



St. Johns - St. James Safety and Mobility Project

Concept Design Options Report



November 2024

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1. Introduction

The St. Johns–St. James Safety and Mobility Project aims to improve safety and mobility along the 2.5-mile-long roadway segment consisting of St. Johns Boulevard, St. Johns Road, and St. James Road between Fourth Plain Boulevard and NE 68th Street. The corridor also includes Fort Vancouver Way between St. Johns Boulevard and Fourth Plain Boulevard (see Figure 1). The St. Johns–St. James corridor serves vehicles, freight, transit, pedestrian, bicycle, and small mobility trips. The project corridor is a critical connection for people traveling north-south through the Rose Village and Fourth Plain Village Neighborhoods to the Minnehaha Neighborhood. It is also critical because it is currently the only both north and south crossing of State Route (SR) 500 between NE 15th Avenue/P Street and NE Andresen Road.

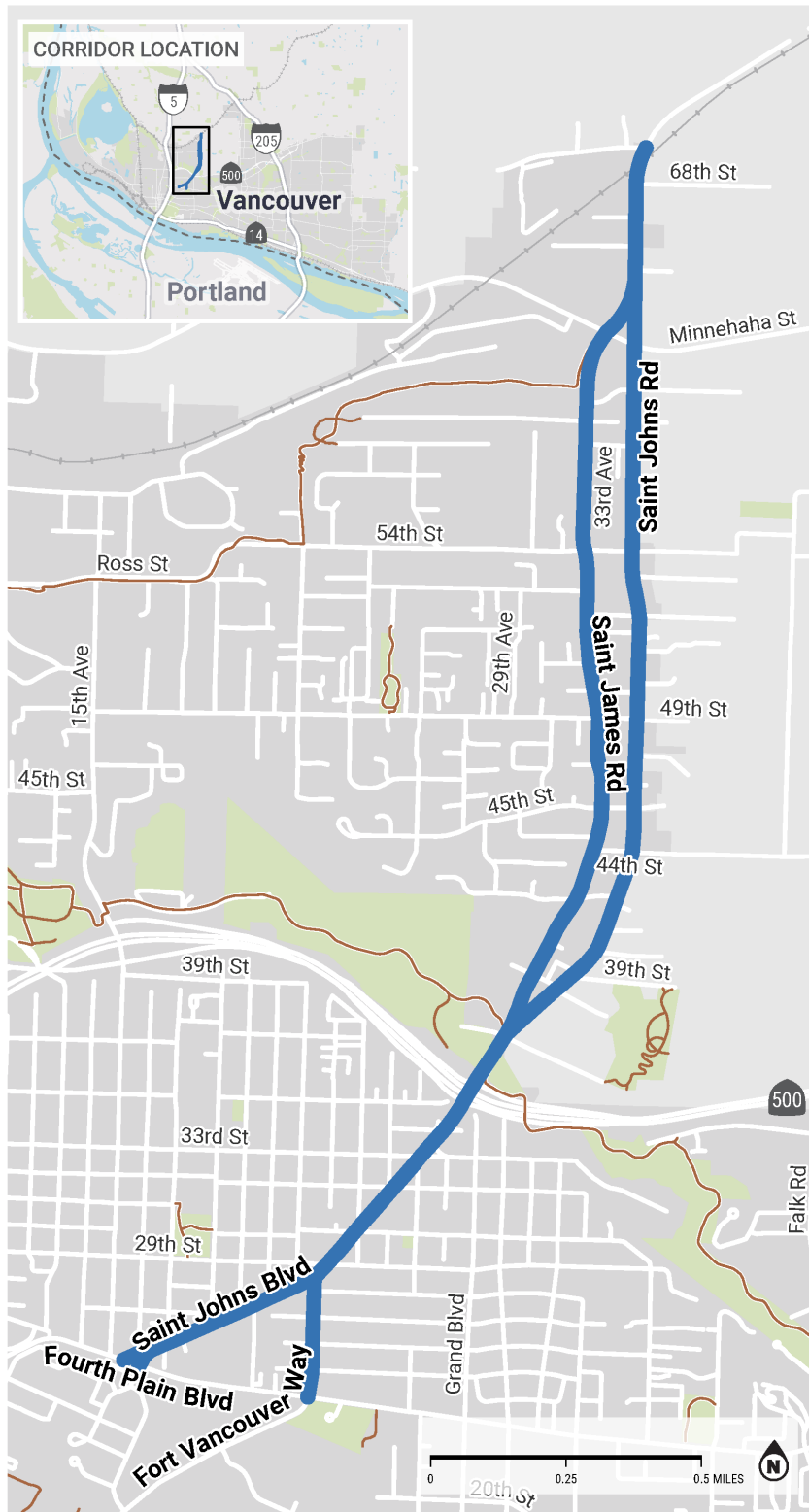
The project aims to advance the City’s central goals of equity, safety, and climate and improve safety, mobility, and access for all modes. The project began by understanding how the streets function today and gathering input from the community to inform project goals and potential roadway changes. The initial existing conditions study and community engagement outcomes built the foundation for the development of conceptual designs detailed in this report. The project specifically looked at improving transportation safety by involving impacted communities and improving pedestrian and small mobility facilities and connections to the larger citywide and regional transportation network. Additionally, the project looked at traffic calming strategies and intersection improvements that improve safety for all users at locations of concern identified by the community.

Figure 1: St. Johns–St. James Project Corridor

SAINT JOHNS SAINT JAMES CORRIDOR

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SAINT JOHNS SAINT JAMES
SAFETY AND
MOBILITY PROJECT

- Project Corridor
- Railroad
- Trail
- Park
- Vancouver City Limits



1.1. Project Context

The St. Johns–St. James corridor connects various neighborhoods including West Minnehaha, Rose Village, Fourth Plain Village, Central Park, Maplewood, and Bagley Downs. The land uses on and near the corridor include single family residential housing, multi-family residential housing, small commercial, light industrial and institutional. The roadway characteristics and land uses change along the corridor. Thus, for evaluation purposes and to recommend improvements, the 2.5-mile corridor is separated into five segments (see Figure 2) to better identify problems and focus on solutions that are appropriate to the land use and transportation contexts along each segment of the corridor.

- **Segment 1 (southernmost):** This segment includes St. Johns Boulevard between Fourth Plain Boulevard and Fort Vancouver Way and Fort Vancouver Way between St. Johns Boulevard and Fourth Plain Boulevard.
- **Segment 2:** This segment includes St Johns Blvd from the intersection with Fort Vancouver Way to Petticoat Lane where St Johns Blvd becomes a north/south couplet St James Road and St Johns Road.
- **Segment 3:** This segment begins at the point where St. Johns Road becomes two lanes in one direction (northbound) and St. James Road becomes two lanes in the opposite direction (southbound) from Petticoat Lane to NE 49th Street.
- **Segment 4:** This segment is St. Johns Road with two lanes in the northbound direction and St. James Road with two lanes in the southbound direction between NE 49th Street and Minnehaha Street.
- **Segment 5 (northernmost):** This segment is from Minnehaha Street to NE 68th Street. From NE Minnehaha Street to NE 68th Street, the St. Johns–St. James couplet shifts into a bidirectional roadway as St. Johns Road.

Detailed descriptions of the corridor segments including the surrounding land use context, lane configurations, and active transportation infrastructure can be found in the **Existing Conditions Memorandum**.

Figure 2: St. Johns–St. James Project Corridor Segments

SAINT JOHNS SAINT JAMES CORRIDOR SEGMENTATION

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PROJECT SEGMENTS

- Segment 1: Fourth Plain Blvd to Fort Vancouver Way & St Johns Boulevard
- Segment 2: Fort Vancouver Way to Petticoat Lane
- Segment 3: Petticoat Lane to 49th Street
- Segment 4: 49th Street to Minnehaha Street
- Segment 5: Minnehaha Street to City Limits

BACKGROUND

- Trail
- Railroad
- Park
- Vancouver City Limits



1.2. Project Goals

The goals of this project are to:

- Improve pedestrian safety.
- Improve bike and small mobility connectivity.
- Explore opportunities to increase transit access.
- Explore broader set of improvements to be incorporated into Our Vancouver- the City’s Comprehensive Plan update.
- Coordinate project implementation with other City efforts when possible.

1.3. Process

The project followed a process of assessing existing conditions, conducting community engagement, developing corridor concept design options, and additional community engagement. The process timeline is as follows:

- **Assess Existing Conditions:** Winter 2024 to Summer 2024
 - Collect data and talk with the community to learn about the current travel conditions along the St. Johns and St. James corridor.
- **Community Engagement Phase 1:** Winter 2024 to Summer 2024
 - Use engagement strategies and tools to understand community needs, priorities, and concerns.
- **Develop Corridor Design Options:** Summer 2024 to Fall 2024
 - Use what’s been learned to develop and evaluate a set of design options that make traveling on the St. Johns and St. James corridor safer and more comfortable for all.
 - Solicit input from staff and Transportation and Mobility Commission on concept design options.
- **Community Engagement Phase 2:** Fall 2024
 - Use a variety of engagement strategies and tools to gather feedback on concept design options.

This Concept Design Options Report outlines design concepts and improvement recommendations for the five segments on the corridor (see Concept Design Development section below). The report is informed by the Existing Conditions Report, Phase 1 Community Engagement Report, the City of Vancouver Complete Streets Policy, the 2024-2044 Transportation System Plan and the City of Vancouver Strategic Plan, with the stated goals of equity, safety and climate.

Recommendations include deploying a variety of tools to achieve the project goals. Those may include lane narrowing, crossing improvements, and additional safety countermeasures to address pedestrian, bicycling and small mobility, transit, motor vehicle and freight safety concerns on the corridor. The report includes conceptual corridor-wide safety and traffic operational improvement improvements that would achieve a balance between various transportation modes while maintaining the functionality for all modes on the corridor. These are represented by recommended typical cross sections for each segment and location-specific improvement proposals to be implemented in multiple phases and pending available funding.

1.4. Project Phasing

There are expected to be three phases to implementing the design recommendations for this corridor in this report. The first phase of improvement recommendations is intended for implementation during the planned pavement improvements on St Johns Blvd, expected in 2026. This work will be coordinated with the pavement management program, typical to past Complete Streets projects. The second phase of improvement recommendations will be in the short-term, which is expected either with future pavement management work or as standalone priority projects to occur in the next 6 years, designated as near-term. As such, projects with a re-paving or short-term timeframe should seek grant funding and be added to the Transportation Improvement Plan. As pavement work will occur on Segment 3 and 4 the soonest on St Johns Road, projects in these segments should be prioritized and included as possible in the pavement work. Lastly, the third phase of improvement recommendations, with a longer term investment needed will be completed either with future pavement management work, as stand along projects that receive grant funding or as bundled projects funded by other funding sources as identified.

2. Needs, Issues, and Priorities Summary

2.1. Community Engagement Takeaways

Community input is essential to understanding the transportation needs, concerns, and priorities in the corridor. The first round of community engagement occurred in April to June 2024. Phase 1 included a survey with an interactive map and in-person open house, where community members were asked to share information about their current experiences, concerns, and priorities related to transportation in the corridor. This information helped the project team learn from community experiences to develop recommendations that would address community concerns. Below are a few key takeaways from the **Phase 1 Community Engagement Summary**:

- More than half of the survey respondents used the corridor to shop, eat, and play, highlighting need for good access to destinations.
- Safety came up at the top of the transportation priorities in the corridor with 84% of survey respondents choosing it as their first, second, or third choice.
- In the open-ended comments, survey respondents noted the need for continuous, connected, and obstruction-free sidewalks and bike lanes, and safe and accessible crossings, particularly near schools, important businesses, and bus stops.
- Car or truck is the most frequently used mode of transportation with 85% of survey respondents using this mode “daily” or a “few times a week.”
- Speeding and aggressive driving were often noted as transportation concerns in the corridor.

2.2. Existing Conditions

The corridor is a critical north-south connection for all modes of transportation users. According to the City’s Transportation System Plan (TSP), the St. Johns - St. James roadway is a minor arterial from Fourth Plain Boulevard to E 33rd Street and is a principal arterial from E 33rd Street to NE 68th Street. It is also identified as TRANS-924, an active transportation improvement project, in the Transportation Improvement Program. The TSP recommends this corridor

to have continuous protected bike lanes along the project extent. However, the existing infrastructure along the corridor needs significant improvements to meet standards established by the City and the needs of the people who use this corridor. The existing conditions study provided information highlighting needs and issues for all modes in the corridor. Below is a summary of the findings of the **Existing Conditions Memorandum**.

Pedestrian Network

- Pedestrian walking conditions are most comfortable in the southernmost segment along St. Johns Boulevard due to high crosswalk density, lower posted speeds, fewer sidewalk gaps, and fewer vehicle lanes.
- Much of the northern segments score P-LTS 4 (most stressful) for pedestrian level of traffic stress because of sidewalk gaps, higher vehicle speeds, and most sidewalks being less than 6 feet wide (or missing sidewalks).
- The middle segment of the corridor as it crosses SR 500 scores a P-LTS of 3 for pedestrian level of traffic stress due to higher volumes of vehicle turning movement conflicts and long crossing distances across highway on- and off-ramps. This bridge is owned by WSDOT. Many of the surrounding neighborhoods lack complete sidewalks.
- Two regionally significant trails intersect the corridor: Burnt Bridge Creek Greenway Trail in the middle near the SR 500 bridge and the Ellen Davis Trail at the northern end of the project extent. Pedestrian connections to residential and commercial areas between these two trails are limited or difficult to reach given the necessity of crossing SR 500 or NE Minnehaha Street. This roadway transitions to Clark County jurisdiction at NE 68th St.

Bicycle and Small Mobility Network

- Conventional striped mobility lanes without buffers, varying in widths from 4 to 6 feet, exist on the St. Johns–St. James corridor from Fort Vancouver Way to NE 68th Street.
- Under current conditions, the TSP recommends expanding protected bike connections in the southern extent on roads such as Fourth Plain Boulevard and St. Johns Boulevard, as well as protected bikeways on 49th Street, 54th Street, and Minnehaha Street. The TSP also recommends designating E 29th Street near the southern portion of the study corridor as a neighborhood greenway.
- Much of the St. Johns–St. James corridor is either B-LTS 3 or B-LTS 4 for bicycle level of traffic stress, meaning that most people will feel uncomfortable riding along the corridor. In particular, areas around the SR 500 bridge and the couplet around Minnehaha Street have a B-LTS of 4 because of an increase in vehicle travel lanes increase and larger right-turn lane conflict zones.
- Uphill slopes on St. Johns Road between Petticoat Lane and NE 49th Street and on southbound St. James Road until NE 51st Street pose challenges for many people on conventional bikes. The downhill slope north of NE 51st Street can encourage faster speeds of vehicles and bicycle and small mobility users reducing reaction times in conflict zones.

Transit Service and Ridership

- Three C-TRAN fixed-route bus lines, #6 Fruit Valley/Grand, #25 St. Johns, and The Vine on Fourth Plain, provide service within the vicinity of the St. Johns–St. James corridor. See Appendix A for existing stops.

- The southbound bus stop with the greatest number of weekday average daily boardings in the study area was St. James Road and NE 52nd Street. The northbound bus stop with the greatest number of weekday average daily boardings in the study area was Fort Vancouver Way and St. Johns Boulevard.
- [The Current](#), C-TRAN's rideshare service that provides point-to-point service for the cost of a bus ride, operates in the corridor St. Johns in the Rose Village neighborhood.

Current Roadway Conditions, Driveways, and Parking

- The St. Johns–St. James corridor currently is striped between two to four lanes, with lane widths that ranges from 11 to 21 feet wide. South of E 33rd Street, there is one travel lane per direction, sometimes with an additional center turn lane, and north of E 33rd Street, there are two vehicle travel lanes in each direction.
- Areas of the corridor with higher concentrations of driveways include segments of St. James Road and St. Johns Road between NE 39th Street and Minnehaha Street and St. Johns Boulevard between Fourth Plain Boulevard and E 33rd Street. Driveway density creates conflict zones with pedestrian, bicycle riders, and other vehicles on the roadway. It also affects service providers such as solid waste, delivery, school buses and commercial and residential access.
- Along St. Johns Boulevard, four to eight vehicles were typically observed parked per block, including both sides of the street. St. Johns Road had higher volumes of parking between NE 45th Street and NE 49th Street but parked vehicles were infrequent north and south of that section.

Traffic Volumes and Speeds

- Higher weekday average daily traffic volumes were observed on Fort Vancouver Way between Fourth Plain Boulevard and St. Johns Boulevard in Segment 1, the northern end of the corridor north of 65th Street in Segment 5, and between 33rd Street and Petticoat Lane at the SR 500 interchange in Segment 2.
- The areas with the greatest percentage of vehicles traveling at the highest speeds were in Segment 3 from Petticoat Lane to 49th Street with steep grades.
- There are more pedestrians than bicycles crossing the intersections along the corridor.
- The greatest number of bicyclists and pedestrians crossing the intersections were observed at the location near the intersection of Petticoat Lane, likely due to its proximity to the Burnt Creek Trail.

Illumination

- Most of the corridor has luminaires on one side of the street with single head type A light standard types. Per City lighting standards, major and minor arterial roads should have Type A lighting on both sides of the street with poles on opposite sides. Sidewalks on the opposite side of the street from where there are existing luminaires are notably darker.
- There are several illumination gaps throughout the corridor, particularly in several segments of St James Road between NE Petticoat Lane and NE Minnehaha Street, as well as the entire stretch of St Johns Road between NE Minnehaha Street and NE 68th Street. During dark conditions, these areas may be difficult for people walking and biking to traverse.

3. Concept Design Development

Roadway configurations and infrastructure concepts are being explored that would enhance safety and mobility along the corridor within the existing public right-of-way. The proposed concepts would involve tradeoffs that factor in physical constraints, cost and complexity of implementation, roadway comfort, and safety for people walking, bicycling and rolling. All final designs and dimensions will be determined by survey.

The proposed concepts include recommendations at two scales:

- **Segment-level improvements:** A “typical” cross section generally applied to each segment.
- **Location-specific improvements:** These improvements would address specific safety and comfort issues identified in locations within each segment, like enhanced pedestrian crossings, traffic signal changes, illumination, access management, modification of intersection geometry, and turn lane improvement.

Additionally, the improvements proposed vary in the level of investment and implementation timeframe. Some improvements may be implemented with lower cost materials that are easier to deploy sooner. These treatments can be upgraded over time to longer term materials as needed, or funding allows. This allows the City to efficiently allocate resources across the corridor, evaluate their performance, and achieve safety and mobility outcomes sooner. A common example of this kind of staged implementation includes an initial deployment of painted curb extensions, buffers, and vertical delineators. These materials could then be upgraded at a future date by fully reconstructing sidewalk, curb, and gutter.

Other major intersection improvements requiring larger scale physical changes to the layout of the intersection and connecting streets would be slated for a longer timeframe as funding is identified and/or other city, county, and state projects overlap. An example of these kinds of improvements includes the portions of the corridor on the SR 500 interchange which is controlled by WSDOT and the intersection at St. Johns Boulevard with 33rd Street, also Segment 2, and coordination with improvements along other corridors such as Fourth Plain Boulevard. There are no near-term or short-term improvements planned for the SR-500 interchange and any long-term improvements on SR-500 interchange would be lead by and coordinated with WSDOT.

The recommended improvements are categorized by phase according to 1) scheduled City near-term pavement improvements (from north of the SR 500 interchange to south of Minnehaha Street on St Johns Road), 2) other shorter-term improvements outside of pavement work, and 3) long-term improvements.

3.1. Segment 1A (St Johns Boulevard): Fourth Plain Boulevard to 29th Street

Conditions Analyzed Based on Existing Conditions and Phase 1 Community Engagement

- Vehicle speeding at all times of day.
- Improve intersection controls.
- Poor visibility at crossings for pedestrians and mobility users.
- Need for clear markings distinguishing parking lanes from travel lanes.

Figure 3: Existing Typical Roadway Configuration of Segment 1A: St. Johns Boulevard Typical Cross Section (looking north)

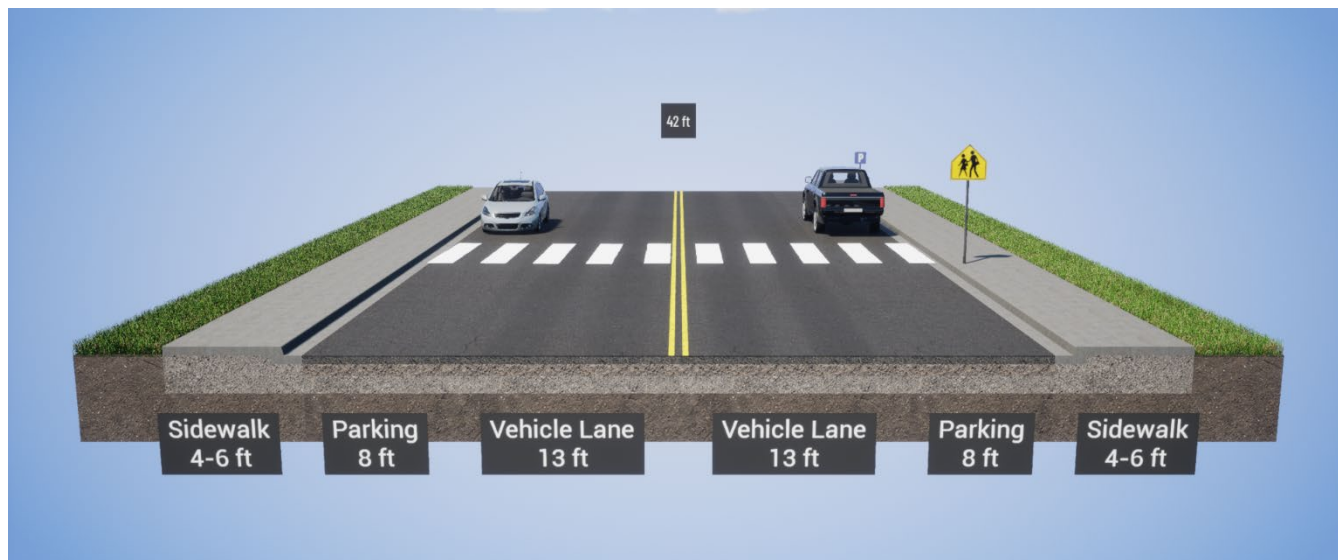


Figure 4: Proposed Typical Roadway Configuration of Segment 1A: St. Johns Blvd Typical Cross Section (looking north)

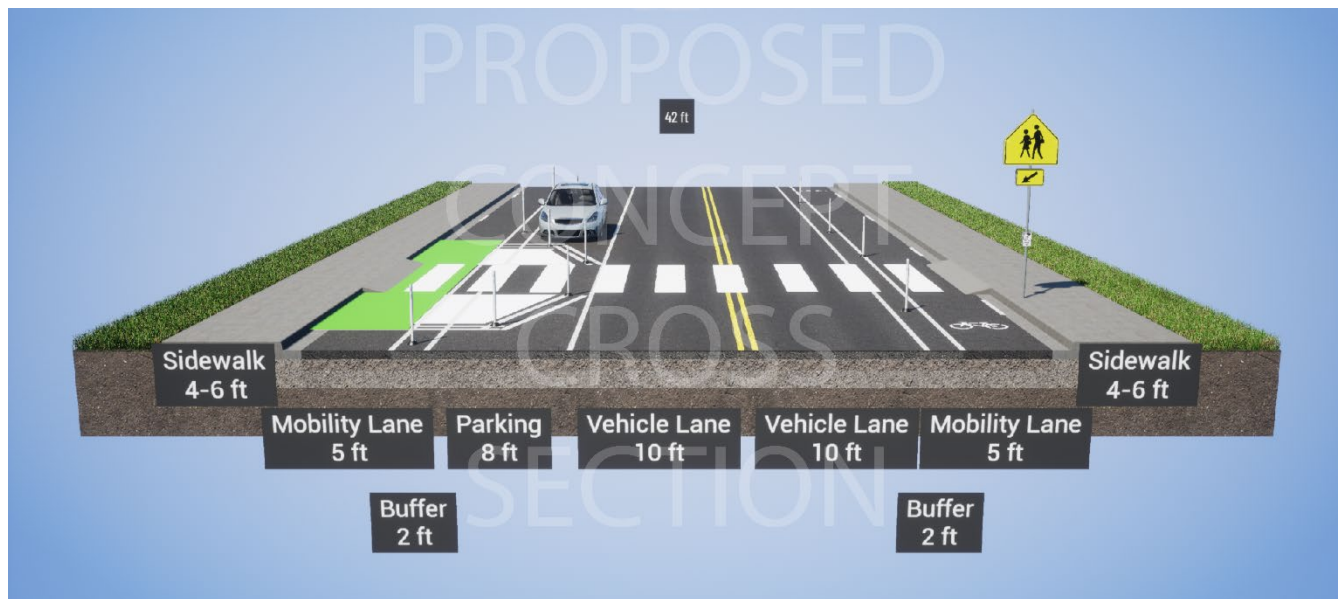


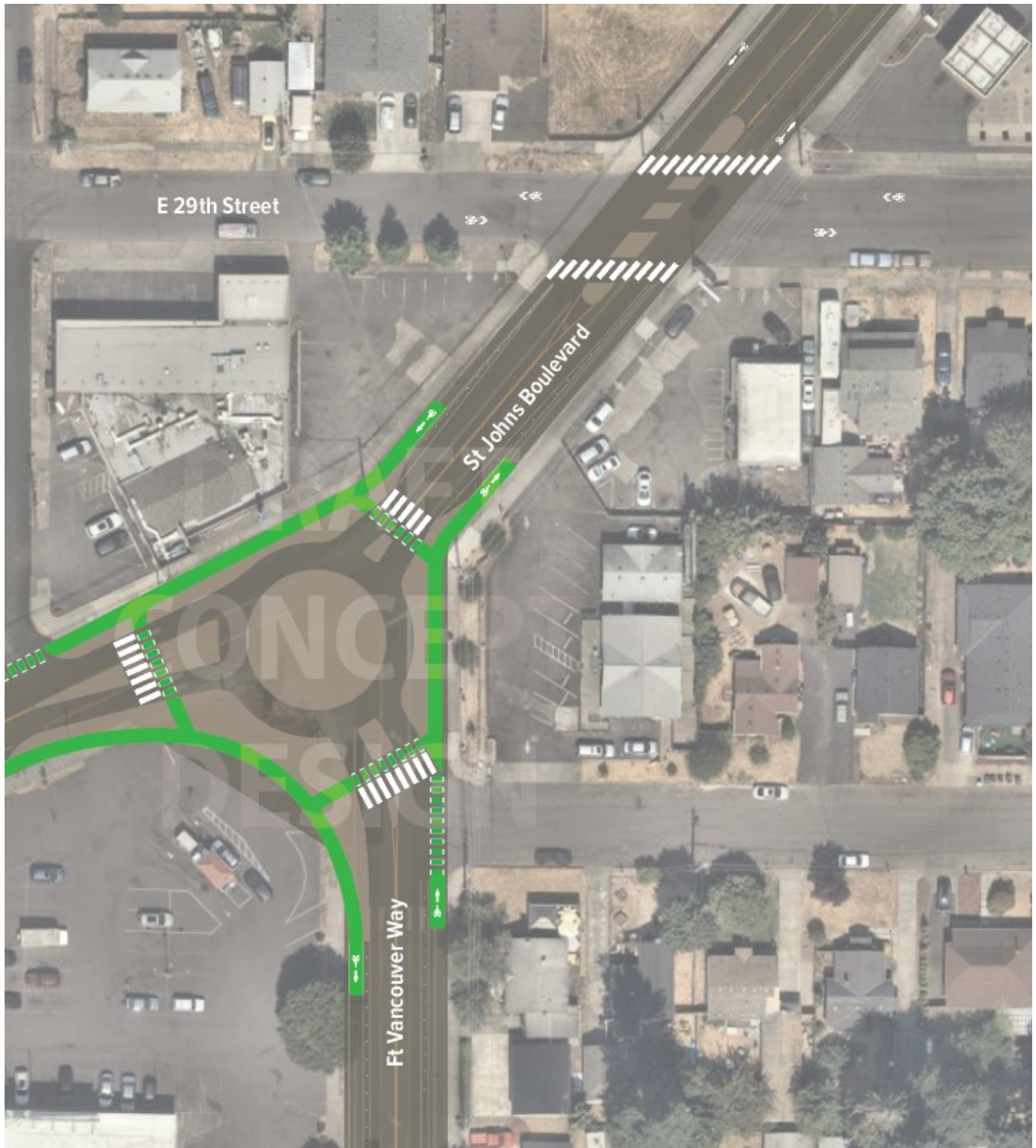
Table 1. Design Recommendations in Segment 1A: (St Johns Boulevard): Fourth Plain Boulevard to 29th Street

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
<i>Typical segment-level improvements</i>			
St. Johns Boulevard (Segment-wide)	Narrow lane widths/Add separated mobility lanes: Narrow the vehicle lanes from 13' to 10' when buffer space present.	<ul style="list-style-type: none"> Retain the number vehicle travel lanes with reduced widths to reduce vehicle speeds and improve multimodal safety and comfort. 	Short-term
St. Johns Boulevard from Fourth Plain Boulevard to Ft Vancouver Way	Lane reconfiguration with separated mobility lanes – Addition of at least 5' north- and south-bound mobility lanes with a at least 3' buffer.	<ul style="list-style-type: none"> Retain the number vehicle travel lanes with narrowed widths that maintain vehicle use. Provide continuity in mobility lanes that currently are lacking. Create physical separation between mobility lane users and vehicles to make this a comfortable route for all users. 	Short-term
St. Johns Boulevard from R Street to S Street	Protected mobility lane/Marked parking – parking marked for visibility on the southbound lane and add northbound parking protected mobility lane.	<ul style="list-style-type: none"> Delineate parking spots and include new signage to increase visibility at intersections and retain on-street parking near multi-family housing. Buffer with vertical delineation between parked vehicles and mobility lane encourages reduces door zone use and conflicts. 	Short-term
St. Johns Boulevard from S Street to U Street	Protected mobility lane/Marked parking – parking marked for visibility on the southbound lane and add southbound parking protected mobility.	<ul style="list-style-type: none"> Delineate parking spots and include new signage to increase visibility at intersections and retain on-street parking near multi-family housing Buffer with vertical delineation between parked vehicles and mobility lane encourages reduces door zone use and conflicts. 	Short-term
Fort Vancouver Way from Fourth Plain Boulevard to St. Johns Boulevard	Narrow lane widths and add separated mobility lanes- Remove center left-turn lane. Widen mobility lane from 4' to 6' with at least a 3' buffer. Remove the center-turn lane.	<ul style="list-style-type: none"> Reconfigured lane widths to improve multimodal safety and comfort and maintain vehicle movement. 	Short-term

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
<i>Location-specific improvements</i>			
Fourth Plain Boulevard and St. Johns Boulevard	Reconfiguration of slip lane – allow mobility lane transitions to two-way cycle track facility on Fourth Plain Boulevard while eliminating high speed and vehicle conflict points.	<ul style="list-style-type: none"> • Prevent speeding onto arterial and driver confusion associated with the slip lane geometry that offers a generous approach angle for drivers of westbound vehicles. • Reduce conflicts for bicyclists, small mobility users and crossing pedestrians, while improving connectivity to new mobility facilities on Fourth Plain Boulevard. 	Long-term
St. Johns Boulevard and R Street	Marked crosswalks on the north-end of the intersection and illumination.	<ul style="list-style-type: none"> • Increase the overall visibility and safety for crossing pedestrians. 	Short-term
St. Johns Boulevard and S Street	Marked crosswalks on the on the south-end of the intersection and illumination.	<ul style="list-style-type: none"> • Increase the overall visibility and safety for crossing pedestrians. 	Short-term
St. Johns Boulevard and Ft Vancouver Way (Figure 5)	<p>Marked crosswalk on all three ends of the intersection and illumination.</p> <p>“Crossbike” markings¹ to clarify path of travel for mobility lane users.</p> <p>Traffic control device (signal (shorter-term) or roundabout) for safer and predictable traffic operations. (Complete traffic study needed for this intersection)</p> <p>Luminaire on the south leg of intersection.</p>	<ul style="list-style-type: none"> • Provide safe crossing for small mobility users turning southbound from St. Johns Blvd to Ft Vancouver Way. • Increase the overall visibility of pedestrians while also reducing the crossing distance. • Traffic signal: increased vehicle movement predictability and mobility lane movement compliance. • Roundabout: increased vehicle movement predictability, minimize delay for all road users, and increase safety for mobility lane users by reducing conflict points with vehicles. • Luminaire: provides illumination coverage to existing marked crosswalks across St Johns Boulevard. 	Short-term (markings) and long-term (traffic control and luminaire)

¹ Crossbike markings are intersection crossing markings for bikes and small mobility such as green paint through intersections or at high bicyclist and pedestrian volume intersections across the corridor.

Figure 5. Draft Concept Design Option for the St. Johns Boulevard and Ft Vancouver Way Intersection with a Roundabout and Separated Mobility Lanes (Potential Long-Term Improvement)



3.2. Segment 1B (Fort Vancouver Way): Fourth Plain Boulevard to 29th Street

Conditions Analyzed Based on Existing Conditions and Phase 1 Community Engagement

Conditions analyzed on Segment 1B are similar to those considered in Segment 1A, particularly at the intersection of Fort Vancouver Way and St. Johns Boulevard.

- Need for improved intersection controls.
- Poor visibility at crossings for pedestrians and mobility users.
- Improve the crossing of Ft Vancouver Way and St. Johns Road to reduce speeds and improve safety for pedestrians and small mobility users.

Figure 6: Existing Typical Roadway Configuration of Segment 1B (Fort Vancouver Way): Fourth Plain Boulevard to 29th Street (looking north)

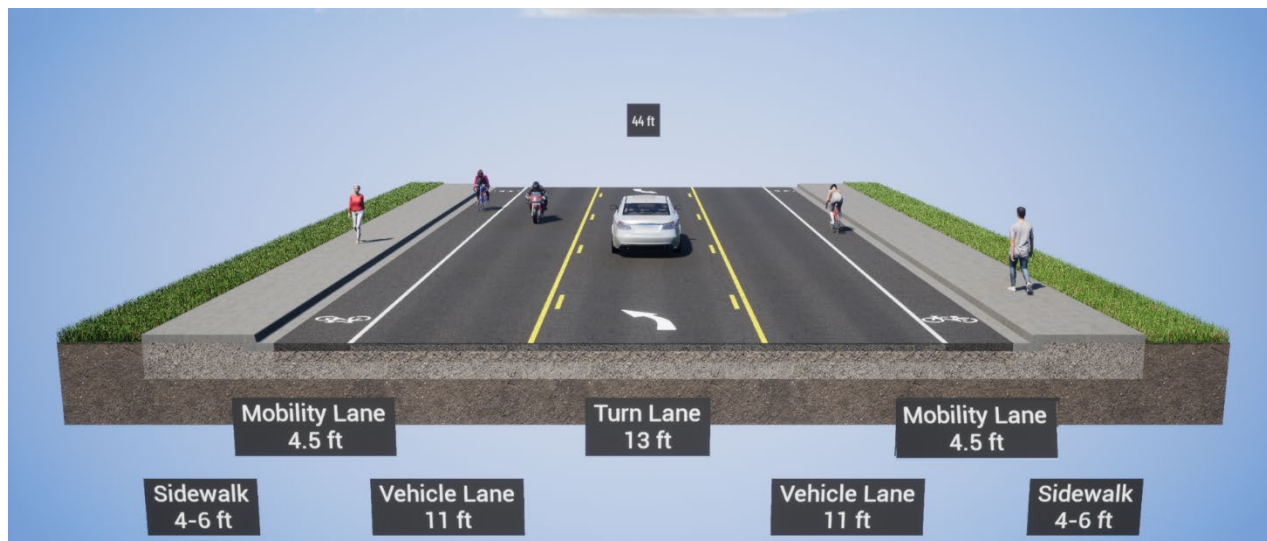


Figure 7: Proposed Typical Roadway Configuration of Segment 1B (Fort Vancouver Way): Fourth Plain Boulevard to 29th Street (looking north)

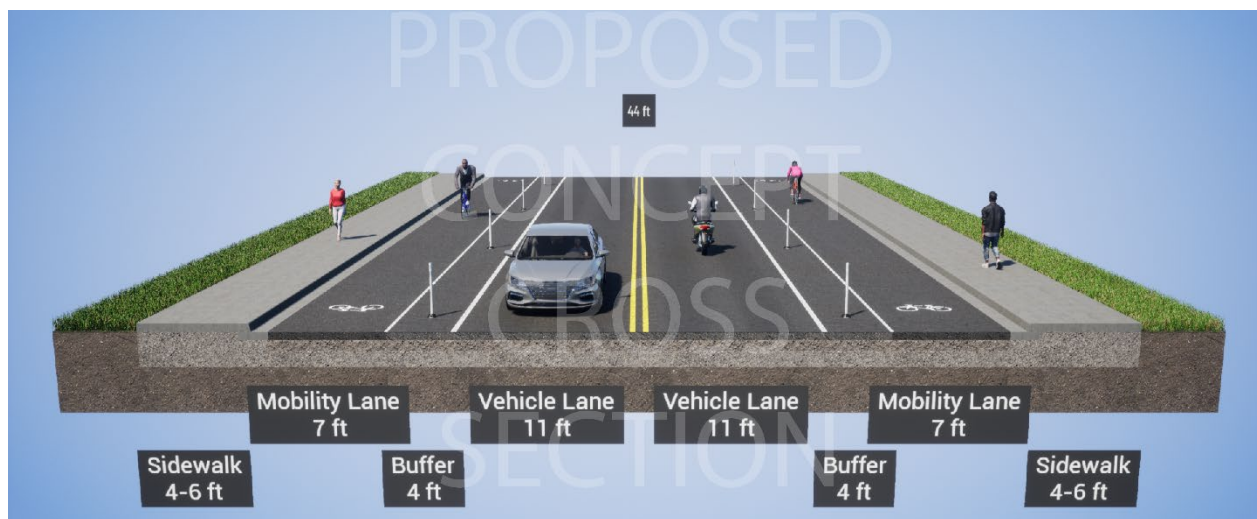


Table 2: Design Recommendations in Segment 1B (Fort Vancouver Way): Fourth Plain Boulevard to 29th Street

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
<i>Typical segment-level improvements</i>			
Fort Vancouver Way from Fourth Plain Boulevard to St. Johns Boulevard	Narrow lane widths and add separated mobility lanes - Remove center left-turn lane. Widen mobility lane from 4' to 6' with at least a 3' buffer. Remove the center-turn lane.	<ul style="list-style-type: none"> Reconfigured lane widths to improve multimodal safety and comfort and maintain vehicle movement. 	Short-term
<i>Location-specific improvements</i>			
St. Johns Boulevard and Ft Vancouver Way (Figure 5)	See Table 1	See Table 1	See Table 1
Ft Vancouver Way and 25 th Street	Narrow lane widths and add separated mobility north of 25 th Street Relocate northbound bus stop from farside to nearside.	<ul style="list-style-type: none"> Reconfigured lane widths to improve multimodal safety and comfort and maintain vehicle movement. Maintain curbside boarding or ADA accessible interim shared mobility lane boarding platform. 	Short-term (in coordination with C-TRAN)
Fourth Plain Boulevard and Ft Vancouver Way	Narrow lane widths and add separated mobility. “Crossbike” markings to clarify path of travel for mobility lane users on the Ft Vancouver through the Fourth Plain Blvd intersection. Median and corner islands to create physical separation for pedestrians and bike and small mobility, shorter crossing distances.	<ul style="list-style-type: none"> Traffic calming measures like protected corners help reduce speeding in high conflict areas and improves sight distances for drivers to see active transportation users. 	Short-term

3.3. Segment 2: St Johns Boulevard from Fort Vancouver Way to Petticoat Lane

Considerations Analyzed Based on Existing Conditions and Phase 1 Community Engagement

- Improved intersection controls throughout the segment.
- Need for clear and safe pedestrian and small mobility crossings, especially near existing bus stops (See Figure 4)
- Clear markings in the right of way showing parking, travel lanes, and mobility lanes.
- Improved safety and comfort for pedestrians and small mobility users.
- Bus stop visibility and stop facility improvements.

Figure 8: Existing Typical Roadway Configuration of Segment 2 (St. Johns Boulevard Looking North from E 29th Street to E 33rd Street)

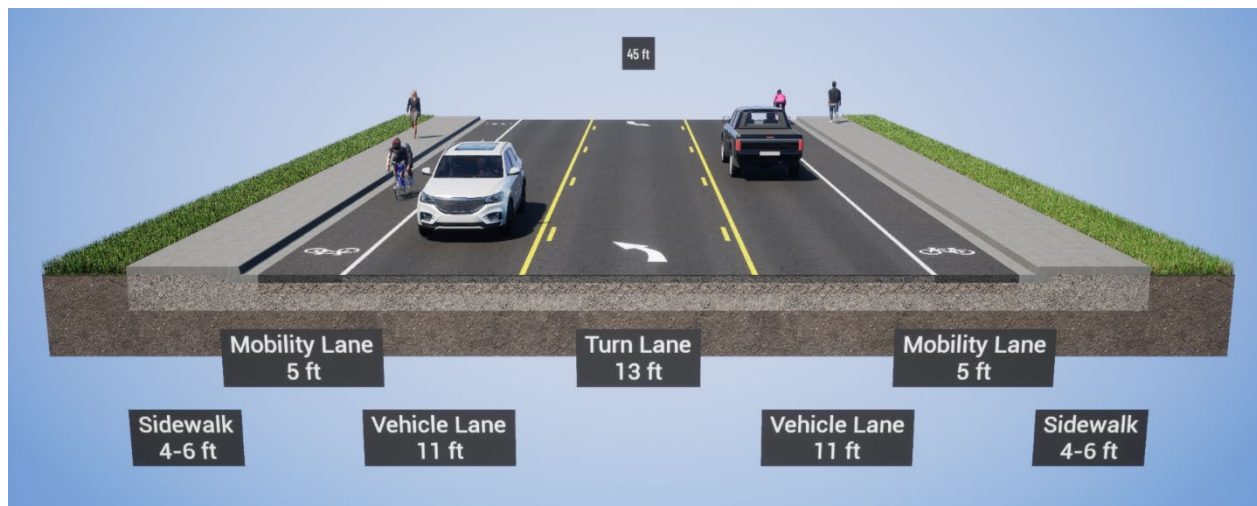
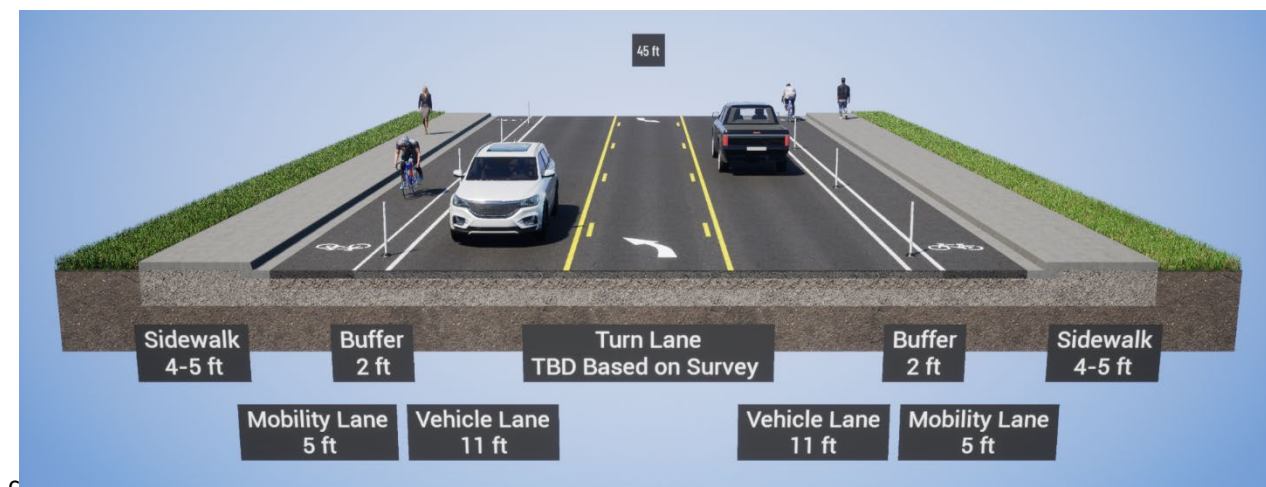


Figure 9: Proposed Typical Roadway Configuration of Segment 2 (St. Johns Boulevard Looking North from E 29th Street to E 33rd Street)



C

Table 3. Design Recommendations in Segment 2: St. Johns Boulevard from Fort Vancouver Way to Petticoat Lane

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
<i>Typical segment-level improvements</i>			
St. Johns Boulevard (south of NE 33rd Street intersection)	<p>Narrow lane widths/Add separated mobility lanes: Addition of north- and south-bound mobility lanes with buffer, but full survey work will determine final design and dimensions.</p>	<ul style="list-style-type: none"> Retain the number vehicular lanes with reduced widths that maintain the comfort for motorists. Create physical separation between bicyclists and motorists to make this a comfortable route for everyone. 	Short-term
<i>Location-specific improvements</i>			
St. Johns Boulevard and East 29 th Street	<p>Marked crosswalks with one on the north- and south-end of the intersection and illumination.</p> <p>New enhanced crossing with Rectangular Rapid Flashing Beacons (RRFB) on the south-end and illumination.</p> <p>Continuation of the mobility lanes treatment on E 29th Street with crossbike markings.</p> <p>Paint and post or raised medians on the north- and south-end of the intersection.</p>	<ul style="list-style-type: none"> Increase the overall visibility and safety for crossing pedestrians. Improve connectivity and safety for bicyclists and small mobility users. Traffic calming measures to control vehicle speeds. 	Short- and long term

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
St. Johns Boulevard and X Street	<p>New enhanced crossing with Rectangular Rapid Flashing Beacons (RRFB) and illumination (Install Type A luminaire on west side of St Johns Boulevard).</p> <p>Paint and post or raised median and marked crosswalks on the northern end of the intersection.</p> <p>Potential to remove center turn lane, but full survey work will determine final design and dimensions.</p> <p>Prohibit left vehicles turns from X St and E 30th St onto St Johns Blvd with vertical delineators and signage.</p>	<ul style="list-style-type: none"> • Improve vehicles yielding to and overall visibility for active transportation users crossing. • Increase the overall visibility and safety for crossing pedestrians. • Reduce the threat of a rear-end crash for vehicles who are yielding to crossing users. 	Long-term
St. Johns Boulevard and Z Street	<p>Paint and post or Curb extension on Z St, restricting southbound turns on to Z St.</p>	<ul style="list-style-type: none"> • Reconfiguration of Z street with paint and post or curb extension and one-way northbound reduce difficult traffic maneuvers and create a more comfortable active transportation experience. 	Long-term
St. Johns Boulevard and East 33 rd Street	<p>Marked crosswalks and “crossbike” markings on the north and south end of the intersection.</p> <p>Relocate bus stop from 32nd St to 33rd St</p> <p>Full intersection reconfiguration and signal upgrade.</p>	<ul style="list-style-type: none"> • Increase the overall visibility and safety of pedestrians and bicyclists. • Increase vehicle and small mobility thruput with roadway reconfiguration, upgraded signal technology, and improved and separate pedestrian and small mobility facilities. • Ensure transit stop placement and access for future bus routes at/thru the intersection. 	Long-term (coordinate with 29 th Street and 33 rd Street Safety and Mobility Project and C-TRAN with Rerouting of Route 31 and WSDOT for SR-500 impacts)

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
St. Johns Boulevard and on/off ramps at SR 500	<p>Marked crosswalk and “crossbike” markings on all the east and west end of the intersection.</p> <p>Curb extensions and curb radii reduction on the on and off ramps establish slower turning movements.</p>	<ul style="list-style-type: none"> • Increase the overall visibility and safety of pedestrians and bicyclists. • Prevent speeding and increase safety for people using all modes. 	Long-term (in coordination with WSDOT)
St. Johns Boulevard /St. James Boulevard and NE Petticoat Lane	<p>Paint and post or raised median near the intersection on St. Johns Boulevard.</p> <p>South-bound left-turn lanes changed to reduced collision U-Turns (RCUT) at Cherry Road.</p> <p>Protected southbound left turn lane onto Petticoat Lane</p> <p>Buffered and protected mobility lane.</p>	<ul style="list-style-type: none"> • Increase the overall visibility and safety of pedestrians and reduce the crossing distance for pedestrians. • Clarify turning movements while minimizing interchange delay. • Separated mobility lane with vertical separation increases distance between vehicles and mobility lane users. 	Long-term

3.4. Segment 3: Petticoat Lane to NE 49th Street

Conditions Analyzed Based on Existing Conditions and Phase 1 Community Engagement

- Reduce speeding of vehicles.
- Create clear separation between different modes in road segments and during turning movements.
- Make lane widths consistent.
- Improve visibility of pedestrians, bicyclists, and vehicles in intersections and when entering/exiting from driveways.
- Provide clearly marked crosswalks at reasonable distances.
- Install one-way signage throughout that reinforces correct directionality for travelers.

Figure 10: Existing Typical Roadway Configuration of Segment 3 (St. James Road Looking North and St. Johns Road Looking South)

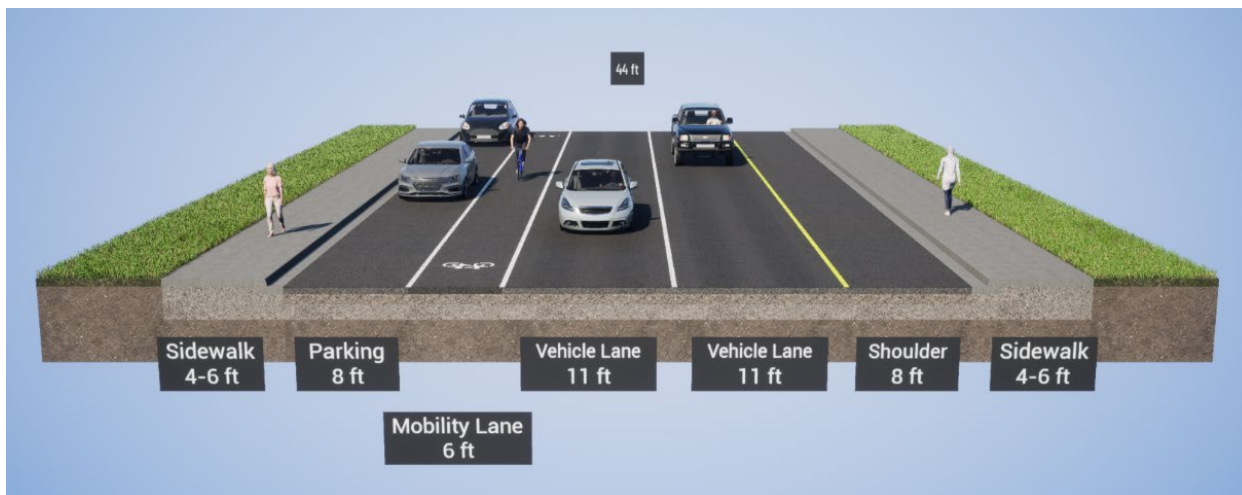
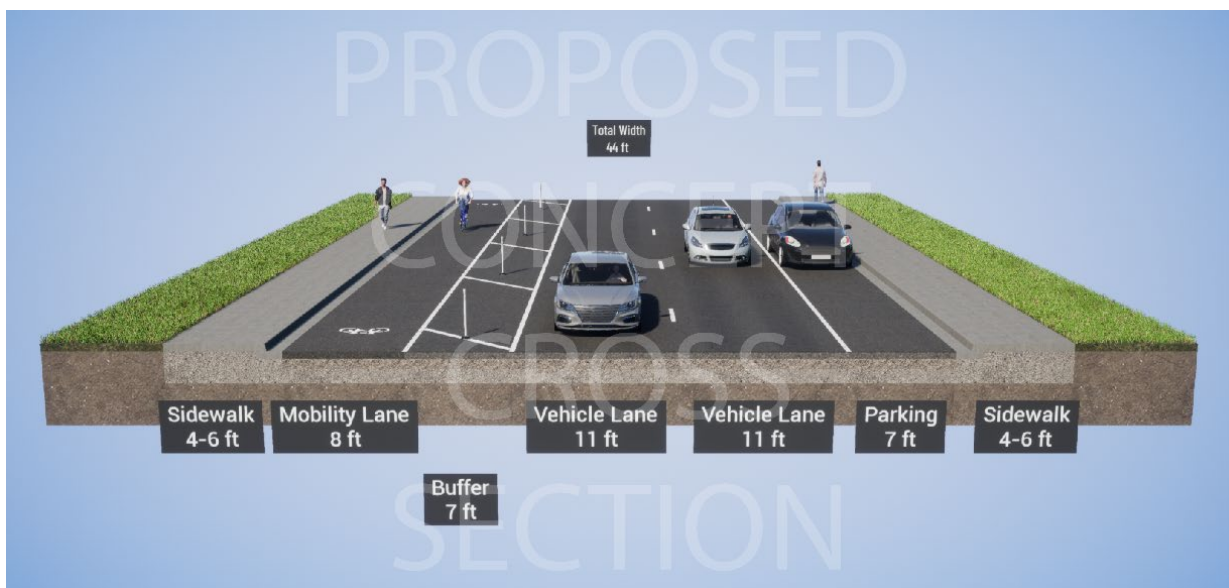


Figure 11: Proposed Typical Roadway Configuration of Segment 3 (St. James Road Looking North and St. Johns Road Looking South)



The inside travel lane may vary from 10 ft to 11 ft to accommodate turning movements for larger vehicles such as firetrucks, garbage/recycling trucks, or other vehicles with a large turning radius.

Table 4. Design Recommendations in Segment 3: Petticoat Ln to NE 49th Street

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
<i>Typical segment-level improvements</i>			
St. James Road - NE Petticoat Lane to NE 49 th Street	<p>New sidewalk (infill) on both sides of street and illumination, between NE Petticoat Lane and NE 49th Street</p> <p>Narrow lane width/Add separated mobility lane - Add south bound parking protected mobility lane of at least 8’ with a minimum 4’ buffer. Two south-bound vehicle lanes with a 2’ shoulder.</p> <p>Install 8 Type A luminaires where there are gaps in illumination coverage (Refer to Illumination Study)</p>	<ul style="list-style-type: none"> Retains the existing number of vehicle lanes and on-street parking. Create a comfortable bike and small mobility experience with buffered and protected mobility lanes. Provides light coverage to people walking and biking during low-light conditions. 	Short-term
St. Johns Road - NE Petticoat Lane to NE 49th Street	<p>New sidewalk (infill) on both sides of street and illumination, between NE Petticoat Lane and NE 49th Street</p> <p>Narrow lane widths/Add separated mobility lanes: Add north bound parking protected mobility lane of at least 8’ with a minimum 4’ buffer. Two south-bound vehicle lanes with a 2’ shoulder.</p> <p>Install 2 Type A luminaires where there are gaps in illumination coverage between Petticoat Lane and 39th Street (Refer to Illumination Study)</p>	<ul style="list-style-type: none"> Retains the existing number of vehicle lanes and on-street parking. Creates a comfortable bike and small mobility experience with buffered and protected mobility lanes. Provides light coverage to people walking and biking during low-light conditions. 	Short-term (illumination) and Near-term (repaving)

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
<i>Location-specific improvements</i>			
St. James Road and NE Cherry Road	<p>Interim shared mobility lane boarding platform (far side). (if stop is removed, relocate to far side of NE 42nd Street and remove stops at both Cherry Road and 4300 Block).</p> <p>Marked Crosswalks on the south-end of the intersection and illumination.</p>	<ul style="list-style-type: none"> Removes conflicts between transit users and mobility lane users and allows the buses to remain in lanes for boarding/alighting and not cross over mobility lane. Provides more space by separating the pedestrians using the sidewalk from the transit users who are waiting for buses. 	Short-term (in coordination with C-TRAN)
St. James Road and NE 42 nd Street	<p>Marked Crosswalks and “crossbikes”.</p> <p>Raised corner islands at NW and SW corners for SB separated bike and small mobility lane.</p>	<ul style="list-style-type: none"> Create safer more comfortable crossings for pedestrians, bikes, and small mobility users. Reduce crossing distance for pedestrians. 	Short-term (markings) and Long term (corners)
St. James Road and NE 45 th Street	<p>New enhanced pedestrian crossing (RRFB).</p> <p>Marked crosswalk on the northern end of the intersection and illumination.</p>	<ul style="list-style-type: none"> Create safe crossing and reduce crossing distance for pedestrians. 	Short-term
St. James Road and & NE 49 th Street	<p>Paint and post or raised median and marked crosswalk on NE 49th Street and illumination.</p> <p>Relocate bus stop nearside at NE 49th Street closer to intersection than existing stop at NE 50th Circle.</p> <p>Protected/dedicated corner islands at NW and SW corners for southbound mobility lane.</p> <p>Centerline marking or hardening on 49th Street at intersection approaches.</p>	<ul style="list-style-type: none"> Create safer more comfortable crossings for pedestrians, bikes, and small mobility users. Reduce crossing distance for pedestrians. Centerline hardening and lane narrowing for traffic calming and slower vehicle speeds. 	Short-term (in coordination with C-TRAN)

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
St. Johns Road and NE 44 th Street (Figure 12)	<p>Protected/dedicated corner islands on the north- and south-end of the NE 44th Street.</p> <p>Marked crosswalks on all the four ends of the intersection.</p> <p>Crossbike markings on the north- and east-end of the intersection.</p> <p>Paint and post or Raised islands on the St. Johns Road.</p> <p>Inspect luminaire on west side of St Johns Road to repair or replace.</p>	<ul style="list-style-type: none"> • Create safer more comfortable crossings for pedestrians, bikes, and small mobility users. • Reduce crossing distance for pedestrians. 	Near-term Repaving
St. Johns Road and NE 45 th Street	<p>Paint and post or curb extensions and raised corner island.</p> <p>New enhanced pedestrian crossing (including RRFB) on the northern end.</p> <p>Relocate bus stop near 4600 Block to far side.</p>	<ul style="list-style-type: none"> • Create safer crossing and reduce crossing distance for pedestrians. 	Near-term Repaving or Long term (in coordination with C-TRAN)
St. Johns Road and NE 49 th Street	<p>“Crossbike” markings on east end of the intersection.</p> <p>Paint and post or curb extensions and corner radii reduction on all ends of the intersection.</p> <p>Centerline hardening on NE 49th at intersection approaches.</p> <p>Modular bus stop (relocate from far side to near side).</p>	<ul style="list-style-type: none"> • Provide safe crossing for pedestrians, bikes, and small mobility users. • Reduce crossing distance for pedestrians. • Traffic calming and slower vehicle speeds. • Removes conflicts between transit users and mobility lane users and allows the buses to remain in lanes for boarding/alighting and not cross over mobility lane. 	Near-term Repaving or Long term (in coordination with C-TRAN)

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
St. Johns Road and NE Cherry Road	<p>Modular bus stop (nearside). Remove stop at NE Cherry Road and relocate to NE 42nd Street.</p>	<ul style="list-style-type: none"> • Provide safe crossing for pedestrians, bikes, and small mobility users. • Removes conflicts between transit users and mobility lane users and allows the buses to remain in lanes for boarding/alighting and not cross over mobility lane. 	<p>Near-term Repaving (in coordination with C-TRAN)</p>

Figure 12: Draft Design Concept Option for the St. Johns Road and NE 44th Street Intersection (Potential Near-Term Paving Improvement)



3.5. Segment 4: NE 49th Street to Minnehaha Street

Conditions Analyzed Based on Existing Conditions and Phase 1 Community Engagement

- Provide clear crosswalks near bus stops and at intersections.
- Improve visibility and sightlines, particularly near trailheads and intersections.
- Reduce speeding of vehicles.
- Improved safety for mobility lanes from vehicular traffic.
- Install one-way signage throughout that reinforces correct directionality for travelers.

Figure 13: Existing Typical Roadway Configuration of Segment 4 (St. James Road Looking North and St. Johns Road Looking South)

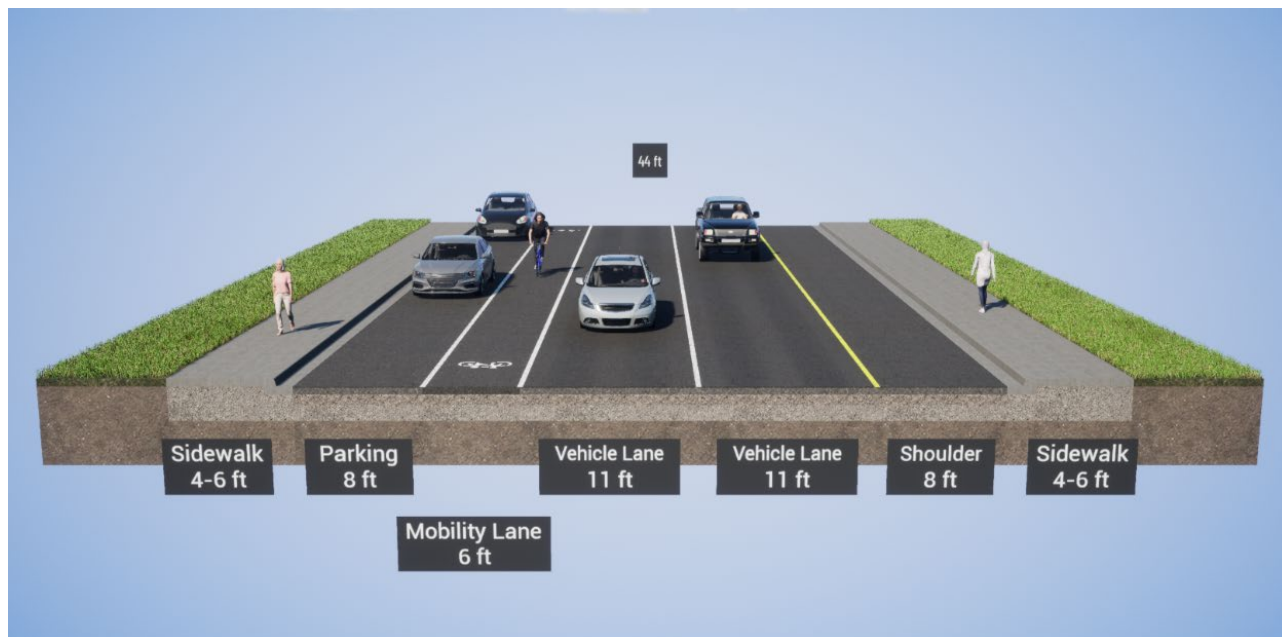
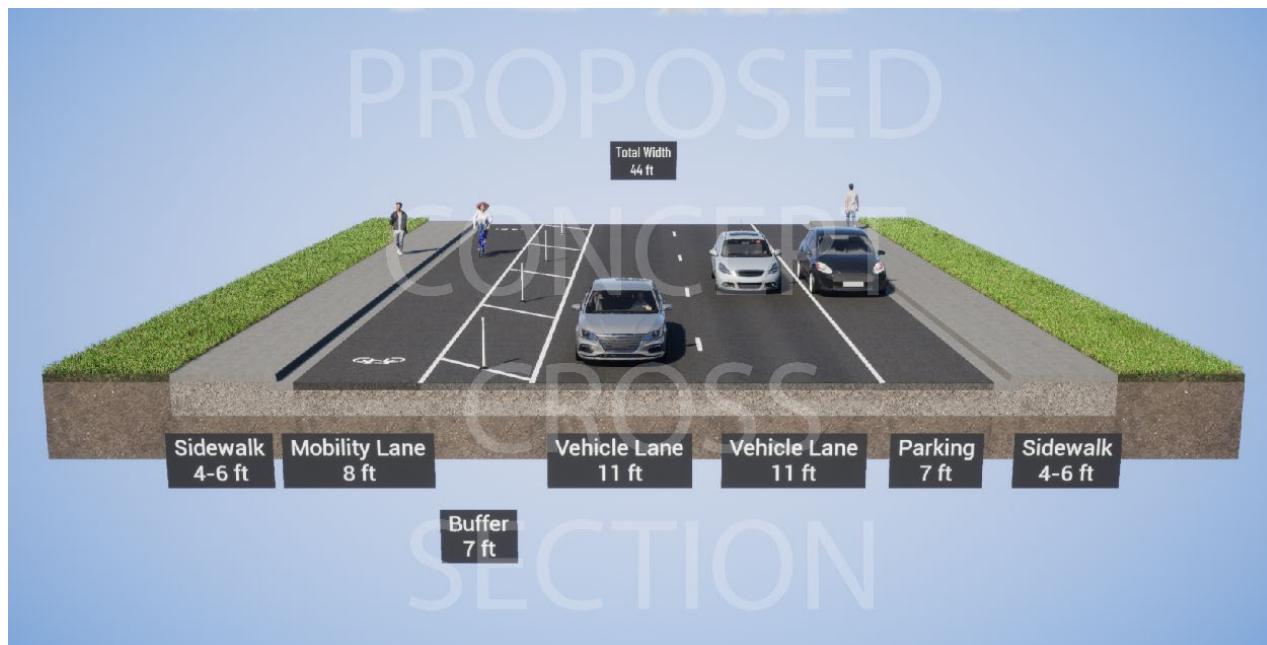


Figure 14: Proposed Typical Roadway Configuration of Segment 4 (St. James Road Looking North and St. Johns Road Looking South)



The inside travel lane may vary from 10 ft to 11 ft to accommodate turning movements for larger vehicles such as firetrucks, garbage/recycling trucks, or other vehicles with a large turning radius.

Table 5. Design recommendations in Segment 4: NE 49th Street to Minnehaha Street

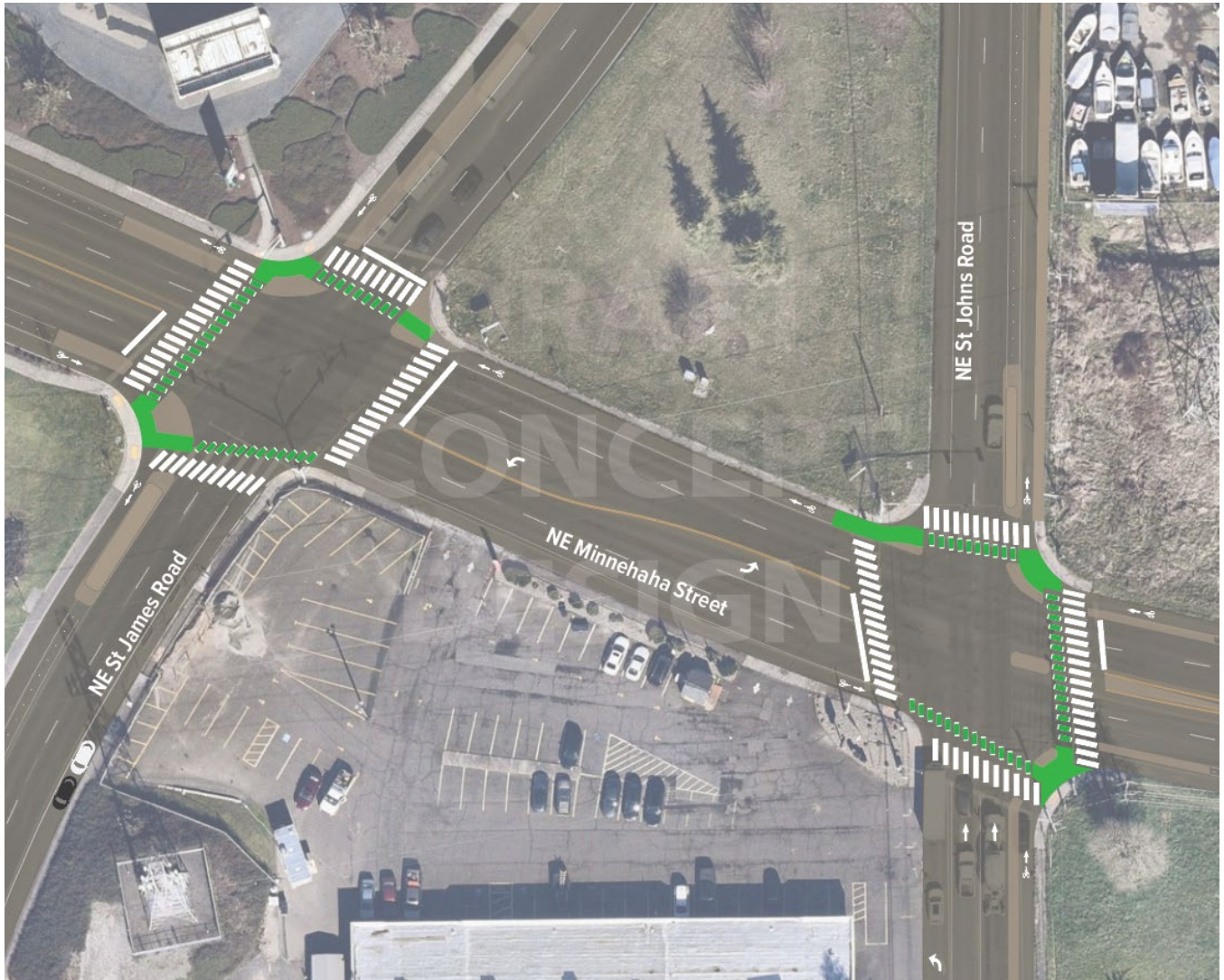
Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
<i>Typical segment level improvements</i>			
St. James Road – NE 49 th Street to Minnehaha Street	<p>New sidewalk infill on east side of street and illumination, between NE 49th Street and Minnehaha Street</p> <p>Narrow lane width/Add separated mobility lane - Add south bound parking protected mobility lane of at least 8’ with a minimum 4’ buffer. Two south-bound vehicle lanes with a 2’ shoulder.</p> <p>Install 2 Type A luminaires where there are gaps in illumination coverage (Refer to Illumination Study)</p>	<ul style="list-style-type: none"> Retains the existing number of vehicle lanes and on-street parking. Create a comfortable bike and small mobility experience with buffered and protected mobility lanes. Provides light coverage to people walking and biking during low-light conditions. 	Short-term
St. Johns Road – NE 49 th Street to Minnehaha Street	<p>Narrow lane widths/Add separated mobility lanes:</p> <p>Add north bound parking protected mobility lane of at least 8’ with a minimum 4’ buffer. Two south-bound vehicle lanes with a 2’ shoulder.</p>	<ul style="list-style-type: none"> Retains the existing number of vehicle lanes and on-street parking. Creates a comfortable bike and small mobility experience with buffered and protected mobility lanes. 	Near-term Repaving
<i>Location specific improvements</i>			
St. James Rd and NE 50 th Circle	<p>New sidewalk (Infill) on east side of street and illumination, between NE 49th Street and NE 52nd Street.</p> <p>Interim shared mobility lane boarding platform and marked crosswalk (nearside) and illumination.</p>	<ul style="list-style-type: none"> Provide safe crossing for pedestrians, bikes and small mobility users. Removes conflicts between transit users and mobility lane users and allows the buses to remain in lanes for boarding/alighting and not cross over mobility lane. 	Short-term

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
St. James Road and NE 54 th Street	<p>New sidewalk (infill) on east side of street and illumination, between NE 54th and NE 58th Streets.</p> <p>Marked crosswalks and “crossbikes” on north, south, and west-ends of the intersection.</p> <p>Interim shared mobility lane boarding platform (far side)</p> <p>Centerline hardening and paint and post or curb extensions on the NE 54th Street (west-side).</p>	<ul style="list-style-type: none"> • Create safe crossing for pedestrians, bicyclists, and small mobility users. • Reduce crossing distance for pedestrians. • Traffic calming and slower vehicle speeds. 	Short-term
St. James Road and NE 58 th Street	<p>Paint and post or Curb extensions and marked crosswalks on NE 58th Street.</p>	<ul style="list-style-type: none"> • Create safe crossing with more visibility and reduce huge crossing distance for pedestrians. 	Short-term
St. James Road and NE 59 th Street	<p>New sidewalk on east side of street and illumination, between NE 59th and NE 60th Streets.</p> <p>Marked crosswalks on north and south-ends of the intersection and illumination.</p> <p>Interim shared mobility lane boarding platform (nearside)</p> <p>Centerline hardening and curb extensions on the northside on NE 59th Street.</p>	<ul style="list-style-type: none"> • Provide safe crossing for pedestrians. • Removes conflicts between transit users and mobility lane users and allows the buses to remain in lanes for boarding/alighting and not cross over mobility lane. • Reduce crossing distance for pedestrians. • Traffic calming and slower vehicles speeds. 	Short-term

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
St. James Road and Minnehaha Street (Figure 15)	<p>Marked crosswalks on all ends of the intersection.</p> <p>“Crossbike” markings on three ends (north, south, and west) of the intersection.</p> <p>Interim shared mobility lane boarding platform (far side)</p> <p>Reduced curb radii with paint and post, raised corner islands, or curb extensions on the NE corner of the intersection.</p>	<ul style="list-style-type: none"> • Provide safe crossing and comfortable experience for pedestrians, bikes, and small mobility users. • Removes conflicts between transit users and mobility lane users and allows the buses to remain in lanes for boarding/alighting and not cross over mobility lane. • Reduce crossing distance for pedestrians. • Traffic calming and slower vehicles speeds. 	Short-term
St. Johns Road between NE 60 th Street and NE Minnehaha Street	<p>Install 2 Type A luminaires where there are gaps in illumination coverage (Refer to Illumination Study Findings)</p>	<ul style="list-style-type: none"> • Provides light coverage to people walking and biking during low-light conditions. 	Short-term
St. Johns Road and NE 49 th Street	<p>“Crossbike” markings on the eastern end of the intersection to clarify path of travel for mobility lane users.</p> <p>Centerline hardening on the eastern and western end along NE 49th Street.</p> <p>Paint and post or curb extensions and raised corner island on SW and NW corner of the intersection.</p> <p>Modular bus stop (far side).</p>	<ul style="list-style-type: none"> • Provide safe crossing for small mobility users. • Reduce crossing distance for pedestrians. • Remove potential conflicts between bicyclists and buses and allows the buses to remain in their lanes and not cross over the bike lanes. • Traffic calming and slower vehicle speeds. 	Near-term Repaving
St. Johns Road (East Side) between NE 49 th Street and 52 nd Street	<p>Install Type A luminaire on east side of St Johns Road to fill in illumination gap.</p>	<ul style="list-style-type: none"> • Provides light coverage to people walking and biking during low-light conditions. 	Long-term

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
St. Johns Road and NE 52 nd Street	<p>New sidewalk on west side of street and illumination, between NE 52nd and NE 49th Streets.</p> <p>New sidewalk on south-end of the NE 52nd Street and illumination.</p> <p>Paint and post or curb extensions and raised corner island on southeast corner of the intersection.</p> <p>Modular bus stop (far side).</p>	<ul style="list-style-type: none"> • Improve sidewalk network and comfort for pedestrians. • Create safer crossing and reduce crossing distance for pedestrians. • Remove potential conflicts between bicyclists and buses and allows the buses to remain in their lanes and not cross over the bike lanes. 	Near-term Repaving
St. Johns Road - Between NE 54 th Street and NE 58 th Street	<p>Modular bus stop (far side).</p> <p>Marked crosswalks to the south of the bus stop and illumination.</p>	<ul style="list-style-type: none"> • Removes conflicts between transit users and mobility lane users and allows the buses to remain in lanes for boarding/alighting and not cross over mobility lane. • Create safe crossing for pedestrians. 	Near-term Repaving
St. Johns Road and NE Minnehaha Street (Figure 15)	<p>Marked crosswalks on all ends of the intersection and illumination.</p> <p>“Crossbikes” markings on three ends (north, south, and east) of the intersection.</p> <p>Interim shared mobility lane boarding platform and relocate bus stop further south (far side) with possible sidewalk from curb ramp to bus stop pad.</p> <p>Reduced curb radii with paint and post, raised corner islands, or curb extensions on the northeast corner of the intersection.</p>	<ul style="list-style-type: none"> • Create safe crossing for transit riders, pedestrians, bicyclists, and small mobility users. • Reduce crossing distance for pedestrians. • Traffic calming and slower vehicle speeds. • Removes conflicts between transit users and mobility lane users and allows the buses to remain in lanes for boarding/alighting and not cross over mobility lane. 	Short-term (in coordination with C-TRAN)

Figure 15: Draft Concept Design Option for the St. Johns Road and St. James Road and Minnehaha Street Intersection (Potential Near-Term Repaving and Short-Term Improvements)



3.6. Segment 5: Minnehaha Street to NE 68th Street

Concerns Considered Based on Existing Conditions and Phase 1 Community Engagement

- Difficult/missing marked crossing for pedestrians, bikes, and small mobility users at intersections, especially near bus stops.
- Need for protected and continuous mobility lanes.
- Improve lighting in this segment.
- Reduce speeding of vehicles.

Figure 16: Existing Typical Roadway Configuration of Segment 5: Minnehaha Street to NE 68th Street/Railroad Tracks

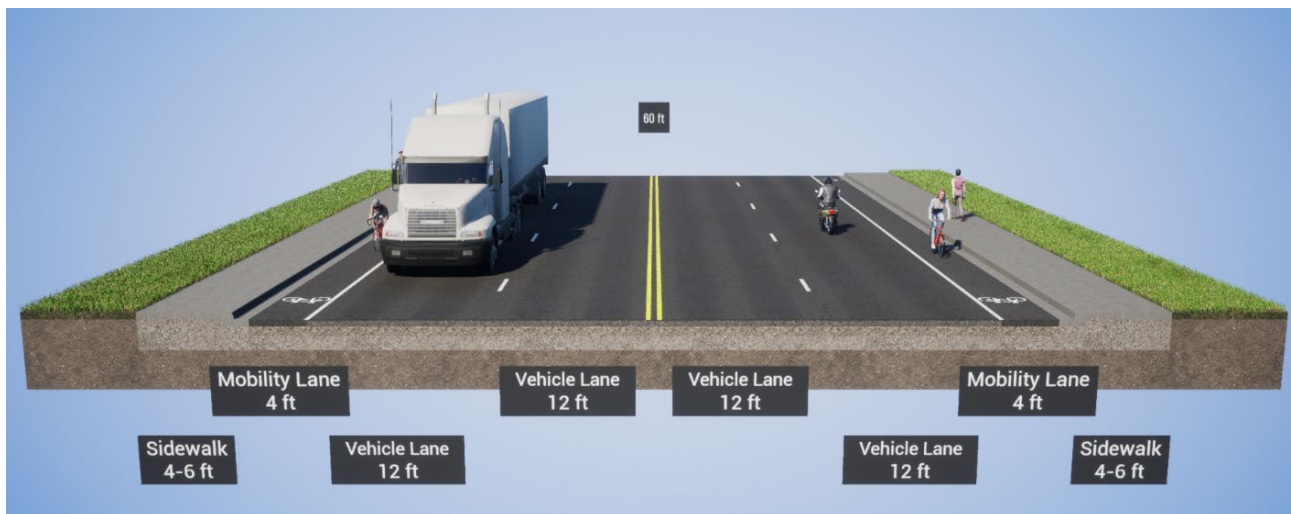


Figure 17: Proposed Typical Roadway Configuration of Segment 5: Minnehaha Street to NE 68th Street/Railroad Tracks

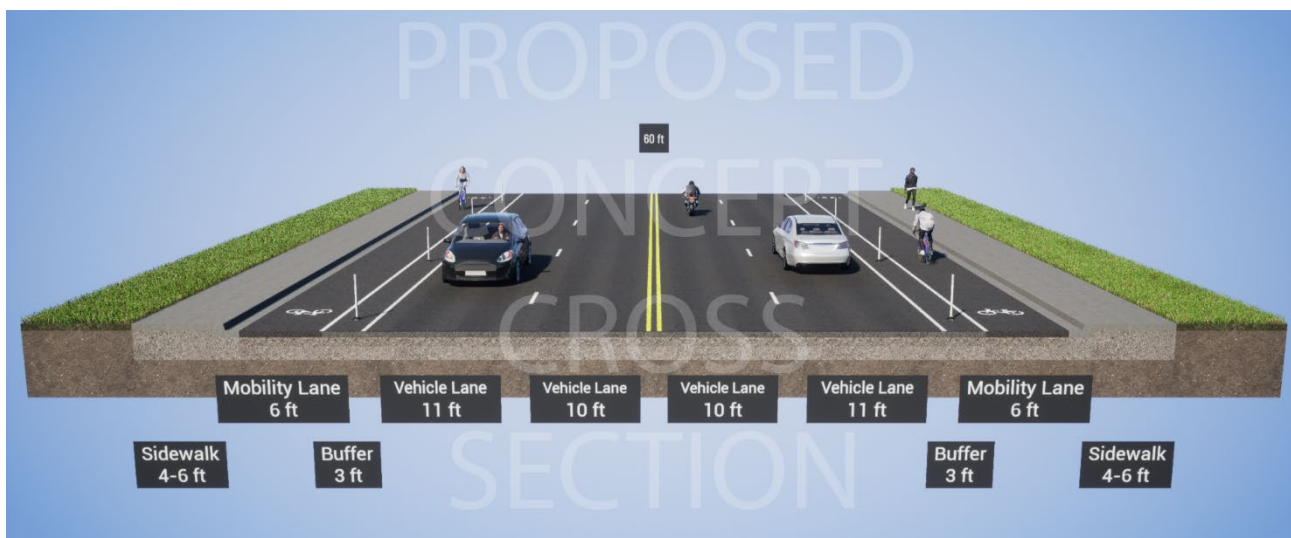


Table 6. Design Recommendations in Segment 5: Minnehaha Street to NE 68th Street/Railroad Tracks

Corridor Section/Location	Proposed Improvement	Benefits	Timeframe
<i>Typical segment level improvements</i>			
St. James Road – NE 68 th Street to Minnehaha Street	<p>Narrow lane widths/Add separated mobility lanes:</p> <p>Narrow the outer vehicle lane from 12’ to 11’ and inner vehicle lane from 12’ to 10’.</p> <p>Widen the mobility lane from 4’ to at least 6’ and add a buffer of at least 3’ on northbound and southbound lanes.</p> <p>Install 6 Type A luminaires between railroad tracks and Minnehaha Street (Refer to Illumination Study)</p>	<ul style="list-style-type: none"> • Retain the number vehicle travel lanes with reduced widths to reduce vehicle speeds. • Create physical separation between mobility lane users and vehicles to make this a comfortable route for all users. • Provides light coverage to people walking and biking during low-light conditions. 	Short-term
<i>Location specific improvements</i>			
St Johns Road/St James Road and Minnehaha Street	<p>Curb extensions and curb radii reduction establish slower turning movements onto and off of the corridor.</p> <p>New sidewalk and illumination on northeast corner to existing bus stop and through NE 65th Street intersection to connect to existing (East side of St Johns Road)</p>	<ul style="list-style-type: none"> • Prevent speeding and increase safety for people using all modes. • Ensure transit stop placement and access for future bus routes at/thru the intersection. • Create safer crossing and reduce crossing distance for pedestrians. 	Long-term (in coordination with C-TRAN)
St. Johns Road and NE 68 th Street (East, south of railroad track crossing)	<p>Paint and post or raised median on 68th street.</p> <p>“Crossbike” markings on the east end of the intersection to clarify the path of travel for mobility lane users.</p>	<ul style="list-style-type: none"> • Improve vehicles yielding to and overall visibility for active transportation users crossing. • Traffic calming measures to control vehicle speeds. • Provide safe crossing for small mobility users going northbound in a three-way junction. 	Long-term

	<p>Paint and post or curb extension on the NE corner of the intersection.</p> <p>New enhanced crossing with Rectangular Rapid Flashing Beacons (RRFB) at intersection and illumination.</p>	<ul style="list-style-type: none"> • Increase the overall visibility and safety of pedestrians. 	
<p>Railway crossing near NE 68th Street</p>	<p>Continue northbound and southbound mobility lanes south of the railroad tracks, parallel to the existing sidewalks</p>	<ul style="list-style-type: none"> • Create safe crossing of railroad tracks for mobility lane users by adding signage at the tracks and continuing the mobility lane across the railway crossing. 	<p>Short-term</p>

Appendix A

Figure 18. Proposed transit and crossings between E Fourth Plain Boulevard and E 29th Street



Figure 19. Proposed Crossings between E 29th Street and SR-500



Figure 20. Proposed transit and crossings between SR-500 and NE 54th Street

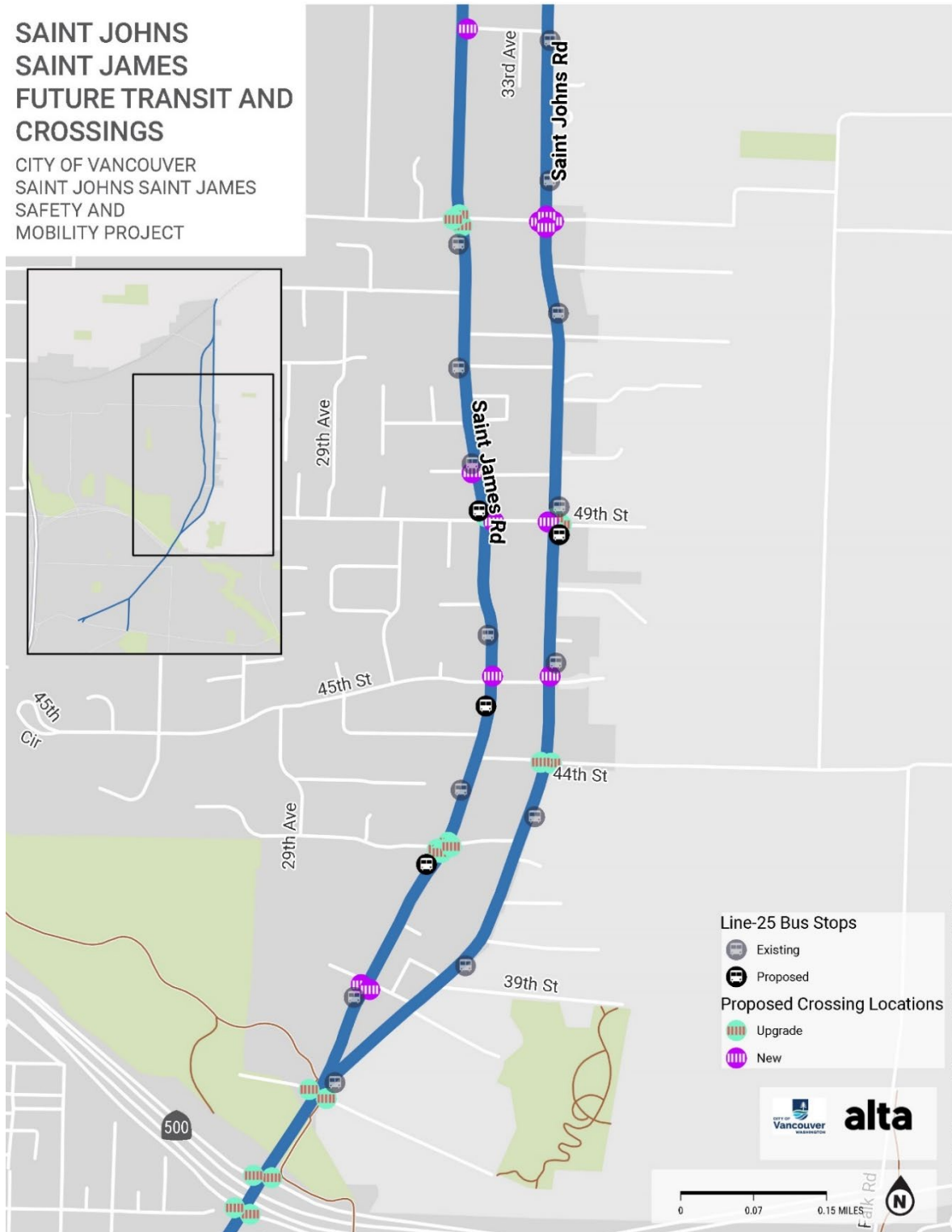


Figure 21. Proposed transit and crossings between NE 54th Street and NE 68th Street

