WSDOT

SR 202 Corridor Study

244th Avenue NE To Fall City/Snoqualmie River

Management of Mobility Division

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
NORTHWEST REGION

SR 202 Targeted Study – East King County

Approved By:

Brian D. Nielsen
Brian D. Nielsen (Oct 13, 2022 13:45 PDT)

Oct 13, 2022

Brian Nielsen
Regional Administrator – NW Region

Date

Concurrence:

Kerri Woehler

10.12.22

Kerri Woehler
Director – Multimodal Planning and Data Division

Date

Title VI Notice to Public

It is the Washington State Department of Transportation's (WSDOT) policy to assure that no person shall, on the grounds of race, color, national origin, as provided by Title VI of the Civil Rights Act of 1964, be excluded from participation in, be denied the benefits of, or be otherwise discriminated against under any of its programs and activities. Any person who believes his/her Title VI protection has been violated, may file a complaint with WSDOT's Office of Equity and Civil Rights (OECR). For additional information regarding Title VI complaint procedures and/or information regarding our non-discrimination obligations, please contact OECR's Title VI Coordinator at (360) 705-7090.

Americans with Disabilities Act (ADA) Information

This material can be made available in an alternate format by emailing the Office of Equity and Civil Rights at wsdotada@wsdot.wa.gov or by calling toll free, 855-362-4ADA(4232). Persons who are deaf or hard of hearing may make a request by calling the Washington State Relay at 711.

Notificación de Titulo VI al Público

La política del Departamento de Transporte del Estado de Washington (Washington State Department of Transportation, WSDOT) es garantizar que ninguna persona, por motivos de raza, color u origen nacional, según lo dispuesto en el Título VI de la Ley de Derechos Civiles de 1964, sea excluida de la participación, se le nieguen los beneficios o se le discrimine de otro modo en cualquiera de sus programas y actividades. Cualquier persona que considere que se ha violado su protección del Título VI puede presentar una queja ante la Oficina de Equidad y Derechos Civiles (Office of Equity and Civil Rights, OECR) del WSDOT. Para obtener más información sobre los procedimientos de queja del Título VI o información sobre nuestras obligaciones contra la discriminación, comuníquese con el coordinador del Título VI de la OECR al (360) 705-7090.

Información de la Ley sobre Estadounidenses con Discapacidades (ADA, por sus siglas en inglés)

Este material puede estar disponible en un formato alternativo al enviar un correo electrónico a la Oficina de Equidad y Derechos Civiles a wsdotada@wsdot.wa.gov o llamando a la línea sin cargo 855-362-4ADA(4232). Personas sordas o con discapacidad auditiva pueden solicitar la misma información llamando al Washington State Relay al 711.

Table of contents

1.0 Introduction

1.1 Background

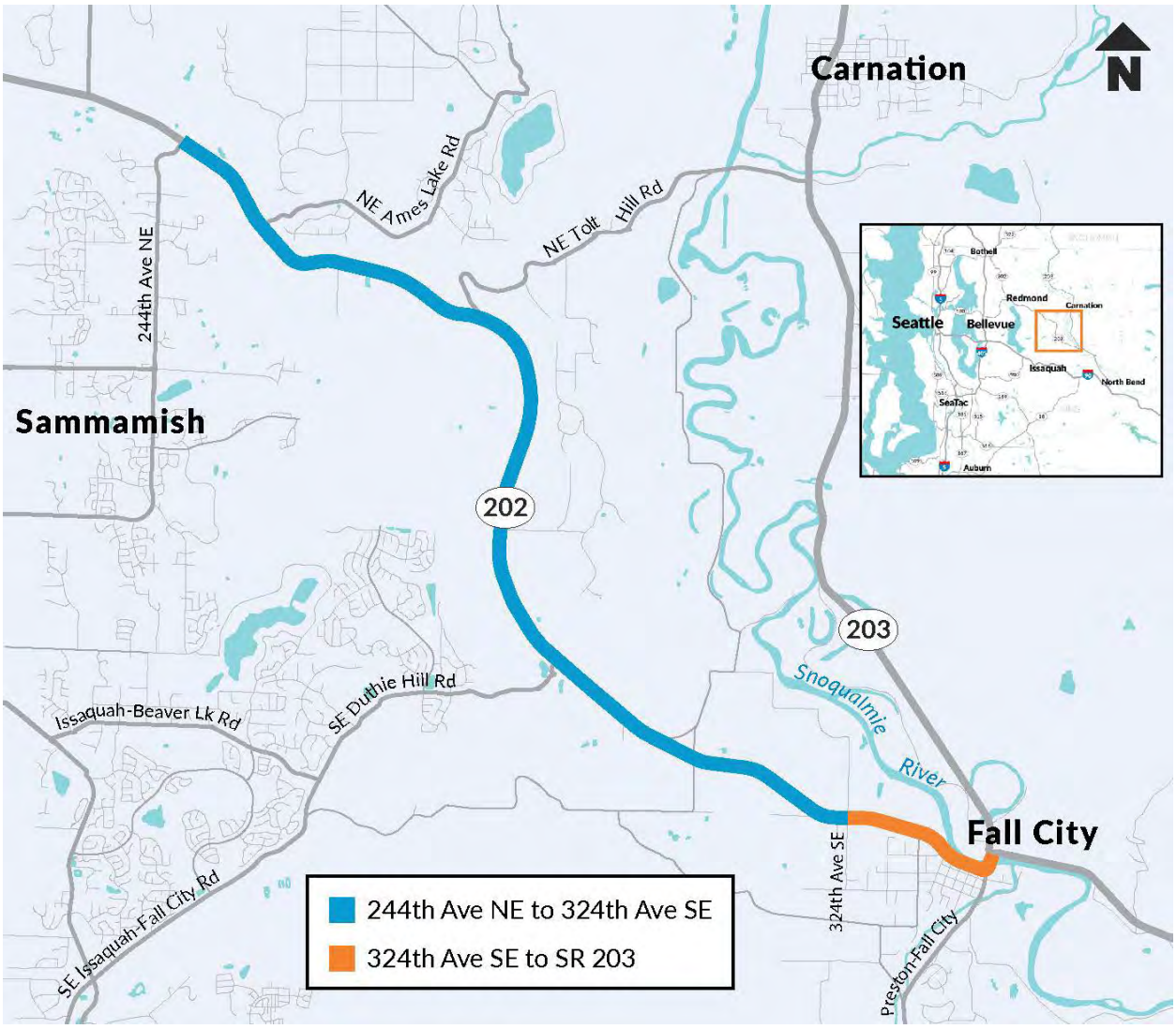


Figure 1.2. A map of the SR 202 corridor – highlighting the study area

State Route 202 (SR 202) is a two-lane state highway in eastern King County, approximately 30 miles in length. It extends from Woodinville in the west to North Bend in the east, and travels through a mix of rural and urban areas in Redmond, Sammamish, Fall City, and Snoqualmie, serving as a vital transportation link for the rural communities of Fall City, Snoqualmie, and North Bend.

In the summer of 2020, the WSDOT Management of Mobility Planning Division (MoM Division) began to study this portion of SR 202 between 244th Avenue NE and the Snoqualmie River just north of Preston-Fall City Road in Fall City in two phases.

The two segments of SR 202 here are located immediately to the east of a previous SR 202 Corridor Planning Study (CPS) which assessed needs and future conditions of SR 202 between East Lake Sammamish Parkway in Redmond and 244th Avenue NE, southeast of the city of Sammamish.

The rural segment is shown in blue in Figure 1.1 and is located between 244th Avenue Northeast and 324th Avenue Southeast in rural King County, as a high-speed, two-lane highway. This segment was highlighted for review of the intersections due to the area's recent growth and feedback from the community which expressed concerns following two fatal crashes in the summer of 2019. The intersections at Ames Lake Road and Northeast Tolt Hill Road in particular were highlighted for their history of crashes and safety concerns.

The urban segment is shown in orange in Figure 1.1 and passes through the census designated place of Fall City before crossing the Snoqualmie River and continuing southeast towards the town of Snoqualmie. The business district, which is popular with visitors recreating on the river and frequenting the town's restaurants and cafés, lacks separated pedestrian facilities. There is a jersey barrier is present on the west side of the bridge heading north over the Snoqualmie River before the route transitions to an at-grade pedestrian path indicated by pavement markings.

The Puget Sound Regional Council's (PSRC) regional transportation improvement plan (TIP) has identified one project on SR 202 and within the study area. It is "Evans Creek Vicinity to SE Fish Hatchery Road Stormwater Retrofit" (**page 540** of the TIP, Project I.D. **#WDNW - 2059**). It should be noted that this project is not relevant to the near-term operations, safety, and active transportation focus of this targeted study. Other than this project there are no other references to SR 202 in either the TIP or PSRC's regional transportation plan.

Additionally, King County's Transportation Needs Report (2020) does not identify any projects directly on SR 202; though there are guardrail and bridge replacement projects identified near the SR 202 corridor.

1.2 Study purpose

In cooperation with study partners, WSDOT developed a problem statement to guide the development of this study.

> SR 202 in rural King County between the intersections of 244th Avenue Northeast and 324th Avenue Southeast has operational and safety performance issues. SR 202 in Fall City lacks complete active transportation facilities and has documented performance issues.

Study objectives

The goals of this study are to assess the performance of safety, multimodal access, and improved accessibility for all corridor users, and then provide strategies to address the identified performance gaps.

Rural Segment - 244th Avenue Northeast to 324th Avenue Southeast/West River Road intersection

This phase focused on multimodal safety performance, especially at intersections.

Urban segment - Fall City Segment - 324th Avenue Southeast to the Snoqualmie River

This phase segment included portions of SR 202 leading into and through the Fall City community. The identified performance issues included pedestrian and bicycle safety, improved intersection designs and additional accessibility needs in the businesses district.

The timeframe of this analysis is near/mid-term (zero to six years and up to 12 years).

2.0 Study structure

This study documents the overall process WSDOT followed including how community engagement informed concept development and screening. It identifies performance gaps on the SR 202 corridor between 244th Avenue Northeast and the Snoqualmie River and serves as an action plan for implementing recommended concepts packages into project development and ultimately construction.

The final chapter includes recommendations for next steps and implementation actions for WSDOT and study partners. It also includes a summary of potential grant funding sources. The recommendations in this report are not a guarantee of any action or funding from WSDOT. WSDOT will consider strategies identified when making determinations on capital improvements within its project development processes. WSDOT may also be directed to fund strategies or portions of strategies in this plan by the Washington State Legislature. As funding becomes available to further develop the strategies, WSDOT will initiate formal environmental review.

2.1 Study process

Using community and stakeholder input WSDOT conducted a high-level assessment of multimodal safety, access, and environmental performance gaps for the SR 202 corridor. That work included:

- Existing conditions assessment including current traffic volumes, five-year crash history (2014-2019), documented existing roadway facilities geometry, active transportation facilities, transit service, environmental features and sensitive areas, and other relevant existing conditions.
- Community engagement assessment of the concerns of the public and stakeholders.

WSDOT used the assessments to develop a series of concepts. These concepts were screened for feasibility and how each met the studies' objectives. The concepts were then packaged into near-term (0-6 years) and mid-range (6-15 years) implementation time frames with planning-level cost estimates. Concepts that were either deemed infeasible due to high costs, low benefit, or an inability to fund them in the future, were dismissed. The concept development in this study incorporated appropriate near-term (0-6 year) Transportation System Management and Operations (TSMO) strategies to address existing performance gaps at key SR 202 intersections and segments.

3.0 Community engagement

3.1 Community engagement approach

Community engagement is a key component of corridor planning at WSDOT because it helps define performance issues by providing opportunities for the communities to express their concerns and values. WSDOT uses this community feedback when assessing which multimodal improvement concepts should be advanced for future consideration. This section describes the overall approach and methodology for community engagement used in this study.

Due to the COVID-19 pandemic, all public involvement was conducted virtually through online meetings, a study website, and virtual town-hall meetings. Given that the two segments of SR 202 being analyzed are contiguous, it was determined the community engagement would be conducted in a joint (consolidated) fashion for both phases of the study, owing to limited staff resources and budget.

3.2 Virtual engagement

3.2.1 Study webpage

WSDOT created a study webpage to provide information and updates on the studies' progress. Supporting data and the completed study will also be housed on the webpage.

Contact information for the corridor studies manager and Region Traffic Engineer were also provided on the webpage.

3.2.2 Online open house

A key component of the community engagement was the development of an Online Open House in lieu of live, in-person study open house.

The open house presented information establishing the study purpose and existing conditions (traffic volumes, safety information, facility geometry, etc.) before WSDOT solicited public comment and concerns about both phases of the study. The multi-page open house allowed participants to scroll a variety of topics including maps, summaries of existing corridor conditions, and 5-year crash data on SR 202 before they were provided a link to the (joint) study web-survey.

There were 765 unique visits to the SR 202 corridor studies online open house during the open house, which was live for the first three weeks of December 2020. Additional information on the SR 202 Corridor Studies online open house can be found in Appendix #2.

3.2.3 Online survey

An online survey was developed to identify community priorities. The survey consisted of 20 questions seeking information about needs, issues, and user concerns for the two SR 202 Corridor Study segments rural and urban (Fall City).

The online survey was open during the first three weeks of December 2020. There were 724 individual completed survey responses during the three-week period. Most of the respondents identified key issues on SR 202 within Fall City related to parking, safety, pedestrian connectivity/safety, and the Preston/Fall City Road Southeast intersection in Fall City. The survey takers also submitted 306 individual comments. The majority of the individual comments related to the key issues and many also expressed concerns about the Preston/Fall City Road Southeast intersection. A detailed summary of the SR 202 Corridor Studies survey results is provided in Appendix #2.

3.2.4 Fall City Community Association meetings

The Fall City Community Association was identified early on as a stakeholder because the section of SR 202 that operates within Fall City, from the intersection of 324th Avenue SE to the intersection of SR 202 with SR 203/Tolt Hill Road, serves as a main street for the community.

Fall City, with a population of approximately 5,000, is a Census-designated place and does not have a formal city government. However, it does have an active community organization in the form of the Fall City Community Association (FCCA). The group holds online meetings the first Tuesday evening of the month. WSDOT study staff participated in four FCCA meetings to provide study updates (Dec. 1, 2020; Feb. 2, 2021; March 2, 2021; and Jan. 4, 2022). Copies of these FCCA community meeting briefings are provided in the Appendix #2.

Members of the Fall City Community Association and Fall City Metropolitan Parks District approached WSDOT late in the study process to suggest the consideration of a roundabout concept at the SR 202 / 334th Avenue Southeast/Southeast 42nd Place intersection. WSDOT is supportive of a roundabout on the west end of SR 202 in Fall City, although this will require

further analysis and study. Additional coordination and study with the King County Roads Division will be required to determine the feasibility of a roundabout at this intersection.

3.3 Tribal coordination

Tribal coordination is a key component of engagement at WSDOT. For the SR 202 Corridor Studies, WSDOT staff reached out to five area tribes with an offer to participate in the SR 202 Corridor Studies. These five tribes were: Muckleshoot Indian Tribe; Snoqualmie Indian Tribe; Stillaguamish Tribe of Indians, The Tulalip Tribes and Yakama Nation. None of them responded to the WSDOT invitation letters.

Copies of these invitation letters are included in Appendix B.

3.4 Stakeholder engagement

Early in the study scoping process, the WSDOT sought out key community members and potential study partners who might have an interest in these studies and/or could be affected by issues/needs identified in these studies, The following were identified and contacted to participate in either the formal stakeholder group or to provide consultation or feedback:

- King County Department of Local Services
- King County Metro
- King County Roads
- Fall City Community Association
- Muckleshoot Indian Tribe
- Snoqualmie Indian Tribe
- Stillaguamish Tribe of Indians
- The Tulalip Tribes
- Yakama Nation
- Washington State Patrol
- Area emergency medical service providers (Fall City Fire District Number 27)
- Fall City community organizations
- Business owners
- Area chambers of commerce
- Bicycle and pedestrian groups
- Snoqualmie Valley School District
- Fall City Metropolitan Park District

4.0 Technical analysis and recommended improvement concepts

4.1 244th Avenue Northeast to 324th Avenue Southeast (Rural)

SR 202 between 244th Avenue Northeast and 324th Avenue Southeast is a rural, two-lane, high-speed (55 mph posted) state highway. The focus of this SR 202 study was safety performance at the key intersections that experienced crashes in the last five year: Ames Lake Road Northeast, Tolt Hill Road, Southeast 8th Street, 264th Avenue Southeast, 308th Avenue Southeast, and 324th Avenue Southeast in Fall City.

Figure 4.1.1 – SR 202 intersections at Ames Lake Road & Tolt Hill Road (mp 13.83 & 15.50-60.)

4.1.1 Safety strategies and concept development

Upon the completion of the needs assessment for the Rural Segment, WSDOT proceeded to identify and consider potential improvement concepts that could address identified safety, operational, and multimodal performance gaps. WSDOT is guided by the strategies and recommendations in Target Zero, the state's Strategic Highway Safety Plan. Target Zero's goal is to reduce the number of deaths and serious injuries on Washington's roadways to zero by year 2030.

Almost half of all fatal or serious injury intersection-related crashes in the study area involve an angle crash. This type of crash involves a vehicle being struck in a T-bone style crash, while either turning left in front of oncoming traffic (one-third of fatal or serious injury angle crashes)

or by entering SR 202 from a side street and pulling out in front of oncoming traffic (two-thirds of angle crashes).

One effective countermeasure identified in the Target Zero strategies is a roundabout. During the performance evaluation step, several intersections were identified as potential candidates for roundabouts in lieu of the current intersection configuration. Beyond being a proven countermeasure for reducing intersection-related fatal and serious injury crashes overall, roundabouts are especially effective at reducing angle crashes. They create a low-speed environment and channel vehicles, which almost entirely eliminates angle crashes as drivers cannot "run" a roundabout like they do a red light or a stop sign. In addition, there are no left-turn movements at a roundabout. There are already more than 400 roundabouts at intersections throughout Washington.

Another intersection safety countermeasure identified in Target Zero is to improve intersection visibility which was clearly identified as a need for several of the major intersections. Improved intersection visibility starts with roadway lighting and markings. However, many of the nighttime intersection crashes occur at lighted intersections. Additional visibility amendments and driver recognition of vehicles moving through an intersection is also needed, especially to help combat distracted driving. These include upgraded signing, targeted lighting, and delineation such as reflective markings on signals and on signposts.

WSDOT reviewed the crash history of intersections between Northeast 244th Street and 324th Avenue Southeast in Fall City and applied these Target Zero strategies to key intersections. There were several key intersections on SR 202 west of Fall City, including Southeast 8th Street, Southeast 40th Street and 324th Avenue Southeast that were not considered for full roundabout treatment because they lack a documented crash history. However, these intersections should be further analyzed with updated crash data to determine if a roundabout treatment would be the appropriate future improvement strategy.

4.1.2 Corridor assessment

WSDOT assessed multimodal, safety and environmental performance between 244th Avenue Northeast and 324th Avenue Southeast based on scoping and partner engagement. The key intersections Northeast Ames Lake Road (milepost 13.83) and Northeast Tolt Hill Road (milepost 15.50 – 15.60), both of which have a history of crashes in the five-year safety analysis. The

entire corridor was evaluated for safety performance gaps which highlighted the additional intersections noted in the following.

Northeast Ames Lake Road Intersection (Milepost 13.83)

Figure 4.1.2 – Northeast Ames Lake Road Intersection overview

The intersection of SR 202 at Northeast Ames Lake Road is a T-intersection within the 55 MPH speed zone. The eastbound direction of SR 202 has a left turn lane for drivers turning onto Northeast Ames Lake Road. There is east-west commuting traffic between Fall City and Redmond during the peak periods. Turning traffic to and from Northeast Ames Lake Road can experience delays waiting for gaps during the peak commute hours.

In the five-year crash history from 2015 to 2019 there were 11 total crashes recorded at this intersection. Two crashes in the vicinity of the intersection resulted in fatalities, but neither was related to intersection turning movement. Six of the collisions were recorded angle crashes, four

of which resulted in injuries. In There were also two rear-end, one animal-related, one “T-bone” and one same direction-miscellaneous crash.

A single-lane roundabout was identified as the recommended improvement strategy at this intersection for both the safety performance benefits and to maintain operational capacity for the SR 202 mainline. Any bicycle and pedestrian facilities required to meet Washington state legislation in RCW 47.24 requiring “complete streets” features will be identified during the Complete Streets project design process.

Northeast Tolt Hill Road Intersection (Milepost 15.50-15.60)

Figure 4.1.3 – Northeast Tolt Hill Road intersection overview

The intersection of SR 202 with Northeast Tolt Hill Road is within the 55 MPH speed zone and has two connections with separate legs as it terminates at SR 202. The unique configuration is due to a hill and elevated terrain profiles on the north side of SR 202.

The eastern connection handles traffic heading to and from the east and has recorded five crashes involving southbound Northeast Tolt Hill Road traffic making a left turn versus westbound SR 202 traffic continuing straight.

The western connection handles the majority of the traffic heading to and from the west. No dedicated turn lanes are present, so eastbound traffic turning left must stop in lane to yield to westbound traffic. The absence of a turn lane results in some delay during peak conditions. There were two recorded rear-end crashes involving eastbound traffic at the western connection. Field observations noted numerous skid marks in the eastbound lane approaching the western connection as well. There have been eight recorded rear-end crashes on southbound Northeast Tolt Hill Road at or approaching the connection with westbound SR 202.

In total, there were 26 crashes in the Northeast Tolt Hill Road intersection vicinity. Eleven were rear-end, seven angle, and two "T-bone" crashes, accounting for 20 of the 26 crashes. Also recorded were four fixed object, one pedal cycle, and one same direction-miscellaneous crash. There have been 12 recorded injury crashes, but no fatal crashes in the five-year crash history, 2015 to 2019.

Similar to the Northeast Ames Lake Road intersection, a single-lane roundabout was identified as the recommended strategy for the safety performance benefits and for maintaining operational capacity for mainline SR 202.

Any bicycle and pedestrian facilities required to meet Washington state legislation in RCW 47.24 requiring "complete streets" features will be identified during the Complete Streets project design process.

To enhance the intersection in the near-term, a centerline striping treatment and additional signing will be implemented. The treatment will also augment driver awareness approaching the intersection.

264th Avenue Northeast (Milepost 14.45)

The intersection of 264th Avenue Northeast is a high-angle, skewed-intersection connection to SR 202 within the rural 55 MPH zone. The intersection serves a handful of residences, and the safety analysis did not yield a crash history; however, the current configuration warrants further investigation to address community concerns

Southeast 8th Street (Milepost 17.21)

Southeast 8th Street is a T-intersection within the rural 55 MPH zone that is stop controlled and serves residential, school bus and recreational vehicle traffic. The intersection has nine recorded crashes, including five injury crashes. The crashes consist of four rear-end, two fixed object, one angle crash, one same-direction miscellaneous, and one sideswipe.

To enhance the intersection in the near-term, a centerline striping treatment and additional signing will be implemented. The treatment will augment driver awareness approaching the intersection. WSDOT will continue to monitor this intersection after the treatment is applied.

Southeast 31st Street (Milepost 19.06)

The intersection of Southeast 31st Street with SR 202 is a skewed T-intersection connection with stop control on Southeast 31st Street. The intersection serves a handful of residences and is an alternate connector to 308th Avenue Southeast. The current skewed configuration warrants further investigation to address identified community concerns.

308th Avenue Southeast (Milepost 19.45)

The 308th Avenue Southeast intersection is a four-leg intersection within the rural 55 MPH zone. The north and south legs of this intersection are stop controlled. The northwest quadrant hosts baseball fields and parking along the north side of SR 202 that is separated from traffic by shoulder and concrete curbing. WSDOT installed Flashing Beacon Warning signs at this intersection in early 2021 to improve intersection safety.

There have been 10 recorded crashes at the intersection, five of which resulted in an injury. There were three angle, three fixed object, two same direction-miscellaneous, one opposite direction, and one rear-end crash.

To enhance the safe operation of this intersection in the near-term, a centerline striping treatment and additional signing will be implemented. The treatment will augment driver awareness approaching the intersection. WSDOT will continue to monitor this intersection after the treatment is applied.

4.1.3 Planning-level cost estimates

WSDOT developed planning-level cost estimates for the recommendations. This is a preliminary estimate of costs based on minimal or no design; a summary level of quantities and materials and minimal environmental retrofit or repair needed for each given strategy/concept.

Summarized below are the planning-level cost-estimates for proposed improvements on SR 202 west of Fall City in unincorporated King County:

- NE Ames Lake Road: $7.3 million.
- NE Tolt Hill Rd: $9.7 million.
- Centerline treatment with signing and striping will be implemented as lower-cost treatments.

Specific details regarding the planning-level cost-estimates can be found in Appendix One of this final report.

4.2 Fall City

SR 202 enters Fall City from the west as the speed limit transitions from 55 MPH to 45 MPH just west of Southeast 40th Street. Community feedback indicated concerns about the intersection of 324th Avenue SE which is located within the 45 MPH transition zone. This intersection is adjacent to current residential development activity. Chief Kanim Middle School is also situated within the area. WSDOT's assessments indicated a need to better facilitate turning movements to and from the school and to reduce the school zone speed limit to 30 MPH at the beginning and end of the school day.

Just west of 332nd Avenue Southeast, the speed limit changes to 30 MPH as the character of the roadway changes to a more residential area with homes and businesses. Fall City Elementary School is near to the 334th Avenue SE and 42nd Place SE intersections and this intersection is currently configured with two separate approach legs that provide a 'wye'-connection to SR 202.

Reducing crash potential was the focus in the business district, as WSDOT assessed pedestrian crossing/connectivity, safe vehicle operations, parking issues, and the role of SR 202 as the "main street." The Snoqualmie River, and parks on the north side of SR 202 are attractions for summertime visitors and river recreators and were highlighted by the community as areas that need to be assessed.

Figure 4.2.1 – Overview of SR 202 in Fall City

Another specific location of concern within Fall City is the intersection of SR 202 and Preston-Fall City Road Southeast immediately south of the SR 202 crossing of the Snoqualmie River. It is currently a 'T' intersection, with Preston-Fall City Road terminating at the intersection. WSDOT heard the public believes this intersection has a number of operational and design challenges and highlighted it as a key area of concern.

Figure 4.2.2. SR 202 – Preston-Fall City Road I/S in Fall City

In 2016, WSDOT developed a preliminary design for a full roundabout at this intersection to compliment the roundabout at SR 203 on the north side of the Snoqualmie River. However, this area is constrained by businesses on the east and west side making a roundabout infeasible due to extensive cost and right of way impacts. Numerous public comments from the community survey highlighted concerns about the present function and operation of this intersection and there were several responses in support of a roundabout here. As described in section 4.2.4, a compact roundabout was identified as the most promising improvement concept to address the needs at Preston – Fall City Road.

4.2.1 Western Segment of Fall City between 324th Avenue SE and 332nd Place SE

One of the future landmark features in this segment is the planning for the West Side Trail. The planning work for the West Side Trail began well over 20 years with an established

advisory group identified concerns related to safe pedestrian and bicycle access along the increasingly congested SR 202.

This community-led effort evolved to the point where the Fall City Metropolitan Park District (FCMPD) is now proposing the development of a separated shared-use path along the south side of SR 202 in Fall City. The shared-use path would start at the southwest quadrant of the 42nd Street Southeast/334th Avenue SE intersection and would continue west along the south side of SR 202 for approximately one mile to 324th Avenue Southeast/Southeast River Road.

The shared-use path and associated intersection improvements will reduce the level of traffic stress and will increase community connectivity, mobility, and accessibility. Separated pedestrian and bicycle access in the SR 202 corridor will link neighborhoods with important community destinations such as schools, parks, the library, shopping and restaurants in Fall City, and other places. Further information on the West Side Trail project can be found on the project website.

The following graphic, from the West Side Trail Improvement Project Final Report, shows the scope and geographic limits of the West Side Trail in Fall City.

Figure 4.2.3. Westside Trail in Fall City (https://www.fallcityparks.org/west-side-trail.html)

At the west end of the segment, WSDOT is continuing to investigate additional intersection strategies for the 324th Avenue Southeast intersection. The community is anticipating an increase in active transportation as a result of the improvements, and the addition of several new housing developments nearby.

Since 324th Avenue Southeast serves as a gateway to Fall City and is near to Chief Kanim Middle School, WSDOT will lead future investigations into strategies to evolve the driving environment by assisting with driver movement to and from the school, encourage lower operating speeds and support future trail users.

4.2.2 332nd Place SE to Preston-Fall City Road and the Fall City Business District

The SR 202 corridor transitions to a main street in the vicinity of 334th Place Southeast and Southeast 42nd Place. The vicinity features business driveways along the north side of the highway and hosts the Fall City Elementary School and Fall City Library along the south side. Continuing east on SR 202, the north side transitions to parks and landscape features along the Snoqualmie River waterfront. The south side has businesses, restaurants, and markets with front-in angle parking for visitors and patrons.

The segment of SR 202 within downtown Fall City has additional considerations such as angled parking, intensive community and commercial land-use, and greater frequency of access points to SR 202. Due to the extra intricacies of this segment, additional concepts were developed and evaluated. A screening process with input from stakeholders was utilized to identify a preferred alternative for this segment.

WSDOT conducted an initial brainstorming effort among project staff whereby various concepts were identified, considered, and applied to these key categories (safety/operations/multimodal/active transportation access/environmental) for mid-term implementation in the business area.

The concepts considered during the initial evaluation and development process were specifically tied to key study objectives of safety, operations, multimodal access, and environmental. None of the concepts identified during this process were specifically focused on capacity improvements as these are longer term improvement concepts beyond the scope of this study. Recommended concepts proceeded into a two-stage (Level I/II) screening process.

The concepts identified and developed are summarized below in Table 4.2.1.

#	Business Parking	River Parking	# of Parking spots	Lane Width (ft)	Median	Riverfront Sidewalk (ft)	Business front sidewalk	Bike facility
1	Back-in	Parallel	High	10.5	Rolled curb	14-foot shared-use path	7	Shared-use path
2	Angled	N/A	Medium	10.5	N/A	11-foot sidewalk	6	N/A
3	Parallel	Parallel	Low	11	8-foot planter	6-foot sidewalk	6	5-foot bike lane
4	Parallel	Parallel	Low	11	3-foot median	13-foot shared-use path	7	5-foot bike lane
5	Back-in	Parallel	High	10.5	Stripe	10-foot sidewalk	10	N/A
6	Parallel	Parallel	Low	10.5	3-foot median	8-foot sidewalk	8	Protected bike lanes along river
7	Angled	N/A	Low	12	Stripe	8-foot sidewalk	6	N/A
8	Parallel	Parallel	Low	11	Stripe	6-foot sidewalk	7	Buffered bike lanes

Table 4.2.1 – Improvement Concepts analyzed for SR 202 in Fall City

For the section of SR 202 west of the business district, the focus was on lower-cost, near-term strategies related to intersection visibility and speed management. The western gateway of Fall City is a transitional speed zone where the speed limit changes from 55 to 45 to 30 MPH. The Chief Kanim Middle School, a residential neighborhood and a future Westside Trail and housing developments are in the 45 MPH speed segment of SR 202.

4.2.3 Performance screening metrics

WSDOT developed a set of performance metrics for a detailed screening of near and mid-term improvement concepts. As a result of that initial consideration and assessment, a draft set of evaluation criteria was developed and applied as follows:

- Safety (consistency with Target Zero)
- Accessibility (pedestrian connectivity, access to transit)
- Constructability (cost, technical feasibility, etc.)
- Community Support (including preserving community character)

The screening process was structured in two levels, with a level I screening process being a qualitative process where project staff considered near and mid-term potential improvement concepts in terms of how they might address needs and/or deficiencies in qualitative terms, without the benefit of any detailed performance analysis or data.

A level II screening process was subsequently developed and applied to the remaining improvement concepts to be screened in a more detailed and quantitative manner. As part of this level II screening process, evaluation and performance screening criteria were developed for the key (above) categories and a basic scoring range (1-5) was established for each performance metric. Where available, data was collected and applied for each improvement concept. In some cases, qualitative judgement was applied in absence of available data.

4.2.4 Intersection-Level Assessment

324th Avenue Southeast

Figure 4.2.4 – SR 202 Intersection with 324th Avenue Southeast

The intersection of 324th Avenue Southeast is within the 45 MPH speed transition zone from rural King County into Fall City. The north and south legs of this intersection are stop controlled. The study survey and stakeholder engagement highlighted this intersection as a regular route for cyclists across SR 202. In addition, residential development is ongoing south of the intersection. The intersection serves as the western terminus of the West Side Trail.

Two non-injury crashes were reported at the intersection: one involving an animal and one a rear-end collision. The intersection warrants additional investigation due to the active transportation use and the gateway characteristic of the intersection.

334th Place SE and SE 42nd Place

Figure 4.2.5 – SR 202 Intersection with 334th Place Southeast/Southeast 42nd Street in Fall City

The intersection of 334th Place Southeast and Southeast 42nd Street consists of two separate Y-connections with 334th Place Southeast connecting to the north and Southeast 42nd Street connecting to the south. Both are within a 30-mph speed zone, between these two approach streets is a landscaped area with a totem pole. There was one recorded angle crash in the vicinity of the two intersections; however, it was related to traffic exiting the driveway on the north side of SR 202.

334th Place Southeast connects to SR 202 at a low angle; in other words, eastbound SR 202 traffic turning to 334th Place Southeast can maintain a higher speed compared to a more traditional right-angle intersection. The Metropolitan Park District's future West Side Trail project will be a separated shared path constructed parallel to SR 202. This community-

supported trail will facilitate the movement of active transportation users, bringing more pedestrians and bikes to the library and other attractions around these intersections. The angle of the 334th Place Southeast and the complexity of the intersection adjacent to the library increase the level of stress for active transportation users.

To manage speed and reduce the level of traffic stress for active transportations users, reconfiguration into a single T-intersection is recommended. A right-angle connection with SR 202 will reduce the speed of turning traffic and simplify the pedestrian crossing between the future trail and the library.

334th Place Southeast and Southeast 42nd Place are King County streets and a primary access to Fall City Elementary School. As the concept moves forward, the recommended strategy will need to be closely coordinated with both partners.

Late in the study process, a roundabout concept was proposed by community members at 334th Place Southeast and SE 42nd Street. A roundabout could serve as a western compliment to the recommended roundabout at the Preston-Fall City Road intersection and facilitate westbound U-turns to eastbound parking in the downtown core. This concept can and should be explored further outside of this study. Coordination and consultation with the King Roads Division will also be required as part of this process.

Preston-Fall City Road

Figure 4.2.6 - SR 202 Intersection with Preston-Fall City Road in Fall City

Preston-Fall City Road is a T-intersection within a 30 MPH speed zone. This intersection is the focal point within Fall City, experiencing traffic demand between Redmond, Carnation, Snoqualmie, Fall City, and I-90/Preston. As a result, peak periods can experience heavy congestion with delays to traffic on Preston-Fall City Road, which is controlled with a stop sign. Weekends during the summer can also experience heavy traffic conditions with the tourists coming to the area to access the Snoqualmie River and downtown businesses.

There have been 16 recorded crashes at the Preston-Fall City Road intersection, of which five were injury-related crashes. The predominant crash types involved turning vehicles with six angle crashes and three “T-bone” crashes. In addition, there were three fixed object, one rear-end, one parking related, one pedestrian, and one sideswipe crash.

A compact roundabout was identified as the recommended strategy for Preston-Fall City Rd. It would serve as a compliment to the existing roundabout at the intersection of SR 202 and SR 203. A roundabout will also reduce queues and delay on Preston-Fall City Rd. Roundabouts are a strategy for speed reduction, which is an emphasis for the multimodal environment and active transportation use at this intersection. The roundabout also enables the introduction of marked pedestrian crossings at the intersection, which will facilitate the movement of pedestrians between recreational and downtown attractions. The specific bicycle and pedestrian facilities required to meet Washington state legislation in RCW 47.24 requiring "complete streets" features will be identified during the Complete Streets project design process.

4.2.5 Planning-level cost estimates

A key action in finalizing the improvement concepts was to develop planning-level cost estimates for these projects. Development of these planning-level cost-estimates was an iterative process. The planning level cost estimates were developed using WSDOT's Planning-Level-Cost Estimation Tool (PLCE) and represent a preliminary estimate of costs based on minimal or no design and a summary level of quantities, materials, and minimal environmental retrofit or repair needed for a given strategy/concept. The cost estimates for the Fall City improvement strategies are as follows:

- Roundabout at Preston-Fall City Road and central Fall City improvements (separated Pedestrian/Bike lane on the north side, parking/striping/geometry improvements, etc.): $10.4M.
- 324th Avenue Southeast intersection: signing and striping will be implemented as lower-cost treatments.

4.2.6 Final concept screening

After developing planning-level cost estimates for the improvement concepts in Fall City, the strategies went through a final screening to confirm consistency with key study objectives (safety, non-motorized access, multimodal connectivity, and relative environmental impact).

A basic one-through-five scoring rubric was developed to quantitatively assess each improvement concept based upon these key screening criteria, where a score of "one" would be a "negative" (makes the condition/need worse), two would be "poor," three "neutral," four

equates to some (positive) improvements, and a score of five would greatly improve and achieve criteria objectives.

Other factors that were considered in the concept screening for downtown concepts included the following:

- Parking.
- Bike facilities.
- Pedestrian facilities.

The final concept-screening concluded with a shared-use path along the river for both pedestrians and cyclists, while maintaining the maximum number of parking spaces with parallel parking on the river side and back-in angle parking adjacent to the businesses.

Figure 4.2.7 below shows the recommended concepts for the SR 202 corridor in Fall City and to the west of Fall City.

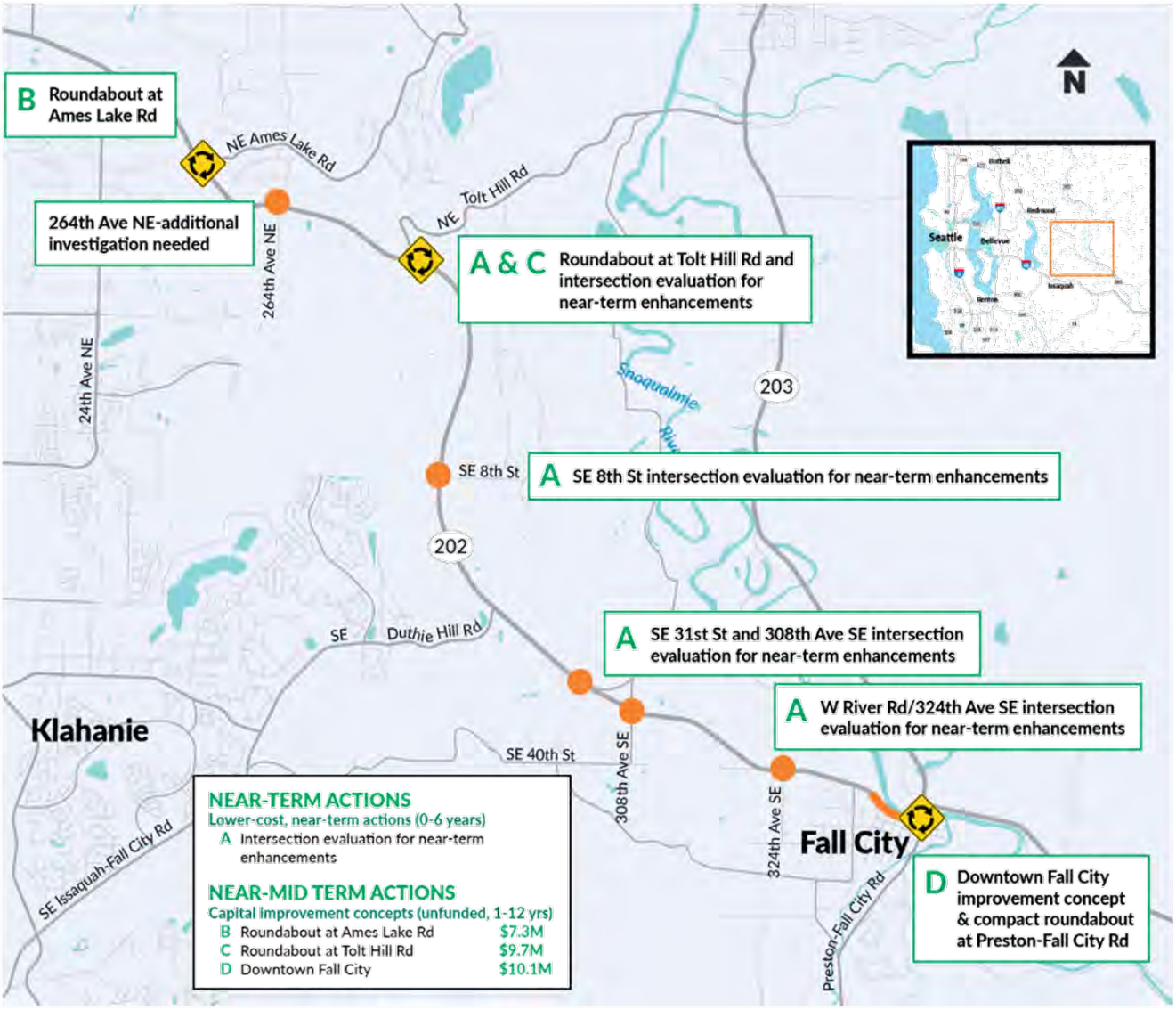


Figure 4.2.7 – SR 202 Recommended Improvement Concepts in Fall City and west of Fall City

5.0 Recommendations and implementation

5.1 Concept packages

The recommended concepts reflect the limited and targeted focus of this study, namely consideration and evaluation of near and mid-term (0-12 years) recommendations. As noted below, none of the recommended improvement concepts have any funding secured for implementation.

Also, as the cost estimates for the recommended concepts are at a 'planning-level' of analysis (no design) and are in current-year (2020) dollars, the cost-estimates will need to be revised and updated as these recommended concepts proceed into design and project implementation. It is quite likely that some, if not all of these cost estimates could increase during further project design and implementation.

5.2 Implementation costs and timeframe

WSDOT will consider strategies identified when making determinations on capital improvements within its project development processes. WSDOT may also be directed to fund strategies or portions of strategies in this plan by the Washington State Legislature. As funding becomes available to further develop the strategies, WSDOT will initiate formal environmental review.

WSDOT has maintained the majority of this section of SR 202 in fair or better condition; and the study recommendations assume that WSDOT and its partners will continue to maintain and preserve the transportation system in a state of good repair so that roadway operations and capacity will be maintained.

Although phasing of the recommended improvement concepts was not identified as part of these improvement concepts, subsequent implementation might consider phasing of options, given the cost and complexity of the various recommended improvements. For example, the re-configuration of the intersection of SR 202 with SE 42nd Street and Southeast 334th Place will require ongoing coordination with King County (Library/Metro Transit Stop/Fire District #27) and the Snoqualmie Valley School District (Fall City Elementary School), and the cost and design of this concept will likely entail further revisions.

The central Fall City improvement on SR 202 (Preston-Fall City Road intersection compact roundabout and the north side pedestrian and bicycle lane) will also involve ongoing community and partner coordination, and the design and cost estimate will evolve as this coordination proceeds into implementation. Phasing of this concept into several components will likely be necessary to match available funding and agency/staff capacity to oversee and insure implementation.

5.3 Responsibilities and next steps

WSDOT will work with local stakeholders to incorporate study findings and recommendations into local/regional plans where appropriate. The next update to local and regional plans presents an opportunity to incorporate this study's recommendations.

Additional funding is needed for design and construction of the recommended strategies, and those funding opportunities will need to be pursued in 2022 and in years beyond. The near-term, immediate funding needs are to complete design for key study strategies such as the compact roundabout improvement at the Preston – Fall City Road intersection in Fall City, the separated pedestrian-bike lane on the north side of SR 202 in Fall City, and the Southeast 42nd Street/334th Place intersection improvements in Fall City. The recommendations for roundabouts at Northeast Ames Lake Road and the Northeast Tolt Hill Road are also important priorities going forward and could be considered in WSDOT's priority programming, However it is important to note the proposed roundabouts at these two intersections, as well as the proposed compact roundabout at Preston-Fall City Road in Fall City will require the completion of an Intersection Control Evaluation (ICE) study during project design. Likewise, a future roundabout at the South 334th / Southeast 42nd Place intersection with SR 202 will also need to conduct an ICE analysis during the project design phase.

An ICE analysis is recommended Federal Highway Administration (FHWA) guidance when major changes to intersection design or operation are proposed and are addressed in WSDOT policy guidance and direction in our Design Manual.

Grant funding for design, project development and construction will likely be a multi-year process. There are several potential regional, state, and federal funding sources that should be considered when considering implementation of the recommended concepts from this study.

Transportation Systems Management and Operations (TSMO)

WSDOT and local stakeholders should continue to consider and pursue appropriate near-term Transportation System Management and Operations (TSMO) strategies to address immediate performance gaps and safety needs at key intersections in the SR 202 study area. These TSMO strategies should focus on striping, channelization, additional illumination, other TSMO components as appropriate. The effort to seek funding the roundabout concepts at Northeast Ames Lake Road and Northeast Tolt Hill Road will be a multi-year process. Therefore, in the

interim, appropriate immediate TSMO strategies, if applicable, should be considered for these intersections.

TSMO strategies such as striping, channelization improvements, and illumination should also be considered and pursued as appropriate for the intersections of SR 202 and 264th Avenue Southeast, SR 202 and Southeast 8th Street, and SR 202 at 324th Avenue Southeast/West River Road.

Grant funding opportunities to be considered for concept recommendations from this study are as follows:

Puget Sound Regional Council

The Puget Sound Regional Council (PSRC) as the Metropolitan Planning Organization (MPO) and Regional Transportation Planning Organization (RTPO) for the four-county central Puget Sound Region is responsible for distributing federal funds through several different grant funding programs. The PSRC has multiple funding cycles for different programs, including the federal FHWA and FTA programs.

- The Transportation Alternatives Program (TAP).
- The Rural Town Centers and Corridors (RTCC) program.
- The Special Needs Transportation program.

These grant programs operate on different two-year cycles. Several of these grant programs have concluded their 2022 call-for-projects, but these grant programs could be potential candidates for future SR 202 corridor project applications. The next opportunity to seek further PSRC funding for SR 202 corridor strategies recommended in this report will be Spring 2024.

Washington State Department of Transportation

WSDOT, though its Active Transportation Division (ATD), manages the distribution of state funds for two nonmotorized focused programs, the Pedestrian -Bicycle Program (PBP) and the Safe Routes-School (SRTS) program. These programs are focused on improving pedestrian and bicycle safety on transportation facilities and making biking and walking to school safer and more appealing. These two programs currently have calls out to develop a list of eligible projects for legislative consideration and funding in the 2023-2025 biennium. As applications are due for

these two programs in June of 2022, it will not be possible to seek and obtain funding in the current cycle of these two programs this biennium.

Federal funding

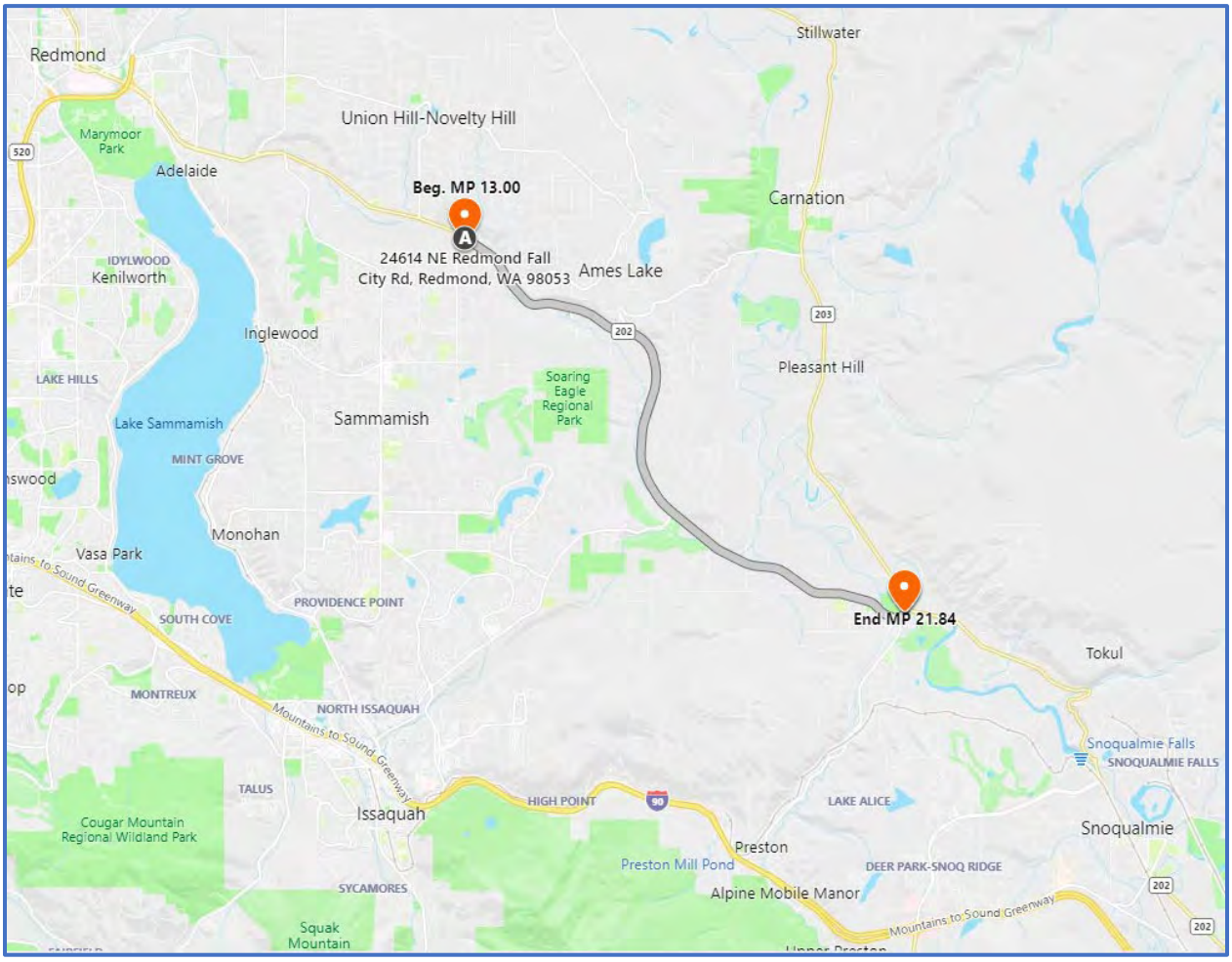
Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant: RAISE is a discretionary grant program that provides funding for projects with significant local or regional impacts. Both planning projects and capital projects are eligible for funding. Per the most recent Notice of Funding Opportunity (2022), USDOT prioritizes projects that reduce greenhouse gas emissions, address environmental justice, proactively address racial equity and barriers to opportunity, and supports the creation of good-paying job. RAISE projects require a 20 percent non-federal match unless the project is located in a rural area, or an area identified by USDOT as an Area of Persistent Poverty or Historically Disadvantaged Community. USDOT solicits applications annually, with the application deadline typically in April and awards typically announced in August.

Appendix A:

SR 202 Corridor Safety Evaluation, Design Evaluation Summary (Street-Mix), and Concepts Cost-Estimates

SR 202 Corridor Study

From 244th Ave NE Intersection to SR 203 Roundabout |MP 13.00 – 21.84



September 2020

WSDOT NWR – Traffic Safety Management

Table of Contents

List of Tables

List of Figures

Background

SR 202 is a rural high-speed roadway that travels East – West in King County. SR 202 between 244th Ave NE and SR 203 has been identified for a high level assessment of multimodal, access, safety and environmental needs.

Between 244th Ave NE and 324th Ave SE, intersections along the corridor such as Ames Lake Road and NE Tolt Hill Road have been highlighted with a history of injury crashes. East of the 324th Ave SE intersection has SR 202 passing through Fall City before crossing Snoqualmie River and continuing East. This area is popular with visitors going tubing the river and visiting restaurants and cafes in Fall City. The north side of SR 202 lacks separated pedestrian facilities; a jersey barrier is present on the west side of the bridge heading North over the Snoqualmie River, transitioning to an at-grade pedestrian path indicated by pavement markings.

This study reviews the crashes occurring on SR 202 between 244th Ave NE intersection and SR 203 roundabout (MP 13.00-21.84).

Abbreviations

A list of abbreviations used throughout the report are

AC = entering at angle crash

CC = contributing circumstances

DNG R/W = did not grant right-of-way

EB = eastbound

EI = evident injury/suspected minor injury

FO = fixed object

I/S = intersection

LT = left

MC= motorcycle

MP = milepost

NB = northbound

OD = opposite direction

ODLT = opposite direction 1 LT-1 STR

Ped: pedestrian

PDO = property damage only/no apparent injury

PI = possible injury

RA = roundabout

RE = rear-end crash

TOTR = run-off-the-road

RT = right

SD – misc. = same dir. – misc.

SB = southbound

SI = serious injury/suspected serious injury

SG = sign

UB = utility box

UP = utility pole

WB = westbound

Safety Study (HAL/HAC/CAL/CAC/ISIP/FA) History

Table 1 below shows all locations that have been reviewed as part of our safety program (HSIP) within the study corridor since 01/01/2010 to present.

Table 1. Safety Study History (01/01/2010 – 08/25/2020)

Year	Type	Description	Begin MP	End MP
2010	IAL	Tolt Hill Rd	15.48	15.58
2010	IAL	292nd AVE	18.25	18.25
2012	CAL	NE Ames Lake Rd to 264th Ave SE – R36	13.83	14.45
2012	IAL	Preston-Fall City Rd	21.70	21.70
2014	CAL	1/3 Mi E of Tolt Hill Rd to 1/3 Mi E of SE 8th St (R40)	16.04	17.53
2014	CAL	Preston-Fall City Rd S I/S Vic (R2)	21.71	21.74
2015	ISIP	SR 202/SE 8th St.	17.21	17.21
2015	ISIP	SR202/308th Ave NE	19.45	19.45
2015-2016	FA	SR 202 MP 0.00-14.00	0.00	14.00
2016	IAL	308th Ave SE	19.45	19.48
2016-2017	FA	SR 202 MP 25.00-30.60	25.00	30.60
2017-2018	FA	SR 202 MP 14.00-25.00	14.00	25.00
2018	IAL	Tolt Hill Rd	15.40	15.70

Crash Analysis

From 2015 – 2019, there were 226 total crashes that 38% of them were injury crashes. There were an additional 11 crashes in 2020.

Table 2. SR 202 MP 13.00-21.84 Crash Severities by Year

Crash Severity	Year					Total		2020
	2015	2016	2017	2018	2019	Num.	Percentage	
Fatal				1	2	3	1%	
Suspected Serious Injury	2	1				3	1%	
Suspected Minor Injury	7	4	6	1	3	21	9%	3
Possible Injury	14	10	10	10	15	59	26%	3
No Apparent Injury	26	28	21	30	30	135	60%	5
Unknown		1	2	1	1	5	2%	
Total	**49**	**44**	**39**	**43**	**51**	**226**	**100%**	**11**

Table 3. SR 202 MP 13.00-21.84 Crash Types by Year

Crash Type	Year					Total		2020
	2015	2016	2017	2018	2019	Num.	Percentage	
Animal	3	2	2	2	2	11	5%	
Entering at angle	10	5	6	8	7	36	16%	1
Fixed object	12	17	12	9	21	71	31%	1
Opp Dir 1LT-1STR	7	1	2	2	1	13	6%	3
Opposite direction	2	2	3	3	2	12	5%	
Overturn	1	2		2		5	2%	1
Parking				2	1	3	1%	
Pedalcycle	1	1				2	1%	
Pedestrian	1					1	<1%	
Rear-end	8	10	10	10	16	54	24%	4
Same Dir-Misc	1	1	2	5	1	10	4%	1
Sideswipe	3	3	2			8	4%	
Total	**49**	**44**	**39**	**43**	**51**	**226**	**100%**	**11**

Fatal and serious injury (SI) crash descriptions are as follows:

Fatal Crashes:

1- MP 13.74 (07/16/2019 - Tuesday - @ 04:47) **OD** - V1 was traveling WB in the EB lane and struck traveling EB V2 head-on. This crash occurred on wet surface and in dark- no street lights condition. CC- Other
2- MP 14.02 (06/25/2019 - Tuesday - @ 04:27) **AC** - V1 making Left-Turn (LT) from a driveway to SR 202 WB got struck by traveling EB V2. This crash occurred on dry surface and in dark- no street lights condition. CC- Improper Action
3- MP 17.61 (09/05/2018 - Wednesday - @ 11:39) **OD** - V1 was traveling EB on SR 202 WB crossed over the centerline into the path of V2 that was traveling WB and in opposite direction. V1 collided with V2 despite of the driver of V2's attempt to avoid the collision, then V1 struck the EB guardrail and caught fire. This crash occurred on dry surface and in daylight condition. CC- Other

SI Crashes:

1- MP 15.40 (02/01/2015 - Sunday - @ 12:30) **Bike** - Bicyclist and V1 were driving EB and V1 was behind the bicyclist. As V1 approached the bicyclist, failed to leave appropriate space for the bicyclist and the left mirror of V1 struck the bicyclist. This collision occurred on dry surface and in daylight condition. CC- Inattention
2- MP 19.99 (06/20/2016 - Monday - @ 17:45) **FO** - V1 was traveling WB; the driver swerved into the EB lane, then steered back into the WB lane. While trying to turn back into the correct lane, the driver overcorrected, lost control, crossed back across the EB lane, and collided with the ditch on south shoulder of EB SR 202. This crash occurred on dry surface and in daylight condition. CC- DUI
3- MP 21.71 (08/05/2015 - Wednesday - @ 18:57) **Ped** - V1 traveling NB on Preston-Fall City Rd in Left-Turn Lane (LTL) struck a pedestrian crossing the busy roadway at an unmarked location.

Pedestrian was described as being blind and was using a white cane. The collision occurred on dry surface and in daylight condition. CC- None

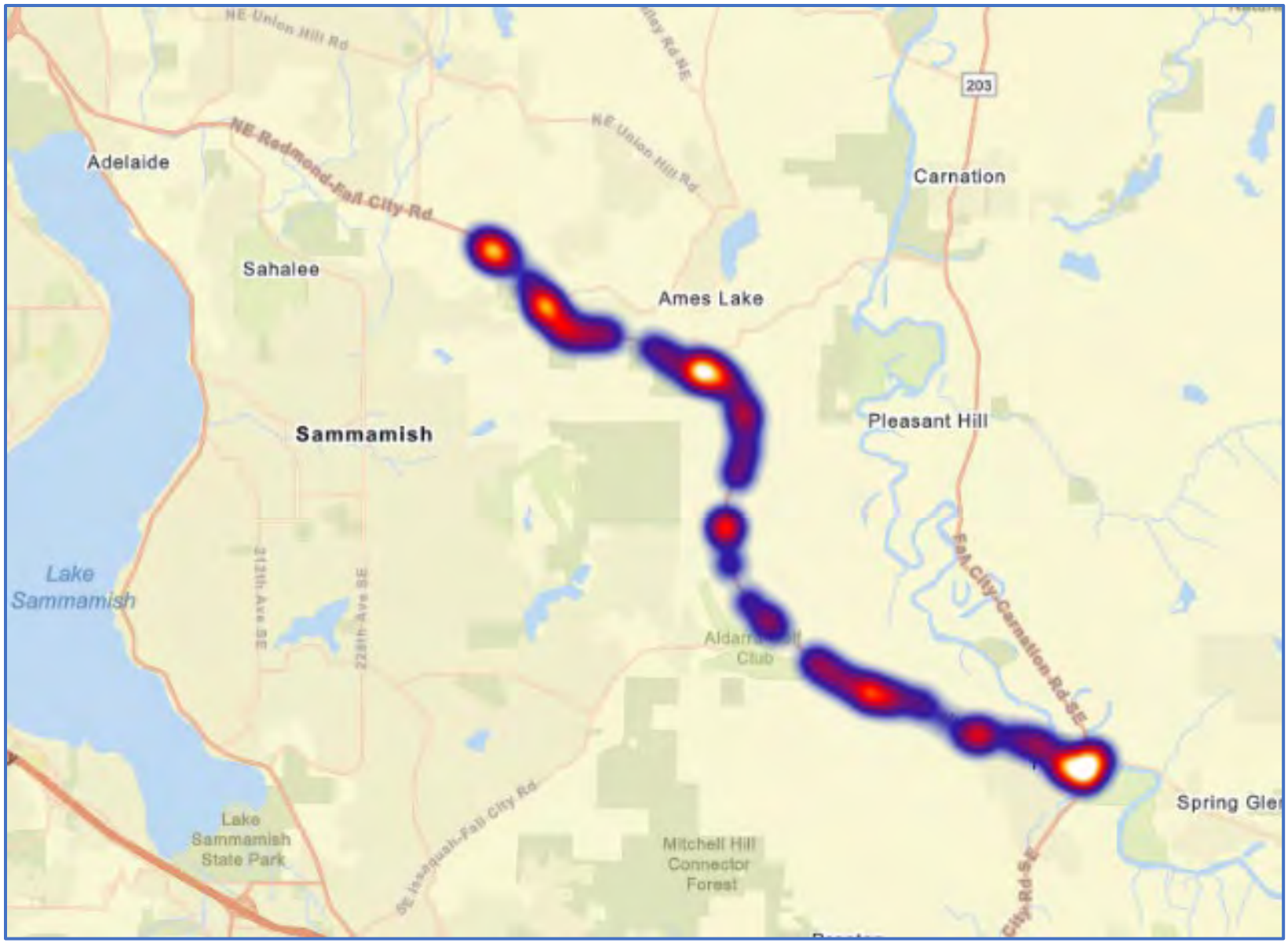


Figure 1. SR 202 MP 13.00-21.84 Crash Heat Map (01/01/2015-12/31/2019)

Run-Off-the-Road (ROTR) Crashes

There were 76 ROTR (including fixed object (FO) and overturn (OT)) crashes on the study corridor from 01/01/2015 to 12/31/2019.

Table 4. SR 202 MP 13.00-21.84 ROTR Crashes by Severity and Year

Crash Severity	Year					Total		2020
	2015	2016	2017	2018	2019	Num.	Percentage	
Suspected Serious Injury		1				1	1%	
Suspected Minor Injury	2	1	2	1	1	7	9%	
Possible Injury	2	1	2	2	2	9	12%	1
No Apparent Injury	9	15	6	7	17	54	71%	1
Unknown		1	2	1	1	5	7%	
Total	**13**	**19**	**12**	**11**	**21**	**76**	**100%**	**2**

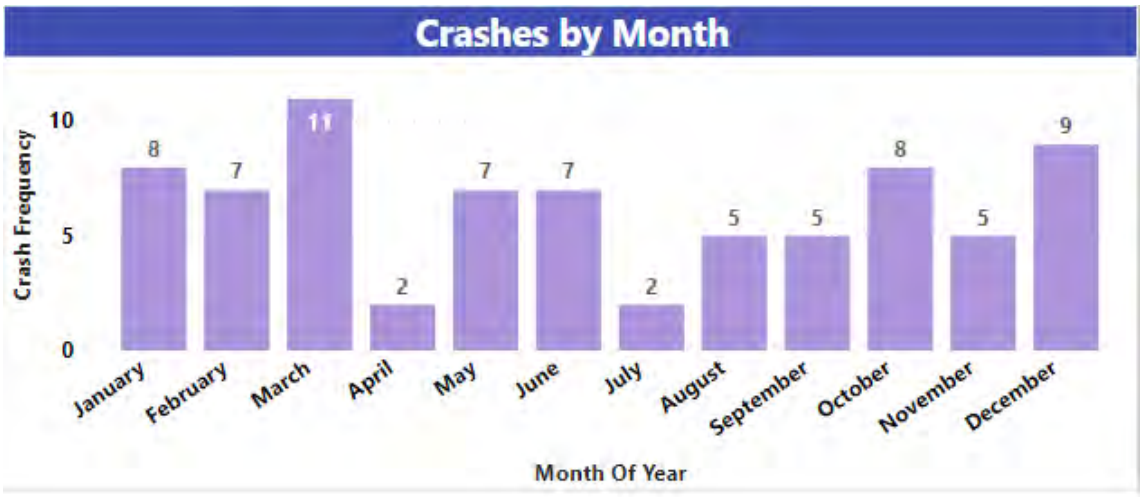


Figure 2. SR 202 MP 13.00-21.84 ROTR Crashes by Month (01/01/2015-12/31/2019)

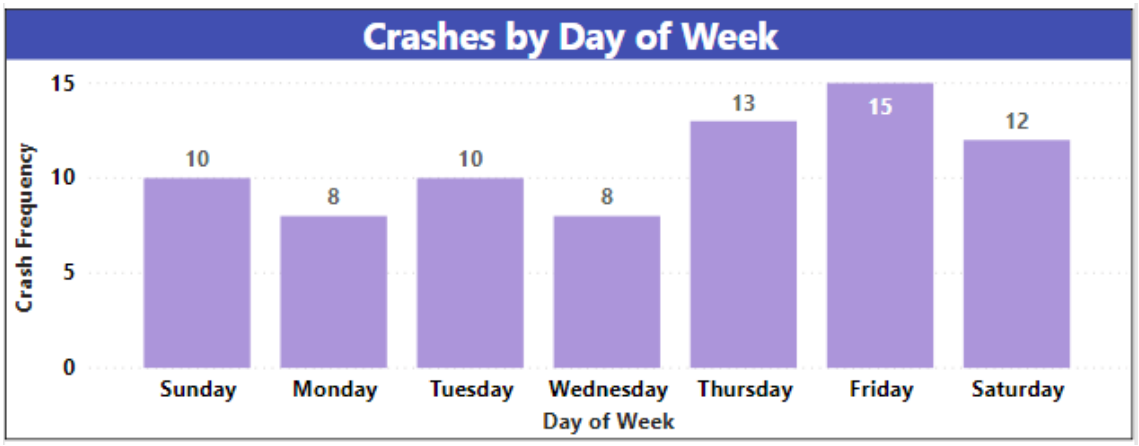


Figure 3. SR 202 MP 13.00-21.84 ROTR Crashes by Day of Week (01/01/2015-12/31/2019)

Other ROTR crash characteristics are as follows:

- 41 (54%) in either dark, dawn, or dusk
- 29 (38%) on either wet or icy surface
- 17 (22%) were intersection related crashes
- Contributing cause (CC): 14 ea. DUI and inattention, 13 speed, 6 driver distraction, 4 sleep/fatigue, 2 defective equip., and 1 ea. improper action & illness/meds
- 6 (8%) entering the mainline (SR 202) from the side streets
- 29 (38%) b/w 2 PM and 7 PM

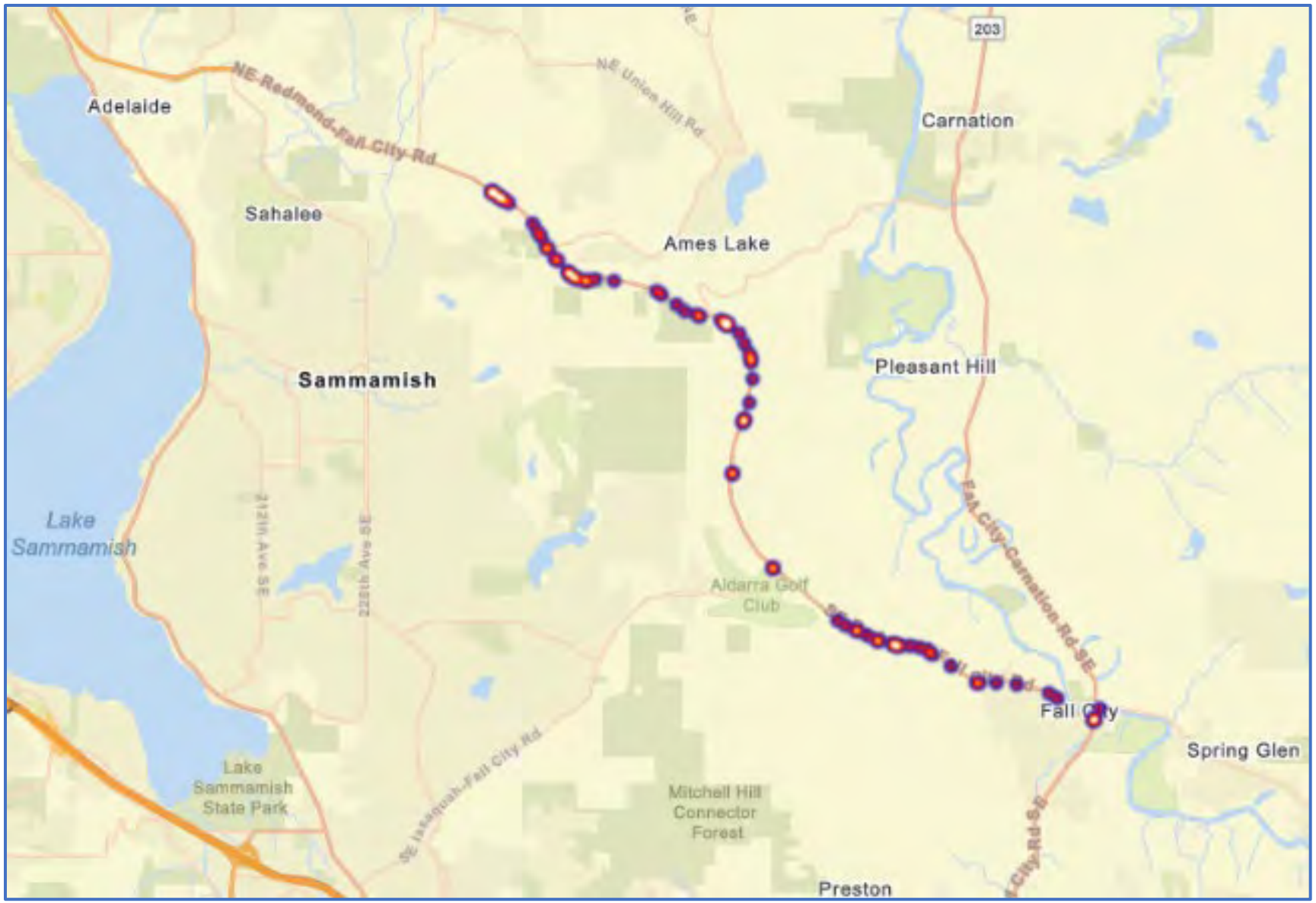


Figure 4. SR 202 MP 13.00-21.84 ROTR Crashes Heat Map (01/01/2015-12/31/2019)

Opposite Direction (OD) Crashes

During last five years, from 01/01/2015 to 12/31/2019, 12 OD crashes occurred on SR 202 within the study corridor.

Table 5. SR 202 MP 13.00-21.84 OD Crashes by Severity and Year

Crash Severity	Year					Total	
	2015	2016	2017	2018	2019	Num.	Percentage
Fatal				1	1	2	17%
Possible Injury		1	1	2	1	5	42%
No Apparent Injury	2	1	2			5	42%
Total	**2**	**2**	**3**	**3**	**2**	**12**	**100%**

Figure 5. SR 202 MP 13.00-21.84 OD Crashes by Month (01/01/2015-12/31/2019)

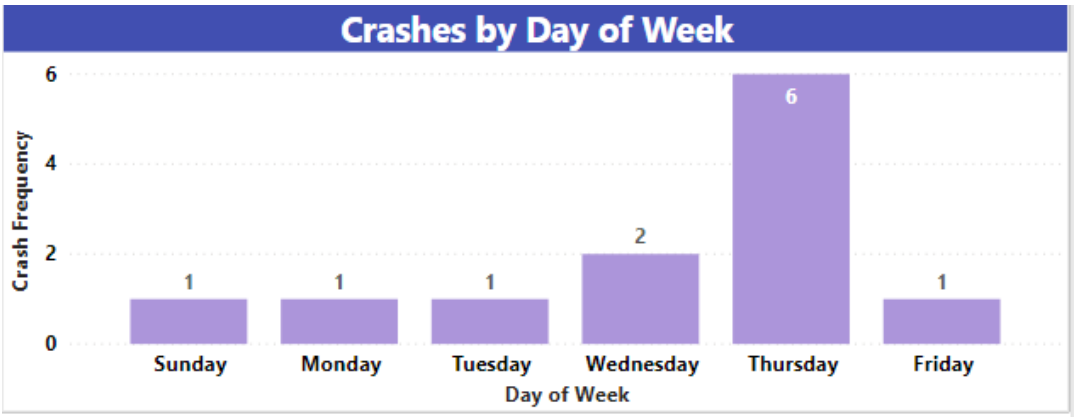


Figure 6. SR 202 MP 13.00-21.84 OD Crashes by Day of Week (01/01/2015-12/31/2019)

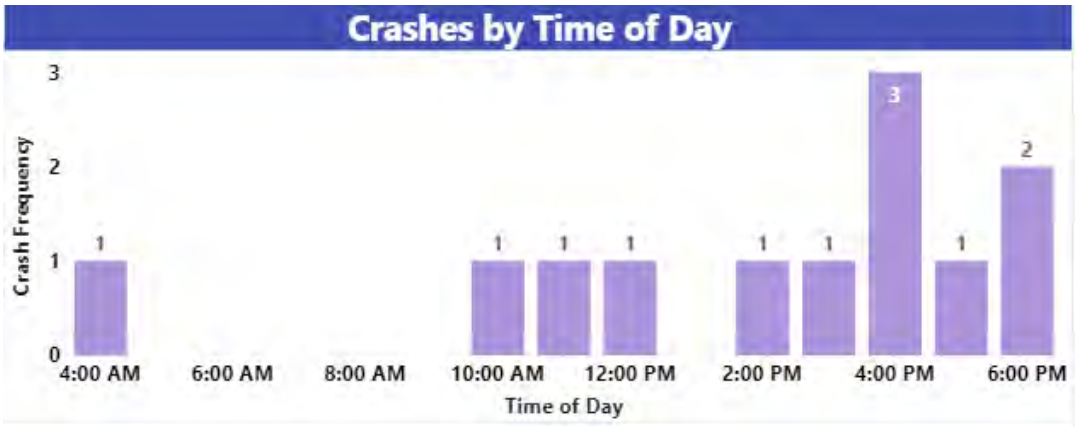


Figure 7. SR 202 MP 13.00-21.84 OD Crashes by Time of Day (01/01/2015-12/31/2019)

Other ROTR crash characteristics are as follows:

- 3 (25%) in either dark or dusk
- 8 (67%) on either wet or icy surface
- Contributing cause: 4 speed, 2 inattention, 1 driver distraction, and 1 DUI

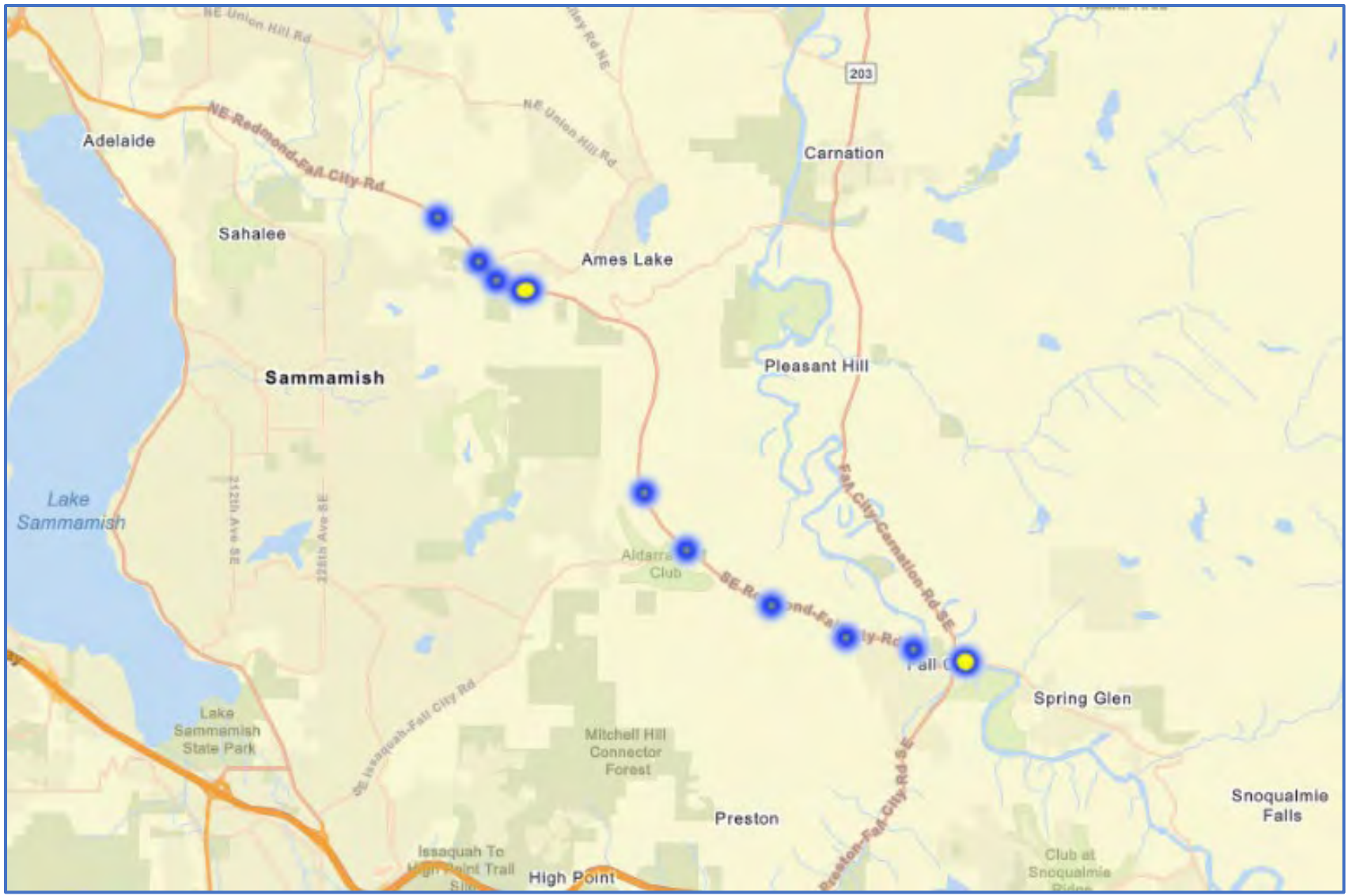


Figure 8. SR 202 MP 13.00-21.84 OD Crashes Heat Map (01/01/2015-12/31/2019)

Non-Motorized Road User Crashes

A 5-year crash data, from 01/01/2015 to 12/31/2019, shows that along the entire corridor, from 244th Ave NE @ MP 13.00 to the end of the study corridor @ MP 21.84, 1 pedestrian crash and 2 bike crashes occurred on the study corridor. These Ped and Bike crashes are described below:

Bike Crashes

1- **SI** @ MP 15.40 (02/01/2015 - Sunday - @ 12:30) **Bike** – Bicyclist and V1 were driving EB and V1 was behind the bicyclist. As V1 approached the bicyclist, failed to leave appropriate space for the bicyclist and the left mirror of V1 struck the bicyclist. This collision occurred on dry surface and in daylight condition. CC- Inattention

2- **PI** @ MP 21.68 (08/05/2015 - Wednesday - @ 14:17) **Bike** – Bicyclist was traveling WB on SR 202 in lane 1. An unknown vehicle left the north shoulder and crossed the WB lanes causing the bike to swerve and the rider to be ejected. This collision occurred on dry surface and in daylight condition. CC- Blank

Pedestrian Crashes

1- **SI** @ MP 21.71 (08/05/2015 - Wednesday - @ 18:57) **Ped** - V1 traveling NB on Preston-Fall City Rd in Left-Turn Lane (LTL) struck a pedestrian crossing the busy roadway at an unmarked location. *Pedestrian was described as being blind and was using a white cane*. The collision occurred on dry surface and in daylight condition. CC- None

NE Ames Lake Rd I/S (MP 13.83)

Figure 9. SR 202 and NE Ames Lake Rd I/S

Table 6. SR 202 and NE Ames Lake Rd I/S Crash Severities by Year

Crash Severity	Year					Total		2020
	2015	2016	2017	2018	2019	Num.	Percentage	
Suspected Minor Injury	1		1			2	18%	1
Possible Injury	1			1	1	3	27%	
No Apparent Injury	1		1	2	2	6	55%	
Total	**3**	**0**	**2**	**3**	**3**	**11**	**100%**	**1**

Table 7. SR 202 and NE Ames Lake Rd I/S Crash Types by Year

Crash Type	Year					Total		2020
	2015	2016	2017	2018	2019	Num.	Percentage	
Entering at angle	2			2	2	6	55%	
Rear-end			1		1	2	18%	1
Animal	1					1	9%	
Opp Dir 1LT-1STR				1		1	9%	
Same Dir-Misc			1			1	9%	
Total	**3**	**0**	**2**	**3**	**3**	**11**	**100%**	**4**

Other crash characteristics are as follows:

- 4 (36%) in dark
- 4 (36%) on wet surface
- CC: 3 inattention, 2 improper action, 2 DNG R/W, 2 speed, and 1 driver distraction
- 3 in October, 2 in March, and 1 ea. in Jan., May, July, Aug., Sept., Nov., and Dec.
- 4 on Wed., 3 on Mon., 2 ea. on Tues. and Thur., and 1 on Sun.
- All b/w 7 AM and 10 PM
    - 2 b/w 7 AM and 8 AM, 4 b/w 9 AM and 1 PM, 4 b/w 4 PM and 6 PM, and 2 b/w 8 PM and 10 PM
- 6 AC
    - 1 EI and 3 PI
    - 2 in dark
    - 2 on wet surface
    - CC: 2 inattention, 1 DNG R/W, and 1 improper action
    - V1 vs V2 Dir.:
        - 1 Entering from the right from a driveway to SR 202 WB (making LT) vs EB
        - 4 Entering from NE Ames Lake Rd to SR 202 EB (making LT) vs WB
        - 1 Entering from NE Ames Lake Rd to SR 202 WB (making RT) vs WB
    - All b/w 7 AM and 6 PM
        - 3 b/w 4 PM and 6 PM

NE Tolt Hill Rd I/S (MP 15.50-15.60)

Figure 10. SR 202 and NE Tolt Hill Rd I/S

Table 8. SR 202 and NE Tolt Hill Rd I/S Crash Severities by Year

Crash Severity	Year					Total	
	2015	2016	2017	2018	2019	Num.	Percentage
Suspected Serious Injury	1					1	4%
Suspected Minor Injury	1	2				3	12%
Possible Injury	3	3	1		1	8	31%
No Apparent Injury	2	4	1	4	2	13	50%
Unknown					1	1	4%
Total	**7**	**9**	**2**	**4**	**4**	**26**	**100%**

Table 9. SR 202 and NE Tolt Hill Rd I/S Crash Types by Year

Crash Type	Year					Total	
	2015	2016	2017	2018	2019	Num.	Percentage
Rear-end	1	5	1	3	1	11	42%
Entering at angle	2	3	1		1	7	27%
Fixed object	1			1	2	4	15%
Opp Dir 1LT-1STR	2					2	8%
Pedalcycle	1					1	4%
Same-Dir-Misc		1				1	4%
Total	**7**	**9**	**2**	**4**	**4**	**26**	**100%**

Table 10. SR 202 and NE Tolt Hill Rd I/S Crash Types by the Related Junction (01/01/2015-12/31/2019)

Crash Type	Tolt Hill Rd Wye (MP 15.50)	Tolt Hill Rd I/S (MP 15.60)	Total
Entering at angle	1*	6	7
Fixed object	1	3	4
Opp Dir 1LT-1STR	2	0	2
Same Dir-Misc	1**	0	1
Pedalcycle	1	0	1
Rear-end	10	1	10
Total	**16**	**10**	**26**

* From PTCR narrative and the crash diagram this crash seems to be a RE crash (02/28/2015)
** From PTCR narrative and crash diagram the crash seems to be a RE crash (08/31/2016)

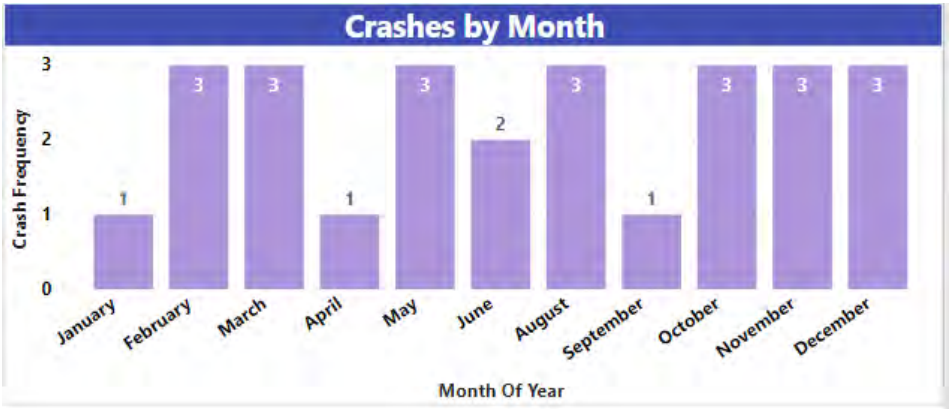


Figure 11. SR 202 and NE Tolt Hill Rd I/S Crashes by Month

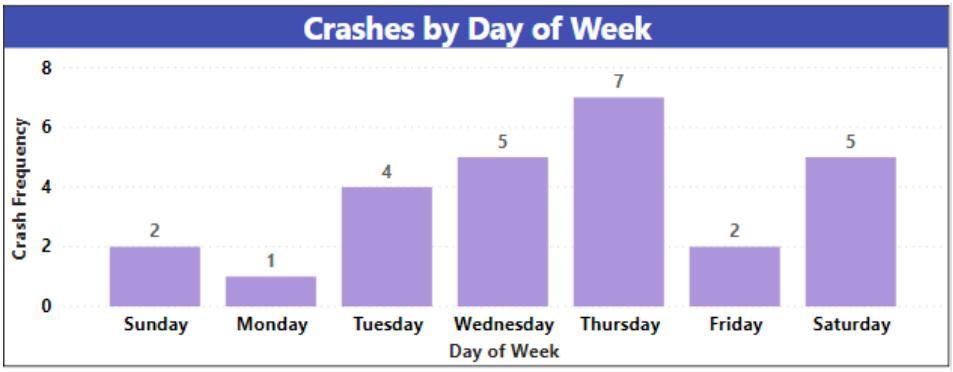


Figure 12. SR 202 and NE Tolt Hill Rd I/S Crashes by Day of Week

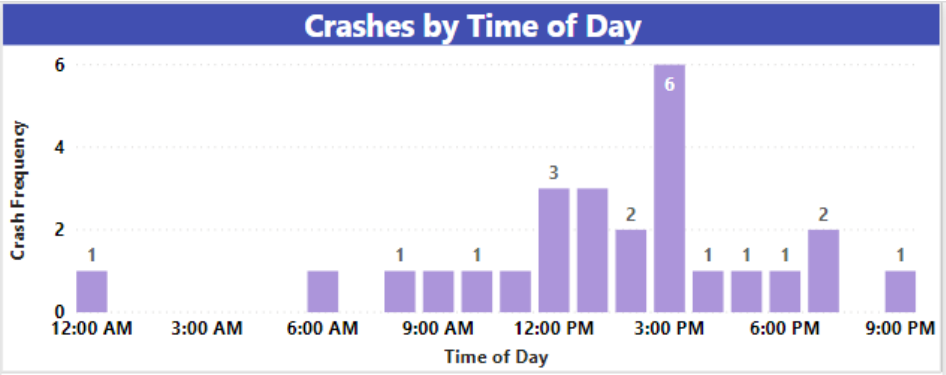


Figure 13. SR 202 and NE Tolt Hill Rd I/S Crashes by Time of Day

Other crash characteristics are as follows:

- 6 (23%) in either dark or dusk
- 10 (38%) on either wet or icy surface
- CC: 8 inattention, 7 following, 2 speed, 1 DNG R/W, 1 improper action, 1 illness/meds, 1 sleep/fatigue, and 1 disregard control
- 11 RE
    - 2 EI and 2 PI
    - 1 in dark
    - 5 on wet surface
    - CC: 6 following, 4 inattention, and 1 speed
    - V1&V2 Dir
        - 1 EB @ MP 15.48
        - 6 entering for the left (from Tolt Hill Rd to SR 202 WB) & 2 EB @ MP 15.50-15.52
        - 1 EB @ MP 15.59, and
        - 1 entering for the left (from Tolt Hill Rd to SR 202 EB) @ MP 15.60
    - All b/w 8 AM and 5 PM
        - 4 b/w 3 PM and 4 PM
- 7 AC
    - 1 EI and 3 PI
    - 3 in either dark or dusk
    - 2 on wet surface
    - CC: 3 inattention, 1 DNG R/W, 1 improper action, 1 following, and 1 disregard control
    - V1 vs V2 Dir.:
        - 1 @ MP 15.50 both vehicles Entering from NE Tolt Hill Rd to SR 202 WB (making RT)
        - 2 @ MP 15.59 Entering from NE Tolt Hill Rd to SR 202 EB (making LT) vs WB
        - 2 @ MP 15.60 Entering from NE Tolt Hill Rd to SR 202 EB (making LT) vs WB
        - 1 @ MP 15.60 Entering from NE Tolt Hill Rd to SR 202 WB (making RT) vs WB
        - 1@ MP 15.65 Entering from a driveway to SR 202 EB (making LT) vs WB
    - 2 b/w 2 PM and 3 PM, and 4 b/w 5 PM and 8 PM

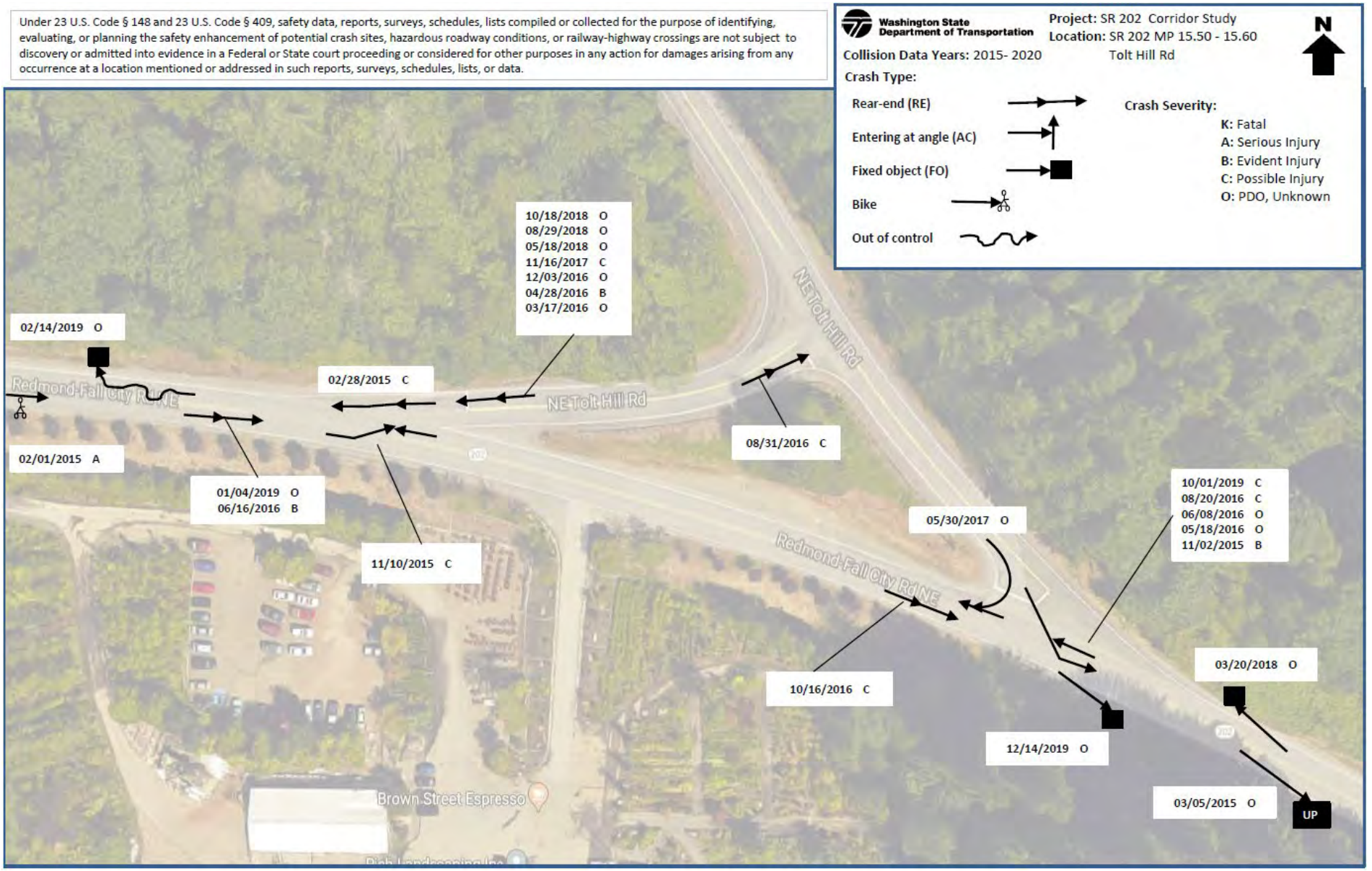


Figure 14. SR 202 and NE Tolt Hill Rd I/S Crash Diagram (01/01/2015-06/10/2020)

SE 8th St I/S (MP 17.21)

Figure 15. SR 202 and SE 8th St I/S

Table 11. SR 202 and SE 8th St I/S Crash Severities by Year

Crash Severity	Year					Total	
	2015	2016	2017	2018	2019	Num.	Percentage
Suspected Minor Injury			1			1	11%
Possible Injury	1		1	1	1	4	44%
No Apparent Injury		2	1	1		4	44%
Total	**1**	**2**	**3**	**2**	**1**	**9**	**100%**

Table 12. SR 202 and SE 8th St I/S Crash Types by Year

Crash Type	Year					Total	
	2015	2016	2017	2018	2019	Num.	Percentage
Rear-end	1		1	1	1	4	44%
Fixed object		1	1			2	22%
Entering at angle			1			1	11%
Same-Dir-Misc				1		1	11%
Sideswipe		1				1	11%
Total	**1**	**2**	**3**	**2**	**1**	**9**	**100%**

Other crash characteristics are as follows:

- 1 (11%) in dark
- 3 (33%) on wet surface
- CC: 4 speed, 2 inattention, 7 following, 1 improper action, and 1 driver distraction
- 2 ea. in Jan. & Dec., and 1 ea. in June, July, Aug., Oct., and Nov.
- 5 on Wed., and 1 ea. on Mon., Tues., Thur., and Fri.
- 4 b/w 7 AM and 10 AM, 3 b/w 2 PM and 4 PM, and 2 b/w 5 PM and 6 PM

- 4 RE
    - All PI
    - 1 in dark
    - CC:3 speed, and 1 driver distraction
    - V1 & V2 Dir.
        - All EB
- 2 FO
    - 1 on wet surface
    - CC: 1 speed
    - 1 @ 14:02 and 1 @ 14:38
    - Veh Dir.
        - 1 turning LT to SR 202 EB, and 1 SR 202 WB (due to a turning LT vehicle from SE 8th St to SR 202 EB)
- 1 SD-misc. : EB V1 collided with the turning LT V2 from EB to SE 8th St. V1 wanted to pass V2 on the left side. The crash occurred on wet surface.
- 1 SS: EB V1 collided with turning LT V2 from EB to SE 8th St and the right side guardrail. V2 attempted to pass V2 on the right side.
- 1 AC: This crash was an EI crash. V1 turning LT to SR 202 EB from SE 8th St collided with WB V2 on wet surface.

308th Ave SE I/S (MP 19.45)

Figure 16. SR 202 and 308th Ave SE I/S

An Active Warning Sign (AWS) was installed in 2017. It is for the WB SR 202 and warns drivers about entering vehicles from 308th Ave SE.

Table 13. SR 202 and 308th Ave SE I/S Crash Severities by Year

Crash Severity	Year					Total		2020
	2015	2016	2017	2018	2019	Num.	Percentage	
Suspected Minor Injury	2	1				3	30%	
Possible Injury	1				1	2	20%	1
No Apparent Injury	2			2	1	5	50%	
Total	**5**	**1**	**0**	**2**	**2**	**10**	**100%**	**1**

Table 14. SR 202 and 308th Ave SE I/S Crash Types by Year

Crash Type	Year					Total		2020
	2015	2016	2017	2018	2019	Num.	Percentage	
Entering at angle	2	1				3	30%	
Fixed object	1			1	1	3	30%	
Same Dir-Misc	1			1		2	20%	1
Opposite direction	1					1	10%	
Rear-end					1	1	10%	
Total	**5**	**1**	**5**	**4**	**1**	**10**	**100%**	**4**

Other crash characteristics are as follows:

- 7 (70%) in dark
- 4 (40%) on either wet or icy surface
- CC: 4 ea. inattention & DUI, and 1 ea. speed & disregard control
- 3 in Nov., 2 ea. in Jan. & Dec., and 1 ea. in July, Aug., and Sept.
- 5 on Fri., 3 on Tues., and 2 on Thur.
- 2 b/w 11 AM and 12 PM, and 4 b/w 4 PM and 7 PM
- 3 AC
    - All before 2017 (installing AWS)
    - 2 EI and 1 PI
    - 1 in dark
    - 2 on wet surface
    - CC: 2 inattention, and 1 disregard control
    - 2 b/w 11 AM and 12 PM, and 1 @ 8:59 PM
    - V1 vs V2 Dir.:
        - 2 SB (308th Av SE thru) vs EB
        - 1 EB (lost control) vs Stopped at the Stop sign on the south leg
- 3 FO
    - 1 in dark
    - All on wet surface
    - CC: 2 DUI, and 1 speed
    - 1 @ 12:26 AM, and 2 b/w 5 PM and 7 PM
    - Vehicle Dir.:
        - 1 EB (turning RT to 308th Ave SE)
        - 1 NB (turning RT to SR 202 EB from 308th Ave SE)
        - 1 WB lost control and hit the ditch on the south side
- 2 SD-misc.
    - 1 EI
    - 1 in dark
    - CC: 2 DUI
    - V1 and V2 Dir.
        - WB V1 collided with the turning LT V2 from WB to 308th Ave SE. V1 wanted to pass V2 on the left side (7/2015)
        - WB V1 rear-ended WB V2 slowing down to turn RT to 308th Ave SE
- 1 RE:
    - PI
    - In dark
    - On wet surface
    - CC: inattention
    - V1 & V2 Dir.
        - WB (V2 turning LT)

Preston-Fall City Rd SE I/S (MP 21.71)

Figure 17. SR 202 and Preston-Fall City Rd SE I/S

Table 15. SR 202 and Preston-Fall City Rd SE I/S Crash Severities by Year

Crash Severity	Year					Total		2020
	2015	2016	2017	2018	2019	Num.	Percentage	
Suspected Serious Injury	1					1	6%	
Suspected Minor Injury			1			1	6%	2
Possible Injury		1	1	1		3	19%	
No Apparent Injury	3	1	3	3	1	11	69%	2
Total	**4**	**2**	**5**	**4**	**1**	**16**	**100%**	**4**

Table 16. SR 202 and Preston-Fall City Rd SE I/S Crash Types by Year

Crash Type	Year					Total		2020
	2015	2016	2017	2018	2019	Num.	Percentage	
Entering at angle	2		1	3		6	38%	
Opp Dir 1LT-1STR	1		2			3	19%	3
Fixed object		2	1			3	19%	
Rear-end						1	6%	1
Parking				1		1	6%	
Pedestrian	1					1	6%	
Sideswipe			1			1	6%	
Total	**4**	**2**	**5**	**4**	**1**	**16**	**100%**	**4**

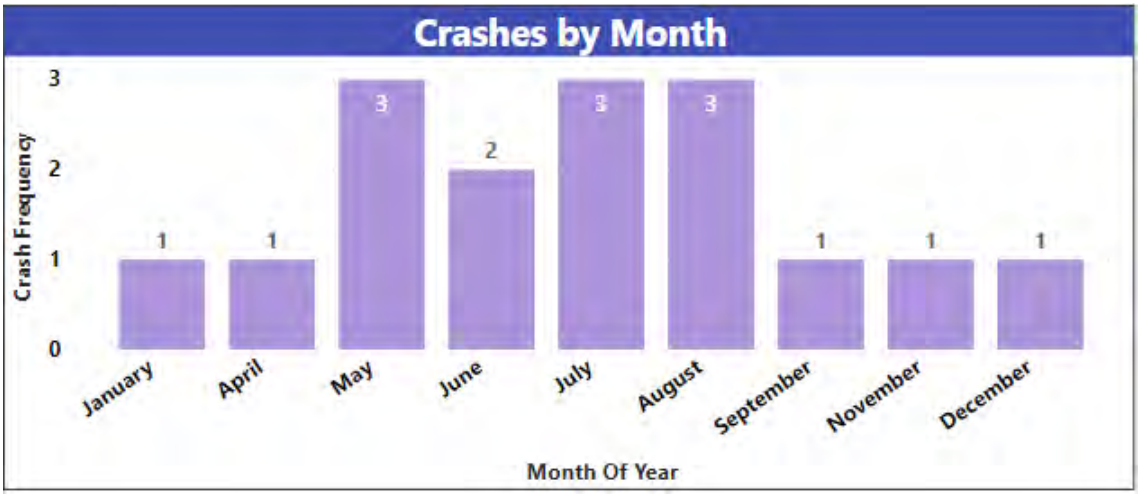


Figure 18. SR 202 and Preston-Fall City Rd SE I/S Crashes by Month

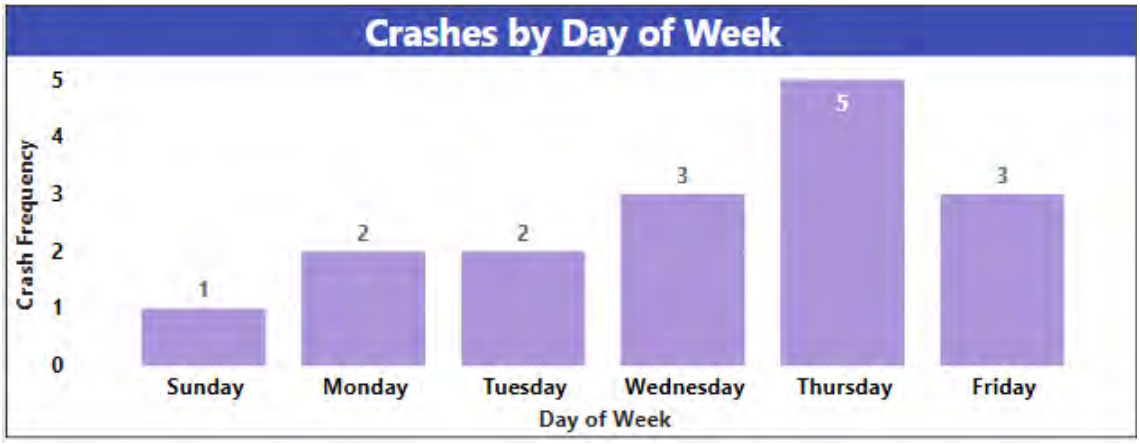


Figure 19. SR 202 and Preston-Fall City Rd SE I/S Crashes by Day of Week

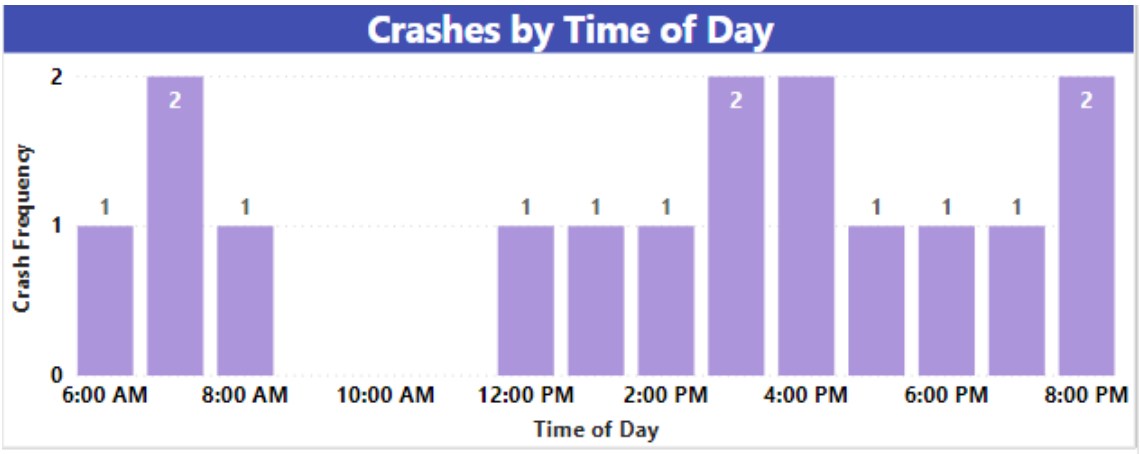


Figure 20. SR 202 and Preston-Fall City Rd SE I/S Crashes by Time of Day

Other crash characteristics are as follows:

- 2 (1%) in dark
- 4 (25%) on wet surface

- CC: 4 DNG R/W, 3 improper action, 3 inattention, 2 DUI, 1 illness/meds, and 1 disregard control
- 6 AC
    - 1 PI
    - 1 in dark
    - 1 on wet surface
    - CC: 3 DNG R/W, 1 inattention, 1 DUI, and 1 disregard control
    - V1 vs V2 Dir.:
        - 5 Entering SR 202 from Preston-Fall City Rd SE (turning LT) vs EB
        - 1 Entering SR 202 from Preston-Fall City Rd SE (turning RT) vs EB

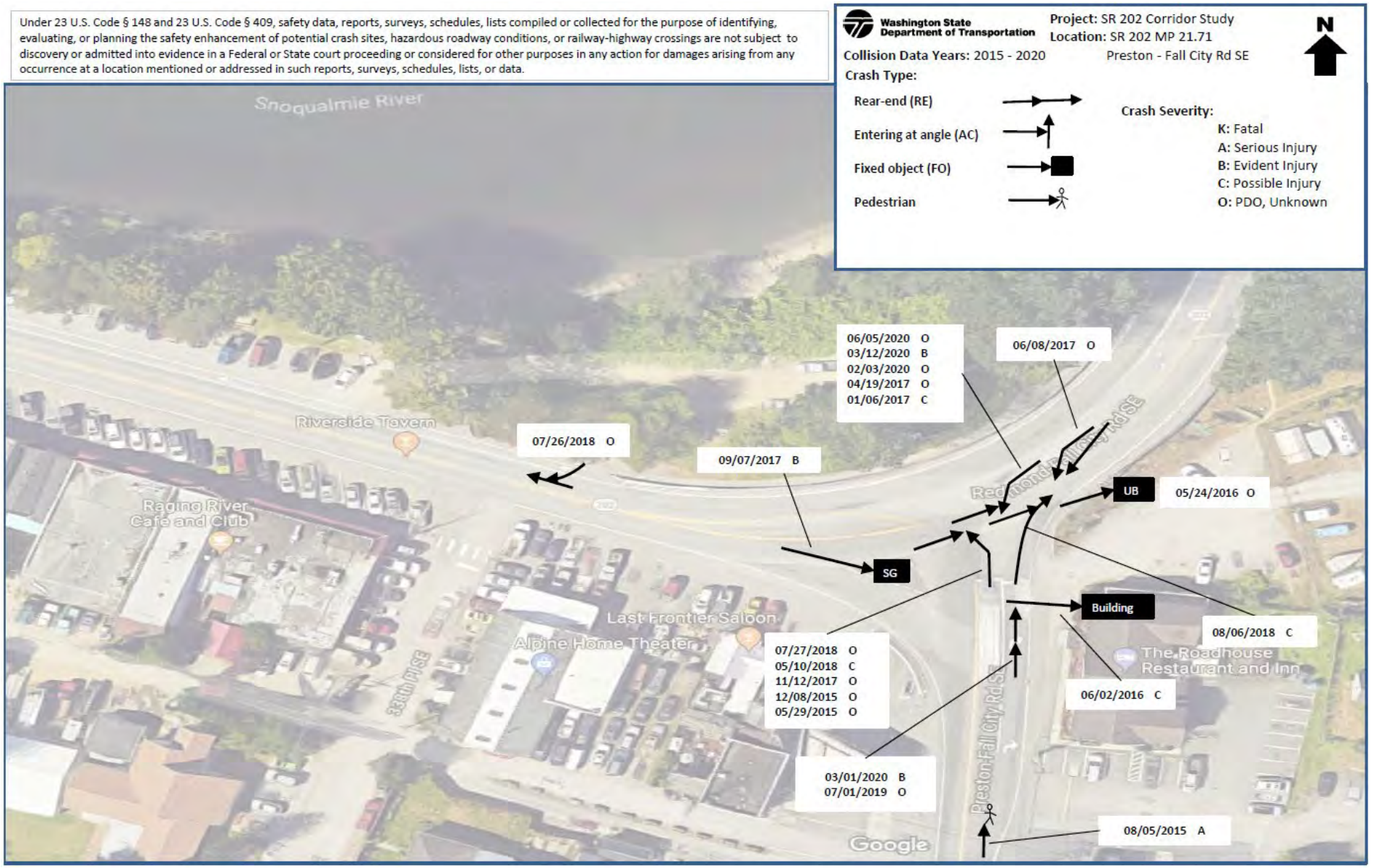


Figure 21. SR 202 and Preston-Fall City Rd SE I/S Crash Diagram (01/01/2015-06/10/2020)

SR 202 and SR 203 Roundabout (MP 21.84)

Figure 22. SR 202 and SR 203 Roundabout

Table 17. SR 202 and SR 203 RA Crash Severities by Year

Crash Severity	Year					Total		2020
	2015	2016	2017	2018	2019	Num.	Percentage	
Suspected Minor Injury			1		1	2	18%	
Possible Injury					1	1	9%	1
No Apparent Injury		1		5	2	8	73%	
Total	**0**	**1**	**1**	**5**	**4**	**11**	**100%**	**1**

Table 18. SR 202 and SR 203 RA Crash Types by Year

Crash Type	Year					Total		2020
	2015	2016	2017	2018	2019	Num.	Percentage	
Entering at angle		1	1	2	2	6	55%	
Rear-end				1	1	2	18%	
Fixed object					1	1	9%	1
Same Dir-Misc				1		1	9%	
Overturn				1		1	9%	
Total	**0**	**1**	**1**	**5**	**4**	**10**	**100%**	**1**

Other crash characteristics are as follows:

- 4 (36%) in either dark or dawn
- 3 (27%) on wet surface
- CC: 4 inattention, 2 DNG R/W, and 1 ea. speed, improper action, and defective equip.
- 3 in July, 2 ea. Mar., Apr., June, and 1 in Feb. & Dec.
- 3 ea. on Wed. & Fri., 2 on Sat., and 1 ea. on Sun., Mon. & Tues.

- 2 b/w 6 AM and 8AM, 2 b/w 9 AM and 11 AM, 3 b/w 2 PM and 4 PM, and 3 b/w 8 PM and 11 PM
- 6 AC
    - 1 EI and 1 PI
    - 3 in either dark or dawn
    - 1 on wet surface
    - CC: 2 ea. inattention & DNG R/W
    - 2 b/w 6 AM and 8 AM, and 2 b/w 8 PM and 10 PM

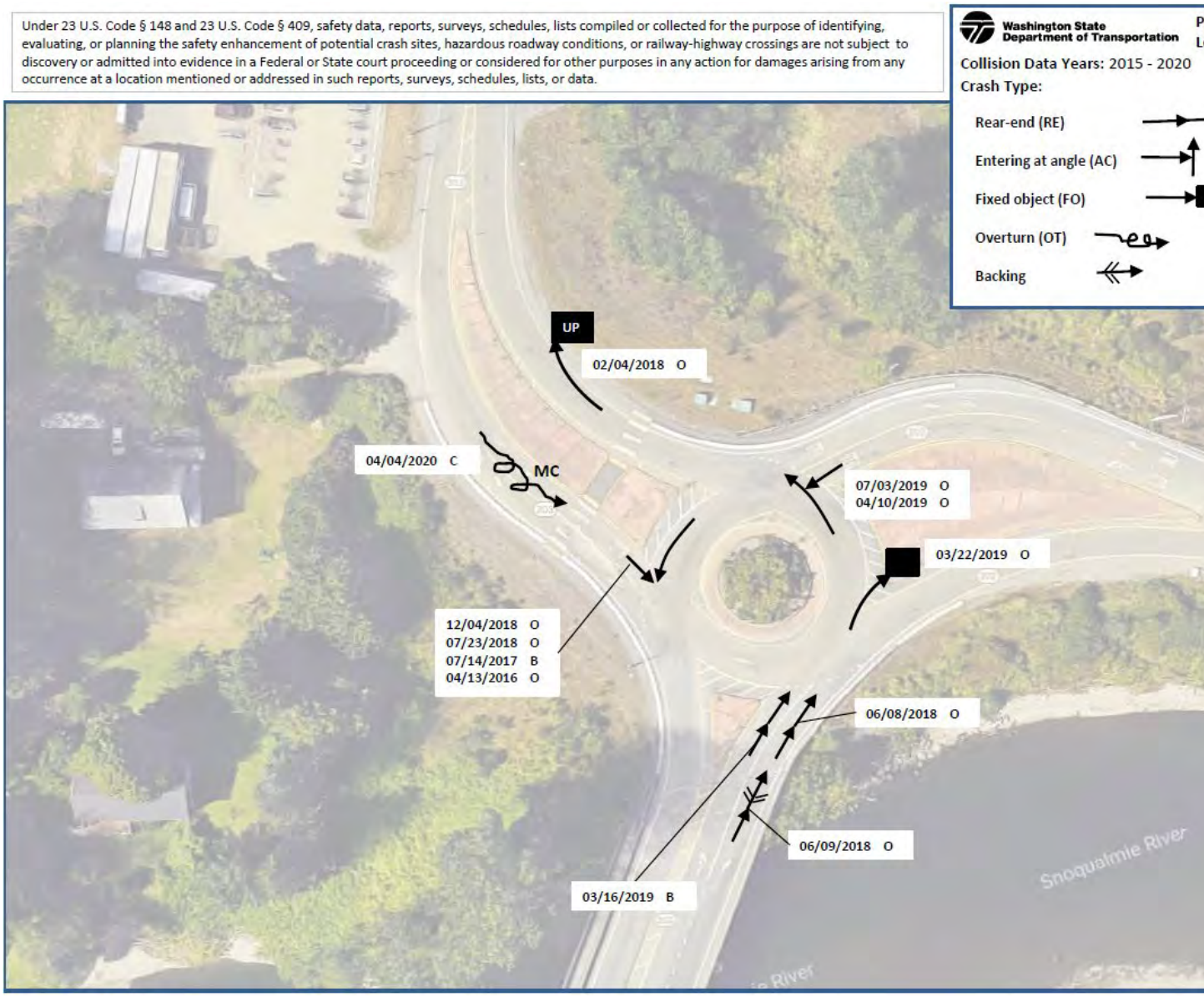


Figure 23. SR 202 and SR 203 RA Crash Diagram (01/01/2015-06/10/2020)

Appendix B: Operational Evaluation

Operations Evaluation Summary Table

AM Peak Hour	Existing			Proposed		
Intersection	**Intersection Control**	**Existing LOS**	**Existing Delay (sec)**	**Intersection Control**	**Proposed LOS**	**Proposed Delay (sec)**
Ames Lake Rd	Two-Way Stop	B	14.1	Roundabout	A	5.9
NE Tolt Hill Rd (W Jct)*	Two-Way Stop	-	-	Roundabout	-	-
NE Tolt Hill Rd (E Jct)*	Two-Way Stop	-	-			
Preston-Fall City Rd*	Two-Way Stop	-	-	Roundabout	-	-

PM Peak Hour	Existing			Proposed		
Intersection	**Intersection Control**	**Existing LOS**	**Existing Delay (sec)**	**Intersection Control**	**Proposed LOS**	**Proposed Delay (sec)**
Ames Lake Rd	Two-Way Stop	D	25.9	Roundabout	A	6.7
NE Tolt Hill Rd (W Jct)	Two-Way Stop	B	13.5	Roundabout	A	6.6
NE Tolt Hill Rd (E Jct)	Two-Way Stop	C	18.3			
Preston-Fall City Rd	Two-Way Stop	F	94.9	Roundabout	C	26.3

*SR 202 at NE Tolt Hill Rd and SR 202 at Preston-Fall City Rd have limited AM peak period data. Due to the global health crisis in 2020 and 2021, data collection yielded lower volumes than typical. However, the PM peak hour volumes were within typical patterns and can be utilized to inform expected operations at these intersections.

NE Ames Lake Road – AM Peak, Existing

HCM 6th TWSC
3: SR 202 & NE Ames Lake Rd 02/07/2022

Intersection						
Int Delay, s/veh	3.2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	378	368	28	29	148
Future Vol, veh/h	101	378	368	28	29	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	180	-	-	150	0	70
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	411	400	30	32	161

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	400	0	-	0	1031	400
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	631	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1159	-	-	-	258	650
Stage 1	-	-	-	-	677	-
Stage 2	-	-	-	-	530	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1159	-	-	-	233	650
Mov Cap-2 Maneuver	-	-	-	-	233	-
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	530	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1159	-	-	-	233	650
HCM Lane V/C Ratio	0.095	-	-	-	0.135	0.247
HCM Control Delay (s)	8.4	-	-	-	22.9	12.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5	1

NE Ames Lake Road – AM Peak, Proposed

MOVEMENT SUMMARY

Site: 1 [NE Ames Lake Rd - AM (Site Folder: General)]

AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg Satn v/c	Aver Delay sec	Level of Service	95% BACK OF QUEUE [Veh veh	Dist] ft	Prop Que	Effective Stop Rate	Aver No Cycles	Aver Speed mph
East: SR 202														
6	T1	368	3.0	400	3.0	0.392	5.3	LOS A	2.4	60.5	0.35	0.49	0.35	35.9
16	R2	28	3.0	30	3.0	0.392	5.2	LOS A	2.4	60.5	0.35	0.49	0.35	35.0
Approach		396	3.0	430	3.0	0.392	5.3	LOS A	2.4	60.5	0.35	0.49	0.35	35.8
North: NE Ames Lake Rd														
7	L2	29	3.0	32	3.0	0.223	11.6	LOS B	1.2	29.9	0.55	0.70	0.55	35.0
14	R2	148	3.0	161	3.0	0.223	6.8	LOS A	1.2	29.9	0.55	0.70	0.55	34.3
Approach		177	3.0	192	3.0	0.223	7.5	LOS A	1.2	29.9	0.55	0.70	0.55	34.4
West: SR 202														
5	L2	101	3.0	110	3.0	0.446	9.4	LOS A	3.3	85.0	0.21	0.48	0.21	35.6
2	T1	378	3.0	411	3.0	0.446	4.8	LOS A	3.3	85.0	0.21	0.48	0.21	35.8
Approach		479	3.0	521	3.0	0.446	5.7	LOS A	3.3	85.0	0.21	0.48	0.21	35.8
All Vehicles		1052	3.0	1143	3.0	0.446	5.9	LOS A	3.3	85.0	0.32	0.52	0.32	35.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

NE Ames Lake Road – PM Peak, Existing

HCM 6th TWSC
3: SR 202 & NE Ames Lake Rd 02/07/2022

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	194	599	490	67	36	133
Future Vol, veh/h	194	599	490	67	36	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	180	-	-	150	0	70
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	651	533	73	39	145

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	533	0	-	0	1606	533
Stage 1	-	-	-	-	533	-
Stage 2	-	-	-	-	1073	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1035	-	-	-	116	547
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	328	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1035	-	-	-	92	547
Mov Cap-2 Maneuver	-	-	-	-	92	-
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	328	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	25.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1035	-	-	-	92	547
HCM Lane V/C Ratio	0.204	-	-	-	0.425	0.264
HCM Control Delay (s)	9.4	-	-	-	70.4	13.9
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.8	-	-	-	1.8	1.1

NE Ames Lake Road – PM Peak, Proposed

MOVEMENT SUMMARY

Site: 1 [NE Ames Lake Rd - PM (Site Folder: General)]

PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES Total veh/h	INPUT VOLUMES HV %	DEMAND FLOWS Total veh/h	DEMAND FLOWS HV %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE Veh veh	95% BACK OF QUEUE Dist ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: SR 202														
6	T1	490	3.0	533	3.0	0.610	6.7	LOS A	5.0	128.7	0.63	0.65	0.64	35.0
16	R2	67	3.0	73	3.0	0.610	6.6	LOS A	5.0	128.7	0.63	0.65	0.64	34.2
Approach		557	3.0	605	3.0	0.610	6.7	LOS A	5.0	128.7	0.63	0.65	0.64	34.9
North: NE Ames Lake Rd														
7	L2	36	3.0	39	3.0	0.251	12.5	LOS B	1.4	36.9	0.67	0.78	0.67	34.4
14	R2	133	3.0	145	3.0	0.251	7.7	LOS A	1.4	36.9	0.67	0.78	0.67	33.7
Approach		169	3.0	184	3.0	0.251	8.8	LOS A	1.4	36.9	0.67	0.78	0.67	33.8
West: SR 202														
5	L2	194	3.0	211	3.0	0.746	9.8	LOS A	10.6	272.3	0.46	0.48	0.46	34.9
2	T1	599	3.0	651	3.0	0.746	5.2	LOS A	10.6	272.3	0.46	0.48	0.46	35.1
Approach		793	3.0	862	3.0	0.746	6.3	LOS A	10.6	272.3	0.46	0.48	0.46	35.0
All Vehicles		1519	3.0	1651	3.0	0.746	6.7	LOS A	10.6	272.3	0.55	0.57	0.55	34.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

NE Tolt Hill Road – PM Peak, Existing

HCM 6th TWSC
7: SR 202 & NE Tolt Hill Rd (E) 02/09/2022

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↱		↾	
Traffic Vol, veh/h	2	435	385	44	40	6
Future Vol, veh/h	2	435	385	44	40	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	473	418	48	43	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	466	0	-	0	919	442
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	477	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1095	-	-	-	301	615
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	624	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1095	-	-	-	300	615
Mov Cap-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	647	-
Stage 2	-	-	-	-	624	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1095	-	-	-	321
HCM Lane V/C Ratio	0.002	-	-	-	0.156
HCM Control Delay (s)	8.3	-	-	-	18.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5

NE Tolt Hill Road – PM Peak, Proposed

MOVEMENT SUMMARY

Site: 2 [NE Tolt Hill Rd (Site Folder: General)]

PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: SR 202														
6	T1	385	3.0	418	3.0	0.476	5.9	LOS A	3.2	81.2	0.50	0.57	0.50	35.5
16a	R1	44	3.0	48	3.0	0.476	5.6	LOS A	3.2	81.2	0.50	0.57	0.50	35.3
Approach		429	3.0	466	3.0	0.476	5.9	LOS A	3.2	81.2	0.50	0.57	0.50	35.5
NorthWest: NE Tolt Hill Rd														
7ax	L1	42	3.0	46	3.0	0.089	13.0	LOS B	0.4	11.4	0.63	0.76	0.63	32.2
14bx	R3	178	3.0	193	3.0	0.212	7.4	LOS A	1.3	33.6	0.62	0.70	0.62	34.1
Approach		220	3.0	239	3.0	0.212	8.5	LOS A	1.3	33.6	0.62	0.71	0.62	33.7
West: SR 202														
5b	L3	164	3.0	178	3.0	0.615	10.9	LOS B	6.1	156.5	0.37	0.51	0.37	35.4
2	T1	435	3.0	473	3.0	0.615	5.0	LOS A	6.1	156.5	0.37	0.51	0.37	35.2
Approach		599	3.0	651	3.0	0.615	6.6	LOS A	6.1	156.5	0.37	0.51	0.37	35.3
All Vehicles		1248	3.0	1357	3.0	0.615	6.7	LOS A	6.1	156.5	0.46	0.57	0.46	35.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: WASHINGTON STATE DEPARTMENT OF TRANSPORTATION | Licence: NETWORK / Enterprise | Processed: Wednesday, February 9, 2022 8:08:04 AM
Project: J:\UCO Traffic\202\SR 202 - MP 13-20.64-21.82 244th-324th-Fall City Corridor Study\Synchro_Sidra\SR 202 Roundabouts.sip9

HCM 6th TWSC
15: Preston Fall City Rd SE & SR 202 02/08/2022

Intersection	
Int Delay, s/veh	31.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	464	253	253	288	149	430
Future Vol, veh/h	464	253	253	288	149	430
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	10	220	-	0	120
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	504	275	275	313	162	467

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	504	0	1367	504
Stage 1	-	-	-	-	504	-
Stage 2	-	-	-	-	863	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1061	-	162	568
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	413	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1061	-	~ 120	568
Mov Cap-2 Maneuver	-	-	-	-	~ 120	-
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	306	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	94.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	120	568	-	-	1061	-
HCM Lane V/C Ratio	1.35	0.823	-	-	0.259	-
HCM Control Delay (s)	269.9	34.2	-	-	9.6	-
HCM Lane LOS	F	D	-	-	A	-
HCM 95th %tile Q(veh)	10.8	8.4	-	-	1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Preston-Fall City Road – PM Peak, Proposed

MOVEMENT SUMMARY

Site: 3 [Preston-Fall City Rd (Site Folder: General)]

PM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Preston-Fall City Rd														
3	L2	149	3.0	162	3.0	0.954	41.3	LOS E	23.4	598.2	1.00	1.53	2.34	23.7
18a	R1	430	3.0	467	3.0	0.954	36.4	LOS E	23.4	598.2	1.00	1.53	2.34	23.7
Approach		579	3.0	629	3.0	0.954	37.7	LOS D	23.4	598.2	1.00	1.53	2.34	23.7
NorthEast: SR 202														
1ax	L1	253	3.0	275	3.0	0.602	10.1	LOS B	6.1	156.1	0.71	0.65	0.71	33.9
16ax	R1	288	3.0	313	3.0	0.602	6.2	LOS A	6.1	156.1	0.71	0.65	0.71	34.2
Approach		541	3.0	588	3.0	0.602	8.0	LOS A	6.1	156.1	0.71	0.65	0.71	34.1
West: SR 202														
5a	L1	464	3.0	504	3.0	0.957	32.1	LOS E	27.4	701.3	1.00	1.26	1.91	25.5
12	R2	253	3.0	275	3.0	0.957	28.4	LOS E	27.4	701.3	1.00	1.26	1.91	25.3
Approach		717	3.0	779	3.0	0.957	30.8	LOS C	27.4	701.3	1.00	1.26	1.91	25.4
All Vehicles		1837	3.0	1997	3.0	0.957	26.3	LOS C	27.4	701.3	0.91	1.17	1.69	26.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: WASHINGTON STATE DEPARTMENT OF TRANSPORTATION | Licence: NETWORK / Enterprise | Processed: Tuesday, February 8, 2022 5:47:33 PM
Project: J:\UCO Traffic\202\SR 202 - MP 13-20.64-21.82 244th-324th-Fall City Corridor Study\Synchro_Sidra\SR 202 Roundabouts.sip9

ROUNDABOUT ESTIMATE - BREAKDOWN BY UNIT BID ITEM

SR:	202	BMP:	13.75
Title:	SR 202/NE Ames Lake Road Roundabout	EMP:	13.91
WIN:	A202XXX	**PIN:**	1202XXX

Prepared By: Andrea Dabbs — **Date:** 8/20/2019

Reviewed By: John Crawford — 8/21/2019

Design PE Review By:

PE	**@**	**13.0%**	**$730,000**
R/W			**$0**
CN	**@**	**13.0%**	**$6,572,000**
		Total	**$7,302,000**

Revision No: 1
Revised By: Crawford
Date: 7/1/2021

I2 - Collision Prevention				Section 1 Ames Lake Road		Section 2 Vacant		**Project Totals** Total		**Project Totals** Total	
Work Item #	Work Item	Price per Unit	Unit	Qty	Cost	Qty	Cost	Qty	Cost		
	Preparation										
0050	Removal of Structures and Obstructions	$1	LS	10,000	$10,000	0	$0	10,000	$10,000		
	Grading										
0310	Roadway Excavation Incl. Haul	$35	CY	4,317	$151,083	0	$0	4,317	$151,083		
0431	Gravel Borrow Incl. Haul	$45	TON	16,244	$730,997	0	$0	16,244	$730,997		
0471	Embankment Compaction	$10	CY	8,781	$87,807	0	$0	8,781	$87,807		
	Storm Sewer										
3091	Catch Basin Type 1	$2,000	EA	4	$8,000	0	$0	4	$8,000		
3457	CL IV Reinf. Concrete Storm Sewer Pipe 18"	$70	LF	300	$21,000	0	$0	300	$21,000		
	Surfacing										
5100	Crushed Surfacing Base Course	$50	T	1,537	$76,844	0	$0	1,537	$76,844		
	Hot Mix Asphalt										
5711	Planing Bituminous Pavement	$10	SY	400	$4,000	0	$0	400	$4,000		
5767	HMA for Mainline	$140	T	4,018	$562,520	0	$0	4,018	$562,520		
5830	Job Mix Compliance Price Adjustment	Calc	%	5%	$28,126	5%	$0	Calc	$28,126		
5835	Compaction Price Adjustment	Calc	%	5%	$28,126	5%	$0	Calc	$28,126		
5875	Commercial HMA	$350	T	0	$0	0	$0	0	$0		
	Cement Concrete Pavement										
xxxx	Textured and Pigmented Cement Concrete Pavement	$250	SY	881	$220,250	0	$0	881	$220,250		
	Erosion Control & Planting										
6403	ESC Lead	$150	Day	31	$4,650	0	$0	31	$4,650		
6471	Inlet Protection	$150	EA	0	$0	0	$0	0	$0		
6490	Erosion Water Pollution Control	$1	LS	10000	$10,000	0	$0	10,000	$10,000		
xxxx	Treatment/Detention	$1	LS	500000	$500,000	0	$0	500,000	$500,000		
	Traffic										
6807	Plastic Line	$5	LF	8,606	$43,032	0	$0	8,606	$43,032		
6833	Plastic Traffic Arrows	$400	EA	3	$1,200	0	$0	3	$1,200		
6847	Wide Dotted Entry Line	$10	LF	36	$360	0	$0	36	$360		
6857	Plastic Crosswalk Line	$10	SF	576	$5,760	0	$0	576	$5,760		
6871	Plastic Traffic Letter	$125	EA	15	$1,875	0	$0	15	$1,875		
9238	Plastic Yield Line Symbol	$120	EA	18	$2,160	0	$0	18	$2,160		
6881	Plastic Drainage Marker	$100	EA	0	$0	0	$0	0	$0		
6895	Temporary Pavement Marking - Short Duration	$1.00	LF	17,300	$17,300	0	$0	17,300	$17,300		
6707	Cement Concrete Pedestrian Curb	$75	LF	60	$4,500	0	$0	60	$4,500		
6699	Roundabout Cement Concrete Curb (4 Inch), LF	$25	LF	3,376	$84,400	0	$0	3,376	$84,400		
6709	Roundabout Truck Apron Cement Concrete Curb (2 IN)	$100	LF	201	$20,100	0	$0	201	$20,100		
6840	Precast Sloped Mountable Curb	$30	LF	1,926	$57,780	0	$0	1,926	$57,780		
6904	Illumination System	$1	LS	30,000	$30,000	0	$0	30,000	$30,000		
6914	ITS	$1	LS	111,000	$111,000	0	$0	111,000	$111,000		
6890	Permanent Signing	$1	LS	24,000	$24,000	0	$0	24,000	$24,000		
6956	Sequential Arrow Sign	$7	HR	1,464	$10,248	0	$0	1,464	$10,248		
6973	Other Temporary Traffic Control	$1	LS	20,000	$20,000	0	$0	20,000	$20,000		
6974	Traffic Control Supervisor	$1	LS	36,600	$36,600	0	$0	36,600	$36,600		
6980	Flaggers	$65	HR	1,464	$95,160	0	$0	1,464	$95,160		
6982	Construction Signing Class A	$25	SF	144	$3,600	0	$0	144	$3,600		
6992	Other Traffic Control Labor	$65	HR	976	$63,440	0	$0	976	$63,440		
6993	Portable Changeable Message Sign	$10	HR	1,464	$14,640	0	$0	1,464	$14,640		
7447	Transportable Attenuator	$18,000	EA	2	$36,000	0	$0	2	$36,000		
7449	Operation of Transportable Attenuator	$70	HR	976	$68,320	0	$0	976	$68,320		
7450	Repair Transportable Attenuator	$1	EST	8,000	$8,000	0	$0	8,000	$8,000		
xxxx	Contractor Provided Uniformed Police Officer	$120	HR	240	$28,800	0	$0	240	$28,800		
	Other										
xxxx	ADA Features Survey	1,250	EA	3	$3,750	0	$0	3	$3,750		
7003	Type B Progress Schedule	1	LS	5000	$5,000	0	$0	5,000	$5,000		
7006	Structure Excavation Class B Including Haul	50	CY	208	$10,417	0		208	$10,417		
7008	Shoring or Extra Excavation Class B	2	SF	1500	$3,000	0		1,500	$3,000		
7038	Roadway Survey	1	LS	10000	$10,000	0	$0	10,000	$10,000		
7054	Detectable Warning Surface	$50	SF	60	$3,000	0	$0	60	$3,000		
7055	Cement Concrete Sidewalk	$200	SY	17	$3,333	0	$0	17	$3,333		
7480	Roadside Cleanup	1	EST	5000	$5,000	0	$0	5,000	$5,000		
7736	SPCC Plan	1	LS	1250	$1,250	0	$0	1,250	$1,250		

Subtotal for Percentages

Bid Item Subtotal:					$3,303,944		$0		$3,303,944
Miscellaneous	40.0%				$1,321,577		$0		$1,321,577
Subtotal:					$4,625,521		$0		$4,625,521
Mobilization	10.0%				$462,552		$0		$462,552
Subtotal:					$5,088,073		$0		$5,088,073
Sales Tax	10.0%				$508,807		$0		$508,807
Bid Item Total:					$5,596,880		$0		$5,596,880
Utility Agreements	$20,000	EA	1		$20,000	0	$0		$20,000
Washington State Patrol	$100	HR	0		$0	0	$0		$0
(700) Non-Bid Item Total:					$20,000		$0		$20,000

ROUNDABOUT ESTIMATE - BREAKDOWN BY UNIT BID ITEM

SR:	202	BMP:	13.75		
Title:	SR 202/NE Ames Lake Road Roundabout	EMP:	13.91		
WIN:	A202XXX	**PIN:**	1202XXX		
	Prepared By:		**Date:**		
	Andrea Dabbs		8/20/2019		
	Reviewed By:				
	John Crawford		8/21/2019		
	Design PE Review By:				

PE	**@**	**13.0%**	**$730,000**
R/W			**$0**
CN	**@**	**13.0%**	**$6,572,000**
		Total	**$7,302,000**

Revision No:	1
Revised By:	Crawford
Date:	7/1/2021

I2 - Collision Prevention				Section 1 Ames Lake Road		Section 2 Vacant		**Project Totals** Total	
Work Item #	Work Item	Price per Unit	Unit	Qty	Cost	Qty	Cost	Qty	Cost
	Bid & (700) Non-Bid Item Total:				$5,616,880		$0		$5,616,880
	Construction Engineering	13.0%			$730,194		$0		$730,194
	Contingencies	4.0%			$224,675		$0		$224,675
	Railroad Flagging	$1,000	Day	0	$0	0	$0		$0
	Mapping and Monumentation	$2,500	MI	0.00	$0	0.00	$0		$0
	(800) State Force Work/Supplied Materials				$0		$0		$0
	Construction Total:				$6,571,750		$0		$6,571,750
	Preliminary Engineering	13.0%			$730,194		$0		$730,194
	ADA Transition Plan - Data Collection Survey	$500	Ramp	0	$0	0	$0		$0
	Hydraulic Study				$0		$0		$0
	Right of Way								
	Easements (including admin. Cost)	$10,000	EA	0	$0	0	$0		$0
	Administration		Parcel	0	$0	0	$0		$0
	Condemnation	0.0%			$0		$0		$0
	Relocation				$0		$0		$0
	Right of Way Total:				$0		$0		$0
	Total Cost of Project:				**$7,301,945**		**$0**		**$7,301,945**

ASSUMPTIONS:

1. This project will construct a compact single-lane roundabout (RAB) at SR 202 and NE Ames Lake Rd with an 100' diameter (ICD) and an 18' wide circulating lane. Features include a fully-mountable central island and pre-cast mountable raised splitter islands with pedestrian cut-throughs.
2. This project will need approximately 38 working days to complete all work.
3. Adjust Sales Tax to 10% per Washington State Department of Revenue website at the date of this estimate.
4. Construction Engineering adjusted to 13% and contingencies adjusted to 4% per Plans Preparation Manual dated November 2013.
5. Preliminary Engineering adjusted to 13% to match average historical PE cost of previous roundabout projects.
6. Removal of Raised Pavement Markers, Pavement Markings, Plastic Lines, and Paint Lines are incidental to the Planing Bituminous Pavement work. Incidental is defined as "liable to happen as a consequence of."
7. Preliminary review of ROW identified no conflicts - RAB to be constructed within existing roadway footprint.
8. There is a corrected fish barriers within vicinity of project limits # 07.0383A 0.50.
9. Illumination System, ITS, and Permanent Signing lump sum costs provided by NWR Traffic Design.

PAVING (P1) SCOPING FILE CHECKLIST

WIN	A202XXX	PIN	1202XXX	
SR	202	MP 13.75	to MP	13.91
Title	SR 202/NE Ames Lake Road Roundabout			
Scoped By:	Andrea Dabbs	Date:	8/20/2019	
Reviewed By:	John Crawford	Date:	8/21/2019	
Reviewed By:		Date:		

Project Summary Region Review Package (Required)

- ☐ **Project Definition**
- ☐ **Design Decisions Summary**
- ☐ **Environmental Review Summary**
- ☐ **Project Vicinity Map**

HQ Review Package

- ☐ **Project Cost Estimate Summary**
- ☐ **Detailed Quantity Calculations for Each Estimate Item**
- ☐ **PDIS Schedule**
- ☐ **PEO Comments**

Scoping File Documentation (Required)

- ☐ **Roadside Restoration Worksheet**
- ☐ **Design Variance Inventory**

Support Group Documentation:

- ☐ **Preliminary Surfacing Recommendation**
- ☐ **WSPMS Listing**
- ☐ **Support Group Correspondence:** ☐ENVIRONMENTAL ☐ BRIDGE DESIGN ☐MAINTENANCE ☐ MATERIALS ☐R/W ☐R/W UPDATE ☐TRAFFIC ☐ UTILITIES ☐OTHER_____

- ☐ **HAC/HAL Reviews**
- ☐ **Field Review Notes and Pictures**
- ☐ **Existing Utility Locations**
- ☐ **Access Permits**

Additional Scoping Information (Optional)

- ☐ **As-Built and Right of Way Plans**
- ☐ **Conversation Records and Email Correspondence**
- ☐ **Plan Sheets**
- ☐ **Resurfacing Project Definition**

CALCULATION WORKSHEET - SECTION 1
SR 202/NE Ames Lake Road - MP 13.83

SR: 202 MP: 13.75 to MP : 13.91 **Prepared By:** Andrea Dabbs
Title: SR 202/NE Ames Lake Road Roundabout **Date:** 8/20/2019
WIN: A202XXX
PIN: 1202XXX

Assumptions
Circular single-lane RAB with ICD of 100 plus 6' Shoulders.
Central Island cross section = 0.92' Textured & Pigmented Cement Concrete Pavement over 0.50' CSBC (metric C-9219)
Splitter Island cross section = 0.25' Commercial HMA over 0.25' CSBC (metric C-8882, traffic island detail)
Ped Cut Through cross section = 4" (0.33') Cement Conc. Sidewalk over 0.30' CSBC (metric C-8882, traffic island detail)
Existing SR 202 shoulder where RAB footprint encroaches is full depth pavement per roadway sections on C-5302.

LANE MILE CALCULATION

Alignment	Begin MP	End MP	Type	Length	# of Lanes	Lane Miles	Notes
SR 202	13.77	13.89		0.12	3	0.36	
NE Ames Lake Rd	0.00	0.03		0.03	3	0.09	
					Total lane miles =	0.45	

Mainline Length: 0.36 Lane Miles Auxiliary Lane Length: 0.09 Lane Miles

PREPARATION

0050 Removal of Structures and Obstructions

Removal of miscellaneous obstructions $10,000 L.S.

GRADING

0310 Roadway Excavation Incl. Haul, CY

Location	SF	Width (a) (FT)	Length (b) (FT)	Depth (FT)	Vol. (CY)	
Ames lake Road and SR 202 HMA Removal	51300.00			1.50	2850	Measured in PDF
Ames lake Road (New Profile)	8000.00			3.00	889	Measured in PDF
Central Island (NE Quad)	4800.00			1.00	178	Measured in PDF
NE Quad Shoulder	5400.00			2.00	400	Measured in PDF
			Total =		4317	CY

431 Gravel Borrow including Haul Incl. Haul, Ton

Location	Length	Width 1	Depth 1	Width 2	Depth 2	Avg End Area 1	Avg End Area 2	Vol. (CY)	TONS
SR 202 West Side Ames Lake Rd	400.00	40	1.0	120	4	40	480	3852	7126
Location	Length	Width 1	Depth 1	Width 2	Depth 2	Avg End Area 1	Avg End Area 2	Vol. (CY)	TONS
SR 202 East Side Ames Lake Rd	450.00	120	4	40	1.0	480	40	4333	8017
Location	Length	Width 1	Depth 1	Width 2	Depth 2	Avg End Area 1	Avg End Area 2	Vol. (CY)	TONS
Ames lake Road (New Profile)	240.00	96	2.0	38	1	192	38	596	1102
							Totals	8781	16244

471 Embankment Compaction, CY

Location	SF	Width (a) (FT)	Length (b) (FT)	Depth (FT)	Vol. (CY)
Same as Gravel Barrow CY					8781

STORM SEWER

3091 Catch Basin Type 1

Notes					EA
					4
					4

Cont. 5302 had 3 increased to 4

3457 CL IV Reinf. Concrete Storm Sewer Pipe 18"

300 LF C5302 had 68M =223 lf increased to 300

SURFACING

5100 Crushed Surfacing Base Course, TON

Location	Width (a) (FT)	Length (b) (FT)	AREA (SF)	Depth (FT)	Volume (CY)	Tons	
Ames Lake Road			13000.00	0.35	169	312	Measured in PDF
Central Island			3217.00	0.50	60	110	Measured in PDF
N Splitter Island (NE Ames Lake Rd)			1165.00	0.25	11	20	Measured in PDF
W Splitter Island (SR 202)			1720.00	0.25	16	29	Measured in PDF
E Splitter Island (SR 202)			1831.00	0.25	17	31	Measured in PDF
SR 202 West Side Ames Lake Rd			19000.00	0.30	211	391	Measured in PDF
SR 202 East Side Ames Lake Rd			20000.00	0.30	222	411	Measured in PDF
RAB			11309.00	0.30	126	232	Measured in PDF
					Total =	1,537	TONS

Central Island cross section = 0.92' Textured & Pigmented Cement Concrete Pavement over 0.50' CSBC (metric C-9219)
Splitter Island cross section = 0.25' Commercial HMA over 0.25' CSBC (metric C-8882, traffic island detail)

CALCULATION WORKSHEET - SECTION 1
SR 202/NE Ames Lake Road - MP 13.83

SR: 202 MP: 13.75 to MP : 13.91 **Prepared By:** Andrea Dabbs
Title: SR 202/NE Ames Lake Road Roundabout **Date:** 8/20/2019
WIN: A202XXX
PIN: 1202XXX

Ped Cut Through cross section = 4" (0.33') Cement Conc. Sidewalk over 0.30' CSBC (metric C-8882, traffic island detail)

HOT MIX ASPHALT

5711 Planing Bituminous Pavement, SY

**Area determined using SRview and Google Maps*

Alignment	Begin MP	End MP	Width (FT)	Length (FT)	Area (SF)	Area (SY)
SR 202	13.75	13.75	36	50	1,800	200
SR 202	13.91	13.75	36	50	1,800	200
				0	0	0
					3,600	400

5767 HMA for Mainline, Ton

Alignment	Begin MP	End MP	Width: Inside Shoulder	Width: Lane(s)	Width: Outside Shoulder	Width: Special Use Lane	Total Width	Distance (LF)	Area (SF)	Total Area (SY)
SR 202 West Side									19,000	2111
SR 202 East Side									20,000	2222
RAB									20,000	2222
Ames Lake Rd									13,000	1444
								Total	72,000	8,000

SR 202/Ames L HMA Depth: 0.7 ft Area: 72,000 3,827
Total 3,827

Add 5% for waste (Tons): 4,018

CEMENT CONCRETE PAVEMENT

xxxx Textured and Pigmented Cement Concrete Pavement, SY

Location	Width (a) (FT)	Length (b) (FT)	Area (SF)	Area (SY)	
Central Island Apron (15')				256	*64 ICD with 15' apron*
Central Island			908	101	*34 DIAM*
N Splitter Island (NE Ames Lake Rd)			1165	129	*Measured in PDF*
W Splitter Island (SR 202)			1720	191	*Measured in PDF*
E Splitter Island (SR 202)			1831	203	*Measured in PDF*
		Total =		881	SY

Central Island cross section = 0.92' Textured & Pigmented Cement Concrete Pavement over 0.50' CSBC (metric C-9219)

EROSION CONTROL & PLANTING

6403 ESC Lead, Day 31 Days

6490 Erosion / Water Pollution Control, LS $15,000 LS

6635 High Visibility Silt Fence

Location	Length (ft)
NE Ames Lake Rd	350
SR 202 (north side)	600
SR 202 (south side)	700
Total =	1650 LF

TRAFFIC

Roadway Markings/Curb *From SR View & Google Maps*

Begin MP	End MP	Notes	Stripes	Quantities: 6807 Plastic Line	6871 Plastic Traffic Letter	6833 Plastic Traffic Arrows	9238 Plastic Yield Line Symbol	6840 Precast Sloped Mountable Curb	6857 Plastic Crosswalk Line	6847 Plastic Wide Dotted Entry Line	6881 Plastic Drainage Marker
N Splitter Island (NE Ames Lake Rd) 240'				2,200				250	192		
W Splitter Island (SR 202) 370'				2,200				550	192		
E Splitter Island (SR 202) 425'				2,200				550	192		
0.00	0.03	North Leg	Edge	317	5	1	6			12	
13.75	13.83	West Leg	Edge	845	5	1	6			12	
13.83	13.91	East Leg	Edge	845	5	1	6			12	
			Total Quantity:	8,606	15	3	18	1,926	576	36	0
			Units:	LF	EA	EA	EA	LF	SF	LF	EA

6699 Roundabout Cement Concrete Curb (4 Inch), LF

Notes	Width (a) (FT)	Length (b) (FT)	Length
West Splitter Island			465
East Splitter Island			445

CALCULATION WORKSHEET - SECTION 1
SR 202/NE Ames Lake Road - MP 13.83

SR: 202 MP: 13.75 to MP : 13.91 **Prepared By:** Andrea Dabbs
Title: SR 202/NE Ames Lake Road Roundabout **Date:** 8/20/2019
WIN: A202XXX
PIN: 1202XXX

Ames Lk Splitter			280
NW Quad for Shoulder			645
NE Quad for Shoulder			675
South Side SR 202 South			866
			3,376 LF

6708 Roundabout Central Island Cement Concrete Curb, LF

Notes	Width (a) (FT)	Length (b) (FT)	Length	
Central Island			106	*34' ICD*
			106	LF

6709 Roundabout Truck Apron Cement Concrete Curb (2 Inch), LF

Notes	Width (a) (FT)	Length (b) (FT)	Length	
Central Island			201	*64' ICD*
			201	LF

6904 Illumination System
Cost estimate provided by NWR Traffic Design Duke Do on 9/9/2019. Total Cost = $30,000 L.S.

6914 ITS
Cost estimate provided by NWR Traffic Design Duke Do on 9/9/2019. Total Cost = $111,000 L.S.

6890 Permanent Signing
Cost estimate provided by NWR Traffic Design Duke Do on 9/9/2019. Total Cost = $24,000 L.S.

6895 Temporary Pavement Marking - Short Duration

Notes	Begin MP	End MP	Sum of Lines	Number of Applications	LF
Edge Lines			2,006	2	4,013
Lane Lines			6,600	2	13,200
					17,213

Item includes removal of temp. markings per Standard Spec. 8-23.5
Assume 2 applications (1 after grinding, 1 after paving): SAY 17,300 LF

Traffic Control

Work Days

Preparation and Removal	8	Days	** Production rates based on an 8-hour workday*
Removing/regrading Ames Lake Rd/SR 202	10	Days	** Production rates based on an 8-hour workday*
Gravel Borrow/Embankment Compaction	16	Days	** Production rates based on an 8-hour workday /1000tons/day*
CSBC	3	Days	** Production rates based on an 8-hour workday /1000tons/day*
Planing / Repair / Paving	4	Days	**Grinding @ 9,000 SY / Day; Paving @ 1,200 Tons / Day*
Install Traffic Splitter Islands	2	Days	**Curbing @ 1,500 LF / Day; Commercial HMA @ 160 CY/day*
Install Ped Cut Throughs & DWS	4	Days	**1 Ped Cut Through per Day + 1 Day for DWS Install*
Construct Central Island	4	Days	**CSBC @ 1,000 T / Day; Curbing @ 1,500LF / Day; Concrete Pavement @ 1,200CY / Day*
Striping & Signage	4	Days	**Striping @ 1,400 LF / Day + 1 Day for Misc. Traffic Markings; All signing in 1 day*
Illumination & ITS	4	Days	** Illumination System @ 5 Days / Pole -- assume work concurrent with Signage & Ped Cut Throughs*
Clean-up	2	Days	
Assume	61	Days	

Assumptions for TC

		Days	Hrs / Day	Qty	Hrs	Unit Cost	Units	Total Cost
6956	Sequential Arrow Sign	61	8	3	1464	$7	HR	$10,248
6973	Other Temporary Traffic Control	N/A	N/A	N/A	N/A	N/A	LS	$20,000
6974	Traffic Control Supervisor	61	8	1	488	$75	LS	$36,600
6980	Flaggers	61	8	3	1464	$65	HR	$95,160
6982	Construction Signing Class A	N/A	N/A	144	N/A	$25	SF	$3,600
6992	Other Traffic Control Labor	61	8	2	976	$65	HR	$63,440
6993	Portable Changeable Message Sign	61	8	3	1464	$10	HR	$14,640
7447	Transportable Attenuator	N/A	N/A	2	N/A	$18,000	EA	$36,000
7449	Operation of TA	61	8	2	976	$70	HR	$68,320
7450	Repair TA	N/A	N/A	1	N/A	$8,000	EST	$8,000
xxxx	Contractor Provided Uniformed Police Officer	15	8	2	240	$120	HR	$28,800
								$384,808

** "Other Temporary Traffic Control" covers traffic drums, cones, contractor piloted vehicle, etc.*

OTHER

7006 Structure Excavation Class B Including Haul, CY
18" Pipe 1.5 x D +1.5 300 lf 5' depth *3.75*
208 CY

7008 Shoring or Extra Excavation Class B, SF
1,500 SF

7054 Ramp Detectable Warning Retrofit, SF

**Ramp detectable warning retrofit area assumed at 10 SF per ramp.*

Notes	Begin MP	# of Ramps	Area (SF)

CALCULATION WORKSHEET - SECTION 1
SR 202/NE Ames Lake Road - MP 13.83

SR: 202 MP: 13.75 to MP : 13.91 **Prepared By:** Andrea Dabbs
Title: SR 202/NE Ames Lake Road Roundabout **Date:** 8/20/2019
WIN: A202XXX
PIN: 1202XXX

Splitter Islands	6	60	*Three Splitter Islands with ped cut through in each - DWS on each entry point.*
		60	

Sidewalk & Curb/Gutter		**6700**	**6707**	**7055**	
Alignment	Begin MP	Conc Curb and Gutter	Conc Pedestrian Curb	Conc Sidewalk	
N Splitter Island (NE Ames Lake Rd)			20	6	*Ped cut through 5' x 10'*
W Splitter Island (SR 202)			20	6	*Ped cut through 5' x 10'*
E Splitter Island (SR 202)			20	6	*Ped cut through 5' x 10'*
		0	60	17	
		LF	LF	SY	

PAVEMENT REPAIR CALCULATION - SECTION 1

SR: 202 MP: 13.75 to MP : 13.91 **Prepared By:** Andrea Dabbs

Title: SR 202/NE Ames Lake Road Roundabout **Date:** 8/20/2019

WIN: A202XXX

PIN: 1202XXX

PAVEMENT REPAIR CALCULATION

Total Pavement Area	Section	Alignment	Area (SF)		Area (SY)
					Total Area

Materials Lab Recommendation

	Percentage	Total Pavement Repair Area (SY)
Area percentage recommended from Mats Lab	**3%**	0

*****

The pavement repair section is from the preliminary recommendation by the NWR Materials Laboratory as follows:

3% *used for calculating pavement repair. 90% of the repair would be grind 0.15' -pave back and 10% of the pavement repair would gring 1.0' - pave back.*

90% - 0.15' Only

90% of the Pvmt Repair
Grind 0.15 pave 0.15

0.15 HMA

10% - Full Depth

10% of the total pavement repair
Grind 0.15 pave 0.15

1.00 HMA

0332 **Pavement Repair Excavation Including Haul, SY**

Section	Alignment	Area (SY)	
1		0	
		0	This is for 100% of the total Pavement Repair due to the SY measurement

5739 **HMA for Pavement Repair CL 1/2 In PG, TON**

Used Bid Item 5739 for a typical pavement repair material.

Section	Alignment	Depth	Area (SY)	Quantity (Tons)	+ 5% (Tons)
90%		0.15	0	0	0
10%		1.00	0	0	0
				Total HMA	**0**

ROUNDABOUT ESTIMATE - BREAKDOWN BY UNIT BID ITEM

SR: 202 | BMP: 15.49

Title: SR202/Tolt Hill Rd - RAB | EMP: 15.68

WIN: A202XXX | **PIN:** 1202XXX

Prepared By: JC | **Date:** 2/9/2021

Reviewed By:

Design PE Review By:

PE	**@**	**10.0%**	**$736,000**
R/W			**$376,000**
CN	**@**	**13.0%**	**$8,610,000**
		Total	**$9,722,000**

Revision No:
Revised By:
Date:

I2 - Collision Prevention				Section 1 Tolt Hill Rd		Section 2 Vacant		**Project Totals** Total	**Project Totals** Total
Work Item #	Work Item	Price per Unit	Unit	Qty	Cost	Qty	Cost	Qty	Cost
	Preparation								
0025	Clearing and Grubbing	$15,000	Acre	0.62	$9,264	0	$0	1	$9,264
0050	Removal of Structures and Obstructions	$1	LS	10,000	$10,000	0	$0	10,000	$10,000
	Grading								
0310	Roadway Excavation Incl. Haul	$35	CY	6,022	$210,778	0	$0	6,022	$210,778
0431	Gravel Borrow Incl. Haul	$45	TON	8,254	$371,412	0	$0	8,254	$371,412
0471	Embankment Compaction	$10	CY	4,461	$44,614	0	$0	4,461	$44,614
	Storm Sewer								
3091	Catch Basin Type 1	$2,000	EA	6	$12,000	0	$0	6	$12,000
3457	CL IV Reinf. Concrete Storm Sewer Pipe 18"	$70	LF	700	$49,000	0	$0	700	$49,000
	Structures								
4410	SEW 1 Railing 170'	$110	SF	170	$18,700	0	$0	170	$18,700
4410	SEW 2 Railing 160'	$110	SF	160	$17,600	0	$0	160	$17,600
4410	SEW 3 Railing 300'	$110	SF	300	$33,000	0	$0	300	$33,000
7169	SEW 1 MP 15.50 to 15.57 Rt Avg 4' ht 170'	$65	SF	680	$44,200	0	$0	680	$44,200
7169	SEW 2 MP 15.55 to 15.61Rt 8' Avg. ht 160'	$65	SF	1,280	$83,200	0	$0	1,280	$83,200
7169	SEW 3 MP 15.55 to 15.61Rt 8' Avg ht 300'	$65	SF	1,800	$117,000	0	$0	1,800	$117,000
4119	SEW 1 Traffic Barrier 170'	$500	LF	170	$85,000	0	$0	170	$85,000
4119	SEW 2 Traffic Barrier 160'	$500	LF	160	$80,000	0	$0	160	$80,000
4119	SEW 3Traffic Barrier 300'	$500	LF	300	$150,000	0	$0	300	$150,000
	Surfacing								
5100	Crushed Surfacing Base Course	$50	T	2,883	$144,150	0	$0	2,883	$144,150
	Hot Mix Asphalt								
5711	Planing Bituminous Pavement	$10	SY	578	$5,778	0	$0	578	$5,778
5767	HMA for Mainline	$140	T	6,784	$949,716	0	$0	6,784	$949,716
5830	Job Mix Compliance Price Adjustment	Calc	%	5%	$47,485.78	5%	$0	Calc	$47,486
5835	Compaction Price Adjustment	Calc	%	5%	$47,486	5%	$0	Calc	$47,486
5875	Commercial HMA	$350	T	92	$32,200	0	$0	92	$32,200
	Cement Concrete Pavement								
xxxx	Textured and Pigmented Cement Concrete Pavement	$250	SY	1342	$335,389	0	$0	1,342	$335,389
	Erosion Control & Planting								
6403	ESC Lead	$150	Day	39	$5,850	0	$0	39	$5,850
6471	Inlet Protection	$150	EA	0	$0	0	$0	0	$0
6490	Erosion Water Pollution Control	$1	LS	10000	$10,000	0	$0	10,000	$10,000
6635	High Visibility Silt Fence	$8	LF	2700	$21,600	0	$0	2,700	$21,600
xxxx	Treatment/Detention/mitigation	$1	LS	500000	$500,000	0	$0	500,000	$500,000
	Traffic								
6807	Plastic Line	$5	LF	5,344	$26,718	0	$0	5,344	$26,718
6833	Plastic Traffic Arrows	$400	EA	5	$2,000	0	$0	5	$2,000
6847	Wide Dotted Entry Line	$10	LF	18	$180	0	$0	18	$180
9238	Plastic Yield Line Symbol	$120	EA	18	$2,160	0	$0	18	$2,160
6881	Plastic Drainage Marker	$100	EA	6	$600	0	$0	6	$600
6884	Raised Pavent Marking	$2,000	Hun	0.25	$502	0	$0	0.25	$502
6895	Temporary Pavement Marking - Short Duration	$1.00	LF	10,700	$10,700	0	$0	10,700	$10,700
6699	Roundabout Cement Concrete Curb 4 inch	$25	LF	1,995	$49,875	0	$0	1,995	$49,875
6702	Mountable Cement Concrete Traffic Curb	$80	LF	187	$14,960	0	$0	187	$14,960
6707	Cement Concrete Pedestrian Curb	$75	LF	60	$4,500	0	$0	60	$4,500
6708	Roundabout Central Island Cement Concrete Curb	$135	LF	125	$16,875	0	$0	125	$16,875
6709	Roundabout Truck Apron Cement Concrete Curb (2 IN)	$100	LF	427	$42,700	0	$0	427	$42,700
6840	Precast Sloped Mountable Curb	$30	LF	0	$0	0	$0	0	$0
6904	Illumination System	$1	LS	50,000	$50,000	0	$0	50,000	$50,000
6914	ITS	$1	LS	111,000	$111,000	0	$0	111,000	$111,000
6890	Permanent Signing	$1	LS	24,000	$24,000	0	$0	24,000	$24,000
6956	Sequential Arrow Sign	$7	HR	1,872	$13,104	0	$0	1,872	$13,104
6973	Other Temporary Traffic Control	$1	LS	20,000	$20,000	0	$0	20,000	$20,000
6974	Traffic Control Supervisor	$1	LS	46,800	$46,800	0	$0	46,800	$46,800
6980	Flaggers	$65	HR	1,872	$121,680	0	$0	1,872	$121,680
6982	Construction Signing Class A	$25	SF	144	$3,600	0	$0	144	$3,600
6992	Other Traffic Control Labor	$65	HR	1,248	$81,120	0	$0	1,248	$81,120
6993	Portable Changeable Message Sign	$10	HR	1,872	$18,720	0	$0	1,872	$18,720
7447	Transportable Attenuator	$18,000	EA	2	$36,000	0	$0	2	$36,000
7449	Operation of Transportable Attenuator	$70	HR	1,248	$87,360	0	$0	1,248	$87,360
7450	Repair Transportable Attenuator	$1	EST	8,000	$8,000	0	$0	8,000	$8,000
xxxx	Contractor Provided Uniformed Police Officer	$120	HR	240	$28,800	0	$0	240	$28,800
	Other								
xxxx	ADA Features Survey	1,250	EA	3	$3,750	0	$0	3	$3,750
7003	Type B Progress Schedule	1	LS	5000	$5,000	0	$0	5,000	$5,000
7006	Structure Excavation Class B Including Haul	50	CY	681	$34,028	0		681	$34,028
7008	Shoring or Extra Excavation Class B	2	SF	4900	$9,800	0		4,900	$9,800
7038	Roadway Survey	1	LS	10000	$10,000	0	$0	10,000	$10,000
7054	Detectable Warning Surface	$50	SF	60	$3,000	0	$0	60	$3,000
7055	Cement Concrete Sidewalk	$200	SY	17	$3,333	0	$0	17	$3,333
7480	Roadside Cleanup	1	EST	5000	$5,000	0	$0	5,000	$5,000
7725	Reimbursement for Third Party Damage	1	EST	5	$5	0	$0	5	$5
7736	SPCC Plan	1	LS	1250	$1,250	0	$0	1,250	$1,250

ROUNDABOUT ESTIMATE - BREAKDOWN BY UNIT BID ITEM

SR:	202	BMP:	15.49
Title:	SR202/Tolt Hill Rd - RAB	EMP:	15.68
WIN:	A202XXX	**PIN:**	1202XXX

Prepared By: JC

Date: 2/9/2021

Reviewed By:

Design PE Review By:

PE	**@**	**10.0%**	**$736,000**
R/W			**$376,000**
CN	**@**	**13.0%**	**$8,610,000**
		Total	**$9,722,000**

Revision No:

Revised By:

Date:

I2 - Collision Prevention				Section 1 Tolt Hill Rd		Section 2 Vacant		**Project Totals** Total		Total
Work Item #	Work Item	Price per Unit	Unit	Qty	Cost	Qty	Cost	Qty	Cost	
Subtotal for Percentages										
Bid Item Subtotal:					$4,332,542		$0			$4,332,542
Miscellaneous		40.0%			$1,733,017		$0			$1,733,017
Subtotal:					$6,065,559		$0			$6,065,559
Mobilization		10.0%			$606,556		$0			$606,556
Subtotal:					$6,672,115		$0			$6,672,115
Sales Tax		10.0%			$667,211		$0			$667,211
Bid Item Total:					$7,339,326		$0			$7,339,326
Utility Agreements		$20,000	EA	1	$20,000	0	$0			$20,000
Washington State Patrol		$100	HR	0	$0	0	$0			$0
(700) Non-Bid Item Total:					$20,000		$0			$20,000
Bid & (700) Non-Bid Item Total:					$7,359,326		$0			$7,359,326
Construction Engineering		13.0%			$956,712		$0			$956,712
Contingencies		4.0%			$294,373		$0			$294,373
Railroad Flagging		$1,000	Day	0	$0	0	$0			$0
Mapping and Monumentation		$2,500	MI	0.00	$0	0.00	$0			$0
(800) State Force Work/Supplied Materials					$0		$0			$0
Construction Total:					$8,610,412		$0			$8,610,412
Preliminary Engineering		10.0%			$735,933		$0			$735,933
ADA Transition Plan - Data Collection Survey		$500	Ramp	0	$0	0	$0			$0
Hydraulic Study					$0		$0			$0
Right of Way										
30250-9088		$2.87	SF	9775	$28,054.25					$28,054.25
-9139		$2.87	SF	8000	$22,960.00					$22,960.00
-9044		$2.87	SF	8155	$23,404.85					$23,404.85
-9036		$2.87	SF	4900	$14,063.00					$14,063.00
Easements (including admin. Cost) King Count/Turnback		$100,000	EA	1	$100,000	0	$0			$100,000
Administration		$20,000	Parcel	4	$80,000	0	$0			$80,000
Condemnation		60.0%			$108,000		$0			$108,000
Relocation					$0		$0			$0
Right of Way Total:					$376,482		$0			$376,482
Total Cost of Project:					**$9,722,826**		**$0**			**$9,722,826**

ASSUMPTIONS:

1 This project will construct a compact single-lane roundabout (RAB) at SR 202 and Tolt Hill Rd with a 100' diameter (ICD).
and an 16' wide circulating lane. Features include a fully-mountable central island and pre-cast mountable raised splitter islands with pedestrian cut-throughs.

2 This project will need approximately78 working days to complete all work.

3 Adjust Sales Tax to 10% per Washington State Department of Revenue website at the date of this estimate.

4 Construction Engineering adjusted to 13% and contingencies adjusted to 4% per Plans Preparation Manual dated November 2013.

5 Preliminary Engineering adjusted to 10% to match average historical PE cost of previous roundabout projects.

6 Removal of Raised Pavement Markers, Pavement Markings, Plastic Lines, and Paint Lines are incidental to the Planing Bituminous Pavement
work. Incidental is defined as "liable to happen as a consequence of."

7 Preliminary review of ROW identified some conflicts due to - some portions of thre RAB to be constructed outside of thr existing roadway prism.

9 Illumination System, ITS, and Permanent Signing lump sum costs provided by NWR Traffic Design.

10 Used 40% Misc. due to no survey and dificult location due to the steep grade on Tolt Hill Rd.

CALCULATION WORKSHEET - SECTION 1

SR: 202 MP: 15.49 to MP : 15.68
Title: SR202/Tolt Hill Rd - RAB
WIN: A202XXX
PIN: 1202XXX

Prepared By: Andrea Dabbs
Date: 8/20/2019

Assumptions

Circular single-lane RAB with ICD of 100 plus 6' Shoulders.
Central Island cross section = 0.92' Textured & Pigmented Cement Concrete Pavement over 0.50' CSBC (metric C-9219)
Splitter Island cross section = 0.25' Commercial HMA over 0.25' CSBC (metric C-8882, traffic island detail)
Ped Cut Through cross section = 4" (0.33') Cement Conc. Sidewalk over 0.30' CSBC (metric C-8882, traffic island detail)
Existing SR 202 shoulder where RAB footprint encroaches is full depth pavement per roadway sections on C-5302.

LANE MILE CALCULATION

PREPARATION

25 Clearing and Grubbing, Acre

Location	MP	MP	Width (ft)	Length (ft)	SF	Acres
SR 202 Wye Lt	15.54	15.60	87	324	14094	0.32
SR 202 Rt	15.56	15.65	20	475	4752	0.11
SR 202/Tolt Hill Rd	15.61	15.68	20	370	3696	0.08
Tolt Hill Road Wye	15.49	15.57	10	422	2112	0.05
Tolt Hill Rd Rt			10	300	1500	0.03
Tolt Hill Rd Lt			10	150	750	0.02
					0	0.00
For ADA, assume # of Ramps x 2 SY + item 7055:				Total =		0.62

0050 Removal of Structures and Obstructions

Removal of miscellaneous obstructions $10,000 L.S.

0170 Removing Guardrail, LF

Type	Begin MP	End MP	Side	Dist (LF)	
SR 202/Tolt Hill Rd Wye				320	Measured on pdf
Terminals				76	
Transition					
**Assume 38 LF/terminal; 20 LF/ transition section*				396	LF

0182 Removing Guardrail Anchor, EA

Same as Beam Guardrail Anchor Type BI 6774: 0 EA

GRADING

0310 Roadway Excavation Incl. Haul, CY

Location	SF	Width (a) (FT)	Length (b) (FT)	Depth (FT)	Vol. (CY)	
Tolt Hill Rd (New Profile)		38	500	3.00	2111	From SR 202 500 lf up Tolt Hill Rd.
Tolt Hill Rd Wye		36	450	3.00	1800	
SR 202 MP 15.49 to 15.68		38	1000	1.50	2111	
			Total =		6022	CY

0431 Gravel Borrow including Haul Incl. Haul, Ton

Location	SF	Avg. Width (a)	Length (b) (FT)	Depth (FT)	Vol. (CY)	Vol. (Tons)	
SR 202 MP 15.49 to 15.68 (New	39072.00	44	888	1.75	2532	4685	5' Fill at center of RAB/1' Fil at the beg and end.
RAB	9852.00		112	3.50	1277	2363	RAB 100 ICD plus shldrs.
Tolt Hill Rd (New Profile)	19000.00	38	500	0.50	352	651	
Tolt Hill Rd Wye	16200.00	36	450	0.50	300	555	
	84124.00			Total	**4461**	**8254**	

2

0471 Embankment Compaction, CY

Location	SF	Width (a) (FT)	Length (b) (FT)	Depth (FT)	Vol. (CY)
Same as Gravel Borrow CY					4461
				Total	**4461**

STORM SEWER

3091 Catch Basin Type 1

Notes					EA	
					6	Cont. 5302 had 3 increased to 4

CALCULATION WORKSHEET - SECTION 1

SR: 202 MP: 15.49 to MP : 15.68 **Prepared By:** Andrea Dabbs
Title: SR202/Tolt Hill Rd - RAB **Date:** 8/20/2019
WIN: A202XXX
PIN: 1202XXX

6

3457 CL IV Reinf. Concrete Storm Sewer Pipe 18"

700 LF

SURFACING

5100 Crushed Surfacing Base Course, TON

Location	SF	Width (a) (FT)	Length (b) (FT)	Depth (FT)	Volume (CY)	Tons
Use Gravel Borrow SF	84124			0.50	1558	2882
Riches Landscaping Driveway	0	17	125	0.50	39	73
					Total =	2,883 TONS

HOT MIX ASPHALT

5711 Planing Bituminous Pavement, SY

**Area determined using SRview and Google Maps*

Alignment	Begin MP	End MP	Width (FT)	Length (FT)	Area (SF)	Area (SY)
SR 202	15.62	15.72	36	50	1,800	200
SR 202	15.62	15.72	36	50	1,800	200
Tolt Hill Rd			32	50	1,600	178
					5,200	578

5767 HMA for Mainline, Ton

Alignment	Begin MP	End MP	Width: Inside Shoulder	Width: Lane(s)	Width: Outside Shoulder	Width: Special Use Lane	Total Width	Distance (LF)	Area (SF)	Tons
SR 202/Tolt/Wye	Same as Gravel Borrow SF								84,124	
SR 202									1,800	
SR 202									1,800	
Tolt Hill Rd									1,600	

	SR 202/Tolt/Wye	HMA Depth:	1	ft	Area:	84,124	6,387
	SR 202	HMA Depth:	0.15	ft	Area:	1,800	21
	SR 202	HMA Depth:	0.15	ft	Area:	1,800	21
	Tolt Hill Rd	HMA Depth:	0.15	ft	Area:	1,600	18
1250	Riches Land. Driveway	HMA Depth:	0.15	ft	Area:	1,250	14
						Total	6,461

Add 5% for waste (Tons): 6,784

enchroaches onto existing shoulder -- cross section 0.35' HMA over 0.35' CSBC

5875 Commercial HMA

Location	Area (SF)	Depth (ft)	Volume (CY)	Tons	
N Splitter Island (Tolt Hill Rd)	190	0.25	2	4	*25' long x 10' wide splitter, minus 6' wide ped cut through*
W Splitter Island (SR 202)	1690	0.25	16	32	*175' long x 10' wide splitter, minus 6' wide ped cut through*
E Splitter Island (SR 202)	1690	0.25	16	32	*175' long x 10' wide splitter, minus 6' wide ped cut through*
Central Island	1256	0.25	12	24	*40' ICD*
Fill splitter islands with commercial HMA				92	Tons

Splitter Island cross section = 0.25' Commercial HMA over 0.25' CSBC (metric C-8882, traffic island detail)

CEMENT CONCRETE PAVEMENT

xxxx Textured and Pigmented Cement Concrete Pavement, SY

Location	Width (a) (FT)	Length (b) (FT)	SF	Area (SY)	
SR 202/Wye Island			1125	125	*68 ICD with 14' apron*
SR 202 West Island			450	50	
Driveway Island			40	4	
Tolt Wye Island			3325	369	
Tolt Island			375	42	
SR 202 East Island			3860	429	
Central Island Apron (14')			2374	264	
RAB West Island			525	58	*68 ICD with 14' apron*
		Total =		1342	SY

Central Island cross section = 0.92' Textured & Pigmented Cement Concrete Pavement over 0.50' CSBC (metric C-9219)

EROSION CONTROL & PLANTING

CALCULATION WORKSHEET - SECTION 1

SR: 202 MP: 15.49 to MP : 15.68
Title: SR202/Tolt Hill Rd - RAB
WIN: A202XXX
PIN: 1202XXX

Prepared By: Andrea Dabbs
Date: 8/20/2019

6403 ESC Lead, Day 39 Days

6490 Erosion / Water Pollution Control, LS $15,000 LS

6635 High Visibility Silt Fence

Location	Length (ft)
Tolt Hill Rd	750
SR 202 (north side)	750
SR 202 (south side)	1200
Total =	2700 LF

TRAFFIC

Roadway Markings/Curb *From SR View & Google Maps*

Begin MP	End MP	Notes	Stripes	Quantities: 6807 Plastic Line	6871 Plastic Traffic Letter	6833 Plastic Traffic Arrows	9238 Plastic Yield Line Symbol	6840 Sloped Mountable Curb	6857 Plastic Crosswalk Line	6847 Plastic Wide Dotted Entry Line	6881 Plastic Drainage Marker	6884 Raised Pavement Marker
15.49	15.55	CL, Edge	4	1,267							2	8
15.55	15.58	CL, Edge	4	634		2					2	
15.59	15.68	CL, Edge	4	1,901							2	12
Tolt Hill Wye		Edge		256		2						
Tolt Hill Rd		CL	2	422								5
Tolt Hill Rd		Edge	2	550								
RAB		Edge	1	314			18			18		
Driveway						1						
		Total Quantity:		5,344	0	5	18	0	0	18	6	0.25
		Units:		LF	EA	EA	EA	LF	SF	LF	EA	EA
						"Yield"						

6699 Roundabout Cement Concrete Curb 4 inch, LF (For Islands)

Notes		Length
SR 202/Wye Island		420
SR 202 West Island		200
Driveway Island		30
Tolt Wye Island		520
Tolt Island		105
SR 202 East Island		470
RAB West Island		250
		1,995 LF

6702 Mountable Cement Concrete Traffic Curb, LF

Notes		Length (b) (FT)	Length
SR 202 West Island		132	132
RAB West Island		55	55
			187 LF

6708 Roundabout Central Island Cement Concrete Curb, LF

Notes	Width (a) (FT)	Length (b) (FT)	Length	
Central Island			125	*40' ICD*
			125 LF	

6709 Roundabout Truck Apron Cement Concrete Curb (2 Inch), LF

Notes	Width (a) (FT)	Length (b) (FT)	Length	
Central Island			427	*64' ICD*
			427 LF	

6904 Illumination System
Cost estimate provided by NWR Traffic Design Duke Do on 9/9/2019. *use $50k* Total Cost = $50,000 L.S.

6914 ITS
Cost estimate provided by NWR Traffic Design Duke Do on 9/9/2019. Total Cost = $111,000 L.S.

6890 Permanent Signing
Cost estimate provided by NWR Traffic Design Duke Do on 9/9/2019. Total Cost = $24,000 L.S.

CALCULATION WORKSHEET - SECTION 1

SR:	202	MP:	15.49	to MP :	15.68	**Prepared By:**	Andrea Dabbs
Title:	SR202/Tolt Hill Rd - RAB					**Date:**	8/20/2019
WIN:	A202XXX						
PIN:	1202XXX						

6895 Temporary Pavement Marking - Short Duration

Notes	Begin MP	End MP	Sum of Lines	Number of Applications	LF
Lane Lines			5,344	2	
Item includes removal of temp. markings per Standard Spec. 8-23.5					10,687
Assume 2 applications (1 after grinding, 1 after paving):				SAY	10,700

Traffic Control

Work Days

Preparation and Removal	8	Days	
Removing/regrading Tolt Hill Rd	14	Days	
Walls	30	Days	
Planing / Repair / Paving	6	Days	
Install Traffic Splitter Islands	2	Days	
Install Ped Cut Throughs & DWS	4	Days	
Construct Central Island	4	Days	
Striping & Signage	4	Days	
Illumination & ITS	4	Days	
Clean-up	2	Days	
Assume	78	Days	

Assumptions for TC

** Production rates based on an 8-hour workday*
** Production rates based on an 8-hour workday*
** Production rates based on an 8-hour workday*
**Grinding @ 9,000 SY / Day; Paving @ 1,200 Tons / Day*
**Curbing @ 1,500 LF / Day; Commercial HMA @ 160 CY/day*
**1 Ped Cut Through per Day + 1 Day for DWS Install*
**CSBC @ 1,000 T / Day; Curbing @ 1,500LF / Day; Concrete Pavement @ 1,200CY / Day*
**Striping @ 1,400 LF / Day + 1 Day for Misc. Traffic Markings; All signing in 1 day*
** Illumination System @ 5 Days / Pole -- assume work concurrent with Signage & Ped Cut Throughs*

		Days	Hrs / Day	Qty	Hrs	Unit Cost	Units	Total Cost
6956	Sequential Arrow Sign	78	8	3	1872	$7	HR	$13,104
6973	Other Temporary Traffic Control	N/A	N/A	N/A	N/A	N/A	LS	$20,000
6974	Traffic Control Supervisor	78	8	1	624	$75	LS	$46,800
6980	Flaggers	78	8	3	1872	$65	HR	$121,680
6982	Construction Signing Class A	N/A	N/A	144	N/A	$25	SF	$3,600
6992	Other Traffic Control Labor	78	8	2	1248	$65	HR	$81,120
6993	Portable Changeable Message Sign	78	8	3	1872	$10	HR	$18,720
7447	Transportable Attenuator	N/A	N/A	2	N/A	$18,000	EA	$36,000
7449	Operation of TA	78	8	2	1248	$70	HR	$87,360
7450	Repair TA	N/A	N/A	1	N/A	$8,000	EST	$8,000
xxxx	Contractor Provided Uniformed Police Officer	15	8	2	240	$120	HR	$28,800
								$465,184

** "Other Temporary Traffic Control" covers traffic drums, cones, contractor piloted vehicle, etc.*

OTHER

7006 Structure Excavation Class B Including Haul, CY

18" Pipe 1.5 x D +1.5 700llf 7' depth *3.75*

681

7008

4,900

7054 Ramp Detectable Warning Retrofit, SF

**Ramp detectable warning retrofit area assumed at 10 SF per ramp.*

Notes	Begin MP	# of Ramps	Area (SF)
Splitter Islands		6	60
			60

Three Splitter Islands with ped cut through in each - DWS on each entry point.

Sidewalk & Curb/Gutter		6700	6707	7055	
Alignment	Begin MP	Conc Curb and Gutter	Conc Pedestrian Curb	Conc Sidewalk	
N Splitter Island (Tolt Hill Rd)			20	6	*Ped cut through 5' x 10'*
W Splitter Island (SR 202)			20	6	*Ped cut through 5' x 10'*
E Splitter Island (SR 202)			20	6	*Ped cut through 5' x 10'*
		0	60	17	
		LF	LF	SY	

ROUNDABOUT ESTIMATE - BREAKDOWN BY UNIT BID ITEM

SR: 202 MP: 21.29

Title: SR 202/Preston Fall City Rd SE Roundabout, Parking and Sidewalk Improvement

WIN: A202XXX **PIN:** 1202XXX

Prepared By: Lucas Rogers **Date:** 7/20/2021

Reviewed By: John Crawford TBD

Design PE Review By:

PE	**@**	**10.0%**	**$814,000**
R/W			**$20,000**
CN	**@**	**13.0%**	**$9,521,000**
		Total	**$10,355,000**

Revision No: 1
Revised By: John Crawford
Date: 2/10/21

I2 - Collision Prevention				Preston Fall City Road SE RAB		Sidewalk and Parking Improvements		Project Totals Total	Project Totals Total
Work Item #	Work Item	Price per Unit	Unit	Qty	Cost	Qty	Cost	Qty	Cost
	Preparation								
0050	Removal of Structures and Obstructions	$1	LS	10,000	$ 10,000.00	10000	$ 10,000.00	20,000	$ 20,000.00
0145	Remove Concrete Barrier	$20	LF	244	$ 4,880.00	0	$ -	244	$ 4,880.00
0150	Removing Traffic Island	$50	SY	42	$ 2,100.00	0	$ -	42	$ 2,100.00
0310	Roadway Excavation Incl. Haul	$45	CY	183	$ 8,221.57	7519	$ 338,340.00	7,701	$ 346,561.57
	Grading								
0332	Pavement Repair Excavation Incl. Haul	$ 75.00	SY	80	$ 6,000.00	0	$ -	80	$ 6,000.00
	Storm Sewer								
3091	Catch Basin Type 1	$ 2,200.00	EA	0	$ -	32	$ 70,400.00	32	$ 70,400.00
3105	Catch Basin Type 2	$ 4,200.00	EA	0	$ -	2	$ 8,400.00	2	$ 8,400.00
3396	Plain Conc. Storm Sewer Pipe 18" Diam.	$ 100.00	LF	0	$ -	2,150	$ 215,000.00	2,150	$ 215,000.00
1085	Quarry Spalls CY	$ 250.00	CY	0.0	$ -	1.1	$ 275.00	1	$ 275.00
	Surfacing								
5100	Crushed Surfacing Base Course	$ 55.00	T	200	$ 11,000.00	3,834	$ 210,870.00	4,034	$ 221,870.00
	Hot Mix Asphalt								
5711	Planing Bituminous Pavement	$ 10.00	SY	2,441	$ 24,405.33	0	$ -	2,441	$ 24,405.33
5716	HMA for Preleveling	$ 250.00	T	53	$ 13,133.12	0	$ -	53	$ 13,133.12
5739	HMA for Pavement Repair CL. 1/2 IN PG	$ 350.00	T	12	$ 4,337.56	0	$ -	12	$ 4,337.56
5767	HMA for Mainline	$ 150.00	T	263	$ 39,399.36	7,271	$ 1,090,686.67	7,534	$ 1,130,086.03
5830	Job Mix Compliance Price Adjustment	Calc	%	5%	$ 1,969.97	5%	$ 54,534.33	Calc	$ 56,504.30
5835	Compaction Price Adjustment	Calc	%	5%	$ 1,969.97	5%	$ 54,534.33	Calc	$ 56,504.30
5875	Commercial HMA	$ 350.00	T	38	$ 13,300.00	0	$ -	38	$ 13,300.00
	Cement Concrete Pavement								
xxxx	Textured and Pigmented Cement Concrete Pavement	$ 200.00	SY	372	$ 74,313.33	0	$ -	372	$ 74,313.33
	Erosion Control & Planting								
6403	ESC Lead	$ 150.00	Day	18	$ 2,700.00	45	$ 6,750.00	63	$ 9,450.00
6471	Inlet Protection	$ 150.00	EA	9	$ 1,350.00	0	$ -	9	$ 1,350.00
6490	Erosion Water Pollution Control	$ 1.00	LS	5000	$ 5,000.00	5000	$ 5,000.00	10,000	$ 10,000.00
6635	High Visibility Silt Fence	$ 6.00	LF	1000	$ 6,000.00	2000	$ 12,000.00	3,000	$ 18,000.00
6407	Topsoil Type A	$ 150,000.00	AC	0	$ -	0.47	$ 70,340.91	0.47	$ 70,340.91
XXXX	Landscaping	$ 100,000.00	LS	0	$ -	1.00	$ 100,000.00	1	$ 100,000.00
	Traffic								
6807	Plastic Line	$ 2.50	LF	1,342	$ 3,355.00	3,992	$ 9,979.25	5,334	$ 13,334.25
6822	Plastic Crosshatch Marking	$ 5.00	LF	0	$ -	678	$ 3,389.50	678	$ 3,389.50
6833	Plastic Traffic Arrows	$ 200.00	EA	3	$ 600.00	4	$ 800.00	7	$ 1,400.00
6847	Wide Dotted Entry Line	$ 8.00	LF	48	$ 384.00	0	$ -	48	$ 384.00
6857	Plastic Crosswalk Line	$ 10.00	SF	384	$ 3,840.00	3,710	$ 37,103.00	4,094	$ 40,943.00
6859	Plastic Stop Line	$ 15.00	LF	0	$ -	132	$ 1,986.00	132	$ 1,986.00
6863	Plastic Access Parking Space Symbol	$ 250.00	EA	0	$ -	7	$ 1,750.00	7	$ 1,750.00
6871	Plastic Traffic Letter	$ 100.00	EA	15	$ 1,500.00	0	$ -	15	$ 1,500.00
9238	Plastic Yield Line Symbol	$ 120.00	EA	18	$ 2,160.00	0	$ -	18	$ 2,160.00
6895	Temporary Pavement Marking - Short Duration	$ 1.00	LF	2,300	$ 2,300.00	8,000	$ 8,000.00	10,300	$ 10,300.00
6700	Cement Concrete Curb and Gutter	$ 50.00	LF	150	$ 7,500.00	5,028	$ 251,420.00	5,178	$ 258,920.00
6707	Cement Concrete Pedestrian Curb	$ 60.00	LF	16	$ 960.00	0	$ -	16	$ 960.00
7055	Cement Concrete Sidewalk	$ 80.00	SY	332	$ 26,524.44	5,160	$ 412,813.33	5,492	$ 439,337.78
6708	Roundabout Central Island Cement Concrete Curb 2 IN	$ 100.00	LF	532	$ 53,200.00	0	$ -	532	$ 53,200.00
6841	Precast Dual Faced Sloped Mountable Curb	$ 40.00	LF	0	$ -	687	$ 27,488.00	687	$ 27,488.00
6840	Precast Sloped Mountable Curb	$ 50.00	LF	512	$ 25,600.00	681	$ 34,040.00	1,193	$ 59,640.00
7442	Permenant Impact Attenuator	$ 32,000.00	EA	1	$ 32,000.00	0	$ -	1	$ 32,000.00
6904	Illumination System	$ 1.00	LS	155,000	$ 155,000.00	0	$ -	155,000	$ 155,000.00
6890	Permanent Signing	$ 1.00	LS	20,000	$ 20,000.00	20000	$ 20,000.00	40,000	$ 40,000.00
6956	Sequential Arrow Sign	$ 7.00	HR	1,050	$ 7,350.00	2677	$ 18,740.62	3,727	$ 26,090.62
6973	Other Temporary Traffic Control	$ 1.00	LS	20,000	$ 20,000.00	20000	$ 20,000.00	40,000	$ 40,000.00
6974	Traffic Control Supervisor	$ 1.00	LS	26,250	$ 26,250.00	66931	$ 66,930.78	93,181	$ 93,180.78
6980	Flaggers	$ 75.00	HR	1,050	$ 78,750.00	2677	$ 200,792.35	3,727	$ 279,542.35
6982	Construction Signing Class A	$ 25.00	SF	144	$ 3,600.00	144	$ 3,600.00	288	$ 7,200.00
6992	Other Traffic Control Labor	$ 75.00	HR	700	$ 52,500.00	1785	$ 133,861.57	2,485	$ 186,361.57
6993	Portable Changeable Message Sign	$ 10.00	HR	1,050	$ 10,500.00	2677	$ 26,772.31	3,727	$ 37,272.31
7447	Transportable Attenuator	$ 18,000.00	EA	2	$ 36,000.00	2	$ 36,000.00	4	$ 72,000.00
7449	Operation of Transportable Attenuator	$ 75.00	HR	700	$ 52,500.00	1785	$ 133,861.57	2,485	$ 186,361.57
7450	Repair Transportable Attenuator	$ 8,000.00	EST	1	$ 8,000.00	1	$ 8,000.00	2	$ 16,000.00
6968	Pedestrian Traffic Control	$ 1.00	LS	2,500	$ 2,500.00	2,500	$ 2,500.00	5,000	$ 5,000.00
xxxx	Contractor Provided Uniformed Police Officer	$ 120.00	HR	700	$ 84,000.00	1785	$ 214,178.51	2,485	$ 298,178.51
xxxx	Painted Marking of Island	$ 2.00	SF	1,960	$ 3,920.00	0	$ -	1,960	$ 3,920.00
	Other								
xxxx	ADA Features Survey	$ 1,250.00	EA	6	$ 7,500.00	22	$ 27,500.00	28	$ 35,000.00
7003	Type B Progress Schedule	$ 1.00	LS	5000	$ 5,000.00	5000	$ 5,000.00	10,000	$ 10,000.00
7006	Structure Excavation Class B Incl. Haul	$ 55.00	CY	0	$ -	1200	$ 66,000.00	1,200	$ 66,000.00
7038	Roadway Survey	$ 1.00	LS	5000	$ 5,000.00	5000	$ 5,000.00	10,000	$ 10,000.00
7054	Detectable Warning Surface	$ 50.00	SF	60	$ 3,000.00	0	$ -	60	$ 3,000.00
7058	Cement Concrete Curb Ramp	$ 6,000.00	EA	1	$ 6,000.00	22	$ 132,000.00	23	$ 138,000.00
7059	Cement Conc. Driveway Entrance Type	$ 175.00	SY	40	$ 7,000.00	447	$ 78,201.67	487	$ 85,201.67
7060	Asphalt Sidewalk	$ 200.00	SY	17	$ 3,400.00	0	$ -	17	$ 3,400.00
7480	Roadside Cleanup	$ 1.00	EST	5000	$ 5,000.00	5000	$ 5,000.00	10,000	$ 10,000.00
7725	Reimbursement for Third Party Damage	$ 1.00	EST	5	$ 5.00	5	$ 5.00	10	$ 10.00
7736	SPCC Plan	$ 1.00	LS	1250	$ 1,250.00	1250	$ 1,250.00	2,500	$ 2,500.00

Subtotal for Percentages

Bid Item Subtotal:				$ 994,028.65	$ 4,241,094.70	$ 5,235,123.35	$ 5,235,123.35
Miscellaneous	30.0%			$ 298,208.60	$ 1,272,328.41	$ 1,570,537.00	$ -
Subtotal:				$ 1,292,237.25	$ 5,513,423.11	$ 6,805,660.35	
Mobilization	10.0%			$ 129,223.72	$ 551,342.31	$ 680,566.04	
Subtotal:				$ 1,421,460.97	$ 6,064,765.42	$ 7,486,226.39	
Sales Tax	8.7%			$ 123,667.10	$ 527,634.59	$ 651,301.70	
Bid Item Total:				$ 1,545,128.07	$ 6,592,400.01	$ 8,137,528.08	
Utility Agreements	$0	EA	0	$ -	$ -	$ -	
Washington State Patrol	$100	HR	0	$ -	$ -	$ -	
(700) Non-Bid Item Total:				$ -	$ -	$ -	
Bid & (700) Non-Bid Item Total:				$ 1,545,128.07	$ 6,592,400.01	$ 8,137,528.08	
Construction Engineering	13.0%			$ 200,866.65	$ 857,012.00	$ 1,057,878.65	

Contingencies	4.0%			$	61,805.12	$	263,696.00	$	325,501.12
Public Outreach	$0	LS	0	$	-	$	-	$	-
Temporary Video Detection System	$10,000	LS	0	$	-	$	-	$	-
(800) State Force Work/Supplied Materials				$	-	$	-	$	-
Construction Total:				$	1,807,799.85	$	7,713,108.01	$	9,520,907.86
Preliminary Engineering	10.0%			$	154,512.81	$	659,240.00	$	813,752.81
Preliminary Engineering Total:				$	154,512.81	$	659,240.00	$	813,752.81
Right of Way									
Easements		*Business Access*		$	20,000.00	$	-	$	20,000.00
Administration		Parcel	0	$	-	$	-	$	-
Condemnation				$	-	$	-	$	-
Relocation				$	-	$	-	$	-
Right of Way Total:				$	20,000.00	$	-	$	20,000.00
Total Cost of Project:				**$**	**1,982,312.65**	**$**	**8,372,348.01**	**$**	**10,354,660.67**

ASSUMPTIONS:

1. This project will need approximately 123 working days to complete all work.
2. Adjust Sales Tax to 8.7% per Washington State Department of Revenue website at the date of this estimate.
3. Construction Engineering adjusted to 13% and contingencies adjusted to 4% per Ebase User's Guide August 2019
4. Preliminary Engineering adjusted to 10% per Cost Estimating Manual for Projects December 2020.
5. Based on BlueBeam Sketchup
6. Highlighted Line on BlueBeam Sketch shows delineation between preserving existing pavement and demoing all pavement
7.
8.
9.

PAVING (P1) SCOPING FILE CHECKLIST

WIN A202XXX PIN 1202XXX

SR 202 MP 21.29 to MP 21.89

Title SR 202/Preston Fall City Rd SE Roundabout, Parking and Sidewalk Improvement

Scoped By: Lucas Rogers Date: 7/20/2021

Reviewed By: John Crawford Date: TBD

Reviewed By: Date:

Project Summary Region Review Package (Required)

- ☐ **Project Definition**
- ☐ **Design Decisions Summary**
- ☐ **Environmental Review Summary**
- ☐ **Project Vicinity Map**

HQ Review Package

- ☐ **Project Cost Estimate Summary**
- ☐ **Detailed Quantity Calculations for Each Estimate Item**
- ☐ **PDIS Schedule**
- ☐ **PEO Comments**

Scoping File Documentation (Required)

- ☐ **Roadside Restoration Worksheet**
- ☐ **Design Variance Inventory**

Support Group Documentation:

- ☐ **Preliminary Surfacing Recommendation**
- ☐ **WSPMS Listing**
- ☐ **Support Group Correspondence:** ☐ENVIRONMENTAL ☐ BRIDGE DESIGN ☐MAINTENANCE ☐ MATERIALS ☐R/W ☐R/W UPDATE ☐TRAFFIC ☐ UTILITIES ☐OTHER_____

- ☐ **HAC/HAL Reviews**
- ☐ **Field Review Notes and Pictures**
- ☐ **Existing Utility Locations**
- ☐ **Access Permits**

Additional Scoping Information (Optional)

- ☐ **As-Built and Right of Way Plans**
- ☐ **Conversation Records and Email Correspondence**
- ☐ **Plan Sheets**
- ☐ **Resurfacing Project Definition**

CALCULATION WORKSHEET - SECTION 1
SR 18 MP 19.89

SR: 202 MP: 21.29 to MP : 21.89 **Prepared By:** Lucas Rogers
Title: SR 202/Preston Fall City Rd SE Roundabout, Parking and Sidewalk Im **Date:** 7/20/2021
WIN: A202XXX
PIN: 1202XXX

LANE MILE CALCULATION

Alignment	Begin MP	End MP	Type	Length	# of Lanes	Lane Miles	Notes
SR 202	21.67	21.76	Thru	0.09	2	0.18	
Preston-Fall	0.00	0.04	Thru	0.04	2	0.08	
				Total lane miles =		0.26	

Mainline Length: 0.26 Lane Miles Auxiliary Lane Length: 0.00 Lane Miles

PREPARATION

0050 Removal of Structures and Obstructions

Removal of signs and poles $5,000 L.S.

145 Removing Concrete Barrier, LF

Location	MP	MP	SF
SR 202	21.70	21.75	244
			244

Remove existing 100' x 10' area - to be replaced by splitter island.

150 Removing Traffic Island, SY

Location	MP	Area (SY)
SR 202		42
South Leg		12
		42

0310 Roadway Excavation Incl. Haul, CY

Location	MP	Width (ft)	Length (ft)	Depth (ft)	Vol. (CY)	
Central Island		53	53	1.00	82	*Mountable center island 50'x50' + 3' for curb*
NW quadrant sidewalk buffer		11	245	1.00	78	
SW quadrant sidewalk buffer		6	130	1.00	23	
			Total =		183	CY

SURFACING

5100 Crushed Surfacing Base Course, TON

Location	Width (a) (FT)	Length (b) (FT)	Depth (FT)	Volume (CY)	Tons	
Central Island	53	53	0.50	41	76	
NW quadrant sidewalk buffer	11	245	0.50	39	72	
SW quadrant sidewalk buffer	6	130	0.50	11	21	
W Splitter Island	10	36	0.25	3	6	
N Splitter Island	10	110	0.25	10	19	
S Splitter Island	10	30	0.25	3	5	*6' wide ped cut through*
				Total =	200	TONS

Central Island cross section = 0.92' Textured & Pigmented Cement Concrete Pavement over 0.50' CSBC (metric C-9219)
Splitter Island cross section = 0.25' Commercial HMA over 0.25' CSBC (metric C-8882, traffic island detail)

HOT MIX ASPHALT

5711 Planing Bituminous Pavement, SY

**Area determined using SRview and Google Maps*

Alignment	Begin MP	End MP	Width (a) (FT)	Length (b) (FT)	Area (SF)	Area (SY)	
SR 202	21.67	21.76	32	475	15,206	1,690	*Two 16' wide lanes*
Preston-Fall	0.00	0.04	32	211	6,758	751	
					21,965	2,441	

5767 HMA for Mainline, Ton

			Width							
Alignment	Begin MP	End MP	Inside Shoulder	Lane(s)	Outside Shoulder	Special Use Lane	Total Width	Distance (LF)	Area (SF)	Total Area (SY)
SR 202	Same as planing								21,965	2441
								Total Area:	21,965	2,441

HMA Depth: 0.15 ft Volume (Tons): 250
Add 5% for waste (Tons): 263

5875 Commercial HMA

Location	Area (SF)	Depth (ft)	Volume (CY)	Tons	
W Splitter Island	360	0.25	3	7	
N Splitter Island	1100	0.25	10	21	
S Splitter Island	300	0.25	3	6	*6' wide ped cut through*
S Curb	200	0.25	2	4	
				38	Tons

Fill splitter islands with commercial HMA
Splitter Island cross section = 0.25' Commercial HMA over 0.25' CSBC (metric C-8882, traffic island detail)

CEMENT CONCRETE PAVEMENT

xxxx Textured and Pigmented Cement Concrete Pavement, SY

Location	Width (a) (FT)	Length (b) (FT)	Area (SY)

Central Island	50	50	218
NW quadrant sidewalk buffer	4	245	85
SW quadrant buffer	6	130	68
		Total =	372 SY

Central Island cross section = 0.92' Textured & Pigmented Cement Concrete Pavement over 0.50' CSBC (metric C-9219)

EROSION CONTROL & PLANTING

6403 **ESC Lead, Day** — 18 Days

6471 **Inlet Protection, EA**

As viewed using SRView & Google Maps — 9 EA

6490 **Erosion / Water Pollution Control, LS** — $5,000 LS

6635 **High Visibility Silt Fence** — 1000 LF

TRAFFIC

Roadway Markings/Curb

Begin MP	End MP	Notes	Quantities: 6807 Plastic Line	6871 Plastic Traffic Letter	6833 Plastic Traffic Arrows	9238 Plastic Yield Line Symbol	6840 Sloped Mountable Curb	6857 Plastic Crosswalk Line	6847 Plastic Wide Dotted Entry Line	6881 Plastic Drainage Marker
		W Splitter Island	92				92	192		
		N Splitter Island	240				240			
		S Splitter Island	80				80			
		Parking Stalls	240							
		West Leg	240	5	1	6		192	16	
		North Leg	240	5	1	6			16	
		South Leg	210	5	1	6	100		16	
		Total Quantity:	1,342	15	3	18	512	384	48	0
		Units:	LF	EA	EA	EA	LF	SF	LF	EA

6708 **Roundabout Central Island Cement Concrete Curb 2 Inch, LF**

Notes	Width (a) (FT)	Length (b) (FT)	Length
Central Island	50	50	157
NW quadrant sidewalk buffer			245
SW quadrant buffer			130
			532 LF

xxxx **Painted Marking of Island**

Location	Area (SF)	
W Splitter Island	360	*Area same as Item #5875 Commercial HMA*
N Splitter Island	1100	"
S Splitter Island	300	"
S Curb	200	"
	1,960	SF

Paint Splitter Island HMA for contrast. Use contract 8846 bid item as reference (Qty 2,126, Engineer est. = $2/SF low bidder = $1.1/SF

6904 **Illumination System**

Illumination System cost estimate based on a similar roundabout project provided by NWR Traffic Duke Do.

Includes $60,000 for Illumination, $45,000 for Camera, $45,000 for Data, and $5,000 for Comm

Total Cost = $155,000 L.S.

6890 **Permanent Signing**

Use contract 9219 (SR 9/Francis Road Intersection Improvements) as reference for permanent signage needed at roundabout: Engineer Est. = $11,000; Low Bidder = $24,000); use $20,000

Total Cost = $20,000 L.S.

6895 **Temporary Pavement Marking - Short Duration**

Notes	Begin MP	End MP	Sum of Lines	Number of Applications	LF
Edge Lines			412	2	824
Lane Lines			690	2	1,380
					2,204
				SAY	2,300 LF

Item includes removal of temp. markings per Standard Spec. 8-23.5

Traffic Control

Work Days

Preparation and Removal	8	Days
Planing / Repair / Paving	2	Days
Install Traffic Splitter Islands	6	Days
Install Ped Cut Throughs & DWS	2	Days
Construct Central Island	5	Days
Striping & Signage	4	Days
Illumination	6	Days
Clean-up	2	Days
Assume	35	Days

Assumptions for TC

** Production rates based on an 8-hour workday*
**Grinding @ 9,000 SY / Day; Paving @ 1,200 Tons / Day*
**Curbing @ 1,200 LF / Day; Commercial HMA @ 150 CY / Day; Painting @ 10,000 SF / Day*
**1 Ped Cut Through per Day + 1 Day for DWS Install*
**CSBC @ 1,000 T / Day; Curbing @ 1,200LF / Day; Concrete Pavement @ 1,000CY / Day*
**Striping @ 5,000 LF / Day plus 3 day for Misc.; All signing in 1 day*
** Illumination System @ 5 Days / Pole -- assume work concurrent with Signage & Ped Cut Throughs*

		Days	Hrs / Day	Qty	Hrs	Unit Cost	Units	Total Cost
6956	Sequential Arrow Sign	35	10	3	1050	$7	HR	$7,350
6973	Other Temporary Traffic Control	N/A	N/A	N/A	N/A	N/A	LS	$20,000
6974	Traffic Control Supervisor	35	10	1	350	$75	LS	$26,250
6980	Flaggers	35	10	3	1050	$70	HR	$73,500
6982	Construction Signing Class A	N/A	N/A	144	N/A	$25	SF	$3,600
6992	Other Traffic Control Labor	35	10	2	700	$70	HR	$49,000
6993	Portable Changeable Message Sign	35	10	3	1050	$10	HR	$10,500
7447	Transportable Attenuator	N/A	N/A	2	N/A	$18,000	EA	$36,000
7449	Operation of TA	35	10	2	700	$70	HR	$49,000
7450	Repair TA	N/A	N/A	1	N/A	$8,000	EST	$8,000

xxxx	Contractor Provided Uniformed Police Officer	35	10	2	700	$120

** "Other Temporary Traffic Control" covers traffic drums, cones, contractor piloted vehicle, etc.*

$367,200

7054 **Ramp Det**

Notes	Begin MP	# of Ramps	Area (SF)
		6	60
			60

Sidewalk & Curb/Gutter	**6700**	**6707**	**7055**	**7060**	
Alignment	Conc Curb and Gutter	Conc Pedestrian Curb	Conc Sidewalk	Asphalt Sidewalk	
	150	16	116	0	
Additional SW Quad.			53	17	Asphalt wedg
NW quadrant sidewalk buffer			163		sidewalk 245
	150	16	332	17	
	LF	LF	SY	SY	

7058

Cross Street	MP	Ramp ID's	# of Ramps	# of Signs*

CALCULATION WORKSHEET - SECTION 1
SR 18 MP 19.89

SR: 202 MP: 21.29 to MP : 21.89 **Prepared By:** Lucas Rogers
Title: SR 202/Preston Fall City Rd SE Roundabout, Parking and Sidewalk Im **Date:** 7/20/2021
WIN: A202XXX
PIN: 1202XXX

LANE MILE CALCULATION

Alignment	Begin MP	End MP	Type	Length	# of Lanes	Lane Miles		Notes
SR 202	21.29	21.89	Thru	0.60	2	1.20		
				Total lane miles =		1.20		

Mainline Length: 1.20 Lane Miles Auxiliary Lane Length: 0.00 Lane Miles

PREPARATION

0050 Removal of Structures and Obstructions

Removal of signs and poles $5,000 L.S.

145 Removing Concrete Barrier, LF

Location	MP	MP	SF
SR 202	21.70	21.75	244
			0

Remove existing 100' x 10' area - to be replaced by splitter island.

150 Removing Traffic Island, SY

Location	MP	Area (SY)

0310 Roadway Excavation Incl. Haul, CY

Location	MP	Area	Depth (ft)	Vol. (CY)
Total Area		135336	1.50	7519
			Total =	7519 CY

SURFACING

5100 Crushed Surfacing Base Course, TON

Location	Area (SF)		Depth (FT)	Volume (CY)	Tons	
Roadway	65441		0.50	1212	2242	
Sidewalks	46442		0.50	860	1591	
				0	0	
				0	0	
				0	0	
				0	0	*6' wide ped cut through*
				Total =	3,834	TONS

Central Island cross section = 0.92' Textured & Pigmented Cement Concrete Pavement over 0.50' CSBC (metric C-9219)
Splitter Island cross section = 0.25' Commercial HMA over 0.25' CSBC (metric C-8882, traffic island detail)

HOT MIX ASPHALT

5711 Planing Bituminous Pavement, SY

**Area determined using SRview and Google Maps*

Alignment	Begin MP	End MP	Width (a) (FT)	Length (b) (FT)	Area (SF)	Area (SY)	
			32	0	0	0	
			32	0	0	0	
					0	0	

5767 HMA for Mainline, Ton

			Width								
Alignment	Begin MP	End MP	Inside Shoulder	Lane(s)	Outside Shoulder	Special Use Lane		Total Width	Distance (LF)	Area (SF)	Total Area (SY)
SR 202	Same as CSBC For Roadway									65,441	7271
									Total Area:	65,441	7,271

HMA Depth: 0.75 ft Volume (Tons): 3,727
Add 5% for waste (Tons): 3,913

5875 Commercial HMA

Location	Area (SF)	Depth (ft)	Volume (CY)	Tons	
		0.25	0	0	
		0.25	0	0	
		0.25	0	0	*6' wide ped cut through*
		0.25	0	0	
				0	Tons

Fill splitter islands with commercial HMA
Splitter Island cross section = 0.25' Commercial HMA over 0.25' CSBC (metric C-8882, traffic island detail)

CEMENT CONCRETE PAVEMENT

xxxx Textured and Pigmented Cement Concrete Pavement, SY

Location	Width (a) (FT)	Length (b) (FT)	Area (SY)
			0
			0
			0
	Total =		0 SY

Central Island cross section = 0.92' Textured & Pigmented Cement Concrete Pavement over 0.50' CSBC (metric C-9219)

EROSION CONTROL & PLANTING

6403 **ESC Lead, Day** — 45 Days

6471 **Inlet Protection, EA**
As viewed using SRView & Google Maps — 9 EA

6490 **Erosion / Water Pollution Control, LS** — $5,000 LS

6635 **High Visibility Silt Fence** — 1000 LF

TRAFFIC

Roadway Markings/Curb *From SR View & Geoportal*

Begin MP	End MP	Notes	Quantities 6807 Plastic Line	6863 Plastic Access Parking Space	6833 Plastic Traffic Arrows	6822 Plastic Crosshatch Marking	6841 Precast Dual Faced Sloped Mountable Curb	6840 Precast Sloped Mountable Curb	6857 Plastic Crosswalk Line	6859 Plastic Stop Line	6881 Plastic Drainage Marker
		Roadway	2,132		4	678	687	681	3710	132	
		Parking	1,860	7							
		Total Quantity:	3,992	7	4	678	687	681	3,710	132	0
		Units:	LF	EA	EA	EA	LF	LF	SF	LF	EA

6708 **Roundabout Central Island Cement Concrete Curb 2 Inch, LF**

Notes	Width (a) (FT)	Length (b) (FT)	Length
Central Island	50	50	157
NW quadrant sidewalk buffer			245
SW quadrant buffer			130
			0 LF

xxxx **Painted Marking of Island**

Location	Area (SF)	
W Splitter Island	0	*Area same as Item #5875 Commercial HMA*
N Splitter Island	0	"
S Splitter Island	0	"
S Curb	0	"
	0 SF	

Paint Splitter Island HMA for contrast. Use contract 8846 bid item as reference (Qty 2,126, Engineer est. = $2/SF low bidder = $1.1/SF

6904 **Illumination System**

Illumination System cost estimate based on a similar roundabout project provided by NWR Traffic Duke Do.
Includes $60,000 for Illumination, $45,000 for Camera, $45,000 for Data, and $5,000 for Comm

Total Cost = $155,000 L.S.

6890 **Permanent Signing**

Use contract 9219 (SR 9/Francis Road Intersection Improvements) as reference for permanent signage needed at roundabout: Engineer Est. = $11,000; Low Bidder = $24,000); use $20,000

Total Cost = $20,000 L.S.

6895 **Temporary Pavement Marking - Short Duration**

Notes	Begin MP	End MP	Sum of Lines	Number of Applications		LF
Edge Lines			3,992	2		7,983
Lane Lines			0	2		0
						7,983
					SAY	8,000 LF

Item includes removal of temp. markings per Standard Spec. 8-23.5

Traffic Control

Work Days

			Assumptions for TC
Preparation and Removal	8	Days	*3 days mob, 5 days miscellaneous*
Excavation	5	Days	*1500/CY per day*
Paving	3	Days	*1500 Ton/Day*
Sidewalk & ADA & Curbing	58	Days	*1500 LF/ Day curb, 500 SY/ Day sidewalk, 2 days/EA Curb Ramps*
Landscaping	10	Days	
Striping & Signage	4	Days	
Clean-up	2	Days	
Assume	89	Days	

		Days	Hrs / Day	Qty	Hrs		Unit Cost	Units	Total Cost
6956	Sequential Arrow Sign	89.2410444	10	3	2677		$7	HR	$18,741
6973	Other Temporary Traffic Control	N/A	N/A	N/A	N/A		N/A	LS	$20,000
6974	Traffic Control Supervisor	89.2410444	10	1	892		$75	LS	$66,931
6980	Flaggers	89.2410444	10	3	2677		$70	HR	$187,406

6982	Construction Signing Class A	N/A	N/A	144	N/A		$25	SF	$3,600
6992	Other Traffic Control Labor	89.2410444	10	2	1785		$70	HR	$124,937
6993	Portable Changeable Message Sign	89.2410444	10	3	2677		$10	HR	$26,772
7447	Transportable Attenuator	N/A	N/A	2	N/A		$18,000	EA	$36,000
7449	Operation of TA	89.2410444	10	2	1785		$70	HR	$124,937
7450	Repair TA	N/A	N/A	1	N/A		$8,000	EST	$8,000
xxxx	Contractor Provided Uniformed Police Officer	89.2410444	10	2	1785		$120	HR	$214,179
									$831,503

** "Other Temporary Traffic Control" covers traffic drums, cones, contractor piloted vehicle, etc.*

7054 Ramp Detectable Warning Retrofit, SF

**Ramp detectable warning retrofit area assumed at 10 SF per ramp.*

Notes	Begin MP	# of Ramps	Area (SF)	
		6	60	*2 on 338th Pl SE and 4 on Presto-Fall City Road SE*
			0	

Sidewalk & Curb/Gutter	**6700**	**6707**	**7055**	**7060**	
Alignment	Conc Curb and Gutter	Conc Pedestrian Curb	Conc Sidewalk	Asphalt Sidewalk	
All Sidewalks			5160		
Curb and Gutter	5028.4				Asphalt wedge for SW Quad - 4' both sides of 8' x 60' side walk
					sidewalk 245 x 6
	5,028	0	5,160	0	
	LF	LF	SY	SY	

7058 Cement Conc Curb Ramp Type, EA

For estimating purposes only, sidewalks were considered ideal to accommodate typical ADA ramp. Designer to determine the appropriate type.

						**No crossing signs*
From Blue Beam Sketch				22		
			0	22		

7059 Cement Conc Driveway Entrance Type, SY

For estimating purposes only, sidewalks were considered ideal to accommodate typical ADA ramp. Designer to determine the appropriate type.

						**No crossing signs*	287
From Blue Beam Sketch				447			
			0	447			

PAVEMENT REPAIR CALCULATION

SR: 202 MP: 21.29 to MP : 21.89 **Prepared By:** Lucas Rogers

Title: SR 202/Preston Fall City Rd SE Roundabout, Parking and Sidewalk Improvement **Date:** 7/20/2021

WIN: A202XXX

PIN: 1202XXX

PAVEMENT REPAIR CALCULATION

Total Pavement Area	Section	Alignment	Area (SF)		Area (SY)	
	1	SR 202	21,965		2,441	
			21,965		2,450	**Total Area**

Materials Lab Recommendation

	Percentage	Total Pavement Repair Area (SY)
Area percentage recommended from Mats Lab	**3%**	74

*****

The pavement repair section is from the preliminary recommendation by the NWR Materials Laboratory as follows:

3% *used for calculating pavement repair. 90% of the repair would be grind 0.15' -pave back and 10% of the pavement repair would gring 1.0' - pave back.*

90% - 0.15' Only

90% of the Pvmt Repair
Grind 0.15 pave 0.15

0.15 HMA

10% - Full Depth

10% of the total pavement repair
Grind 0.15 pave 0.15

1.00 HMA

0332 **Pavement Repair Excavation Including Haul, SY**

Section	Alignment	Area (SY)	
1	SR 202	74	
		80	This is for 100% of the total Pavement Repair due to the SY measurement

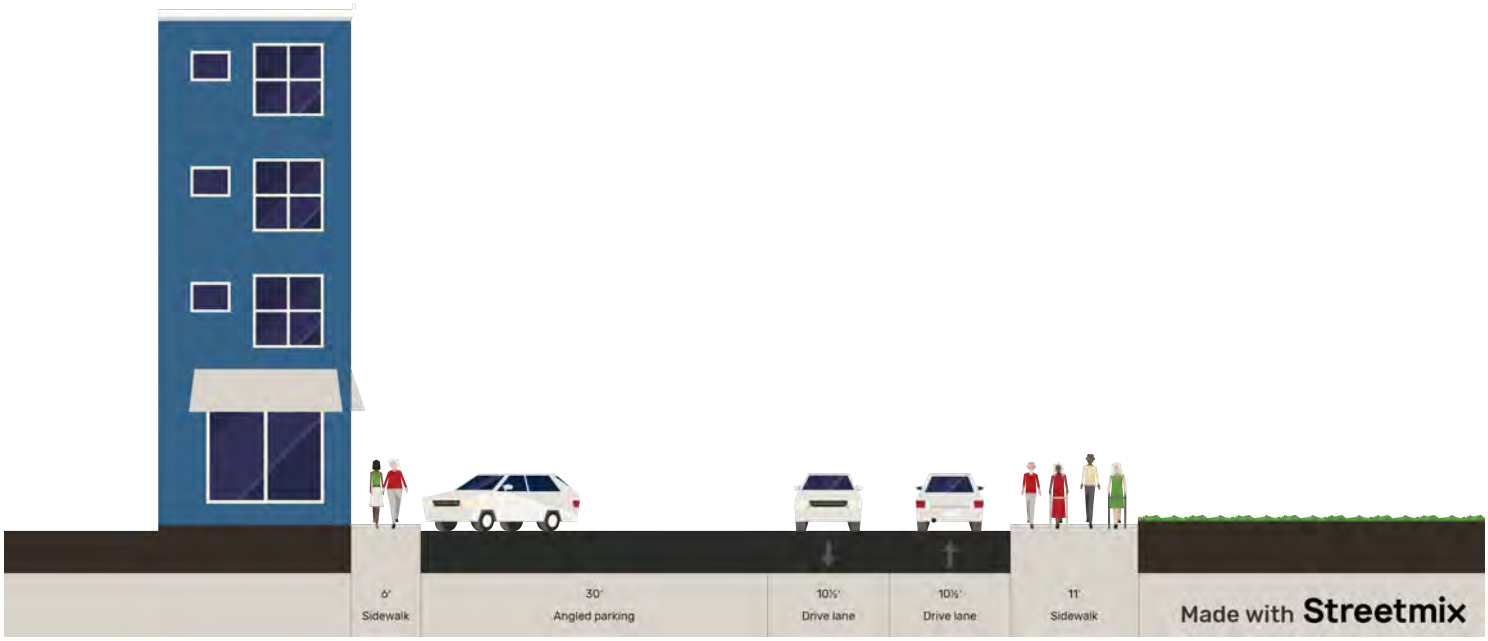
5739 **HMA for Pavement Repair CL 1/2 In PG, TON**

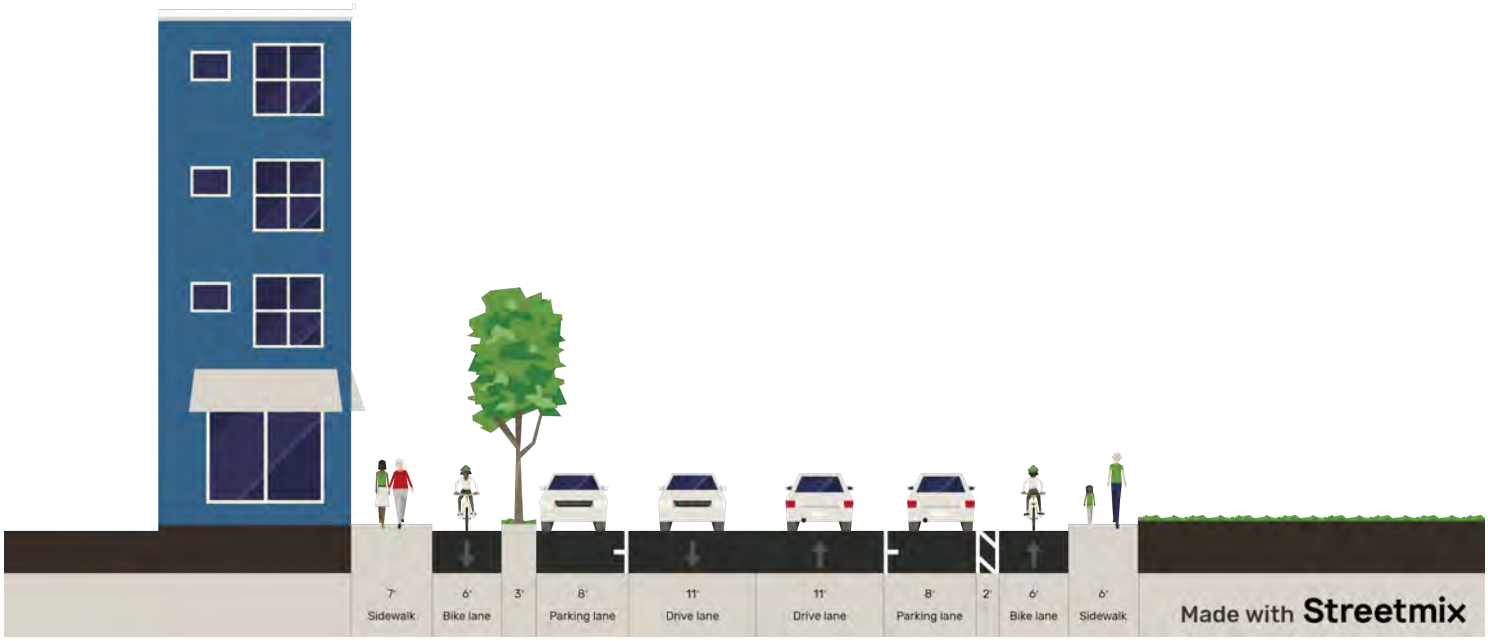
Used Bid Item 5739 for a typical pavement repair material.

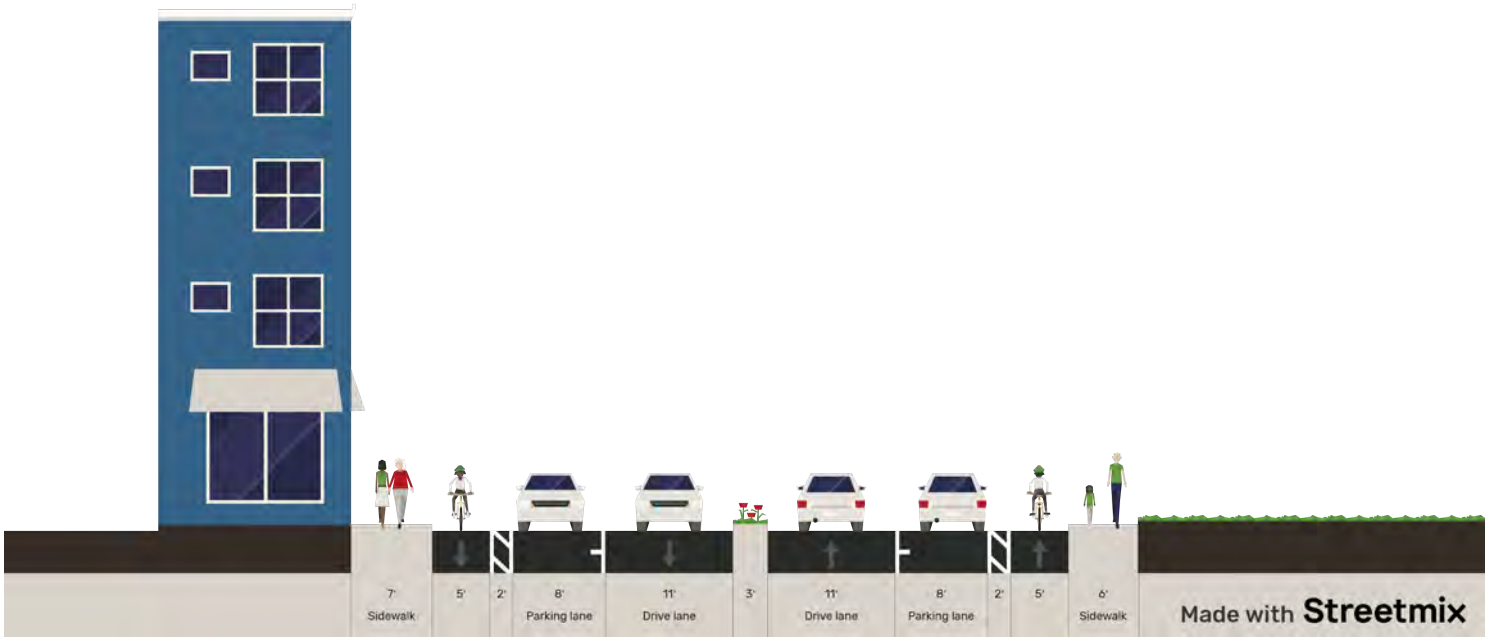
Section	Alignment	Depth	Area (SY)	Quantity (Tons)	+ 5% (Tons)
90%	SR 202	0.15	66	7	7
10%	SR 202	1.00	7	5	5
				Total HMA	**12**

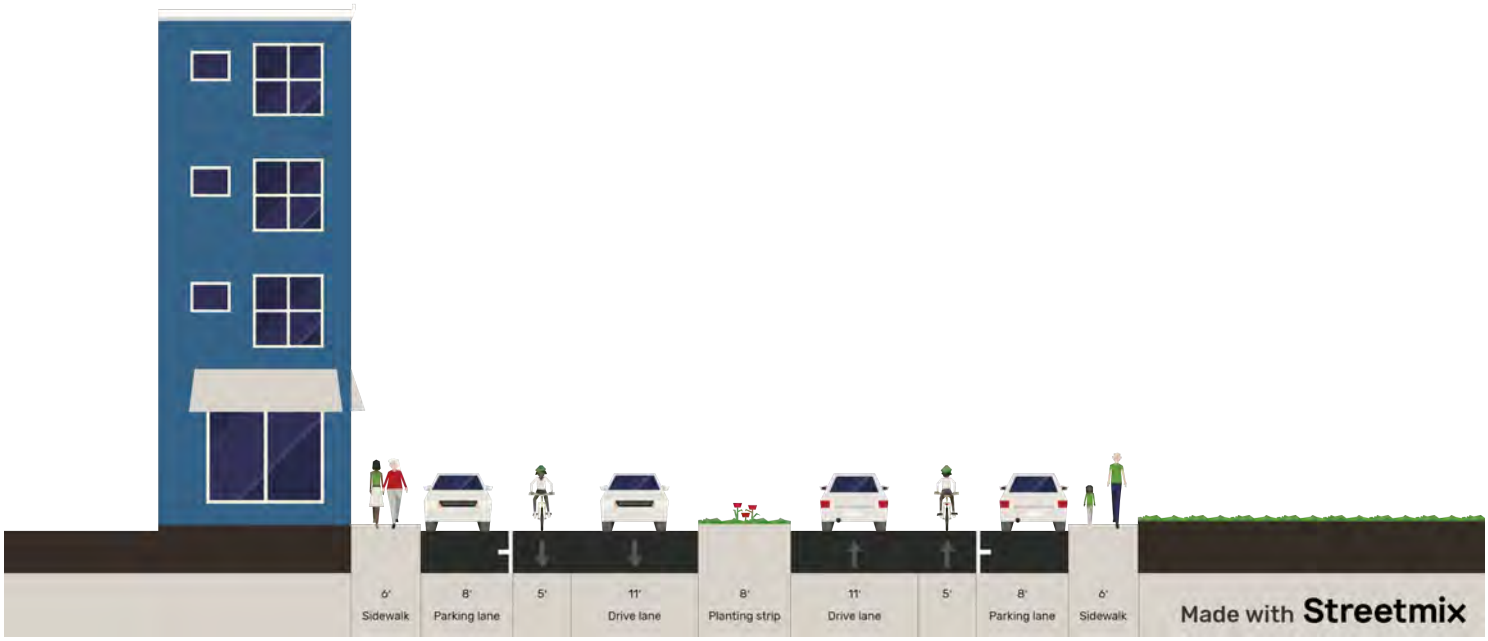
Appendix 'A' – SR 202 Corridor Study
Streetmix Design Concepts

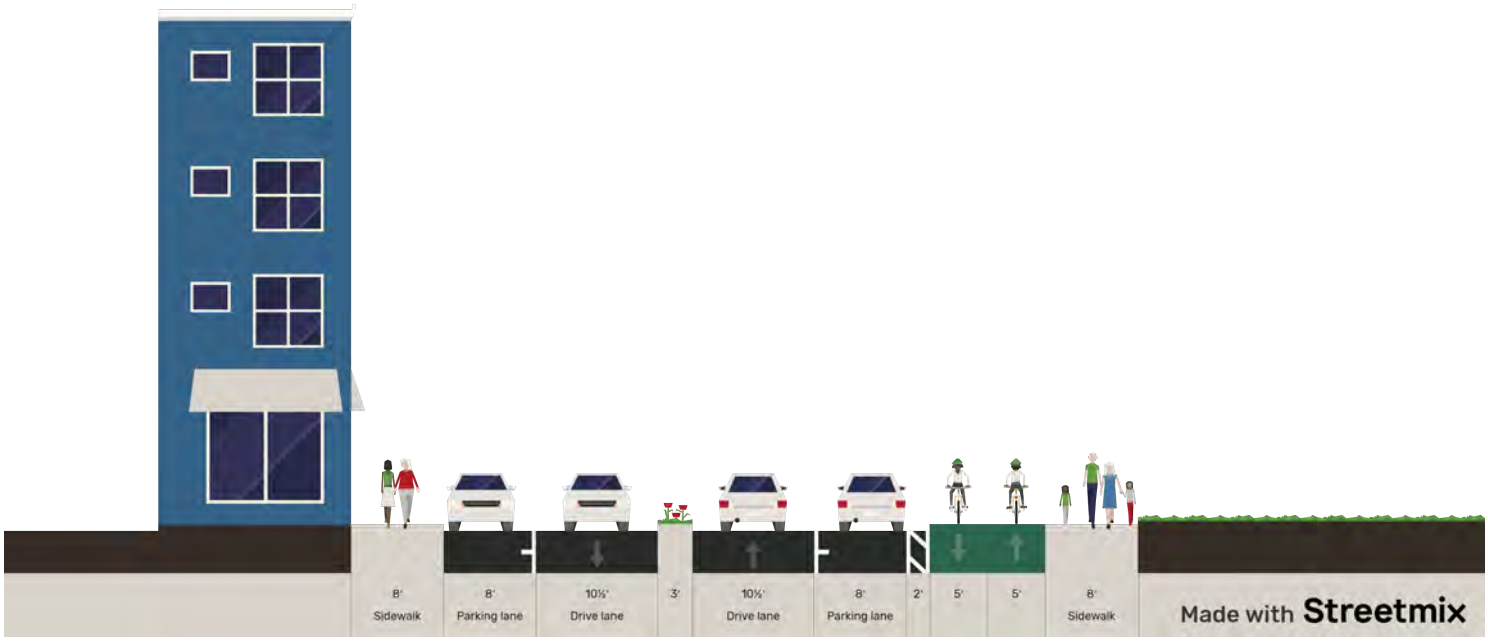
The following pages in Appendix A show various Streetmix program design concepts that were considered during the SR 202 Study concept development stage.

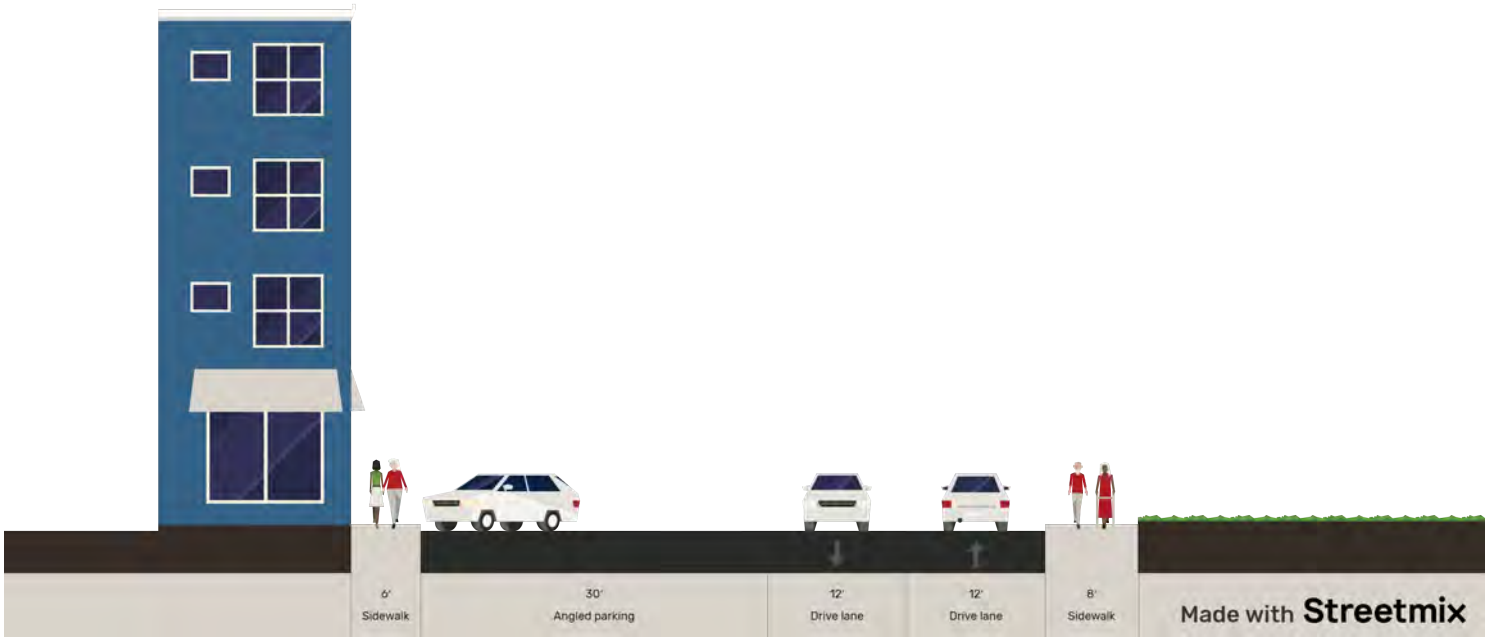

6'
Sidewalk
30'
Angled parking
10½'
Drive lane
10½'
Drive lane
11'
Sidewalk
Made with Streetmix

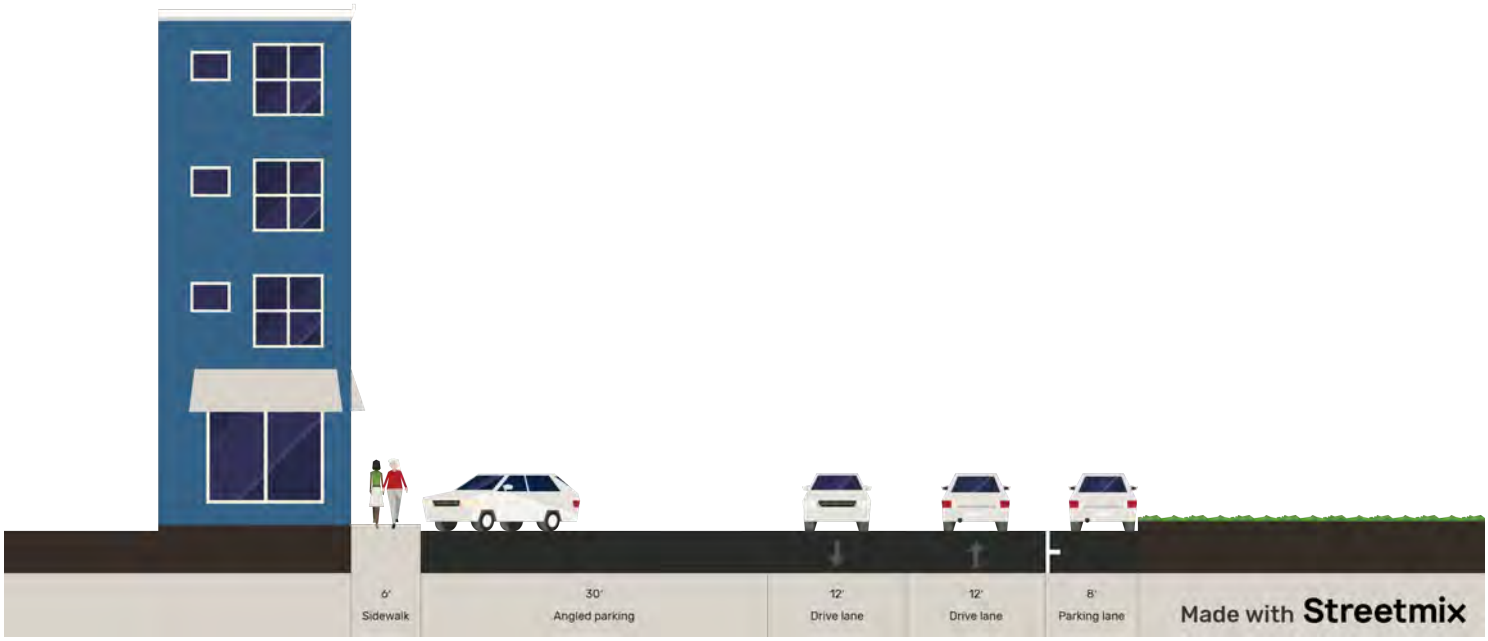

7'
Sidewalk
6'
Bike lane
3'
8'
Parking lane
11'
Drive lane
11'
Drive lane
8'
Parking lane
2'
6'
Bike lane
6'
Sidewalk
Made with Streetmix


7'
Sidewalk
5'
2'
8'
Parking lane
11'
Drive lane
3'
11'
Drive lane
8'
Parking lane
2'
5'
6'
Sidewalk
Made with Streetmix


6'
Sidewalk
8'
Parking lane
5'
11'
Drive lane
8'
Planting strip
11'
Drive lane
5'
8'
Parking lane
6'
Sidewalk
Made with Streetmix


8'
Sidewalk
8'
Parking lane
10½'
Drive lane
3'
10½'
Drive lane
8'
Parking lane
2'
5'
5'
8'
Sidewalk
Made with Streetmix


6'
Sidewalk
30'
Angled parking
12'
Drive lane
12'
Drive lane
8'
Sidewalk
Made with Streetmix


6'
Sidewalk
30'
Angled parking
12'
Drive lane
12'
Drive lane
8'
Parking lane
Made with Streetmix

SR 202 Corridor Study

Appendix "B"

Appendix B of the SR 202 Corridor Study (Fall City/King County) includes documents and presentations from the Stakeholder and Public Engagement done as part of this study.

SR 202 Corridor Studies – Survey Questions

Introduction

The Washington State Department of Transportation (WSDOT) is conducting two corridor studies on State Route 202 in east King County. The first is on SR 202 from 244th Avenue Northeast to 324th Avenue Southeast. The second is in Fall City on SR 202 between 324th and the Snoqualmie River Bridge at the SR 202/203 intersection.

Your feedback will help us understand your concerns and preferences on the corridor. Please take a few minutes to complete this survey and tell us about your experience traveling on SR 202 in these two sections.

For more information, the webpage for these studies is found here: https://wsdot.wa.gov/planning/studies/sr202/multimodal-planning/home.

For questions about this survey, please contact Thomas A. Noyes – noyest@wsdot.wa.gov

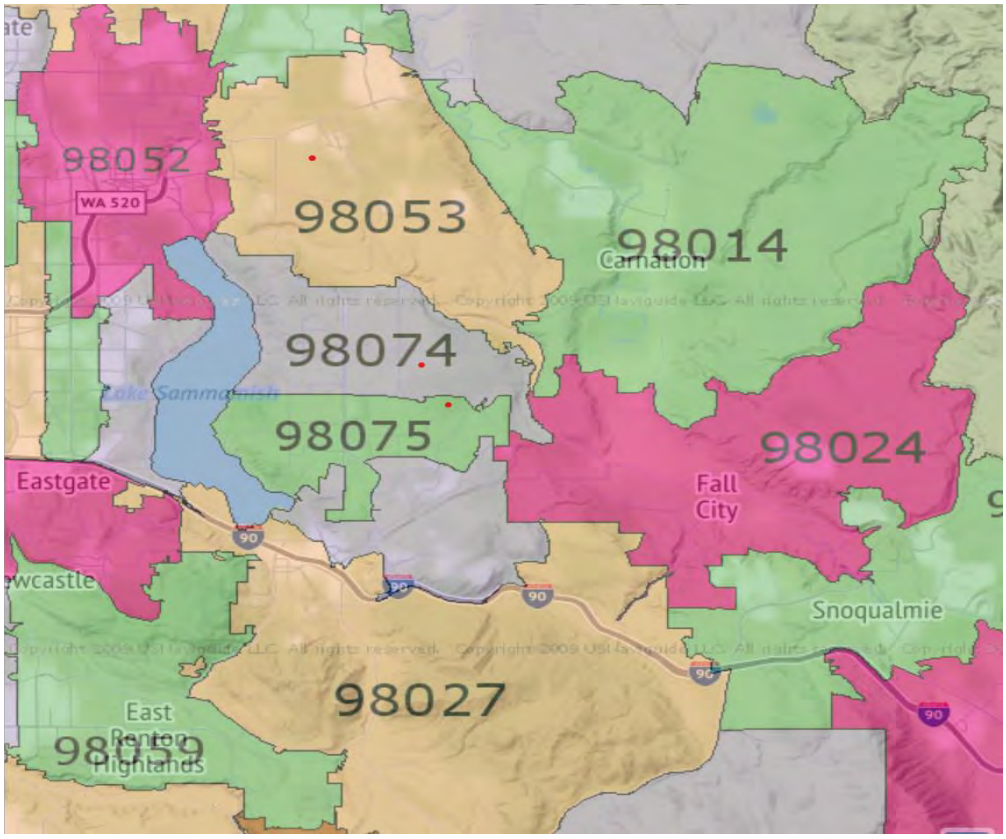
(**Translation links - Spanish)**

First, in considering your travel on SR 202 between 244th Avenue Northeast and downtown Fall City, please review and answer the following questions. [Map of SR 202 Corridor: 244th to Fall City] (INSERT SR 202 CORRIDOR MAP HERE!)

1. How often do you travel on SR 202 between 244th Avenue Northeast and Fall City?
    a. Multiple times each day
    b. Daily
    c. Weekly
    d. Monthly
    e. Rarely (several times/year)
    f. Never
2. How do you travel on the SR 202 corridor?
    a. Private vehicle
    b. Public transit – bus
    c. Commercial bus/shuttle
    d. Motorcycle
    e. Bicycle/walk
    f. Commercial vehicle (truck)
    g. Carpool/vanpool
    h. Rideshare (Uber/Lyft/etc.)
    i. Personal Mobility Device (scooter/wheelchair/stroller/etc.)
    j. Other – please specify
3. Why do you travel on the SR 202 corridor? (Select all that apply)
    a. Commute to and from work
    b. Commute to and from school
    c. Travel for shopping or errands
    d. Visiting family and friends

e. To access recreational activities
f. Travel for business and/or freight
g. Other – please specify

4. When you travel on the SR 202 corridor, which zip code https://www.zipmap.net/Washington/King_County/Seattle.htm do you usually start from? If your zip code is not shown on the map, please enter it.



5. When you travel on the SR 202 corridor, which zip code https://www.zipmap.net/Washington/King_County/Seattle.htm is typically your destination? Your destination may be within the zip code you started from and please indicate as such. If your zip code is not shown on the map, please enter it.

The following maps show specific segments of the SR 202 corridor between 244th Avenue Northeast and Fall City. We would like to understand where you experience issues or concerns. For the following identified areas, please select the issues that are challenges for you. If you have other thoughts or concerns about particular locations, please describe them in the text box.

6. SR 202 – 244th Avenue Northeast to Tolt Hill Road (MAP)
   a. I don't have challenges on this section of SR 202
   b. Concerns or safety issues at specific intersections or driveways
   c. Vehicles drive too fast
   d. Not enough lighting
   e. Issues with passing vehicles

    f. Other – please specify
7. Please list specific issues or concerns with intersections (Ames Lake Road, Tolt Hill Road, etc.), driveways, or other locations. [Text box.]
8. SR 202 – Tolt Hill Road Southeast intersection to 324th Avenue Southeast (Fall City limits)] (MAP)
    a. I don't have challenges on this section of SR 202
    b. Concerns or safety issues at specific intersections or driveways
    c. Vehicles drive too fast
    d. Not enough lighting
    e. Issues with passing vehicles
    f. Other – please specify
9. Please list specific issues or concerns with intersections (Southeast 8th Street, Duthie Hill Road, etc.) driveways, or other locations. Please be as specific as possible. [Text box.]

In this section of our survey, we want to get a sense of how you use SR 202 in Fall City and what issues and concerns you have. There are five geographic segments of SR 202 with a multi-part question for each.

10. SR 202 in Fall City: 324th Avenue Southeast intersection and the Chief Kanim Middle School (INSERT MAP)
    a. I don't have challenges on this section of SR 202
    b. Issues with pedestrians crossing SR 202 either as a pedestrian or as a driver
    c. Issues turning to or from SR 202
    d. Vehicles drive too fast
    e. Not enough lighting
11. Other – please specify
12. Please list specific issues or concerns with crossing SR 202 as a pedestrian or issues turning to or from Chief Kanim Middle School or 324th Avenue Southeast.
13. SR 202 in Fall City: 332nd Avenue Southeast intersection vicinity (MAP)
    a. I don't have challenges on this section of SR 202
    b. Issues with pedestrians crossing SR 202 either as a pedestrian or as a driver
    c. Issues turning to or from SR 202
    d. Vehicles drive too fast for conditions
    e. Not enough lighting
    f. Other – please specify
14. Please list specific issues or concerns with crossing SR 202 as a pedestrian or issues turning to or from intersections or driveways.

15. Section Three of SR 202 in Fall City: Fall City Elementary School, 334th Place Southeast, and Southeast 42nd Place intersection (MAP)
    a. a. I do not have challenges on this section of SR 202
    b. Issues with pedestrians crossing SR 202 either as a pedestrian or as a driver
    c. Issues turning to or from SR 202
    d. Vehicles drive too fast for conditions
    e. Parking related issues

f. Not enough lighting
g. Other – please specify

16. Please list specific issues or concerns with crossing SR 202 as a pedestrian or issues turning to or from intersections (334th Place Southeast, Southeast 42nd Place, etc.) or driveways.

17. Section Four of SR 202 in Fall City: Downtown Business District, 335th Place Southeast to 338th Place Southeast in central Fall City (MAP)
    a. I do not have challenges on this section of SR 202
    b. Issues with pedestrians crossing SR 202 either as a pedestrian or as a driver
    c. Issues turning to or from SR 202
    d. Vehicles drive too fast for conditions
    e. Parking related issues
    f. Issues walking along SR 202 next to the Snoqualmie River
    g. Not enough lighting
    h. Other – please specify
18. Please list specific issues or concerns related to pedestrian crossings, walking along SR 202, or issues turning to or from intersections (335th Place Southeast, 338th Place Southeast, etc.) or driveways.

19. Section Five of SR 202 in Fall City: Preston/Fall City Road intersection and the Snoqualmie River Bridge crossing
    a. I do not have challenges on this section of SR 202
    b. Issues with pedestrians crossing SR 202 either as a pedestrian or as a driver
    c. Issues turning to or from SR 202
    d. Vehicles drive too fast
    e. Parking related issues
    f. Issues walking along SR 202 next to or across the Snoqualmie River
    g. Not enough lighting
    h. Other – please specify
20. Please list specific issues or concerns related to pedestrian crossings, walking along SR 202, or issues turning to or from intersections (Preston-Fall City Road) or driveways.

Optional Demographic Questions

WSDOT is interested in hearing from a wide range of people. By answering the following demographic questions, you will help us better understand who is participating in the study. Your answers are optional and confidential. We will combine your answers with others for analysis only.

21. Are you willing to answer optional demographic questions?
    a. Yes
    b. No
22. How did you hear about the study/survey?
    a. Email
    b. Social media

c. Word of mouth
d. At your place of work
e. At your school
f. News media (radio, newspaper)

23. What is your age?
    a. Under 18
    b. 19-24
    c. 25-34
    d. 35-44
    e. 45-54
    f. 55-64
    g. 65+
24. How do you identify? (Please check all that apply)
    a. Black/African-American
    b. Hispanic, Latinx, or Spanish origin
    c. Asian/Asian-American
    d. White/Caucasian
    e. American or Alaska Native/Indigenous
    f. Native Hawaiian or Other Pacific Islander
    g. Other
    h. Prefer not to answer
25. Do you have limited mobility that affects your ability to travel along SR 900?
    a. I do not have limited mobility
    b. Limited sight
    c. Limited hearing
    d. I use assistive mobility devices
    e. Other: (text box)
    f. Prefer not to answer
26. What is your approximate yearly household income?
    a. $0 to $24,999
    b. $25,000 to less than $49,999
    c. $50,000 to less than $74,999
    d. $75,000 to less than $99,999
    e. $100,000 to less than $124,999
    f. $150,000 to $174,999
    g. $175,999 to $199,999
    h. $200,000 and up
27. What is the highest level of school you have completed or the highest degree you have received?
    a. Less than high school degree
    b. High school degree or equivalent (e.g., GED)
    c. Some college but no degree
    d. Associate degree
    e. Bachelor's degree

f. Master’s degree
g. Trade school
h. Other – please specify

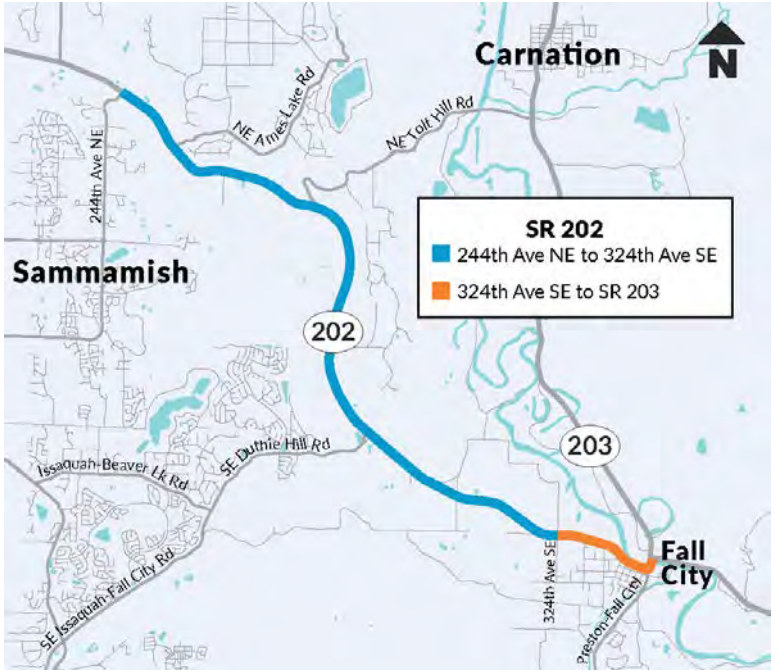
SR 202 Corridor Studies

244th Avenue NE to 324th Avenue SE
SR 202 within Fall City

Thomas Noyes
Senior Transportation Planner
Management of Mobility Division

Maan Sidhu
Assistant Area Traffic Engineer
King County

NOVEMBER 17, 2020



Today's meeting

- Study background and context
- Existing conditions and needs
- Problem statement
- Goals and objectives
- Evaluation criteria
- Communications and outreach
- Next steps
- Discussion

Study Partners

- King County Roads Division
- King County Metro
- Fall City Community Association
- Washington State Patrol
- Washington Trucking Association
- Puget Sound Regional Council
- Tribes

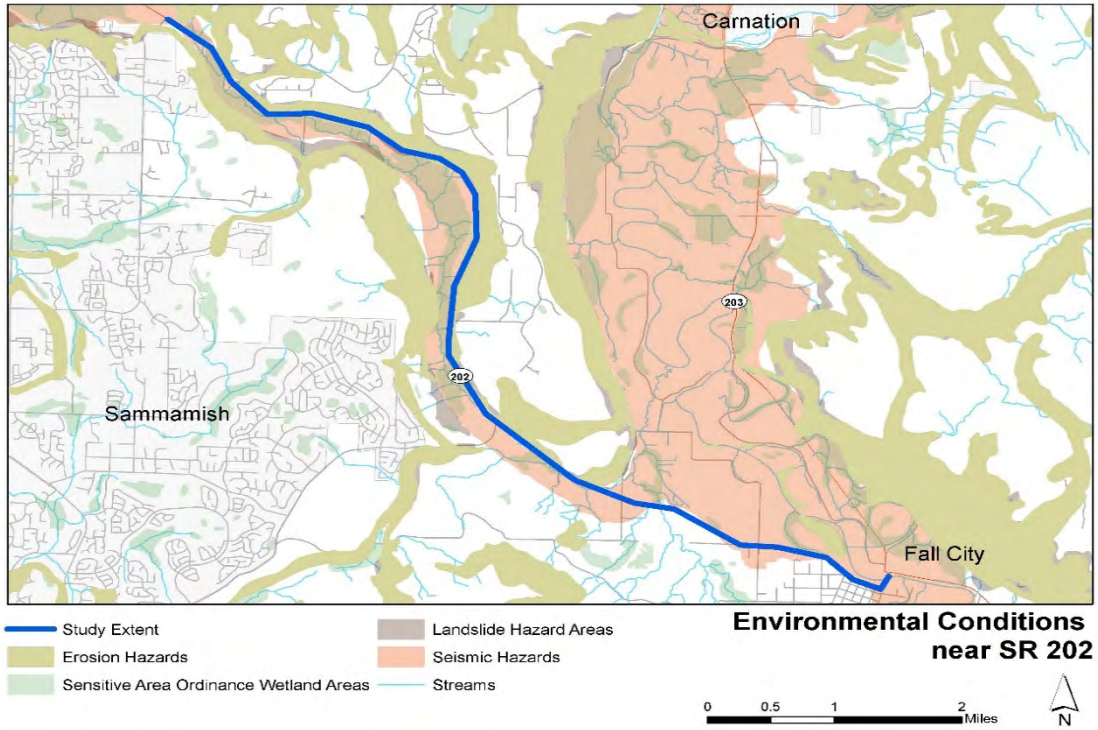
Study purpose and context

- Understand community needs, priorities, and roadway issues
- Document community vision within Fall City
- Identify strategies & improvement concepts to improve
    - Pedestrian and traveler safety
    - Multimodal access
    - Environment

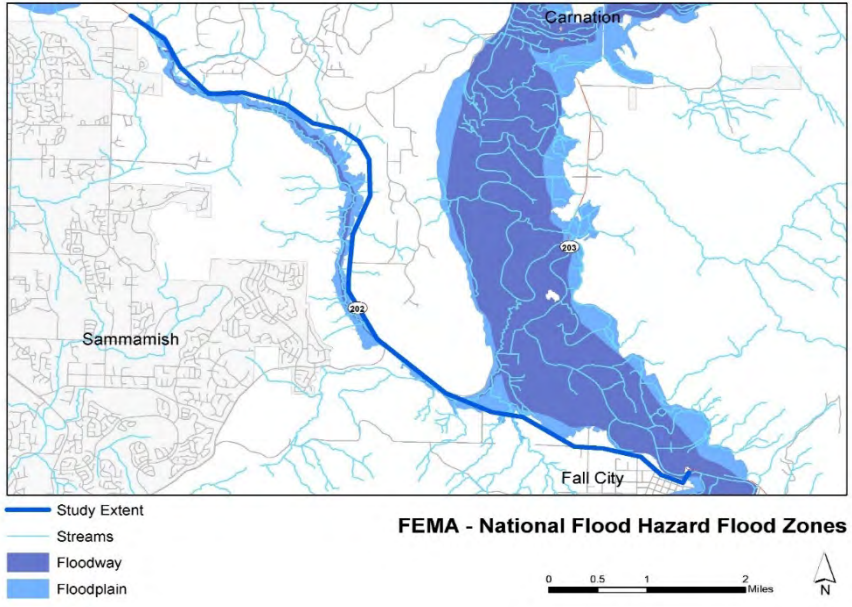
Existing Conditions

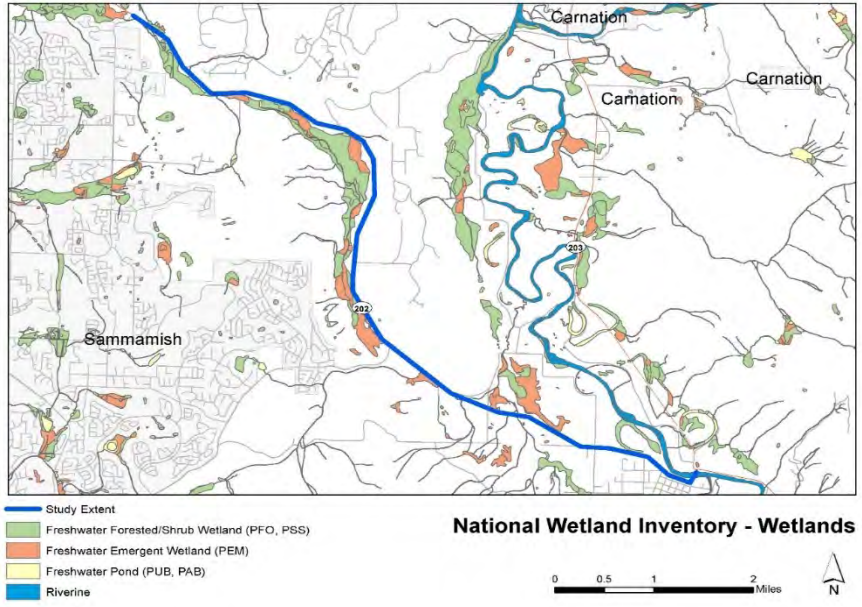
- Environmental conditions
- Pedestrian connectivity
- Transit
- Roadway/intersection operations and safety

Environmental Conditions

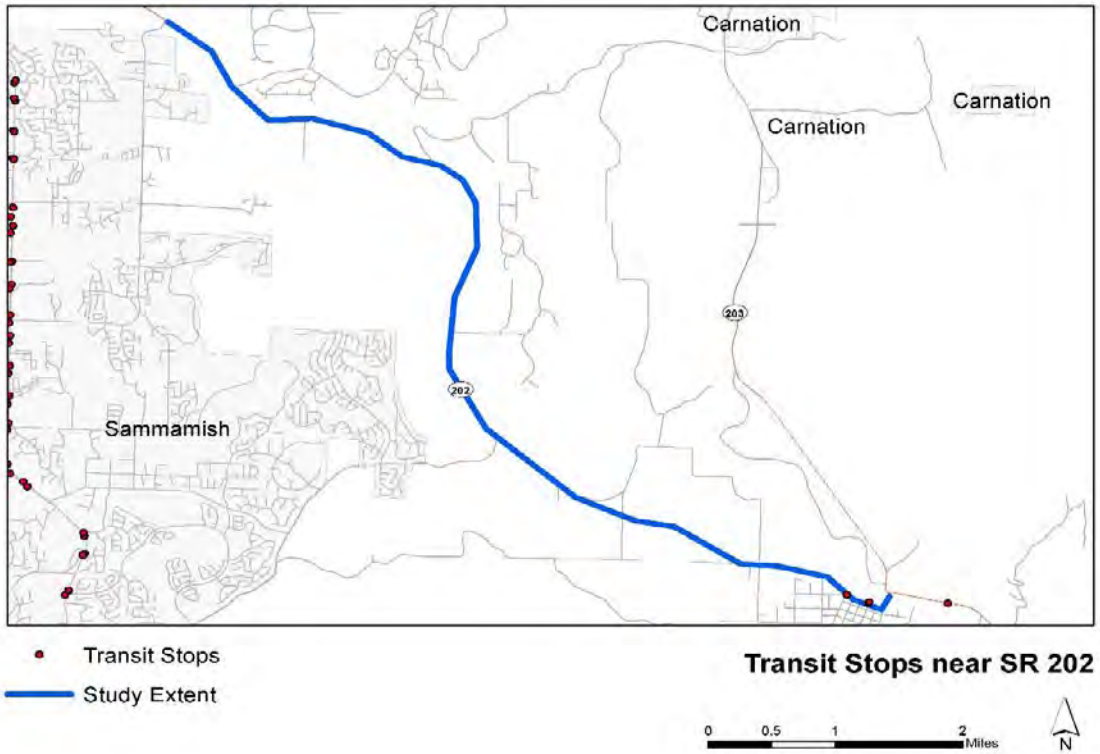


Flood zones and wetlands





Transit access in Fall City



Corridor tour, discussion

Problem Statement

SR 202 in rural King County between the intersections of 244th Avenue NE and 324th Avenue SE has operational and safety performance issues.

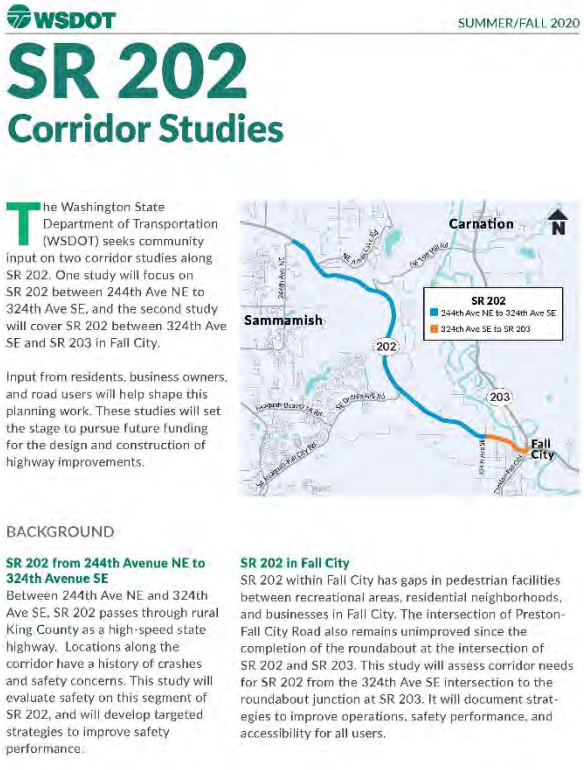
SR 202 in Fall City lacks complete pedestrian facilities and has documented performance issues.

Draft Evaluation Criteria

- Safety (consistency with Target Zero, Crash-reduction, etc.)
- Accessibility (pedestrian connectivity, access to transit)
- Constructability (cost, technical feasibility, etc.)
- Community Support (including preserving community character)

Communications and outreach

- Web survey
  - Trip purpose
  - Origins and Destinations
  - User needs
- Online open house
- Webpage, online resources



WSDOT SUMMER/FALL 2020

SR 202
Corridor Studies

The Washington State Department of Transportation (WSDOT) seeks community input on two corridor studies along SR 202. One study will focus on SR 202 between 244th Ave NE to 324th Ave SE, and the second study will cover SR 202 between 324th Ave SE and SR 203 in Fall City.

Input from residents, business owners, and road users will help shape this planning work. These studies will set the stage to pursue future funding for the design and construction of highway improvements.

BACKGROUND

SR 202 from 244th Avenue NE to 324th Avenue SE

Between 244th Ave NE and 324th Ave SE, SR 202 passes through rural King County as a high-speed state highway. Locations along the corridor have a history of crashes and safety concerns. This study will evaluate safety on this segment of SR 202, and will develop targeted strategies to improve safety performance.

SR 202 in Fall City

SR 202 within Fall City has gaps in pedestrian facilities between recreational areas, residential neighborhoods, and businesses in Fall City. The intersection of Preston-Fall City Road also remains unimproved since the completion of the roundabout at the intersection of SR 202 and SR 203. This study will assess corridor needs for SR 202 from the 324th Ave SE intersection to the roundabout junction at SR 203. It will document strategies to improve operations, safety performance, and accessibility for all users.

Next Steps

- **Understand travel patterns and issues**
- Obtain **feedback from residents and stakeholders** on existing and future corridor needs, performance gaps, and other concerns
- Develop **strategies** for improved bicycle, pedestrian, and transit access, safety, and operations
- **Integrate strategies** with partner efforts, such as the Fall City Community Association and others

Schedule

Summer – Fall 2020

- Data collection
- Engagement and survey

Fall 2020 – Winter 2021

- Concept development
- Ongoing engagement

Summer 2021

- Final report available online

Questions?

Thomas Noyes: Thomas.Noyes@wsdot.wa.gov

Maan Sidhu: Maan.Sidhu@wsdot.wa.gov

Studies Webpage: https://bit.ly/SR202studies

SR 202 Corridor-Study –
Final Stakeholder Committee Meeting

December 9, 2021

Attendees

Maan Sidhu – WSDOT NW Traffic; Thomas Noyes – WSDOT MoM Division; April Delchamps – WSDOT MoM Division; Alex Henry – WSDOT MoM Division; Angela Donaldson – Fall City Community Association; Kirk Harris – Fall City Metropolitan Park District; Amy Biggs – Snoqualmie Valley Transportation; Salwa Raphael – Hopelink Mobility Team; Jim Ishimaru – King County Roads; Keith Brown – King County Roads; Linda Salhah – City of Sammamish; Doug McIntyre – City of Sammamish; Corey Holder – King County Transit; Carolyn Malcom – Snoqualmie Valley School District; Carrie Lee Gagnon – Fall County Community Association

Introductions / Overview

Thomas Noyes, WSDOT, welcomed attendees to the meeting and facilitated introductions. Thomas then led the group through an overview presentation that summarized the study purpose and context, corridor existing conditions, and the results of the public survey.

Evaluation Criteria/Concepts

Thomas presented the evaluation criteria that was used for the identification and screening of improvements. These criteria were shared with the Stakeholder Committee at its initial meeting, and include safety, accessibility, constructability, and community support.

Maan Sidhu, WSDOT, walked through the proposed concepts which include various non-motorized and speed management improvements in the downtown Fall City area, and the installation of roundabouts at the Preston/Fall City Rd, Ames Lake Rd, and Tolt Hill Rd intersections. The revised alignment of SR 202 through central Fall City will include 62 'back-in' parking stalls and there will be 38 parallel parking stalls on the north side of SR 202 through central Fall City. This represents a slight loss of parking from the current configuration, however, current parallel parking stalls on the north side of SR 202 are not striped or delineated so this will better arrange and organize parking on SR 202. Also, 'back-in' parking on the south side of SR 202 will allow for safer parking access and operations on SR 202 in Fall City.

Maan briefly described the planning-level cost estimates as follows: Ames Lake Road Roundabout = **$7M**; NE Tolt Hill Road I/S = **$10M**; and the central Fall City improvement concept(s) = **$10B** (Preston – FC Road compact roundabout, 14-foot pedestrian-bike lane on the N/S, various pedestrian crossings, realigned parking, SE 334th Avenue / 42nd Street SE intersection design, etc.)

Concept Comments/Discussion

Comment: Angela Donaldson, Fall City Community Association (FCCA), asked about the potential to relocate the school bus pick-up/drop-off location for the nearby Fall City Elementary School
Response: Thomas indicated that the study team had met with the school administration and discussed this topic. Coordination will continue as the project proceeds to design

Comment: Angela Donaldson, FCCA, inquired if the study team had reached out to Aroma Coffee Co and Treehouse Supply to discuss potential delivery impacts, and offered to provide contact information
Response: Maan indicated that the study team would reach out to the business owners.

Comment: Carrie Lee, FCCA, commented on continued issues with traffic on alleyways adjacent to the corridor
Response: Thomas indicated that the study team will continue to coordinate with King County, who have jurisdiction over the alleyways

Comment: Salwa Raphael Hopelink, commented that high speeds along the corridor can make crossing the road as a pedestrian difficult, and asked if any enhanced crossing treatments were being applied to the proposed crosswalks. Angela Donaldson (FCCA) inquired if crossing flags could be provided
Response: Maan shared that the crosswalks at the proposed Preston-Fall City Rd roundabout will be raised and that proposed crosswalks along the corridor will included Rectangular Rapid Flashing Beacons (RRFB). He explained the proposed installation of the roundabout, the addition of on-street parking, and narrowing of travel lanes will work to calm traffic and make crossing easier and safer. Crossing flags are a low-cost improvement that could definitely be considered.

Comment: Angela Donaldson, FCCA, inquired if the proposed roundabout at Preston-Fall City Road would have impacts on the adjacent Last Frontier Saloon or Roadhouse Restaurant and Inn
Response: Maan indicated that the roundabout concept would have some impact, and reduce the area currently being used for parking. The study team will discuss the concept with impacted business owners

Comment: Amy Biggs, Snoqualmie Valley Transportation, commented that the proposed concept does not account for the King County Metro Stop along SE 42nd Pl that would need to be relocated. They also inquired if proposed parking changes would impact the other existing bus stops along the corridor.
Response: Maan indicated that the study team will facilitate a follow up conversation with the transit providers to address these concerns

Comment: Salwa Raphael, Hopelink, expressed concerns about vehicle speeds approaching the proposed roundabout at Tolt Hill Rd and asked if any measures were being taken to reduce the speed limit
Response: Maan indicated that the roundabout will include advance warming signage to encourage drivers to slow down, and a reduced advisory speed limit within the roundabout. Maan also added that the physical elements of the roundabout are designed in a way that encourage drivers to slow down

Comment: Amy Biggs, Snoqualmie Valley Transportation, asked about the funding source for the proposed improvements and requested that the report include a list of potential funding sources
Response: Thomas clarified that none of the concepts presented are currently funded, but that WSDOT will continue to explore various funding strategies and coordinate with partners on implementation

Next Steps and Follow-up Actions

Thomas concluded the presentation by discussing next steps which include presenting findings to FCCA, finalizing the study report, and working with stakeholders to implement plan recommendations. Angela Donaldson confirmed that the study team was scheduled to present to FCCA at their January 4th meeting

and recommended that the shortened presentation focus on non-motorized improvements and changes to parking.

Thomas and Maan thanked the committee members for their participation and the meeting was ended.

Action Items:

- Study team to coordinate with business owners along the corridor whose deliveries/parking may be impacted by study recommendations
- Study team to facilitate meeting with transit providers to discuss impacts to existing transit stops
- Today's presentation and meeting summary will be sent out to meeting participants.

Washington State Department of Transportation

Management of Mobility Division
401 2nd Avenue South, Ste. 300
Seattle, WA 98104
206-464-1220 / FAX: 206-464-1189
TTY: 1-800-833-6388
www.wsdot.wa.gov

September 30, 2020

The Honorable Jaison Elkins
The Muckleshoot Indian Tribe
39015 172nd Avenue SE
Auburn, WA 98092

RE: Consultation regarding the SR 202 Studies

Dear Chairman Elkins:

The Washington State Department of Transportation (WSDOT) Management of Mobility Division has commenced a pair of studies of SR 202 in east King County (see attached map). We invite the Tribe to participate in this study.

The goal of these SR 202 studies is to conduct a high-level assessment of multimodal, access, safety, traffic operations, and related performance gaps on the SR 202 corridor from the SR 202/244th Avenue NE intersection to the SR 202/SR 203 intersection in Fall City. These two studies will document strategies and concepts to improve operations, safety performance, and accessibility for all SR 202 corridor users.

We are establishing a stakeholder committee for the SR 202 studies and invite your staff to participate. We expect the stakeholder committee to meet twice during the course of these studies, which will conclude by June 2021. All meetings will be held virtually, and we plan to conduct additional document reviews via email. We expect the kickoff meeting for stakeholder committee to be held in mid-to-late October of this year. We are also happy to meet separately with the Tribe if requested. If a project proposal were to move forward as a result of these studies, formal government-to-government consultation will be initiated during NEPA evaluation.

We would appreciate your response to this invitation letter, acknowledging the Tribe's interest in participating in the study. If you have any further questions or would like additional information about the SR 202 studies, please contact the study lead, Thomas Noyes at (206) 464-1272 or noyest@wsdot.wa.gov or myself at (206) 464-1264 or mayhewr@wsdot.wa.gov

Sincerely,

Robin Mayhew, AICP
WSDOT Management of Mobility Director

RM:tn

cc: Laura Murphy, Cultural Resources
Glen St. Amant, Natural Resources
Riley Patterson, Planning
John Daniels, WITPAC
Cameron Kukes, WSDOT Northwest Region Environmental Manager
Megan Cotton, WSDOT Executive Tribal Liaison
Eliza McGovern, WSDOT Northwest Region Tribal Liaison and Restoration Lead

Washington State Department of Transportation

Management of Mobility Division
401 2nd Avenue South, Ste. 300
Seattle, WA 98104
206-464-1220 / FAX: 206-464-1189
TTY: 1-800-833-6388
www.wsdot.wa.gov

September 30, 2020

The Honorable Robert de los Angeles
The Snoqualmie Indian Tribe
Post Office Box 969
Snoqualmie, WA. 98065

RE: Consultation regarding the SR 202 Studies

Dear Chairman de los Angeles:

The Washington State Department of Transportation (WSDOT) Management of Mobility Division has commenced a pair of studies of SR 202 in east King County (see attached map). We invite the Tribe to participate in this study.

The goal of these SR 202 studies is to conduct a high-level assessment of multimodal, access, safety, traffic operations, and related performance gaps on the SR 202 corridor from the SR 202/244th Avenue NE intersection to the SR 202/SR 203 intersection in Fall City. These two studies will document strategies and concepts to improve operations, safety performance, and accessibility for all SR 202 corridor users.

We are establishing a stakeholder committee for the SR 202 studies and invite your staff to participate. We expect the stakeholder committee to meet twice during the course of these studies, which will conclude by June 2021. All meetings will be held virtually, and we plan to conduct additional document reviews via email. We expect the kickoff meeting for stakeholder committee to be held in mid-to-late October of this year. We are also happy to meet separately with the Tribe if requested. If a project proposal were to move forward as a result of these studies, formal government-to-government consultation will be initiated during NEPA evaluation.

We would appreciate your response to this invitation letter, acknowledging the Tribe's interest in participating in the study. If you have any further questions or would like additional information about the SR 202 studies, please contact the study lead, Thomas Noyes at (206) 464-1272 or noyest@wsdot.wa.gov or myself at (206) 464-1264 or mayhewr@wsdot.wa.gov

Sincerely,

Robin Mayhew, AICP
WSDOT Management of Mobility Director

RM:tn

cc: Steven Mullen-Moses, Cultural Resources
Cindy Spiry, Natural Resources
Jaime Martin, Planning
Cameron Kukes, WSDOT Northwest Region Environmental Manager
Megan Cotton, WSDOT Executive Tribal Liaison
Eliza McGovern, WSDOT Northwest Region Tribal Liaison and Restoration Lead

Washington State Department of Transportation

Management of Mobility Division
401 2nd Avenue South, Ste. 300
Seattle, WA 98104
206-464-1220 / FAX: 206-464-1189
TTY: 1-800-833-6388
www.wsdot.wa.gov

September 30, 2020

The Honorable Shawn Yanity
Stillaguamish Tribe of Indians
3322 236th Avenue NE,
Arlington, WA.

RE: Tribal Participation in the SR 202 Study

Dear Chairman Yanity:

The Washington State Department of Transportation (WSDOT) Management of Mobility Division has commenced a pair of studies of SR 202 in east King County. We invite the Tribe to participate in this study.

The goal of these SR 202 studies is to conduct a high-level assessment of multimodal, access, safety, traffic operations, and related performance gaps on the SR 202 corridor from the SR 202/244th Avenue NE intersection to the SR 202/SR 203 intersection in Fall City. These two studies will document strategies and concepts to improve operations, safety performance, and accessibility for all SR 202 corridor users.

We are establishing a stakeholder committee for the SR 202 studies and invite your staff to participate. We expect the stakeholder committee to meet twice during the course of these studies, which will conclude by June 2021. All meetings will be held virtually, and we plan to conduct additional document reviews via email. We expect the kickoff meeting for stakeholder committee to be held in mid-to-late October of this year. We are also happy to meet separately with the Tribe if requested. If a project proposal were to move forward as a result of these studies, formal government-to-government consultation will be initiated during NEPA evaluation.

We would appreciate your response to this invitation letter, acknowledging the Tribe's interest in participating in the study. If you have any further questions or would like additional information about these studies, please contact the study lead, Thomas Noyes at (206) 464-1272 or noyest@wsdot.wa.gov or myself at (206) 464-1264 or mayhewr@wsdot.wa.gov

Sincerely,

Robin Mayhew, AICP
WSDOT Management of Mobility Director

RM:tn

cc:

Kerry Lyste, Cultural Resources
Sam Barr, Cultural Resources
Patrick Stevenson, Natural Resources
Casey Stevenson, Planning
Cameron Kukes, WSDOT Northwest Region Environmental Planning Manager
Megan Cotton, WSDOT Executive Tribal Liaison
Eliza McGovern, WSDOT Northwest Region Tribal Liaison and Restoration Lead

Washington State Department of Transportation

Management of Mobility Division
401 2nd Avenue South, Ste. 300
Seattle, WA 98104
206-464-1220 / FAX: 206-464-1189
TTY: 1-800-833-6388
www.wsdot.wa.gov

September 30, 2020

The Honorable Teri Gobin
The Tulalip Tribes
6406 Marine Drive
Tulalip, WA. 98271

RE: Consultation regarding the SR 202 Studies

Dear Chairperson Gobin:

The Washington State Department of Transportation (WSDOT) Management of Mobility Division has commenced a pair of studies of SR 202 in east King County. We invite the Tribe to participate in this study.

The purpose of these two SR 202 studies is to identify and address current traffic operations, traffic growth, multimodal needs/performance gaps on the SR 202 corridor from the SR 202/244th Avenue NE intersection to the SR 202/SR 203 intersection in Fall City. These two studies will document strategies and concepts to improve operations, safety performance, and accessibility for all SR 202 corridor users.

We are establishing a stakeholder committee for the SR 202 studies and invite your staff to participate. We expect the stakeholder committee to meet twice during the course of these studies, which will conclude by June 2021. All meetings will be held virtually, and we plan to conduct additional document reviews via email. We expect the kickoff meeting for stakeholder committee to be held in mid-to-late October of this year. We are also happy to meet separately with the Tribe if requested. If a project proposal were to move forward as a result of these studies, formal government-to-government consultation will be initiated during NEPA evaluation.

We would appreciate your response to this invitation letter, acknowledging the Tribe's interest in participating in the study. If you have any further questions or would like additional information about these studies, please contact the study lead, Thomas Noyes at (206) 464-1272 or noyest@wsdot.wa.gov or myself at (206) 464-1264 or mayhewr@wsdot.wa.gov

Sincerely,

Robin Mayhew, AICP
WSDOT Management of Mobility Director

RM:tn

cc:

Richard Young, Cultural Resources
Kurt Nelson, Natural Resources
Christina Parker, Planning
Teresa Sheldon, WITPAC
Cameron Kukes, WSDOT Northwest Region Environmental Manager
Megan Cotton, WSDOT Executive Tribal Liaison
Eliza McGovern, WSDOT Northwest Region Tribal Liaison and Restoration Lead

Washington State Department of Transportation

Management of Mobility Division
401 2nd Avenue South, Ste. 300
Seattle, WA 98104
206-464-1220 / FAX: 206-464-1189
TTY: 1-800-833-6388
www.wsdot.wa.gov

September 30, 2020

The Honorable Delano Saluskin
Yakama Nation
Post Office Box 151
Toppenish, WA 98948

RE: Tribal Participation in the SR 202 Study

Dear Chairman Saluskin:

The Washington State Department of Transportation (WSDOT) Management of Mobility Division has commenced a pair of studies of SR 202 in east King County. We invite the Tribe to participate in this study.

The goal of these SR 202 studies is to conduct a high-level assessment of multimodal, access, safety, traffic operations, and related performance gaps on the SR 202 corridor from the SR 202/244th Avenue NE intersection to the SR 202/SR 203 intersection in Fall City. These two studies will document strategies and concepts to improve operations, safety performance, and accessibility for all SR 202 corridor users.

We are establishing a stakeholder committee for the SR 202 studies and invite your staff to participate. We expect the stakeholder committee to meet twice during the course of these studies, which will conclude by June 2021. All meetings will be held virtually, and we plan to conduct additional document reviews via email. We expect the kickoff meeting for stakeholder committee to be held in mid-to-late October of this year. We are also happy to meet separately with the Tribe if requested. If a project proposal were to move forward as a result of these studies, formal government-to-government consultation will be initiated during NEPA evaluation.

We would appreciate your response to this invitation letter, acknowledging the Tribe's interest in participating in the study. If you have any further questions or would like additional information about these studies, please contact the study lead, Thomas Noyes at (206) 464-1272 or noyest@wsdot.wa.gov or myself at (206) 464-1264 or mayhewr@wsdot.wa.gov

Sincerely,

Robin Mayhew, AICP
WSDOT Management of Mobility Director

RM:tn

cc:

Casey Barney, Cultural Resources
Elizabeth Sanchey, Natural Resources
Alvin Pinkham, Planning & WITPAC
Cameron Kukes, WSDOT Northwest Region Environmental Planning Manager
Megan Cotton, WSDOT Executive Tribal Liaison
Eliza McGovern, WSDOT Northwest Region Tribal Liaison and Restoration Lead