Fourth Plain Safety and Mobility Project

Project Update

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Vancouver Transportation and Mobility Commission

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Presentation Overview

The Fourth Plain project team leads will present:

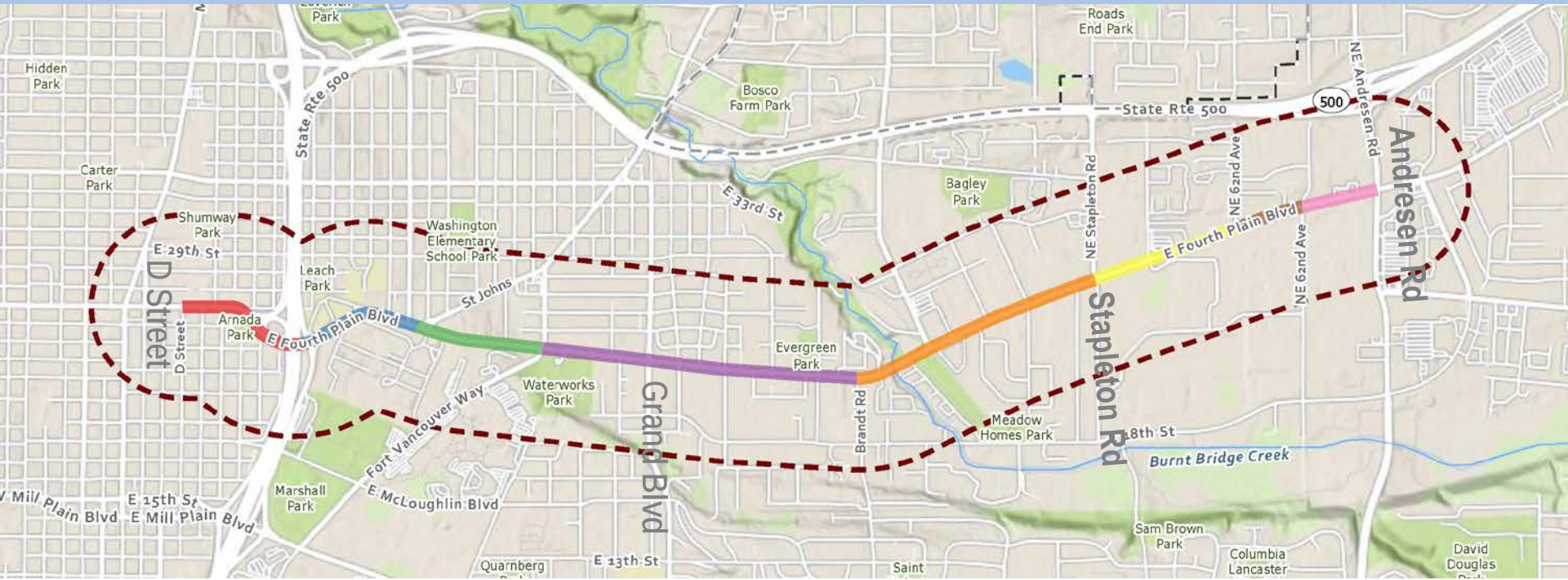
- Quick recap of the purpose, schedule, and milestones
- Highlights from “lane reconfiguration” analysis
- Next steps

What is the project about?

The Fourth Plain Safety and Mobility Study is:

- Looking at ways to make Fourth Plain **safer for everyone** – including people who **drive, walk, ride a bike, use a mobility device, or ride the bus.**
- Considering **how to repurpose existing road space** to make the corridor safer for all
- Identifying **other potential safety improvements** outside of repurposing a travel lane

Study Area – D Street to NE Andresen Road



Colors are based on eight segments that were identified for baseline analysis.

Project Need

- Past studies have flagged Fourth Plain Blvd for safety concerns.
- City's Transportation System Safety Analysis (2018) showed Fourth Plain (between Andresen and Grand) had the highest number of crashes per mile of all principal arterials in the City.
- City will repave Fourth Plain in 2023 – opportunity for City to implement safety improvements at the same time.
- Vine BRT has been very successful – build upon success by providing safety improvements for people walking, biking and taking transit.

How will the community be involved?

- Community is at the center of this effort!
- City will be talking with people who live, work, go to school, travel through, or recreate on the corridor.
- Study will reflect the people who use Fourth Plain everyday, what they want and need to travel safely.
- Team will be using many outreach tools to provide opportunities for input throughout the project.

What is a “lane reconfiguration?”

- Lane reconfiguration = repurposing roadway space for other users
- Typically, remove travel lane(s) for people driving and create new space for people walking, riding bikes, buses, and/or freight vehicles
- Research shows they are very effective at
  - Increasing safety for all roadway users:
    20% - 50% crash reduction based on real-world studies
  - Decreasing speeds
  - Reducing conflict points
  - Creating comfortable space for other roadway users

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What is a “lane reconfiguration?”

- Typically very cost effective compared to other types of treatments
- Have been implemented in cities across the US, including Vancouver
- Analysis needed to understand traffic impacts

Previous Fourth Plain
lane reconfiguration

4 lanes >> 3 lanes

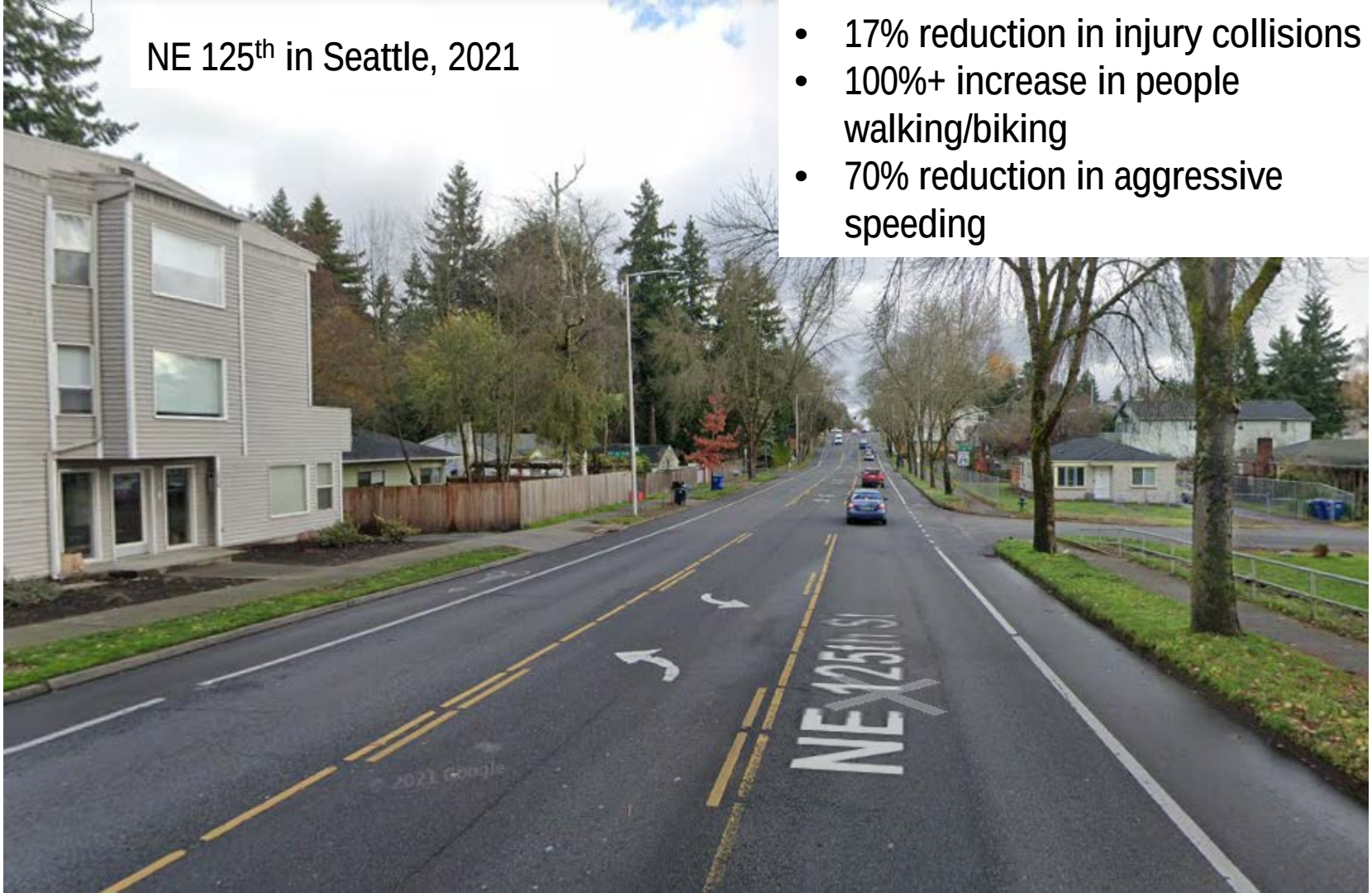
- Crashes reduced 52%
- Speeds reduced 18%
- No traffic diversion

Monroe Street in Spokane, WA (2016)

Monroe Street Lane Reconfiguration in Spokane, WA (2020)

- 5 lanes >> 3 lanes
- Marked ped crossings
- On street parking
- Sidewalk improvements
- Street trees, Lighting
- Bus shelters
- 10% increase in corridor sales tax revenue year after

NE 125th in Seattle, 2008



NE 125th in Seattle, 2021

- 17% reduction in injury collisions
- 100%+ increase in people walking/biking
- 70% reduction in aggressive speeding


Jackson Street, Medford, OR - 2018


Jackson Street, Medford, OR - 2020

Lane Reconfiguration Analysis

- Our team applied traffic modeling tools to evaluate several lane reconfiguration ideas
- Answer the following questions:
  - What would traffic look like in 2040 if we repurposed a travel lane in each direction?
  - Would the changes still meet City standards for keeping traffic moving on Fourth Plain?
  - How does traffic with a travel lane repurposed compare to keeping Fourth Plain the same as it is today?

Lane Reconfiguration Analysis

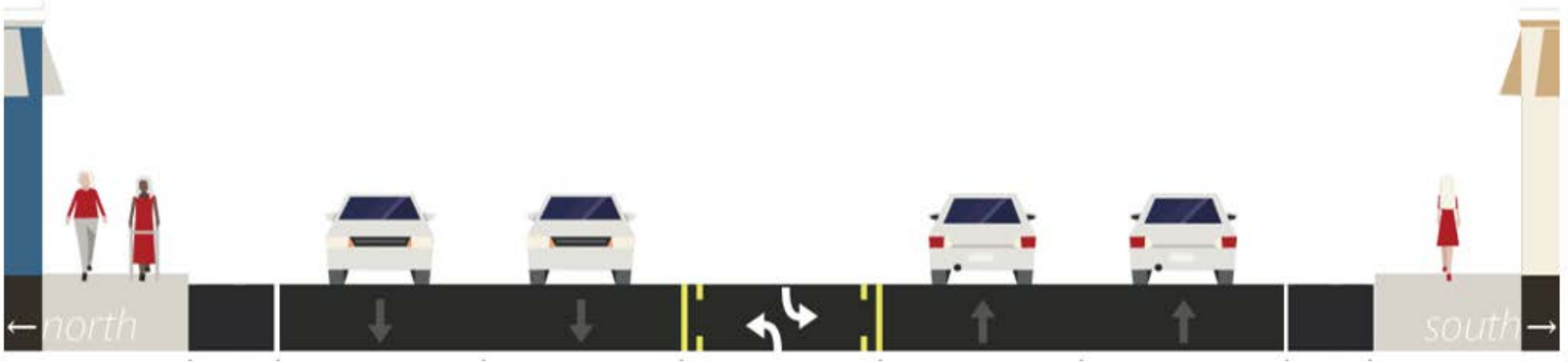
When a lane reconfiguration is implemented, the capacity of the corridor for people driving is partially reduced. People respond to this in one of several ways:

- Keep driving on Fourth Plain. Analysis shows about 75% of people would continue using the roadway during morning and evening rush hour.
- Change the route they drive on. For example, they may use SR-500 instead of Fourth Plain.

Lane Reconfiguration Analysis

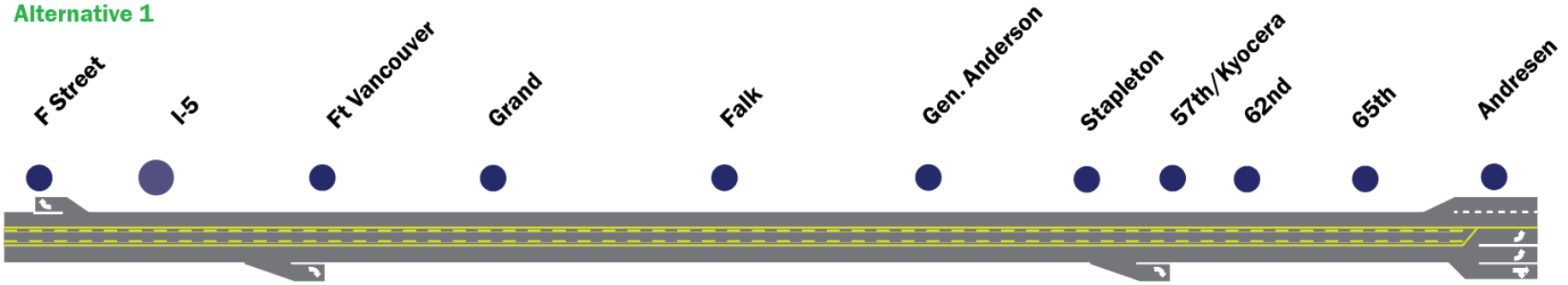
- Change the time of day they travel. For example, by making trips outside of the morning and afternoon rush hour.
- Change the *way* they travel – such as using the bus, walking, or riding a bike instead of driving.
- Change their destination. For example, they may go to a different grocery store.
- Choose not to make the trip at all (though this is the least likely).

Typical Conditions on Fourth Plain today: 5 lanes

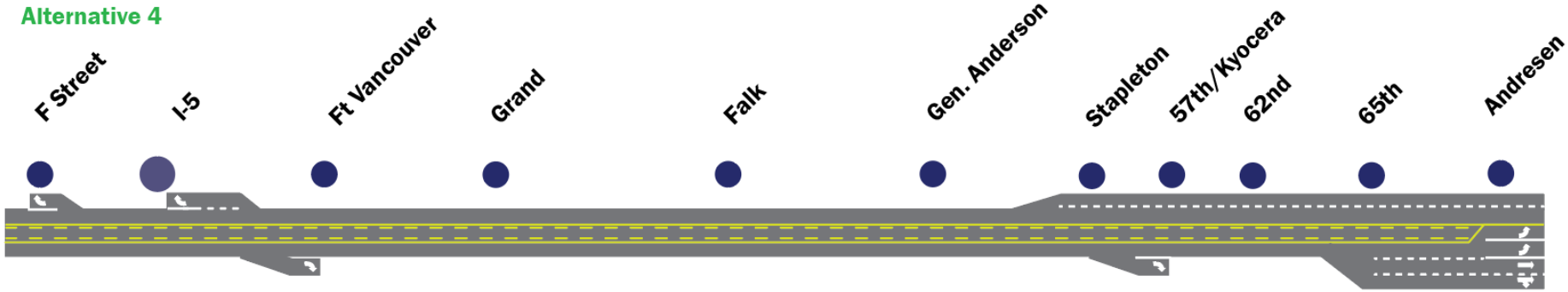


Lane Reconfiguration Alternatives: 3 lanes

Alternative 1



Alternative 4



Lane Reconfiguration Analysis

- Several different traffic measures:
  - Intersection Level of Service (LOS) – measures delay at intersections on A to F scale
  - Queuing – measures how long lines of traffic are at intersections
  - Travel speeds – measures how quickly people can drive through the corridor
  - Diversion – measures how many people would take different routes as a result of the lane reconfiguration

Lane Reconfiguration Analysis

A couple things to note:

- Models are never perfect. The team tested lower and higher traffic scenarios to understand the range of likely outcomes.
- Real-world studies have found that traffic impacts from road diets tend to go away as time goes on
  - People use new routes, different modes, travel at different times of day….
- We are still working to understand potential impacts from the Interstate Bridge Replacement project
  - In general, impacts would be limited to westernmost end of corridor

Traffic Results Summary

	Existing Conditions	2040 "No Build"	2040 Alternative 1	2040 Alternative 4
Description	The corridor today without any changes	Future traffic performance assuming the corridor stays the same as today	Repurpose one travel lane each direction from F Street to Andresen	Repurpose one travel lane EASTBOUND between F Street and 65th and WESTBOUND between Stapleton and F Street
Intersection Delay	Performs acceptably for the most part (most intersections between LOS "A" and "D")	Performs acceptably and fairly similar to Existing Conditions	Lots of delay at the I-5 northbound on-ramp, as well as a couple of unsignalized side streets	Very similar to "No Build"

	Existing Conditions	2040 “No Build”	2040 Alternative 1	2040 Alternative 4
Corridor average speed during MORNING peak hour (7:30 – 8:30 AM)	EB: 24 MPH WB: 24 MPH	EB: 23 MPH WB: 23 MPH	EB: 23 MPH WB: 22 MPH	EB: 24 MPH WB: 23 MPH
Corridor average speed during EVENING peak hour (4:00 – 5:00 PM)	EB: 23 MPH WB: 22 MPH	EB: 22 MPH WB: 21 MPH	EB: 17 MPH WB: 16 MPH	EB: 22 MPH WB: 21 MPH
Average time to drive through the corridor in the EVENING peak hour	EB: ~9 minutes WB: ~9.5 minutes	EB: ~9.5 minutes WB: ~9.5 minutes	EB: ~12 minutes WB: ~13 minutes	EB: ~9.5 minutes WB: ~9.5 minutes

Lane Reconfiguration Analysis

Conclusions:

- Traffic is likely to perform well with a lane reconfiguration
- Congestion would meet City standards for how fast people should be able to drive through the corridor
- Congestion impacts would be relative minor
- Diversion would be relatively minor and can be mitigated if it occurs

Before we go on:

Any questions or comments?

New Uses for Lane Space

How should the City use extra roadway space on Fourth Plain to best serve everyone who uses Fourth Plain?

Could be allocated to support:

- Transit and people riding the bus
- On-street parking spaces
- People walking or who use mobility devices
- People riding bikes

Tradeoffs and considerations for each!

Note: The City will be talking with the corridor community later this spring and summer to hear what the community's goals are and if a lane reconfiguration is the right change.

Lane Reconfiguration Ideas - *Transit*

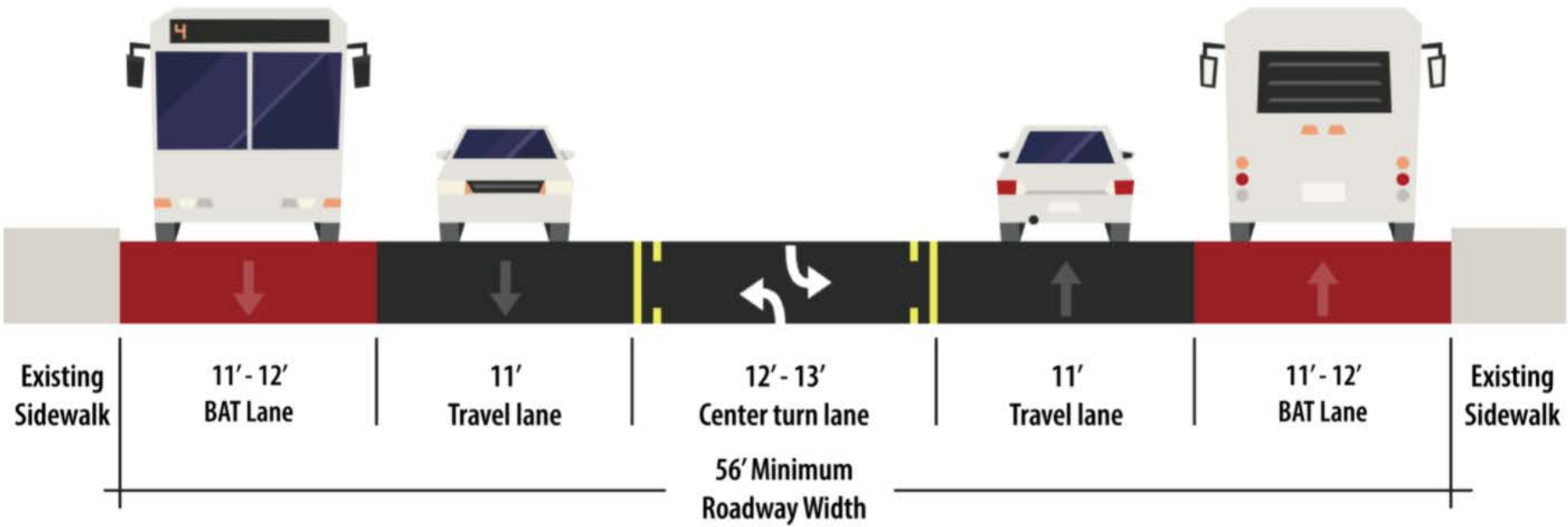
Transit and people riding the bus

- Many options for providing “transit priority” for buses
  - Exclusive lanes used only by buses
  - Lanes that can be used only by buses and cars turning right into driveways or roads (“business access and transit (BAT) lanes”)
  - Lanes used exclusively by buses only during morning and evening rush hours (open to all vehicles the rest of the day – called “pro time” lanes)

Considerations

- Makes the bus faster (and more attractive for riders), improves safety, calms traffic

Business Access and Transit Lane



Lane Reconfiguration Ideas - *Biking*

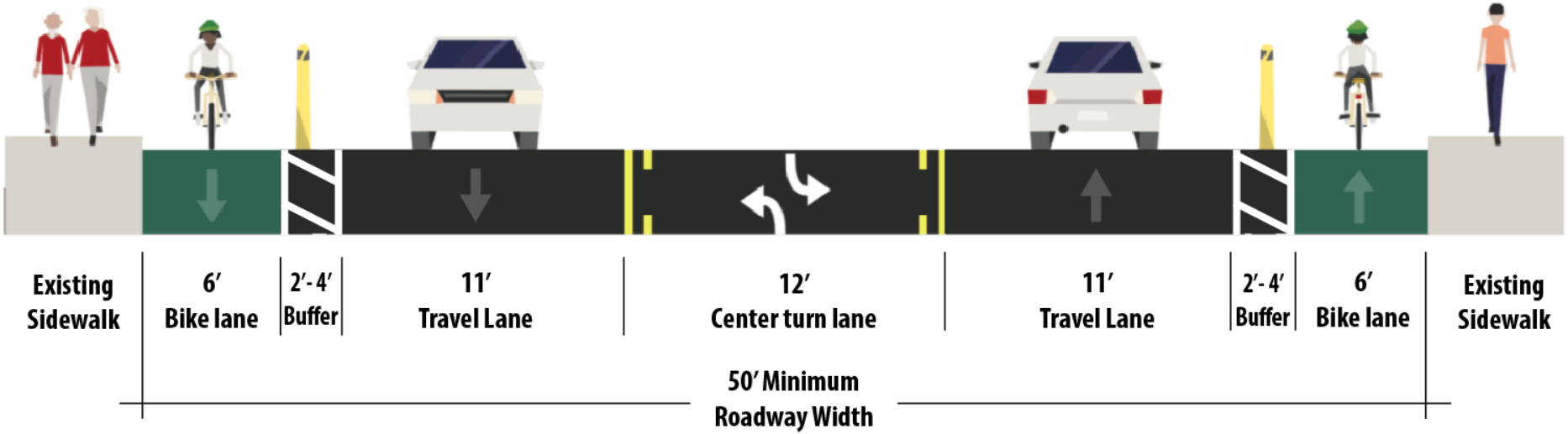
People riding bikes

- Bike lanes
- Buffered bike lanes (“buffered” by extra wide striping or other treatments)
- Transit and bike-only lanes

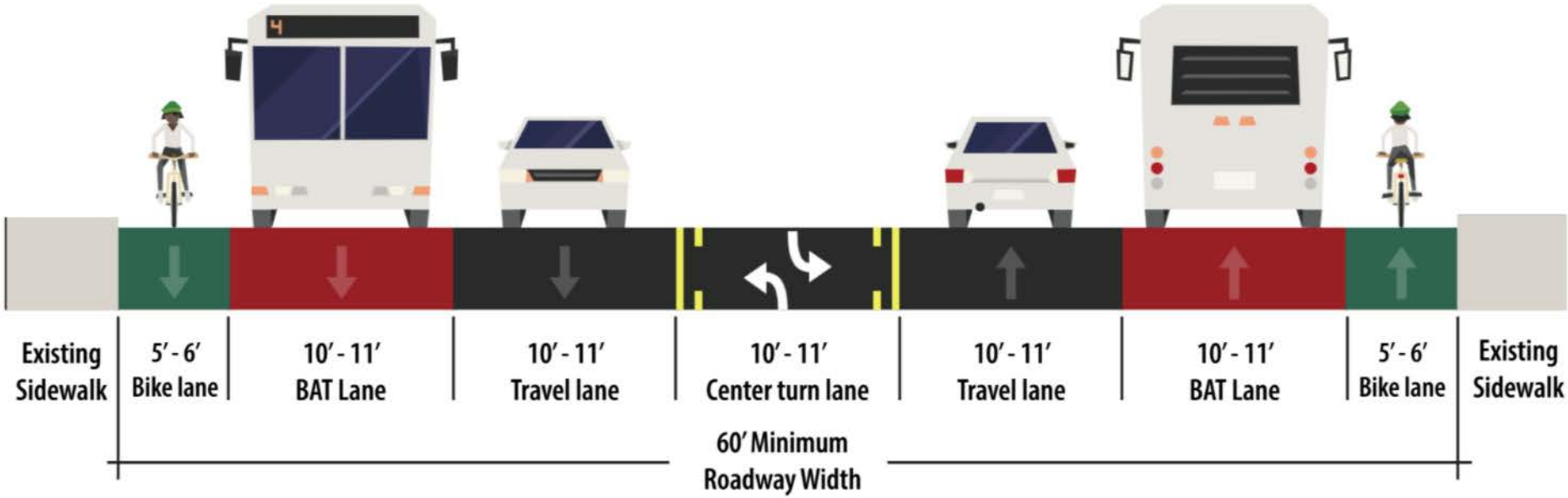
Considerations

- Though there are bike lanes in some places today, continuous lanes would provide an improvement
- However, concerns about large number of driveways, traffic volumes
- Would help calm traffic

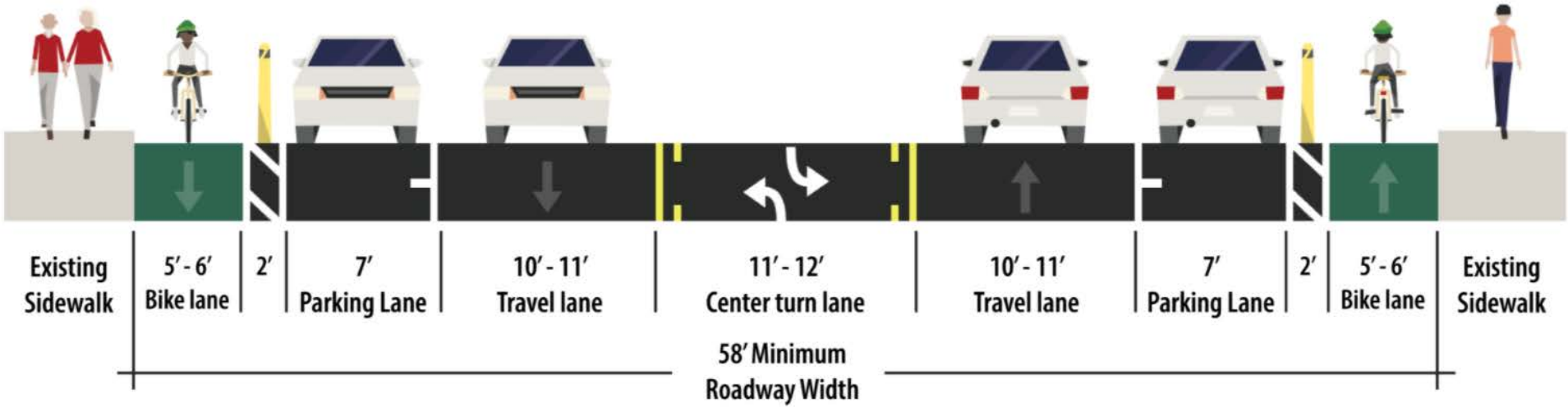
Bike Lanes Protected with Physical Barrier



Bike Lanes and Transit Lanes



Protected Bike Lanes with On-Street Parking



Discussion

What do you think of these different ideas?

What other ideas do you have?

What else would you want to know?

Note: The City will be talking with the corridor community later this spring and summer to hear what the community's goals are and if a lane reconfiguration is the right change.

Next Steps

There's a lot going on in the corridor!

- 2024 repaving and potential lane reconfiguration (this project)
- Transportation System Plan – Vancouver Moves
- 2023/24 Ft. Vancouver Way repaving and potential lane reconfiguration
- Interstate Bridge Replacement project
- Federal American Rescue Plan Act (ARPA) funding for Fourth Plain

How will this impact the Fourth Plain Safety and Mobility Project?

- The City is adapting to maximize coordination between all these projects
- May mean that timelines shift somewhat – City and project team will keep TMC informed

Next Steps

- Community engagement – stay tuned for details
- Document lane reconfiguration ideas
- Document other potential safety improvement concepts
- Develop a community-driven evaluation framework to guide decision-making
- Evaluate lane reconfiguration ideas
- Select preferred option(s) for moving forward

Questions and Discussion

- Jennifer Campos, Principal Transportation Planner
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- https://www.cityofvancouver.us/cdd/page/fourth-plain-safety-and-mobility-project

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