

**DATE:** January 31, 2023

**TO:** Chair Ramos and Transportation and Mobility Commission members  
**CC:** Rebecca Kennedy, Deputy Director, Community Development Department

**FROM:** Kate Drennan, Transportation Planning, Community Development Department

**RE:** **Fourth Plain Safety and Mobility Study, Phase 2 Update**

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## Introduction

The City is advancing two important projects that help implement the City's Complete Streets Policy: The Fourth Plain and Fort Vancouver Way Safety and Mobility Studies. These two corridors have historically high crash rates and do not provide safe or comfortable facilities for all users. Phase 1 includes portions of Fourth Plain and Fort Vancouver Way, and striping plans are advancing for the 2023 paving season. This memo and agenda item will present the recommendations for Phase 2 of the Fourth Plain Project for the section of roadway spanning from Fort Vancouver Way at the west end to Andresen Road at the eastern project limit.

## Overview/Preview

### What We Heard

The Project team has engaged communities along the corridor, including businesses, the public and stakeholders throughout the project. As shared during the November 1, 2022 TMC meeting, area stakeholders and the wider public largely support the repurposing of vehicle travel lanes to improve safety and mobility on the corridor. In-person feedback gathered during community events favored bus reliability treatments (33%), either bus or bike treatments (33%) or favored bike safety treatments (17%). Online open house feedback was more evenly split on priority treatments with 63% supportive of bicycle-focused improvements and 66% supportive of bus-focused improvements. In-person canvassing of local, BIPOC business owners found a strong preference for bus-focused improvements (44% to 9% favoring bike improvements).

From City Council, we've heard a focus on advancing the strategic plan goals of safety, equity and climate. As the premier bus rapid transit corridor in the region serving the most diverse area of the City, there is a desire to keep transit on-time and reliable on the corridor both today and in future years that will see added growth. There is also a goal to improve the facilities for people using other modes, such as walking, rolling, riding bicycles or other small mobility devices.

We also gathered feedback from Transportation and Mobility Commission throughout the project. We have heard a desire to increase space and predictability for mobility users on the corridor. We have also heard a desire for as much consistency as possible, so all users know what to expect on the roadway. Finally, the TMC reviewed, and Council endorsed performance criteria for evaluation of options based on improvements for people walking, using mobility devices, bicycling, and using the bus, safety improvements for all users, greenhouse gas reduction, equitable outcomes, and access to businesses, jobs, services, parks, recreation, and education.

#### Project Recommendation

The project team recommends a project package that consists of three parts which: utilize the federal grant to repave Fourth Plain, add capital projects to the Transportation Improvement Program (TIP), and adds a significant project proposal to the Ten-Year Investment Strategy for Fourth Plain.

- I. The team recommends a design for the 2024 paving project that preserves transit travel time reliability and includes improvements to mobility users. The design repurposes a travel lane in each direction between Ft. Vancouver Way and 62<sup>nd</sup> to add Bus Access Transit Lanes where needed (west bound between St. Johns Blvd and Falk Road and east bound between General Anderson Avenue and Stapleton Rd). East of Stapleton, the design repurposes a travel lane eastbound for a BAT lane, and west bound the roadway retains two vehicle travel lanes. The design includes a buffered mobility lane both east and west bound between St. Johns Blvd. and Ft. Vancouver Way to General Anderson Avenue, and an expanded striped mobility lane in each direction from General Anderson Avenue to 62<sup>nd</sup> Avenue. Vehicle travel lanes will be narrowed to further reduce speeding and reallocate space.
- II. The team recommends adding three new capital projects to the Transportation Improvement Program to create quality mobility lane connections to parallel east-west corridors. The first capital project would restripe Stapleton Road from Fourth Plain Blvd to 18<sup>th</sup> street to create buffered mobility lanes. The second capital project would improve the existing mobility lanes on 18<sup>th</sup> street with improvements like buffers and/or delineators to connect east to future projects on NE Burton Road. The third capital project would include a large intersection street-mural on Fourth Plain and potentially 18<sup>th</sup> Streets at the crossing of the Burnt Bridge Creek trail. This mural would act as a traffic calming device at this important crossing for mobility users, while providing a placemaking opportunity to celebrate the culture and community of the International District that makes up Fourth Plain Blvd.
- III. The third recommendation is a capital project to add off-street multiuse facilities between 62<sup>nd</sup> Avenue and Andresen Road to serve mobility users outside of the roadway. To achieve this, the City would need to work with adjacent property owners to purchase right-of-way, relocate utilities, potentially remove trees in some areas, and other mitigation. The project is recommended for inclusion in the Ten-Year Investment Strategy where the Fourth

Plain community will be prioritizing investments. Incorporating this recommendation into the investment strategy is reflective of the cost, complexity and time required to build these facilities, while recognizing the long-term need to provide safe and accessible facilities particularly as this corridor continues to add residences, businesses and other destinations.

## **Background**

The recommendation is organized into three pieces in response to the design constraints and a thorough evaluation of alternative treatments. The team recommends a restriping design that improves facilities from existing conditions for all users and can be advanced within the project timeline. Secondly, the team recommends complementary capital/multimodal projects to build out near-term alternative and parallel facilities while planning for a longer-term major capital undertaking between 62<sup>nd</sup> Avenue and Andresen. The following includes a discussion of the constraints impacting project development, and some of the design treatments considered based on feedback from the public, TMC and Council.

### Design Background Constraints

Throughout the design alternatives project phase, the team explored many design ideas to evaluate their technical feasibility and adherence to existing ordinances and operating agreements. In evaluating each idea, the project team worked within the following constraints:

1. **Paving project limits** – as a paving project, we considered designs within the curb-to-curb roadway that can be implemented with striping and other limited capital investment
2. **Transit Reliability** – Maintaining transit travel time and reliability is a guiding value embedded in the project, and enshrined in operating agreement between C-TRAN and the Federal Transit Administration
3. **Concurrency policy** – The City has adopted ordinances relating to performance of the roadway. Disregarding concurrency standards may limit the City’s ability to hold private parties (developers) to similar standards to improve the system, and could limit the City’s ability to advance other goals like adding housing stock and other development along the corridor
4. **Federal Funding/Timing** – The paving project is grant-funded with obligation deadlines that require a striping plan move forward in Spring 2023 for the 2024 paving season.

### Design Treatments Considered

**Extra-wide buffered mobility lane.** The project team explored the feasibility of a design that repurposed the entire outside travel lane to a buffered mobility lane. In this scenario, the Vine bus would operate in the general-purpose travel lane. To serve the Vine transit stations, bus platforms would need to extend across the mobility lanes to reach the doors where the Vine would stop in lane.

This raised several significant design challenges. First, mobility users would need to travel through the platform station area, crossing paths with transit riders boarding and alighting, by ramping up, across and down the platforms. Second, the design would need to line up exactly with Vine doors to allow for level boarding. However, in designing the platform the team learned that the steep crown of the roadway meant that a level extension from the sidewalk station to the travel lane would not align with the doorways. To accommodate the difference in roadway height, the platform extensions would need ramps to move passengers up to the correct level. Building the ramps would add to the dwell time of the bus while passengers moved across the platform and navigated the ramps, as well as the mixing zone of mobility users. In the end, this design was not chosen because of the added transit dwell times, complicated and costly platform design, and uncomfortable mixing between mobility users and transit riders in the constrained platform space.

**Mix of extra wide buffered mobility lane with transit acceleration lanes.** The project team explored an additional option where the outside lane was converted to a buffered mobility lane, except around Vine station areas. In this scenario, the Vine would operate in the general-purpose travel lane until it reached a station area, where it would serve the stop as it does today. Once leaving the stop, the Vine would operate in its own acceleration lane to enable it to merge back into the general-purpose lane without delay. In addition to the acceleration lane, the City explored using 'reverse transit-signal priority' to hold general purpose traffic at stoplights to create gaps for the bus to merge back into traffic. The ability of the Vine to enter the travel lane without delay is a critical component to maintaining travel time and schedule, particularly with reduced roadway capacity on the corridor, and to maintaining agreements established with the Federal Transit Administration (FTA). In exploring this option, the team determined that the number and length of acceleration lanes needed would yield minimal additional mobility lane capacity, and would create confusing and inconsistent treatments across the corridor. This design was not chosen as the benefit would be marginal compared to the inconsistent lane configurations, signal timing disruption, and unknown impacts to C-Tran travel times.

**Routing mobility users north at 62<sup>nd</sup> for parallel travel.** The project team explored a proposed concept to route mobility users off of Fourth Plain at NE 62<sup>nd</sup> Avenue toward NE 32<sup>nd</sup> Avenue, NE 65<sup>th</sup> Avenue, toward an existing dirt path along SR-500. Under this scenario, the project would need to create connections along the existing roadway, and explore development of a new multi-use path along the SR-500 off-ramp to connect to Andresen Road. The team identified challenges with the path adjacent to the highway and a wetland area, and currently home to unhoused communities. In addition, the path leads to a large, interchange intersection where the closest crossings for mobility users are south at Fourth Plain, or north at NE 40<sup>th</sup>.

**Expanding sidewalks or off-street facilities on Fourth Plain.** The project team explored a proposal to expand the sidewalk area between 62<sup>nd</sup> Avenue where mobility lanes drop, and Andresen Boulevard. The team explored the location of City property lines and available clearance behind existing sidewalks. The team determined there are significant impacts along the corridor, including: utility and streetlight pole relocation, removal of existing landscaping and trees, extensive regrading and mitigation for adjacent steep slopes, moving private fence lines, and other unknown issues, in addition to the need to purchase an indeterminant amount of right-of-way. The team determined that

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given the complexity and cost of this proposal, it was not feasible as part of the near-term project implementation but should be further pursued as part of the 10-Year Investment Strategy for Fourth Plain Blvd- now called Fourth Plain For All: Investing in Our Future. The City recognizes that Fourth Plain Boulevard is an important link in our transportation system, and creating a standalone project to pursue adding off-street facilities in this segment is vital for creating a connected network.

**Action, Timeline, Next Steps**

The workshop purpose on February 7<sup>th</sup> is to provide an overview of the Project Team recommendations, answer questions and collect feedback. The team will be holding a similar workshop with City Council on February 27<sup>th</sup>. The project will be presented to the TMC again in March meeting for a public hearing, where the team will ask for TMC endorsement of the Phase II recommendation. In April, the team will hold a final workshop with City Council seeking endorsement of the proposal, and advance the restriping designs ahead of federal obligation deadlines.

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Attachment(s):

Attached are exhibits of the Project Recommendations (*Bike Network Recommendations & East End Bike Route*). In addition, we attached exhibits created as part of the project team's consideration of alternative design treatments. The pdf's are visual representations of some of the issues and designs outlined above in the section 'Design Treatments Considered'.

Roll plots

*Bike Network Recommendations*

*East End Bike Route*

*Bike Route Considered Alternatives Map*

*East End ROW Acquisition Considerations*