6.1 RANGE OF STREET ALTERNATIVES

Range of alternatives

It is possible to make changes to 122nd Ave that will improve safety, walking and biking access and transit to better serve all modes, in line with City policies and goals. Some of these changes can be made by re-allocating space within the existing 6.4-mile street.

PBOT staff had developed a range of street cross-section alternatives with options that re-allocate space within the public right-of-way emphasizing different benefits. Think of these alternatives as a "family of options" that could be mixed-and-matched or "stitched together" along the corridor, depending on local needs and conditions. The sub-options under each alternative show different ways the street could be designed within this alternative, depending upon the context and what is needed in different locations along 122nd Ave. The recommended cross-sections could vary in different segments of 122nd Ave.

Alternatives:

- **Existing Conditions** for comparison purposes.

- **Alternative 1:** Family of street cross-section options that provides the most separation between all modes and potential safety benefits. It provides more space and comfortable conditions for pedestrians, cyclists and transit users while maintaining some on-street parking. This extra space is gained by providing 3 automobile travel lanes and converting the outside lanes to other uses.

- **Alternative 2:** Family of street cross-section options that moderately improves conditions for most users, by removing on-street parking and maintaining 5 automobile travel lanes.

- **Alternative 3 (NE Fremont to I-84 only):** Family of street cross-section options that provides a continuous two-way bicycle facility and pedestrian route that reduce a lane in one direction or the other. This Alternative applies specifically to 122nd Ave between NE Fremont and I-84 freeway ramp through the I-84/UP Railroad Underpass.

Criteria for evaluating alternatives

PBOT will further analyze and evaluate the street cross-section alternatives. Staff will return to the community with the evaluation results and a recommendation for additional community review and input.

1. **Safety.** Eliminate crashes resulting in deaths and serious injuries.

2. **Equity.** Improve travel access and conditions for people of color, low income households and households with limited English proficiency.

3. **Pedestrian Access and Comfort.** Increase pedestrian access and comfort for people of all ages and abilities.

4. **Bicycle Access and Comfort.** Increase bicycling access and comfort for people of all ages and abilities.

5. **Transit performance.** Increase transit reliability and/or travel times along the corridor.

6. **Freight Access.** Maintain or improve freight access for delivering goods to market.

7. **Traffic Impacts.** Do not severely increase congestion, nor result in severe diversion to other streets, particularly local streets, Neighborhood Greenways and SR2S routes.

8. **Potential for Placemaking, Livability and Healthy Connected Neighborhoods.** Increase opportunities for public spaces, placemaking, green infrastructure, trees and better facilitate the creation of Healthy Connected Neighborhoods.

Are we missing any key cross section options in the range of alternatives? Which other options should we consider?

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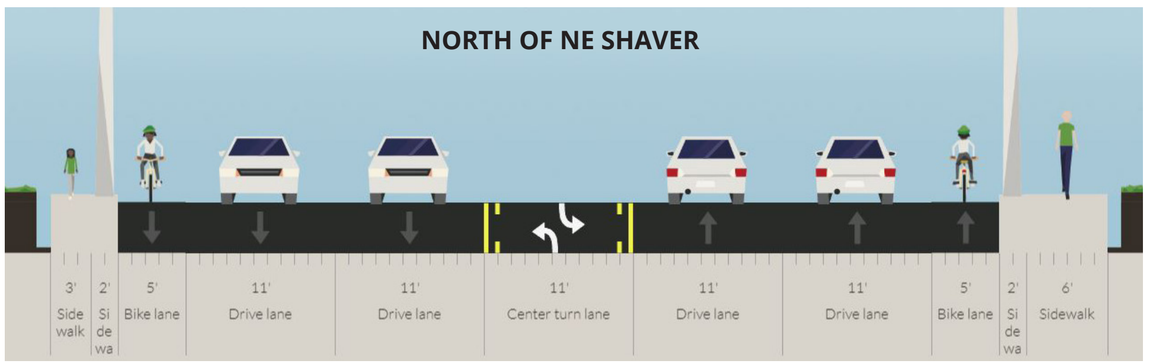
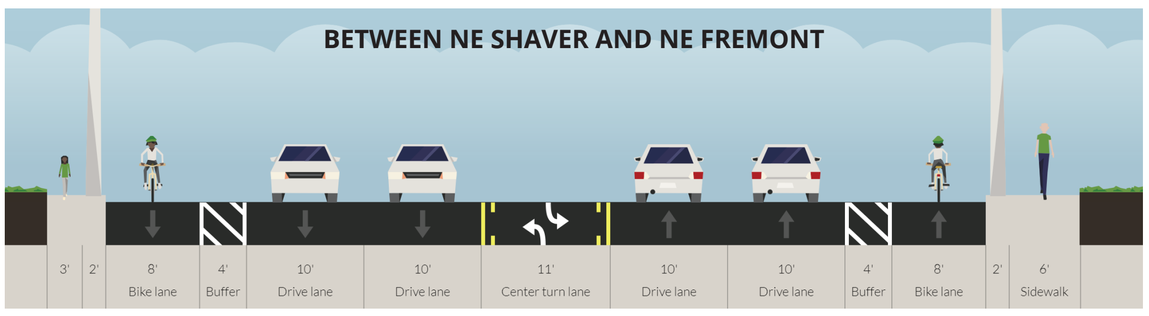
6.2 EXISTING CONDITIONS

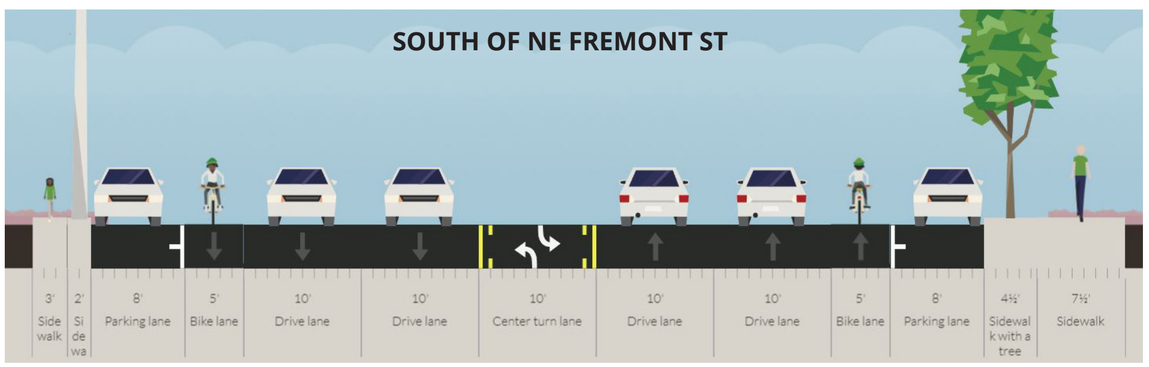
122nd Avenue today

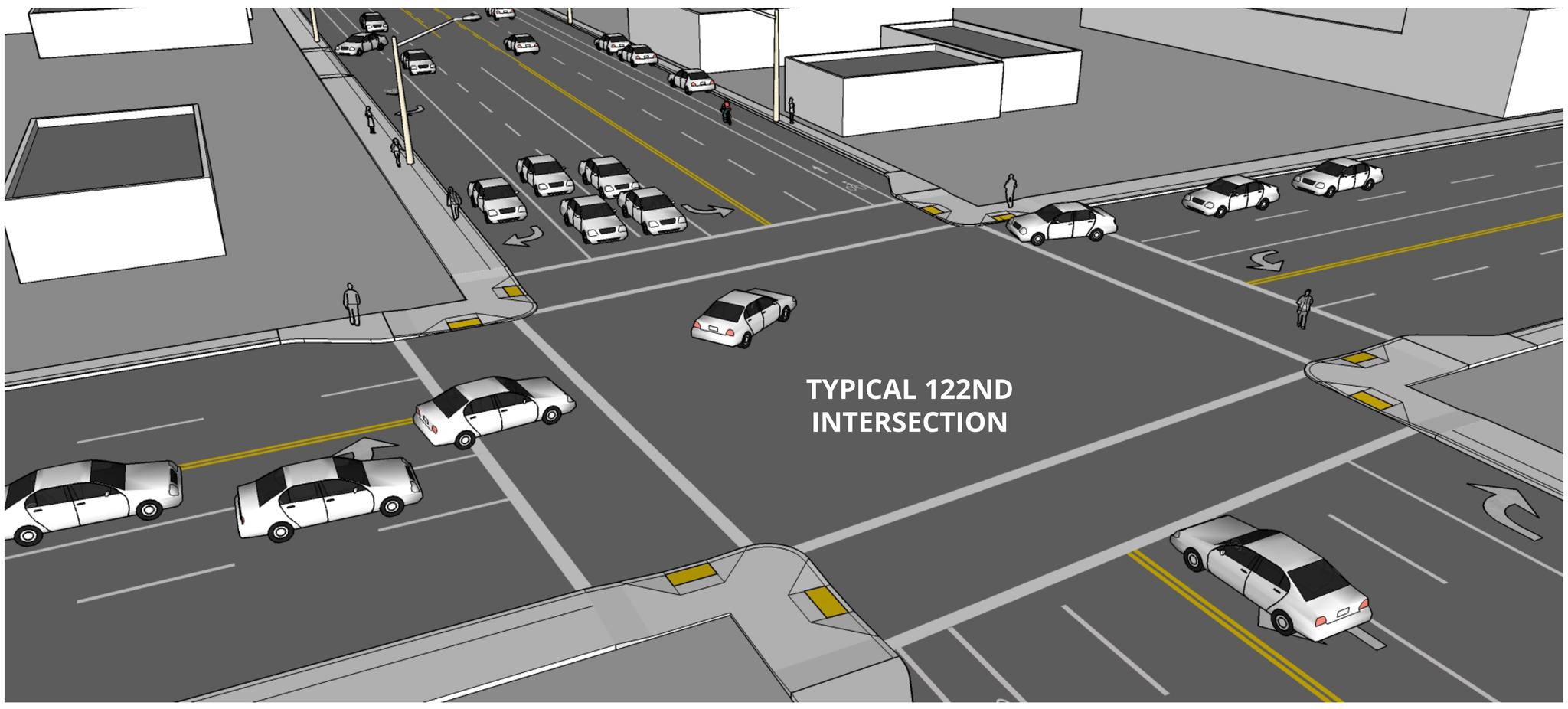
Currently, 122nd Ave is a **High Crash Corridor** that does not adequately serve all modes. There is a high rate of crashes on 122nd Ave resulting in serious injuries and fatalities. It is a difficult and stressful environment to walk, bike, cross the street and access transit. Overtime as growth occurs, **congestion will continue to worsen**. Buses experience delay, including slow average speeds, high dwell time at stops and significant travel speed variability during peak travel times.

The street cross-section is typically a five-lane arterial with on-street parking and narrow bike lanes that become right turn lanes at major signalized intersection. The sidewalks are often narrow and substandard. Most of **122nd Avenue does not meet the City's new guidelines for marked crosswalk spacing**.





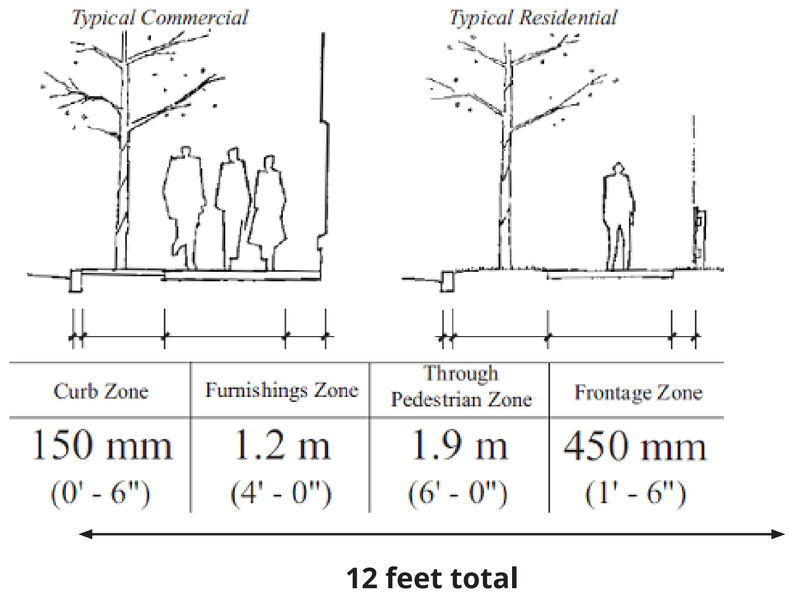




122nd Avenue today

Currently, the sidewalk corridors along 122nd Ave vary in width on both sides of the street. Typically, **the sidewalk corridor is either 7-ft (the old County standard) or 12-ft wide (City standard)**. However, there are short segments where the sidewalk is even narrower. The typical street cross-section images display the range of sidewalk conditions existing along 122nd Ave. Overtime, the **sidewalk corridors will be widened to 12-ft** with street trees, per City standards.

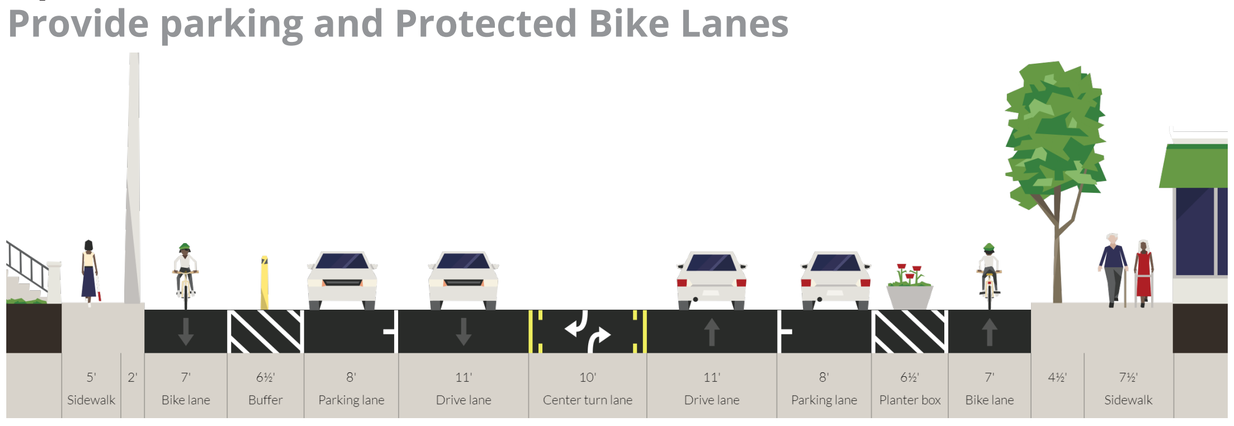
The current City Walkway standard for sidewalks on 122nd Ave is 12-ft sidewalk corridors. Typically, sidewalks are widened to City standards when private properties redevelop and dedicate additional public right-of-way through the City's permitting process. The sidewalk corridor is made of up zones between the curb and the private property line, including the Curb Zone, Furnishing Zone, through Pedestrian Zone and Frontage Zone.



6.3 ALTERNATIVE 1

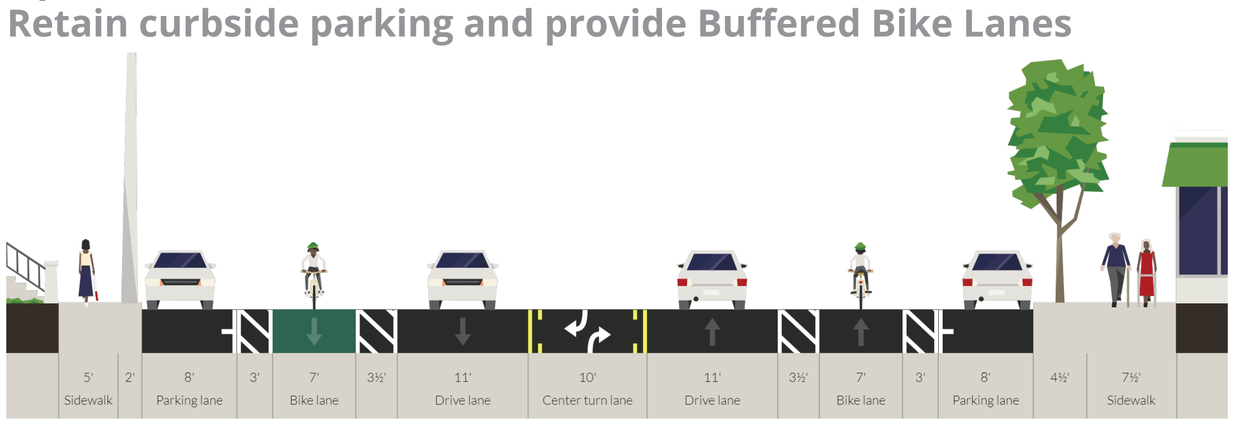
Family of street cross-section options that provides the most separation between all modes and potential safety benefits. It provides more space and comfortable conditions for pedestrians, cyclists and transit users while maintaining some on-street parking. This extra space is gained by providing three automobile travel lanes and converting the outside lanes to other uses.

Option 1A
Provide parking and Protected Bike Lanes



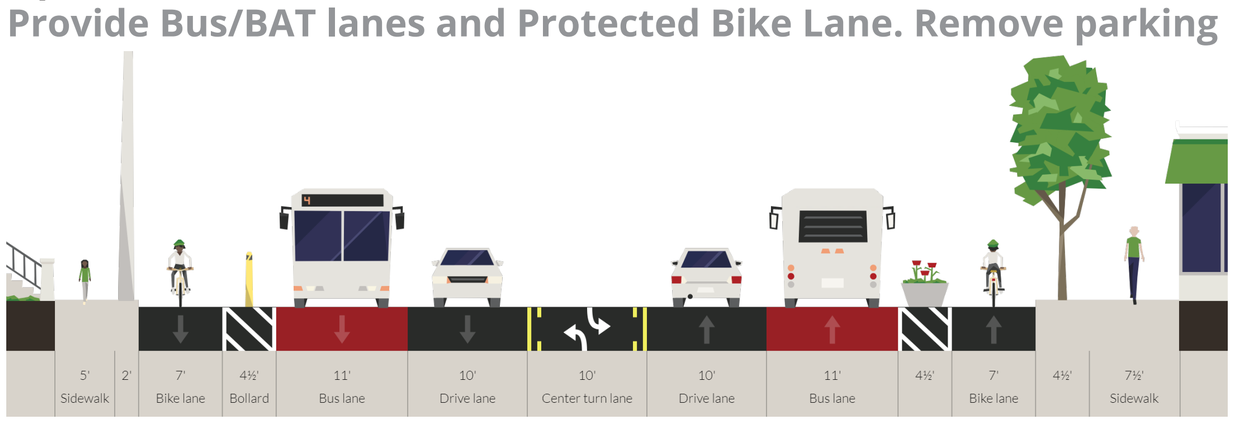
This sub-option emphasizes on-street parking and protected bike lanes that could also be used by people on scooters, skateboarders and other personal mobility devices. This option may be most beneficial midblock between major signalized intersections and in locations where on-street parking is needed and used often. Refuge islands or curb extensions can be placed at crosswalks and bus stops instead of parking. This works where there are less driveways.

Option 1B
Retain curbside parking and provide Buffered Bike Lanes



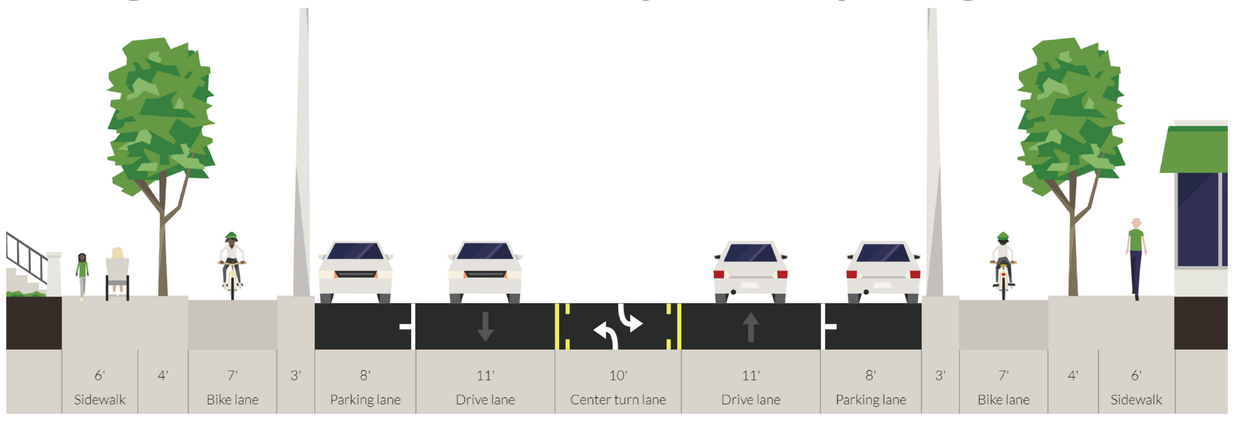
This sub-option emphasizes on-street parking by the curb and buffered bike lanes that could also be used by people on scooters, skateboarders and other personal mobility devices. This option may be most beneficial midblock between major signalized intersections and in locations where on-street parking is needed and used often. Refuge islands or curb extensions can be placed at crosswalks and bus stops instead of parking. This works where there are frequent driveways and intersections.

Option 1C
Provide Bus/BAT lanes and Protected Bike Lane. Remove parking



This sub-option emphasizes improving bus speed and reliability by turning the outside lane into a Business Access and Transit (BAT) lanes, where turning vehicles and buses will be able to bypass traffic. This option may be most beneficial approaching major signalized intersections.

Option 1D Widen sidewalks and elevate Protected Bike Lanes by moving the curbs into the roadway. Provide parking.



This sub-option most emphasizes the sidewalk and cycling/rolling realm for people of all ages and abilities. It also provides on-street parking. Transit would be in mixed traffic, so this would be best located where transit is not delayed. It would be considerably more expensive because it requires relocating curbs, utilities, drainage and meeting stormwater management requirements.

Opportunities

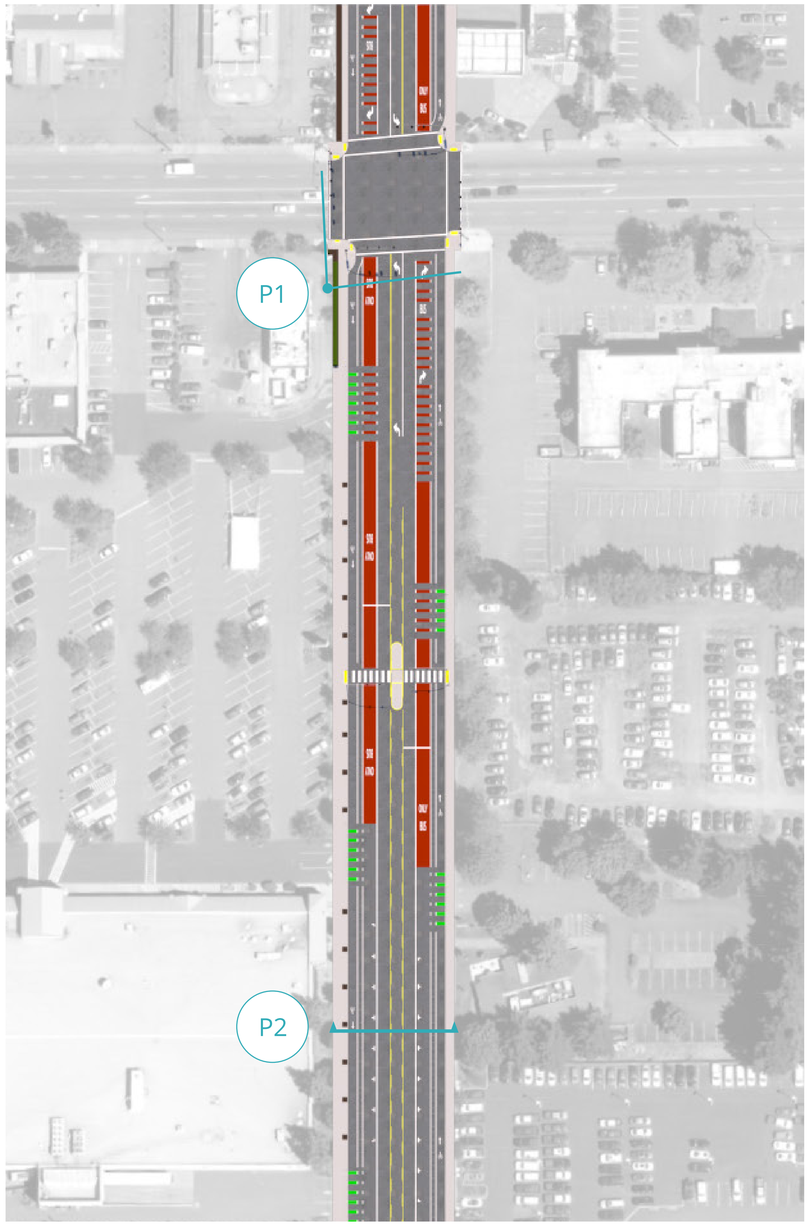
- It places the greatest emphasis on improving safety for all modes. A cross-section with a single lane in each direction greatly reduces the risk of a “double threat” collision at crosswalks. It also helps to reduce speeding and shorten crossing distances.
- It best supports City policies to save lives, improve walking, biking and transit and efficiently move more people.
- It would help transform 122nd Ave into a Civic Corridor and support vibrant Centers and healthy, connected neighborhoods as envisioned in the Comprehensive Plan.
- It creates space for more people and other uses within the existing street without acquiring additional right-of-way from adjacent private properties.

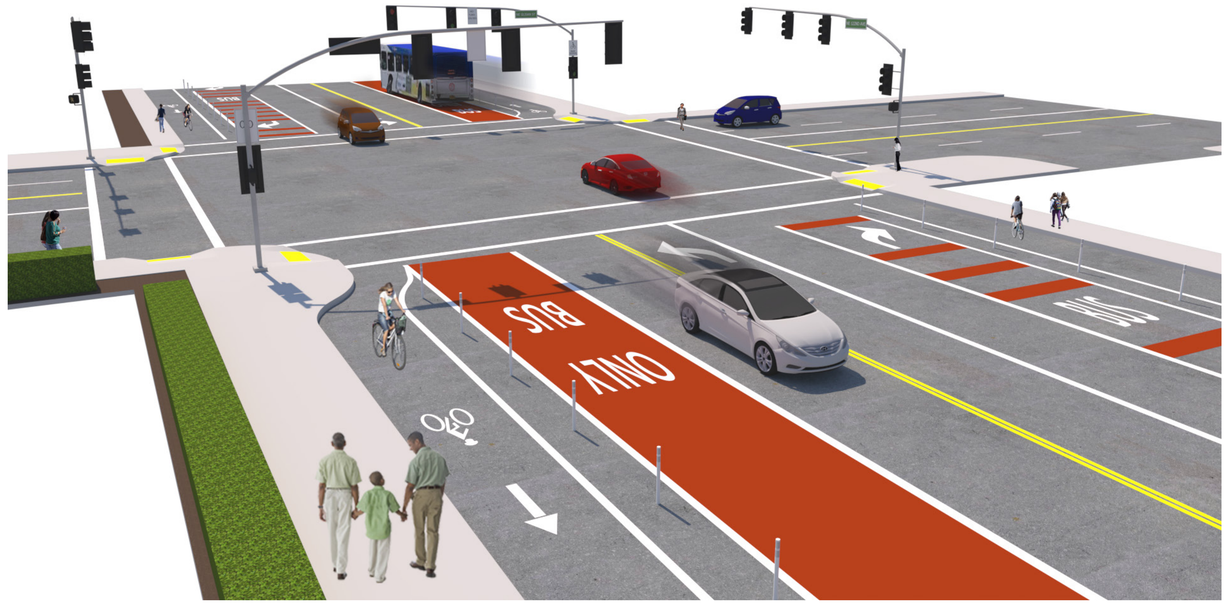
Challenges

- It reduces motor vehicle capacity and likely results in increased delays and drivers routing to other streets, choosing to make their trips at other times of day or shifting to another mode of travel.

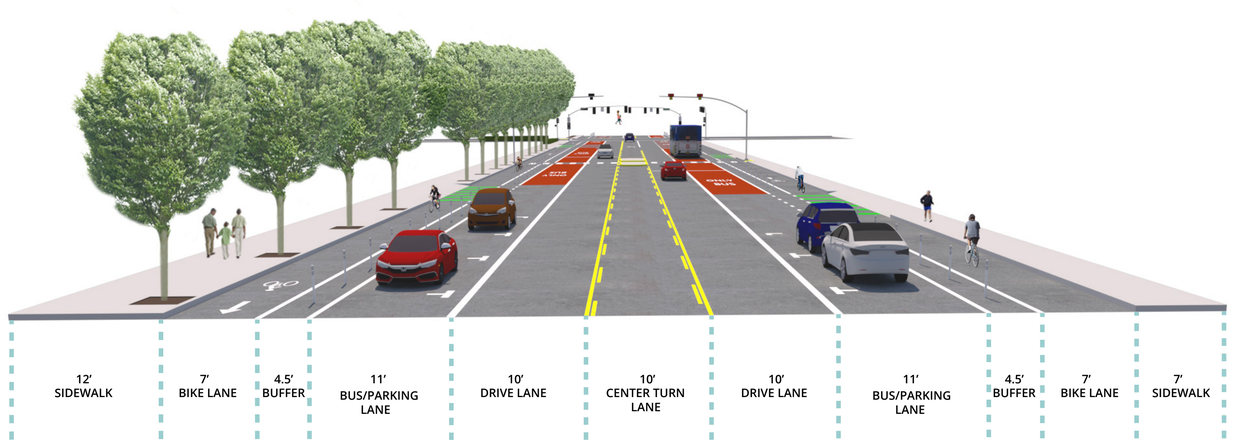
6.4 ALTERNATIVE 1 CONCEPT EXAMPLE ON 122ND AVE

Potential application of some Alt 1 design sub-options





P1 -Looking north



P2 -Looking north

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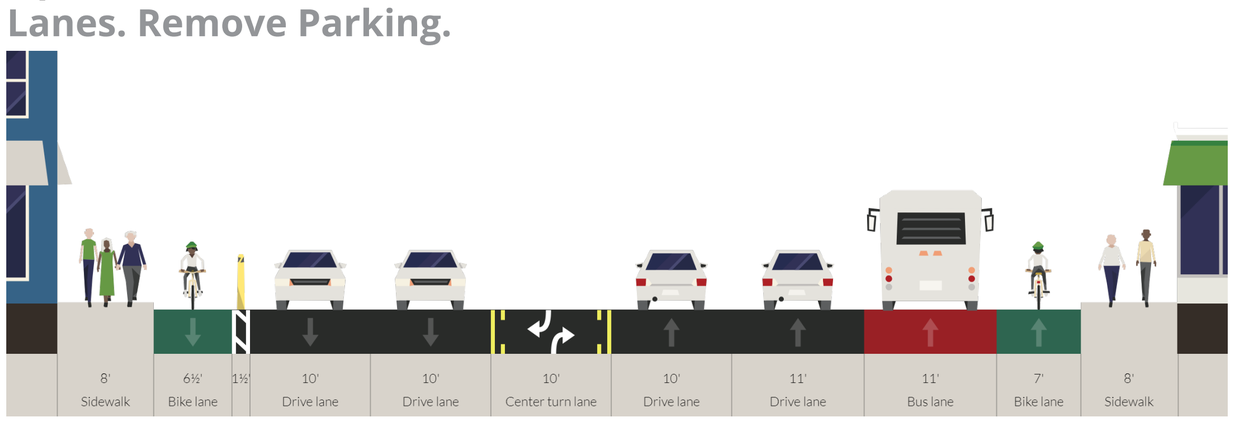
6.5 ALTERNATIVE 2

Family of street cross-section options that moderately improves conditions for most users by removing on-street parking and maintaining five automobile travel lanes.

Option 2A
Provide Protected Bike Lanes. Remove parking

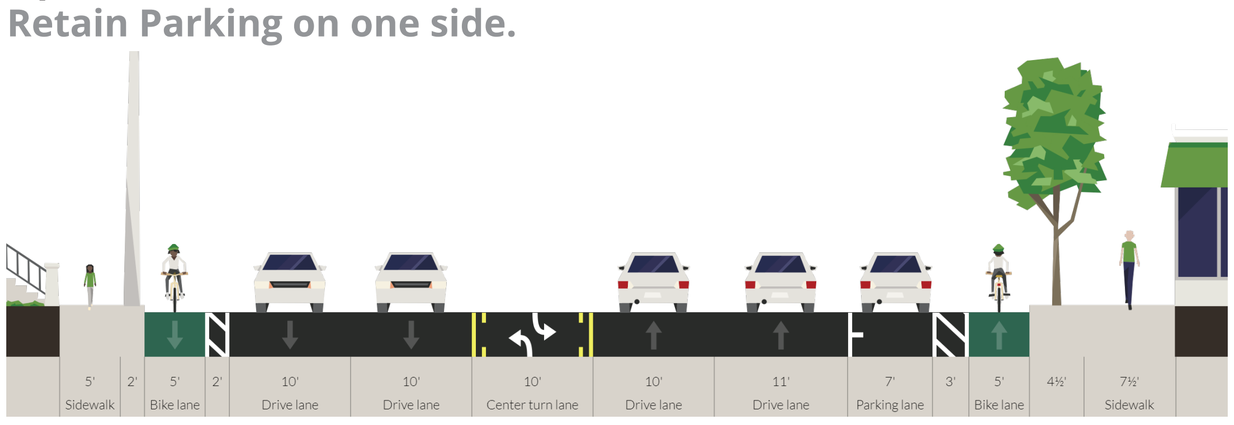
This sub-option provides protected bike lanes that could also be used by people on scooters, skateboarders and other personal mobility devices. This option is not possible at major signalized intersections, unless additional right-of-way is acquired (see above notes).

Option 2B Provide Bus/BAT lane and Protected/Buffered Bike Lanes. Remove Parking.



This sub-option provides some improved bus speed and reliability by turning the outside lane into a Business Access and Transit (BAT) lanes, where turning vehicles and buses will be able to bypass traffic... This sub-option may be most beneficial approaching major signalized intersections. It requires narrowing the bike lane buffers and shifting the lanes to one side of the roadway or reducing the center lane and restricting left turns. A separated bike lane approaching major signalized intersections is not possible, unless additional right-of-way is acquired (see above notes).

Option 2C Provide Protected/Buffered Bike Lanes. Retain Parking on one side.



This sub-option maintains on-street parking on one side. It provides a parking protected bike lane on one side and buffered bike lane on the opposite side, that could also be used by people on scooters, skateboarders and other personal mobility devices. This option may be most beneficial midblock between major signalized intersections and in locations where on-street parking is needed and used often. It requires shifting the lanes to one side of the roadway or reducing the center lane and restricting left turns. This works where there are less driveways.

Note about bicycle facilities under Alternative 2:

There is not adequate roadway width to fit a bike lane approaching major intersections and maintain 5 travel lanes plus a right turn lane at the signal. Therefore, bikes would need to continue sharing the right turn lane. Other options to separate cyclists from right turning vehicles would require widening the roadway and acquiring additional private property.

Option 1: ramp bikes up onto the sidewalk corridor in advance of intersection. Widen sidewalk corridor and right-of-way to accommodate bike facility.

Option 2: Add bike lane in the roadway. Widen road and right-of-way on approaches. Relocate signal poles, drainage and other furniture.

Opportunities

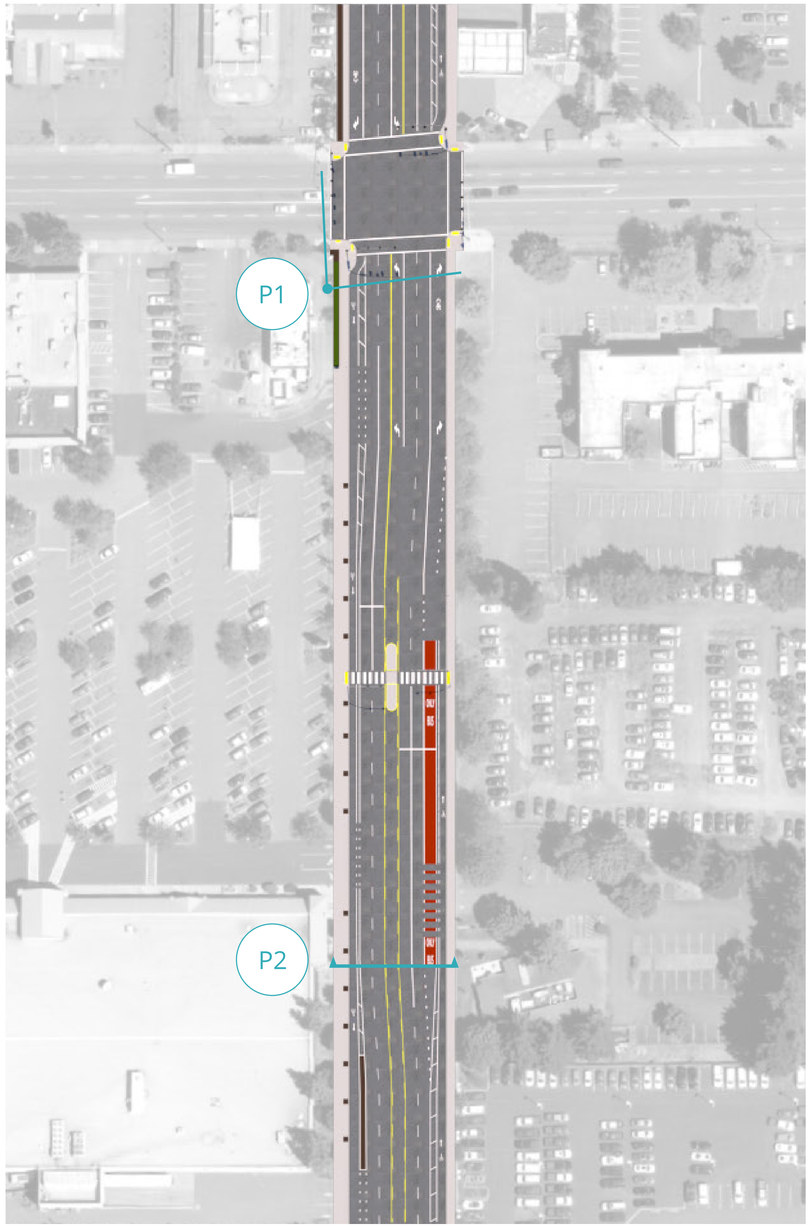
- It emphasizes the mobility function of the street.
- It maintains more motor vehicle traffic capacity.
- It provides modest improvements to biking and transit.

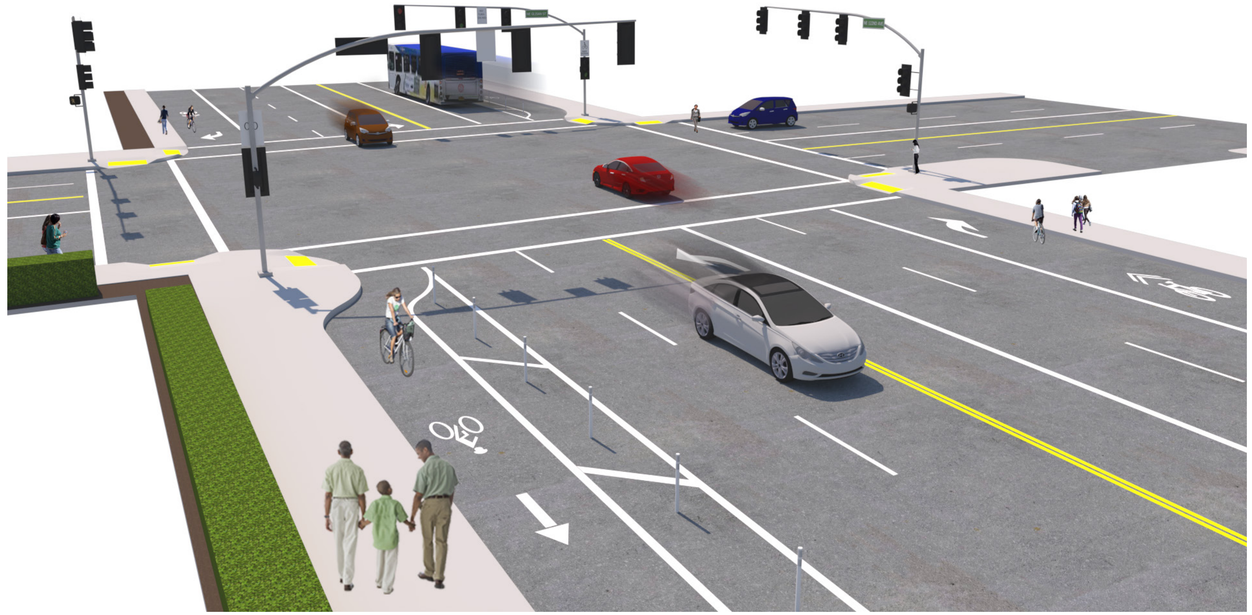
Challenges

- It does not provide as much safety benefit through practical design. Additional safety may be achieved with more signals (at significant cost) and access management in the median to reduce left turn conflicts.
- There is little benefit to pedestrians. Crossing distances would remain long with a “double threat” crossing multiple lanes.
- It removes the access benefit of on-street parking
- Approaching major signalized intersections, there is not enough width in the roadway to maintain 5 lanes, a right turn lane and provide separate bike lanes. (see note below)
- Additional right-of-way would be needed to provide separate bike lanes and adequate accessible sidewalks, particularly at major signalized intersection.

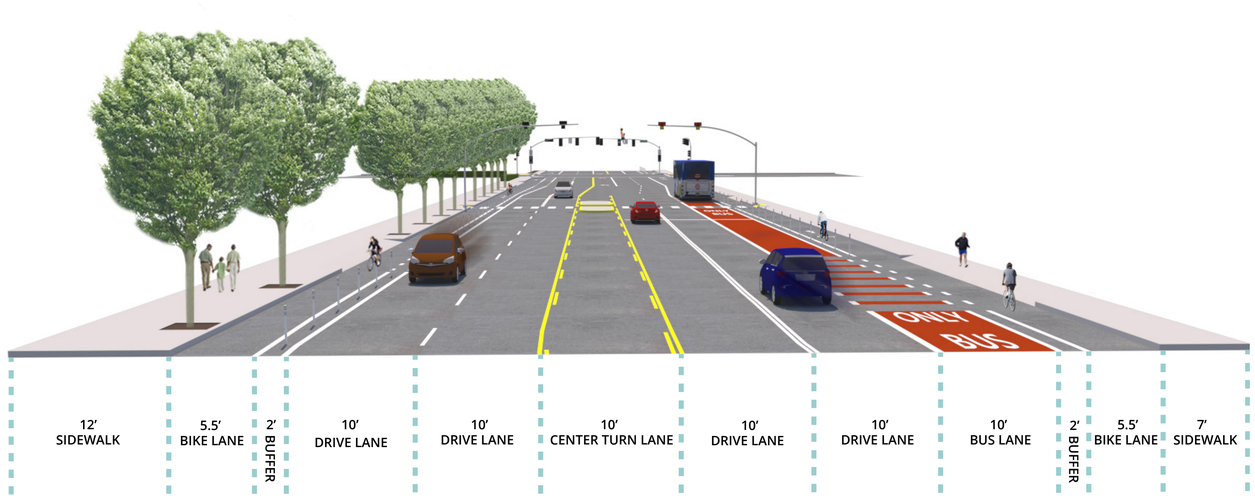
6.6 ALTERNATIVE 2 CONCEPT EXAMPLE ON 122ND AVE

Potential application of some Alt 2 design sub-options





P1 -Looking north



P2 -Looking north

6.7 ALTERNATIVE 3

UNDERPASS PEDESTRIAN/BICYCLE PATHWAY (NE FREMONT TO I-84)

Family of street cross-section options that reduce a lane in either direction to provide a two-way bicycle facility and pedestrian route. This alternative is specific to 122nd Ave between NE Fremont and I-84 freeway ramp through the I-84/UP Railroad Underpass.

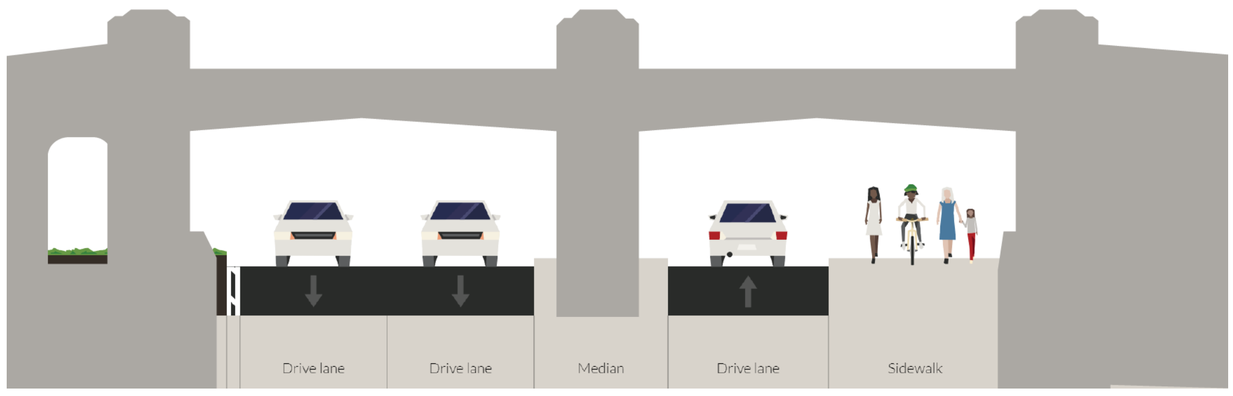
Currently, there are pedestrian and cycling barriers through the Railroad underpass. In the southbound direction, there is not room for two automobile lanes and a bike lane through the railroad underpass. In the northbound direction, there is a bike lane but not a continuous sidewalk that meets ADA access. The only pedestrian route is a dark narrow pedestrian tunnel on the westside of the street shared with southbound cyclists.

Southbound/westside of railroad underpass

Northbound/eastside of the railroad underpass

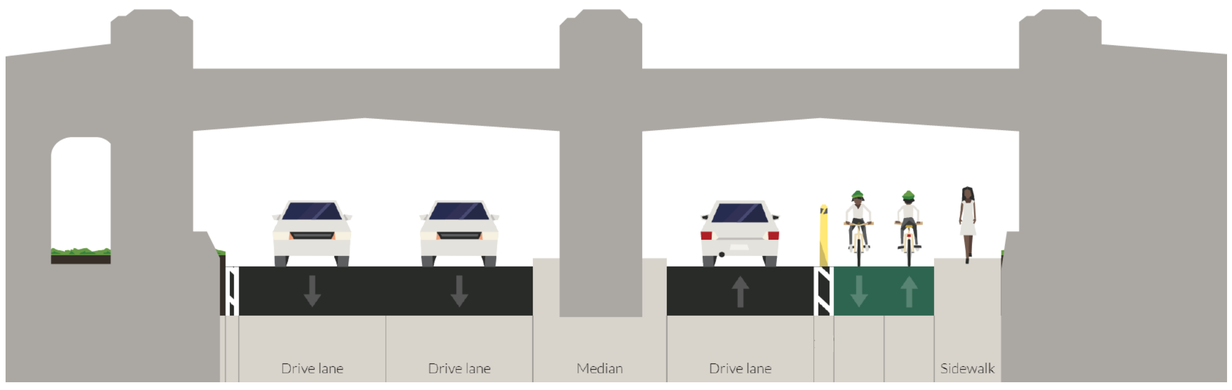
Option 3A

Remove northbound lane and re-allocate space to elevated 2-way multi-use path on eastside of street



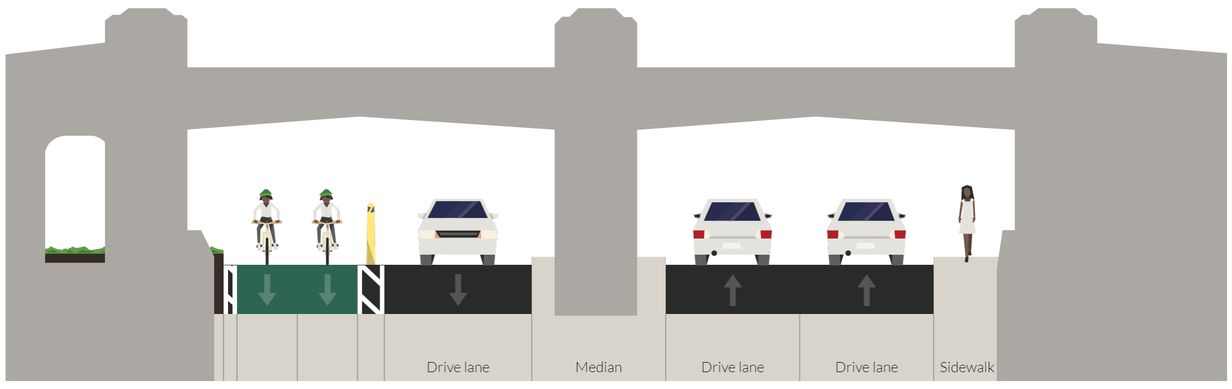
Option 3B

Remove northbound lane and re-allocate space to 2-way bike path and separate sidewalk on eastside of street



Option 3C

Remove southbound lane and re-allocate space to 2-way bike path on westside of street. On the eastside, elevate bike lane and combine with sidewalk.



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6.8 ENHANCED CROSSING LOCATIONS

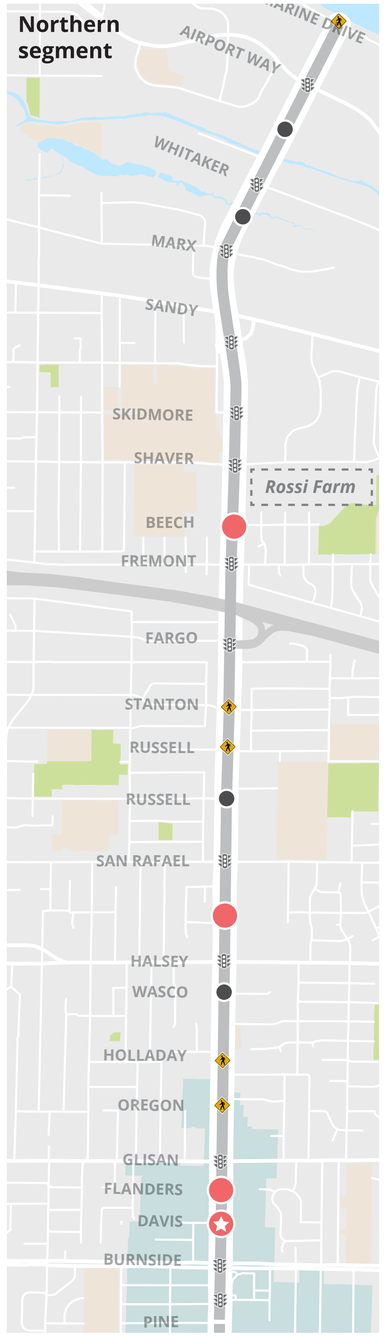
PBOT proposes additional enhanced crossings to help meet Portland's new pedestrian crosswalk spacing guidelines

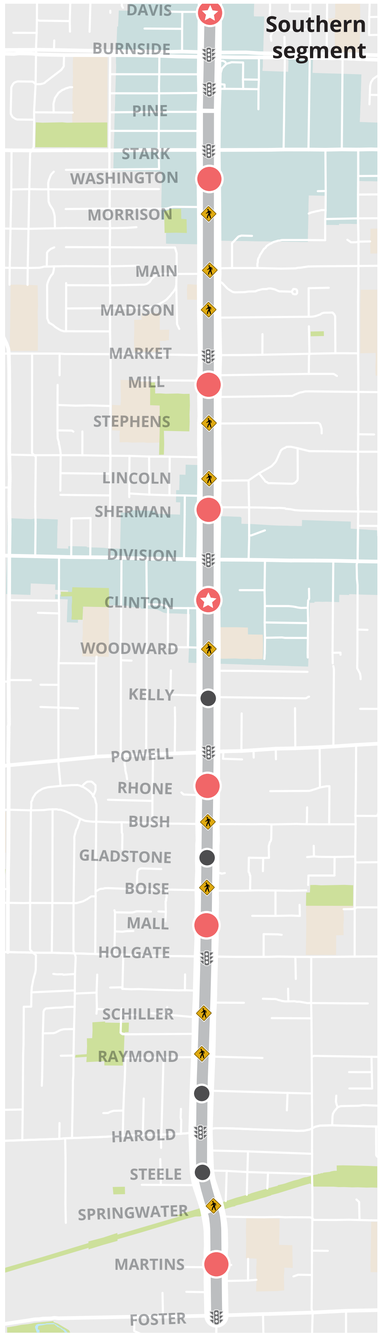
Portland's pedestrian crossing spacing guidelines

Generally no more than 800 feet between pedestrian crossings except in areas designated as Pedestrian Districts and Centers where the standard is 530 feet between crossings.

Proposed crossing locations and priorities

- The adjacent maps display the proposed general locations of the additional enhanced crossings.
- The maps also include proposed priorities for which crossings to build first. Crossing locations in the Centers / Pedestrian Districts are recommended at the top priority.
- The crossing treatments will depend upon additional data collection and traffic engineering assessment. This may potentially include overhead mounted RRFBs, HAWK, half or full signal. Final location and treatments will depend upon the NCHRP Report 562 analysis, warrants analysis and other evaluation.





Please respond to the following questions in your Open House guide

Do you support the proposed crossing locations? Yes/No

Do you support first prioritizing crossings in the Centers along 122nd? Yes/No

If not, which crossing locations would you prioritize? Why?

- Traffic signal
- Existing marked crossing
- New crossing - Tier 1
- New crossing - Tier 2
- New crossing - Tier 3
- Pedestrian district & Comprehensive Plan Center

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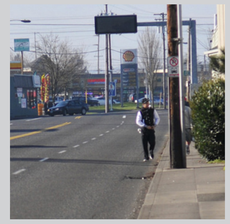
6.9 PRIORITY IMPROVEMENTS FOR CONSTRUCTION IN 2020

PBOT has $3.3 million of current funding for safety, access and transit improvements on 122nd Ave. This project is programmed for construction to begin in 2020. We have the opportunity to include of some the following improvements in this project. The remaining improvements can be included in the 122nd Ave Plan for future funding and projects.

Which improvements are most important to include in the 2020 construction project?
Place dots next to your highest priority improvements.

Candidate Improvements:	Example:	Community priorities: (place voting dots here)
1) More street lighting, to improve safety and personal security, especially approaching marked crossings. Prioritize Centers/ Pedestrian Districts.		
2) Additional pedestrian & bike enhanced crossings, to improve safety and access. Potentially overhead mounted RRFBs, HAWK, half or full signal. Final location and treatment recommendations pending NCHRP Report 562 analysis, warrants analysis and other evaluation. Prioritize locations in the Centers/ Pedestrian Districts. **Crossing locations in Centers listed from north to south (not in priority order): Midblock between NE Davis and NE Glisan; NE Davis; Midblock between SE Stark and SE Morrison; Midland Library; SE Sherman; SE Clinton.*		
3) Improve bus speed and reliability. Potentially with Bus lanes or Business Access and Transit (BAT) lanes. Potentially with Bus, Bike and Right turn lane and queue jump approaching major intersections, if 5 auto travel lanes are maintained. **Locations with most transit delay listed from north to south (not in priority order): NE Halsey; NE Glisan; E Burnside; SE Stark; SE Division; SE Powell*		
4) Signal changes. Potentially leading pedestrian interval or prohibit right on red to reduce conflicts and improve safety. Potentially bus signal priority to reduce bus delay.		
5) Protected or enhanced bike lanes, to improve safety and comfort for people of all ages and abilities to bicycle, skake, or use a scooter. Different design may be needed approaching major intersections.		

Candidate Improvements:	Example:	Community priorities: (place voting dots here)
6) Access management, to reduce conflicts and improve safety. Potentially traffic separators or median treatments at strategically selected locations, or narrowing to meet standards.		
7) Relocate utility poles, to provide ADA access along sidewalks.		
8) Bus stop improvements, to improve transit rider safety and comfort. Potentially curb extensions, shelters, lighting or other amenities.		
9) Manage speeding and red light running, to improve safety. Potentially automated enforcement cameras.		
10 | Pursue speed limit reduction, to improve safety for all modes.		

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