



BELLEVUE
**PEDESTRIAN
& BICYCLE**
IMPLEMENTATION INITIATIVE

» DOWNTOWN DEMONSTRATION BIKEWAY

108th Ave NE corridor improvement project



February 5, 2018

» DOWNTOWN DEMONSTRATION BIKEWAY PROJECT OVERVIEW

PROJECT PURPOSE

The city could install the first high-comfort bikeway in Downtown as a demonstration project in 2018. Based on their inclusion in existing plans, four streets were identified as candidates for the project: 108th Ave, 106th Ave, Main St, and NE 2nd St. Several bicycle projects completed in 2017 and others coming in 2018 provide improved connections to Downtown for people on bikes, but none connect to bike lanes in Downtown. Leveraging [Transportation Levy](#) funds, the demonstration bikeway could begin to address this gap, make progress on established goals, and help make Downtown a safer and more comfortable place to bike.

PBII CONTEXT

The City Council envisions a well-connected network of bicycle facilities in Bellevue that enhance livability, support economic vitality, and serve the mobility needs of people of all ages and abilities. Investments in bicycle facilities will help make Downtown a more attractive and accessible place for people to live, work, and visit.

Consistent with this vision and Council direction for the [Pedestrian and Bicycle Implementation Initiative](#) (PBII), the recommendations included here reflect a strategy that:

- Advances demonstration projects that test experimental facility design treatments;
- Identifies early-win opportunities that can be implemented quickly to advance project delivery;
- Balances the needs of various roadway users and their associated design requirements;
- Promotes physically separated facilities to minimize conflicts between roadway users where possible;
- Prioritizes a connected network that “fills the gaps” in lieu of piece-meal implementation.

Parking, Painted Buffer, and Post Separation



Planter Box Protected Bike Lane



Green Pavement Markings



WHAT IS A HIGH-COMFORT BIKEWAY?

A “high-comfort” bikeway provides separation between people on bikes and autos to create a riding environment that is comfortable for most adults and potentially even children and older adults. Examples of separation treatments include wide painted buffer areas, posts, and planter boxes. The number of conflict points is minimized and they are painted green to increase visibility.

Comfort on a bicycle is context-sensitive. On streets with higher speed limits and more auto traffic, greater separation is required between motor vehicles and people bicycling to provide a “high-comfort” experience. For the Downtown demonstration bikeway project, design concepts for all four candidate corridors sought to maximize the amount of separation provided to the extent possible while balancing the needs of all street users.

BENEFITS AND TRADE-OFFS

Each candidate project offered its own set of benefits and challenges. Introducing a new bicycle facility on any of the candidate streets would involve trade-offs—but so does providing no accommodations for people to bike safely. For example:

- It may be possible to create a protected bikeway along much of a corridor, but portions may be impacted by construction activity.
- It may be necessary to repurpose travel lanes, turn lanes, or on-street parking along some of the candidate project streets, while on others it may be possible to add new on-street parking.
- Installing new bike lanes may increase auto travel time through some intersections, but providing no bike lanes has left Downtown an unwelcoming place to bike, so some people ride on sidewalks or avoid bicycling altogether.

WHY A DEMONSTRATION?

Using temporary and low-cost treatments, the demonstration project would provide a real-world opportunity to evaluate how the latest bikeway design concepts function in Bellevue. Outcomes will be monitored and adjustments could be made after installation as needed to improve operations. Compared with more traditional project delivery, this approach makes it possible to implement improvements more rapidly and iteratively, collect data to understand the project’s benefits and impacts, make modest operational refinements if necessary, and determine what the appropriate next steps are prior to potentially making more expensive and permanent investments.

The demonstration project is expected to be in place from mid-2018 through at least early 2019. During this time, data will be collected to evaluate how the project impacts travel for all street users, local businesses, and others in the community. If outcomes are favorable, City Council could approve more permanent upgrades in the future, including more robust bike lane separation, traffic signal modifications, durable pavement markings, and other changes to curbs and the streetscape. This demonstration project could help guide other Downtown bicycle improvements.

COMMUNITY ENGAGEMENT

To get feedback from people who live, work, or visit downtown, a survey was available online and an open house was held at City Hall.

Online Survey

More than 1,200 people responded to the [online survey](#), available from Nov. 10, 2017, through Jan. 1, 2018. The survey asked the public for help selecting the preferred street and developing a design that balances community priorities. Some takeaways include:

- 57 percent (650/1,137) feel somewhat or very unsafe riding a bicycle in Downtown. Only 18 percent feel somewhat or very safe; 25 percent do not bike there.
- 63 percent (720/1,137) feel somewhat or very unsafe when driving next to people bicycling in Downtown.
- 60 percent (680/1,138) strongly support bike lanes in Downtown. 24 percent are strongly opposed.
- 46 percent (506/1,111) strongly agree and 17 percent (184) agree that some tradeoffs to motor vehicle traffic flow and parking are acceptable to provide safe facilities for people who bike in Downtown.
- 69 percent (749/1,084) think people biking in Downtown should ride on-street in designated bike lanes.
- 38 percent (391/1,030) would prefer the demonstration bikeway to be on 108th Ave NE. 23 percent would prefer none of the four candidate corridors, 11 percent would prefer 106th Ave NE, and 10 percent would prefer Main St.

Open House

An open house was held on Nov. 30, 2017 from 5–7 p.m. at City Hall to provide the public an opportunity to learn more about the candidate projects and voice their perspectives to city leaders and staff. The following are takeaways from the thirty-six completed comment cards:

- 69 percent (25/36) of respondents would prefer the demonstration bikeway to be on 108th Ave NE.
- 36 percent (13/36) identified Main St as their preferred second corridor if sufficient funding is available to implement additional improvements.

RECOMMENDATION

108th Ave NE

It is recommended that a demonstration bikeway project be implemented along 108th Ave NE from Main St to NE 12th St. This is identified by the [2009 Pedestrian and Bicycle Transportation Plan](#) as a north-south priority bicycle corridor and provides continuous connections to multiple regional bicycle routes.

Due to the many competing priorities for limited street space, the design and dimensions of bicycle facilities will vary along the corridor. The following pages depict the design concept as of January 11, 2018, which is subject to change as engineering design is completed over the coming months.

Before-and-After Assessment

A before-and-after study will be conducted to assess outcomes for all street users, including people bicycling, walking, driving, using transit, and transporting goods, based on data and community engagement. The data collection period informing the evaluation will last through December 2018. Some examples of the issues to be addressed include:

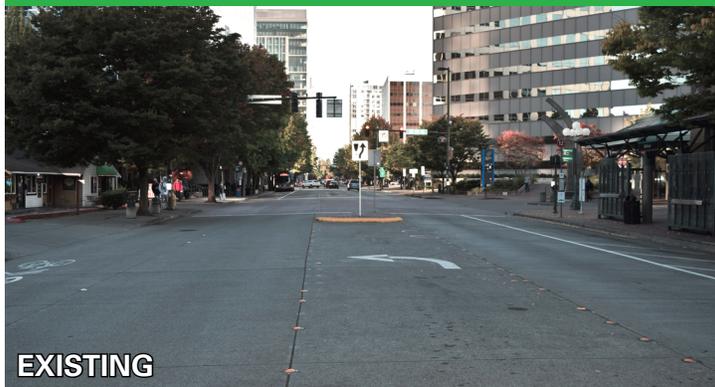
- How will bicycle use in Downtown change? Will people ride more often or for a wider variety of trip purposes?
- Will the bikeway reduce the rate and severity of conflicts between people driving, biking, and walking?
- Will auto travel time be impacted, and if so, by how much? Do the project's benefits outweigh its impacts?
- Where are the weakest links, and what would be required to improve them if the demonstration project is refined or ultimately made permanent?
- Does the public support the project after installation?

» 108TH AVE NE MAIN ST TO NE 12TH ST

BICYCLE FACILITY IMPROVEMENTS

The project would install high-comfort bikeways from Main St to NE 12th St. Improvements would include protected bike lanes (posts or planter box separation), buffered bike lanes (paint separation), striped bike lanes (standard paint stripe), and shared lane markings (sharrows) along various segments of the corridor. Shared lane markings would only be used in segments where the presence of physical infrastructure (e.g. an existing crosswalk refuge island, a planted median) results in spaces that are too narrow to maintain continuous bike lanes. The visualization below and the map and street section illustrations on the following pages provide an indication of how the concept under consideration could be implemented. Design details are subject to change as engineering work is completed.

At NE 6th St (Bellevue Transit Center), looking north



EXISTING



CONCEPT

TRADE-OFFS AND OUTCOMES

Overall, the bicycle facilities under consideration would provide a bicycling environment that is expected to be comfortable for most adults. It is not possible to achieve a design that is truly an “all ages and abilities” facility as a demonstration project, as that would require continuous protected bike lanes or physically separated bikeways along the entire length of the corridor—which would be significantly more expensive and could not be implemented rapidly.

The 108th Ave NE corridor has no significant hills, but bikeway continuity would be impacted midday at one location where private construction is ongoing. These demonstration facilities would connect to existing bicycle improvements on 108th Ave SE south of Main St (installed in 2017) and improvements planned and funded for installation in 2018 from NE 12th St to NE 24th St (levy project).

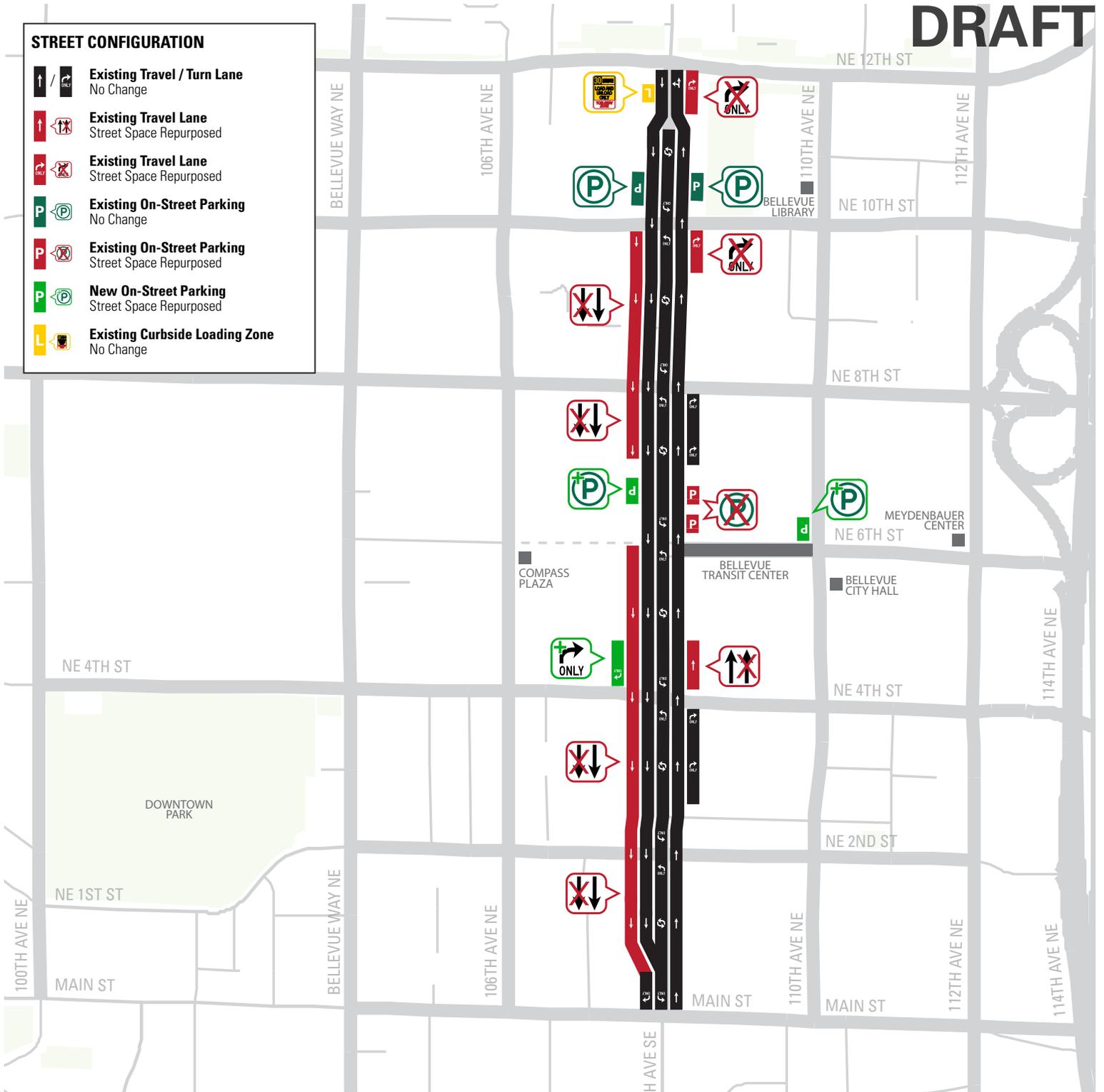
Bicycle improvements on 108th Ave NE would be accomplished by (i) repurposing one southbound travel lane from NE 10th St to approximately NE 7th St and from NE 6th St to north of Main St; (ii) repurposing northbound right turn lanes at NE 12th St, NE 10th St, and north of NE 4th St; and (iii) relocating existing pick-up/drop-off parking north of NE 6th St to other locations near the transit center. Other existing travel and turn lanes and on-street parking would be retained, and a new southbound right turn lane would be created at NE 4th St. The diagram on the opposite page depicts these modifications to the existing street configuration.



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STREET CONFIGURATION

-  **Existing Travel / Turn Lane**
No Change
-  **Existing Travel Lane**
Street Space Repurposed
-  **Existing Travel Lane**
Street Space Repurposed
-  **Existing On-Street Parking**
No Change
-  **Existing On-Street Parking**
Street Space Repurposed
-  **New On-Street Parking**
Street Space Repurposed
-  **Existing Curbside Loading Zone**
No Change

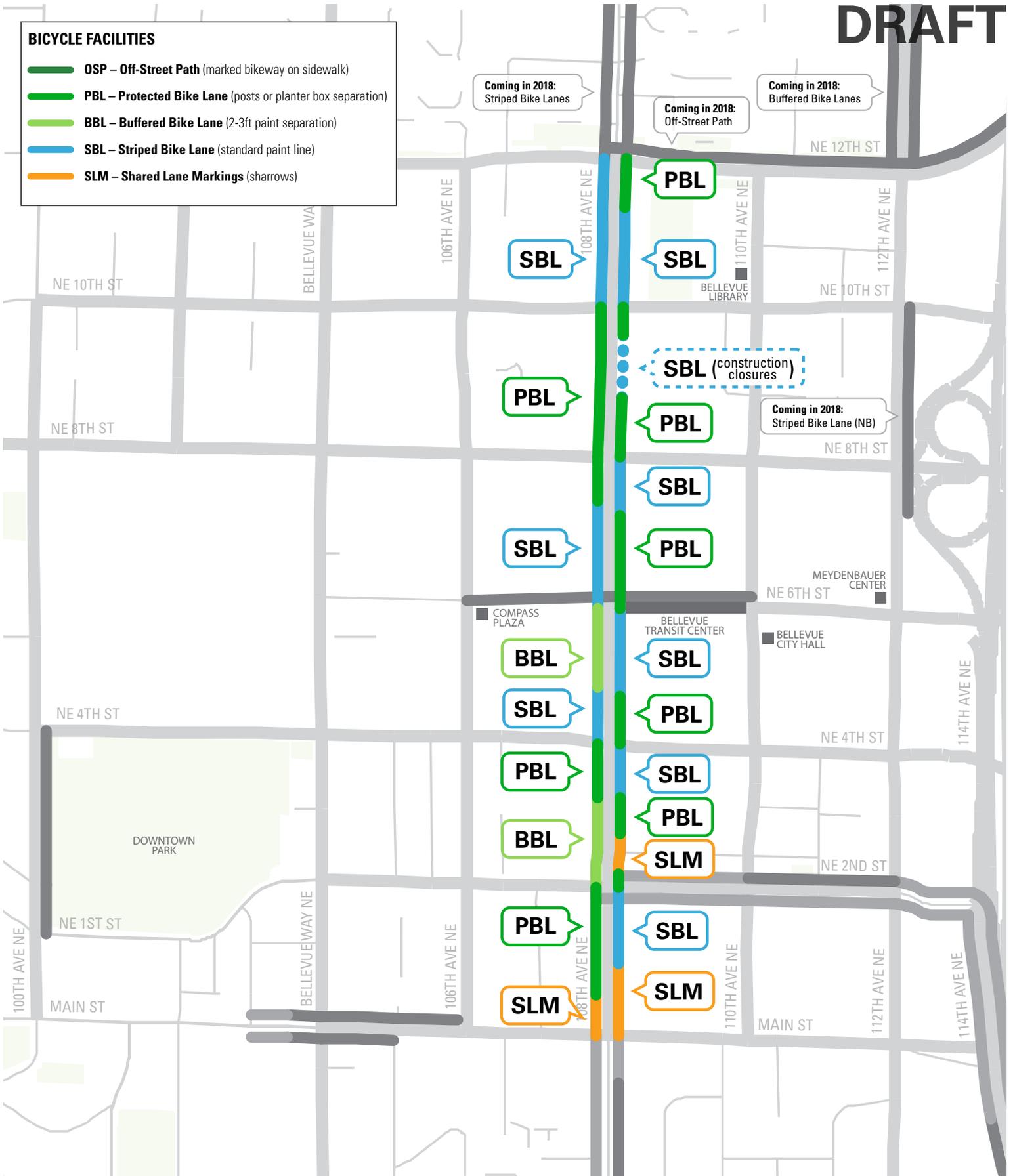


Note: Tradeoffs based on bikeway design as of January 11, 2018. Design details are subject to change as engineering work is completed.

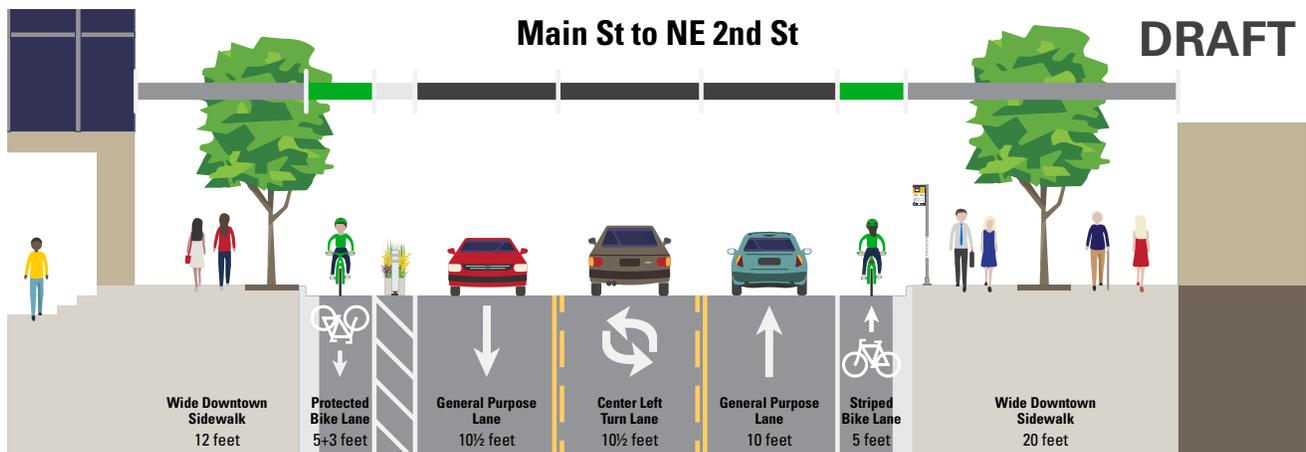
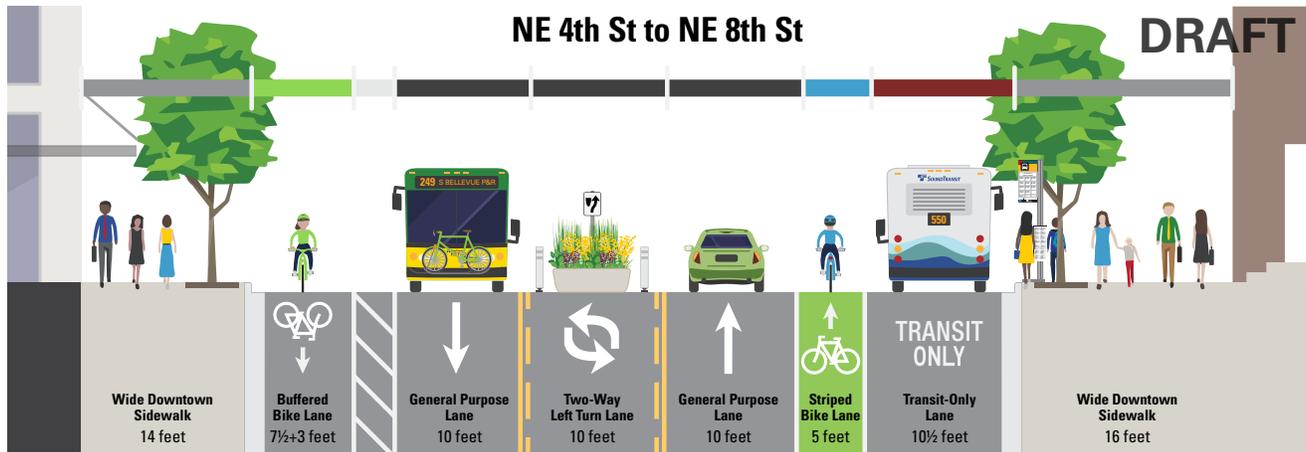
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BICYCLE FACILITIES

-  **OSP – Off-Street Path** (marked bikeway on sidewalk)
-  **PBL – Protected Bike Lane** (posts or planter box separation)
-  **BBL – Buffered Bike Lane** (2-3ft paint separation)
-  **SBL – Striped Bike Lane** (standard paint line)
-  **SLM – Shared Lane Markings** (sharrows)



Note: Design details are subject to change as engineering work is completed. Dimensions shown on opposite page are representative.



»» FOR ADDITIONAL INFORMATION:

Franz Loewenherz

Principal Transportation Planner

City of Bellevue

floewenherz@bellevuewa.gov

425-452-4077
