traffic on area roadways and mitigating measures to address such impacts.

SETION 3.0: AFFECTED ENVIRONMENT, IMPACTS, AND MITIGATION

3.1 Air Quality

Affected Environment

Ambient Air Quality

The Clean Air Act (CAA), as amended in 1990, governs air quality in the United States. Its counterpart in Washington State is the Washington Clean Air Act of 1991. These laws set standards for the concentration of pollutants that can be in the air. At the federal level, the Environmental Protection Agency (EPA) administers the CAA. The Washington Clean Air Act is administered by Ecology at the state level and by local clean air agencies at the regional levels. Spokane Regional Clean Air Agency (Spokane Clean Air) enforces federal, state and local regulations to reduce air pollution for areas within Spokane County.

The U.S. EPA sets National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Particle Pollution, and Sulfur Dioxide. The purpose of these standards is to prevent air pollution from reaching levels that harm public health and welfare. The CAA requires states to develop plans for protecting and maintaining air quality in all areas of the state. It also requires states to develop specific plans for bringing nonattainment areas back into attainment. The plans are called State Implementation Plans (SIPs).

In the past, the Spokane region has been in nonattainment for carbon monoxide (CO) and Particulate Matter (PM10) and as such Spokane Clean Air in conjunction with the Washington State Department of Ecology have developed a SIPs for both PM10 and CO. The SIP for PM10 explains how the area will continue to meet the federal standard for PM10 through 2025. The SIP for CO demonstrates that the area will be in compliance with the NAAQS (40 CFR part 50) through 2025.

Ground-level ozone poses health risks to humans, animals, and plant life. Primarily a concern during the hot summer months, ozone is formed as a result of photo-chemical reactions between nitrogen oxides and volatile organic compounds in the presence of sunlight and heat. Both nitrogen oxides and volatile organic compounds can be emitted directly from industrial, mobile, and consumer sources.

Transportation Air Quality

Regionally significant transportation projects (regardless of the source of funding) proposed for construction within nonattainment areas or maintenance areas are subject to the Transportation Conformity regulations specified under federal regulations (EPA 40 CFR Parts 51 and 93) and state regulations (Chapters 173–420 of WAC). The Spokane Regional Transportation Council (SRTC) classifies a project as regionally significant as, in part, projects that serve roads federally classified as a principal arterial, highway or freeway and alters the number of through-lanes for motor vehicles for a length greater than a half mile, or impacts a freeway or freeway interchange (other than maintenance projects federally classified as a principal include constructing or widening new roadways and widening signalized intersections; the SRTC Policy Board can also determine a project as regionally significant.

SRTC's Metropolitan Transportation Plan, Horizon 2040, demonstrates that future carbon monoxide (CO) emissions from the 2010, 2030, and 2040 future project conditions are all well below the CO Motor Vehicle Emissions Budget (MVEB) of 558,000 lbs/day as required by the approved CO Maintenance Plan. In December of 2016, SRTC certified that the

transportation related provisions in the City's adopted Comprehensive Plan are generally consistent with the Revised Code of Washington, including the Growth Management Act, and SRTC's RTP Horizon 2040. The plan included the 2017-2022 TIP roadway projects with the Northeast Industrial Area.

- Barker and Trent Burlington Northern Santa Fe Railroad Grade Separation,
- Barker Road street widening 3 lane urban arterial from Spokane River to Euclid Avenue,
- Interstate 90 and Barker Interchange improvements

Point Source Air Quality

While the single largest contributor to most criteria pollutant emissions is derived from on-road vehicles, secondary sources of emissions are derived from commercial and industrial land uses. Additional point pollution sources include space heating equipment (e.g., gas and diesel) and wood-burning appliance emissions. Spokane Clean Air issues three types of permits:

- **Notice of Intent (NOI)** – Required for a portable source installed at a specific site temporarily, not to exceed 12 consecutive months. NOC required the first time a portable source is installed and operated
- **Notice of Construction (NOC)** - construction, installation, replacement or modification of air contaminant sources, emissions units or air pollution control equipment; required to register the permit annually
- **Air Operating Permit (AOP)** - Issued to major sources of air pollution and other sources identified by EPA; required to register the permit annually

Spokane Clean Air maintains a list of classes of stationary sources that require a permit, which are identified in *Regulation I, Article IV Exhibit R*[1] of the Spokane Regional Clean Air Agency. Below is a partial list of the types of operations regulated based on air emissions:

- Asphalt Plant
- Boiler
- Coffee Roaster
- Crematory
- Emergency Generator Sets
- Lithographic Printing
- Resin/Gelcoat Operations
- Baghouse
- Chrome Plating
- Concrete Batch Plant
- Crushing Operations
- Furnaces/Ovens
- Paint Booth
- Solvent Cleaning, Stripping

Impacts

Ambient Air Quality

Increased industrial and commercial development within the Northeast Industrial Area are likely to have minimal in impacts to NAAQS criteria pollutants (Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Particle Pollution, and Sulfur Dioxide). The SIP for PM10 explains how the area will continue to meet the federal standard for PM10 through 2025. The SIP for CO demonstrates that the area will be in compliance with the NAAQS for CO through 2025 and meets EPA requirements for a Limited Maintenance Plan (LMP).

[1] www.spokanecleanair.org/documents/regulation_docs/ARTICLE-IV.pdf

Transportation Air Quality

The single largest contributor to most criteria pollutant emissions is derived from on-road vehicles. The SRTC Metropolitan Transportation Plan for Spokane County concludes that the on-road mobile source CO emissions estimates will remain below the CO Motor Vehicle Emissions Budget of 558,000 lbs./day as required by the approved CO Maintenance Plan. The emissions decreased by 53% from 2010 to 2020 and decreased significantly between 2020, 2030, and 2040. The decrease in emissions are attributed to technological advances in vehicles since VMT is projected to increase over the planning horizon 2010 to 2040. The increases in VMT should be mitigated by vehicle technology allowing the modeled emissions to stay below the MVEB. The City's adopted Comprehensive Plan was certified by SRTC and found generally consistent with the Revised Code of Washington, including the Growth Management Act, and SRTC's RTP Horizon 2040.

Point Source Air Quality

As of May 2017 the Northeast Industrial Area has 9 registered commercial and industrial facilities that require a NOC permit and portion of the Kaiser Aluminum Washington facility registered for an Air Operating Permit. The 9 registered facilities area:

- Wagstaff, Inc.
- Eastside Electric
- Eclipse Screen Printing
- UTEC Metals / Gillingham Best
- Spur Industries
- US Wax & Polymer
- Greenacres Gypsum & Lime Company
- MOCO Engineering
- Avista Utilities

The adopted Comprehensive Plan and this analysis anticipates a range of industrial type development of 2.9-3.9 million square feet. The exact type of industrial development is unknown. Increased industrial development is likely to increase point source air pollution, and all new point source pollution will be required to comply with Spokane Clean Air permit requirements.

Mitigations

Ambient Air Quality

The SIP for PM10 and CO explains the area will be in compliance with the NAAQS. No mitigations beyond those already required from existing regulations are required.

Transportation – Air Quality

Transportation project conformity may be required for certain projects. In order to facilitate a streamlined process, projects that could trigger project conformity shall be forwarded to SRTC. This process will be conducted through the evaluation of projects in determining whether they are consistent with the thresholds analyzed in the PAO.

Point Source Air Quality

Spokane Regional Clean Air Agency (Spokane Clean Air) enforces federal, state and local regulations to reduce air pollution for areas within Spokane County. Spokane Clean Air receives notice of potential commercial and industrial facilities that trigger their permit process either through the building permit notice or SEPA notice. In order to facilitate a streamlined process, projects that could trigger a Spokane Clean Air permit shall be forwarded to Spokane Clean Air. This process will be conducted through the evaluation of projects in determining whether they are consistent with the thresholds analyzed in the PAO.

3.2: Surface Water and Water Runoff

Affected Environment

The majority of the City is underlain by an extensive, sole-source aquifer that provides high quality drinking water and provides some return flows to the Spokane River. The entire Northeast Industrial Area lies within the Aquifer Sensitive Area (ASA). A single developed parcel (55075.0231) south of Euclid and Eden sits within the shoreline jurisdiction but outside the shoreline buffer area which is limited by the Union Pacific railroad. Development on parcel 55075.0231 will be subject to the adopted Shoreline Master Program. No other parcels are within the shoreline jurisdiction or any other surface water.

The City of Spokane Valley does not have a centralized storm collection or treatment system and generally requires that all stormwater be managed on-site. The soils within the Northeast Industrial Area are generally well draining and have good to high infiltration rates. The table and figure below display the hydrologic soil groups that occur within the Northeast Industrial Area. Development projects within the Northeast Industrial Area are expected to have stormwater management facilities that discharge runoff below the ground surface through Best Management Practice (BMP) techniques such as bioswales and dry wells. The stormwater management facilities will comply with the City of Spokane Valley regulations and the Spokane Regional Stormwater Manual.

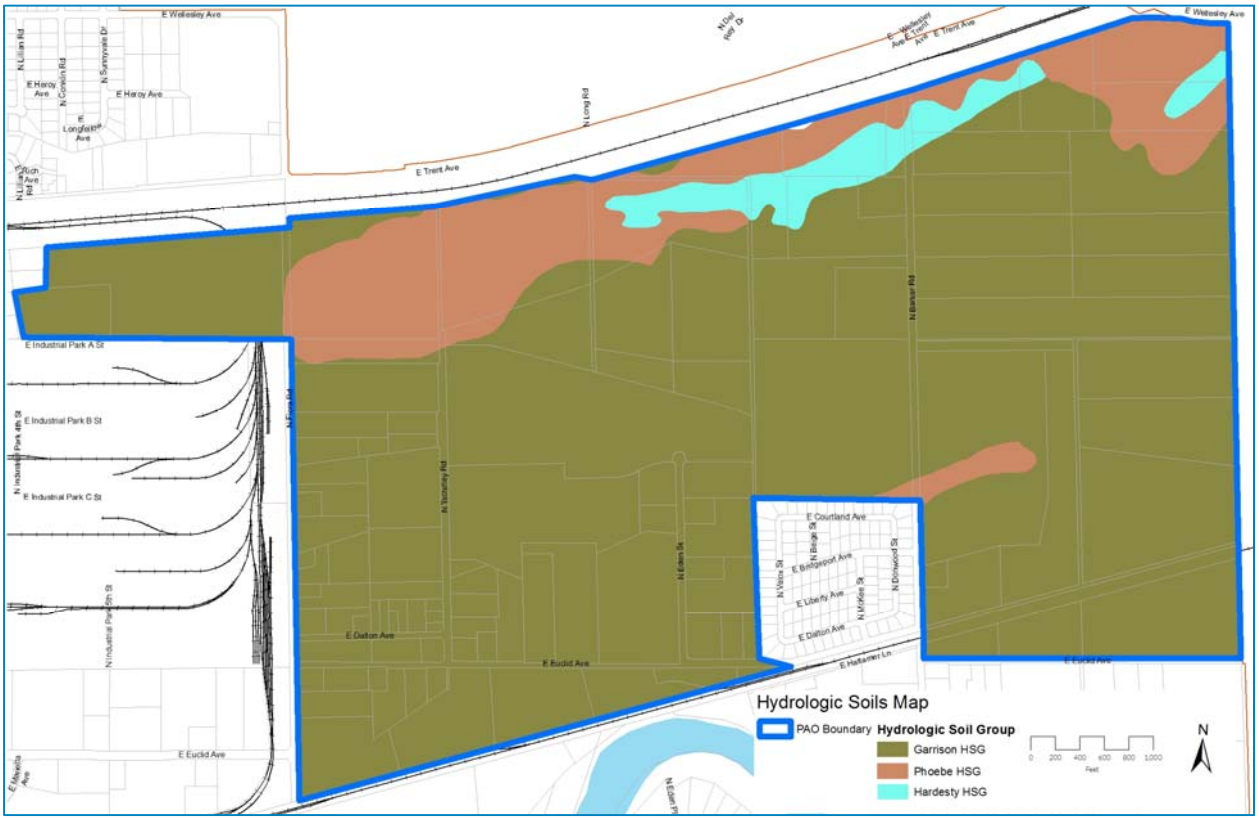

Figure 2: Hydrologic Soil Group Map

Table 2: Infiltration Rate and Percent Soils in Northeast Industrial Area

Hydrologic Soil Type	Infiltration Rate	Acres	Percent
Garrison	Good	685	83%
Phoebe	High	113	14%
Hardesty	Very slow	26	3%
Total		**824**	

Impacts

The Northeast Industrial Area is expected to grow in industrial development. The development will generally occur on vacant land increasing impervious surfaces within the study area from rooftops, parking areas, and access drives. Stormwater will infiltrate the ground and likely enter the groundwater from onsite stormwater management facilities.

Stormwater facilities will comply with the Spokane Regional Stormwater Manual and use Best Management Practice (BMP) techniques to address stormwater. Stormwater from parking lots, access drives, and roads will use oil-water separators and bioswales for treatment prior to infiltration. Non-pollution generating surfaces like rooftops will use infiltration galleries or dry wells. The BMPs must be capable of treating flows up to the 10 year 24-hour storm event.

Mitigations

No mitigations beyond those required by exiting City regulations are proposed.

3.3 Historic and cultural preservation

Affected Environment

Historic and cultural resources are protected by a variety of state and federal laws. Federal law applies to all projects that involve federal money, permits and/or licenses, and state law applies to local projects. State law includes the Governor's Executive Order 05-05 (EO 05-05), statutes regarding the protection of cultural resources (WAC 197-11, RCW 27.44, and RCW 27.53), and SEPA.

Both RCW 27.44 and RCW 27.53.060 require permits from the Washington State Department of Archaeology and Historic Preservation (DAHP) before excavating, removing, or altering Native American human remains or archaeological resources in Washington. Failure to obtain a permit is punishable by civil fines and other penalties including criminal prosecution.

According to the publically available information from DAHP's online database, the Washington Information System for Architectural and Archaeological Records Data (WISAARD), for cultural resource survey reports, archaeological site records, and cemetery records there are no registered or eligible properties within the project area. The databased did identify 27 properties derived from County Assessor building records imported by DAHP into WISAARD in 2011. These assessor derived properties were part of a project to facilitate community and public involvement in stewardship, increasing data accuracy, and providing a versatile planning tool to Certified Local Governments (CLGs) and does not necessarily identify a designated historic property.

Impacts

The Northeast Industrial Area is primarily vacant and is likely to see increased development over time. The area has been previously disturbed by homesteading, residential subdivisions, roadway construction, utilities, railroad lines, and major industrial development, including a recent gravel mining operation on the north termination of Eden Road. The DAHP predictive model indicates that the Northeast Industrial Area is primarily is situated in a High to Very High Risk probability area, likely because of the proximity to the Spokane River. However, the modifications to the landscape within the Northeast Industrial Area there is likely low to moderate probability of intact cultural resources within the area.

Mitigations

Land disturbing and construction activities shall submit an inadvertent disturbance plan in their scope of work. The inadvertent disturbance plan shall include procedures for the discovery of cultural materials and human skeletal material.

- Inadvertent Discovery of Cultural Materials

  In the event that archaeological deposits are inadvertently discovered during construction in any portion of the AI, ground-disturbing activities should be halted immediately in an area large enough to maintain integrity of the deposits and DAHP should be notified directly. DAHP would then contact the Spokane Tribe of Indians, depending on the nature of the find.

- Procedures for the Discovery of Human Skeletal Material

  Any human remains that are discovered during project-related construction, maintenance, or operation activities will be treated with dignity and respect. In the event that human remains are discovered during construction the following procedures are to be followed to ensure compliance with RCW 68.60: Abandoned and Historic Cemeteries and Historic Graves, and RCW 27.44: Indian Graves and Records.

  If ground disturbing activities encounter human skeletal remains during the course of construction, then all activity must cease that may cause further disturbance to those remains and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains must be reported to the county coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.

  The county coroner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the county coroner determines the remains are non-forensic, then they will report that finding to DAHP, who will then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist will make a determination of whether the remains are Indian or non-Indian and report that finding to any appropriate cemeteries and the affected tribes. DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

3.4 Utility Provision and Supply

Affected Environment

Water

Water service within the Northeast Industrial Area is provided by Consolidated Irrigation District (CID). The Bureau of Reclamation owns the physical system but CID operates and maintains the system. CID is divided into two independent systems defined by the Spokane River; the North System includes the West Farms, Otis Orchard, East Farms, Granite, and Chinook pressure zones. The Northeast Industrial Area is within the North System in the West Farms pressure zone. The West Farms pressure zone is within well field 5 and has three wells and one reservoir.

CID's retail service area extends beyond the Northeast Industrial Area and the City of Spokane Valley city limits. CID has coordinated with the City of Spokane Valley, Spokane County, and the City of Liberty Lake in order to ensure that the CID water system plan is consistent with locally adopted plans. The City of Spokane Valley found the water system plan to be consistent with the adopted comprehensive plan and development regulations. CID anticipates that undeveloped areas within Spokane Valley will change from agricultural areas to urban or suburban areas.

It is expected that CID will provide service to all new connections within the retail service area when the District's conditions for water service and District Bylaws are met, generally the conditions include:

1. The municipal water supplier has sufficient capacity to serve water in a safe and reliable manner.
2. The service request is consistent with adopted local plans and development regulations.
3. The municipal water supplier has sufficient water rights to provide service.
4. The municipal water supplier can provide service in a timely and reasonable manner.

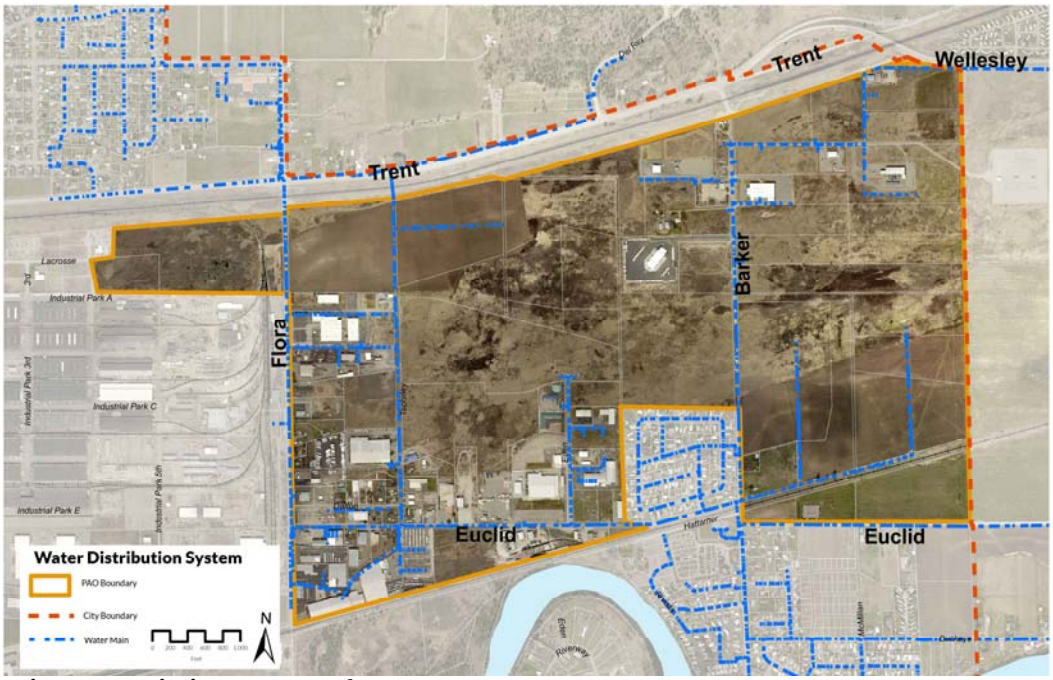

Figure 3: Existing Water Infrastructure

Sewer

The County provides wastewater collection, conveyance, treatment, and disposal for areas within the City of Spokane Valley, based on an inter-local agreement established in 2009. In areas where sewer is not currently installed, developer extensions may be required. The adopted level of service standard within the City of Spokane Valley is that public sewer is required for new development consistent with its sewer concurrency requirements.

Most of the Northeast Industrial Area is presently unserved by sewer. In 2017, a mainline sewer was installed in Euclid Avenue along the southern border of the planned action boundary and serves as a start to bringing sewer service to the area. Spokane County designs the collection and transport systems for peak flow conditions so that overflows, backups, and discharges from the system do not occur under normal operating situations. Generally, the collection and transport system will use gravity flow where possible. In areas where use of gravity flow is not possible, pump stations, force mains, and low-pressure sewer mains are used to pump the sewage to a location where gravity flow can be used. Specific design criteria shall conform to the requirements of the Washington State Department of Ecology and Spokane County Environmental Services.

The Northeast Industrial Area Planned Action Area is located in the North Valley Interceptor sewer basin and served by Drainage Basins 7 and 8. Drainage Area 7 is bounded by BNSF on the north, the city limits on the east, Euclid Avenue on the south, and Barker Road on the west. Generally, sewer flows generated in this basin can drain south by gravity in the proposed Barker Road sewer main to the Euclid Avenue sewer main. Easements may be needed for the proposed development to construct sewer and connect to Barker Road. The southern triangular portion of Drainage Area 7 will tie into Barker Road via Euclid Avenue south of the UPRR tracks.

Drainage Area 8 is bounded by BNSF to the north, Barker Road on the east, Euclid Avenue on the south, and Flora Road on the west. Tschirley Road and Eden Lane are existing north/south roads that are also in this basin. Sewer flows generated within this drainage area will drain south based on the existing topography. When future gravity sewer mains are constructed in Tschirley Road, Flora Road, or the future east-west Flora/Barker connectors within the basin, these sewer flows would be conveyed south to the North Valley Interceptor through the Euclid Avenue sewer main and Flora Pit sewer extension.

Drainage Basin 8 includes the residential platted property at the northwest corner of Barker Road and Euclid Avenue. The residential area is not part of the Northeast Industrial Area. This residential plat would be served by the proposed Barker Road sewer line draining south or the Euclid Avenue Sewer Main draining west.

Drainage Basin 8 also includes a pump station owned by Wagstaff Industries, LLC. The private pump station flows west across Flora Road to the Spokane Business and Industrial Park (SBIP) private sewer system, then south in a force main to an existing manhole and 10" sewer line.

The whole Northeast Industrial Area drains southwest through the new Flora Pit sewer extension line paralleling the Spokane River and connecting to the existing North Valley Interceptor, which drains to the Spokane County Regional Water Reclamation Facility (SCRWRF). The SCRWRF provides treatment to most of Spokane Valley's wastewater. SCRWRF is located at the old Stockyards site east of Freya and south of Trent. The SCRWRF currently has a rated capacity of 8 mgd, but is expandable up to approximately 24 mgd on an average daily basis. Spokane County also has an agreement with the City of Spokane for an additional 10 mgd of treatment capacity at the Riverside Park Water Reclamation Facility

(RPWRF). The combination of these two treatment facilities has been estimated to handle 20 years of future growth in Spokane Valley.

Power, Natural Gas, Telecommunications

Avista Utilities provides power to the Northeast Industrial Area. Avista is statutorily obligated to provide reliable electricity service to its customers at rates, terms, and conditions that are fair, just, reasonable, and sufficient. To determine how to best meet the future electric needs of its customers, Avista produces an Electric Integrated Resource Plan (IRP). The IRP looks ahead 20 years to identify resource strategies and portfolios that will cost-effectively meet customers' long-term needs.

Avista Utilities provides power to the Northeast Industrial Area. To determine how to best meet the future natural gas energy needs of its customers, Avista produces a Natural Gas IRP. The IRP looks ahead 20 years to identify resource strategies and portfolios that will cost effectively meet customers' long-term needs.

Internet service is available through multiple providers. CentruryLink and Comcast are the primary cable television and Internet providers. CenturyLink provides Internet service via telephone lines and Comcast provides Internet service via cable. However, numerous cable providers serve the area, and generally, include Internet access service options

Impacts

Water

The Northeast Industrial Area will see increased industrial development; however, this development is consistent with the adopted comprehensive plan. Consolidated Irrigation District's water system plan indicates that the North System which includes West Farms as an adequate supply to meet 20-year max day demand and peak hour demand needs. CID plans no improvements to North System supply facilities at this time. The water system plan also includes an alternate design concept analysis that shows the North System has adequate physical storage to meet current and projected 20-year needs. At this time CID plans no storage improvements for the North System.

The water system plan does identify deficiencies within the Northeast Industrial Area related to the distributions system not meeting the fire flow and pressure criteria in the vicinity of Flora Rd and Tschirley Road.

Sewer

The planning and design for wastewater treatment and effluent disposal facilities is based on the 20-year projections of population growth and current water quality criteria as established by the Washington State Department of Ecology. In the case of Northeast Industrial Area, forecasts are based on the City of Spokane Valley's Comprehensive Plan. While the County's Comprehensive Wastewater Management Plan was last updated in 2014 and the City's Comprehensive Plan was adopted in 2016 both plans forecast industrial land uses within the Northeast Industrial Area. For this analysis it's assumed that the increased development in the Northeast Industrial Area is anticipated by County's 2014 Comprehensive Wastewater Management Plan (CWMP) and planned for in the October 2015 Flora-Euclid Sewer Basin Pre-design Report.

According to CWMP, the County's current treatment capacity at the SCRWRF and RPWRF are sufficient to accommodate projected 20-year flows. However, additional treatment capacity will likely be needed to support long-term buildout needs of the County's service area. When flows reach 85% of the design and/or contractual capacities for three consecutive months,

facility planning will begin (if it will have not already been started) to determine the optimal method to address treatment facility needs for future flow increases.

Ongoing maintenance of conveyance and distribution lines will be necessary. No conflicts with proposed plans, policies, or regulations are expected. No improvements to add capacity are necessary and only the new collection line along Barker Road is planned. Additionally, the existing dry-line in Eden Lane, installed in 1990, was connected to the Euclid Avenue main in 2017.

Typically Spokane County Environmental Services, the agency administering the CWMP, receives notice of development projects via State Environmental Policy Act (SEPA) noticing. If the Northeast Planned Action Ordinance is adopted the standard SEPA noticing would not occur. Spokane County Environmental Services uses its comments to provide sewer design and construction requirements, including details related to easements, dedications, and sewer connections.

Power, Natural Gas, Telecommunications

According to Avista's Electrical Integrated Resource Plan (IRP), over the next 20 years, Avista anticipates adding almost 90,000 retail customers with a 0.6 percent annual growth in electric demand. The IRP includes plans and strategies to meet future demand. The IRP is updated every two years and looks 20 years into the future. Natural gas also has an IRP that includes plans and strategies to meet future demand.

New industrial development will place increased demand on electrical and possibly natural gas needs within the Northeast Industrial Area. Avista reviewed and commented on the City's adopted comprehensive plan that anticipated industrial uses in the area. While the review was done at a very high level, the Planned Action Ordinance does not change the anticipated land use. Industrial users that would place a significant demand on electrical and/or natural gas may require additional consultation with Avista to ensure appropriate level of service.

Mitigations

Water

The Consolidated Irrigation District water system plan identifies three improvements to the distribution system that impact development within the Northeast Industrial Area. These improvements are aimed at addressing the low pressure and fire flow impacts identified above. The water system plan includes improvements for both 20-year and 50-year horizons because water mains typically have a longer lifespan than 20-years and the CID aims to prevent installation of a main that might require replacement prior to reaching its full service life due to capacity limitations. The three improvements within the West Farms pressure zone that impact the Northeast Industrial Area are seen in the table below.

Table 3: West Farms 20 and 50 year Distribution Improvements

Type of Deficiency	Location	20-year Improvement	50-year Improvement
Low Pressure	Vicinity of Flora Rd and Tschirley Rd North of Euclid Ave and South of Trent Ave	None	Improvements (a) and (b)
Fire Flow	Vicinity of Flora Rd and Tschirley Rd North of Euclid Ave and South of Trent Ave	(a) Replace Campbell Rd from Euclid Ave to Wellesley Ave with 16"	20-year improvements and

	(b) Construct 12" loop parallel to south side of Trent Ave from Barker Rd to Tschirley Rd	(c) Replace north side of Trent Ave from Tschirley Rd to Flora Rd with 10"

Sewer

Spokane County develops a 6-year Capital Improvement Program (CIP) summary as a part of its sewer planning. In the Northeast Industrial Area the City of Spokane Valley and Spokane County have an agreement to coordinate the installation of sewer improvements with transportation system improvements. Barker Road is slated to be widened to a 3-lane urban cross section in a phased project beginning in 2020 and the installation of a sewer line ranging from 8-10 inches is planned at that time.

In addition to the proposed Barker Road project, Spokane County has completed a number of sewer projects scoped in the 2014 CWMP to facilitate industrial development within the Northeast Industrial Area, these include:

- SM-6.1: Euclid Avenue Gravity Sewer Main (Flora to Barker). Constructed in 2017, this project includes a new 15-inch sewer main. Flows will be collected at the intersection of Barker Road and Euclid Avenue and in Flora Road on the east side of the Spokane Business Industrial Park, south of Euclid Avenue. All flows will drain in Euclid Avenue to the Flora Pit Sewer Extension (see Project SM-6.2). This project is designed to deliver sewer flows generated between Barker Road, Flora Road, Euclid Avenue, and the BNSF Railroad. The purpose of this project is to provide future sewer service to a potentially developable commercial area in the northeast portion of the City of Spokane Valley.
- SM-6.2: Flora Pit Sewer Extension. Constructed in 2016-2017, this project includes a new 18-inch sewer main that collects sanitary sewer flows between Barker Road and Flora Road in Euclid Avenue (see Project SM-6.1). Flows will drain southwest through this new sewer line paralleling the Spokane River and connect to the existing North Valley Interceptor Extension at the Flora Pit Road and Sullivan Road intersection. The purpose of this project is to collect flows draining to Euclid Avenue and provide future sewer service to a potentially developable commercial area in the northeast portion of the City of Spokane Valley.

While improvements in capacity are not necessary at this time, the 2014 CWMP does mention monitoring treatment capacity at SCRWRF to assist in predicting when design for upgrades will be required.

- WWTP-20.1: Longer-term Expansions/Upgrades to SCRWRF. This project is a placeholder for longer-term expansions/upgrades to the SCRWRF, such as treatment process construction that may be necessary to increase its capacity and/or treatment capabilities. Appropriate expansions will be done in phases, maybe before, but probably beyond the next 20 years.

All projects that desire to participate in the PAO shall connect to public sewer consistent with adopted County regulations and policies. In order to facilitate a streamlined process, notice shall be provided to Spokane County Environmental Services as part of the process used to evaluate a project's consistency with the thresholds analyzed in the PAO of the project. As

part of the PAO request, applicants shall complete Spokane County's general sewer packet, including a signed sewer planning requirements form[2].

Telecommunications, Natural Gas, Power

In order to address the potential loss of SEPA comment period, as part of a potential project's review for consistency with this analysis notice shall be provided to Avista Utilities and Comcast Communications of the project.

3.5 Transportation

Affected Environment

For a full detail of the existing conditions related to transportation please see *Appendix A: Existing Transportation Conditions Report for Spokane Valley Northeast Industrial Area PAO*[3].

Streets

The street network within the study area is fairly coarse compared to other parts of the City, as much of the land is undeveloped and there are few local streets. There are three existing collector and arterial streets within the study area each spaced about a mile apart. All streets within the study area have two lanes, there are no signalized intersections and only a few streets segments contain curb and gutter.

Major (collector and arterial) Streets

- **Barker Road** – Barker is the primary north-south street through the study area. It is the only street in the study area that crosses the Spokane River, thus providing direct access to I-90 and Appleway Boulevard to the south. It also connects with Trent Avenue to the north. As a result this street has the highest existing traffic volumes in the study area averaging about 5,500 vehicles per day. Barker is designated as a minor arterial within the study area. The posted speed is 45 mph in the study area and 35 mph south of Euclid.
- **Flora Road** – Flora Road is parallel to Barker Road and located one mile to the west of Barker. This street provides connections between Trent Avenue and Euclid Avenue, but does not connect across the Spokane River. It becomes a private road south of Euclid.
- **Euclid Avenue** – This is the only continuous east-west street through the study area providing connections between Liberty Lake to the east and Sullivan Road to the west. However, the street dog-legs where it intersects Barker Road (crossing the UP railroad tracks) and Flora Road in the study area.

Local Streets

Excluding the small residential development on the northwest corner of Barker Road and Euclid Avenue (which is not part of the study area), the study area contains just three publicly accessible local streets (Dalton Avenue, Tschirley Road and Eden Street) combining for just over 1 mile in total length. Eden Street is one of the only streets in the study area with a curb and gutter.

Major Regional Roadways Nearby

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[2] Appendix D includes the Spokane County General Sewer Summary Packet

[3] Appendix A was developed prior to naming the area Centennial Business Park, the Northeast Industrial Area and Centennial Business Park are synonymous.

There are several major regional roadways that, while outside the study area, provide access to the state and national highway system. Connections to these roadways will be critical to employee and freight access as part of future land development.

- **Trent Avenue (SR 290)** – Trent is a major east-west connection and freight artery through the Spokane region. It is a five lane principal arterial road just north of the study area with a 50 mph posted speed. There are side street stop controlled intersections where both Flora Road and Barker Road intersect Trent. The intersection at Barker and Trent is currently in design for a round-about and the improvements are fully funded.
- **Interstate-90** – I-90 is the major east-west interstate highway across the state of Washington and is one of the principal interstates spanning the country from coast to coast. This highway is an important artery for freight and interstate travel in the region. An interchange to I-90 is located 1.5 miles south of the study area with an interchange at Barker Road.
- **Appleway Boulevard** – Appleway/Sprague is the major east-west corridor through the heart of Spokane Valley. Barker Road intersects Appleway Boulevard about 2 miles south of the study area.
- **Sullivan Road** – Sullivan Road is a major north-south arterial located just to the west of the study area. Euclid Avenue intersects Sullivan about 1 mile west of the study area. Sullivan Road also provides access to Trent Avenue and I-90.

Traffic Operations

The Spokane Valley Comprehensive Plan adopts the following Level of Service Standards (LOS):

- LOS D for major arterial corridors:
  - Argonne/Mullan between the town of Millwood and Appleway Boulevard
  - Pines Road between Trent Avenue and 8th Avenue
  - Evergreen Road between Indiana Avenue and 8th Avenue
  - Sullivan Road between Wellesley Avenue and 8th Avenue
  - Sprague Avenue/Appleway Boulevard between Fancher Road and Sullivan Road
- LOS D for signalized intersections not on major arterial corridors
- LOS E for unsignalized intersections (LOS F is acceptable if the peak hour traffic signal warrant is not met)

As part of this analysis the City conducted a LOS for 18 intersections critical to the development of the Northeast Industrial Area. As shown in the table below, under the existing conditions, most intersections included in this study currently meet LOS criteria in both the AM and PM peak periods. Intersections that do not meet the LOS criteria are shown in **bold text**.

Table 4: Existing LOS for NIA Critical Intersections

Intersection	Type	AM Peak		PM Peak		Approach Reported (AM/PM)
		Delay (secs)	LOS	Delay (secs)	LOS	
Barker Rd/Trent Ave	Side-Street Stop	**59**	**F***	41	E	NB
Barker Rd/Euclid Ave (north)	Side-Street Stop	10	A	11	B	EB
Barker Rd/Euclid Ave (south)	Side-Street Stop	12	B	17	C	WB
Barker Rd/Buckeye Ave	Side-Street Stop	13	B	10	B	WB
Barker Rd/Riverway Ave	Side-Street Stop	16	C	20	C	WB
Barker Rd/Indiana Ave (north)	Side-Street Stop	11	B	12	B	EB

Barker Rd/Indiana Ave (south)	Side-Street Stop	14	B	15	B	WB
Barker Rd/Mission Ave	Signal	13	B	17	B	
Barker Rd/Boone Ave	Side-Street Stop	22	C	18	C	EB/WB
Barker Rd/Westbound I-90 Ramps	Signal	**68**	**E**	43	D	
Barker Rd/Eastbound I-90 Ramps	Signal	44	D	**113**	**F**	
Flora Rd/Trent Ave	Side-Street Stop	**129**	**F**	**124**	**F**	SB/NB
Flora Rd/Euclid Ave (north)	Side-Street Stop	11	B	11	B	WB
Flora Rd/Euclid Ave (south)	Side-Street Stop	10	A	10	A	EB
Sullivan Rd/Trent (north)	Signal	16	B	12	B	
Sullivan Rd/Trent (south)	Signal	13	B	21	C	
Sullivan Rd/Euclid Ave	Signal	51	D	60	E**	
Del Rey Dr/Trent Ave	Side-Street Stop	23	C	18	C	SB

Source: Fehr & Peers

* Does not meet City LOS standard because intersection operates at LOS F and traffic volumes satisfy the peak hour signal warrant

**LOS E is acceptable here because Sullivan is a major arterial corridor that meets LOS standard corridor-wide

Transit Network

Spokane Transit Authority (STA) provides public transit service within Spokane Valley, no fixed-route transit service is provided in the study area. The closest bus stop is about a mile south of the study area at the Barker Road/Mission Avenue intersections. This stop is served by route 98 which operates at 30 minute frequencies during weekdays between Liberty Lake and the Valley Transit Center. Route 96 also stops just over a mile west of the study area at the Sullivan Road/Euclid Avenue intersection. This route also operates at 30 minute frequencies weekdays and connects North Sullivan Road with the Mirabeau mixed-use commercial area, Pines Road and the Valley Transit Center. As the study area densifies, STA may provide transit service in the future and all arterial roadways will be designed to accommodate transit vehicles.

Bicycle Network

There are no existing bicycle facilities within the study area. However, some bicycle facilities exist just south of the study area. These include a bicycle lane on Barker Road just south of the study area (that extends for about 2/3 of a mile) between the Spokane River Bridge and Boone Avenue and the Centennial Trail multiuse path on the south side of the Spokane River also just south of the study area. This Centennial Trail spans about 7 miles across the City of Spokane Valley and beyond connecting the Pasadena Park area with Liberty Lake.

Bicycle lanes are planned to be constructed along Barker Road between the Spokane River and Trent Avenue and between Boone Avenue and Appleway Boulevard by year 2021 as part of the City's Barker Road Improvement Project. As part of the City of Spokane Valley's Bike and Pedestrian Master Program, bicycle lanes are also proposed on Flora Road and a multi-use trail is proposed parallel to Trent Avenue just north of the study area. No funding or timeline has been identified for these projects.

Pedestrian Network

The majority of the streets within the study area do not have sidewalks, curbs or gutter. There are two exceptions, a 0.3 mile stretch of Eden Avenue north of Euclid Avenue and a short segment (about 360 feet) along the west side of Barker Road. The Eden Avenue sidewalk is a 5 foot sidewalk and curb on both sides of the street. The sidewalk on the east side is detached from the curb, while on the west side it is attached except for the northern section. The Barker Road is a detached sidewalk and curb that was constructed as part of a recent development. There are no signalized pedestrian crossings in the study area and no painted crosswalks.

Truck Routes & Volumes

There is a high percentage of truck traffic on the major streets in the study area compared to other parts of Spokane Valley. Truck traffic on the three major streets in the study area (Barker Road, Flora Road and Euclid Avenue) accounts for about 12-17% of the average daily vehicle traffic, and 3-13% of the peak hour traffic. The three major streets are classified as T-3 based on the annual freight tonnage they carry (between 300,000 and 4 million tons of freight per year). The major corridors around the study, Trent Avenue, I- 90, Sullivan Avenue and a section of Barker Road just south of I-90 support even higher volumes of freight and are classified as T-1 or T-2, carrying more than 4 million tons of freight per year.

Several businesses operating in the industrial area support existing larger industrial businesses and generate internal trips related to business interaction. For example, there are Kaiser Aluminum suppliers that shuttle materials back and forth within the existing Industrial Park and within the study area.

Rail Operations

The Northeast Industrial Area is also flanked by two mainline railroads. The Burlington Northern Santa Fe (BNSF) mainline parallels the northern edge of the study area and the Union Pacific (UP) mainline parallels the southern boundary of the study. The BNSF route is one of the company's main transcontinental lines between west coast ports and the interior of the country and hosts Amtrak's twice daily Empire Builder between Chicago and Seattle/Portland. Both rail companies also have rail spurs to industrial land uses west of the study area. While no rail spurs currently exist in the study area, preservation of access to both rail lines will be important to future industrial development within the study area.

Federal Railroad Administration (FRA) data indicates that the BNSF line hosts about 54 trains per day, mostly long-haul freight trains passing quickly through the area, and the UP line hosts about 9 trains a day, including a combination of short-haul freight, long-haul freight, and short trains performing switching operations. The table below describes some basic operating characteristics, including a list of crashes since 1975.

Table 5: Operating characteristics of at-grade rail crossings

Railroad	Street Crossing	Avg Trains per day	Typical Frequency	Gates Down avg/max mins	Typical Speed	Crashes 1975-2016
BNSF	Barker	54	10-90 mins	3:00 / 4:30	1-79 mph	1991 – fatality
	Flora	54	10-90 mins	No data	1-79 mph	1975 – no injury 1990 – no injury
UP	Barker	9	1-4 hours	2:00 / 4:00	24-49 mph	1989 – fatality
	Flora	9	1-4 hours	No data	24-49 mph	None

Source: Fehr & Peers; Federal Railroad Administration

At-Grade Rail Crossings

There are four at grade railroad crossing within the Northeast Industrial Area: BNSF at Flora; BNSF at Barker; UP at Flora; and UP at Barker. Traffic queueing impacts related to railroad crossings were analyzed as part of this analysis for the crossings on Barker Road. Flora Road crossings were not analyzed because the grade separation project on Barker and BNSF would close the BNSF crossing at Flora. Additionally, the UP traffic is about 5 times less BNSF traffic.

The queuing analysis was done using Synchro, a traffic analysis software, and are based on observed gate down times and traffic volumes during both the AM and PM peak hour. Trucks

are assumed to be the equivalent of three passenger vehicles and each passenger vehicle is assumed to be 25 feet in length. The table below shows the queuing lengths at both the average gate down time and the longest gate down time at peak travel times. The longest gate down time at peak travel times is likely to occur only a few times a year but can occur more frequently on the BNSF crossings.

Table 6: Vehicle Queue Lengths at Barker Road Railroad Crossings

Frequency	Trains per day	Gate Down Time	Vehicle Queue Length (feet) AM Peak NB	AM Peak SB	PM Peak NB	PM Peak SB
BNSF Crossing						
Average (50th percentile)	54	3 minutes	150	250	275	275
Worst Case (95th percentile)	54	4.5 minutes	275	425	475	475
UP Crossing						
Average (50th percentile)	9	2 minutes	300	250	225	500
Worst Case (95th percentile)	9	4 minutes	700	250	525	1,050

Source Fehr & Peers

In the southbound direction at the Barker Road crossing there is only about 100 feet between the railroad crossing stop bar and the Trent Avenue intersection, which is enough space for about 4 cars (or 1 truck and 1 car). This means the queue typically extends about 175 feet along Trent Avenue (and can be as long as 375 feet during the worst case scenario). Vehicles queued on Trent would be in either the westbound left turn pocket, which is about 200 feet long or the eastbound right-turn lane, which is about 300 feet long. Currently these lanes are long enough to store vehicles queued on Trent during the worst case scenario without spilling into the thru lanes.

When gates are down at the UP crossing during the PM peak hour, queues typically build up to about 500 feet southbound and 225 feet northbound (with the queue typically spilling onto both directions of Euclid Avenue). During the worst case scenario queues can be 1,075 feet in the southbound direction during the PM peak and 700 feet in the northbound direction during the AM peak.

Lastly, because there are no grade-separated rail crossings in the study area, there are times that the gates are down on both the UP and BNSF line at the same time. This could delay access into or out of the site for emergency vehicles by as much as 4 minutes. The nearest alternative route would be via Sullivan Road (2 miles west of Barker Road), which is grade-separated from both railroads, and Euclid Avenue.

Programmed Transportation Projects

Several streets within the study area and surrounding intersections are programmed for improvement as part of the Spokane Valley Six-Year Transportation Improvement Program (TIP) and/or as a part of the Spokane Regional Transportation Council (SRTC) financially constrained project list in the Horizon 2040 Plan. Programmed projects that will impact transportation in the study area are listed in the table below. These projects, because they have been programmed prior to the Northeast Industrial Area PAO, are assumed to occur regardless of the action and do not appear as a mitigation.

Table 7: Existing Transportation Projects Impacting Study Area

Project	Description	Program (Project #)	Year	Agency Responsible	In Study Area?
Sullivan/Euclid - Concrete Intersection	Reconstruct intersection in concrete pavement (slight change in lane configuration)	6-year TIP	2018	City of Spokane Valley	No
Barker Road – Euclid to Garland	Reconstruct to 3-lane urban section	6-year TIP	2021	City of Spokane Valley	Yes
Barker Road – Garland to Trent	Reconstruct to 3-lane urban section	6-year TIP	2023	City of Spokane Valley	Yes
Barker Road Improvement Project – Appleway to I-90	Widen and improve to 5-lane urban section; roundabout @ Broadway; realign east leg of Broadway	6-year TIP	2024	City of Spokane Valley	No
Barker Road Improvement Project – Spokane River to Euclid	Reconstruct and widen to 3-lane urban section	6-year TIP	2023	City of Spokane Valley	No
Barker Road/BNSF Grade Separation	Construct grade separation at Barker/BNSF RR/Trent	6-year TIP	2022	City of Spokane Valley	Yes
I-90/Barker Road Interchange	Construct general purpose lanes and replace Barker Rd I/C	*Horizon 2040 Plan*	2020	WSDOT	No
Sullivan Road Bridge over Trent	Construct new bridge over Trent and BNSF railroad tracks	*Horizon 2040 Plan*	2031-2040	City of Spokane Valley, BNSF	No

Impacts

The Northeast Industrial Area is likely to see increased development resulting in impacts to the transportation network not only within the area's boundary but to intersections and roadways beyond the project boundary. Improvements to the transportation network represent one of the largest investments related to increased development and one that is easily linked to the pace and intensity of development. In order to provide a predictable and flexible impact analysis, the transportation impacts have been separated into three phases, described below. Each phase includes a technical memorandum and is included as *Appendix B: Spokane Valley Analysis for Phase 1, Phase 2, and Phase 3*[4].

- **Phase 1 – 2017-2019.** Consists of two adjacent industrial developments proposed on approximately 80 acres of currently undeveloped land on the northeast corner of Barker Road and Euclid Avenue in Spokane Valley. The two projects are estimated to have a combined total of 375 employees when they open.
- **Phase 2 – 2020-2032**. Consists of the widening of Barker Road to five lanes south of Mission Avenue to I-90. This project is the only large scale mitigation project needed in Phase 3 that was not tied to another project with a pre-defined timeline.
- **Phase 3 – 2032-2040.** Consists of all the remaining projects needed to accommodate approximately 3,200[5] additional employees in the Northeast Industrial Area. The level of intensity expected is consistent with the adopted 2017 Comprehensive Plan.

[4] Appendix B was developed prior to naming the area Centennial Business Park, the Northeast Industrial Area and Centennial Business Park are synonymous.

[5] Employment forecast is based on the 2017 Comprehensive Plan. An updated version of the SRTC model assumes less growth for the area; however, an updated analysis completed after initial review the DSEIS indicated the impacts are similar, so the Comprehensive Plan numbers are being used for consistency. Please see Appendix -

Phase 1 Impacts

New vehicle trips associated with the two projects in Phase 1 were estimated for the morning and afternoon peak hour on a typical weekday using the ITE Trip Generation Manual, 9th Edition. Trip rates were calculated based on the number of employees. The land use of both sites was assumed to be General Light Industrial (ITE Code 110) as this land use type best matched the anticipated trip rates and directional distribution by time of day for the two proposed developments. Note that Manufacturing (ITE Code 140) was also considered, however, the General Light Industrial use resulted in slightly more conservative (higher) trip generation rates, so that land use category was used.

The table below shows the estimated vehicle trips that will be generated from Phase 1. Phase 1 is anticipated to generate a total of 1,198 new trips per weekday, including 131 in the morning peak hour and 160 during the afternoon peak hour. The number of trucks is 13% and is based on 2017 traffic counts.

Table 8: Phase 1 Vehicle Trip Generation

Trip Generator	Land Use	Employees	AM Peak Hour		PM Peak Hour		Weekday Total
			In	Out	In	Out	
Project #1	Light Industrial	150	56	10	13	50	473
Project #2, 1st Shift	Light Industrial	125	46	9	11	42	399
Project #2, 2nd Shift	Light Industrial	100	0	0	37	7	326
	Total	**375**	**112**	**19**	**61**	**99**	**1,198**

Trip Distribution

The distribution of trips in Phase 1 was estimated using existing peak hour traffic volumes and turn movements along Barker Road. Traffic data were collected in either June, 2016 or February, 2017. The estimated distribution of trips from Phase 1 is shown in the list and figure below:

Spokane Valley Northeast Industrial Area Planned Action Ordinance – Spokane Regional Transportation Council Model Update; April 4, 2018

- Trent Avenue, west of Barker Road: 28%
- Trent Avenue, east of Barker Road: 18%
- Euclid Avenue, west of Barker Road: 2%
- Euclid Avenue, east of Barker Road: 8%
- Mission Avenue, west of Barker Road: 8%
- Mission Avenue, east of Barker Road: 2%
- I-90, west of Barker Road: 19%
- I-90, east of Barker Road: 5%
- Barker Road, south of I-90: 10%

Figure 4: Phase 1 Trip Distribution

Level of Service Results

Traffic operations, including vehicle delay and level of service (LOS) at each intersection under Phase 1 were analyzed using Synchro (a transportation planning software). The results of the LOS analysis, including a comparison of existing (2017) and future (2019) conditions under Phase 1, for each of the six major intersections on Barker Road are shown below.

Table 9: Phase 1 Intersection Level of Service Results

Intersection along Barker	Control[1]	Existing (2017)				Phase 1 (2019)				Approach
		AM Peak		PM Peak		AM Peak		PM Peak		
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	
Trent Ave	SSSC	**59**	**F[2]**	41	E	**139**	**F[2]**	**90**	**F[2]**	NB
Site Access Rd	SSSC	n/a	n/a	n/a	n/a	11	B	12	B	SBL/WB
Euclid Ave (north)	SSSC	10	B	11	B	11	B	13	B	EB
Euclid Ave (south)	SSSC	12	B	15	C	14	B	20	C	WB
Mission Ave	Signal	13	B	17	B	14	B	15	B	
I-90 westbound	Signal	**68**	**E**	43	D	**92**	**F**	46	D	
I-90 eastbound[3]	Signal	44	D	**113**	**F**	50	D	**122**	**F**	

1. SSSC = Side Street Stop Control
2. Does not meet City LOS standard because intersection operates at LOS F and traffic volumes satisfy the peak hour signal warrant per MUTCD guidelines
3. Based on HCM 2000 methodology

Results show that under Phase 1 there would be minimal change in vehicle delay from today at the Barker Road/Euclid Avenue (north and south) and the Barker Road/Mission Avenue intersections. Those intersections would continue to achieve LOS B or C, well within the acceptable LOS threshold established by the Spokane Valley Comprehensive Plan. The intersections with the most significant traffic impacts under Phase 1 include:

- Barker Road/Trent Avenue
- Barker Road/I-90 Westbound
- Barker Road/I-90 Eastbound

At Grade Railroad Crossings

The impacts of queuing vehicles at the two at-grade railroad crossings along Barker Road were analyzed using Synchro under Phase 1 conditions. The table below shows the queuing lengths for the average gate down time and the longest gate down time at peak travel times.

Table 10: Vehicle queue length on Barker Road at-grade rail crossings when gates are down

Railroad Crossing	Condition	Trains per Day	Gate Down Time[1]	Vehicle Queue Length (feet)			
				AM Peak		PM Peak	
				NB	SB	NB	SB
BNSF	Average (50th percentile)	54	3 minutes	175	300	375	325
	Worst Case (95th percentile)	54	4.5 minutes	325	525	650	525
UP	Average (50th percentile)	9	2 minutes	400	275	300	650
	Worst Case (95th percentile)	9	4 minutes	950	275	650	1,350

[1] Duration and frequency of gate down times was recorded at both the BNSF and UP rail crossings along Barker Road between 7AM and 6PM Tuesday, February 14, 2017

The queues at the UP crossing will likely back up onto Euclid Avenue in both directions, but beyond being a little longer than observed today, are not anticipated to have any additional traffic impacts. However, because there is only about 100 feet of space along Barker Road between the BNSF railroad crossing stop bar and Trent Avenue the Barker Road/BNSF rail crossing a more detailed analysis was performed to see if there would be any impacts to traffic on Trent Avenue.

In most cases during the peak period, vehicles will end up queued along Trent Avenue, either in the eastbound right-turn pocket (about 300 feet of storage space) or the westbound left-turn pocket (about 225 feet of storage space). During the AM peak, the percentage of vehicles turning left or right off of Trent Avenue onto southbound Barker Road is split close to 50/50 (eastbound/westbound). During the PM peak the split is 75/25 (eastbound/westbound). These ratios were applied to the estimated queue length during the average and worst case scenarios.

Table 11: Vehicle queues on Trent Avenue at Barker and BNSF Railroad Crossing

Condition	Vehicle Queue Length (feet)					
	Total Queue Need	Barker Road	Trent Ave			
			Turn Lanes		Unused Storage	
			EBL	WBL	EBL	WBL
Existing Vehicle Storage Space		100	300	200	n/a	n/a
Average (50th percentile) AM	300	100	100	100	200	125
Average (50th percentile) PM	325	100	175	50	125	175
Worst Case (95th percentile) AM	525	100	225	200	75	25
Worst Case (95th percentile) PM	525	100	325	100	**-25**	125

The table above demonstrates that during the average scenario there would be sufficient storage space in both the westbound left-turn pocket and eastbound right-turn pocket along Trent Avenue during the peak hours. In the worst case scenario there would be sufficient capacity in both the westbound left-turn pocket and eastbound right-turn pocket along Trent Avenue during the AM peak hours. During PM peak the westbound left-turn pocket has sufficient capacity but the eastbound right-turn pocket exceeds capacity by 25 feet (about 1 car) during the PM peak. It is estimated (based on the frequency of 4.5 minute gate down times) that this scenario would occur about 9-10 times per year.

Phase 2 Impacts

Phase 2 was developed after Phase 3. Where Phase 3 identifies the impacts out to 2040, the City desired to identify an intermediate level of development between Phase 1 (in year 2019) and Phase 3 (in year 2040). Of the recommended projects to mitigate traffic impacts associated with Phase 3 development (see section below), the largest and most expensive would be widening Barker Road to five lanes from Mission Avenue to I-90. Unlike some of the other recommended projects, the timeline for widening Barker Road to five lanes is not tied to other projects, but would be based on the pace of nearby development and associated growth in traffic

Traffic forecasts show that Barker Road between Mission Avenue and I-90 will likely need to be widened to five lanes at some point between the year 2025 and 2032. This forecast assumes steady growth in background traffic on this corridor over the next 20 years at a rate of about 1.33% per year. The variability in timing in this analysis is based on how rapidly the Northeast Industrial Area is developed. If no new industrial development in the Northeast Industrial Area occurs over the next 14 years, background traffic growth alone on Barker Road – caused by other nearby and regional developments – would likely trigger the need to widen Barker Road south of Mission Avenue by year 2032. Alternatively, if there were to be rapid buildout of the Northeast Industrial Area over the next 5-10 years, the earliest year that widening would likely be needed is in 2025.

Using the City's adopted LOS, the approximate year in which traffic growth along Barker Road south of Mission Avenue would trigger the need for the City of Spokane Valley to widen the section of Barker Road between Mission Avenue and I-90 to five lanes is shown in the table below for three different development scenarios in the Northeast Industrial Area.

Table 12: Forecast year Barker Road would exceed LOS south of Mission Avenue

Phase 2 Development Scenario	Year LOS D threshold would be exceeded
With no new development in the Northeast Industrial Area	2032
With 75% of the 2015-2040 forecast growth in the Northeast Industrial Area	2026
With 100% of the 2015-2040 forecast growth in the Northeast Industrial Area	2025

Phase 3 Impacts

Traffic volumes under Phase 3 were estimated using the same regional travel demand model that was used for the recent update (2017) to the Spokane Valley Comprehensive Plan. Prior to running the model, input was gathered from the project's technical advisory committee (TAC) to identify future land use and transportation network changes that were not already incorporated in the model. The TAC is comprised of representatives from Spokane Valley, Spokane County, Liberty Lake, the Spokane Regional Transportation Council (SRTC), Washington State Department of Transportation (WSDOT), developers, utility providers, and the railroads.

After consulting with the TAC, a few changes were made to the regional travel demand model in the vicinity of the Northeast Industrial Area before running the model:

- The 2015 and 2040 land use, including the number of dwelling units and employees, in the seven TAZs within Liberty Lake (442, 445, 446, 447, 448, 449 & 450) were updated based on information provided in the *Liberty Lake Network Analysis Transportation Study* (February, 2017).
- Indiana Avenue was connected between Barker Road and Harvard Road in the 2040 model
- A new east-west connector road between Flora Road and Barker Road was added between Euclid Avenue and Trent Avenue to reflect a developer funded planned connection for the area
- Reconfiguration of the Barker Road/Trent Avenue intersection, including a scenario both with and without Flora Road open across the BNSF Railroad south of Trent Avenue

After the TAC's initial review, it was identified that the 2015 and 2040 travel demand models used for the Spokane Valley Comprehensive Plan (and Northeast Industrial Area PAO) differ from the land use assumptions in the most recent version of the SRTC 2015 and 2040 regional travel demand model (updated in December of 2017). In early 2018, an analysis was conducted to identify if any different infrastructure needs would have been identified for the Spokane Valley Northeast Industrial Area PAO using the recently updated SRTC land use forecasts and travel model compared to the land use forecasts assumed in the DSEIS. The analysis of infrastructure based on the new forecasts show that there would be no change in infrastructure recommendations identified previously.[6]

2040 Street Network Assumptions

The 2040 Synchro network (used to analyze level of service at each intersection) assume the following changes to the street network from what they are today. These were also reflected in the Spokane Regional Transportation Council (SRTC) 2040 travel demand model. These assumptions based on projects that were programmed in the Spokane Valley Six-Year Transportation Improvement Program (TIP) or the SRTC financially constrained project list from the Horizon 2040 Plan when this study started:

- Northbound and southbound left turn lanes were added at all intersections along Barker Road to reflect the planned upgrade of Barker Road to a 3-lane urban section
- The Barker Road/I-90 interchange was reconfigured to a standard diamond interchange with two-lane roundabouts plus slip ramps for right-turn movements at both ramps (as reflected in I-90/Barker Rd the Interchange Justification Report)
- Five lanes were added along Barker Road between I-90 and Appleway Boulevard
- The existing partial interchange at I-90/Appleway Boulevard was replaced with a new, full interchange at I-90/Henry Road[7]
- New northbound and southbound left turn lanes were added on Sullivan Road at the Trent Avenue ramps

Trip Generation

[6] Spokane Valley Northeast Industrial Area Planned Action Ordinance – Spokane Regional Transportation Council Model Update; April 4, 2018

[7] This configuration is consistent with the existing SRTC plan and was assumed when this study was initiated. However, since this study was initiated WSDOT completed their modeling for a new Henry Road interchange and found it did not show purpose and need. Potential strategies to address future traffic if the Henry Road/I-90 interchange is not built by 2040 are addressed in the mitigations section.

Based on land use assumptions from the 2017 Spokane Valley Comprehensive Plan, the Northeast Industrial Area will grow by about 3,200 employees between 2015 and 2040. The 2040 travel demand model forecasts the Northeast Industrial Area to generate about 1,500 PM new peak hour trips, with about 1,340 of those generated by land uses east of Flora Road. The table below shows employment growth and PM peak hour trip generation from new employees within the Northeast Industrial Area boundary. The travel demand model assumes an average PM peak hour trip generation rate of about 0.46 trips per employee, with 37% of trips inbound and 63% of trips outbound during the PM peak. This trip rate is similar to ITE's trip rate for General Light Industrial uses (ITE Code 110).

Table 13: Trip Generation within NIA

Section of NIA	2015-2040 Employment Growth	In[1]	Out[1]	**Total[1]**
West of Flora	340	60	100	**160**
Between Flora and Barker	1,460	250	430	**680**
East of Barker	1,420	245	415	**660**
Total	**3,220**	**555**	**945**	**1,500**

1: PM Peak hour trips

Trip Distribution

There is no public access across the railroad spur west of Flora Road. Therefore the portion of the Northeast Industrial Area west of Flora Road will load primarily onto Sullivan Road and Euclid Avenue, while the area east of Flora Road will primarily load onto Flora Road, Barker Road and Euclid Avenue. The distribution of trips from land uses within the Northeast Industrial Area is described in the table below and mapped in the figures below.

Table 14: Trip Distribution within the NIA

Direction	Via primary road/street	West of Flora[1]	East of Flora[1]
Northwest	– Flora Road (north)	0%	8%
	– Trent Avenue (west)	24%	20%
	– Sullivan Road (north)	22%	3%
Southwest	– Mission or I-90 (west of Barker)	N/A	11%
	– Mission/Indiana or I-90 (west of Sullivan)	11%	N/A
	– Sullivan Road (south of Marietta)	33%	14%
	– Sullivan Road (south of I-90)	22%	N/A
East	– Wellesley Avenue (east)	2%	11%
	– Trent Avenue (eastbound)	3%	2%
	– Euclid Avenue (eastbound)	6%	10%
South	– Mission/Indiana Avenue (eastbound) or I-90 (east of Barker)	5%	4%
	– Barker Road (south)	2%	7%
Local	– Nearby local streets	3%	13%

1: Percent trips by trip end location
Source: Fehr and Peers

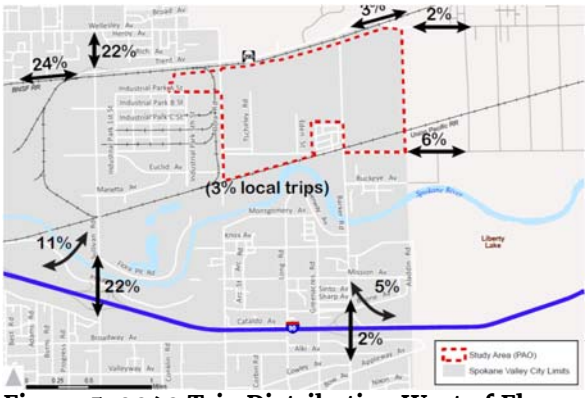


Figure 5: 2040 Trip Distribution West of Flora

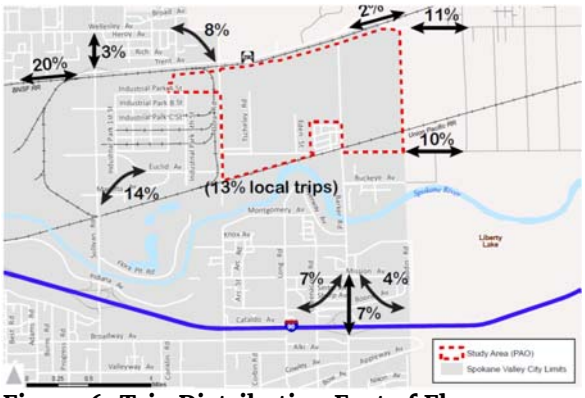


Figure 6: Trip Distribution East of Flora

Local Capture Rate

The 2040 local capture rate of 13% was derived from the SRTC approved travel model. The local capture rate accounts for all trips that begin or end within the PAO boundary and within the area roughly bound by Sullivan Road, Trent Avenue, the east City limits, and Mission Avenue. The other 87% of trip that begin or end within the PAO boundary pass through all the other road segments identified in Table 14: Trip Distribution above. Several businesses operating in the industrial area support each other and shuttle materials back and forth. It is likely that these types of supportive industries will continue to co-locate in the Northeast Industrial Area. All these local trips were considered as part of the mitigation measures identified in this analysis. Overall, the total trips that growth in the PAO area will add to the roadway system were reviewed and the results from the SRTC model were post-processed to ensure future growth in traffic that is consistent with recent trends and that all future traffic volumes are notably higher than current conditions.

Level of Service Standard Results

Traffic operations, including intersection vehicle delay and level of service (LOS) at each intersection under both existing conditions (2017) and Phase 3 conditions (2040) were analyzed using Synchro (a transportation planning software). The table below shows the results of that analysis.

The results show that by 2040 under Phase 3 of development in the Northeast Industrial Area the majority of intersections studied would operate at an acceptable LOS. These results assume all projects included in the Spokane Valley Six-Year TIP and the SRTC financially constrained project list from the Horizon 2040 Plan are operational by 2040. However, two intersections are forecast to fail the City's LOS standards by 2040, a significant transportation impact: Barker Road/Boone Avenue and Flora Road/Trent Avenue. Additional transportation impacts were also identified along Barker Road south of Mission Avenue and at the Barker Road/UP Railroad at-grade crossing, both discussed below.

Table 15: Intersection LOS Results for Phase 3 (year 2040)

Intersection	Control[1]	AM Peak		PM Peak		Approach
		Delay	LOS	Delay	LOS	
1a. Barker Rd/ Wellesley Ave[2]	Signal or Roundabout	28	C	25	C	
1b. Wellesley Ave/ Trent Ave[2]	Signal or Roundabout	26	C	25	C	
2. Barker Rd/ Euclid Ave (north)	SSSC	12	B	16	C	EB
3. Barker Rd/ Euclid Ave (south)	SSSC	14	B	19	C	WB

4. Barker Road/ Buckeye Ave	SSSC	14	B	17	C	WB
5. Barker Road/ Riverway Ave	SSSC	26	D	40	E	WB
6. Barker Rd/ Indiana Ave (north)	SSSC	13	B	17	C	EB
7. Barker Rd/ Indiana Ave (south)	SSSC	23	C	26	D	WB
8. Barker Rd/ Mission Ave	Signal	20	C	25	C	
9. Barker Rd/ Boone Ave	SSSC	139	F[4]	**>300**	**F[5]**	WB
10. Barker Rd/ I-90 Westbound Ramps	Roundabout	30	C	13	B	
11. Barker Rd/ I-90 Eastbound Ramps	Roundabout	12	B	25	C	
12a. Flora Rd/ Trent Ave (if Flora Rd/BNSF rail crossing is open[2])	SSSC	**>300**	**F[5]**	**>300**	**F[5]**	SB/NB
12b. Flora Rd/Trent Ave (if Flora Rd/BNSF rail crossing is closed[3])	SSSC	**174**	**F[5]**	**>300**	**F[5]**	SB
13. Flora Rd/ Euclid Ave (north)	SSSC	15	B	15	B	WB
14. Flora Rd/ Euclid Ave (south)	SSSC	11	B	12	B	EB
15. Sullivan Rd/ Trent Westbound Ramps	Signal	39	D	53	D	
16. Sullivan Rd/ Trent Eastbound Ramps	Signal	12	B	38	D	
17. Sullivan Rd/ Euclid Ave	Signal	52	D	51	D	
18. Del Rey Dr/ Trent Ave	SSSC	35	E	29	D	SB

1. SSSC = Side Street Stop Control.
2. This scenario assumes Barker Road will be diverted ½ mile east to a new intersection with Wellesley Road just south of the BNSF Railroad
3. This scenario assumes Barker Road will intersect Trent Avenue via a new grade separated BNSF Railroad crossing
4. Does not satisfy peak hour signal warrant using MUTCD guidelines, thus would technically still meet the City's LOS standard.
5. Does not meet City LOS standards. Intersection operates at LOS F and traffic volumes satisfy the peak hour signal warrant per MUTCD guidelines.

While the forecast trip distribution in 2040 was pulled from the SRTC model, the city also conducted a sensitivity analysis to review a 50/50 split of trips between trips heading north and trips heading south on Barker, similar to trip distribution seen on Sullivan. The analysis showed that Barker Road would still operate within WSDOT and City of Spokane Valley standards in 2040 with the recommended mitigations in place.

The intersection of Barker and Mission was used to conduct the sensitivity analysis since it was found to have the worst delay in the 2040 analysis. The analysis increased northbound through movements by 30 vehicles and southbound through movements by 105 vehicles during the PM peak over the original 2040 forecasts; about a 10% increase in traffic generated from the study area going to and coming from the south. The analysis showed that with the increase volume the intersection would continue to operate at LOS C during the PM peak hour and average delay at the intersection would increase from 25 to 31 seconds.

Barker Road/Boone Avenue Intersection

By 2040 the Barker Road/Boone Avenue intersection is forecast to operate at LOS F (as measured by the westbound approach) during both the AM and PM peak – and traffic volumes peak would be high enough on Barker Road and Boone Avenue during the PM peak

to meet the peak hour signal warrant using MUTCD[8] criteria. The 2040 travel demand model used for this analysis assumes that Cataldo Avenue - which is a local road that provides access to several industrial sites just east of Barker Road and north of I-90 - would be rerouted (as part of the Barker Road/I-90 interchange reconstruction planned by WSDOT) north to intersect Boone Avenue just east of Barker Road instead of intersecting Barker Road at the I-90 westbound ramps as it does today. This would effectively shift all of the traffic currently (and in the future) along Cataldo Avenue to instead use the Barker Road/Boone Avenue intersection. This would be sufficient by 2040 to cause the Barker Road/Boone Avenue intersection to fail the City's LOS threshold.

Barker Road (I-90 to Euclid Avenue)

The 2016 Spokane Valley Comprehensive Plan recommended widening Barker Road to five lanes from I-90 to Euclid Avenue by 2040. That recommendation was re-examined as part of this study. Average daily traffic (ADT) and the peak hour one-way volumes on Barker Road were forecast for 2040 between I-90 and Euclid Avenue based on the updates to the travel demand model described previously. Results are shown in the table below.

Table 16. Traffic volumes on Barker Road

Barker Road Segment	Existing (2017)		2040	
	ADT	Peak Hour Volume (highest approach)	ADT	Peak Hour Volume (highest approach)
Boone Avenue – Mission Avenue	13,400	640	18,400	780
Mission Avenue – Euclid Avenue	10,200	510	16,000	715

The industry standard threshold for the amount of vehicles one thru-lane of traffic can accommodate before significant delays occur ranges from about 600-900 vehicles per hour. The variation depends on driveway/intersection frequency, access control, travel speed, intersection control, concentration of traffic during the peak hour and other factors. The results of the updated analysis, above, demonstrate that volumes would be high enough on Barker Road between I-90 and Mission Avenue (combined with the presence of signalized intersections and frequent driveways/intersections) to have a significant transportation impact. Traffic volumes on Barker Road north of Mission are forecast to be a lower and, while being on the cusp of warranting mitigation, are not forecast to have a significant transportation impact.

Flora Road/ Trent Avenue

By year 2040, without any improvements, delay would increase substantially during both the AM and PM peak and thus continue to fail the City's LOS standards. Since this is a side-street stop controlled intersection, LOS is measured based on the approach with the highest delay. Under an alternative where the Flora Road/BNSF Railroad crossing remains open, the highest delay during the AM peak would be from the southbound approach, where traffic originates primarily from residential development north of Trent Avenue (outside the study area). In the PM peak, the highest delay would occur from the northbound approach, where traffic originates from the industrial sites south of Trent Avenue. Despite the added delay,

[8] *Manual on Uniform Traffic Control Devices* (MUTCD), Federal Highway Administration, https://mutcd.fhwa.dot.gov

the SRTC travel model predicts the deviation in Barker Road would cause a substantial number of drivers to opt for Flora Road instead of Barker Road to access Trent Avenue.

Under and alternative where the Flora Road/BNSF Railroad crossing is closed, delay from the southbound approach would still be well above LOS F during both the AM and PM peak hours. Under both alternatives, peak hour traffic volumes would be high enough on Flora Road and Trent Avenue to meet the peak hour signal warrant using MUTCD[9] criteria.

Impacts at the At-Grade Rail Crossings

The impacts of queuing vehicles from the Union Pacific (UP) railroad at-grade crossing at Barker Road were analyzed using Synchro in year 2040. The UP Railroad crosses Barker Road between the Euclid Avenue westbound and Euclid Avenue eastbound intersections. No grade-separation projects are currently planned at this crossing, thus is it assumed there will still be an at-grade rail crossing at this location in year 2040. Based on data provided by the Federal Railroad Administration (FRA), the UP line hosts about 9 trains per day on average. No information is provided on whether or not UP anticipates the number of trains a day to change in the future. Thus, the same number of trains on average per day today was also assumed to also occur in 2040. If the frequency of trains were to increase in the future this would not impact the queue length (unless the average length of trains or speed of trains changed), but instead, would affect the frequency of queueing. The table below shows the estimated vehicle queue lengths in 2040 at the Barker Road/UP railroad at-grade crossing.

Table 17. 2040 vehicle queue length, Barker Road/UP at-grade rail crossing when gates are down

Condition	Trains per Day	Gate Down Time	Vehicle Queue Length (feet)			
			AM Peak		PM Peak	
			NB	SB	NB	SB
Average (50th percentile)	9	2 minutes	600	375	400	975
Worst Case Thru Trains (95th percentile)	9	4 minutes	1,275	800	875	2,025
Worst Case Trains Accessing Future Spur[1] (95th percentile)	unknown	6 minutes	1,875	1,200	1,275	3,000

1. This scenario is what could occur if a train were to be backing into or out of the new rail spur planned by developers east of Barker Road during a particularly high surge in peak hour traffic.

The queues at the UP crossing are forecast to be about 50-100% longer than they are today. The longest queues are anticipated to occur in the northbound direction in the AM peak and southbound direction during the PM peak.

Vehicle queueing will occur both on Barker Road and Euclid Avenue. Based on the forecast approach volume from each of those streets, close to 80 percent of the queue during the AM peak heading northbound would be on Barker Road, with the remaining on Euclid Avenue south of the tracks (heading westbound to turn onto Barker Road). Therefore it is anticipated that the average vehicle queue during the AM peak on Barker Road heading northbound would be about 475 feet, but about 3-4 times per year could be as long as 975 feet. Assuming trains backing onto the planned rail spur east of Barker Road were to block the intersection for 6 minutes, the queue on (northbound) Barker Road during the AM peak in this scenario could be as long as 1,450 feet.

[9] *Manual on Uniform Traffic Control Devices* (MUTCD), Federal Highway Administration, https://mutcd.fhwa.dot.gov

About 10 percent of the vehicles heading north on Barker Road would be making a right turn onto Euclid before the railroad tracks and about 40 percent of vehicles heading west on Euclid Avenue would be making a left turn onto Barker Road and not crossing the railroad tracks. Thus, about 20 percent of the traffic south of the rail crossing in the AM peak would not actually be heading across the tracks, but most of these vehicles would get stuck in the queue. These vehicles would not only lengthen the queues in AM peak by an additional 20 percent, but this occurrence would add to driver frustration and increase the likelihood of drivers performing risky maneuvers to get around the queues. While the northbound queues would be shorter during the PM peak, the percentage of vehicles likely to get caught in the queue not intending to cross the tracks (heading northbound right or westbound left at Barker Road/Euclid Avenue [south]) would be even higher during the PM peak, representing about 35 percent of traffic. Therefore, the long northbound queue is determined to be a significant transportation impact.

During the PM peak the longest queues will occur north of the tracks from vehicles heading southbound on Barker Road (or eastbound on Euclid Avenue). During this time about 50 percent of the queue will be on Barker Road and about 50 percent will be on Euclid Avenue. Therefore it is anticipated that the average vehicle queue during the PM peak would be about 500 feet on both Barker Road heading southbound and Euclid Avenue heading eastbound, but about 3-4 times per year could be as long as 1,000 feet on both streets. Assuming trains backing onto the planned rail spur east of Barker Road were to block the intersection for 6 minutes, the queue on (southbound) Barker Road and (eastbound) Euclid Avenue during the PM peak in this scenario could be as long as 1,500 feet on each street. Fewer than 25 vehicles per hour are forecast to be heading either southbound right or eastbound left at this intersection, thus about 95 percent of the vehicles in the queue would be waiting to cross the tracks.

As part of the Phase 1 development, a new rail spur is planned off the Union Pacific mainline just north and east of the Barker Road/Euclid Avenue (north) intersection to provide rail access to the planned industrial development. In the future (as part of Phase 3 of development), land owners are considering extending that rail spur west across Barker Road at-grade to provide access to developable land between Barker Road and Flora Road. Given that train movements on the spur are planned to be infrequent and short, no significant impacts to traffic operations on Barker Road are anticipated as long as the mitigation criteria are met.

Harvard Road/Wellesley Avenue and Harvard Road/Euclid Avenue

These intersections are about 1.5 miles east of the Northeast Industrial Area, and Spokane County has identified that by 2040 both intersections will need improvements to meet their LOS standards. At the time this document was prepared, no improvements for the two intersections have been identified. To determine the impact of development within the Northeast Industrial Area a select zone analysis was performed for both intersections using the SRTC 2040 regional travel demand model updated in December, 2017. The model was updated using the roadway network adjustments discussed above in the Phase 3 assumptions. The results show that by 2040 about 12% of traffic passing through the Harvard Road/Wellesley Avenue intersection and about 12% of traffic passing through the Harvard Road/Euclid Avenue intersection would be generated by the Northeast Industrial Area. Ensuring these intersection continue to function at adopted LOS will require cooperation and coordination with Spokane County.

Trent Avenue/ Del Ray

The analysis assumed the forecast land use that is currently in the SRTC model for the area north of Trent Avenue, which assumes the large TAZ in this area would grow by about 800 dwelling units between 2015 and 2040. At the time when traffic analysis for the PAO was completed, the Highland Estates project, accessed from the intersection, has approximately 11 lots left to plat and 40-50 lots that are currently platted but vacant, and an approved 120 unit apartment building. As part of the Barker/BNSF Grade Separation project the City is studying how many additional trips to/from the north would lead to LOS issues at the reconfigured Barker/Trent intersection.

Mitigations

The table below identifies the mitigation measures needed to support the 2040 development of the Northeast Industrial Area. Several of the projects needed are either already programmed as part of the Spokane Valley 6-year TIP, will be implemented by other agencies (such as WSDOT), or will be built by developers as the area gets developed (these projects are indicated below). The traffic analysis completed for the NIA-SEIS demonstrated that several other mitigation projects will be needed by 2040 to meet LOS standards and are not yet programmed that are identified by "Identified Mitigation Measures".

Table 18: Needed and Existing Projects to Meet LOS

Project	Description	Timeframe
Identified Mitigation Measures		
Cataldo Avenue realignment	Reroute Cataldo Avenue to intersect Boone Avenue instead of Barker Road; add a cul-de-sac to Cataldo Avenue at existing intersection with Barker Road	2018-2023
Interim signal at Barker Road/Boone Avenue	Add an interim signal	2018-2023
Barker Road – Mission Avenue to I-90	Reconstruct to a 5-lane urban section	2025-2032
Flora Road/Trent Avenue	Add a signal with left turn lanes on Flora Road or convert to a roundabout	2021
Barker Road/Euclid Avenue (south)	Add northbound right-turn lane and westbound left-turn lane and sign/strip "do not block intersection"	By 2040
Barker Road/Boone Avenue	Add a permanent signal with northbound left and right turn pockets or a roundabout accommodating two lanes of traffic on Barker Road[1]	By 2040
Existing Programed Improvements		
Barker Road Improvement Project – Appleway to I-90	Widen and improve to 5-lane urban section; roundabout @ Broadway; realign east leg of Broadway	2021
Barker Road Improvement Project – Spokane River to Euclid	Reconstruct and widen to 3-lane urban section	2021
Barker Road/BNSF Grade Separation	Construct grade separation at Barker/BNSF RR/Trent	2021
I-90/Barker Road Interchange[10]	Construct general purpose lanes and replace Barker Rd I/C	2020

[10] Funding for the Barker Road Roundabout at the north ramp terminal has been secured. Design work will commence in the fall of 2018, the construction schedule has yet to be identified. The Barker Road south roundabout will be constructed in 2019.

Project	Description	Timeframe
Sullivan Road Bridge over Trent	Construct new bridge over Trent and BNSF railroad tracks (to accommodate an additional mainline track)	2031-2040

1. A roundabout is provided as the highest cost option

At-Grade Rail Crossings

In order to mitigate the impacts of vehicle queues from Barker Road/ UP Crossings the following mitigation strategies are recommended:

- To mitigate the potential for blocked streets and high-traveled driveways, it is recommended to strategically sign and paint "Do Not Block Intersection/Driveway" at locations where vehicles are likely to get blocked. We also recommend restricting (or discouraging) the construction of new driveways to medium or large scale developments on Barker Road or Euclid Avenue within 1,000 feet of the UP at-grade crossing.
- To limit the number of vehicles that may get caught in the queue, but are not trying to get across the tracks and may try a risky maneuver to get around traffic, it is recommended to add a 500-foot long northbound right turn lane and 300-foot eastbound left turn lane at the Barker Road/Euclid Avenue (south) intersection.
- The rail spur across Barker Road should be located sufficiently far from the existing Barker Road/UP at-grade crossing and from the Barker Road/Trent Avenue intersection so as not to risk vehicle queues from those locations backing into the rail spur or interfering with the planned Barker Road/BNSF grade separation project. It is recommended that the planned rail spur be located at least 1,500 feet from the Barker Road/UP at-grade crossing and at least 2,000 feet from the Barker Road/Trent Avenue intersection. This leaves about 1,300 feet of area along Barker Road in which the spur crossing could be located.
- In order to address delay from train movement along the planned rail spur across Barker Road, it is recommended that as a condition of construction of the new rail spur, the City coordinate with owners of the rail spur along with the UP Railroad to agree to limit movement of trains across Barker Road along the rail spur to non-peak hours. Or to at least limit the time the gates are down during the peak hours to be less than two-minutes.

The extension of the new rail spur would add a new rail crossing across Barker Road, which is designated as an arterial street by the City of Spokane Valley. This will require the owner of the rail spur to file a petition (RCW 81.53.030 and WAC 480-62-150(1)(a)) with the State Utilities and Transportation Commission (UTC). It would also require an on-site safety assessment with UTC staff, Union Pacific Railroad, and the City of Spokane Valley at a minimum as well as a feasibility study as decided by the UTC Commissioners to demonstrate why a grade separation would be impractical at this location.

Non-project Mitigations

In order to mitigate the impacts of traffic from the Northeast Industrial Area at the intersection Harvard & Wellesley and Harvard & Euclid, the it is recommended that the City of Spokane Valley and Spokane County develop a memorandum of understanding (MOU) that clearly identifies the planned projects at the two intersections to improve traffic operations and the estimated costs of those projects. The MOU would also identify the estimated cost per PM peak hour trip generated by the Northeast Industrial Area by multiplying the total estimated project cost (agreed on and documented in the MOU) by the percentages identified

above (12%) and dividing by the forecast number of PM peak hour trips that would be generated by the Northeast Industrial Area east of Flora Road (1,340).

Consideration within the MOU may also consider broader locations and traffic impacts where development in Spokane Valley impacts Spokane County infrastructure, and vice-versa, other impacts and mitigation costs could also be included in the MOU. Once the MOU is signed by all parties, a future developer will develop a trip letter and calculate the fee owed to add necessary capacity at the Spokane County intersections.

Transportation Infrastructure Financing Strategy

In order to offset the costs of future infrastructure projects needed to mitigate the traffic impacts identified, Spokane Valley has developed an infrastructure plan to identify a fair-share cost estimate for needed improvements and is included for reference as Appendix C. The table below shows the fair-share financial contribution that traffic the Northeast Industrial Area is expected to contribute to each of the intersections or streets where needed projects were identified.

Table 19: Northeast Industrial Area Fair-share Cost of Improvements

Project Location	Associated Development Phase	Portion of future traffic from Northeast Industrial Area[1]	Estimated Total Project Cost (2017 dollars)	Northeast Industrial Area Fair-Share Cost
Interim signal at Barker Rd/Boone Ave	Phase 1 only	4.0%[2]	$ 198,000	$ 7,920
Cataldo Avenue realignment	Phases 1 & 3	10.3%	$ 1,377,000	$ 142,003
Barker Road – Mission Avenue to I-90	Phase 2	11.3%	$ 2,818,000	$ 317,300
Flora Road/Trent Avenue	Phase 3	21.4%	$ 2,163,000	$ 463,686
Barker Road/Euclid Avenue (south)	Phase 3	29.5%	$ 244,000	$ 71,933
Barker Road/Boone Avenue (Phase 3)	Phase 3	10.3%	$ 2,214,000	$ 228,319
Barker Road – Euclid to Trent	Planned (2021)	33.6%	$ 4,184,000	$ 1,404,691
Barker Road – Spokane River to Euclid	Planned (2022)	22.1%	$ 3,302,000	$ 728,628
Sullivan Bridge over Trent	Planned (by 2040)	see below[3]		
			Total Northeast Industrial Area Fair-Share Cost	**$ 3,364,480**

1. Rounded to the nearest tenth percentage
2. Since this project will only apply to Phase 1, the proportion of traffic in Phase 1 was used here
3. Since only a portion of this project is to be funded by Spokane Valley and development in the Northeast Industrial Area primarily west of Flora Road will have the most significant traffic impacts at this location, the fair-share cost of this project was calculated separately

The table below shows how the fair-share costs were factored into a final PM peak hour trip cost for Phase 1 and Phase 2 & 3 development. If developers agree to participate in the Northeast Industrial Area Planned Action Ordinance they will meet their SEPA obligations to mitigate traffic congestion impacts through a mitigation contribution of up to $156 per PM peak hour trip for development associated with Phase 1 and $2,831 per PM peak hour trip for all future developments after Phase 1. After making this mitigation payment developers will not have to conduct another traffic study, outside of a site access and circulation study, which may be required by Spokane Valley to ensure safe access for all modes into and within the development site. The City may opt to shoulder the cost of the Phase 1 development impact fee.

Table 20: Cost per PM peak hour trip by development phase

Projects by Phase	Fair-Share Cost	Forecast PM Peak Trips	Phase 1 Cost per PM peak hour trip	Phase 3 Cost per PM peak hour trip
Projects that benefit Phase 1 only	$ 7,920	160	$ 50	N/A
Projects that benefit Phase 2 & 3 only	$3,214,558	1,180	N/A	$ 2,725
Projects that benefit Phase 1, 2 and 3	$142,003	1,340	$ 106	$ 106
Total	**$ 3,364,482**	**1,340**	**$ 156**	**$ 2,831**

If developers opt not to participate in the PAO, they will be responsible for conducting their own traffic impact analysis following the guidelines set forth by Spokane Valley. They will also be responsible for funding any found during that process that will be needed to meet concurrency standards.

Utility impacts from future development and costs associated with that were not factored into the mitigation fee. Developers will still be required to follow the Spokane Valley approval process for utilities and will pay for those costs separately.

Spokane Valley will use other financing strategies to pay for the remaining costs of the projects identified above that will not be covered by developers. One potential strategy includes applying a broader-based impact fee program in collaboration with surrounding jurisdictions to collect fair-share fees from residential developments in Spokane Valley, Liberty Lake and unincorporated Spokane Valley. Other financing strategies Spokane Valley might consider include implementing a local improvement district or transportation benefit district, applying for grants, leveraging Federal Aid Road designation and leveraging other State and regional resources.

SECTION 4.0: NOTICES

4.1 Determination of Significance and Scoping

City of Spokane Valley
Notice of Determination of Significance (DS) and
Request for Comments on Scope of
Supplemental Environmental Impact Statement (SEIS)

PROJECT NAME: Northeast Industrial Area Planned Action Ordinance
DESCRIPTION OF PROPOSAL: The City of Spokane Valley plans to adopt a Planned Action Ordinance (PAO) to support and streamline environmental permitting in the City's northeast industrial area. The northeast industrial area was identified as a community priority in the 2017-2037 Comprehensive Plan and Final Environmental Impact Statement (FEIS). The PAO will implement the community priority by identifying mitigation measures including a phased infrastructure plan for transportation and utilities.
The proposal applies to approximately 840 acres (277 acres developed and 563 acres undeveloped). The types of projects anticipated are new and expanded heavy and light industrial uses as described below. The PAO will identify the impacts and necessary mitigations for foreseeable industrial developments. The amount of new industrial development is unknown at this time but will be described in the SEIS.

- **Industrial, heavy use**: Establishments that assemble, manufacture, package, or process raw or semi-finished materials to produce goods. Heavy industrial uses can have the potential to be dangerous or to have significant impacts to surrounding properties with noise, odor, nuisance, or vibration.
- **Industrial, light use:** Establishments that assemble, manufacture, package, or process semi-finished materials to produce goods. All processing, fabricating, assembly, or disassembly of items takes place within an enclosed building. Light industry uses tend to be consumer oriented as the products are for end users and typically not to be used in an intermediate step by another industry.

The lead agency has preliminarily identified the following elements for analysis in the Supplemental Environmental Impact Statement (SEIS): ***Transportation – systems, traffic, circulation; Water – runoff/absorption, supply; Air – quality, odor.*** Land Use, Housing, Economic Welfare, and Natural Environment were analyzed in the 2017-2037 Comprehensive Plan and Final Environmental Impact Statement (FEIS) and will be referenced as relevant and necessary.
APPLICANT: City of Spokane Valley
LOCATION OF PROPOSAL: The proposal is located in the City of Spokane Valley's northeast quadrant bounded by Flora Road on the west, Trent Avenue on the north, the Union Pacific line on the south, and the city limits on the east. The approximate center of the project area can be further located at 47°41'32.2"N 117°09'48.2"W.
DETERMINATION: EIS Required.
The City of Spokane Valley, as the lead agency, has determined this proposal is likely to have a significant adverse impact on the environment. An EIS is required under RCW 43.21C.030 (2)(c) and will be prepared. The City anticipates supplementing the 2017-2037 Comprehensive Plan and FEIS with additional project level detail for elements not adequately addressed in the original document. The Comprehensive Plan and FEIS was adopted on December 13, 2016.
SCOPING AND COMMENTING: Agencies, affected tribes, and members of the public are invited to comment on the scope of the SEIS. You may comment on alternatives, mitigation measures, probable significant adverse impacts, and licenses or other approvals that may be required. Comments on the scope of the EIS must be received **on or before 5:00 pm April 3, 2017.** Send comments to Chaz Bates at City of Spokane Valley, 11707 E Sprague Avenue, Suite 106, Spokane Valley, WA 99216 or via email to cbates@spokanvalley.org
AVAILABILITY OF COMPREHENSIVE PLAN AND FEIS: The City of Spokane Valley 2017-2037 Comprehensive Plan and FEIS can be read online at www.spokanevalley.org/cp. A hard copy is available for viewing between 8:00 am and 5:00 pm at Spokane Valley City Hall located at 11707 East Sprague, Suite 106.
STAFF CONTACT: Chaz Bates, AICP, Economic Development Specialist, PH: (509) 720-5315 or email cbates@spokanevalley.org.
RESPONSIBLE OFFICIAL: Mike Basinger, AICP, Senior Planner, PH: (509) 720-5331 or email mbasinger@spokanevalley.org.
DATE ISSUED: March 3, 2017
APPEAL: An appeal of this determination must be submitted to the Community Development Department within fourteen (14) calendar days after the date issued. This appeal must be written and make specific factual objections to the City's threshold determination. Appeals shall be conducted in conformance with Chapter 17.90 (Appeals) of the Spokane Valley Municipal Code and the required fees pursuant to the City's adopted Fee Schedule shall be paid at time of appeal submittal.

_____
Carrie Koudelka, CMC
Spokane Valley Deputy City Clerk
PUBLISH: 03-03-2017

4.2 Draft EIS and Document Availablity

NOTICE OF ISSUANCE AND AVAILABILITY
ADOPTING AN EXISTING DOCUMENT
OF THE CITY OF SPOKANE VALLEY FOR A
PLANNED ACTION ORDINANCE AND
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

Notice is hereby given that the City of Spokane Valley has prepared an amendment to Title 21 of the Spokane Valley Municipal Code (SVMC) creating a new chapter 21.60 SVMC Centennial Business Park Planned Action. To support the proposed amendment the City prepared a SEIS for the northeast industrial area. The City of Spokane Valley is the Lead Agency for the SEIS. The analysis was undertaken to meet the direction of the State Environmental Policy Act (SEPA).

PROPONENT: City of Spokane Valley

LOCATION OF PROPOSAL: The proposal is located in the City of Spokane Valley's northeast quadrant bounded by Flora Road on the west, Trent Avenue on the north, the Union Pacific line on the south, and the city limits on the east. The approximate center of the project area can be further located at 47°41'32.2"N 117°09'48.2"W.

LEAD AGENCY: City of Spokane Valley

DOCUMENT BEING ADOPTED and ADOPTION DATE
City of Spokane Valley has adopted the 2017-2037 Comprehensive Plan and Final Environmental Impact Statement. Adopted on December 13, 2016.

AGENCY THAT PREPARED DOCUMENT BEING ADOPTED
City of Spokane Valley

DESCRIPTION OF DOCUMENT BEING ADOPTED
The Comprehensive Plan and FEIS are an integrated document as such the entire document and analysis is being adopted for the proposal; however, the analysis as it relates to the location of the proposal and the goals and policies related to industrial lands are especially relevant. Additionally, Appendix A: SEPA analysis is also relevant.

DRAFT CONTENTS: The City prepared a SEIS for the northeast industrial area. The NIA-SEIS evaluates the growth and land use for the 20-year planning horizon established in the Comprehensive Plan and FEIS. The SEIS reviews potential impacts to air quality, historic and cultural resources, water, and transportation. The SEIS also identifies mitigation measures to address identified impacts.

DSEIS DATE OF ISSUANCE: November 23, 2018

REVIEW PERIOD: Following the issuance of the NIA-SEIS and related Planned Action Ordinance, a 60-day comment period commences. The public and other reviewers are invited to comment on the draft document. You may submit written comments on the document no later than **5:00 p.m. January 22, 2019**. All written comments must be received by that date and time.

Written comments via mail or email must be submitted to:

Community and Economic Development Department
10210 East Sprague Ave.
Spokane Valley, WA 99206
Email: cbates@spokanevalley.org

Please note that comments received in response to the draft document, including names and addresses of those who comment, will be considered part of the public record on this proposed action and will be available for public inspection.

PUBLIC HEARING:
December 13, 2018 - 6:00 p.m. (Planning Commission)

DOCUMENT AVAILABILITY:
The complete 2017-2037 Comprehensive Plan and FEIS are available for download at:
www.spokanevalley.org/CP.

The complete NIA-SEIS and associated draft development code are available at:
www.spokanevalley.org/PlannedAction

Copies of these documents are also available for public review during regular business hours at the following location:

Spokane Valley City Hall
10210 East Sprague Avenue Suite 106
Spokane Valley, WA 99206

Copies are also available for purchase upon advanced notice for the cost of printing from the City of Spokane Valley at 10210 East Sprague Ave., Spokane Valley, WA 99206.

If you have special accommodation needs, please contact the City of Spokane Valley at (509)-720-5000.

CITY CONTACT: Chaz Bates, AICP, Economic Development Specialist

SEPA RESPONSIBLE OFFICIAL: Mike Basinger, AICP, Economic Development Manager

DATE: November 23, 2018

_____
Carrie Koudelka, CMC
Spokane Valley Deputy City Clerk
PUBLISH: November 23, 2018

4.3 Public Hearing

SPOKANE VALLEY PLANNING COMMISSION

Public Hearing for Code Text Amendment

December 13, 2018, 6:00 p.m.

The Spokane Valley Planning Commission will hold a public hearing December 13, 2018 at City Hall Council Chambers, 10210 East Sprague Avenue, Spokane Valley, WA 99206 at 6:00 p.m., to receive public testimony on the following proposal:

FILE NUMBER: CTA-2018-0004
DESCRIPTION OF PROPOSAL: The City has prepared a text amendment to Title 21 of the Spokane Valley Municipal Code (SVMC). The proposed amendment will create a new chapter 21.60 SVMC Centennial Business Park Planned Action.

PROPONENT: City of Spokane Valley, 10210 E Sprague Avenue, Spokane Valley, WA 99206
HEARING PROCEDURES AND APPEALS: The Spokane Valley Planning Commission will conduct the hearing pursuant to Planning Commission rules of procedure. Interested persons may testify at the public hearing and may submit written comments and documents before or at the hearing. The Planning Commission may limit the time given to speakers. The Planning Commission will forward a recommendation on the proposed amendment to the Spokane Valley City Council. Appeals shall be pursuant to SVMC 17.90 Appeals.

ENVIRONMENTAL DETERMINATION: Spokane Valley, acting as the Lead Agency, issued a Determination of Significance (DS) on March 3, 2017 pursuant to WAC 197-11-360. Comments on the scope of the EIS were accepted until April 3, 2017. The City has prepared a supplement to the 2017-2037 Comprehensive Plan and FEIS that was adopted on December 13, 2016. Comments on the draft Supplemental Environmental Impact Statement and code text amendment are being accepted until January 22, 2019.

STAFF REPORT AND INSPECTION OF FILE: A staff report will be available for inspection seven (7) calendar days prior to the hearing, at Spokane Valley City Hall, 10210 East Sprague Avenue, Spokane Valley, WA between 8:00 am and 5:00 pm, Monday-Friday, excluding holidays. Please send written comments to Chaz Bates, Economic Development Specialist; 10210 East Sprague Avenue, Spokane Valley, WA 99206; (509) 720-5337; Fax (509) 921-1008; or send email to cbates@spokanevalley.org.

NOTICE: Individuals planning to attend the meeting who require special assistance to accommodate physical, hearing, or other impairments, please contact the City Clerk at (509) 720-5000 as soon as possible so that arrangements may be made.

Carrie Koudelka, CMC

Spokane Valley Deputy City Clerk

PUBLISH: 11-23 & 11-30, 2018

4.4 Final EIS and Document Availablity

[To be inserted after adoption]

4.4 Distribution List

City of Spokane Valley

City Officials
- Mayor and City Council
- Planning Commission

City Manager
City Clerk
City Attorney
Community and Economic Development Director
Human Resources Director
Finance Director
Parks & Recreation Director
Police Chief
Public Works Director

Other Agencies

Local

City of Liberty Lake
City of Spokane
City of Millwood

County

Spokane County Fire District No. 1
Spokane County Fire District No. 8
Spokane County Building and Planning
Spokane County Division of Utilities
Spokane County Water District No. 3

State

Department of Archeology & Historic Preservation
Department of Resource and Conservation
Department of Commerce
Department of Ecology & SEPA Register
Department of Fish & Wildlife
Department of Natural Resources
Department of Transportation
Department of Health

Tribal

Spokane Tribe of Indians

Federal

Federal Aviation Administration (FAA) – Seattle District
Federal Emergency Management Agency (FEMA), Region X
National Marine Fisheries Service - NOAA
U.S. Army Corps of Engineers – Seattle District
U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS)
U.S. Environmental Protection Agency, Region X
U.S. Department of Homeland Security, Region X

Utilities

CenturyLink
Avista Utilities
Comcast
Consolidated Irrigation District No. 19

Media

Spokane Valley Herald
Spokesman Review

Schools

Central Valley School District No. 356
East Valley School District No. 361
West Valley School District No. 363

Other

Spokane County Joint Aquifer Board
Spokane Regional Health District
Spokane Regional Transportation Council
Spokane Transit Authority
Spokane County Library District
Spokane Regional Clean Air Agency
Holiday Trailer Court
Kaiser Aluminum
Pinecroft Mobile Home Park
Spokane Business & Industrial Park

SECTION 5.0 RESPONSE TO COMMENTS

5.1 Comments and Responses on the Scope

A comment letter from Spokane Valley Fire Department was received on scope it contained two comments:

- Coordination with Consolidated Irrigation District No. 19 regarding water availability is recommended.
- All specific Fire Department requirements shall be conditioned on future commercial permits

These comments are noted and do not require an adjustment to the scope of the Supplemental Environmental Impact Analysis.

5.2 Comments and Responses on the draft SEIS

The 60-day comment period closed on January 24, 2019. No written comments were received on the SEIS. One public comment was made at the public hearing held December 13, 2018 at the Planning Commission. This comment and response is noted below.

#	Name	Comment	Response
1	John Patrouch	Would like to see the light trespass and ground water protections added	Lighting was not considered in the scope of the environmental analysis. The city has exiting standards related to light trespass. Comment noted. Surface water and water runoff were addressed in the environmental analysis and it was determined existing regulations provide sufficient mitigation for the proposed impacts. See Section 3.2 of the supplemental Environmental Impact Analysis. Comment noted.

APPENDIX A:

EXISTING TRANSPORTATION CONDITIONS REPORT FOR SPOKANE VALLEY NORTHEAST INDUSTRIAL AREA PAO

Existing Transportation Conditions Report

Spokane Valley Northeast Industrial Area PAO

Prepared for:
City of Spokane Valley

Updated June 2016

SE17-0508

FEHR PEERS

Contents

Study Area

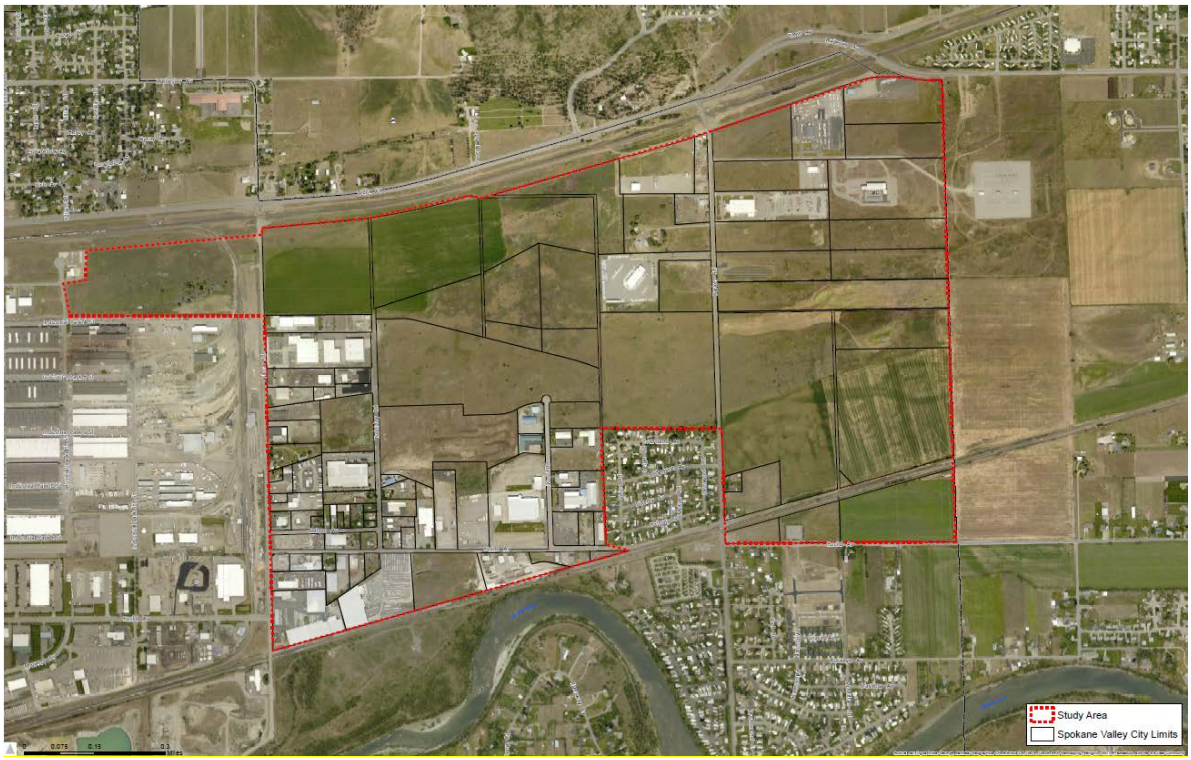
The study area for the Northeast Industrial Area Planned Action Ordinance (PAO) is mapped in **Figure 1**. The study area is approximately 1.23 square miles of largely undeveloped land located in the northeast corner of the City of Spokane Valley. The area is generally bound by Flora Road on the west (with the exception of a small area to the north where the western boundary extends across Flora Road to 4th Street), the Burlington Northern Santa Fe Railroad on the north, the Spokane Valley city limits on the east and Euclid Avenue and the Union Pacific Railroad to the south. The study area excludes an existing residential development on the northwest corner of Barker Road and Euclid Avenue.

Figure 1. Northeast Industrial Area PAO Location

Land Use Context

The study area consists of 277 acres of developed land and 563 acres of undeveloped land. The majority of developed land is located in the southwest portion of the study area flanking Flora Road and Euclid Avenue and is primarily used for industrial and warehouse related uses (see **Figure 2**). Based on 2015 transportation analysis zone (TAZ) data, there are currently about 700-800 employees in the study area. Under the City's future land use map, within the recently adopted 2016 Comprehensive Plan, all of the land within the study area is designated industrial.

Figure 2. Study area aerial view



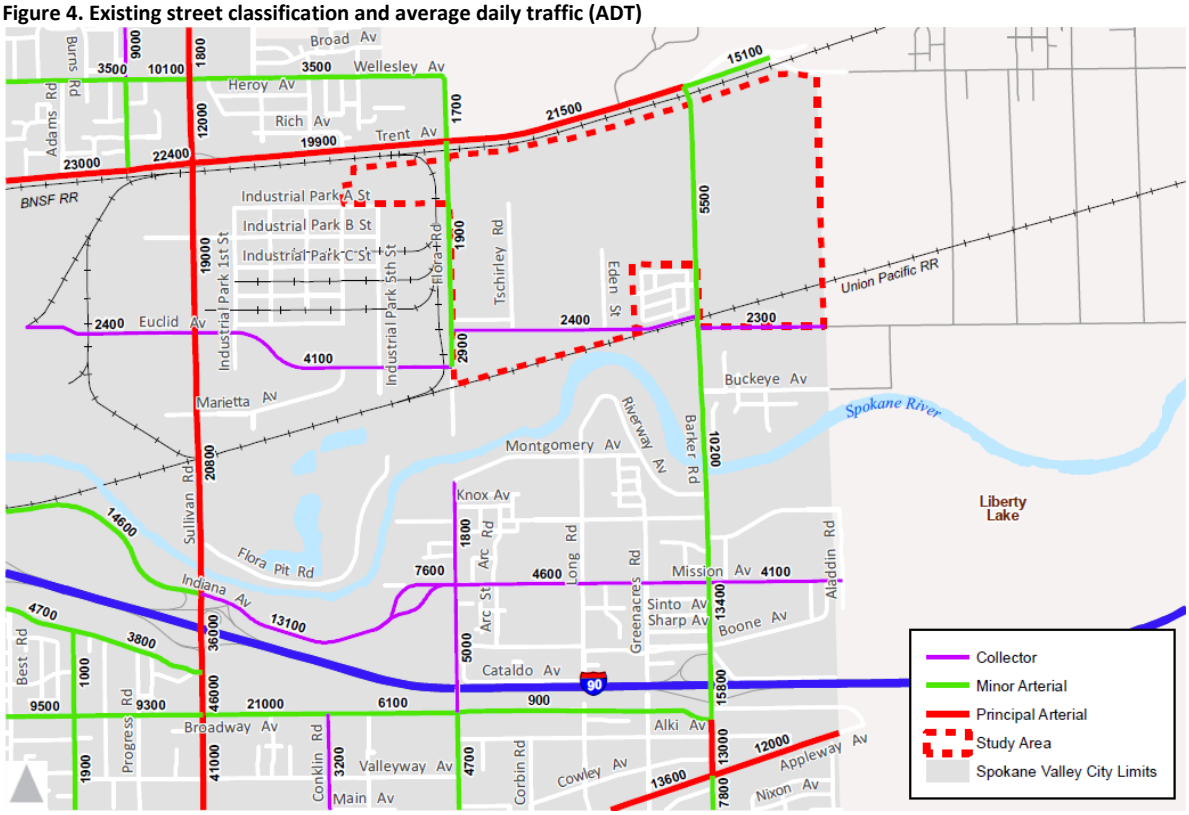
Street Network

The street network within the study area is fairly coarse compared to other parts of the City, as much of the land is undeveloped and there are few local streets. There are three existing collector and arterial streets within the study area each spaced about a mile apart (see **Figure 3** and **Figure 4**). All streets within the study area have two lanes, there are no signalized intersections and only a few streets segments contain curb and gutter. Euclid Avenue on the south edge of the study area provides the only east-west connection across the study area.

Figure 3. Arterial & Collector Streets in the Study Area

Street	Dir.	Class	# of Lanes	Posted Speed	ADT (% trucks)	Miles in study area	% curb & gutter	Major intersecting streets nearby
Barker Road	N-S	Minor Arterial	2	45 mph	5,500 (12%)	0.9	3%	Trent Avenue, I-90, Appleway Avenue
Flora Road	N-S	Minor Arterial	2	35 mph	1,900 (16%)	0.9	0%	Trent Avenue
Euclid Avenue	E-W	Collector	2	35 mph	2,800 (17%)	1.5	0%	Barker Road, Flora Road, Sullivan Road

Figure 4. Existing street classification and average daily traffic (ADT)



Major Streets

- **Barker Road** – Barker is the primary north-south street through the study area. It is the only street in the study area that crosses the Spokane River, thus providing direct access to I-90 and Appleway Avenue to the south. It also connects with Trent Avenue to the north. As a result this street has the highest existing traffic volumes in the study area averaging about 5,500 vehicles per day. Barker is designated as a minor arterial within the study area. The posted speed is 45 mph in the study area and 35 mph south of Euclid.
- **Flora Road** – Flora Road is parallel to Barker Road and located one mile to the west of Barker. This street provides connections between Trent Avenue and Euclid Avenue, but does not connect across the Spokane River. It becomes a private pit road south of Euclid.
- **Euclid Avenue** – This is the only continuous east-west street through the study area providing connections between Liberty Lake to the east and Sullivan Road to the west. However, the street dog-legs where it intersects Barker Road (crossing the UP railroad tracks) and Flora Road in the study area.

Local Streets

Excluding the small residential development on the northwest corner of Barker Road and Euclid Avenue (which is not part of the study area), the study area contains just three publicly accessible local streets (Dalton Avenue, Tschirley Road and Eden Street) combining for just over 1 mile in total length. Eden Street is one of the only streets in the study area with a curb and gutter.

Major Regional Roadways Nearby

There are several major regional roadways that, while outside the study area, provide access to the state and national highway system. Connections to these roadways will be critical to employee and freight access as part of future land development.

- **Trent Avenue (SR 290)** – Trent is a major east-west connection and freight artery through the Spokane region. It is a five lane principal arterial road just north of the study area with a 50 mph posted speed. There are side street stop controlled intersections where both Flora Road and Barker Road intersect Trent.
- **I-90** – I-90 is the major east-west interstate highway across the state of Washington and is one of the principal interstates spanning the country from coast to coast. This highway is an important artery for freight and interstate travel in the region. An interchange to I-90 is located 1.5 miles south of the study area along Barker Road.
- **Appleway Avenue** – Appleway/Sprague is the major east-west corridor through the heart of Spokane Valley. Barker Road intersects Appleway Avenue about 2 miles south of the study area.
- **Sullivan Road** – Sullivan Road is a major north-south arterial located just to the west of the study area. Euclid Avenue intersects Sullivan about 1 mile west of the study area.

Traffic Operations

The City of Spokane Valley uses level of service (LOS) to describe and evaluate traffic operations along major arterial corridors and intersections within the City. Levels range from LOS A to LOS F, which encompass a range of congestion types from uninterrupted traffic (LOS A) to highly-congested conditions (LOS F). The description and intersection delay thresholds of each LOS category are described in **Figure 5.** These are based on the Highway Capacity Manual, which is the methodology used by Spokane Valley.

Figure 5. Level of service description and delay thresholds at intersections

Level of Service	Description	Signalized Intersection Delay (seconds)	Unsignalized Intersection Delay (seconds)
A	Free-flowing conditions.	0-10	0-10
B	Stable operating conditions.	10-20	10-15
C	Stable operating conditions, but individual motorists are affected by the interaction with other motorists.	20-35	15-25
D	High density of motorists, but stable flow.	35-55	25-35
E	Near-capacity operations, with speeds reduced to a low but uniform speed	55-80	35-50
F	Over-capacity conditions with long delays.	> 80	>50

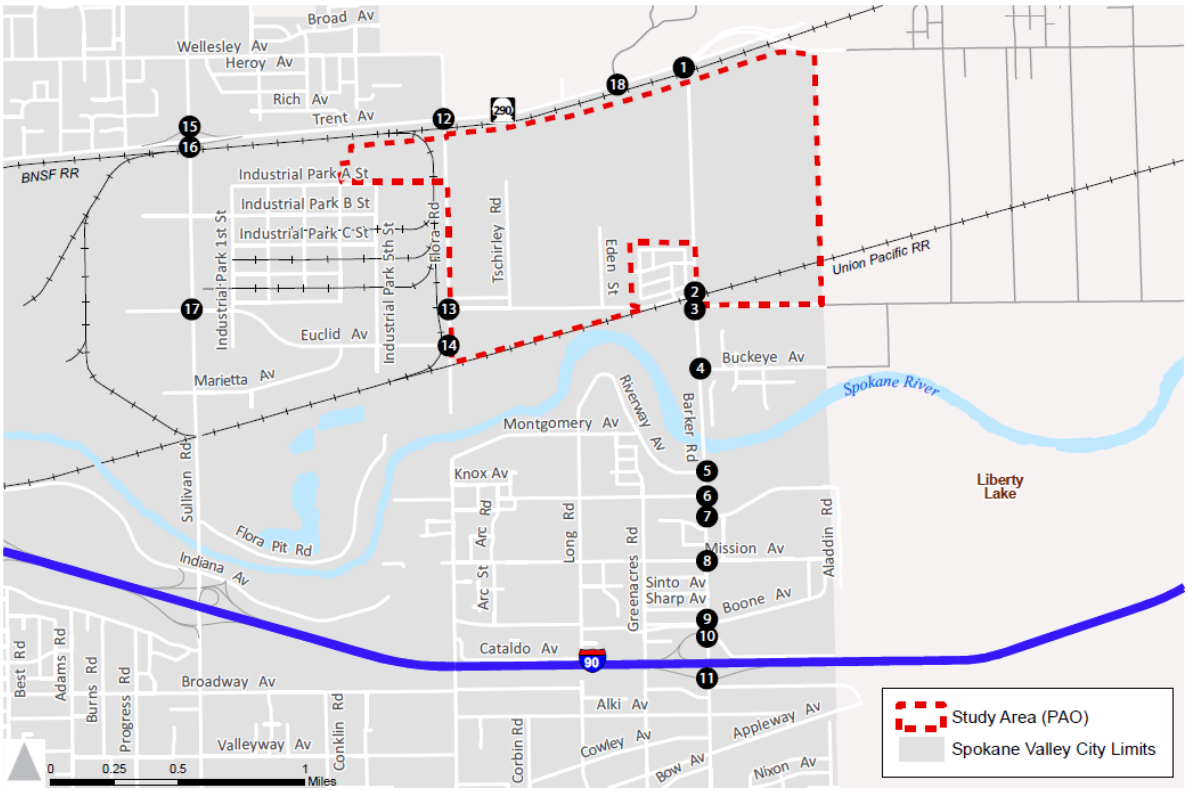
Source: *Highway Capacity Manual 2010*, Transportation Research Board

The LOS standards used by Spokane Valley are defined in the Comprehensive Plan as follows:

- LOS D for major arterial corridors:
  - Argonne/Mullan between the town of Millwood and Appleway Boulevard
  - Pines Road between Trent Avenue and 8th Avenue
  - Evergreen Road between Indiana Avenue and 8th Avenue
  - Sullivan Road between Wellesley Avenue and 8th Avenue
  - Sprague Avenue/Appleway Boulevard between Fancher Road and Sullivan Road
- LOS D for signalized intersections not on major arterial corridors

- LOS E for unsignalized intersections (LOS F is acceptable if the peak hour traffic signal warrant is not met)

Figure 6. Intersections included in LOS analysis



A total of 18 intersections in and around the study area (shown in **Figure 6)** were identified by Spokane Valley staff as important to describing existing traffic operations and to use as a baseline for forecasting potential traffic impacts from future land use changes within the study area. Traffic counts were collected at all 18 intersections during both the AM and PM peak hour on a weekday (either in June, 2016 or February, 2017). Synchro (a transportation planning software) was used to analyze traffic operations, including LOS, at each intersection based on traffic volumes, turn movements, and average percent truck traffic during the peak hour on each road segment. The results of the existing conditions LOS analysis, including delay in seconds, for each intersection are shown in **Figure 7**.

Figure 7. Existing LOS at selected intersection in and around the study area

Intersection	Type	AM Peak		PM Peak		Approach reported (AM/PM)
		Delay (secs)	LOS	Delay (secs)	LOS	
1 - Barker Rd/Trent Ave	Side-Street Stop	**59**	**F***	41	E	NB
2 - Barker Rd/Euclid Ave (north)	Side-Street Stop	10	A	11	B	EB
3 - Barker Rd/Euclid Ave (south)	Side-Street Stop	12	B	17	C	WB
4 - Barker Rd/Buckeye Ave	Side-Street Stop	13	B	10	B	WB
5 - Barker Rd/Riverway Ave	Side-Street Stop	16	C	20	C	WB
6 - Barker Rd/Indiana Ave (north)	Side-Street Stop	11	B	12	B	EB
7 - Barker Rd/Indiana Ave (south)	Side-Street Stop	14	B	15	B	WB

Intersection	Type	AM Peak		PM Peak		Approach reported (AM/PM)
		Delay (secs)	LOS	Delay (secs)	LOS	
8 - Barker Rd/Mission Ave	Signal	13	B	17	B	
9 - Barker Rd/Boone Ave	Side-Street Stop	22	C	18	C	EB/WB
10 - Barker Rd/Westbound I-90 Ramps	Signal	**68**	**E**	43	D	
11 - Barker Rd/Eastbound I-90 Ramps	Signal	44	D	**113**	**F**	
12 - Flora Rd/Trent Ave	Side-Street Stop	**129**	**F**	**124**	**F**	SB/NB
13 - Flora Rd/Euclid Ave (north)	Side-Street Stop	11	B	11	B	WB
14 - Flora Rd/Euclid Ave (south)	Side-Street Stop	10	A	10	A	EB
15 - Sullivan Rd/Trent (north)	Signal	16	B	12	B	
16 - Sullivan Rd/Trent (south)	Signal	13	B	21	C	
17 - Sullivan Rd/Euclid Ave	Signal	51	D	60	E**	
18 - Del Rey Dr/Trent Ave	Side-Street Stop	23	C	18	C	SB

Source: Fehr & Peers

* Does not meet City LOS standard because intersection operates at LOS F and traffic volumes satisfy the peak hour signal warrant

**LOS E is acceptable here because Sullivan is a major arterial corridor that meets LOS standard corridor-wide

As shown in **Figure 7**, under the existing conditions, most intersections included in this study currently meet the City of Spokane Valley's LOS criteria in both the AM and PM peak periods. However, the following intersections do not currently meet the City's LOS standards resulting in noticeable delays for some drivers during the peak hour:

- Barker Rd/Trent Ave AM Peak (northbound approach)
- Barker Rd/ I-90 WB Ramps AM Peak
- Barker Rd/I-90 EB Ramps PM Peak
- Flora Rd/Trent Ave AM Peak (southbound approach) and PM Peak (northbound approach)

Barker Road/Trent Avenue

The Barker Road/Trent Avenue intersection does not meet the LOS standards identified in the City of Spokane Valley Comprehensive Plan. This is because this intersection operates at LOS F (as measured by the delay to vehicles in the northbound approach) during the AM peak - and peak hour traffic volumes are sufficient to meet the peak hour signal warrant using MUTCD[1] criteria. The City is planning to grade-separate Barker Road with the BNSF railroad (just south of Trent Avenue) as part of the 6-year TIP, which would change the configuration of this intersection in the future (see *Programmed Transportation Project* section below), however the final design for the grade separation still needs to be identified.

Barker Road/I-90 Intersection

Improvements are planned as part of the City's 6-year Transportation Improvement Program along Barker Road at the I-90 interchange (see Programmed Transportation Projects section below). In addition, WSDOT recently finalized an Intersection Justification Report (IJR) to reconstruct the Barker Road/I-90 intersection to include a roundabout at each on-ramp and a new bridge over I-90. These and other planned improvements will improve LOS at the Barker Rd/I-90 intersections and will be factored into future year traffic analyses.

[1] *Manual on Uniform Traffic Control Devices* (MUTCD), Federal Highway Administration, https://mutcd.fhwa.dot.gov

Flora Road/Trent Avenue

Analysis shows that the Flora Rd/Trent Ave intersection currently operates at LOS F during both the AM and PM peak. Since this is a side-street stop controlled intersection, LOS is measured based on the approach with the highest delay. The highest delay during the AM peak is from the southbound approach, where traffic originates primarily from a residential development north of Trent Avenue (outside the study area). In the PM peak, the highest delay occurs on the northbound approach, where traffic originates from the industrial sites south of Trent Avenue. In addition to operating at LOS F, an analysis of peak hour traffic volumes indicate that this intersection meets the peak hour signal warrant. As a result of operating at LOS F and meeting the peak hour signal warrant, this intersection does not currently meet the City's LOS standards. Future analysis will consider either signalizing this intersection to meet LOS standards or potentially closing the Flora Road at-grade railroad crossing over the BNSF tracks (just south of Trent) and diverting traffic to Barker Road as part of a new grade-separated crossing planned at that location.

Sullivan Road/Euclid Avenue

The Sullivan Rd/Euclid Ave intersection operates at LOS E during the PM peak. However, because Sullivan Road is a major arterial the LOS is measured corridor-wide. According to the City's Comprehensive Plan, Sullivan Road currently meets the LOS D standard when assessed corridor-wide and thus LOS E is considered acceptable at the Euclid intersection based on the City's standards. This intersection is also slated for reconstruction in 2017 as part of the City's 6-Year TIP, which will include minor improvements to the lane configuration.

WSDOT LOS Standards

Trent Avenue is a State Highway (SR 290) maintained and operated by Washington State Department of Transportation (WSDOT). Trent Avenue is not defined as a Highway of Statewide Significance (HSS) by WSDOT and therefore has a LOS standard that is established by SRTC and WSDOT, which is set at LOS D. The Barker Road/Trent Avenue and Flora Road/Trent Avenue intersections currently operate at LOS F during the peak hour and the peak hour signal warrant is met at both these intersections. Ultimately, Spokane Valley is considering modifications at both intersections, which could include closing the Flora Road section south of Trent Avenue (which could also include channelization changes to improve the operations of the north leg) and a grade separation of the BNSF railroad at Barker road (which could include a new traffic signal, roundabout, or interchange at Barker/Trent).

Transit Network

Spokane Transit Authority (STA) provides public transit service within Spokane Valley. However, no fixed-route transit service is provided in the study area. The closest bus stop is about a mile south of the study area at the Barker Road/Mission Avenue intersections. This stop is served by route 98 which operates at 30 minute frequencies during weekdays between Liberty Lake and the Valley Transit Center. Route 96 also stops just over a mile west of the study area at the Sullivan Road/Euclid Avenue intersection. This route also operates at 30 minute frequencies weekdays and connects North Sullivan Road with the Mirabeau mixed-use commercial area, Pines Road and the Valley Transit Center. As the study area densifies, STA may provide transit service in the future and all arterial roadways will be designed to accommodate transit vehicles.

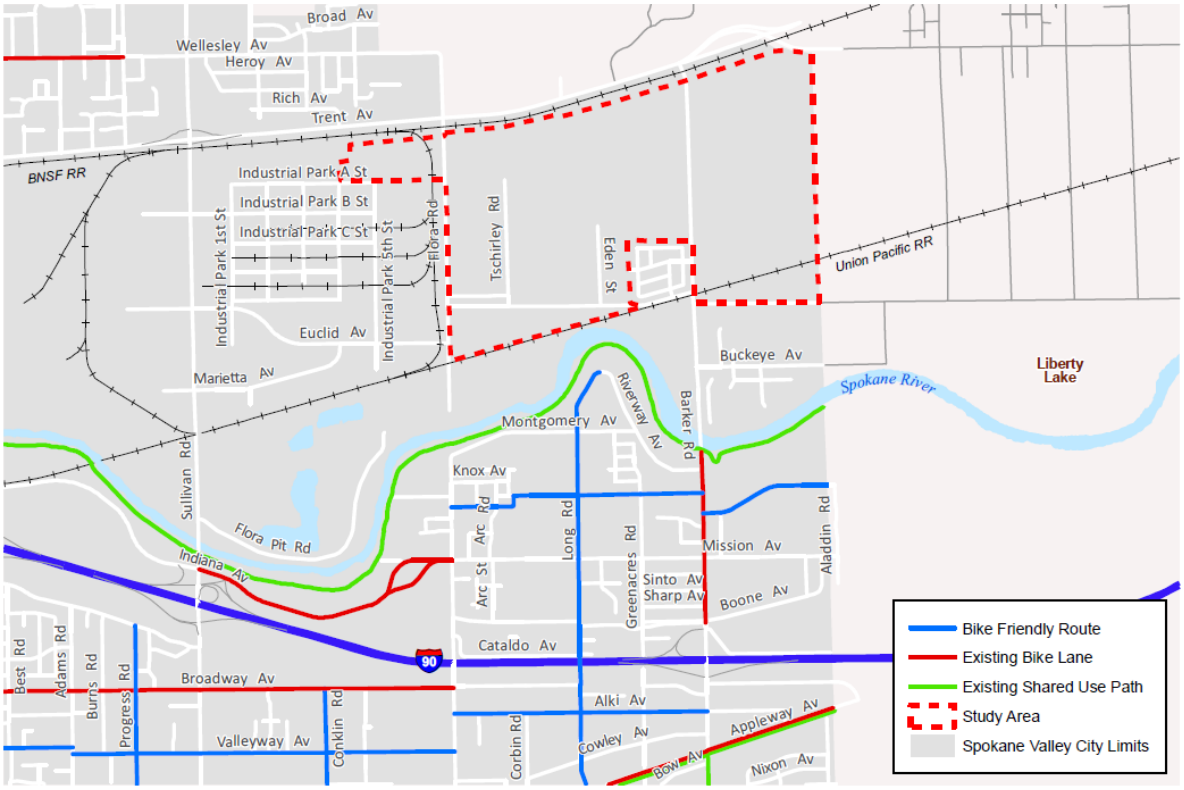
Figure 8. Existing transit network

Bicycle Network

There are no existing bicycle facilities within the study area. However, some bicycle facilities exist just south of the study area. These include a bicycle lane on Barker Road just south of the study area (that extends for about 2/3 of a mile) between the Spokane River Bridge and Boone Avenue and the Centennial Trail multiuse path on the south side of the Spokane River also just south of the study area. This Centennial Trail spans about 7 miles across the City of Spokane Valley and beyond connecting the Pasadena Park area with Liberty Lake. Nearby bicycle facilities are mapped in **Figure 9.**

Bicycle lanes are planned to be constructed along Barker Road between the Spokane River and Trent Avenue and between Boone Avenue and Appleway Avenue by year 2021 as part of the City's Barker Road Improvement Project (see the Programmed Transportation Projects section below). As part of the City of Spokane Valley's Bike and Pedestrian Master Program, bicycle lanes are also proposed on Flora Road and a multi-use trail is proposed parallel to Trent Avenue just north of the study area. No funding or timeline has been identified for these projects.

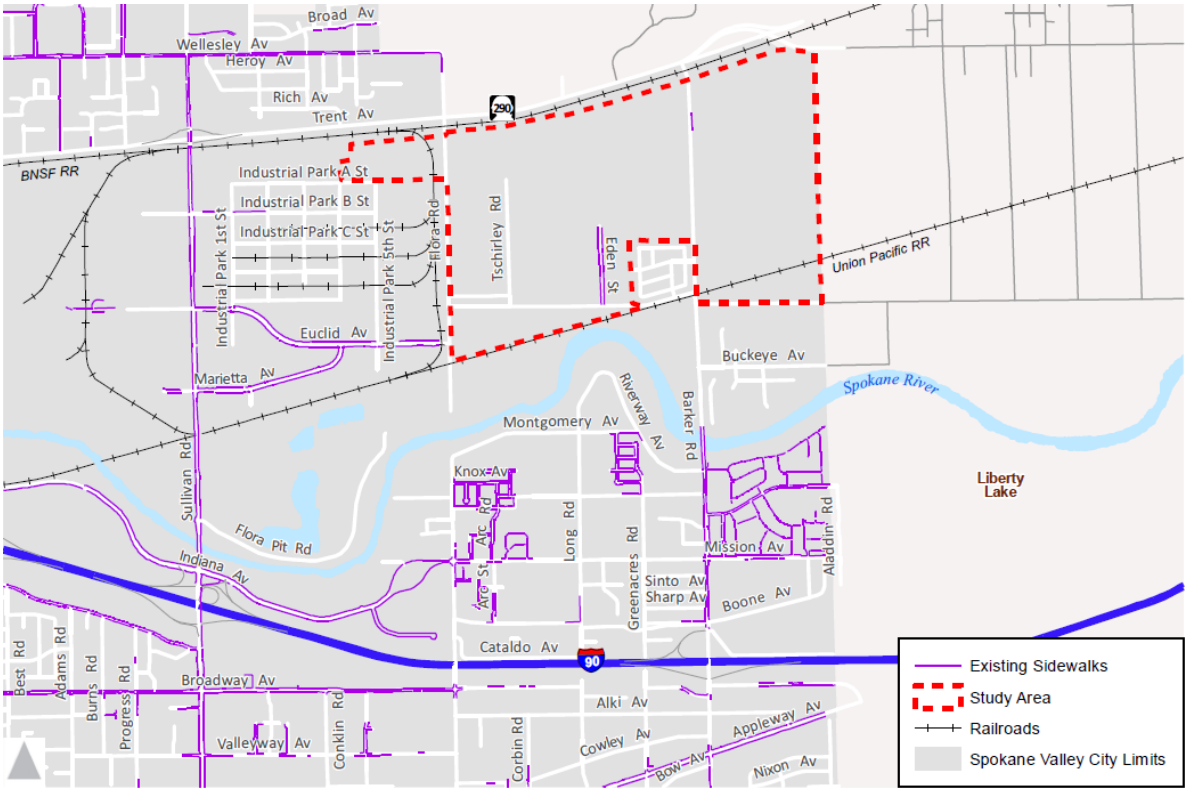
Figure 9. Existing bicycle network



Pedestrian Network

The majority of the streets within the study area do not have sidewalks, curbs or gutter. The two exceptions are shown in **Figure 10**. These include a 0.3 mile stretch of Eden Avenue north of Euclid Avenue that has a 5 foot sidewalk and curb on both sides of the street. The sidewalk on the east side of is detached from the curb, while on the west side it is attached except for the northern section. There is also a short segment (about 360 feet) along the west side of Barker Road with a detached sidewalk and curb that was constructed as part of a recent development. There are no signalized pedestrian crossings in the study area and no painted crosswalks.

Figure 10. Existing sidewalk network



Barker Road and Euclid Avenue both have pedestrian facilities just outside the study area. There are sidewalks on both sides of Barker Road just south of the study area (beginning at the bridge over Spokane River) and on both sides of Euclid Avenue just west of the study area. Sidewalks are planned to be constructed along Barker Road from the Spokane River to Trent by year 2021 as part of the City's Barker Road Improvement Project (see the Programmed Transportation Projects section below).

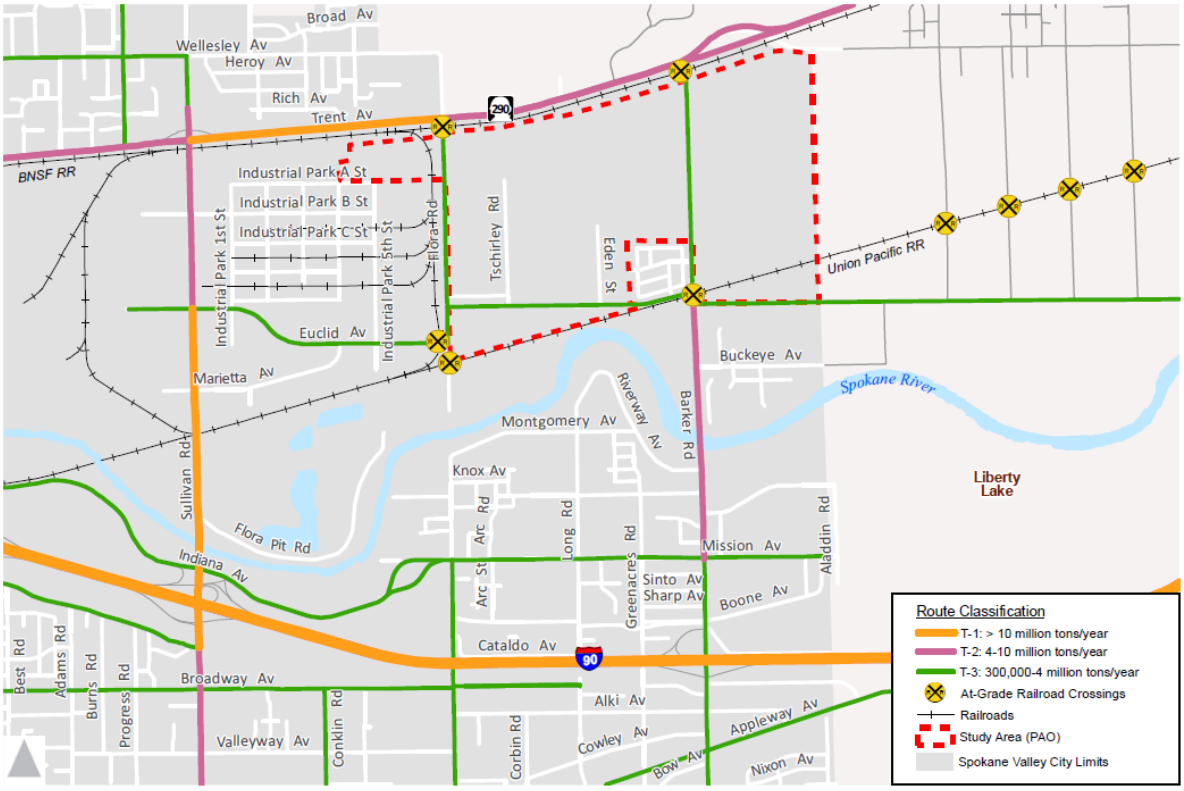
Freight & Rail Access

The developed land within the study area and the land just west of the study area are mostly industrial in nature. In addition, future land use of the entire study area is designated as industrial as part of the City' Comprehensive Plan and zoning code. Thus, truck and rail access are critical to the day-to-day needs of existing businesses and will be important for future developments.

Truck Routes & Volumes

There is a high percentage of truck traffic on the major streets in the study area compared to other parts of Spokane Valley. **Figure 3** shows that truck traffic on the three major streets in the study area (Barker Road, Flora Road and Euclid Avenue) account for about 12-17% of the average daily vehicle traffic, and 3-13% of the peak hour traffic. **Figure 11** shows that these streets are classified as T-3 based on the annual freight tonnage they carry (between 300,000 and 4 million tons of freight per year). Several major corridors around the study area support even higher volumes of freight, including Trent Avenue, I-90, Sullivan Avenue and a section of Barker Road just south of I-90. These roadways are classified as T-1 or T-2, carrying more than 4 million tons of freight per year.

Figure 11. Truck route classification and at-grade railroad crossing locations



Rail Operations

In addition to the major truck routes in the area, the study area is also flanked by two mainline railroads. The Burlington Northern Santa Fe (BNSF) mainline parallels the northern edge of the study area and the Union Pacific (UP) mainline parallels the southern boundary of the study. The BNSF route is one of the company's main transcontinental lines between west coast ports and the interior of the country and hosts Amtrak's twice daily Empire Builder between Chicago and Seattle/Portland. Both rail companies also have rail spurs to industrial land uses west of the study area. While no rail spurs currently exist in the study area, preservation of access to both rail lines will be important to future industrial development within the study area.

There are four at-grade crossings of the mainline railroads within the study area illustrated in **Figure 11**, one for each rail line on both Barker Road and Flora Road. **Figure 12** illustrates some basic operating characteristics for each of these at-grade crossings. Federal Railroad Administration (FRA) data indicates that the BNSF line hosts about 54 trains per day, mostly long-haul freight trains passing quickly through the area, and the UP line hosts about 9 trains a day, including a combination of short-haul freight, long-haul freight, and short trains performing switching operations.

Historic crash data indicates that the grade crossings on Barker and Flora Road for both rail lines have operated safely over the last 25 years. **Figure 12** shows that despite the high train volumes, it has been over 25 years since a crash occurred at any of the four at-grade rail crossings in the study area.

Figure 12. Operating characteristics of at-grade rail crossings in the study area

Railroad	Street Crossing	Average Trains per Day	Typical Train Frequency	Gates Down Average/Max (minutes)	Typical Train Speed	List of Crashes (1975-2016)
BNSF	Barker Road	54	10-90 mins	3:00/4:30	1 - 79 mph	• 1991 - Fatality
	Flora Road	54	10-90 mins	No data	1 - 79 mph	• 1975 – no injury • 1990 - no injury
UP	Barker Road	9	1-4 hours	2:00/4:00	24 - 49 mph	• 1989 - Fatality
	Flora Road	9	1-4 hours	No data	24 - 49 mph	None

Source: Fehr & Peers; Federal Railroad Administration

Traffic Impacts of At-Grade Rail Crossings

Based on data collected on February 14, 2017 the gates at the Barker Road/BNSF crossing were down for an average of about 3 minutes per train crossing, but ranged anywhere from 30 seconds to 4.5 minutes. At the Barker Road/UP crossing, gates were down an average of about 2 minutes per train crossing and ranged from 30 seconds to 4 minutes.

Figure 13 shows the estimated vehicle queue length in feet on Barker Road during both the AM and PM peak hour when the gates are down at both the BNSF and UP crossing. Trucks are assumed to be the equivalent of three passenger vehicles and each passenger vehicle is assumed to be 25 feet in length. Queues were calculated using Synchro and are based on observed gate down times and traffic volumes. The estimates include both the average, which is the 50th percentile queue length during an average gate down time and the worst case, which is the 95th percentile queue length during the peak hour during the longest gate down time observed. The latter likely only occurs a handful of times per year, although is about five times more likely to occur on the BNSF line than the UP line because trains are five times more frequent on the BNSF line.

Figure 13. Vehicle queue lengths at the Barker Road at-grade rail crossings when gates are down during the peak hour

Frequency	Trains per day	Gate Down Time	Vehicle Queue Length (feet) AM Peak NB	AM Peak SB	PM Peak NB	PM Peak SB
BNSF Crossing						
Average (50th percentile)	54	3 minutes	150	250	275	275
Worst Case (95th percentile)	54	4.5 minutes	275	425	475	475
UP Crossing						
Average (50th percentile)	9	2 minutes	300	250	225	500
Worst Case (95th percentile)	9	4 minutes	700	250	525	1,050

Source: Fehr & Peers

Figure 13 shows that queues are typically longer during the PM peak (when traffic volumes are greater) and are longer at the UP crossing than the BNSF crossing, although much less frequent (because trains are much less frequent at the UP crossing than the BNSF crossing). During the PM peak hour, the vehicle queue is typically about 275 feet long on either side the BNSF crossing along Barker Road (about 11 vehicles queued in each direction). During the worst case scenario, queues can be as long as 475 feet on either side of the BNSF crossing (about 19 northbound and 19 southbound vehicles). It should be noted that in the southbound direction there is only about 100 feet between the railroad crossing stop bar and the Trent Avenue intersection, which is enough space for about 4 cars (or 1 truck and 1 car). This means

the queue typically extends about 175 feet along Trent Avenue (and can be as long as 375 feet during the worst case scenario). Vehicles queued on Trent would be in either the westbound left turn pocket, which is about 200 feet long or the eastbound right-turn lane, which is about 300 feet long. Currently these lanes are long enough to store vehicles queued on Trent during the worst case scenario without spilling into the thru lanes.

When gates are down at the UP crossing during the PM peak hour, queues typically build up to about 500 feet southbound and 225 feet northbound (with the queue typically spilling onto both directions of Euclid Avenue). During the worst case scenario queues can be 1,075 feet in the southbound direction during the PM peak and 700 feet in the northbound direction during the AM peak.

Lastly, because there are no grade-separated rail crossings in the study area, there are times that the gates are down on both the UP and BNSF line at the same time. This could delay access into or out of the site for emergency vehicles by as much as 4 minutes. The nearest alternative route would be via Sullivan Road (2 miles west of Barker Road), which is grade-separated from both railroads, and Euclid Avenue.

Programed Transportation Projects

Several streets within the study area and surrounding intersections are programmed for improvement as part of the Spokane Valley Department of Public Works' Six-Year Transportation Improvement Program (TIP) and/or as a part of the Spokane Regional Transportation Council (SRTC) financially constrained project list in the *Horizon 2040 Plan*. Programmed projects within the study area that will impact intersections analyzed as part of this project are listed in **Figure 14**.

Figure 14. Programmed transportation projects located in the study area or at key intersections nearby

Project	Description	Program (Project #)	Year	Agency Responsible	In Study Area?
Euclid Avenue Reconstruction – Flora to Barker	Replace roadway and widen shoulders as part of new sanitary-sewer installation	2017 CIP	2017	Spokane Valley & Spokane County	Yes
Sullivan/Euclid - Concrete Intersection	Reconstruct intersection in concrete pavement (slight change in lane configuration)	6-year TIP (#16)	2017	City of Spokane Valley	No
Barker Road – Euclid to Trent	Reconstruct to 3-lane urban section	6-year TIP (#36)	2021	City of Spokane Valley	Yes
Barker Road Improvement Project – Appleway to I-90	Widen and improve to 5-lane urban section; roundabout @ Broadway; realign east leg of Broadway	6-year TIP (#37)	2021	City of Spokane Valley	No
Barker Road Improvement Project – Spokane River to Euclid	Reconstruct and widen to 3-lane urban section	6-year TIP (#41)	2021	City of Spokane Valley	No
Barker Road/BNSF Grade Separation	Construct grade separation at Barker/BNSF RR/Trent	6-year TIP (#42)	2021	City of Spokane Valley	Yes
I-90/Barker Road Interchange	Construct general purpose lanes and replace Barker Rd I/C	*Horizon 2040 Plan* (#12)	2020	WSDOT	No

Project	Description	Program (Project #)	Year	Agency Responsible	In Study Area?
Sullivan Road Bridge over Trent	Construct new bridge over Trent and BNSF railroad tracks	*Horizon 2040 Plan* (#29)	2031-2040	City of Spokane Valley	No

Key Findings

The following list provides a summary of key findings from the existing transportation conditions analysis of the Northeast Industrial Area Planned Action Ordinance. It will be important to consider these findings when planning the future transportation network within and around the study area.

- **Street connectivity is limited (especially east-west connections), but there is opportunity for improvement.** The street network within the study area is fairly coarse and there is only one continuous east-west connection (Euclid Avenue). This level of connectivity is sufficient today given the lack of existing development and low traffic volumes, but additional connections will be provided as new development occurs within the study area. The three major streets within the study area (Euclid Avenue, Flora Road and Barker Road) provide a solid foundation for future connectivity. All three streets are part of the City's existing arterial/collector network and are aligned with the City's existing north-south/east-west grid structure. They are each spaced about a mile apart and provide key connections to other roads outside the study area. Given that most of the land within the study area is undeveloped, there is ample opportunity to plan a connected street network as the area is built-out.
- **Existing traffic volumes are relatively low, while truck volumes are relatively high.** Because much of the land is undeveloped, all of the streets within the study area carry relatively low traffic volumes today. Barker Road has the highest traffic volumes with just over 5,000 vehicles per day. Because of the industrial nature of the area, truck activity represents about 12%-17% of daily traffic in the study area, and less during the peak hour.
- **Most area intersections currently meet the City's LOS standards for traffic congestion.** An analysis of 18 intersections in and around the study area during the morning and afternoon peak periods found that traffic in all but four locations currently meets the City's level of service (LOS) standards for traffic congestion. Three of these intersections are planned for improvement in the next several years, either by WSDOT or as part of the City's 6-year TIP. These include the Barker Road/I-90 eastbound and westbound ramps and at Barker Road/Trent Avenue. The other intersection failing the City's LOS standard is at Flora Road/Trent Avenue. Future analysis will consider either a signal at this intersection or potentially closing the southern approach across the BNSF tracks in conjunction with the planned intersection improvement at Barker Road/Trent Avenue.
- **There is minimal existing multimodal infrastructure.** Non-auto transportation infrastructure (pedestrian, bike, and transit facilities) are nearly non-existent within the study area. However, several planned projects will improve walking and bicycle access to and within the study area. Barker Road is slated to be widened to a three-lane urban section through the study area by 2021. This project will add continuous bike lanes and sidewalks, which will connect to the pedestrian and bicycle network to the south. Bike lanes are also planned along Flora Road, and a new multiuse trail is planned parallel to Trent as part of the City's Pedestrian and Bicycle Master Program, although no timeline or funding has been identified for these projects.

- **Good access to freight routes.** The location of study area provides good access to regional and interstate truck routes and the national rail network. Both the BNSF and UP railroads have mainline tracks running through the study area, with potential for new spurs. Several regional roads and highways important to freight and employee access are within 1.5 miles or less of the study area, including Trent Avenue, I-90, Appleway Avenue, and Sullivan Road. Connections are provided from the study area to these regional corridors primarily by Barker Road, but also Flora Road and Euclid Avenue.
- **Vehicle queues on Barker Road at the at-grade rail crossings.** Analysis shows the average vehicle queue on Barker Road when the gates are down at the BNSF rail crossing is 275 feet (on either side of the crossing), but can be as much as 475 feet when the gates are down longer than usual during a spike in peak hour traffic. Queues sometimes extend north onto Trent Avenue, but analysis show that even during the worst case scenario would be contained to the right- and left-turn lanes (and not the through lanes). While queues are typically longer at the UP crossing, they occur about five times as frequently at the BNSF crossing which hosts about 54 trains per day. At the UP crossing during the worst case scenario (long gate down times during a spike in peak hour traffic) analysis shows that queues can be as long as 1,075 feet in the southbound direction and 700 feet in the northbound direction.
- **Barker Road provides a critical connection to the study area.** Barker Road has the highest existing traffic volumes in the study area, is the only street through the study area that crosses the Spokane River (connecting Trent Avenue with I-90 and Appleway Avenue) and provides access to most of the undeveloped land in the study area. As such, this will be an important corridor for future development. Several capital improvement projects are also planned along Barker Road over the next five years that will greatly enhance multimodal access to land within the study area. These projects include:
    - Converting Barker to a three-lane urban section (with bike lanes, sidewalks and curb and gutter) from the Spokane River to Trent Avenue
    - Reconstructing the Barker Road interchange with I-90
    - Improving the Barker Road/Trent Avenue intersection to create a grade-separation with the heavily trafficked BNSF mainline and to better connect Barker Road and Trent Avenue

APPENDIX B:

SPOKANE VALLEY NORTHEAST INDUSTRIAL AREA PAO TRAFFIC ANALYSIS FOR PHASE 1, PHASE 2, AND PHASE 3

FEHR PEERS

MEMORANDUM

Date: December 21, 2017

To: Chaz Bates, City of Spokane Valley

From: Chris Breiland, PE
Patrick Picard, AICP

Subject: Spokane Valley Northeast Industrial Area PAO – Phase 1 Traffic Analysis

SE17-0508

INTRODUCTION

This memo presents traffic operations findings associated with the first phase (Phase 1) of land use growth in the Spokane Valley Northeast Industrial Area. Phase 1 consists of two adjacent industrial developments proposed on approximately 80 acres of currently undeveloped land on the northeast corner of Barker Road and Euclid Avenue in Spokane Valley. The two projects are estimated to have a combined total of 375 employees when they open. For purposes of this analysis, opening day for these projects is assumed to be in 2019.

The focus of this analysis is on traffic impacts at the major intersections on Barker Road between I-90 and Trent Avenue as well as traffic impacts the two at-grade rail-crossings along this stretch of Barker Road, which includes the mainlines of the Union Pacific (UP) and Burlington Northern Santa Fe (BNSF) railroads. Intersections analyzed as part of Phase 1 include:

- Barker Rd/Trent Ave
- Barker Rd/Euclid Ave (west)
- Barker Rd/Euclid Ave (east)
- Barker Rd/Mission Ave
- Barker Rd/I-90 Westbound Ramps
- Barker Rd/I-90 Eastbound Ramps

PHASE 1 LAND USE DESCRIPTION

Information about each project included in Phase 1 relevant to trip generation and distribution is summarized below. This information came from site plans and other information submitted by the developers. The projects are identified for reference as Project #1 and Project #2.

Project # 1

- 40 acre site
  - Manufacturing facility (150,000 square feet)
  - Storage Space (115,000 square feet)
- 150 employees
- New rail spur off Union Pacific mainline

Project # 2

- 40 acre site
  - Manufacturing facility (350,950 square feet)
  - Warehouse (45,840 square feet)
  - Research & development institute (41,470 square feet)
  - Storage (60,100 square feet)
- 225 employees (split shift)
  - Shift 1: 125 employees (6 AM – 4:30 PM)
  - Shift 2: 100 employees (4:30 PM – 3 AM)
- New rail spur off Union Pacific mainline
- 30 large trucks entering/exiting facility per day

METHODOLOGY

Trip Generation

New vehicle trips associated with the two projects in Phase 1 were estimated for the morning and afternoon peak hour on a typical weekday using the *ITE Trip Generation Manual, 9th Edition*. Trip rates were calculated based on the number of employees. The land use of both sites was assumed to be General Light Industrial (ITE Code 110) as this land use type best matched the anticipated trip rates and directional distribution by time of day for the two proposed developments. Note that Manufacturing (ITE Code 140) was also considered, however, the General Light Industrial use resulted in slightly more conservative (higher) trip generation rates and more accurate directional distribution given information provided by the developer about shift changes, so that land use category was used.

Project #1 is assumed to have a traditional 8 AM – 5 PM schedule for most employees and thus no adjustments were made to the ITE trip generation rates. However, based on information from the project applicant, Project #2 will have a split shift, with the first shift consisting of 125 employees from 6 AM – 4:30

PM and the second shift consisting of 100 employees from 4:30 PM – 3 AM. For Project #2, peak hour trips during the morning were estimated using the number of employees scheduled for the first shift (125) and the ITE trip rate (0.44) and directional distribution (83% in, 17% out) for light industrial during the AM peak. It should be noted that this will result in a conservative estimate of morning trips during the peak hour as most of these trips will actually occur prior to 6 AM.[1] To account for the shift change during the PM peak, two different trip rates were used, one for each shift:

- For shift 1 (125 employees), the PM peak hour trip rate (0.42) and distribution (21% in, 79% out) for light industrial was used
- For shift 2 (100 employees), the AM peak hour trip rate (0.44) and distribution (83% in, 17% out) for light industrial was used

Figure 1 illustrates the estimated vehicle trips that will be generated from Phase 1 using the methodology described above. Phase 1 is anticipated to generate a total of 1,198 new trips per weekday, including 131 in the morning peak hour and 160 during the afternoon peak hour.

Figure 1: Vehicle Trip Generation

Trip Generator	Land Use	Employees	AM Peak Hour		PM Peak Hour		Weekday Total
			In	Out	In	Out	
Project #1	Light Industrial	150	56	10	13	50	473
Project #2, 1st Shift	Light Industrial	125	46	9	11	42	399
Project #2, 2nd Shift	Light Industrial	100	0	0	37	7	326
	Total	**375**	**112**	**19**	**61**	**99**	**1,198**

Truck Trips

Truck trips from both project sites are not expected have a significant impact on the percentage of trucks on the adjacent streets. Truck trips from Project #1 are assumed to be the same as or less than what is currently on adjacent roadways. Project #2 is anticipated to generate about 30 truck trips per day, or about 4% of total new trips generated by the project. This is well below the most recent counts (from 2011) of 13% of daily traffic from trucks on Barker Road. However, this is close to the current peak hour truck percentages of traffic on Barker Road, which is 6% in the morning and 3% in the afternoon (based on 2017 counts). Therefore, in order to err on the side of being conservative, the percentage of truck traffic on adjacent streets is assumed to be the same in the Phase 1 analysis as existing conditions.

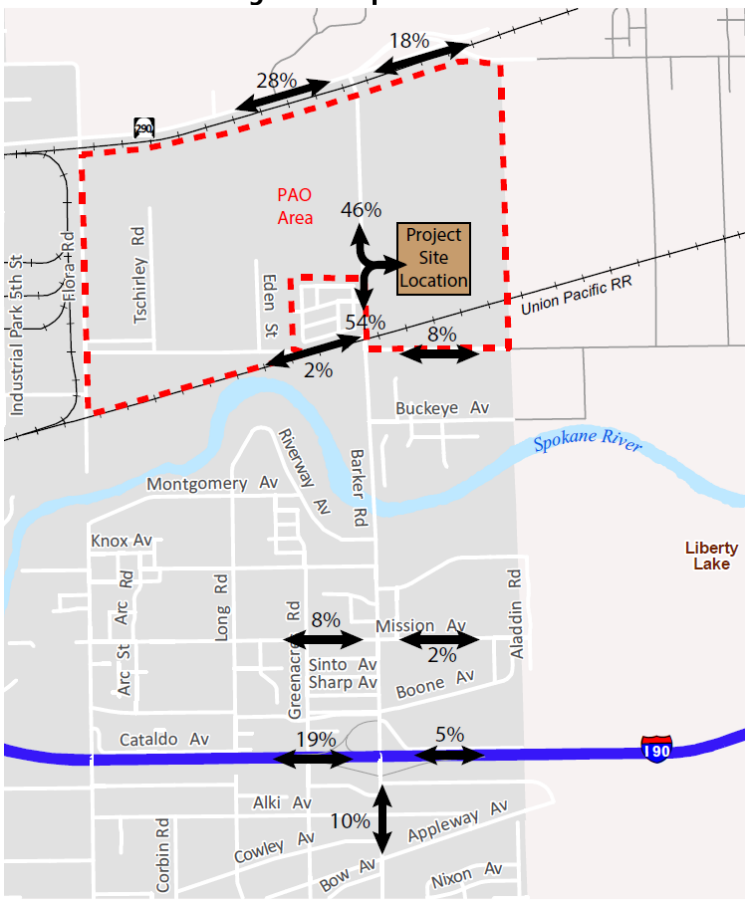
[1] This assumption would also account for a situation where Project #2 operates at a standard shift, ensuring that there will not be any unexpected traffic operations issues even if the plant is at reduced capacity with a single shift.

Trip Distribution

The distribution of trips from the two projects in Phase 1 was estimated using existing peak hour traffic volumes and turn movements along Barker Road. Traffic data were collected in either June, 2016 or February, 2017. The estimated distribution of trips from Phase 1 development is shown in **Figure 2** and described here:

- Trent Avenue, west of Barker Road: 28%
- Trent Avenue, east of Barker Road: 18%
- Euclid Avenue, west of Barker Road: 2%
- Euclid Avenue, east of Barker Road: 8%
- Mission Avenue, west of Barker Road: 8%
- Mission Avenue, east of Barker Road: 2%
- I-90, west of Barker Road: 19%
- I-90, east of Barker Road: 5%
- Barker Road, south of I-90: 10%

Figure 2: Trip Distribution



Background Traffic Growth

The Spokane Valley Comprehensive Plan forecasts a growth rate in traffic along Barker Road between Trent Avenue and Euclid Avenue of about 3.7% per year through 2040. This growth rate is reasonably consistent with recent observed traffic growth along Barker Road between Trent Avenue and I-90. Therefore, a growth rate of background traffic on adjacent streets of 3.7% per year was applied as part of the Phase 1 traffic analysis.

RESULTS

Level of Service Standards

The City of Spokane Valley uses level of service (LOS) to describe and evaluate traffic operations along major arterial corridors and intersections within the City. Levels range from LOS A to LOS F, which encompass a range of congestion types from uninterrupted traffic (LOS A) to highly-congested conditions (LOS F). The description and intersection delay thresholds of each LOS category are described in **Figure 3.** These are based on the Highway Capacity Manual, which is the methodology used by Spokane Valley. The LOS for signalized intersections is measured by the average delay per vehicle entering the intersection from all approaches, while the LOS for unsignalized intersections is measured by the average delay per vehicle on the approach with the highest average delay.

Figure 3 Level of service description and delay thresholds at intersections

Level of Service	Description	Signalized Intersection Delay (seconds)	Unsignalized Intersection Delay (seconds)
A	Free-flowing conditions.	0-10	0-10
B	Stable operating conditions.	10-20	10-15
C	Stable operating conditions, but individual motorists are affected by the interaction with other motorists.	20-35	15-25
D	High density of motorists, but stable flow.	35-55	25-35
E	Near-capacity operations, with speeds reduced to a low but uniform speed	55-80	35-50
F	Over-capacity conditions with long delays.	> 80	>50

Source: Highway Capacity Manual 2010, Transportation Research Board

The LOS standards used by Spokane Valley are defined in the Comprehensive Plan as follows:

- LOS D for major arterial corridors:
  - Argonne/Mullan between the town of Millwood and Appleway Boulevard
  - Pines Road between Trent Avenue and 8th Avenue
  - Evergreen Road between Indiana Avenue and 8th Avenue
  - Sullivan Road between Wellesley Avenue and 8th Avenue
  - Sprague Avenue/Appleway Boulevard between Fancher Road and Sullivan Road
- LOS D for signalized intersections not on major arterial corridors
- LOS E for unsignalized intersections (LOS F is acceptable if the peak hour traffic signal warrant is not met)

Level of Service Results

Traffic operations, including vehicle delay and level of service (LOS) at each intersection under Phase 1 were analyzed using Synchro (a transportation planning software). The results of the LOS analysis**,** including a comparison of existing (2017) and future (2019) conditions under Phase 1, for each of the six major intersections on Barker Road are shown in **Figure 4.**

Figure 4: Phase 1 Intersection LOS Results

Intersection along Barker Road	Control[1]	Existing (2017)				Phase 1 (2019)				Approach
		AM Peak		PM Peak		AM PEAK		PM PEAK		
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	
Trent Ave	SSSC	**59**	**F[2]**	41	E	**139**	**F[2]**	**90**	**F[2]**	NB
Site Access Rd	SSSC	n/a	n/a	n/a	n/a	11	B	12	B	SBL/WB
Euclid Ave (north)	SSSC	10	B	11	B	11	B	13	B	EB
Euclid Ave (south)	SSSC	12	B	15	C	14	B	20	C	WB
Mission Ave	Signal	13	B	17	B	14	B	15	B	
I-90 westbound	Signal	**68**	**E**	43	D	**92**	**F**	46	D	
I-90 eastbound[3]	Signal	44	D	**113**	**F**	50	D	**122**	**F**	

1. SSSC = Side Street Stop Control

2. Does not meet City LOS standard because intersection operates at LOS F and traffic volumes satisfy the peak hour signal warrant per MUTCD guidelines

3. Based on HCM 2000 methodology

Results show that under Phase 1 there would be minimal change in vehicle delay from today at the Barker Road/Euclid Avenue (north and south) and the Barker Road/Mission Avenue intersections. Those

intersections would continue to achieve LOS B or C under Phase 1, well within the acceptable LOS threshold established by the Spokane Valley Comprehensive Plan. The intersections with the most significant traffic impacts under Phase 1 include:

- Barker Road/Trent Avenue
- Barker Road/I-90 Westbound
- Barker Road/I-90 Eastbound

Barker Road/Trent Avenue Intersection

Under existing conditions, the Barker Road/Trent Avenue intersection does not meet the LOS threshold as established by the City of Spokane Valley Comprehensive Plan. This is because this intersection operates at LOS F today (as measured by the northbound approach) during the AM peak - and peak hour traffic volumes are high enough on Trent Avenue and Barker Road to meet the peak hour signal warrant using MUTCD[2] criteria. Under Phase 1, the average delay in the northbound direction on Barker Road at Trent Avenue would remain LOS F during the AM peak and increase from LOS E to F during the PM peak. Because peak hour traffic volumes at this intersection would continue to be high enough to meet the peak hour signal warrant (using MUTCD criteria), this intersection would not meet the City's LOS thresholds under Phase 1.

Barker Road/I-90 Intersections

Average vehicle delay would increase slightly at the Barker Road/I-90 intersections under Phase 1 conditions as compared to existing conditions. However, this increase would not be enough to change the LOS from what is observed today with the exception of the Barker Road/I-90 westbound intersection in the AM peak, which would change from LOS E today to LOS F under Phase 1. During the PM peak it would continue to operate at LOS D. The Barker Road/I-90 eastbound intersection would continue to operate at LOS D during the AM peak and LOS F during the PM peak.

Barker Road/Site Access Road

Two analyses were also performed for the intersection of the new access road to the site and Barker Road to determine:

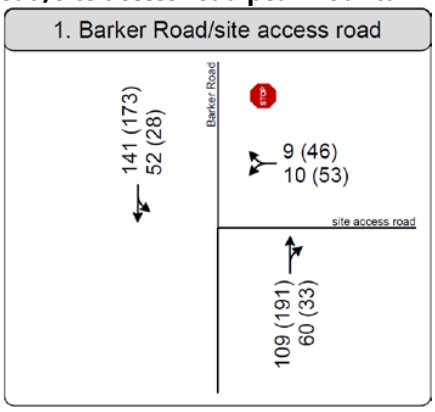
1. How many westbound lanes would be needed at the Barker Road intersections, and
2. Whether a southbound left turn lane would be warranted on Barker Road into the new development

Figure 5 shows the turn movements and volumes forecast at the new Barker Road/site access road intersection. An LOS intersection analysis in Synchro shows that the average delay for outbound vehicles

[2] *Manual on Uniform Traffic Control Devices* (MUTCD), Federal Highway Administration, https://mutcd.fhwa.dot.gov

waiting to turn onto Barker Road (assuming one westbound lane) would be 8 seconds in the AM peak and 12 seconds in the PM. These volumes suggest one outbound lane on the access road would be sufficient to handle forecast traffic.

Figure 5: Barker Road/site access road peak hour turn volumes – AM (PM)



To determine whether a left turn lane is needed on Barker Road at this intersection, a left-turn lane warrant for a two-way stop controlled intersection was used based on the methodology presented in the Transportation Research Board *NCHRP Report 475*[3] and the *AASHTO Green Book*[4]. Calibration constants were adjusted to more conservative amounts than is assumed in the *AASHTO Green Book* based on more recent research published by Fitzpatrick and Wolff in 2003[5]. Critical headway was increased by another 0.5 seconds beyond this to account for the higher than average volumes of heavy trucks. These adjustments resulted in the following calibration constants that were used for the left-turn lane warrant:

- Average time for making left turn: 4.3 seconds
- Critical headway: 6.0 seconds
- Average time for left-turn vehicle to clear the advancing lane: 3.2 seconds

The results of the left-turn analysis are shown in **Figure 6** and **Figure 7**. Based on the above methodology a left-turn lane would not be warranted under Phase 1 conditions. It should be noted that during the AM peak (and assuming the more conservative calibration values identified above) traffic volumes in Phase 1 would be just below the threshold for a left-turn warrant.

[3] Bonneson, J. and M. Fontaine, *Engineering Study Guide for Evaluating Intersection Improvements*, NCHRP Report No. 457, Transportation Research Board, Washington, DC, 2001.
[4] American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets* (2011)
[5] Fitzpatrick, K. and T. Wolff, *Left-Turn Lane Installation Guidelines*, Proceedings of the 2nd Urban Street Symposium, Transportation Research Board, Anaheim, CA (2003)

Figure 6: AM peak left-turn lane warrant on Barker Road at future site access road intersection

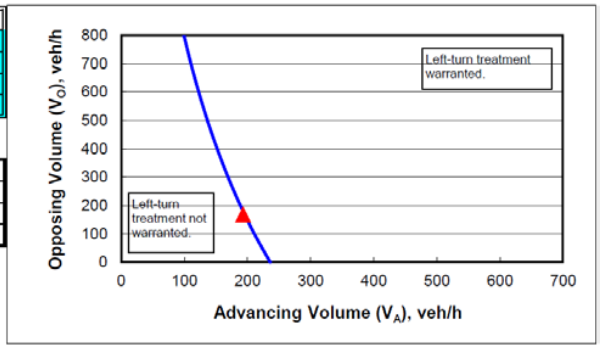
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	27%
Advancing volume (V_A), veh/h:	193
Opposing volume (V_O), veh/h:	169

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	195
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

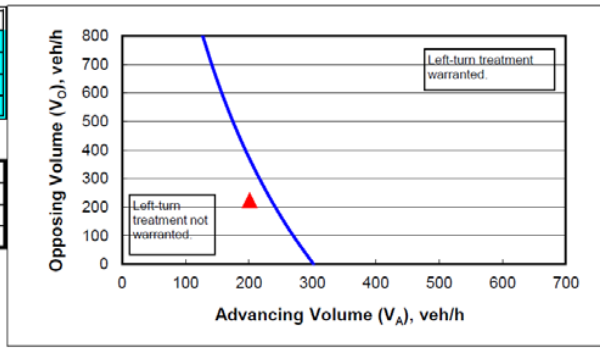
Variable	Value
Average time for making left-turn, s:	4.3
Critical headway, s:	6.0
Average time for left-turn vehicle to clear the advancing lane, s:	3.2

Figure 7: PM peak left-turn lane warrant on Barker Road at future site access road intersection

Variable	Value
85th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	14%
Advancing volume (V_A), veh/h:	201
Opposing volume (V_O), veh/h:	224

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	235
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.3
Critical headway, s:	6.0
Average time for left-turn vehicle to clear the advancing lane, s:	3.2

Traffic Impacts at the At-Grade Rail Crossings

The impacts of queuing vehicles at the two at-grade railroad crossings along Barker Road were analyzed using Synchro under Phase 1 conditions. The two rail crossings include the Burlington Northern Santa Fe (BNSF) Railroad, which crosses Barker Road just south of Trent Avenue, and the Union Pacific (UP) Railroad, which crosses Barker Road between the Euclid Avenue westbound and Euclid Avenue eastbound intersections. Based on data provided by the Federal Railroad Administration (FRA), the BNSF line hosts about 54 trains per day and the UP line hosts about 9 trains per day on average.

The queuing analysis looked at the queue length and associated traffic impacts under two scenarios in which the gates are down during both the AM and PM peak:

- **Average queue length** – This was measured by the 50th percentile queue length during an average

gate down time and represents the typical queue that would occur when a train crosses Barker Road during the peak commuting period.

- **Worst case scenario queue length** – This was measured by the 95th percentile queue length during the longest observed gate down time[6] and represents a queue during the worst case scenario: a particularly high surge in peak hour traffic combined with a long gate down time. Note: based on the observed frequency of long gate down times on each line the worst case scenario is likely to occur 3-4 times per year along the UP line and 9-10 times per year along the BNSF line.

The results of the queuing analysis are shown in **Figure 8**, including the estimated vehicle queue length in feet along Barker Road during the AM and PM peak when the gates are down. The queues at the UP crossing will likely back up onto Euclid Avenue in both directions, but beyond being a little longer than observed today, are not anticipated to have any additional traffic impacts. However, because of the proximity of Trent Avenue to the Barker Road/BNSF rail crossing a more detailed analysis was performed to see if there would be any impacts to traffic on Trent Avenue.

Figure 8: Vehicle queue length on Barker Road at-grade rail crossings when gates are down

Railroad Crossing	Condition	Trains per Day	Gate Down Time	Vehicle Queue Length (feet)			
				AM Peak		PM Peak	
				NB	SB	NB	SB
BNSF	Average (50th percentile)	54	3 minutes	175	300	375	325
	Worst Case (95th percentile)	54	4.5 minutes	325	525	650	525
UP	Average (50th percentile)	9	2 minutes	400	275	300	650
	Worst Case (95th percentile)	9	4 minutes	950	275	650	1,350

There is only about 100 feet of space along Barker Road between the BNSF railroad crossing stop bar and Trent Avenue. Therefore, in most cases during the peak period, vehicles will end up queued along Trent Avenue, either in the eastbound right turn pocket, which has about 300 feet of storage space before the taper begins, or the westbound left-turn pocket, which has about 225 feet of storage space. Under Phase 1, during the AM peak, the percentage of vehicles turning left or right off of Trent Avenue onto southbound Barker Road is split close to 50/50 between the eastbound and westbound directions. During

[6] Duration and frequency of gate down times was recorded at both the BNSF and UP rail crossings along Barker Road between 7AM and 6PM Tuesday, February 14, 2017

the PM peak, about 75% of vehicles heading south on Barker Road across the BNSF tracks would have turned right from the eastbound direction of Trent Avenue, and the other 25% would have turned left off Trent Avenue. These ratios were applied to the estimated queue length during the average and worst case scenarios.

Figure 9 demonstrates that during the average scenario (represented by the 50th percentile queue length, during an average length of gate down time), there would be sufficient storage space in both the westbound left- and eastbound right-turn pockets along Trent Avenue during the peak hours to prevent vehicles from queuing onto the through lanes. However, in the worst case scenario queues may spill slightly onto the eastbound through lanes. In the AM peak, the westbound left turn pocket would be just long enough during the worst case scenario to store the queue waiting to turn left onto Barker (about 200 feet). During the PM peak, the queue of vehicles waiting to turn right from Trent Avenue to Barker Road in the worst case scenario would be 325 feet. Since the eastbound right turn pocket has 300 feet of storage before the lane begins to taper, the queue would be about 25 feet longer than the length of the eastbound right turn pocket. It is estimated (based on the frequency of 4.5 minute gate down times) that this scenario would occur about 9-10 times per year.

Figure 9: Vehicle queues on Trent Avenue at Barker Road from the BNSF railroad crossing

Condition	Vehicle Queue Length (feet)					
	Total	Barker Road	Trent Ave			
			Turn Lanes		Unused Storage	
			EBR	WBL	EB	WB
Existing Vehicle Storage Space	600	100	300	225	n/a	n/a
Average (50th percentile) AM	300	100	100	100	200	125
Average (50th percentile) PM	325	100	175	50	125	175
Worst Case (95th percentile) AM	525	100	225	200	75	25
Worst Case (95th percentile) PM	525	100	325	100	**-25**	125

MITIGATION

Recommended mitigations at the three intersections that would fail the City's LOS standards under Phase 1 are described below. Recommendations for the BNSF and UP at-grade rail crossings on Barker Road are also discussed.

Barker Road/Trent Avenue Intersection

Results show that this intersection would fail the City's LOS standards under Phase 1 as it currently does today. The City of Spokane Valley is planning to grade-separate Barker Road with the BNSF railroad (just south of Trent Avenue) as part of the 6-year TIP, which would change the configuration of this intersection in the future. It is anticipated that any grade separation project would result in adequate LOS at this intersection as the grade separation would also reconstruct the intersection with Trent and Barker. The City recently hired a consulting engineering team to design the grade separation project beginning in the summer of 2017 and this is a top priority project for the city to complete, however no timeline has been set for construction.

Given the technical and financial commitment by Spokane Valley to reconstruct the Trent/Barker intersection, the City is confident that the intersection LOS issue identified here will be mitigated in the near-future. However, given that funding for construction still needs to be secured and the various agencies required to approve the project, Spokane Valley has decided to use a two-tiered mitigation approach. In the near-term, it will be assumed that the grade separation project will move forward in a timely matter. However, if for any reason sufficient progress is not being made on the grade-separation project within the next three years, the City will instead consider installing an interim traffic signal. Under WSDOT design criteria an Intersection Control Analysis (ICA) and approvals from WSDOT will be required for any interim improvement.

A span wire signal with video vehicle detection would be a low cost, interim option to address the LOS issue at this location. Based on analysis performed in Synchro (and assuming an actuated, uncoordinated signal with a 110 second cycle length and protected left turn on Trent Avenue) the conversion of this intersection from a two-way stop controlled intersection to a signalized intersection would improve the LOS in Phase 1 from F to B. However, given that this intersection is within 200 feet of an at-grade railroad crossing, a signal at this intersection would also need to be interconnected with the railroad crossing on Barker Road 100 feet south of Trent Avenue. This would require the City to file a petition with the State Utilities and Transportation Commission (UTC). This petition includes an on-site safety assessment with the UTC, WSDOT, and BNSF prior to filing the petition. Interconnection of the traffic signal and the railroad crossing arms would result in some additional costs. An interim signal at this location should also include advance warning signs to alert drivers of the signal from the eastbound and westbound approach to Barker Road. Drivers may not be expecting a signal at this location given both the curvature in the road near Wellesley Avenue (which reduces sight distance) and rural character around the intersection.

Barker Road/I-90 Intersections (eastbound & westbound)

The Barker Road/I-90 intersections currently operate at LOS F for part of the day. Without any improvements these intersections would continue to operate at LOS F under Phase 1. However, two

separate improvement projects are planned at this intersection that will improve LOS to an acceptable level under Phase 1. WSDOT is planning to reconstruct this intersection in the next several years. The recently completed Interchange Justification Report (IJR) includes a traditional diamond interchange design with two-lane roundabouts at both eastbound and westbound ramps at Barker Road. The City is also planning to widen Barker Road between I-90 and Appleway Avenue, from 3 to 5 lanes, as part of the 6-year TIP. The combination of these two projects already in the pipeline will sufficiently address LOS at the Barker Road/I-90 intersections under Phase 1 and no additional mitigations are recommended.

Note: Following conclusion of this traffic analysis the original assumption that the Barker Road/I-90 interchange would be reconstructed by 2020 changed. The more recent assumption is that full reconstruction of the interchange (as described above) would occur by 2040. The only project currently funded for the Barker Road/I-90 interchange is construction of a single lane roundabout at the Barker Road/I-90 Eastbound Ramp. Given this change in funding it is recommended that the City of Spokane Valley work with WSDOT to find funding for the earlier proposed interchange reconstruction project (see the 2014 approved IJR). The proposed interchange includes a two-lane roundabout at both the westbound and eastbound ramps that would address existing and future LOS issues through 2040.

Barker Road/BNSF Railroad At-Grade Crossing

An analysis of vehicle queue length at the BNSF rail crossing on Barker Road shows that, except in the worst case scenario, the turn pockets on Trent Avenue are of sufficient length to store vehicles waiting to turn onto Barker when the gates are down. During the worst case scenario (the 95th percentile queue length during the PM peak, during a particularly long gate down time) the queue of vehicles in the eastbound right-turn pocket may spill 25 feet beyond the storage lane. This situation is likely to occur only about 9-10 times per year and even then there would still be about 100 feet of partial right-turn lane (where the lane tapers) and vehicles can largely pull out of the through lane. Because this scenario would only occur during the PM peak hour when drivers are more accustomed to vehicle queues, and only about 9-10 times per year, no mitigations are recommended at the BNSF crossing as part of Phase 1.

Barker Road/UP Railroad At-Grade Crossing

An analysis of vehicle queue length at the UP rail crossing on Barker Road shows that vehicle queues will be about 10-35% longer under Phase 1 than they are today. However, no additional traffic impacts (e.g. additional blocked driveways) beyond slightly longer queues on Barker Road and Euclid Avenue are anticipated and thus no mitigations are recommended around the UP railroad at-grade crossing as part of Phase 1.

CONCLUSIONS

The results of the traffic impact analysis in the Northeast Industrial Area of Spokane Valley demonstrated that the following three intersections would fail the City's LOS standards under Phase 1 of development:

- Barker Road/Trent Avenue
- Barker Road/I-90 Eastbound Ramps
- Barker Road/I-90 Westbound Ramps

Results also indicated that there is a possibility that about 9-10 times a year during the PM peak the vehicle queue at the BNSF crossing may get just long enough to partially block the eastbound lane of Trent Avenue.

The following mitigations are recommended to address these impacts:

- **Barker Road/I-90** - WSDOT and the City of Spokane Valley are already planning to make improvements to the Barker Road/I-90 intersections that would improve the LOS at those intersections to acceptable levels within the next several years. Thus no additional mitigations are recommended.

- **Barker Road/Trent Avenue** - The City is also planning to improve the Barker Road/Trent Avenue intersection as part of the Barker Road/BNSF Railroad grade separation project included in the 6-year TIP, which will bring this intersection to an acceptable LOS and would qualify as adequate mitigation. However, given the increased delay resulting from the Phase 1 development, the City will reevaluate this intersection three years after there is development at the Phase 1 site. If at that time sufficient progress is not being made on the grade-separation project, the City will consider a relatively low-cost interim improvement. Adding a wire span signal with video detection would improve LOS to an acceptable level and negate any concern for additional industrial development in the near future. Because the intersection is within 200 feet of an at-grade railroad crossing it would require signal coordination with the crossing gates, filing a petition to the State UTC, and an on-site safety assessment with the UTC, WSDOT, and BNSF prior to filing the petition.

- **Vehicle Queues from Barker Road Railroad Crossings** - Analysis demonstrated that vehicle queues on Barker Road at the BNSF and UP railroad at-grade crossings would increase in length by about 10-35% in Phase 1 from what they are today. The most significant impact identified (beyond the delay already experienced by drivers today waiting to cross the railroad tracks when the gates are down) would be that there is a possibility that about 9-10 times a year during the PM peak the queue at the BNSF crossing may get just long enough to partially block the eastbound

lane of Trent Avenue. Given the infrequent likelihood of this occurrence, that it would only occur in the PM peak in an urban area when commuters would be expecting queues and that the City is planning to grade-separate this crossing as part of the 6-year TIP, no additional mitigations are recommended for the rail crossings as part of Phase 1.

FEHR PEERS

MEMORANDUM

Date: June 14, 2017

To: Chaz Bates, City of Spokane Valley

From: Chris Breiland, PE
Patrick Picard, AICP

Subject: Spokane Valley Northeast Industrial Area PAO – DRAFT Phase 2 Traffic Analysis

SE17-0508

INTRODUCTION

This memo presents traffic analysis findings as part of Phase 2 of development in the Spokane Valley Northeast Industrial Area. The intent of defining a Phase 2 of development in the Northeast Industrial Area is to determine an intermediate level of development between Phase 1 (in year 2019) and Phase 3 (in year 2040) that may trigger the need for a large infrastructure project prior to 2040. Phase 2 of development would thus provide guidance to the City as to when major projects will likely be needed based on growth in the Northeast Industrial Area and growth in background traffic.

METHODOLOGY

This section describes the methodology used to estimate when Phase 2 of development will likely occur and trigger the need for a major infrastructure project.

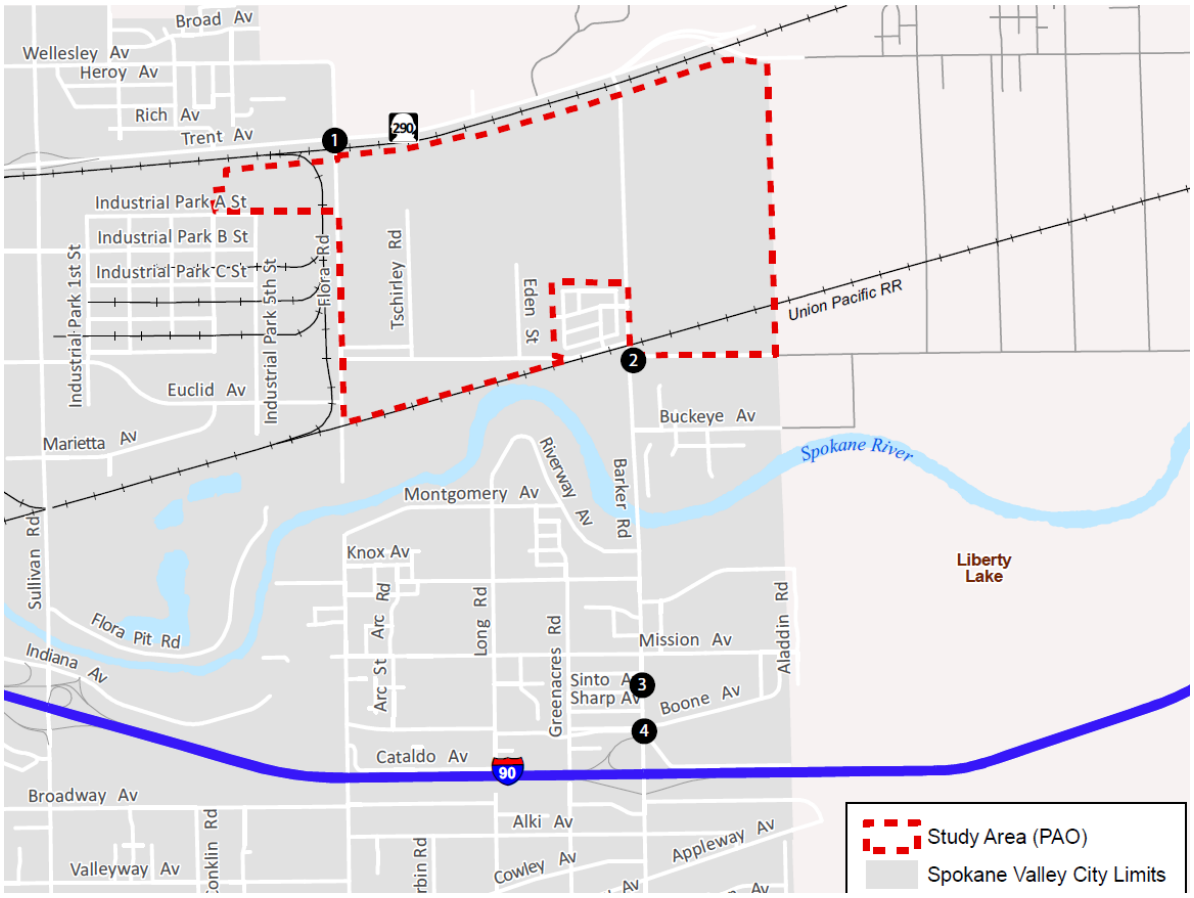
Key Infrastructure Projects Needed By 2040

Several key infrastructure projects were recommended for implementation by 2040 as part of the traffic analysis for Phase 3 development in the Northeast Industrial Area (see **Figure 1**). These are in addition to projects already planned as part of City's 6-year Transportation Improvement Program (TIP) and the Spokane Regional Transportation Council (SRTC) *Horizon 2040 Plan* (fiscally constrained version). The

following list also assumes that a new east-west local street connecter between Barker Road and Flora Road (north of Euclid Avenue) will be implemented prior to 2040 as the area is developed.

1. **Flora Road/Trent Avenue** – Signalize the intersection and add northbound and southbound left turn lanes on Flora Road or convert intersection to a roundabout.
2. **Barker Rd/UP Railroad at-grade crossing** – Add a northbound right turn lane on Barker Road and a westbound left turn lane on Euclid Avenue at the Barker Road/Euclid Ave (south) intersection. Also sign and paint "do not block" at key driveways and intersections on Barker Road approaching the UP Railroad crossing.
3. **Barker Road (from Mission Avenue to I-90)** – Widen to five lanes
4. **Barker Road/Boone Avenue** – As part of the Barker Road/I-90 interchange reconstruction project planned by WSDOT, Spokane Valley will either need reroute Cataldo Avenue from Barker Road to Boone Avenue and add a signal/roundabout to the Barker Road/Boone Avenue intersection or convert the Barker Road/Cataldo Avenue intersection to right-in/right-out and accommodate U-turns or build a roundabout at the Barker Road/Boone Avenue intersection.

Figure 1: Key transportation projects needed by 2040 (from the Phase 3 analysis)



Of the recommended projects to mitigate traffic impacts associated with Phase 3 development, the largest and most expensive would be widening Barker Road to five lanes from Mission Avenue to I-90. Unlike some of the other recommended projects, the timeline for widening Barker Road to five lanes is not tied to other projects, but would be based on the pace of nearby development and associated growth in traffic. Therefore, it is recommended that Phase 2 be defined as when development in the Northeast Industrial Area (combined with growth in background traffic on Barker Road) is sufficient to trigger the need to widen Barker Road from three lanes to five lanes between Mission Avenue and I-90. The approximate timeline for when the other projects should be implemented is listed below:

- **Flora Road/Trent Avenue** – This project should be implemented concurrently with the Barker Road/BNSF Railroad grade separation project which is planned in the next six years. Note: the need for a signal/roundabout at Flora Road/Trent Avenue is contingent on the Flora Road/BNSF Railroad at-grade crossing remaining open. If this grade-crossing is closed in the future as part of the Barker Road/BNSF Railroad grade separation project, the need for a signal will need to be reexamined.
- **Barker Road/Euclid Avenue (south)** – This project is relatively small in scale and could be implemented any time prior to 2040 buildout. The City is planning to widen the section of Barker Road south of Euclid to a three-lane urban section (with curb, gutter, sidewalk and a bike lane) by 2021. This could be a logical time to implement this project. Alternatively the City could monitor queue lengths on Barker Road and Euclid Avenue from the UP Railroad crossing as part of the City's periodic traffic monitoring program and use that to inform a decision on when to implement this project.
- **Barker Road/Boone Avenue** – This project is directly associated with the Barker Road/I-90 interchange project and should be implemented concurrently with that project.

Phase 2 Development Scenarios

The need to widen Barker Road south of Mission Avenue will be triggered based on a combination of the growth in background traffic in the corridor (regardless of development in the Northeast Industrial Area) and the pace/intensity of development in the Northeast Industrial Area. Given the uncertainty of when development in the Northeast Industrial Area would occur between now and 2040 and the desire from the City to know the amount of development that would trigger the need to widen Barker Road south of Mission Avenue, the following three development scenarios were analyzed to provide a rough gauge for when this project may be needed:

- If there were no new development in the Northeast Industrial Area
- If 75% of the 2015-2040 forecast development occurred in the Northeast Industrial Area
- If 100% of the 2015-2040 forecast development occurred in the Northeast Industrial Area

The following four factors were used forecast future growth in traffic along Barker Road given each of the

three scenarios described above:

- **Existing (2015) ADT** – The existing ADT on Barker Road south of Mission Avenue was observed to be 13,400 in 2015.
- **Background Traffic Growth** –Background traffic growth on Barker Road is defined as the growth in traffic not associated with development in the Northeast Industrial Area, which is estimated to be about 1.33% per year between 2015 and 2040. This was estimated by running the 2040 SRTC travel demand model assuming no growth in employees in transportation analysis zones (TAZ's) 318 and 600 (which are the TAZ's where most of the forecast development in the Northeast Industrial Area that will generate trips on Barker road is expected to occur).
- **Traffic Growth from Development in the Northeast Industrial Area** – To estimate traffic growth on Barker Road between Mission Avenue and Boone Avenue from development in the Northeast Industrial Area we compared the 2040 model run assuming no growth in employees in TAZ's 318 and 600 (as described above) with the 2040 model run under Phase 3 of development. Using a select link analysis for the segment of Barker Road south of Mission Avenue, we found that there would be about 1,300 fewer daily trips from TAZ 318 and TAZ 600 on that segment of Barker in the 2040 model with no employment growth in those two TAZ's as compared to the 2040 model under Phase 3 of development.

Level of Service Thresholds

The City of Spokane Valley uses level of service (LOS) to describe and evaluate traffic operations along major arterial corridors and intersections within the City. Levels range from LOS A to LOS F, which encompass a range of congestion types from uninterrupted traffic (LOS A) to highly-congested conditions (LOS F). These are based on the Highway Capacity Manual, which is the methodology used by Spokane Valley. The Comprehensive Plan defines LOS D as the acceptable standard on most arterial streets.

Using the Highway Capacity Manual, the LOS D threshold for a three lane street on this segment of Barker Road was estimated to be about 16,500 ADT. This is based on a k-factor (the percent of daily traffic in the PM peak) of 0.9, and a d-factor (the percent of peak hour traffic in one direction) of 0.55 and posted speed of 35mph. The k-factor and d-factor were estimated based on observed traffic data. It should be noted that this is a rough estimate of when LOS D conditions would occur for forecasting purposes only. Traffic operations will to some extent depend on other factors, including growth in traffic volumes on Mission Avenue. Traffic conditions on Barker Road should be monitored to determine if and when conditions drop below LOS D.[1]

[1] Spokane Valley generally uses intersection LOS to evaluate traffic operations, however, for this section between Mission Avenue and I-90, a roadway segment analysis is appropriate to consider. The LOS results for the segment and the key intersections at Mission Avenue and I-90 Westbound Ramps are generally consistent with the segment LOS threshold defined above.

RESULTS

Phase 2 Development Thresholds

The approximate year in which traffic growth along Barker Road south of Mission Avenue would trigger the need for the City of Spokane Valley to widen the section between Mission Avenue and I-90 to five lanes is shown in **Figure 2** for each of the three different development scenarios in the Northeast Industrial Area (as described in the Methodology section).

Figure 2: Forecast year Barker Road would exceed LOS D thresholds south of Mission Avenue

Phase 2 Development Scenario	Year LOS D threshold would be exceeded
With no new development in the Northeast Industrial Area	2032
With 75% of the 2015-2040 forecast growth in the Northeast Industrial Area	2026
With 100% of the 2015-2040 forecast growth in the Northeast Industrial Area	2025

Traffic forecasts show that Barker Road between Mission Avenue and I-90 will likely need to be widened to five lanes at some point between the year 2025 and 2032. This forecast assumes steady growth in background traffic on this corridor over the next 20 years at a rate of about 1.33% per year. The variability in timing in this analysis is based on how rapidly the Northeast Industrial Area is developed. If no new industrial development in the Northeast Industrial Area occurred over the next 15 years, background traffic growth alone on Barker Road – caused by other nearby and regional developments – would likely trigger the need to widen Barker Road south of Mission Avenue by year 2032. Alternatively, if there were to be rapid buildout of the Northeast Industrial Area over the next 5-10 years, the earliest year that widening would likely be needed is in 2025.

CONCLUSIONS/RECCOMENDATIONS

The intent of defining a Phase 2 of development in the Northeast Industrial Area is to determine an intermediate level of development between Phase 1 (in year 2019) and Phase 3 (in year 2040) that may trigger the need for a large infrastructure project prior to 2040. Phase 2 of development would thus provide guidance to the City as to when major projects will likely be needed based on growth in the Northeast Industrial Area and growth in background traffic. Given that the widening of Barker Road to five

lanes between Mission Avenue and I-90 was the only large scale mitigation project identified in the Phase 3 traffic analysis that was not tied to another project with a pre-defined timeline, the timing of this project was used to define Phase 2 of development.

Traffic analysis was performed for the section of Barker Road south of Mission Avenue using the following factors:

- Existing traffic volumes,
- Assuming a future average annual background traffic growth rate of 1.33%; and
- Applying a LOS D threshold based on the HCM guidelines.

Results of this analysis showed that depending on the pace of development in the Northeast Industrial Area Barker Road would likely need to be widened to five lanes between Mission Avenue and I-90 sometime between 2025 and 2032. If development in the Northeast Industrial Area occurs at a rapid pace over the next 5-10 years Spokane Valley should plan to widen Barker Road closer to 2025. If development occurs more slowly over the next 5-10 years, this project may not be needed until 2030 or later. Given this project is not likely to be needed for 10-15 years we recommend that Spokane Valley collect fees as development occurs in the Northeast Industrial Area and update the forecast in about 5 years for when this project may be needed.

FEHR PEERS

MEMORANDUM

Date: December 21, 2017

To: Chaz Bates, City of Spokane Valley

From: Chris Breiland, PE
Patrick Picard, AICP

Subject: Spokane Valley Northeast Industrial Area PAO – Phase 3 Traffic Analysis

SE17-0508

INTRODUCTION

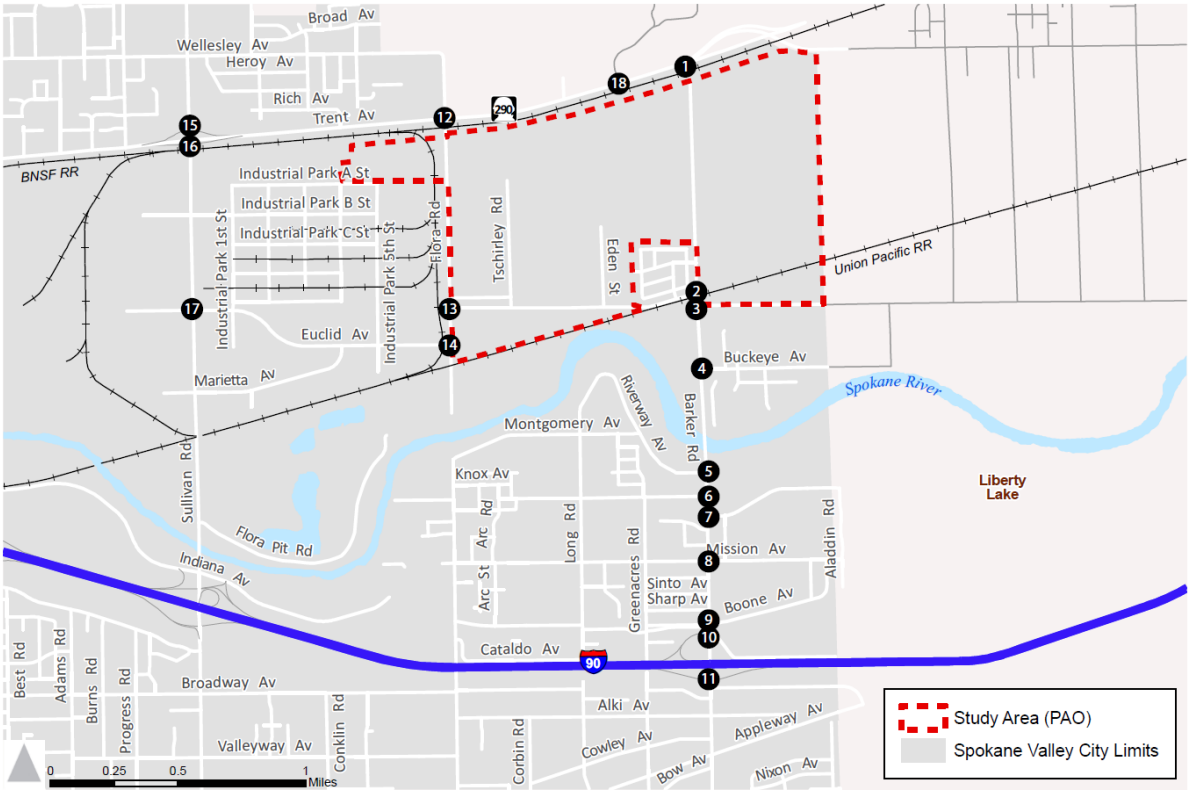
This memo presents traffic operations findings associated with land use growth under Phase 3 of development in the Spokane Valley Northeast Industrial Area which would occur in year 2040. A total of 18 intersections in the area were analyzed as well as traffic volumes on Barker Road and traffic impacts at the Union Pacific (UP) railroad at Barker Road at-grade railroad crossing.

Intersections analyzed as part of Phase 3 include the following, which area also mapped in **Figure 1**:

1. Barker Rd/Trent Ave
2. Barker Rd/Euclid Ave (north)
3. Barker Rd/Euclid Ave (south)
4. Barker Rd/Buckeye Ave
5. Barker Rd/Riverway Ave
6. Barker Rd/Indiana Ave (north)
7. Barker Rd/Indiana Ave (south)
8. Barker Rd/Mission Ave
9. Barker Rd/Boone Ave
10. Barker Rd/I-90 Westbound Ramps
11. Barker Rd/I-90 Eastbound Ramps
12. Del Rey Dr/Trent Ave

13. Flora Rd/Trent Ave
14. Flora Rd/Euclid Ave (north)
15. Flora Rd/Euclid Ave (south)
16. Sullivan Rd/Trent Ave (north)
17. Sullivan Rd/Trent Ave (south)
18. Sullivan Rd/Euclid Ave

Figure 1: Intersections Included in Phase 3 Traffic Analysis



METHODOLOGY

This section describes the methodology used to estimate the growth in vehicle trips in the study area as a result of the new employment.

Updating the Regional Travel Demand Model

Traffic volumes under Phase 3 were estimated using the same regional travel demand model that was used for the recent update to the Spokane Valley Comprehensive Plan. Prior to running the model, input was gathered from the project's technical advisory committee (TAC) to identify future land use and

transportation network changes that were not already incorporated in the model. The TAC is comprised of representatives from Spokane Valley, Spokane County, Liberty Lake, the Spokane Regional Transportation Council (SRTC), Washington State Department of Transportation (WSDOT), developers, utility providers, and the railroads.

After consulting with the TAC, a few changes were made to the regional travel demand model in the vicinity of the Northeast Industrial Area before running the model:

- The 2015 and 2040 land use, including the number of dwelling units and employees, in the seven TAZs within Liberty Lake (442, 445, 446, 447, 448, 449 & 450) were updated based on information provided in the *Liberty Lake Network Analysis Transportation Study* (February, 2017).
- Indiana Avenue was connected between Barker Road and Harvard Road in the 2040 model
- A new east-west connector road between Flora Road and Barker Road was added between Euclid Avenue and Trent Avenue to reflect a planned connection for the area.
- Reconfiguration of the Barker Road/Trent Avenue intersection, including a scenario both with and without Flora Road open across the BNSF Railroad south of Trent Avenue

Barker Road/Trent Avenue Reconfiguration

Several alternatives are being studied as part of a separate Baker Road/Trent Avenue intersection reconfiguration. Given that the final alternative is not known at this time, we assumed two scenarios when conducting the 2040 traffic analysis for the Flora Road/Trent Avenue intersection, one in which the Flora Road/BNSF Railroad at-grade crossing would remain open and one in which it would close. Both are being studied as alternatives as part the Barker Road/Trent Avenue reconfiguration. For all other intersections we assumed the scenario that would result in the most conservative (highest) traffic volume that would pass through the intersection (which happens with Flora Road remains open across the BNSF tracks). It should be noted that at most intersections, there was little variability in forecast traffic volumes between the alternatives being studied for Trent Avenue/Barker Road.

Applying the Difference Method

Instead of using the traffic forecasts directly from the 2040 travel demand, 2040 volumes were estimated using an industry standard approach known as the difference method. Under the difference method, the difference in traffic volumes between the 2015 and 2040 models were added to observed counts at each of the study area intersections to arrive at a 2040 forecast traffic. This method reduces model error by relying as much as possible on observed data rather than model output data.

Estimating AM Peak Volumes

The regional travel demand model forecasts daily traffic and PM peak traffic, but not AM peak. To estimate

traffic growth in the AM peak, 80% of PM peak traffic was used, which is consistent with research published in National Cooperative Highway Research Program Report 365[1] and in observed peak hour traffic count data in Spokane Valley. Additionally, the growth in traffic during the AM peak was assumed to be the inverse of growth in traffic in the PM peak (for example, 80% of PM peak volumes for southbound right turn movements were applied to eastbound left movements to get the AM peak traffic forecast).

2040 Street Network Assumptions

The 2040 Synchro network (used to analyze level of service at each intersection) assume the following changes to the street network from what they are today. These were also reflected in the Spokane Regional Transportation Council (SRTC) 2040 travel demand model. These assumptions based on projects that were programmed in the Spokane Valley Six-Year Transportation Improvement Program (TIP) or the SRTC financially constrained project list from the *Horizon 2040 Plan* when this study started:

- Northbound and southbound left turn lanes were added at all intersections along Barker Road to reflect the planned upgrade of Barker Road to a 3-lane urban section
- The Barker Road/I-90 interchange was reconfigured to a standard diamond interchange with two-lane roundabouts plus slip ramps for right-turn movements at both ramps (as reflected in I-90/Barker Rd the Interchange Justification Report)
- Five lanes were added along Barker Road between I-90 and Appleway Avenue
- The existing partial interchange at I-90/Appleway Avenue was replaced with a new, full interchange at I-90/Henry Road[2]
- New northbound and southbound left turn lanes were added on Sullivan Road at the Trent Avenue ramps

Trip Generation

The Phase 3 traffic analysis was conducted based on land use assumptions from the 2016 Update to the Spokane Valley Comprehensive Plan. The Comprehensive Plan assumes the Northeast Industrial Area will grow by about 3,200 employees between 2015 and 2040. Based on the 2040 travel demand model, employment growth in the Northeast Industrial Area is forecast to generate about 1,500 PM new peak hour trips, with about 1,340 of those generated by land uses east of Flora Road. **Figure 2** shows employment growth and PM peak hour trip generation from new employees by location within the Northeast Industrial Area boundary. The travel demand model assumes an average PM peak hour trip generation rate of about

[1] Martin, W., N. McGuckin. *Travel Estimating Techniques for Urban Planning*. NCHRP Report 365. National Academy Press, Washington, D.C., 1998.

[2] Note: This configuration is consistent with the existing SRTC plan and was assumed when this study was initiated. However, since this study was initiated WSDOT completed their modeling for a new Henry Road interchange and found it did not show purpose and need. Potential strategies to address future traffic if the Henry Road/I-90 interchange is not built by 2040 are addressed in the mitigations section.

0.46 trips per employee, with 37% of trips inbound and 63% of trips outbound during the PM peak. This trip rate is similar to ITE's trip rate for General Light Industrial uses (ITE Code 110).

Figure 2: 2015-2040 employment growth and trip generation within the Northeast Industrial Area

Section of the Northeast Industrial Area	2015-2040 Employment Growth	PM Peak Hour Trips		
		In	Out	Total
West of Flora Road	340	60	100	160
Between Flora Road and Barker Road	1,460	250	430	680
East of Barker Road	1,420	245	415	660
Total	**3,220**	**555**	**945**	**1,500**

Trip Distribution

There is no public access across the railroad spur west of Flora Road. Therefore the portion of the Northeast Industrial Area west of Flora Road will have a very different trip distribution than the rest of the Northeast Industrial Area. The area west of Flora Road will load primarily load onto Sullivan Road and Euclid Avenue, while the area east of Flora Road will primarily load onto Flora Road, Barker Road and Euclid Avenue. The distribution of trips from land uses within the Northeast Industrial Area is described in **Figure 3** and mapped in **Figure 4** for trips from land uses east of Flora Road, and **Figure 5** for trips from land uses west of Flora Road.

Figure 3: 2040 trip distribution from Northeast Industrial Area

Direction	Via primary road/street	% Trips by trip end location	
		East of Flora Rd	West of Flora Rd
Northwest	Flora Road (north)	8%	0%
	Trent Avenue (west)	20%	24%
	Sullivan Road (north)	3%	22%
Southwest	Mission Avenue or I-90 (west of Barker)	11%	N/A
	Mission/Indiana Ave or I-90 (w/o Sullivan)	N/A	11%
	Sullivan Road (south of Marietta Ave)	14%	33%
	Sullivan Road (south of I-90)	N/A	22%

East	Wellesley Avenue (east)	11%	2%
	Trent Avenue (east)	2%	3%
	Euclid Avenue (east)	10%	6%
South	Mission/Indiana Ave or I-90 (e/o Barker)	4%	5%
	Barker Road (south)	7%	2%
Local	Nearby local streets	13%	3%

Figure 4: 2040 trip distribution from Northeast Industrial Area east of Flora Road

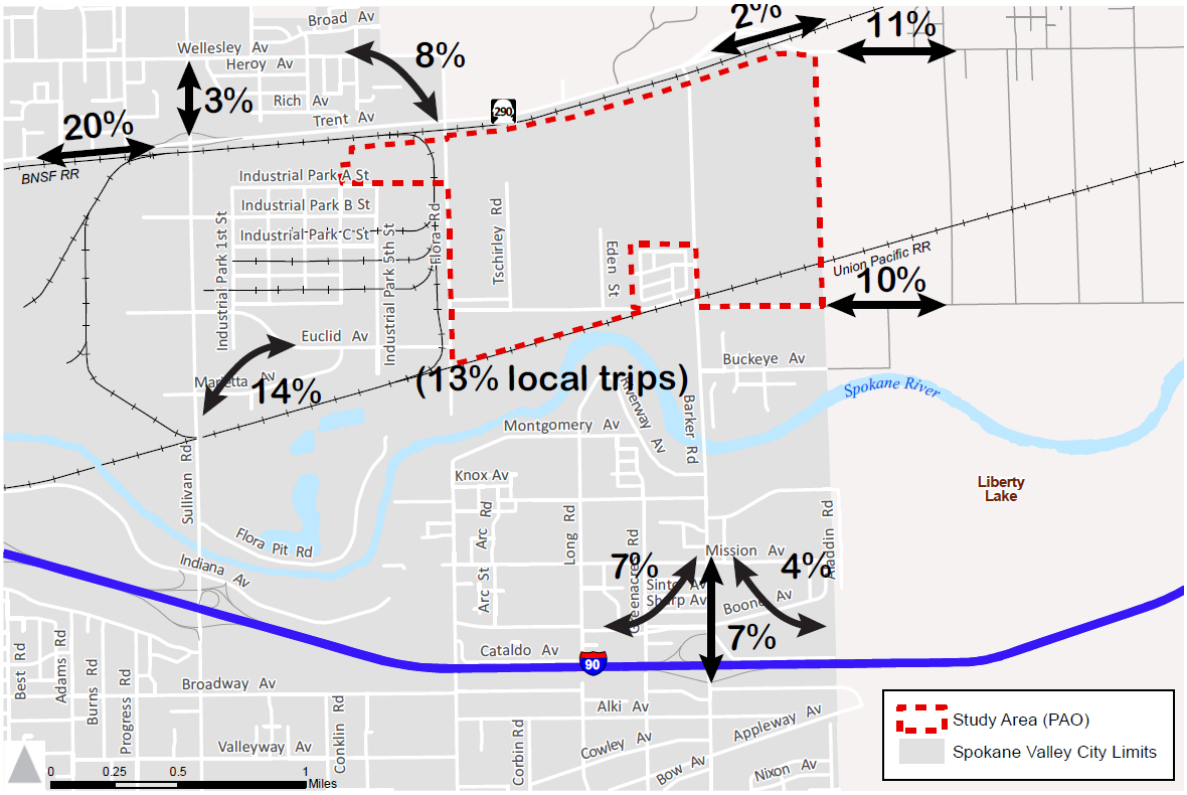
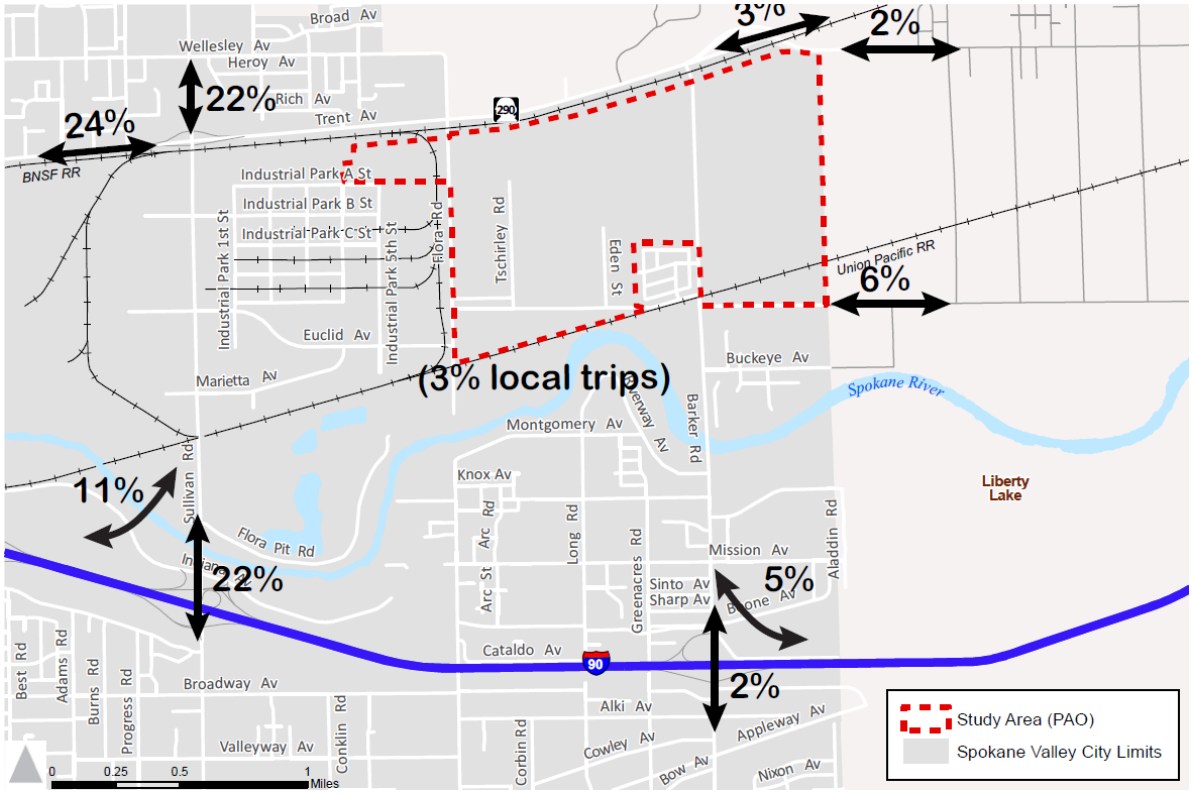


Figure 5: 2040 trip distribution from Northeast Industrial Area west of Flora Road



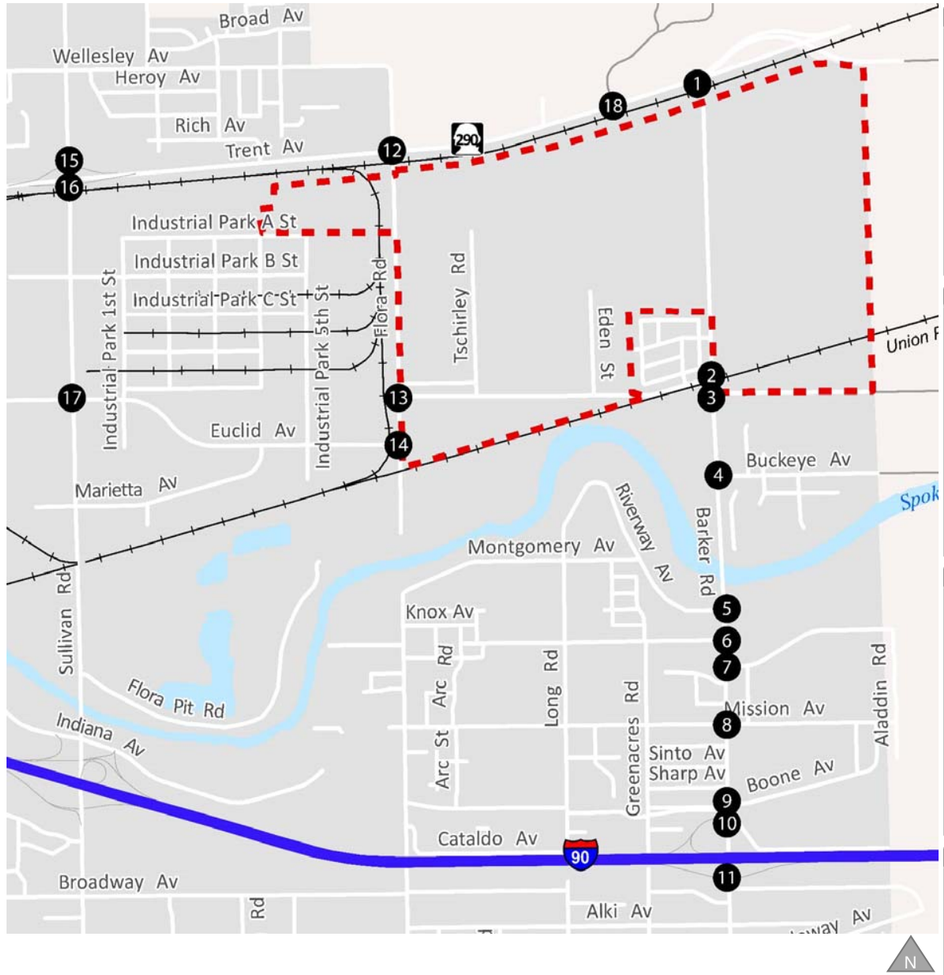
Truck Trips

The percent of trips made by heavy trucks in 2040 was assumed to be the same as observed counts in 2017.

RESULTS

Intersection Traffic volumes

The existing (2017) and forecast (2040) lane configurations and AM/PM peak hour turn movements for each of the intersections included in this study are shown in **Figure 6** and **Figure 7**.



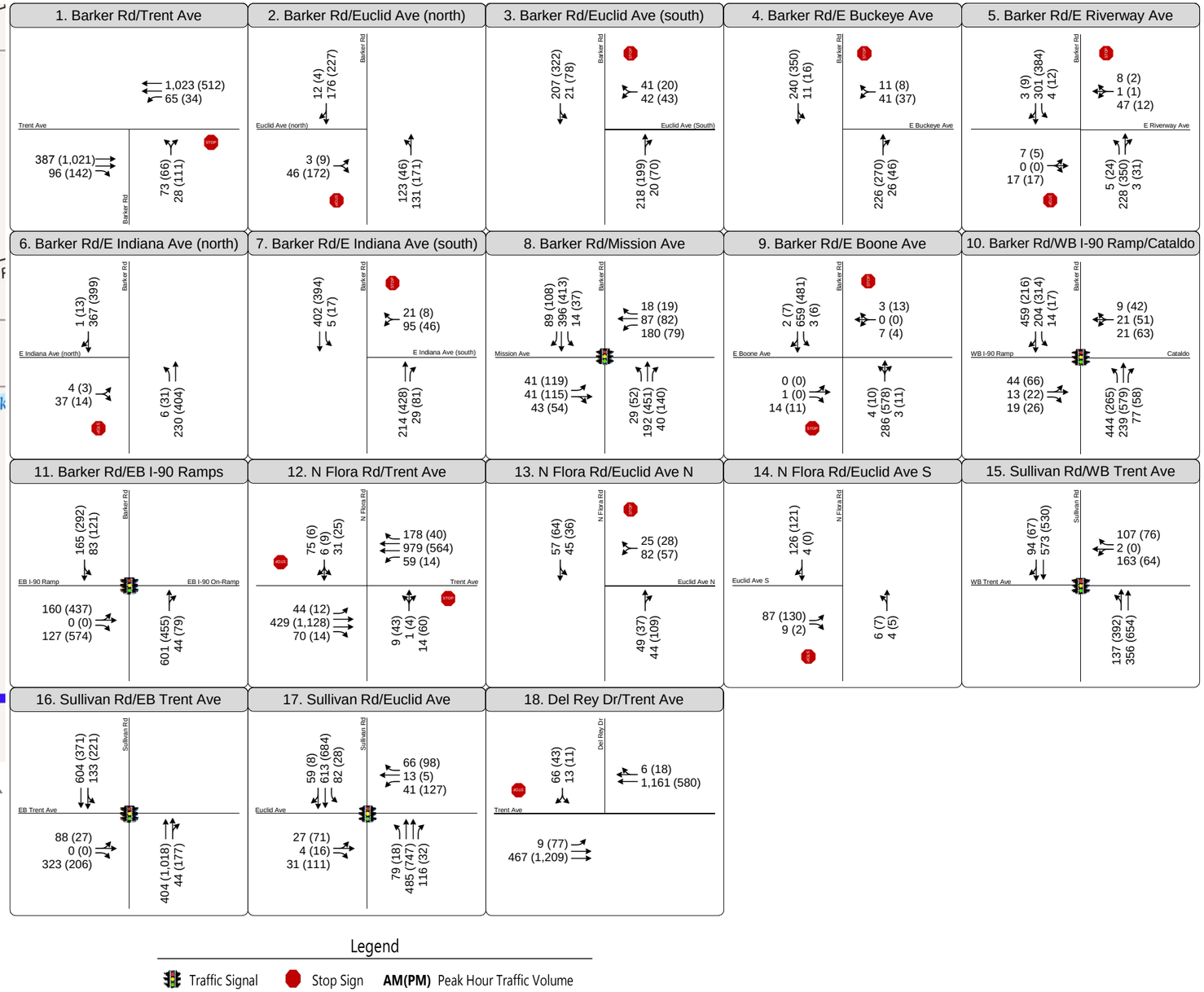
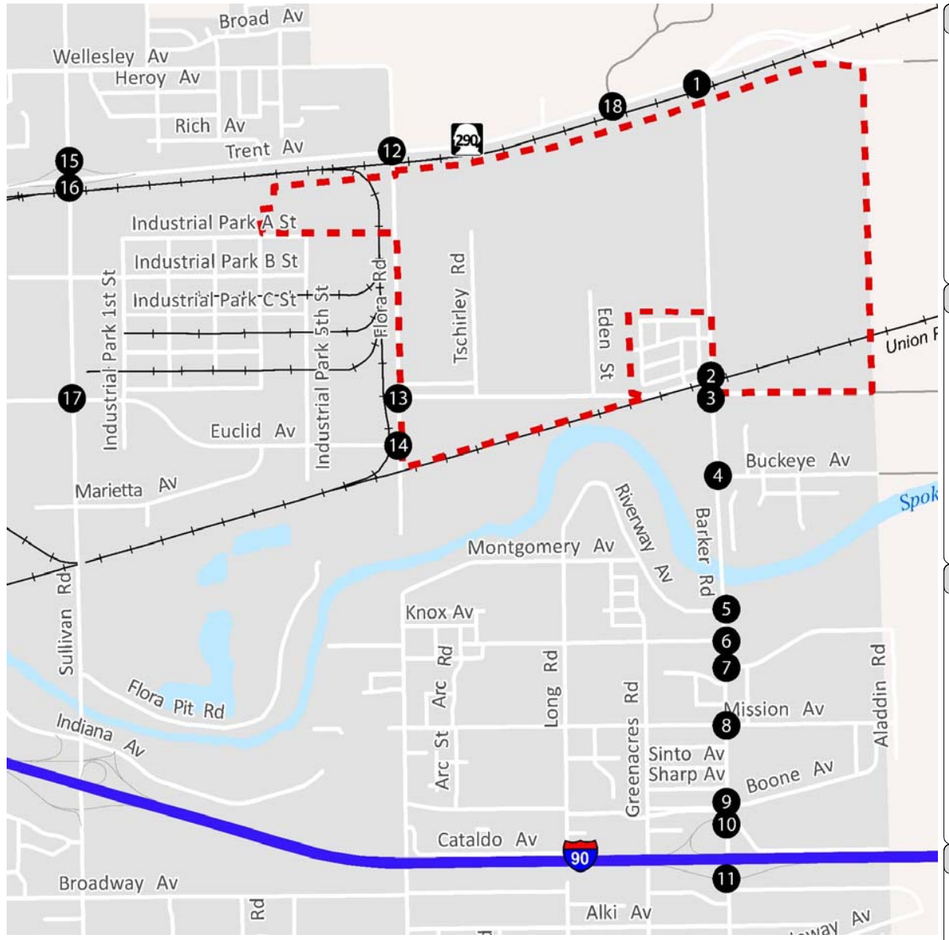


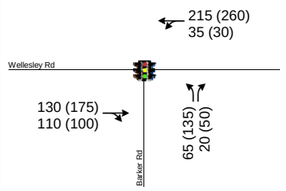
Figure 6
Peak Hour Traffic Volumes and Lane Configurations
Existing (2017) Conditions



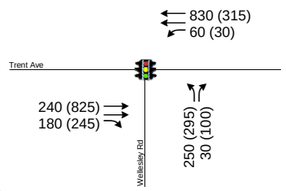
Legend

Traffic Signal Stop Sign **AM(PM)** Peak Hour Traffic Volume

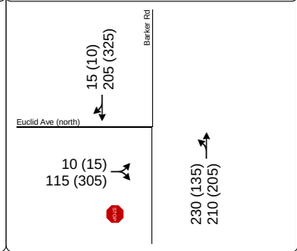
1a. Barker Rd/Wellesley Rd



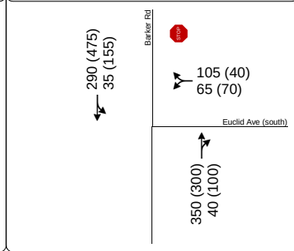
1b. Wellesley Rd/Trent Ave



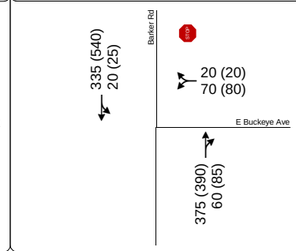
2. Barker Rd/Euclid Ave (north)



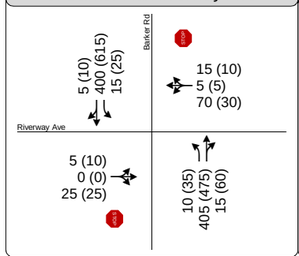
3. Barker Rd/Euclid Ave (south)



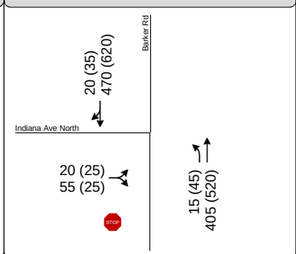
4. Barker Rd/E Buckeye Ave



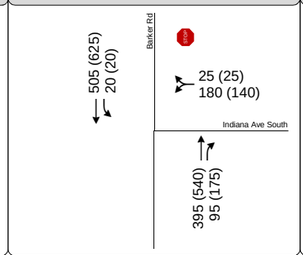
5. Barker Rd/Riverway Ave



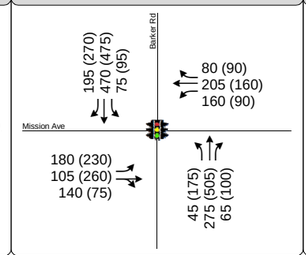
6. Barker Rd/Indiana Ave North



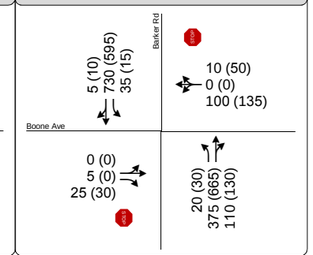
7. Barker Rd/Indiana Ave South



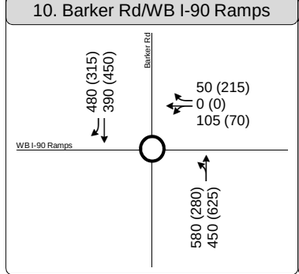
8. Barker Rd/Mission Ave



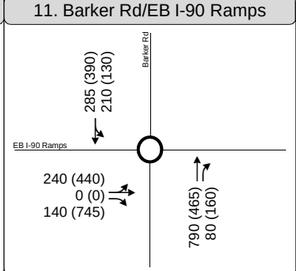
9. Barker Rd/Boone Ave



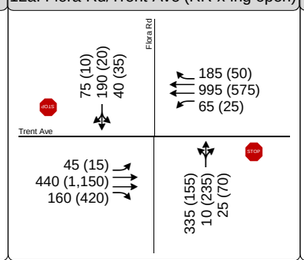
10. Barker Rd/WB I-90 Ramps



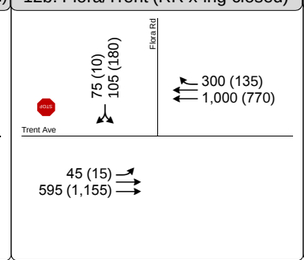
11. Barker Rd/EB I-90 Ramps



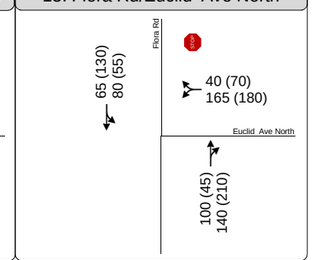
12a. Flora Rd/Trent Ave (RR x-ing open)



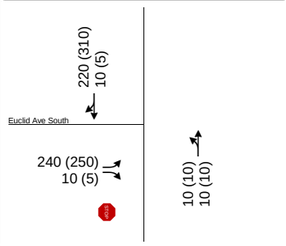
12b. Flora/Trent (RR x-ing closed)



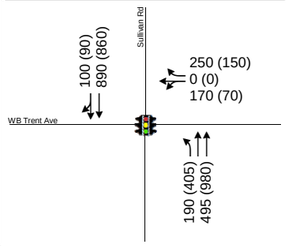
13. Flora Rd/Euclid Ave North



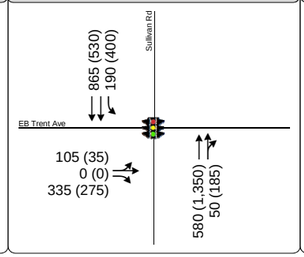
14. /Euclid Ave South



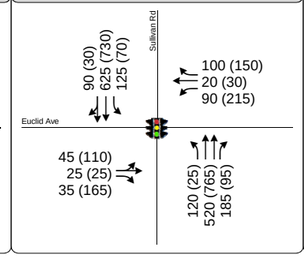
15. Sullivan Rd/WB Trent Ave



16. Sullivan Rd/EB Trent Ave



17. Sullivan Rd/Euclid Ave



18. Del Rey Dr/Trent Ave

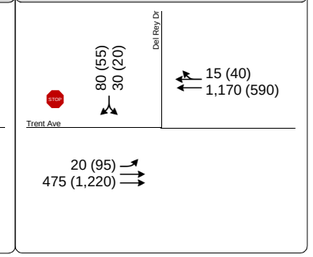


Figure 7
Peak Hour Traffic Volumes and Lane Configurations
Future (2040) Conditions

Level of Service Standards

The City of Spokane Valley uses level of service (LOS) to describe and evaluate traffic operations along major arterial corridors and intersections within the City. Levels range from LOS A to LOS F, which encompass a range of congestion types from uninterrupted traffic (LOS A) to highly-congested conditions (LOS F). The description and intersection delay thresholds of each LOS category are described in **Figure 8.** These are based on the Highway Capacity Manual, which is the methodology used by Spokane Valley. The LOS for signalized intersections is measured by the average delay per vehicle entering the intersection from all approaches, while the LOS for unsignalized intersections is measured by the average delay per vehicle on the approach with the highest average delay.

Figure 8: Level of service description and delay thresholds at intersections

Level of Service	Description	Signalized Intersection Delay (seconds)	Unsignalized Intersection Delay (seconds)
A	Free-flowing conditions.	0-10	0-10
B	Stable operating conditions.	10-20	10-15
C	Stable operating conditions, but individual motorists are affected by the interaction with other motorists.	20-35	15-25
D	High density of motorists, but stable flow.	35-55	25-35
E	Near-capacity operations, with speeds reduced to a low but uniform speed.	55-80	35-50
F	Over-capacity conditions with long delays.	> 80	>50

Source: Highway Capacity Manual 2010, Transportation Research Board

The LOS standards used by Spokane Valley are defined in the Comprehensive Plan as follows:

- LOS D for major arterial corridors:
  - Argonne/Mullan between the town of Millwood and Appleway Boulevard
  - Pines Road between Trent Avenue and 8th Avenue
  - Evergreen Road between Indiana Avenue and 8th Avenue
  - Sullivan Road between Wellesley Avenue and 8th Avenue
  - Sprague Avenue/Appleway Boulevard between Fancher Road and Sullivan Road
- LOS D for signalized intersections not on major arterial corridors
- LOS E for unsignalized intersections (LOS F is acceptable if the peak hour traffic signal warrant is not met)

WSDOT also uses LOS thresholds for State Highways. Within the study area intersections with Trent Avenue (SH 290) and I-90 would need to operate at LOS D or better to meet WSDOT LOS standards.

Level of Service Results

Traffic operations, including intersection vehicle delay and level of service (LOS) at each intersection under both existing conditions (2017) and Phase 3 conditions (2040) were analyzed using Synchro (a transportation planning software). The existing LOS results are shown in **Figure 9** and the results of the Phase 3 LOS analysis are shown in

Figure 10.

Results show that by 2040 under Phase 3 of development in the Northeast Industrial Area the majority of intersections studied in this memo would continue to operate at an acceptable LOS. These results assume all projects included in the Spokane Valley Six-Year TIP and the SRTC financially constrained project list from the *Horizon 2040 Plan* are operational by 2040. However, two intersections are forecast to fail the City's LOS standards by 2040, a significant transportation impact:

- Barker Road/Boone Avenue
- Flora Road/ Trent Avenue

Additional transportation impacts were also identified along Barker Road south of Mission Avenue and at the Barker Road/UP Railroad at-grade crossing, both discussed below.

Figure 9: Existing (Year 2017) Intersection LOS Results

Intersection	Control[1]	AM Peak		PM Peak		Approach
		Delay	LOS	Delay	LOS	
1. Barker Rd/ Trent Ave	SSSC	**59**	**F**[2]	41	E	NB
2. Barker Rd/ Euclid Ave (north)	SSSC	10	A	11	B	EB
3. Barker Rd/ Euclid Ave (south)	SSSC	12	B	17	C	WB
4. Barker Road/ Buckeye Ave	SSSC	13	B	10	B	WB
5. Barker Road/ Riverway Ave	SSSC	16	C	20	C	WB
6. Barker Rd/ Indiana Ave (north)	SSSC	11	B	12	B	EB
7. Barker Rd/ Indiana Ave (south)	SSSC	14	B	15	B	WB
8. Barker Rd/ Mission Ave	Signal	13	B	17	B	
9. Barker Rd/ Boone Ave	SSSC	22	C	18	C	EB/WB
10. Barker Rd/ I-90 Westbound Ramps	Signal	**68**	**E**	43	D	

11. Barker Rd/ I-90 Eastbound Ramps[3]	Signal	44	D	**113**	**F**	
12. Flora Rd/ Trent Ave	SSSC	**129**	**F[2]**	**124**	**F[2]**	SB/NB
13. Flora Rd/ Euclid Ave (north)	SSSC	11	B	11	B	WB
14. Flora Rd/ Euclid Ave (south)	SSSC	10	A	10	A	EB
15. Sullivan Rd/ Trent Westbound Ramps	Signal	16	B	12	B	
16. Sullivan Rd/ Trent Eastbound Ramps	Signal	13	B	21	C	
17. Sullivan Rd/ Euclid Ave	Signal	51	D	60	E[4]	
18. Del Rey Dr/ Trent Ave	SSSC	23	C	18	C	SB

1. SSSC = Side Street Stop Control.
2. Does not meet City LOS standards. Intersection operates at LOS F and volumes satisfy the peak hour signal warrant per MUTCD.
3. Based on HCM 2000 methodology.
4. LOS E is acceptable here because Sullivan is a major arterial corridor that meets LOS standard corridor-wide.

Figure 10: Phase 3 (Year 2040) Intersection LOS Results

Intersection	Control[1]	AM Peak		PM Peak		Approach
		Delay	LOS	Delay	LOS	
1a. Barker Rd/ Wellesley Ave[2]	Signal or Roundabout	28	C	25	C	
1b. Wellesley Ave/ Trent Ave[2]	Signal or Roundabout	26	C	25	C	
2. Barker Rd/ Euclid Ave (north)	SSSC	12	B	16	C	EB
3. Barker Rd/ Euclid Ave (south)	SSSC	14	B	19	C	WB
4. Barker Road/ Buckeye Ave	SSSC	14	B	17	C	WB
5. Barker Road/ Riverway Ave	SSSC	26	D	40	E	WB
6. Barker Rd/ Indiana Ave (north)	SSSC	13	B	17	C	EB
7. Barker Rd/ Indiana Ave (south)	SSSC	23	C	26	D	WB
8. Barker Rd/ Mission Ave	Signal	20	C	25	C	
9. Barker Rd/ Boone Ave	SSSC	139	F[4]	**>300**	**F[5]**	WB
10. Barker Rd/ I-90 Westbound Ramps	Roundabout	30	C	13	B	
11. Barker Rd/ I-90 Eastbound Ramps	Roundabout	12	B	25	C	

12a. Flora Rd/ Trent Ave (if Flora Rd/BNSF rail crossing is open[2])	SSSC	**>300**	**F[5]**	**>300**	**F[5]**	SB/NB
12b. Flora Rd/Trent Ave (if Flora Rd/BNSF rail crossing is closed[3])	SSSC	**174**	**F[5]**	**>300**	**F[5]**	SB
13. Flora Rd/ Euclid Ave (north)	SSSC	15	B	15	B	WB
14. Flora Rd/ Euclid Ave (south)	SSSC	11	B	12	B	EB
15. Sullivan Rd/ Trent Westbound Ramps	Signal	39	D	53	D	
16. Sullivan Rd/ Trent Eastbound Ramps	Signal	12	B	38	D	
17. Sullivan Rd/ Euclid Ave	Signal	52	D	51	D	
18. Del Rey Dr/ Trent Ave	SSSC	35	E	29	D	SB

1. SSSC = Side Street Stop Control.
2. This scenario assumes Barker Road will be diverted ½ mile east to a new intersection with Wellesley Road just south of the BNSF Railroad
3. This scenario assumes Barker Road will intersect Trent Avenue via a new grade separated BNSF Railroad crossing
4. Does not satisfy peak hour signal warrant using MUTCD guidelines, thus would technically still meet the City's LOS standard.
5. Does not meet City LOS standards. Intersection operates at LOS F and traffic volumes satisfy the peak hour signal warrant per MUTCD guidelines.

Barker Road/Boone Avenue Intersection

By 2040 the Barker Road/Boone Avenue intersection is forecast to operate at LOS F (as measured by the westbound approach) during both the AM and PM peak – and traffic volumes peak would be high enough on Barker Road and Boone Avenue during the PM peak to meet the peak hour signal warrant using MUTCD[3] criteria. The 2040 travel demand model used for this analysis assumes that Cataldo Avenue - which is a local road that provides access to several industrial sites just east of Barker Road and north of I-90 - would be rerouted (as part of the Barker Road/I-90 interchange reconstruction planned by WSDOT) north to intersect Boone Avenue just east of Barker Road instead of intersecting Barker Road at the I-90 westbound ramps as it does today. This would effectively shift all of the traffic currently (and in the future) along Cataldo Avenue to instead use the Barker Road/Boone Avenue intersection. This would be sufficient by 2040 to cause the Barker Road/Boone Avenue intersection to fail the City's LOS threshold.

It should be noted that traffic analysis completed as part of the I-90/Barker Road Interchange Justification Report (IJR) also assumes Cataldo Avenue would be rerouted to Boone Avenue east of Barker Road. As part of the Methods and Assumptions Memorandum for that project published prior to the IJR, WSDOT proposed three potential scenarios for the Barker Road/Boone Avenue intersection to accommodate traffic

[3] *Manual on Uniform Traffic Control Devices* (MUTCD), Federal Highway Administration, https://mutcd.fhwa.dot.gov

on Cataldo Avenue, Barker Road and Boone Avenue. The three alternatives include:

- A five-way roundabout at Barker Road/Boone Avenue/Cataldo Avenue
- Converting Barker Road/Cataldo Avenue to a right-in/right-out intersection and Barker Road/Boone Avenue to a roundabout
- Rerouting Cataldo Avenue from Barker Road to Boone Avenue east of Barker Road and adding a signal to the Barker Road/Boone Avenue intersection

It is anticipated that any of these alternative configurations for Cataldo Avenue would meet the City's LOS standard.

Flora Road/Trent Avenue

Under existing conditions, the Flora Road/Trent Avenue intersection does not meet the City's LOS standards. Two future alternatives being considered by Spokane Valley were studied for this intersection:

1. Flora Road remains open across the BNSF railroad and Barker Road is diverted one half-mile east to a new intersection with Wellesley Avenue
2. Flora Road is closed across the BNSF railroad (effectively changing this from a four-leg to a three-leg intersection) and Barker Road intersects Trent Avenue via a new grade-separated crossing with the BNSF Railroad in approximately the same location as today's intersection

An added delay of 60 seconds was also added to the travel model to all northbound/southbound through and northbound/southbound left movements at Flora Road/Trent Avenue to account for the difficulty in making northbound and southbound left and through movements at this intersection. This change ensured that the travel model did not "overassign" traffic to an intersection that will likely have higher delays for northbound traffic.

By year 2040, without any improvements, delay would increase substantially under both alternatives (Flora open or closed across the BNSF tracks) during both the AM and PM peak and thus continue to fail the City's LOS standards. Since this is a side-street stop controlled intersection, LOS is measured based on the approach with the highest delay. Under the alternative where the Flora Road/BNSF Railroad crossing remains open, the highest delay during the AM peak would be from the southbound approach, where traffic originates primarily from residential development north of Trent Avenue (outside the study area). In the PM peak, the highest delay would occur from the northbound approach, where traffic originates from the industrial sites south of Trent Avenue. Despite the added delay, the SRTC travel model predicts the deviation in Barker Road would cause a substantial number of drivers to opt for Flora Road instead of Barker Road to access Trent Avenue.

Under the alternative where the Flora Road/BNSF Railroad crossing is closed, delay from the southbound approach would still be well above LOS F during both the AM and PM peak hours. Under both alternatives,

peak hour traffic volumes would be high enough on Flora Road and Trent Avenue to meet the peak hour signal warrant using MUTCD[4] criteria.

Barker Road (I-90 to Euclid Avenue)

The recently completed Spokane Valley Comprehensive Plan recommended widening Barker Road to five lanes from I-90 to Euclid Avenue by 2040. That recommendation was re-examined as part of this study. Average daily traffic (ADT) and the peak hour one-way volumes on Barker Road were forecast for 2040 on between I-90 and Euclid Avenue based on the updates to the travel demand model described in the methodology section of this Memo. Results are shown in **Figure 11**.

Figure 11: Traffic Volumes on Barker Road

Barker Road Segment	Existing (2017)		2040	
	ADT	Peak Hour Volume (highest approach)	ADT	Peak Hour Volume (highest approach)
Boone Avenue – Mission Avenue	13,400	640	18,400	780
Mission Avenue – Euclid Avenue	10,200	510	16,000	715

The industry standard threshold for the amount of vehicles one thru lane of traffic can accommodate before significant delays occur ranges from about 600-900 vehicles per hour. The variation depends on driveway/intersection frequency, access control, travel speed, intersection control, concentration of traffic during the peak hour and other factors. The results of this analysis demonstrate that volumes would be high enough on Barker Road between I-90 and Mission Avenue (combined with the presence of signalized intersections and frequent driveways/intersections) to have a significant transportation impact. Traffic volumes on Barker Road north of Mission are forecast to be a little lower and, while being on the cusp of warranting mitigation, are not forecast to have a significant transportation impact.

Traffic Impacts at the At-Grade Rail Crossings

The impacts of queuing vehicles from the Union Pacific (UP) railroad at-grade crossing at Barker Road were analyzed using Synchro in year 2040. The Union Pacific (UP) Railroad crosses Barker Road between the Euclid Avenue westbound and Euclid Avenue eastbound intersections. No grade-separation projects are currently planned at this crossing, thus is it assumed there will still be an at-grade rail crossing at this location in year 2040. Based on data provided by the Federal Railroad Administration (FRA), the UP line

[4] *Manual on Uniform Traffic Control Devices* (MUTCD), Federal Highway Administration, https://mutcd.fhwa.dot.gov

hosts about 9 trains per day on average. No information is provided on whether or not UP anticipates the number of trains a day to change in the future. Thus, the same number of trains on average per day today was also assumed to also occur in 2040. If the frequency of trains were to increase in the future this would not impact the queue length (unless the average length of trains or speed of trains changed), but instead, would affect the frequency of queueing.

The railroad crossing analysis looked at the forecast queue length and associated traffic impacts under three scenarios in which the gates across Barker Road would be down during both the AM and PM peak:

- **Average queue length** – This was measured by the 50th percentile queue length during an average gate down time (2 minutes) and represents the typical queue that would occur when a train crosses Barker Road during the peak commuting period.
- **Worst case scenario queue length (through trains)** – This was measured by the 95th percentile queue length during the longest observed gate down time[5] and represents a queue during the worst case scenario: a particularly high surge in peak hour traffic combined with a long gate down time (4 minutes). Note: based on the observed frequency of long gate down times on each line the worst case scenario is likely to occur 3-4 times per year along the UP line.
- **Worst case scenario queue length (trains backing onto future rail spur)** – This was measured by the 95th percentile queue length during a hypothetical situation in which a train would be backing onto the new spur planned just east of Barker Road. This was measured by increasing the longest observed gate down time by 50% to 6 minutes. This would represent a queue during the worst case scenario for non-through train movements: if a train were to back onto the future spur planned just east of Barker Road during a particularly high surge in peak hour traffic.

Estimated existing vehicle queue lengths at the Barker Road/UP railroad at-grade crossing are shown in **Figure 12**. The results of the 2040 queuing analysis are shown in **Figure 13**, including the estimated vehicle queue length in feet along Barker Road during the AM and PM peak when the gates are down at the UP crossing given each scenario.

[5] Duration and frequency of gate down times was recorded at both the UP rail crossings along Barker Road between 7AM and 6PM Tuesday, February 14, 2017

Figure 12: Existing vehicle queue length, Barker Road/UP at-grade rail crossing when gates are down

Condition	Trains per Day	Gate Down Time	Vehicle Queue Length (feet)			
			AM Peak		PM Peak	
			NB	SB	NB	SB
Average (50th percentile)	9	2 minutes	300	250	225	500
Worst Case Thru Trains (95th percentile)	9	4 minutes	700	250	525	1,050

Figure 13: 2040 vehicle queue length, Barker Road/UP at-grade rail crossing when gates are down

Condition	Trains per Day	Gate Down Time	Vehicle Queue Length (feet)			
			AM Peak		PM Peak	
			NB	SB	NB	SB
Average (50th percentile)	9	2 minutes	600	375	400	975
Worst Case Thru Trains (95th percentile)	9	4 minutes	1,275	800	875	2,025
Worst Case Trains Accessing Future Spur[1] (95th percentile)	unknown	6 minutes	1,875	1,200	1,275	3,000

1. This scenario is what could occur if a train were to be backing into or out of the new rail spur planned by developers east of Barker Road during a particularly high surge in peak hour traffic.

In general, the queues at the UP crossing are forecast to be about 50-100% longer than they are today. The longest queues are anticipated to occur in the northbound direction in the AM peak and southbound direction during the PM peak.

Vehicle queueing will occur both on Barker Road and Euclid Avenue. Based on the forecast approach volume from each of those streets, close to 80 percent of the queue during the AM peak heading northbound would be on Barker Road, with the remaining on Euclid Avenue south of the tracks (heading westbound to turn onto Barker Road). Therefore it is anticipated that the average vehicle queue during the AM peak on Barker Road heading northbound would be about 475 feet, but about 3-4 times per year could be as long as 975 feet. Assuming trains backing onto the planned rail spur east of Barker Road were to block the intersection for 6 minutes, the queue on (northbound) Barker Road during the AM peak in this

scenario could be as long as 1,450 feet.

About 10 percent of the vehicles heading north on Barker Road would be making a right turn onto Euclid before the railroad tracks and about 40 percent of vehicles heading west on Euclid Avenue would be making a left turn onto Barker Road and not crossing the railroad tracks. Thus, about 20 percent of the traffic south of the rail crossing in the AM peak would not actually be heading across the tracks, but most of these vehicles would get stuck in the queue. These vehicles would not only lengthen the queues in AM peak by an additional 20 percent, but this occurrence would add to driver frustration and increase the likelihood of drivers performing risky maneuvers to get around the queues. While the northbound queues would be shorter during the PM peak, the percentage of vehicles likely to get caught in the queue not intending to cross the tracks (heading northbound right or westbound left at Barker Road/Euclid Avenue [south]) would be even higher during the PM peak, representing about 35 percent of traffic. Therefore, the long northbound queue is determined to be a significant transportation impact.

During the PM peak the longest queues will occur north of the tracks from vehicles heading southbound on Barker Road (or eastbound on Euclid Avenue). During this time about 50 percent of the queue will be on Barker Road and about 50 percent will be on Euclid Avenue. Therefore it is anticipated that the average vehicle queue during the PM peak would be about 500 feet on both Barker Road heading southbound and Euclid Avenue heading eastbound, but about 3-4 times per year could be as long as 1,000 feet on both streets. Assuming trains backing onto the planned rail spur east of Barker Road were to block the intersection for 6 minutes, the queue on (southbound) Barker Road and (eastbound) Euclid Avenue during the PM peak in this scenario could be as long as 1,500 feet on each street. Fewer than 25 vehicles per hour are forecast to be heading either southbound right or eastbound left at this intersection, thus about 95 percent of the vehicles in the queue would be waiting to cross the tracks.

MITIGATION

Recommended mitigations to address significant transportation impacts at the three intersections that would fail the City's LOS standards under Phase 3 as well as the section of Barker Road from I-90 to Mission Avenue are described below. Recommendations for the UP at-grade rail crossing on Barker Road are also discussed.

Barker Road/Boone Avenue Intersection

This analysis assumes Cataldo Avenue would be rerouted from Barker Road to Boone Avenue via a new north-south alignment somewhere east of Barker Road with the reconfiguration of the Barker Road/I-90 interchange, which is consistent with what was assumed in the I-90/Barker Road IJR published by WSDOT. Based on a review of parcel boundaries from Spokane County's SCOUT map, this may require right-of-way

from property owners, or the utilization of potential right-of-way on the border of Spokane Valley and Liberty Lake, along with a short extension of Boone Avenue to the east. This would also require construction of a cul-de-sac on the west end of Cataldo Avenue.

Assuming that Cataldo Avenue is rerouted from Barker Road to Boone Avenue as part of the Barker Road/I-90 interchange reconstruction, the Barker Road/Boone Avenue intersection would fail the City's LOS standards in 2040. To address this LOS impact, it is recommended that Spokane Valley add a signal or roundabout to this intersection. Analysis using Synchro shows that the addition of an actuated uncoordinated signal would improve the LOS at this intersection in 2040 from F to A during both the AM and PM peak. A roundabout would also operate acceptably.

If a signal is implemented, the intersection should be designed to include a separate northbound left turn pocket of at least 125 feet, along with a northbound through and through-right lane. The southbound approach should be similarly configured. Ideally the east and westbound Boone approaches would have separate left and through-right turn lanes. Also, it would be preferred if the offset between the east and west legs of Boone Avenue were realigned to be opposite of each other.

An alternative option would be to convert Cataldo to right-in/right-out access at its current intersection with Barker Road. Under this option, the Barker Road/Boone Ave intersection would operate at LOS D in the AM and LOS E in the PM in 2040 (based on the LOS of the westbound approach), which is acceptable for a side-street stop controlled intersection. However, a right-in/right-out configuration would require U-turn access at the Barker Road/Boone Avenue intersection. This could be accomplished through a roundabout or turnaround at the Barker Road/Boone Avenue intersection.

Flora Road/Trent Avenue Intersection

The Flora Rd/Trent Ave intersection currently operates at LOS F during both the AM and PM peak hour and delay is forecast to increase substantially by 2040 regardless of whether the southbound leg across the BNSF Railroad is closed in the future or not. To address this, it is recommended that a signal be installed at this intersection along with left turn pockets on Flora Road or a roundabout. Assuming an actuated, uncoordinated signal with a 110 second cycle length and protected left turn movements on Trent Avenue, traffic would operate at LOS C during the AM Peak and LOS B during the PM peak with the BNSF railroad crossing open (LOS A with the BNSF Railroad crossing closed) by 2040 if these mitigations were applied. A roundabout large enough to accommodate two-lanes of traffic in both directions of Trent Avenue would also operate acceptably. Given that Trent Avenue is a State Highway, under WSDOT design criteria an Intersection Control Analysis (ICA) would need to be conducted to evaluate alternatives before a signal can be installed.

Barker Road (I-90 to Euclid Avenue)

The recently completed Spokane Valley Comprehensive Plan recommends widening Barker Road to five lanes from I-90 to Euclid Avenue by 2040. Analysis as part of this study show that traffic volumes are forecast to be high enough (combined with the frequency of driveways/intersections and presence of signals or future roundabouts) to have a significant transportation impact on Barker Road between I-90 and Mission Avenue. Based on this, it is recommended to widen Barker Road between I-90 and Mission Avenue to five lanes by 2040.

Traffic volumes on Barker Road between Euclid Avenue and Mission Avenue are forecast to be close to, but not at the threshold to warrant widening. Therefore, it is recommended that Barker Road remain three lanes from Mission Avenue to Euclid Avenue by 2040. However, Spokane Valley should continue keep the widening plan in the Comprehensive Plan in order to require ROW from future developments. This will preserve the possibility for widening should forecasts change in the future or widening be deemed necessary shortly after 2040.

As part of this recommendation the City will continue to implement its Transportation System and Demand Management strategies identified in the 2016 Comprehensive Plan, see **Figure 14.** The Comprehensive Plan states that "it is the City's policy to consider strategies such as transportation demand management, access restrictions, design modifications, transit enhancements, and intelligent transportation systems prior to adding new lane capacity to the system, particularly for single-occupancy vehicles."

Figure 14: Spokane Valley Transportation System and Demand Management Strategies

Transportation System and Demand Management (Non-Capacity Projects)	Description
Intelligent Transportation Systems	Continue implementing Intelligent Transportation Systems (ITS), which include signal coordination, adaptive signal control, incident reporting, and other technologies. Coordinate with the Regional Transportation Management Center.
Commute Trip Reduction and Transportation Demand Management Programs	Implement the Spokane Valley Commute Trip Reduction Implementation Plan Update: 2015-2019. Work with employers to provide information, marketing materials, training, and support to reduce drive-alone commuting to workplaces in Spokane Valley.
Coordinate with Spokane Transit Authority	Continue to work with Spokane Transit Authority to implement transit service improvements, including High Capacity Transit on major corridors in Spokane Valley to provide other options to driving.

Encourage Infill and Higher Density Development	As identified in the Land Use Element, infill and higher density development is envisioned along many of the Valley's major arterial and transit routes. This development generates fewer auto trips than comparable lower density development that is not near transit and other commercial uses.
Pedestrian and Bicycle Infrastructure	Continue to implement the non-motorized transportation network identified in the Pedestrian and Bicycle Master Program to provide other options to driving in the community.

The City will work with employers in the Northeast Industrial Area to implement the Commute Trip Reduction and Transportation Management Programs. In the future bike lanes and sidewalks will be provided along the length of the Barker Road corridor (from Trent Avenue to I-90), all arterial roads will be designed to accommodate transit vehicles and as the area densifies the Spokane Transit Authority may provide transit service to the Northeast Industrial Area.

However, even with these measures in place, the substantial increase in employment within the Northeast Industrial Area will require roadway capacity expansion along Barker Road to accommodate access to the jobs and facilitate goods movement to and from the industrial sites.

Barker Road/UP Railroad At-Grade Crossing

An analysis of vehicle queue length at the UP rail crossing on Barker Road shows that vehicle queues will be about 50-100% longer in 2040 than they are today. Additionally, assuming there would be trains backing onto the planned rail spur with even longer gate down times than observed today, queue lengths could triple by 2040. In order address this later scenario, it is recommended that if owners want to take advantage of the EIS, as a condition of construction of the new rail spur the City coordinate with owners of the rail spur along with the UP Railroad agree to limit movement of trains onto and off of the rail spur to non-peak hours. This would largely avoid the likelihood of extremely long queues shown in **Figure 13**.

Results of the queueing analysis show that even though queue lengths from normal through train movement along the UP line would increase by 2040, the average queue during the peak hour on either Barker Road or Euclid Avenue would be 500 feet or less. During the worst case scenario, which would occur about 3-4 times per year (assuming no change to UP train frequency), the queue on Barker Road or Euclid Avenue would be less than ¼ mile. Beyond the occasional delay to drivers waiting to cross the tracks, two additional impacts would be anticipated from these longer queues:

- Increased frequency for queuing vehicles to block nearby local streets, particularly Bridgeport Avenue (which is about 680 feet north of Euclid Avenue) and some driveways; and
- Increased frequency of vehicles not intending to cross the tracks to get caught in the queue, which

would add to the length of the queue. For example, during the PM peak at the Barker Road/ Euclid Avenue (south) intersection, about 100 vehicles are forecast to make a northbound right from Barker Road to Euclid Avenue and about 70 vehicles are forecast to make a westbound left from Euclid Avenue to Barker Road. These vehicles would not cross the tracks, but could get caught in the queue. Less than 25 vehicles are forecast to make a similar movement, eastbound left or southbound right, at the Barker Road/Euclid Avenue (north) intersection.

The following strategies are recommended to mitigate these issues in the future:

- To mitigate the potential for blocked streets and high-traveled driveways, it is recommended to:
    - paint and sign "Do Not Block Intersection/Driveway" at locations where vehicles are likely to get blocked by the queue, including the southbound lane of Barker Road at Bridgeport Avenue and the northbound lane of Barker Road at Euclid Avenue (south);
    - not allow new driveways or access roads on Barker Road or Euclid Avenue within 500 feet of the UP Railroad crossing to developments that are anticipated to generate more than 20 vehicles per hour; and
    - discourage new driveways or access roads on Barker Road or Euclid Avenue within 1,000 feet of the UP Railroad crossing to developments that are anticipated to generate more than 20 vehicles per hour
- To reduce the number of vehicles caught in the queue that are not trying to get across the tracks and may try a risky maneuver to get around traffic, it is recommended to add a 500 foot long northbound right turn lane and 300-foot long eastbound left turn lane at the Barker Road/Euclid Avenue (south) intersection.

Henry Road/I-90 Interchange

It should be noted that the 2040 travel demand model used to forecast traffic presented in this Memo assumed that a new full interchange would be constructed at Henry Road/I-90 in place of the existing partial Appleway Avenue/I-90 interchange. This configuration is consistent with the existing SRTC Horizon 2040 Plan and was assumed when this study was initiated. However, since this study was initiated, WSDOT completed their modeling for a new Henry Road interchange and found it did not meet the purpose and need identified in the original project definition. Without the Henry Road interchange, there is the potential for new residential and commercial growth in Liberty Lake to result in additional traffic impacts on the Barker Road corridor between Mission Avenue and I-90. If the Henry Road/I-90 interchange is no longer assumed to be built by 2040, it is recommended that the City of Spokane Valley and Liberty Lake work together to jointly address future infrastructure needs given this new configuration. This could be accomplished through a long-range transportation analysis of the area to determine an appropriate range of transportation infrastructure improvements and a funding strategy to implement the improvements in a timely manner.

Planned Rail Spur Across Barker Road

As part of the Phase 1 development, a new rail spur is planned off the Union Pacific mainline just north and east of the Barker Road/Euclid Avenue (north) intersection to provide rail access to the planned industrial development. In the future (as part of Phase 3 of development), land owners are considering extending that rail spur west across Barker Road at-grade to provide access to developable land between Barker Road and Flora Road.

Given that train movements on the spur are planned to be infrequent and short, no significant impacts to traffic operations on Barker Road are anticipated as long as the following criteria are met:

- The rail spur across Barker Road should be located sufficiently far from the existing Barker Road/UP at-grade crossing and from the Barker Road/Trent Avenue intersection so as not to risk vehicle queues from those locations backing into the rail spur or interfering with the planned Barker Road/BNSF grade separation project. It is recommended that the planned rail spur be located at least 1,500 feet from the Barker Road/UP at-grade crossing and at least 2,000 feet from the Barker Road/Trent Avenue intersection. This leaves about 1,300 feet of area along Barker Road in which the spur crossing could be located.
- In order to address delay from train movement along the planned rail spur across Barker Road, it is recommended that as a condition of construction of the new rail spur, the City coordinate with owners of the rail spur along with the UP Railroad to agree to limit movement of trains across Barker Road along the rail spur to non-peak hours. Or to at least limit the time the gates are down during the peak hours to be less than two-minutes.

The extension of the new rail spur would add a new rail crossing across Barker Road, which is designated as an arterial street by the City of Spokane Valley. This will require the owner of the rail spur to file a petition (RCW 81.53.030 and WAC 480-62-150(1)(a)) with the State Utilities and Transportation Commission (UTC). It would also require an on-site safety assessment with UTC staff, Union Pacific Railroad, and the City of Spokane Valley at a minimum as well as a feasibility study as decided by the UTC Commissioners to demonstrate why a grade separation would be impractical at this location.

CONCLUSIONS

The results of the traffic impact analysis in the Northeast Industrial Area of Spokane Valley demonstrated that the following two intersections would fail the City's LOS standards under Phase 3 of development in year 2040:

- Barker Road/Boone Avenue
- Flora Road/ Trent Avenue

Results also show that by 2040 traffic volumes on Barker Road between I-90 and Mission Avenue would have a significant transportation impact on traffic operations. Lastly, results also indicate that the queue length at the Barker Road/UP Railroad at-grade crossing would increase by 50%-100% and could triple in length if back-up moves onto the planned rail spur east of Barker Road were to block Barker Road. This would increase the potential for blocked streets and driveways as well as the potential for traffic to get stuck in the queue that is not trying to get across the tracks and may make risky maneuvers.

The following mitigations are recommended to address these impacts:

- **Barker Road/Boone Avenue** – It is recommended that Spokane Valley either close the access to Cataldo Avenue from Barker Road or convert this intersection to right-in/right-out when the Barker Road/I-90 intersection is reconstructed given the proximity of this intersection with the planned roundabout and Boone Avenue. A closure would require rerouting traffic on Cataldo Avenue to Boone Avenue via a new north-south alignment somewhere east of Barker Road, which would require negotiation with private property owners for right-of-way. Under this option, traffic would increase substantially on Boone Avenue, which would cause the intersection to operate at a LOS that exceeds the City's threshold by 2040. To mitigate this, it is recommended that a signal or roundabout be added at this intersection. If a signal were implemented, it is recommended to also add a 125-foot northbound left turn lane and a right turn only lane at this intersection to prevent northbound vehicles from queuing into the Barker Road/I-90 Westbound Ramp roundabouts. A right-in/right-out configuration would require u-turn access at Barker Road/Boone Avenue, which could be accomplished through a roundabout or turnaround.

- **Flora Road/Trent Avenue** – This intersection does not currently meet the City's LOS standards and regardless of whether or not the southbound leg of the intersection is closed over the BNSF railroad tracks in the future delay will increase by 2040. It is recommended that a signal be installed at this intersection along with left turn pockets on Flora Road or the intersection be converted to a roundabout.

- **Barker Road (I-90 to Mission Avenue)** – Following with the recommendation from the 2016 Spokane Valley Comprehensive Plan, it is recommended to widen Barker Road between I-90 and Mission Avenue from three lanes to five lanes by 2040 in order to accommodate forecast traffic. The Comprehensive Plan also recommends widening Barker Road to five lanes from Mission Avenue to Euclid Avenue by 2040. However, analysis as part of this study shows traffic volumes on Barker Road north of Mission Avenue (while close to warranting five lanes) are forecast to be within the range that can be accommodated by a three lane road without causing significant delays. However, Spokane Valley should continue to keep the plan to widen Barker Road from Euclid

Avenue to Mission Avenue in the Comprehensive Plan in order to require right-of-way from future developments. This will preserve the possibility for widening should forecasts change in the future or widening be deemed necessary shortly after 2040.

- **Vehicle Queues from Barker Road/UP Railroad Crossings** – Three mitigation strategies are recommended to address the impacts from queuing vehicles at the Barker Road/UP Railroad crossing:
    - In order to address delay from back-up moves into and out of the planned rail spur east of Barker Road, it is recommended that as a condition of construction of the new rail spur the City coordinate with owners of the rail spur along with the UP Railroad agree to limit movement of trains onto and off of the rail spur to non-peak hours.
    - To mitigate the potential for blocked streets and high-traveled driveways, it is recommended to strategically sign and paint "Do Not Block Intersection/Driveway" at locations where vehicles are likely to get blocked. We also recommend restricting (or discouraging) the construction of new driveways to medium or large scale developments on Barker Road or Euclid Avenue within 1,000 feet of the UP at-grade crossing.
    - To limit the number of vehicles that may get caught in the queue, but are not trying to get across the tracks and may try a risky maneuver to get around traffic, it is recommended to add a 500-foot long northbound right turn lane and 300-foot eastbound left turn lane at the Barker Road/Euclid Avenue (south) intersection.

APPENDIX C:

INFRASTRUCTURE PLAN FOR SPOKANE VALLEY NORTHEAST INDUSTRIAL AREA PAO

Infrastructure Plan

Spokane Valley Northeast Industrial Area

Planned Action Ordinance

Prepared for:
City of Spokane Valley

Updated August 2018

SE17-0508

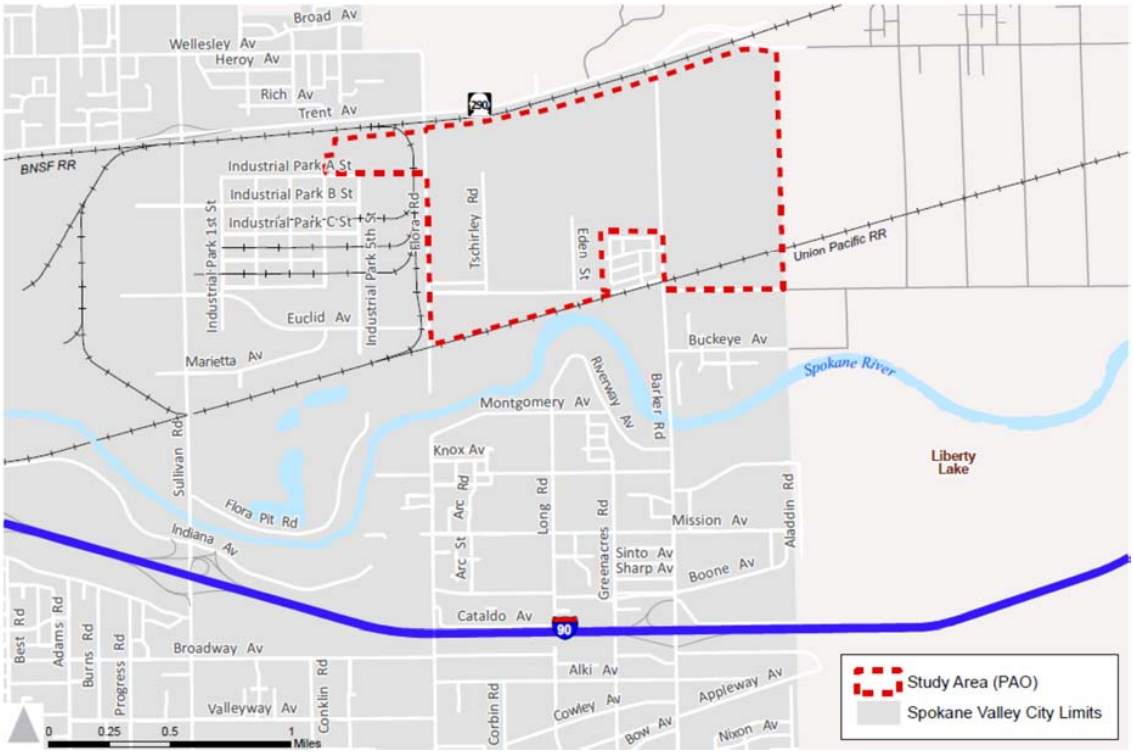
FEHR PEERS

Contents

Introduction

This document outlines a phased transportation infrastructure plan and implementation strategy to accommodate employment growth associated with development in the Northeast Industrial Area of Spokane Valley through year 2040. The boundaries of the Northeast Industrial Area are shown in Figure 1.

Figure 1. Northeast Industrial Area boundaries



Future transportation infrastructure needs were determined based on traffic analysis associated with forecast development in order to meet the City of Spokane Valley and Washington State Department of Transportation (WSDOT) level of service (LOS) standards. Based on the infrastructure needs, planning-level costs were estimated for each future project. This plan also includes a strategy to pay for those projects through a fair-share cost fee for future developments in the Northeast Industrial Area as well as through identification of additional potential financing options.

Phases of Development

Three future land use phases for the Northeast Industrial Area were identified as a way to incrementally organize when future infrastructure projects will likely be needed between now and 2040:

- **Phase 1 (2019)** – Two manufacturing sites near Barker and Euclid totaling about 375 employees.
- **Phase 2 (2025-2032)** – Partial development of the Northeast Industrial Area. This is defined as when development would likely trigger the need for a major infrastructure project prior to 2040.

- **Phase 3 (2040)** – 2040 Buildout of the Northeast Industrial Area as defined by the Community Prosperity Alternative of the Spokane Valley Comprehensive Plan

Traffic analysis was performed for each phase of development to identify traffic impacts and mitigation strategies. The detailed traffic analysis, including outcomes of each phase of development can be found in The Spokane Valley Industrial Area PAO - Phase 1, Phase 2 & Phase 3 Traffic Analysis Memorandums. A short summary of the intersections/roadway segments with traffic congestion issues are listed in Figure 2.

Figure 2. Locations forecast to have significant traffic impacts.

Intersection/Segment	Phase When LOS Degrades	LOS/Queueing
Barker Road/Trent Avenue	Phase 1	139 seconds / LOS F – AM peak hour 90 seconds/ LOS F – PM peak hour
Barker Road/I-90 westbound	Phase 1	92 seconds/ LOS F – AM peak hour
Barker Road/I-90 eastbound	Phase 1	122 seconds/ LOS F – PM peak hour
Barker Road (Mission Avenue to I-90)	Phase 2	LOS E
Barker Road/Boone Avenue	Phase 3	299 seconds/ LOS F – PM peak hour
Flora Road/Trent Avenue (BNSF grade crossing open)	Phase 3	>300 seconds/ LOS F – AM & PM peak hour
Flora Road/Trent Avenue (BNSF grade crossing closed)	Phase 3	290 seconds/ LOS F – AM peak hour 153 seconds/ LOS F – PM peak hour
Barker Road/Euclid Avenue (south)	Phase 3	600 ft. queue – 50th percentile, NB direction, AM peak hour 1,275 ft. queue – 95th percentile, NB direction, AM peak hour

Planned Infrastructure Projects

To determine which additional infrastructure projects are required to support additional development in the Northeast Industrial Area, our team first reviewed the lists of planned improvement projects to be implemented by 2040. These projects are a part of Spokane Valley Department of Public Works' Six-Year Transportation Improvement Program (TIP) and/or part of the Spokane Regional Transportation Council (SRTC) financially constrained project list in the *Horizon 2040 Plan* and are listed in Figure 3.

Figure 3. Planned transportation projects located in the study area or at key intersections nearby

Project	Description	Program (Project #)	Year	Agency Responsible	In Study Area?
Barker Road/BNSF Grade Separation	Construct grade separation at Barker/BNSF RR/Trent	2018-2023 TIP (#4)	2021	City of Spokane Valley	Yes
Barker Road – Euclid to Trent	Reconstruct to 3-lane urban section	2018-2023 TIP (#20)	2021	City of Spokane Valley	Yes
Barker Road Improvement Project – Appleway to I-90	Widen and improve to 5-lane urban section; roundabout @ Broadway; realign east leg of Broadway	2018-2023 TIP (#21)	2021	City of Spokane Valley	No
Barker Road Improvement Project – Spokane River to Euclid	Reconstruct and widen to 3-lane urban section	2018-2023 TIP (#25)	2022	City of Spokane Valley	No

Project	Description	Program (Project #)	Year	Agency Responsible	In Study Area?
I-90/Barker Road Interchange	Construct general purpose lanes and replace Barker Rd I/C	*Horizon 2040 Plan* (#12)	2020	WSDOT	No
Sullivan Road Bridge over Trent	Construct new bridge over Trent and BNSF railroad tracks (to accommodate an additional mainline track and add capacity)	*Horizon 2040 Plan* (#29)	2031-2040	City of Spokane Valley, BNSF	No

Of the projects listed in Figure 3 that are already planned, three were identified as projects to be included in the fair-share cost estimate for the Northeast Industrial Area Planned Action Ordinance:

- Barker Road – Euclid to Trent
- Barker Road Improvement Project – Spokane River to Euclid
- Sullivan Road Bridge over Trent

These projects were added to the impact fee for several reasons:

1. These projects will add capacity and benefit access to the Northeast Industrial Area,
2. Full funding for these projects has not been secured; and
3. The inclusion of these projects will help ensure they are in place to support development in the Northeast Industrial Area.

The details for how the costs of these projects were included in the fair-share cost estimate is described later in this document.

New East-West Connector

In order to improve connectivity and access within the Northeast Industrial Area a new east-west local street is also assumed to be built prior to 2040 to connect Flora Road with Barker Road at a location north of Euclid Avenue and south of the BNSF railroad tracks. This street will be built by developers as the area is developed, and thus was not included in the list of infrastructure projects required to mitigate traffic impacts. This street will be a critical link to provide connectivity and access within the study area particularly if Flora Road is closed across the BNSF railroad. As such, it will be important for Spokane Valley to ensure that future developments in the area do not preclude a connection at this location and, depending on the size and location of the development, contribute toward the construction of this future connector.

Utility Projects

Future regional utility upgrades will be implemented by the utility companies as demand for the utilities increases with development and as is consistent with their standard practices. The cost of utility projects is not factored into the infrastructure costs presented in this document. Instead, individual developments will follow the standard approval process as required by Spokane Valley and utility providers and all utility costs will be borne by the developers when their developments come on line.

Infrastructure Projects by Phase

The following list provides a summary of the recommended transportation infrastructure projects to address traffic impacts associated with each phase of development in the Northeast Industrial Area.

Phase 1 Infrastructure Projects

The Phase 1 analysis identified traffic LOS issues at the Barker Road/Trent Avenue and Barker Road/I-90 intersections. Since city/regional improvement projects are already identified at these two locations and the implementing agencies do not require any additional developer funds from the Northeast Industrial Area to construct these projects, these improvements are not included in the infrastructure plan for the Northeast Industrial Area. However, it is important to point out that the improvements at Barker/Trent and Barker/I-90 are important for accessing the Phase 1 developments, so Spokane Valley should work to ensure the projects are developed on the timelines identified in the TIP and Horizon 2040 Plan.

- **Boone Avenue/Cataldo Avenue** – Currently, Caltaldo Avenue intersects with Barker Road at an intersection that also includes the westbound I-90 ramps. With the proposed reconstruction of the Barker Road/I-90 interchange, Cataldo Avenue would need to be reconfigured to accommodate the new design. While there are several options to realign Cataldo Avenue, for the purposes of this Infrastructure Plan, it is assumed that Cataldo Avenue would be terminated in a cul-de-sac just east of Barker Road and a new local access road would be constructed across private property to connect Cataldo Avenue and Boone Avenue. An interim signal will also be needed at the Barker Road/Boone Avenue intersection to accommodate traffic that will be rerouted from Cataldo until a more permanent solution is constructed when Barker Road is widened. This is assumed to be a simple span wire signal. It is unclear in the Barker Road/I-90 Interchange Justification Report, who would pay for this reconfiguration, so this project is included in the Infrastructure Plan.

Phase 2 Infrastructure Projects

- **Barker Road, Mission Avenue to I-90** – Based on the Phase 3 traffic analysis it is recommended that Barker Road be widened to five lanes between Mission Avenue and I-90. Given the size of this project, the timing for when this project will likely be needed was used as the trigger point to define Phase 2 of development. Depending on the pace of development in the Northeast Industrial Area, Barker Road would likely need to be widened to five lanes between Mission Avenue and I-90 sometime between 2025 and 2032 in order to accommodate forecast traffic. If no new industrial development in the Northeast Industrial Area occurred over the next 15 years, background traffic growth alone on Barker Road – caused by other nearby and regional developments – would likely trigger the need to widen Barker Road south of Mission Avenue by year 2032. Alternatively, if there were to be rapid buildout of the Northeast Industrial Area over the next 5-10 years, the earliest year that widening would likely be needed to meet the City's LOS standards is in 2025.

Phase 3 Infrastructure Projects

- **Flora Road/Trent Avenue** – It is recommended that Spokane Valley signalize the Flora Road/Trent Avenue intersection and add left turn lanes on Flora Road or convert this intersection to a roundabout to accommodate traffic growth. This project will be required by 2040 even if the southern leg of the intersection (across the BNSF tracks) is closed as part of the Barker Road/BNSF Railroad grade separation project.

- **Barker Road/Euclid Avenue (south)** – To address vehicle queuing from the Barker Road/UP Railroad at-grade crossing, it is recommended to add a northbound right turn lane on Barker Road and a westbound left turn lane on Euclid Avenue at the Barker Road/Euclid Ave (south) intersection. It is also recommended to sign and paint "do not block" at key driveways and intersections on Barker Road approaching the UP Railroad crossing.
- **Barker Road/Boone Avenue** – As traffic increases on Barker Road, the intersection with Boone Avenue will eventually need a traffic signal or roundabout. As noted earlier, this traffic signal/roundabout will also serve traffic that is rerouted from Cataldo Avenue that would now use this intersection to access Barker Road.

Estimating the Costs of Infrastructure Projects

The cost of each future infrastructure project recommended to mitigate traffic impacts in the Northeast Industrial Area was estimated based on the unit cost of common construction elements shown in Figure 4. Unit costs in Figure 4 were generally derived from the 2016 Mirabeau Subarea Traffic Study (in which a similar analysis was used) and adjusted for 2017 dollars based on the Caltrans construction cost index (which increased 19.6% from 2016 to 2017). In a few instances unit costs were based on recent WSDOT bid tabulations for roadway construction projects or adjusted based on the location of the projects within Spokane Valley.

Figure 4. Construction project unit costs

Element	Description	Unit Quantity	Unit Cost (2017 dollars)
Hard Costs			
Roadway Demolition	Demolition and removal of old roadway	Square Yard	$ 14
Curb Demolition	Demolition and removal of old curb/gutter	Linear Foot	$ 16
Sidewalk Demolition	Demolition and removal of old sidewalk	Square Yard	$ 19
Signal Demolition	Demolition and removal of old traffic signal equipment	Each mast arm	$ 6,000
Excavation	Excavation, grading, fill, earthwork	Cubic Yard	$ 36
Road Section	Construction of new roadway surface	Square Yard	$ 80
Curb	Construction of new curb/gutter	Linear Foot	$ 42
Sidewalk	Construction of new sidewalks	Square Yard	$ 80
Curb Ramp	Construction of new curb ramps	Each	$ 3,500
Traffic Signal	Construction of new traffic signal	Each Signal System	$ 480,000
Span Wire Signal	Construction of interim traffic signal	Each Signal System	$ 120,000
Roundabout (one lane)	Construction of new one-lane roundabout	Each	$ 650,000
Roundabout (two lanes)	Construction of new two-lane roundabout	Each	$ 1,000,000
Cul-de-sac	Construction of new cul-de-sac with a 50-foot radius	Each	$ 100,000
Additional Costs			
Right-of-way (partial)	Cost of acquiring right-of-way for part of a parcel	Square Foot	$ 5
Right-of-way (full)	Cost of acquiring right-of-way for the entire parcel	Spokane County Assessor's Value times 1.1 to reflect actual market value	
Drainage	Cost to provide proper stormwater drainage to the affected area	20% of "hard" costs above	
Mobilization	Cost to get a construction crew engaged	10% of "hard" costs above	
Engineering	Cost to design and permit the project	20% of "hard" costs above	
Traffic Control	Cost to manage traffic during construction	15% of "hard" costs above	

Element	Description	Unit Quantity	Unit Cost (2017 dollars)
Contingency	Cost contingency for potential for unexpected drainage/utility/earthwork conflicts; WSDOT coordination	30% of "hard" costs above	

In order to provide an incentive to the first wave of development in the Northeast Industrial Area, the City of Spokane Valley is shouldering all of the costs of the infrastructure required to facilitate Phase 1 development. Note that the Phase 1 infrastructure projects are major infrastructure improvements that also benefit Phase 2 and 3 development in the area. Thus, Figure 5 summarizes the estimated project cost (based on the unit costs from Figure 4) for each of the projects that would be needed as part of Phase 1, Phase 2 and Phase 3 of development in the Northeast Industrial Area, plus the projects already planned that will be included in the fair-share cost estimate as part of the PAO.

Figure 5. Recommended projects to mitigate traffic impacts associated with development in the Northeast Industrial Area

Project	Phase	Description	Cost Estimate (2017 dollars)
Cataldo Avenue realignment	3	Reroute Cataldo Avenue to intersect Boone Avenue instead of Barker Road; add a cul-de-sac to Cataldo Avenue at existing intersection with Barker Road	$ 1,377,000
Interim signal at Barker Road/Boone Avenue	1	Add an interim signal	$ 198,000
Barker Road – Mission Avenue to I-90	2	Reconstruct to a 5-lane urban section	$ 2,818,000
Flora Road/Trent Avenue	3	Add a signal with left turn lanes on Flora Road or convert to a roundabout	$ 2,163,000[1]
Barker Road/Euclid Avenue (south)	3	Add northbound right-turn lane and westbound left-turn lane and sign/strip "do not block intersection"	$ 244,000
Barker Road/Boone Avenue	3	Add a permanent signal with northbound left and right turn pockets or a roundabout accommodating two lanes of traffic on Barker Road	$ 2,214,000[1]
Barker Road – Euclid to Trent	Already Planned (2021)	Reconstruct to 3-lane urban section	$ 4,184,000
Barker Road – Spokane River to Euclid	Already Planned (2022)	Reconstruct to 3-lane urban section	$ 3,302,000
Sullivan Road Bridge over Trent	Already Planned (2031-2040)	Construct new bridge over Trent and BNSF railroad tracks (to accommodate an additional mainline track and add capacity)	see below[2]

1. To be conservative, the highest cost option (a roundabout) was used.
2. Since only a portion of this project is to be funded by Spokane Valley an estimate of the total cost is not available.

Northeast Industrial Area's Fair-Share Contribution

In order to offset the costs of future infrastructure projects that will be needed to mitigate the traffic impacts caused by development, Spokane Valley will collect fees from future developments in the Northeast Industrial Area based on a fair-share cost estimate. The fair-share financial contribution is

determined by how much traffic the Northeast Industrial Area is expected to contribute in 2040 to each of the intersections or streets where needed projects were identified.

The same regional travel demand model used to forecast 2040 traffic was used to estimate the percent of traffic generated by the Northeast Industrial Area through each project location. This was done by using a tool in the model called a "select zone analysis." The select zone analysis was set to identify the traffic generated by the Northeast Industrial Area development separate from any other traffic generated by development in the region.

It should be noted that since the portion of the Northeast Industrial Area west of Flora Road will have a different travel shed than the portion east of Flora Road, the fair-share contribution was estimated separately for each portion of the Northeast Industrial Area. Trips generated from development east of Flora Road will have the greatest impact on traffic along Flora Road and Barker Road, thus the select zone analysis was isolated to the land area east of Flora road for the projects in Figure 5. Trips generated by development west of Flora Road will have the greatest impacts on traffic along Sullivan Road. Thus, the fair-share financial contributions from land developed in that area were assumed to contribute toward increasing capacity on Sullivan Road at Trent Avenue.

Fair-Share Contribution for Areas East of Flora Road

The results of the select zone analysis from the portion of the Northeast Industrial Area east of Flora Road for each of the six respective projects identified is shown in Figure 6.

The results of this analysis show that the majority of traffic through the impacted locations is generated from land uses outside the Northeast Industrial Area. Furthermore, the farther a project location is from the Northeast Industrial Area, generally the smaller the portion of traffic generated by the Northeast Industrial Area will pass through that location.

Figure 6. Northeast Industrial Area's share of total improvement costs

Project Location	Associated Development Phase	Portion of future traffic from Northeast Industrial Area[1]	Estimated Total Project Cost (2017 dollars)	Northeast Industrial Area Fair-Share Cost
Interim signal at Barker Rd/Boone Ave	Phase 1 only	4.0%[2]	$ 198,000	$ 7,920
Cataldo Avenue realignment	Phases 1 & 3	10.3%	$ 1,377,000	$ 142,003
Barker Road – Mission Avenue to I-90	Phase 2	11.3%	$ 2,818,000	$ 317,300
Flora Road/Trent Avenue	Phase 3	21.4%	$ 2,163,000	$ 463,686
Barker Road/Euclid Avenue (south)	Phase 3	29.5%	$ 244,000	$ 71,933
Barker Road/Boone Avenue (Phase 3)	Phase 3	10.3%	$ 2,214,000	$ 228,319
Barker Road – Euclid to Trent	Planned (2021)	33.6%	$ 4,184,000	$ 1,404,691
Barker Road – Spokane River to Euclid	Planned (2022)	22.1%	$ 3,302,000	$ 728,628
Sullivan Bridge over Trent	Planned (by 2040)	see below[3]		
			Total Northeast Industrial Area Fair-Share Cost	**$ 3,364,480**

1. Rounded to the nearest tenth percentage
2. Since this project will only apply to Phase 1, the proportion of traffic in Phase 1 was used here
3. Since only a portion of this project is to be funded by Spokane Valley and development in the Northeast Industrial Area primarily west of Flora Road will have the most significant traffic impacts at this location, the fair-share cost of this project was calculated separately.

The portion of traffic from the Northeast Industrial Area that is forecast to pass through each project location was multiplied by the estimated cost of that project to arrive at the Northeast Industrial Area's fair-share cost per infrastructure project, shown in Figure 6.

Typically, costs to mitigate transportation infrastructure impacts are allocated based on PM peak hour traffic generation. Using PM peak hour trips is typical, since it is the PM peak hour that typically has the most-congested traffic and trips are a way to fairly distribute costs in a way that is proportionate to the total impact generated. In other words, larger developments that generate more trips pay proportionately more than smaller developments that generate fewer trips.

To develop a per-trip fee, it was first necessary to estimate PM peak hour traffic that will be generated by new development in the Northeast Industrial Area. Separate trip generation estimates are required for Phase 1 and Phase 2 & 3 since the reconfiguration of Cataldo Avenue will require an interim improvement that only benefits Phase 1, while the Cataldo realignment benefits all development in the Northeast Industrial Area. In addition, the other projects listed in **Figure 5** are not required for Phase 1 and therefore only benefit Phase 2 & 3 development. Using this logic, separate traffic impact mitigation fee components are calculated for:

- Projects that benefit Phase 1 only
- Projects that benefit Phase 2 & 3 only
- Projects that benefit Phase 1, 2 & 3

Projects that Benefit Phase 1 Development

Based on information from the City of Spokane Valley and trip generation rates from the Institute of Transportation Engineers (ITE), Phase 1 is expected to generate 160 PM peak hour trips. To calculate the Phase 1 fair-share costs, the Northeast Industrial Area fair-share cost of building the interim traffic signal at Barker Road/Boone Avenue is divided by PM peak hour trips in Phase 1 to get **a cost for projects that benefit Phase 1 only of $50 per PM peak hour trip.**

Projects that Benefit Phase 2 & 3 Development Only

Based on the land use forecasts in the Spokane Valley Comprehensive Plan it is estimated that about 2,886 new employees will work in the Northeast Industrial Area east of Flora Road by 2040. The travel demand model estimates a PM peak hour trip generation rate for employees in the Northeast Industrial Area of about 0.46. This trip rate is consistent with the trip rates for industrial land uses identified by ITE. When the average PM peak hour trip rate is applied to the growth in employees, it is estimated that about 1,340 new PM peak hour trips will be generated from employment growth in the Northeast Industrial Area east of Flora Road. Since growth associated with Phase 1 development is being excluded from this impact fee, the 160 PM peak hour trips estimated as part of Phase 1 development were subtracted from 1,340 to arrive at 1,180 PM peak hour trips. The Northeast Industrial Area's fair-share costs for projects that benefit Phase 2 & 3 development only (excludes the Cataldo Avenue realignment and the interim signal at Barker Road/Boone Avenue) were then divided by the growth in PM peak hour trips (between Phase 1 and the 2040 planning horizon) to get **a cost per PM peak hour trip for projects that benefit Phase 3 of development only of $2,725**:

$ 3,215,000 (Northeast Industrial Area's share of total project costs) / 1,180 (new PM peak hour trip generated east of Flora Road less the PM peak hour trips from Phase 1) = **$2,725 per PM peak hour trip**.

Projects that Benefit Phase 1, 2 and 3 Development

To estimate the cost per PM peak hour trip for the Cataldo Avenue realignment, which would benefit Phase 1, 2 and 3 development, the estimated fair-share cost of that project ($ 142,003) was divided by the new PM peak hour trips that will be generated from employment growth in the Northeast Industrial Area east of Flora Road by 2040 (1,340). This calculation results in **a cost of $106 per PM peak hour trip for projects that benefit both Phase 1, 2 & 3 of development**.

Cost per PM Peak Hour Trip by Development Phase

Figure 7 shows how these costs were factored into a final PM peak hour trip cost for Phase 1 and Phase 2 & 3 development. In order to get a cost per PM peak hour trip for Phase 1 of development the cost per PM peak hour trip for both the Cataldo Avenue realignment and the interim traffic signal at Barker Road/Boone Avenue was added to get $156 per PM peak hour trip. In order to get the cost per PM peak hour trip for Phase 2 & 3 of development the cost per PM peak hour trip for the Cataldo Avenue realignment was added to the cost per PM peak hour trip for all the projects that would benefit Phase 2 & 3 only. This results in a cost of $2,831 per PM peak hour trip for Phase 2 & 3 development. **Thus, the fee that would be assessed for developers that opt into the Northeast Industrial Area Planned Action Ordinance as part of Phase 1 development would be $156 per PM peak hour trip and the fee assessed to developments that occur after Phase 1 would be $2,831.** The City may opt to shoulder the cost of the Phase 1 development impact fee.

Figure 7. Cost per PM peak hour trip by development phase.

Projects by Phase	Fair-Share Cost	Forecast PM Peak Trips	Phase 1 Cost per PM peak hour trip	Phase 3 Cost per PM peak hour trip
Projects that benefit Phase 1 only	$ 7,920	160	$ 50	N/A
Projects that benefit Phase 2 & 3 only	$3,214,558	1,180	N/A	$ 2,725
Projects that benefit Phase 1, 2 and 3	$142,003	1,340	$ 106	$ 106
Total	**$ 3,364,482**	**1,340**	**$ 156**	**$ 2,831**

Fair-Share Contribution for Areas West of Flora Road

Euclid Avenue is the only public access road across the railroad spur west of Flora Road, and because it is considerably south of the PAO area, most of the traffic generated by future development in the portion of the Northeast Industrial Area west of Flora Road will load onto Sullivan Road via B Street. Thus the fair-share financial contributions from land developed in the western portion of the PAO area were assumed to instead contribute toward increasing capacity on Sullivan Road at Trent Avenue. The SRTC *Horizon 2040* plan identified a bridge replacement project at this location sometime between 2031 and 2040. Given that Spokane Valley will only pay a portion of the cost of the Sullivan Bridge replacement and that portion is unknown at this time, *the same cost per PM peak hour trip that was estimated east of Flora Road will be applied to development west of Flora Road*.

By applying the same fee to both development areas in the PAO area, development in one portion of the PAO area is not paying a disproportionately high fee, and the fees paid by development on the east and west side of Flora Road are directed toward the projects the developments have the greatest impacts on. This will create a simpler and more equitable fee structure for future developments across the entire Northeast Industrial Area.

Based on land use forecasts from the Spokane Valley Comprehensive Plan it is estimated that the portion of the Northeast Industrial Area west of Flora Road will grow by about 340 employees by 2040. This will generate an estimated 160 new PM peak hour trips. Assuming Spokane Valley collects $2,831 per new PM peak hour trip, fees collected from future development east of Flora Road as part of the Northeast Industrial Area fair-share financial contribution program will generate about $500,000 (in 2017 dollars). Based on the select zone analysis, forecast development in the area west of Flora Road would be responsible for about 9% of the total traffic growth through the Sullivan/Trent interchange.

Additional Financing Strategies

Funding generated by developers through the Northeast Industrial Area fair-share financial contribution program will only cover a portion of the cost of future infrastructure projects. Spokane Valley will need to use other financing strategies to pay for the remaining costs of those projects.

Additional financing strategies that Spokane Valley could consider include implementing a local improvement district or transportation benefit district, applying for grants, leveraging Federal Aid Road designation, and leveraging other State and regional resources.

Another option the City could explore is to apply a broader-based impact fee program in collaboration with surrounding jurisdictions. For example, a significant portion of future traffic along Barker Road at Mission Avenue and Boone Avenue will be generated by nearby development in Spokane Valley, Liberty Lake and unincorporated Spokane County. Spokane Valley could work with Liberty Lake and the County to conduct a joint regional sub-area transportation study for this area to determine an appropriate impact fee for future development projects that benefit mobility in all three jurisdictions.

Impact to Nearby Spokane County Intersections

Spokane County identified the intersections of Harvard Road/Wellesley Avenue and Harvard Road/Euclid Avenue as locations that will need improvements to meet their LOS standards by 2040. Both of these intersections are about 1.5 miles east of the Spokane Valley Northeast Industrial Area.

In order to determine the percent of traffic passing through these intersections during the PM peak generated from the Northeast Industrial Area, a select zone analysis (similar to what was performed as part of the fair-share analysis described previously) was performed for year 2040 for each approach of the two intersections. The analysis was performed using the SRTC 2040 regional travel demand model updated in December, 2017. It should be noted that several roadway network adjustments were made in the updated SRTC model to match what was assumed at part of the PAO analysis (such as the Barker Road/Trent Avenue intersection, closure of Flora Road at the BNSF rail crossing, the new east-west connector, the Indiana Avenue connection to Harvard Road, and the Henry Road overpass at I-90 without an interchange). These assumptions were verified with SRTC. The results show that by 2040 about 12% of traffic passing through the Harvard Road/Wellesley Avenue intersection and about 12% of traffic passing through the Harvard Road/Euclid Avenue intersection would be generated by the Northeast Industrial Area.

In order to mitigate the impacts of traffic from the Northeast Industrial Area at these two intersections it is recommended that the City of Spokane Valley and Spokane County develop a memorandum of understanding (MOU) that clearly identifies the planned projects at the two intersections to improve traffic operations and the estimated costs of those projects. At the time this document was prepared, no improvements for the two intersections have been identified. The MOU would also identify the estimated cost per PM peak hour trip generated by the Northeast Industrial area by multiplying the total

estimated project cost (agreed on and documented in the MOU) by the percentages identified above and dividing by the forecast number of PM peak hour trips that would be generated by the Northeast Industrial Area east of Flora Road in 2040, which equals 1,340. Given that there are other locations where development in Spokane Valley impacts Spokane County infrastructure, and vice-versa, other impacts and mitigation costs could also be included in the MOU. Once the MOU is signed by all parties, a future developer will develop a trip letter and calculate the fee owed to add necessary capacity at the Spokane County intersections.

Conclusions

This report provides a summary of the major infrastructure projects that will likely be needed to mitigate traffic impacts associated with development in the Northeast Industrial Area through 2040. The report also provides a financing strategy using a fair-share cost estimation and other strategies to pay for those projects.

Several major infrastructure projects are either already programmed (with outside funding coming from other sources) as part of the Spokane Valley 6-year TIP, will implemented by other agencies (such as WSDOT), or will be built by developers as the area gets developed. These projects were not factored into the fair-share cost calculations include, but are not limited to:

- The Barker Road/BNSF Railroad grade separation project
- Reconstruction of the Barker Road/I-90 interchange
- Adding an east-west local road to connect Barker Road with Flora Road between Euclid Avenue and the BNSF Railroad tracks

Traffic analysis (documented the Phase 1, 2 and 3 Traffic Analysis Memorandums) demonstrated that several mitigation projects will be needed by 2040 to meet LOS standards or are planned by the City but not funded. Funding and implementation of these projects will be the responsibility (at least partially) of Spokane Valley. These projects were factored into the Northeast Industrial Area's fair-share cost calculations and include:

- Realignment of Cataldo Avenue
- Barker Road/Boone Avenue intersection interim improvements
- Reconstructing Barker Road to a 5-lane urban section between Mission Avenue and I-90
- Flora Road/Trent Avenue intersection improvements
- Barker Road/Euclid Avenue (south) intersection improvements
- Barker Road/Boone Avenue intersection 2040 improvements
- Reconstructing Barker Road to a 3-lane urban section north of the Spokane River (Identified as two separate projects in the Spokane Valley 6-year TIP – and identified by the city to be partially funded by development in the Northeast Industrial Area)
- Sullivan Road/Trent Avenue capacity improvements (Identified by the SRTC Horizon 2040 plan – this project is included as it is not programmed by the City, but is to be partially funded by the City)

A fair-share cost calculation was developed to identify the Northeast Industrial Area's share of future traffic through each of the above projects and associated mitigation costs. A separate cost was estimated for Phase 1 of development versus Phase 2 & 3 of development to reflect the impacts to traffic from each of those phases. If developers agree to participate in the Northeast Industrial Area

Planned Action Ordinance they will meet their SEPA obligations to mitigate traffic congestion impacts through a mitigation contribution of up to $156 per PM peak hour trip for development associated with Phase 1 and $2,831 per PM peak hour trip for all future developments after Phase 1. After making this mitigation payment developers will not have to conduct another traffic study, outside of a site access and circulation study, which may be required by Spokane Valley to ensure safe access for all modes into and within the development site.

If developers opt not to participate in the PAO, they will be responsible for conducting their own traffic impact analysis following the guidelines set forth by Spokane Valley. They will also be responsible for funding any found during that process that will be needed to meet concurrency standards.

Utility impacts from future development and costs associated with that were not factored into the mitigation fee. Developers will still be required to follow the Spokane Valley approval process for utilities and will pay for those costs separately.

Spokane Valley will need to use other financing strategies to pay for the remaining costs of the projects identified above that will not be covered by developers. One potential strategy includes applying a broader-based impact fee program in collaboration with surrounding jurisdictions to collect fair-share fees from residential developments in Spokane Valley, Liberty Lake and unincorporated Spokane Valley. Other financing strategies Spokane Valley might consider include implementing a local improvement district or transportation benefit district, applying for grants, leveraging Federal Aid Road designation and leveraging other State and regional resources.

APPENDIX D:

GENERAL SEWER SUMMARY PACKET FOR PLANNED ACTION ORDINANCE APPLICATIONS

GENERAL SEWER SUMMARY PACKET
for Planned Action Ordinance Applications
ENVIRONMENTAL SERVICES DEPARTMENT

Kevin R. Cooke, P.E., Environmental Services Director

This packet presents Spokane County Environmental Services' process and requirements relative to the sewer system for development within the City of Spokane Valley's Northeast Industrial Area (NIA). The City of Spokane Valley's NIA is within Spokane County's sanitary sewer service area. Please read and understand this letter, so plan review and permitting can be completed in a timely manner.

Sewer Planning Requirements Form for Planned Action Ordinance Applications

The purpose of the attached Sewer Planning Requirements Form is to ensure that the developer, or their agent, and Spokane County Environmental Services (Environmental Services) have a preliminary conversation and project review regarding the specific sewer requirements prior to starting the sewer design for each project. This discussion will help clarify if any public sewer extension is required. Public sewer extensions can greatly impact both cost and timing for the completion of a project.

Project Sewer Plan Review & Acceptance for Construction

Construction plans for the sewage collection system need to be submitted and accepted by Environmental Services. These plans will determine the project's permitting requirements.

Generally, all developments that require public or private sanitary sewer service (8" pipe or larger) need to be submitted as a separate sewer submittal package with at least a cover sheet, plan and profiles, and a detail sheet for any specific project construction details and applicable Spokane County standard plans. The construction drawings need to be submitted on 24" X 36" plan sheets. For projects that will require public sewer installation, the developer's construction engineer shall submit a letter of intent to provide construction inspection and record drawing services prior to the Environmental Services' acceptance of the plans for construction.

For developments that require a private 6" sanitary sewer, a single sheet plan submittal may suffice. While profiles are not required, cleanout rims, pipe invert elevations, lengths, slopes and building finished floor elevations need to be clearly labeled. Additional details and applicable Spokane County standard plans may be required. The construction drawings need to be submitted on 24" X 36" plan sheets. Installation of all 4" and 6" sanitary sewer pipe and all building connections must be permitted and inspected by an Environmental Services sewer inspector.

The attached Commercial Water Usage Estimate Form shall be included with the first plan submittal to Environmental Services. The water usage estimate will be used to determine the sewer connection charges and the monthly sewer service fees. Not having this form completed early, prior to the permitting phase, can cause delays when building permits are ready for issuance.

Also to be included with the first submittal is the attached industrial pretreatment questionnaire, "Short Form Survey of Nonresidential Establishments". This form is used to determine whether any on-site pretreatment will be required prior to discharge in the County sewer system.

Project Specific Summary Letter

After plans are reviewed, a Project Specific Summary Letter will be provided if it is deemed necessary by Environmental Services. This letter will stipulate the project specific sewer requirements and must be signed and returned to Environmental Services.

Preconstruction Meeting, Project Inspection, Engineer's Statement, and Record Drawings

A Preconstruction meeting is mandatory for all projects within the NIA. Call your plan reviewer to schedule a time and place for the meeting.

Normally, a preconstruction meeting should have the contractor and engineer present. For projects with 8" (or greater) sanitary sewer, the developer, design engineer, construction management or Inspection Company and the contractor should all be in attendance.

During construction of the 8" (or greater) sanitary sewer, the sewer system must be inspected and tested in full accordance with the County's Project Construction Certification Procedures for Road, Drainage, And Sewer Projects dated January 2018. This includes continuous inspection during all times that pipe laying is underway for both mainline and side sewers. Television inspection of the system must be coordinated by your engineer with Environmental Services, prior to paving operations (pre-pave video inspection), and after completion of paving (post-pave video inspection). Upon completion of all construction and associated testing, your construction engineer must provide the required Engineer's Certification Statement, as well as acceptable record drawings for the sewer system. Sewer construction, inspections, record drawings and engineer's statements shall conform to the requirements set forth in the Spokane County Project Construction Certification Procedures for Road, Drainage and Sewer Projects dated January 2018.

Sewage Collection System Acceptance, Financial Security, and Warranty

Following Environmental Services' receipt of:

1) The Engineer's Certification Statement
2) Acceptable record drawings
3) Documentation of sewer construction costs (Public Sewer only)
4) Approved financial security instrument for the warranty period (Public Sewer only)

Environmental Services will accept the public portion of the sewer system (8-inch sewer mains or larger) for operation and maintenance. This acceptance will be subject to a one-year warranty period, and the financial security shall remain in place throughout the warranty period. The amount of the financial security for the warranty period will be based on representative 25% of the estimated construction cost of the system as calculated by Environmental Services. A calculation of the required sewer bond amount will be provided after the first plan submittal.

Sewer Connection Charges

Following submittal and review of Plans, a Sewer Connection Charge Agreement form must be completed by Environmental Services and signed by the Owner. Work directly with your plan reviewer on the Sewer Connection Charge Agreement. Developments located within the NIA will be subject to a Special Connection Charge (SCC), in addition to a General Facility Charge (GFC) as stipulated in the

County Sanitary Sewer Ordinance. The sewer connection charges, as outlined in Spokane County Code Article 8.03.1247, is calculated based on a dollar amount per Equivalent Residential Unit (ERU). An ERU is 800 cubic feet of non-irrigation water usage per month.

For budgeting purposes, the current SCC is $3,560.00 per Equivalent Residential Unit (ERU). The current GFC has been set at $4,630 per ERU. Therefore, total connection charges are currently $8,190 per ERU. These rates are subject to change, as determined by the Board of County Commissioners.

The County establishes the sewer connection charges for a property based upon the rates in effect at the time of sewer connection permit issuance. Sewer connection permits are valid for one year from the date of issuance. If the permit expires prior to the completion of the connection, a new permit is required, and sewer connection charges are then based upon the rates in effect at the time that the new permit is issued. Sewer connection charges may be paid in full at the time of sewer connection permit issuance, or as otherwise allowed under the Sanitary Sewer Ordinance.

Construction Cost Reimbursement for Public Sewer

For projects that install public sanitary sewer, only the SCC may be offset by the documented cost of sewer construction. Multiplying the SCC by the estimated ERU's of non-irrigation water usage provides the maximum potential dollar amount that may be credited toward the projects sewer connection charges. To receive the SCC credit, itemized documentation specific to the public sewer construction costs must be submitted to the County. Please be sure to track all public sewer related costs separate from other project costs.

Bill of Sale for Public Sewer

For the County's acceptance of the project as part of the public sewer system, itemized documentation will need to be submitted by the developer, or their engineer, for specific sewer construction costs.* Documentation should include detailed summary of the costs of the sewer installation, including copies of invoices for construction, design engineering, surveying, and inspection and testing services. These construction costs are used by Environmental Services to prepare a Bill of Sale, transferring ownership of the public sewer system elements to Spokane County. The Bill of Sale must be signed, dated, notarized and returned to our office for the transfer to be completed.

**For example, submitting a representative 1/3 of the overall project construction cost will not suffice as itemized documentation*.

Sewer Permit Application for Private Sewer

Following acceptance of Plans, a Sewer Permit Application form must be completed. Work directly with your plan reviewer on the Sewer Permit Application. No installation of 4" or 6" sewer or connections of any buildings to the sewer may occur prior to obtaining the required sewer connection permits from Spokane County.

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kmarmstrong@spokanecounty.org

Eugene Repp, PE: (509) 477-7488, Planning and Design Manager
grepp@spokanecounty.org

Electronic Submittals

The Sewer Planning Requirements Form for Planned Action Ordinance Applications, Commercial Water Usage Estimate Form, Short Survey of Nonresidential Establishments form, and your project Plans can be submitted electronically. Hard copies of the forms are included and links to the forms provided below.

Electronic Submittal: ESPlanReview@spokanecounty.org

Attn: Colin Depner or Chris Knudson

*Subject line should read: "Project Name" within the Northeast Industrial Area PAO

Link to Additional Information: http://www.spokanecounty.org/SewerPlanningDesign

- Spokane County Standards for Road and Sewer Construction
  - Construction Certification Procedures *(Technical Reference C)*
  - Side Sewer Installation Handbook *(Technical Reference E)*
  - Sanitary Sewer Standards Manual (*Chapter 11)*
- Commercial Water Usage Estimate Form
- Sewer Planning Requirements Form for Planned Action Ordinance Applications
- Sewer Permit Application
- Short Form Survey of Nonresidential Establishments

SEWER PLANNING REQUIREMENTS FORM
for Planned Action Ordinance Applications
ENVIRONMENTAL SERVICES DEPARTMENT

Kevin R. Cooke, P.E., Environmental Services Director

Project Name:_____ Parcel #:_____

General Project Description:_____

The City of Spokane Valley's Northeast Industrial Area is within Spokane County's sewer service area.

PLEASE NOTE: Form must be finalized and signed by Spokane County Environmental Services

1. Is sewer currently available, with service connections provided as required, to serve the proposed development? (If yes, go to signature block; if no, go to 2a) Y ☐ N ☐

2a. Is the site within the Spokane County 6-Year Sewer Construction Capital Improvement Program? (If yes, go to 2b. If no, go to 3) Y ☐ N ☐

2b. Will the developer design, fund, construct & provide financial surety for the necessary systems to provide Dryline Sewer and/or Double Plumbing Dry Side Sewers as required? (If no, go to 3) Y ☐ N ☐

3. Will the developer design, fund, construct and provide financial surety for the necessary systems to extend sewer service to the site and provide service connections as required? Y ☐ N ☐

This sewer planning form is non-transferable to other projects and shall be valid as long as the referenced project remains active and is not modified.

Additional Sewer Requirements:

Signature of County Staff - Prepared By:_____ Date:_____

I certify I have read and will comply with the stipulations of this completed form and the County sewer requirements presented in the "General Sewer Summary Packet".

Signature of Owner/Owner's Agent/Developer:_____ Date:_____

1026 West Broadway Ave, 4th Floor, Spokane, WA 99260-0430
PHONE: (509) 477-3604 FAX: (509) 477-4715 TDD: (509) 477-7133

COMMERCIAL WATER USAGE ESTIMATE FORM

ENVIRONMENTAL SERVICES DEPARTMENT

Kevin R. Cooke, P.E., Environmental Services Director

DATE: _____

TO: Spokane County Environmental Services Department

FROM:_____(Please Print Name)

TITLE: _____

SUBJECT: Water Usage For: _____

Address: _____ Parcel No: _____

The estimated annual non-irrigation water usage for the subject property is_____cubic feet.

Notes:

1. Sewer connection charges will initially be based upon this estimate
2. The number of Equivalent Residential Units (ERUs) initially assigned to the propertywill be based upon an allowance of 800 cubic feet per month per ERU.
3. If the actual future non-irrigation water usage exceeds the estimate presented above, additional sewer connection charges will become due.
4. The monthly sewer service fees for the property will be determined based upon the sewer service fee rates in effect, which are subject to change over time.
5. The County will periodically review the water usage for the property to make appropriate billing adjustments.

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SHORT FORM SURVEY of NONRESIDENTIAL ESTABLISHMENTS

1. Company Name: _____ **2.** Telephone Number: (___) _____

3. Mailing Address: _____ **4.** Facility Address: _____

_____ (If different) _____

_____ _____

5. Does this Company have a facility located In Spokane County, Washington? ❑ Yes ❑ No

(If "NO", Get Authorized Signature Below, Stop Here, and Return Form In Envelope Provided)

6. Name of environmental contact person:_____Phone no. _____

(*Person empowered by authorized representative to represent the Company, or responsible for the proper completion of this survey form.)*

7. Primary type of business: _____

Narrative description of the type of operations conducted. Please identify all activities from which waste water is generated.

_____

SIC or NAICS Code(s) assigned if known: _____ _____ _____ _____

8. This facility uses water (gallons per day) from the following sources: *(check all that apply)*

❑Public Water _____ GPD ❑Private Well _____GPD ❑Reclaimed Water___ GPD ❑Surface Water___GPD

9. This estimated amount of water (in Gallons per Day) used for the following purposes is:

❑ Domestic uses *(restrooms, showers, kitchens, laundry rooms)*..... _____ GPD

❑ Boilers, cooling, or other unpolluted waste waters..... _____ GPD

❑ Non-Domestic activities *(describe the activities):*

_____ _____ GPD

_____ _____ GPD

_____ _____ GPD

10. Waste water from this facility goes to the following: *(check all that apply)*

❑ Sanitary Sewer ❑ Storm Sewer ❑ Ground (drain fields, wet well) ❑ Open Waters

❑ Waste Haulers ❑ Evaporation ❑ Other means of disposal - Please list:_____

11. Chemicals are used and/or stored on the premises: ❑In Drums ❑Only In Small Containers ❑No Chemicals

12. This facility (❑ does, ❑ does not) generate dangerous waste (WAC 173-303-090) (If Assigned, WAD#_____)

13. Materials, chemicals, products, equipment, or wastes (❑ are; ❑ are not) stored in uncovered areas.

14. This facility (❑does, ❑ does not) have a grease interceptor or an oil/water separator.

15. Vehicles and/or equipment (❑ are, ❑ are not) washed at this facility. If so, wash water goes to:_____

I have personally examined and am familiar with the information submitted in this document and attachments. Based on my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment.

_____ _____ _____

Printed name of Authorized Representative* Signature Date

_____ _____

Job Title* Telephone Number

*Surveys must be signed as follows: Corporations - By a principle executive officer of at least the level of Vice-President. Partnership - By a general partner. Sole Proprietorship - By the Proprietor. (Ref: CFR part 403.12(1))

Disclosure: Title 40 of the Code of Federal Regulations Part 403 Section 403.14 requires information provided in this questionnaire identifying the nature and frequency of discharge to be available to the public without restriction. Requests for confidential treatment of other information shall be governed by procedures specified in 40 CFR part 2 and applicable State Law. Should a discharge permit be required for your facility, the information in this questionnaire may be used to issue the permit.

Internal Use: Form sent on_____ Received on _____ LF Required ❑Yes ❑No

Fax: (509) 477-4715

Spokane County Environmental Services, 1026 West Broadway, Spokane, Washington, 99260-0430