CHAPTER 01

NORTHWEST PORTLAND TODAY & TOMORROW

What is *Northwest in Motion*, what are the plan's goals, and why is this plan needed? Also, a neighborhood profile and a snapshot of transportation patterns and issues that exist today.

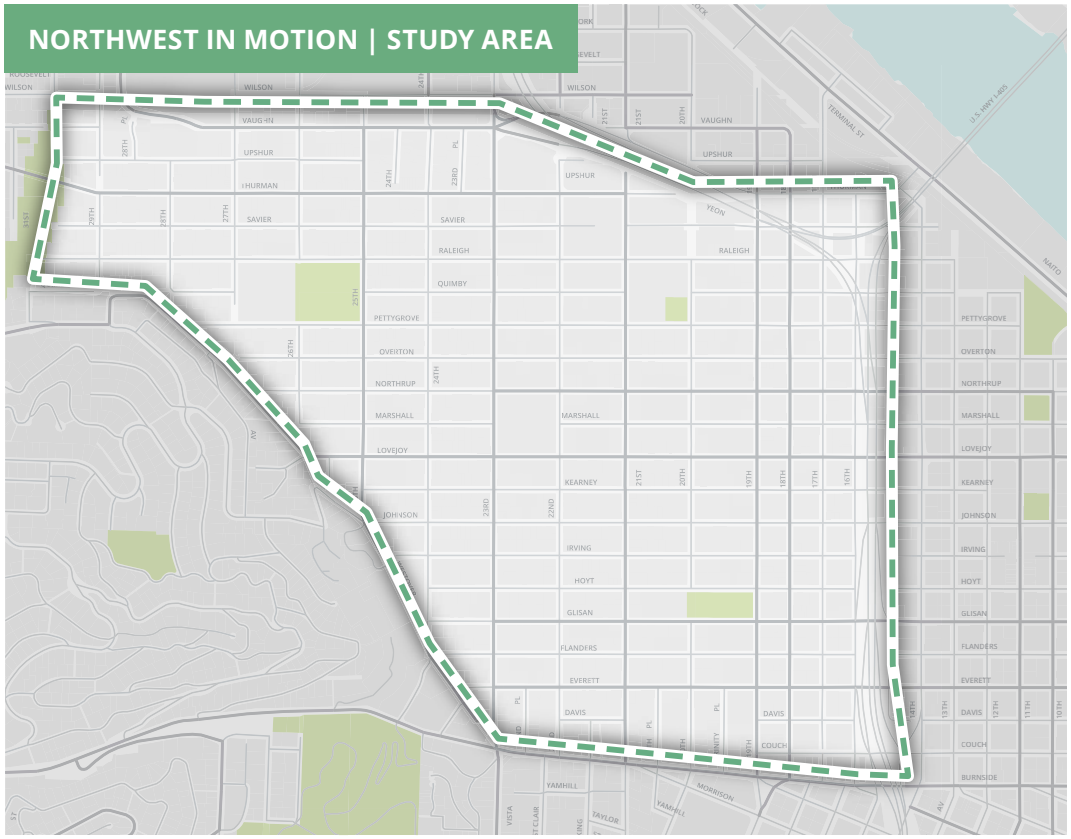
What is Northwest in Motion?

Northwest in Motion is a five-year implementation strategy that has identified, prioritized, and developed a set of feasible projects in Northwest Portland. These projects aim to make walking, biking, and riding public transit safer and more comfortable options for traveling to, from, and within the district.

Why Northwest? Why now?

Northwest is a rapidly growing area of Portland. Given its density and proximity to the Central City, more people travel by car today than would be expected. If the current levels of car use keep increasing along with jobs and housing growth, there will be increased pressure on the City's limited roadway network and parking supply. For this reason, projects are needed in the near-term to make other modes of travel more attractive options.

One contributing factor to high car usage, even for relatively short trips, may be the high number of gaps and deficiencies in the walking, biking, and transit networks. None of the district neighborhood greenways currently meet the City's guidelines for low-stress bikeways. Walking can also be difficult, especially when crossing busy streets. Transit can be difficult to access and be unreliable or delayed due to congestion. Northwest in Motion directly addresses these issues, giving people living in and visiting Northwest more options to get around safely, sustainably, and efficiently.



PROJECT AREA DESCRIPTION

The core project area includes the inner Northwest neighborhoods roughly bounded by Hwy 30, I-405, W Burnside St, and the West Hills. Located on the west side of the Willamette River, the project area is within one mile of downtown Portland. The area is home to some of the oldest and most densely populated portions of the city with a mix of single family homes and apartments, commercial, residential, and industrial uses, as well as numerous regionally important religious and community organizations. The heart of the neighborhood is the Alphabet District, a local and national historic area centered around the districts unique small business community and vibrant main streets. While the area shown here is the focus of this plan's recommendations, some recommended projects stretch into surrounding areas including the Pearl District, King's Hill, and Hillside neighborhoods.

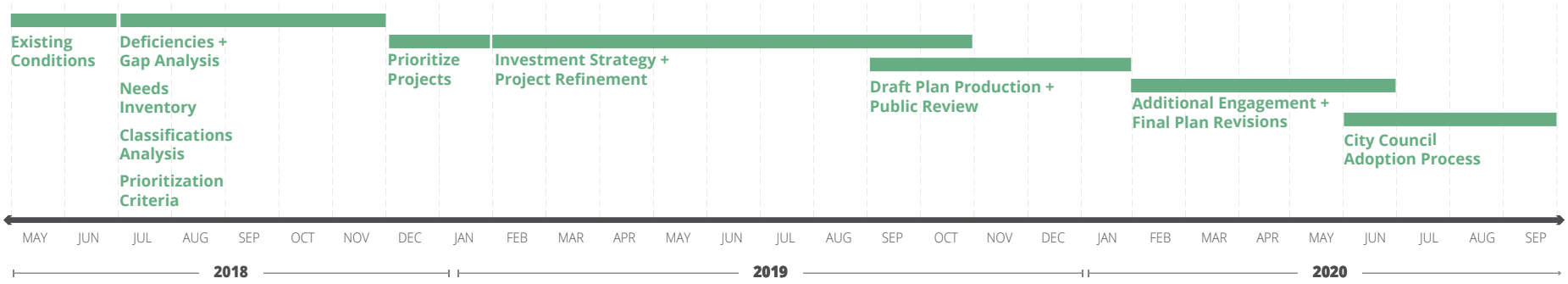
PROJECT GOAL

Develop a strategy of **projects**, **programs**, and **policies** that can be **quickly implemented** to make **walking**, **biking**, and **riding transit safer**, **more accessible**, and **more attractive options** to travel to and around the **Northwest District Town Center**.

MAJOR OUTCOMES OF NORTHWEST IN MOTION INCLUDE:

- A prioritized and funded list of walking, bicycling, and transit projects and programs to guide investment of parking revenue and other funding to be built in the next five-years.
- A bold and achievable strategy for upgrading and expanding the neighborhood greenway network in Northwest Portland, meeting or exceeding established neighborhood greenway guidelines.
- A strategy to reduce single-occupant vehicle use within the district by shifting trips to walking, biking, and transit.

PROJECT TIMELINE

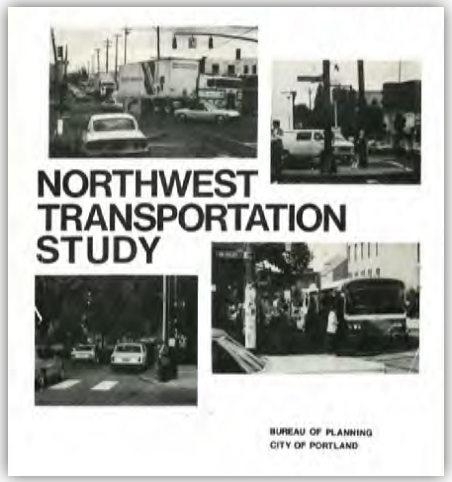


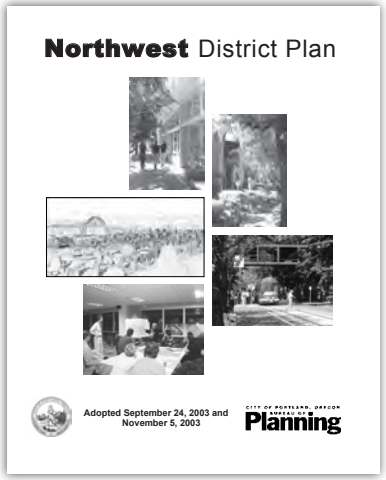
Northwest Planning Context & History

1966: Adoption of Portland's first **Comprehensive Development Plan**, which shows the I-505 freeway along Thurman St and a Marshall/ Lovejoy couplet to Cornell.

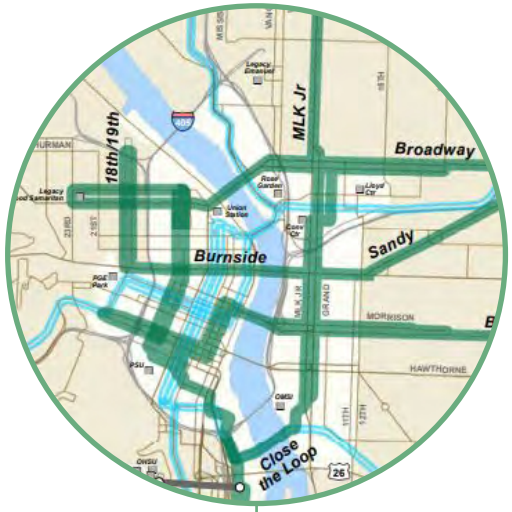
1973: Neighborhood opposition leads to cancellation of I-505 freeway project. Shorter Hwy 30 connection north to Yeon is constructed instead.

1982: The **Northwest Transportation Study** is completed, with a focus on reducing regional cut-through traffic and improving neighborhood livability.





2003: Adoption of the **Northwest District Plan**, a neighborhood plan covering land use, transportation, parks, housing, and other issues. Transportation recommendations include a strong focus on walking, biking, and transit.



2009: Portland Streetcar System Concept Plan includes potential new lines through the NW District area, including an extension to Montgomery Park.

2012: Northwest District Parking Management Plan is adopted to address growing pressure on parking supply. Includes new meters and permit zones, and a policy that some net revenue should be used to address transportation needs in the district.

2012: Conway Master Plan developed to guide large redevelopment area in northern part of Northwest District. Includes new street and pedestrian only connections, lighting, signals, and other transportation improvements.

2015: Portland's **Neighborhood Greenways Assessment Report** finds that neighborhood greenways in NW Portland all fail to meet guidelines for traffic speeds and volumes.

Northwest Portland Today

Managing growth in the neighborhood

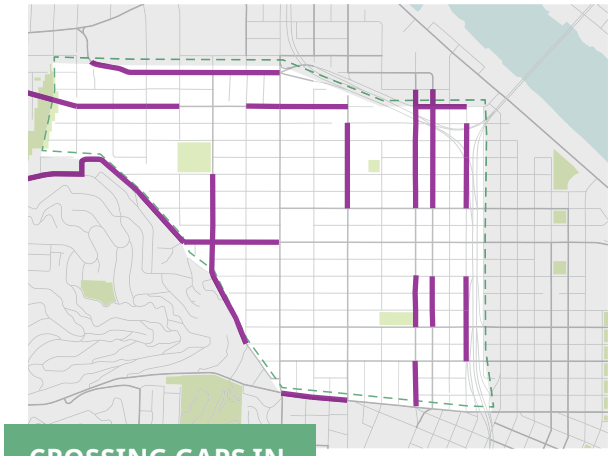
The number of households and jobs in the Northwest District area are expected to grow significantly over the next 20 years. In order to safely and sustainably fit all of these new trips, more and more residents need to get around without depending on a car. If the share of daily trips by automobile were to stay the same over the next two decades, the result would be increased congestion and traffic that would degrade the walkable urbanism that defines the district.

To address this growth, Northwest residents will need to get around using more efficient transportation choices - particularly walking, biking, and public transit. These types of trips can move more people in less space, freeing up valuable roadway space for essential trips, deliveries, and for those who are physically unable to get around without a vehicle.

With fewer cars on the road, that also means less pressure on the district's limited on-street parking supply. Alternatives to this approach, such as widening roads through dense urban neighborhoods, or building large off-street parking garages are both expensive and compromise the urban, human-scaled character of the neighborhood.

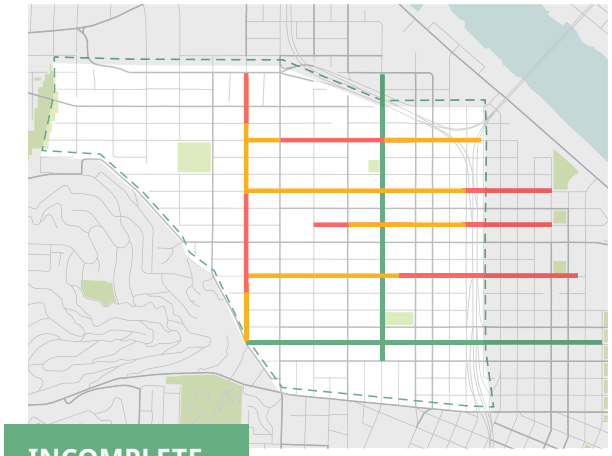
The Northwest District has a high concentration of both households and jobs. These numbers are expected to increase by about 50% over the next 15 years.

A foundational, but deficient active transportation network



CROSSING GAPS IN THE PEDESTRIAN NETWORK

Street segment does not meet PedPDX crossing spacing guidelines (>530ft)

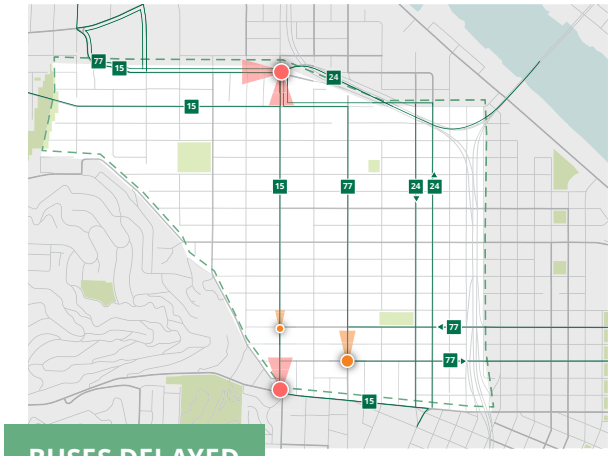


INCOMPLETE & DEFICIENT GREENWAY NETWORK

Very Stressful Biking Conditions

Moderately Stressful Biking Conditions

Low Stress Biking Network



BUSES DELAYED AND STUCK IN TRAFFIC

High Level of Transit Delay

Moderate Level of Transit Delay

The Northwest District has a nearly-complete network of sidewalks, which contributes to the high level of walkability found in the area. However, it can still be difficult to cross busy streets due to a lack of safe and comfortable crossings. While some streets have marked crosswalks every two or three blocks, many have longer distances between marked crossings. As traffic volumes have increased, it can be harder to find gaps, and driver yielding behavior tends to decline as traffic levels increase.

While the Northwest District has several neighborhood greenways, many of them do not meet current guidelines for traffic speeds and volumes. They do not qualify as “all ages and abilities” bikeways, as stressful conditions limit the pool of potential riders. The neighborhood greenways also lack safe and comfortable crossings at busy streets, and are missing many of the common features of a neighborhood greenway like speed bumps, wayfinding signage, and diverters. These deficiencies limit the number of people in the area who are willing to ride a bike, since most people have a low tolerance for feeling unsafe or uncomfortable while riding on city streets.

As traffic congestion has grown over time in the Northwest District, it has had an increasingly negative impact on transit speed and reliability. Buses and streetcars are stuck in traffic, leading to high transit delay. The most severe transit delay is found on the approach to busy intersections, especially when the bus is making a turn. Transit delay can be a strong disincentive for people to ride transit, and riders have to deal with a great deal of uncertainty about when they will reach their destination.

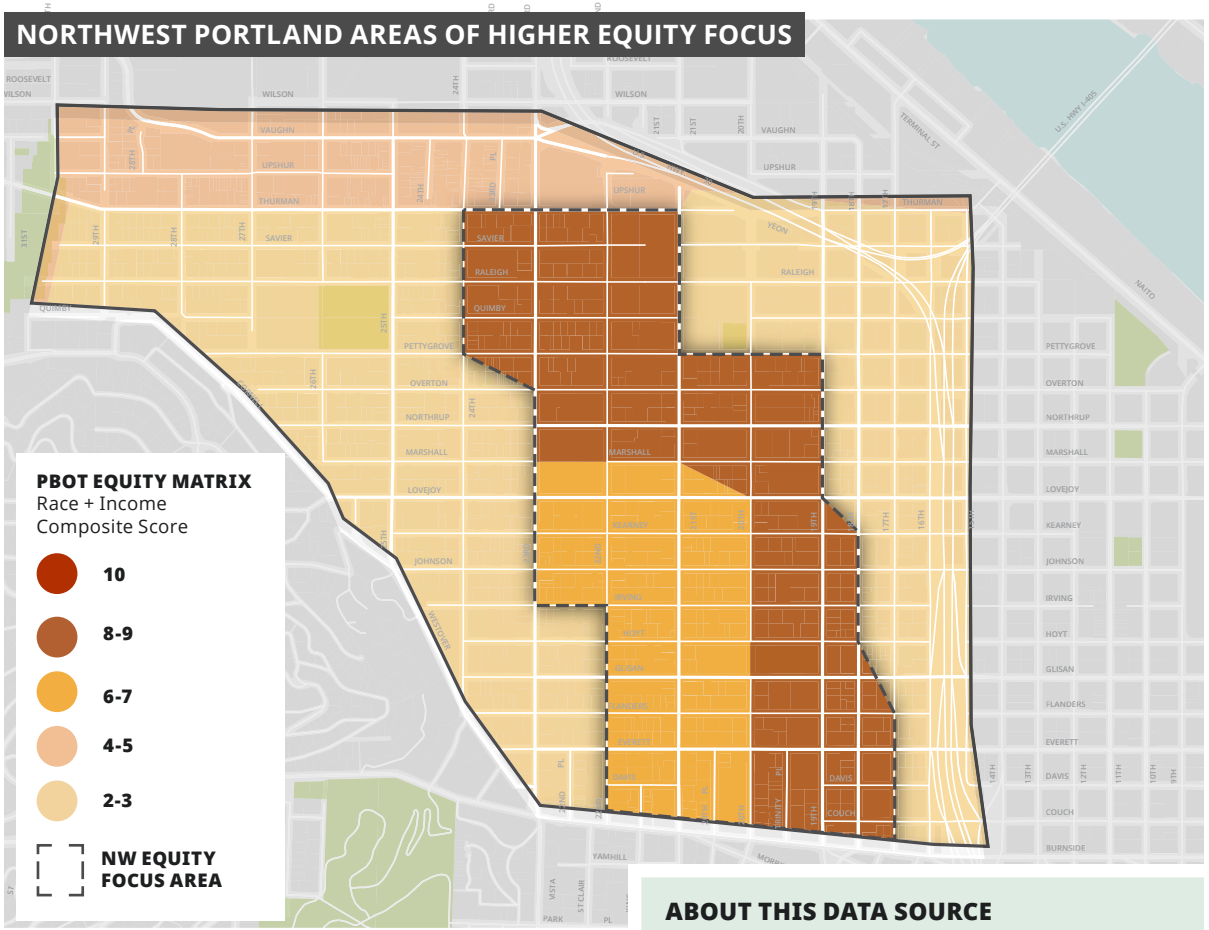
How does this plan support equity?

Portlanders living in the central area of the Northwest District have a distinct demographic profile from their Northwest neighbors living to the east and west. Within this central area, residents are as racially diverse, have lower household incomes, are more likely to be renters, and are less likely to have access to a vehicle as compared to the City of Portland as a whole.

These demographics are in stark relief to the Northwest District overall, which has higher incomes and is less diverse than the City as a whole. The Northwest in Motion planning team identified this central "Equity Focus Area" and conducted further analysis to better understand how the benefits of the plan's recommended projects and programs are distributed within the district.

The Northwest District has a high diversity of income distribution, with higher-income households mainly concentrated east of 18th Ave and west of 23rd Ave, and lower-income households concentrated in the middle of the neighborhood between 18th and 23rd. This area has a high share of renters living in rent-subsidized, affordable housing buildings, as well as historic apartment buildings. These types of buildings offer smaller unit types, such as studios and one-bedrooms, which can be more affordable than the typical single-family homes and duplexes of inner Portland.

NORTHWEST PORTLAND AREAS OF HIGHER EQUITY FOCUS



The central area of the Northwest in Motion study area has a higher share of people of color, lower household incomes, a greater share of renter households, and less car ownership than the city of Portland area a whole.

ABOUT THIS DATA SOURCE

Using key demographic indicators such as race and household income, the PBOT Equity Matrix focuses on breaking points above and below the citywide averages. More points are assigned to a census block that has a higher than citywide average concentration of people of color and/or people below the average for total household income. To learn more about this tool and how it guides PBOT's investments, visit: **www.portlandoregon.gov/transportation/74236**

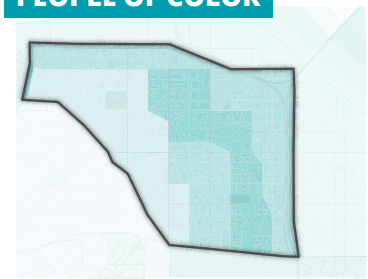
The Northwest District is less racially diverse, with most of the district at or below the citywide average for share of people identifying as a person of color. However, the Equity Focus Area has the highest concentration of people of color in Northwest, and is about the same as the citywide average overall.

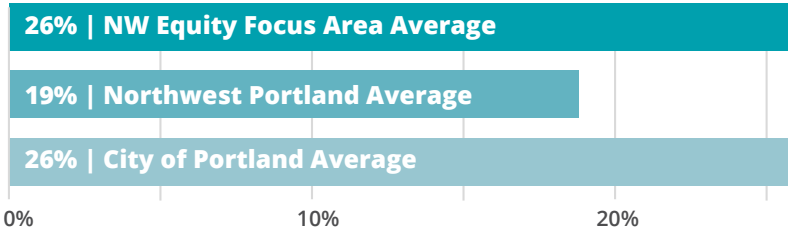
Providing low-cost transportation options such as walking, biking, and transit is especially important in areas of the city with lower incomes. For many households, car ownership is their highest household cost after housing, and for some it is even higher. Reducing or eliminating the need to own a vehicle can provide households with extra financial resources to help mitigate rising costs of housing and other services.

The central areas of Northwest Portland with elevated equity indicators are well served by the Tier 1 Neighborhood Greenway and Corridor Improvement projects recommended in Northwest in Motion.

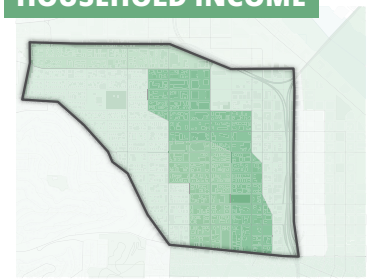
Residents of these areas will have access to the densest network of traffic-calmed neighborhood greenways in the city. Whether on bike or on foot, residents will experience quieter streets and cleaner air with fewer vehicles cutting through the neighborhood. Crossings and transit improvements on busy streets that line the neighborhood will make it easier for residents to safely access transit stops or walk to work in nearby neighborhoods.

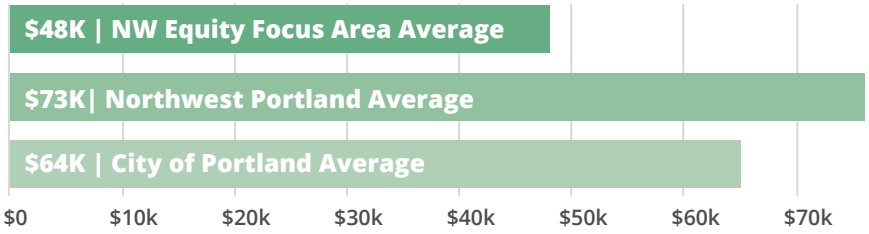
PEOPLE OF COLOR



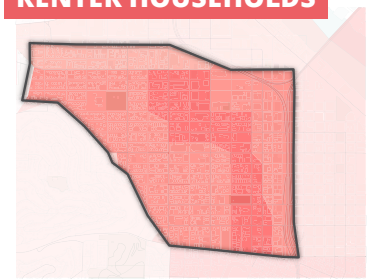


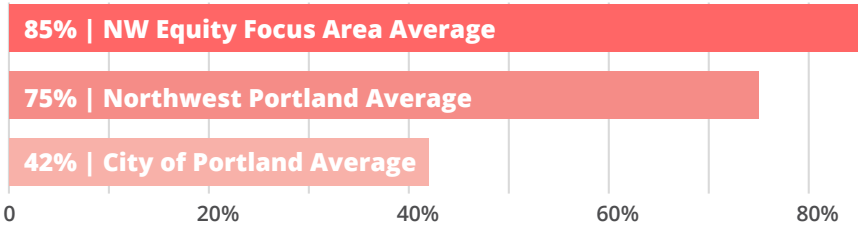
HOUSEHOLD INCOME



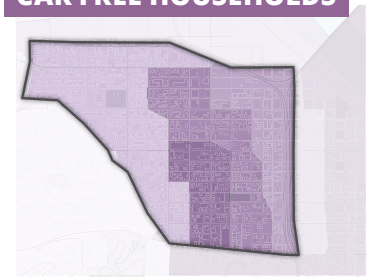


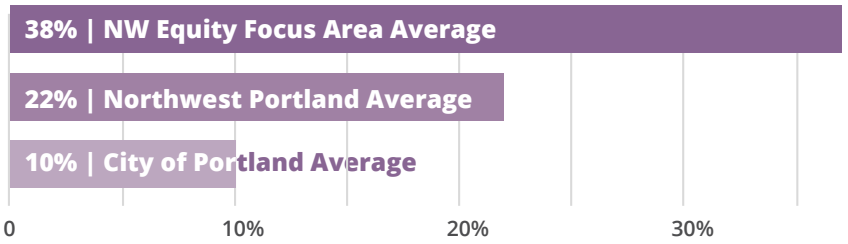
RENTER HOUSEHOLDS





CAR FREE HOUSEHOLDS





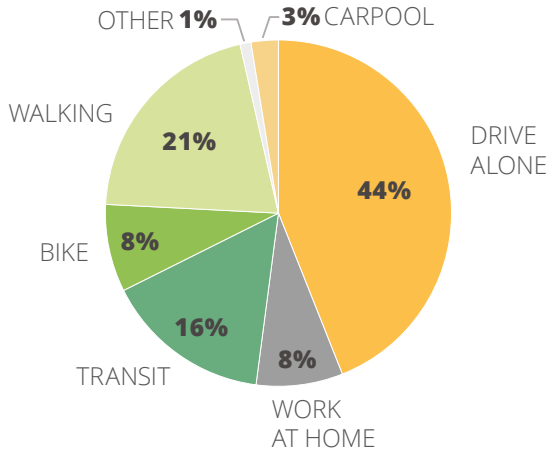
Northwest Portland Today

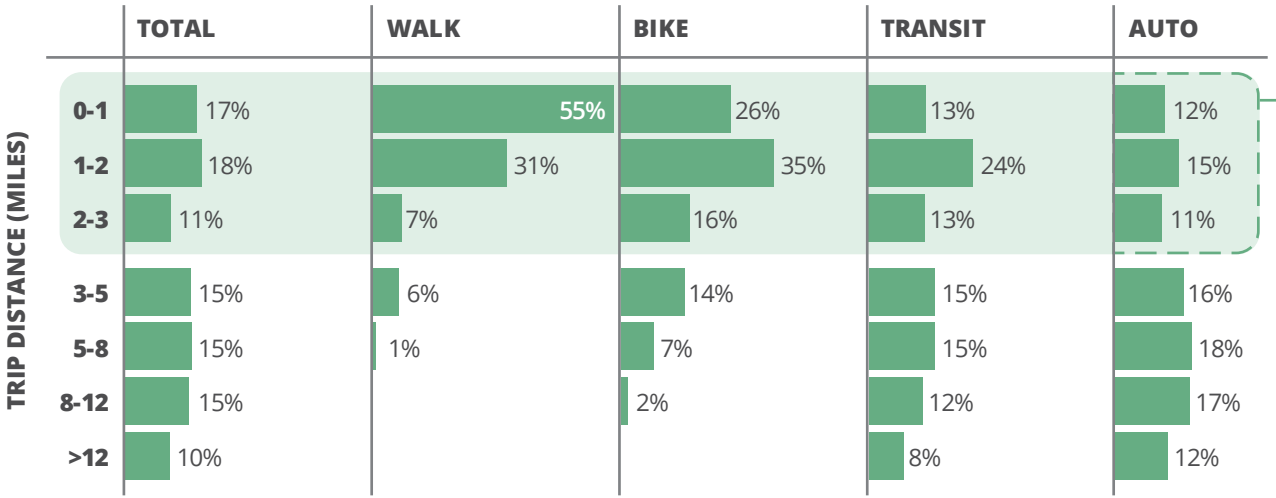
How do people get around?

As expected from a dense, mixed-use district close to downtown, a high share of trips to or from the Northwest District are relatively short (less than 3 miles), and 38% of these shorter trips are by automobile. Trips of 3 miles or less are considered ideal for walking and biking, so improvements to active transportation infrastructure in Northwest is a very promising strategy in shifting those trips to other modes. Public transit is typically used for longer trips elsewhere in the city, but given the proximity of downtown and other close-in neighborhoods, improving transit also should be expected to encourage people to switch away from driving for some trips.

Currently, 44% of commuters in the Northwest District drive alone to work. While lower than the citywide rate, it is higher than expected from such a close-in, dense neighborhood, and is much higher than the citywide goal of 30%. Given the high number of short driving trips in NW, there is a great potential for people to switch to walking, biking, and taking public transit. This will reduce household transportation costs, reduce pressure on limited roadway space and parking supply, and reduce greenhouse gas emissions.

NW PORTLAND TRAVEL BEHAVIOR





38% of auto trips in **Northwest Portland** are **less than 3 miles long.**

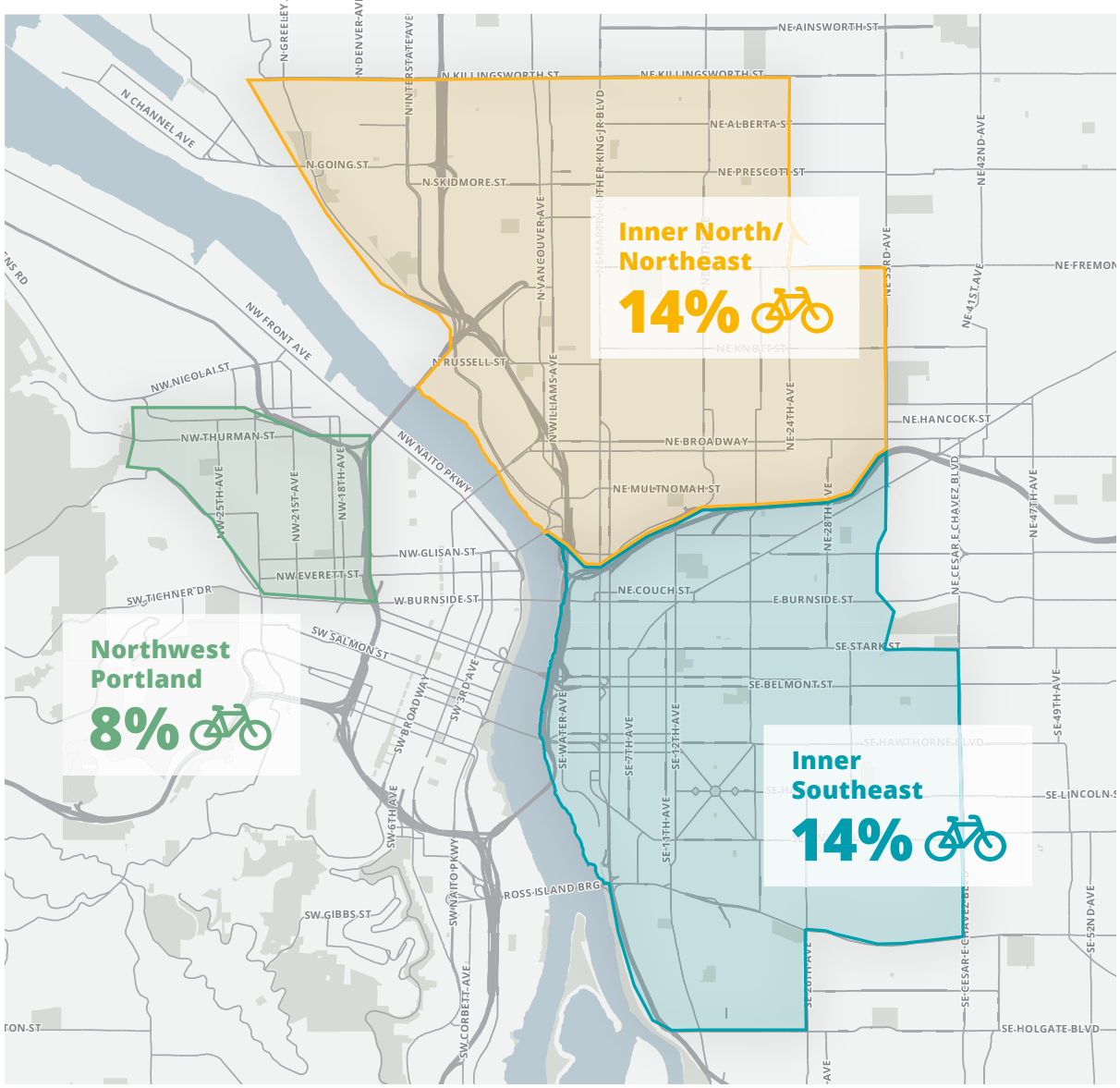
How does bicycling in Northwest compare to other close-in neighborhoods?

To better understand how bicycling in Northwest compares to close-in neighborhoods, the planning team looked at how Portlanders living in Inner Eastside neighborhoods get around. A distance of about 3-miles from Downtown Portland was used because this commute distance is often most efficient by cycling.

Inner North/Northeast and Inner Southeast Portland both share similar characteristics to Northwest in terms of the built environment - having a range of housing types, interspersed with a mix of main streets and commercial districts, and are in close proximity to the Central City.

In these comparison areas, slightly higher than 14% of people bicycle to work - almost twice as high as Northwest Portland. In fact, these districts witness some of the highest bicycle use among any major city in North America.

These high rates of bicycling are largely the result of a strong neighborhood greenway network that connects people to the places they need to get to. In Northwest, today's neighborhood greenway network is overrun with vehicle traffic and does not offer the same low-stress cycling environment that has made bicycling so common in the Inner Eastside.



Northwest Portland Tomorrow

A network of connected, calmed neighborhood streets

Northwest Portland is and will continue to be a place where thousands of people work, live, play and spend time enjoying the dynamic urbanism that makes the neighborhood unique within the city of Portland.

Once fully implemented, the recommended projects and programs included in Northwest in Motion will make the Northwest District one of the most walkable and bike friendly neighborhoods in North America.

A district-wide approach to building a dense neighborhood greenway network means that all residents and businesses will be within close proximity to a low-stress biking option. Improved crossings and sidewalk accessibility will mean that more and more people will be able to enjoy walking through the neighborhood. Rose Lane transit improvements will make transit trips in and out of the neighborhood faster and more reliable. A district-wide 20mph zone will mean that people of all ages and abilities will be able to more safely navigate Northwest's streets. And innovative urban design strategies will create special places throughout the neighborhood and strengthen Northwest's thriving business community.

More transportation choices, with more Northwest residents choosing to get around without a car.

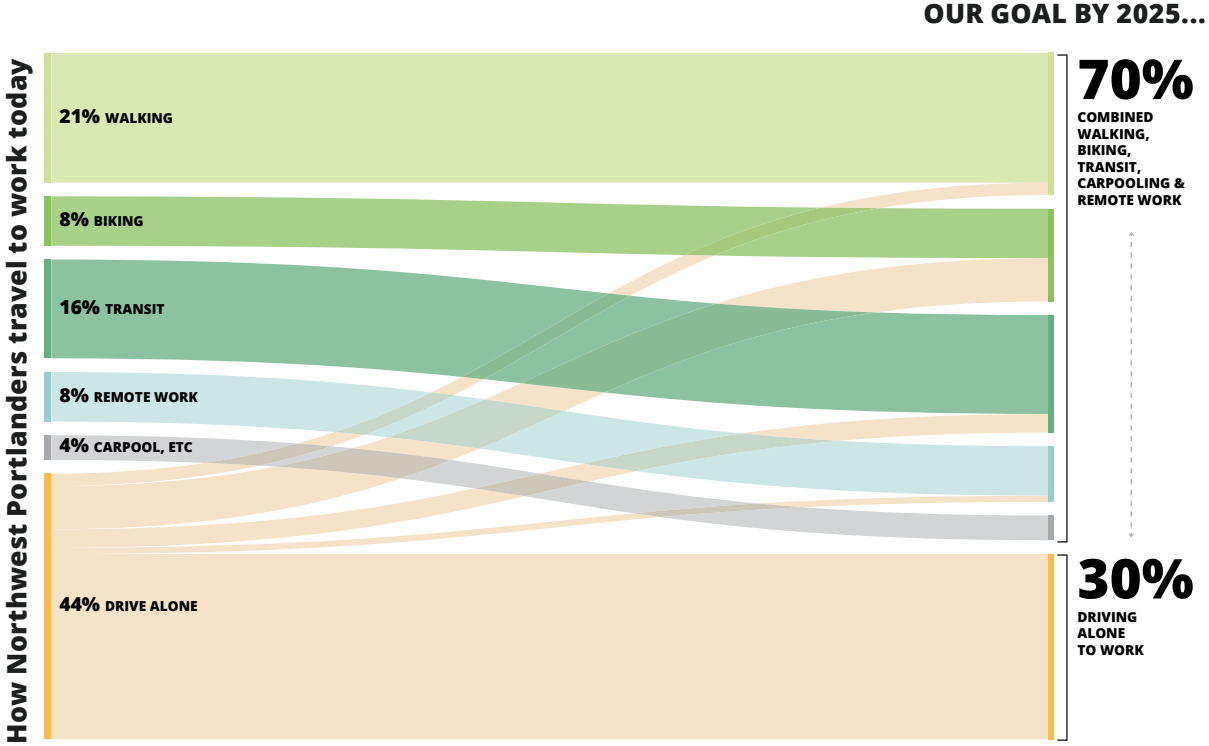
Northwest Portlanders can play a major role in meeting out citywide transportation and sustainability goals. The Transportation System Plan (TSP) sets a goal of reducing the share of trips made by single occupant private vehicles citywide to 30% of all trips by 2035. To make this goal a reality, close-in, transit and infrastructure rich neighborhoods need to lead the way in shifting towards more sustainable and efficient transportation modes.

The projects and programs contained in Northwest in Motion can help get us there by 2025. The investments outlined in this plan to improve walking, biking and transit will give people options for meeting their daily transportation needs without using a vehicle.

Northwest residents already walk more than most Portlanders. This plan makes strategic investments to further strengthen and improve the walking environment.

The share of people biking lags behind other neighborhoods close to the Central City like Inner Southeast and Northeast Portland. By serving Northwest with a fine-grained network of low-stress bikeways, many new riders will find biking a more attractive option.

Transit ridership is lower in Northwest than in nearby westside areas like Downtown or in the Pearl District. Rose Lane investments to improve transit speed and reliability helps make transit an effective and appealing transportation choice.



In short, there is room to increase the share of people getting around without having to depend on a car. As investments are made and the neighborhood continues to grow, Northwest in Motion projects and programs will help make it easier for residents and visitors to choose walking, biking, and transit.

Even with all of these efforts, there is more work to be done to reduce carbon emissions and allow people to get around without depending on driving. Expansion of the *Transportation Wallet* program, continued investments to support active transportation and transit, coordination with major employers and employment areas within the district, and the ongoing commitment of Northwest Portlanders to choose more efficient and sustainable modes of transportation will be required to see these goals come to fruition.

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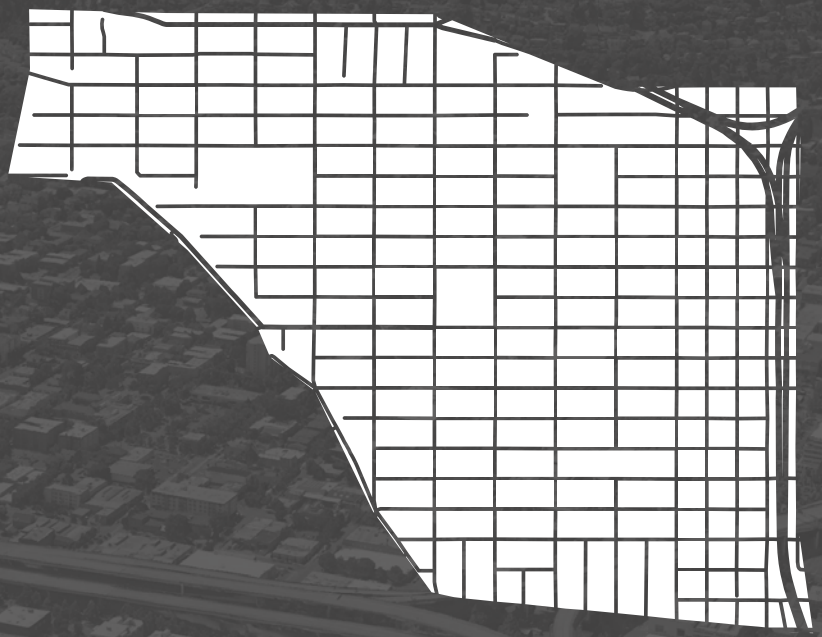


CHAPTER 02

PLAN PROCESS & COMMUNITY ENGAGEMENT

An overview of how this plan was made, including a look at who was consulted along the way and how community input shaped this plan.

Northwest in Motion was shaped by community input and consultation throughout the life of the planning process, through various outreach and engagement methods.

PHASE 1 | Existing Conditions & Needs Analysis
Spring - Summer 2018

How do people who live and work in Northwest Portland were get around? Where do they find it challenging to walk, bike, or connect to transit? By asking these questions, we were able to begin a conversation with the Northwest Portland community about their transportation needs and identify specific locations where people were seeing transportation issues. The stories and experiences we heard helped us better understand our technical and quantitative analysis of the district.

ENGAGEMENT METHODS

2 **Community Advisory Group Meetings**

2 **Meetings with Northwest and Pearl District Neighborhood Associations**

1 **Online Open House:**
- **June 6th to August 10th, 2018:** to gather feedback on transportation needs

96 people participated

150 unique comments

2 ***Step*-tember walking tours**

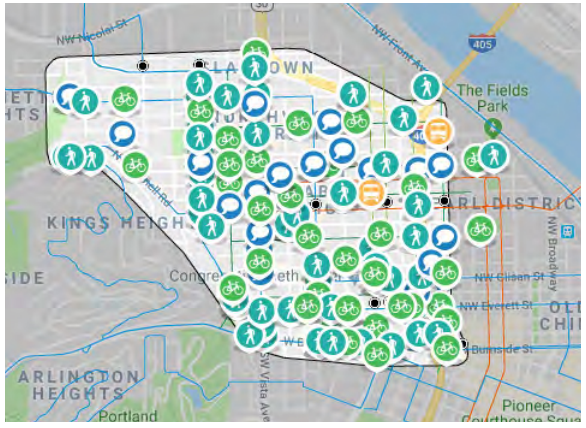
3 **Community Bike Rides**
- **2 Pedalpalooza** bike rides
- **1 Green Loop** Sunday Parkways bike ride

KEY TAKEAWAYS FROM THIS PHASE

Some key themes we heard from this phase of outreach included:

- Concerns about motor vehicle speeds making streets unsafe and uncomfortable for walking and biking
- Concerns about high volumes of motor vehicles on designated neighborhood greenways
- Desire for improved visibility at pedestrian and bicycle crossings
- Desire for improvements to existing sidewalks that were damaged or too narrow
- Concerns about the traffic circles on 25th Ave, specifically that they limit visibility of pedestrians
- Concerns about conflicts between modes and traffic congestion on NW Everett St
- Difficulties making connections across I-405 and Burnside to reach Pearl District and Goose Hollow
- Desire for more space for all transportation modes along NW 23rd Ave
- Concerns about pavement conditions on many roads, especially on neighborhood greenways

Northwest District Pedalpalooza Bike Ride, Summer 2018



Online interactive map helping identify community supported ideas for transportation improvements.

PHASE 2 | Project Identification & Prioritization
Fall 2018 - Winter 2019

In this phase of public outreach, we presented lists and high-level maps of potential projects that would address many of the needs previously identified and asked for feedback on these projects in terms of whether they were meeting the needs and which projects should be the highest priorities. We also collected feedback on proposed changes to street classifications to support the plan from a policy perspective.

ENGAGEMENT METHODS

2 Community Advisory Group Meetings

1 Focus Group #1: Fall '18 Home Forward Affordable Housing Focus Group

1 Neighborhood Association Workshop (focus on NW Overton with Pearl District stakeholders)

1 Open House
- **NOV 2018:** Open House focused on projects and classifications

1 Online Open House
- **NOV-DEC 2018:** Online Open House

502 People visited

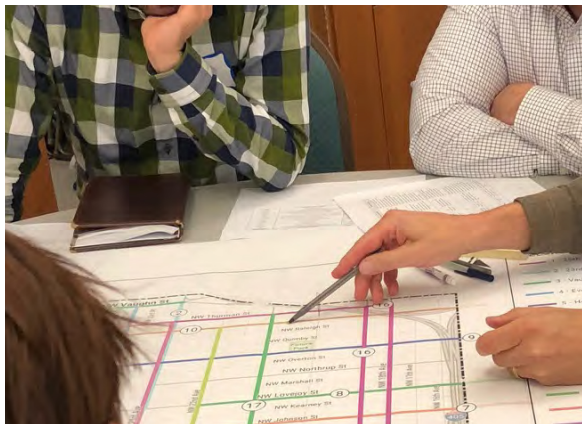
57 people answered at least 1 question

KEY TAKEAWAYS FROM THIS PHASE

Some key themes we heard from this phase of outreach included:

- Prioritize projects serving the core of the neighborhood, benefiting the most people overall and the highest-equity areas, rather than the far west side of the neighborhood
- Prioritize the busiest traffic streets for pedestrian improvements, neighborhood greenways for bicycle improvements, and major transit lines for transit improvements
- Make sure to improve neighborhood greenways in the Pearl District as well, otherwise they will not function well in the Northwest District
- Especially high support for Line 15 and Line 77 transit improvements, Pettygrove Neighborhood Greenway, and 23rd Ave Corridor Improvements
- Concerns about the long-term implications of changing the classifications of some streets from Local Service to Neighborhood Collector

Fall 2018 open house at Chown Hardware in Northwest Portland.



Community Advisory Group members discuss proposed classifications and projects.

PHASE 3 | Project Development & Refinement
Spring - Summer 2019

With projects identified and prioritized, the next phase of public outreach centered on sharing more detailed ideas for the Tier 1 projects and gathering feedback on those concepts. Our key questions to the public were whether we were on the right track with each project concept, and what should we be thinking about as we develop them further? These open-ended questions yielded a very high number of responses and generated new ideas to help us refine the concepts.

ENGAGEMENT METHODS

2 **Community Advisory Group Meetings**

1 **Focus Group #1:** Summer '19 Home Forward Affordable Housing Focus Group

5 **Tabling Events**
- **"Office Hours"** with Area Businesses
  29 participants left comments

1 **Online Open House**
- **June 2019:** Online Open House
  1255 unique visitors

2 **Pedalpalooza Bike Rides** 984 comments

12 **Interactive Sidewalk Decals**
109 comments from decals

KEY TAKEAWAYS FROM THIS PHASE

Some key themes we heard from this phase of outreach included:

- Overall high support for project concepts, with strong majority of comments in support from online open house, and similar response from in-person outreach events
- Desire for more traffic calming overall, especially busy streets and neighborhood greenways
- Concern about lack of emphasis on street lighting in the concepts, especially pedestrian-scaled lighting at crosswalks
- Excitement about full or partial street closure concepts, both for traffic calming and place-making, but also some concerns from others about traffic impacts and space activation
- Desire for improved visibility at intersections through parking removal
- Support for transit speed and reliability improvements in addition to stop upgrades and accessibility improvements
- Some comments felt the plan needed additional diverters on the neighborhood greenways, while others felt the proposals in the plan would have major traffic impacts

Summer 2019 Pedalpalooza Bike Ride hosted by Northwest in Motion project team.

Interactive sidewalk decals to gain public input on proposed project elements.

PHASE 4 | Implementation Strategy & Draft Plan Review
Fall 2019 - Spring 2020

In this phase we presented a public review draft of the full plan, including chapters on projects, programs, policy changes, benefits and impacts, and implementation strategy.

Our key questions in this phase were whether people felt this plan achieved the project goals and asked for specific changes we should make before sending the plan to City Council for adoption.

ENGAGEMENT METHODS

1 Community Advisory Group Meetings

1 Open House
- **November 14, 2019:** Open House to get feedback on Public Review Draft

+120 open house attendees

1 Online Open House
- **Nov 2019 to Jan 2020:** Online Open House to get feedback on Public Review Draft

+130 unique comments

1 Community Bike Ride

KEY TAKEAWAYS FROM THIS PHASE

Some key themes we heard from this phase of outreach included:

- A large majority (80%) of people surveyed were supportive of the plan's recommendations
- Strong support for district-wide traffic calming, improved crossings, and the proposed neighborhood greenway network
- Concerns that the plan needed stronger targets for reducing traffic volumes and speeds on the neighborhood greenway network
- Concerns that the proposed implementation timeline and process would delay and compromise the goals of the proposed neighborhood greenway network
- Strong opposition to a proposed full street closure and pedestrian plaza at NW Westover and NW 23rd Ave

Final Community Advisory Group meeting attendees and PBOT project team in Fall 2019.

Attendees browse project boards and share feedback with PBOT staff at the final Northwest in Motion Open House.

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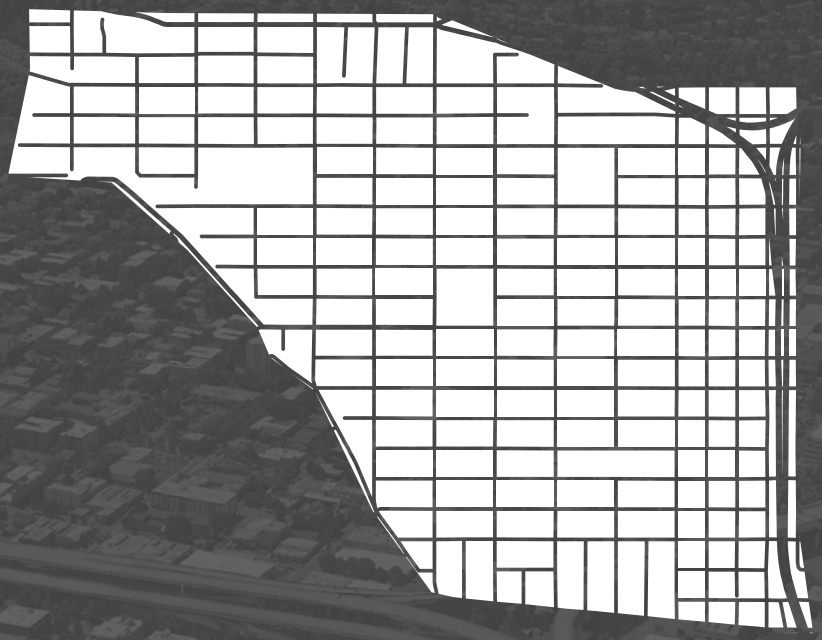


CHAPTER 03

PROJECT RECOMMENDATIONS

During the *Northwest in Motion* planning process, projects were identified and then prioritized using a set of evaluation criteria to divide them into Tier 1 and Tier 2 projects.

Tier 1 projects are considered the highest priorities for funding and implementation in the next five years, and are the projects that have been developed to a higher level of readiness through the Northwest in Motion Plan.

Tier 2 projects are still recognized as needs, but are lower priorities and will not be actively developed or targeted for funding in the next five years unless there is a significant financial leverage opportunity. These projects are identified at the end of this chapter.

Northwest in Motion Projects are divided into two project types:

NG **Neighborhood Greenways**

Low-stress neighborhood streets that are great places to walk, bike, roll, play, and just be.

CI **Corridor Improvements**

Safer crossings, bikeway, transit and streetscape improvements on Northwest's busiest streets.

SMALL CHANGES, BIG IMPACTS

Northwest in Motion takes an approach of maximizing impact with limited resources. The guiding principles below helped to share our project development strategy:

Lower Cost Interventions
Emphasize the use of small, low-cost improvements that have high benefits relative to the cost, rather than more expensive projects.

Strategic Investments
Targeted, strategic improvements rather than broad-brush changes, which saves resources for where they are most needed.

Interim Phasing
Initial implementation using temporary materials to inform final design and make sure long-term investments are in the right locations.

TIER 1 PROJECTS

Neighborhood Greenways

NG.1 NW Johnson St
Retrofit & improve existing neighborhood greenway to create a low-stress biking and walking connection from NW 24th Ave to NW 9th Ave.

NG.2 NW Marshall St
Retrofit, improve and extend existing neighborhood greenway to create a low-stress biking and walking connection from NW 20th Ave to NW 9th Ave.

NG.3 NW Pettygrove / NW Overton St
Design and build a new low-stress biking and walking connection along NW Pettygrove St between Northwest and the Pearl. Add a bikeway connection to NW Naito Pkwy via 11th Ave, Overton St, and 9th Ave.

NG.4 NW Savier St
Design and build a new low-stress biking and walking connection along NW Savier St with connections north to industrial employment areas.

NG.5 NW 24th Ave
Retrofit, improve and extend existing neighborhood greenway to create a low-stress biking and walking connection from NW Vaughn St to the NW Flanders Neighborhood Greenway

Corridor Improvements

CI.1 NW 25th Ave / Westover Rd
Calm traffic along NW 25th Ave and NW Westover Rd by adding traffic slowing devices and enhanced pedestrian/bicycle crossings.

CI.2 NW 23rd Ave
Enhance the Main Street environment through the use of street lighting, curb-extensions, street seats and other urban design tools. Reduce transit delay at NW 23rd Ave and W Burnside St. Prepare the northern segment of NW 23rd Ave for a major future investment.

CI.3 NW 18th / 19th Ave
Provide improved crossings, transit islands, and reduced bike/bus conflicts on NW 18th/19th to serve the Line 24 extension.

CI.4 NW Everett / Glisan St
Improve safety along the NW Everett/Glisan couplet by adding crossing improvements and reducing traffic speeds. Improve bus stop accessibility and reduce transit delay on the Line 77 from Northwest District to the Pearl District and Old Town / Chinatown.

CI.5 NW Vaughn St
Improve safety along NW Vaughn St and NW Wardway by adding improved crossings, bikeway enhancements, and transit priority treatments.

TIER 2 PROJECTS (see pages 62-63 for descriptions)

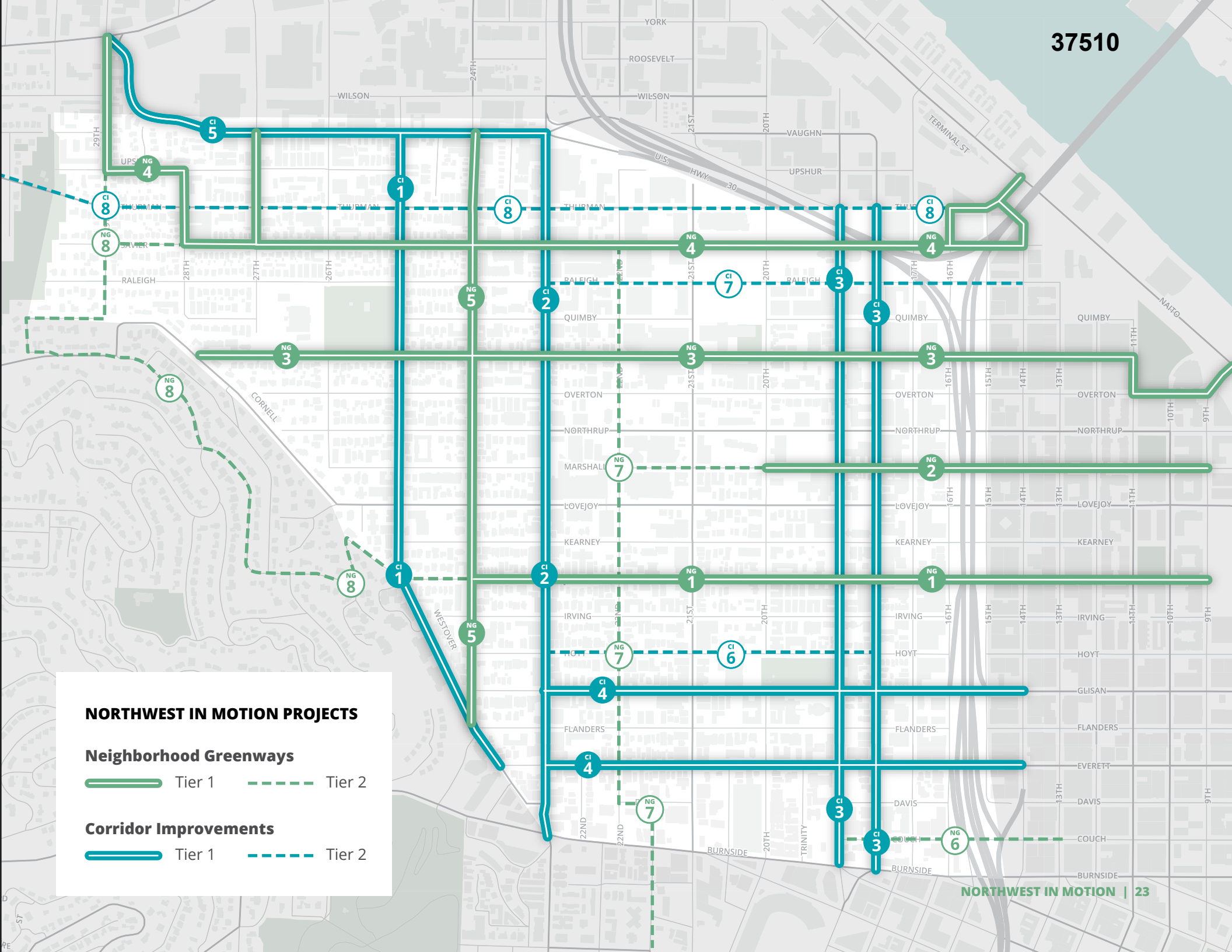
NG.6 NW Couch St
NG.7 NW 22nd Ave / Marshall Extension
NG.8 NW Westover Rd / Macleay Park Circulation

SPOT IMPROVEMENTS

NW Flanders Neighborhood Greenway
NW 20th Ave Neighborhood Greenway

CI.6 NW Hoyt St
CI.7 NW Raleigh St
CI.8 NW Thurman St

A complete list of Transportation System Plan project amendments can be found in the Northwest in Motion Technical Appendix.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NORTHWEST IN MOTION PROJECTS
Neighborhood Greenways
Tier 1
Tier 2
Corridor Improvements
Tier 1
Tier 2
YORK
ROOSEVELT
WILSON
VAUGHN
UPSHUR
TERMINAL ST
U.S. HWY. 30
THURMAN
RALEIGH
QUIMBY
OVERTON
NORTHRUP
MARSHALL
LOVEJOY
KEARNEY
IRVING
HOYT
FLANDERS
GLISAN
EVERETT
DAVIS
COUCH
BURNSIDE
CORNELL
WESTOVER
NAITO
29TH
28TH
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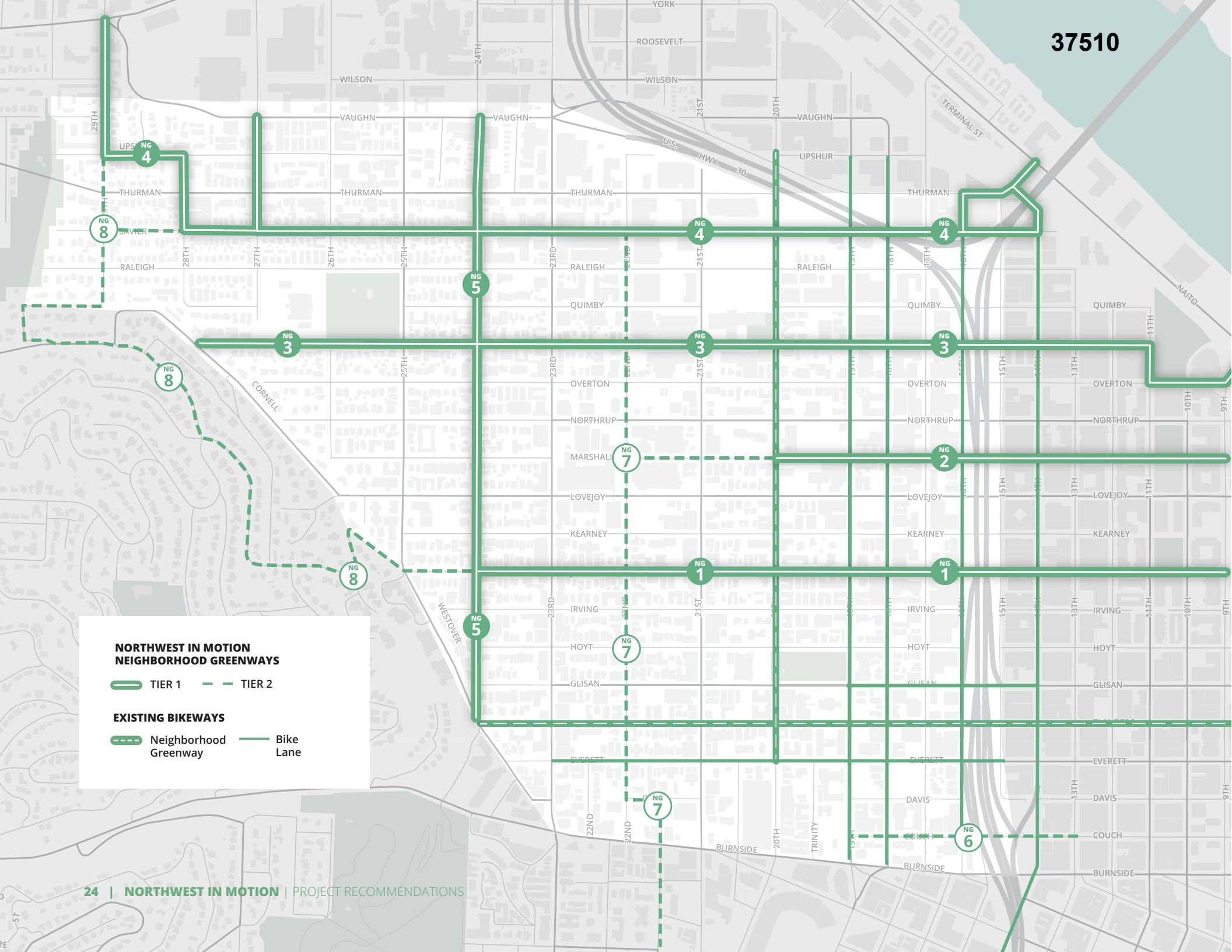
10TH
9TH
TRINITY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NORTHWEST IN MOTION
NEIGHBORHOOD GREENWAYS
TIER 1
TIER 2
EXISTING BIKEWAYS
Neighborhood Greenway
Bike Lane
YORK
ROOSEVELT
WILSON
VAUGHN
UPSHUR
THURMAN
RALEIGH
QUIMBY
OVERTON
NORTHRUP
MARSHALL
LOVEJOY
KEARNEY
IRVING
HOYT
GLISAN
EVERETT
DAVIS
COUCH
BURNSIDE
U.S. HWY. 30
TERMINAL ST
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13TH
11TH
10TH
9TH
TRINITY

TIER 1 PROJECTS DETAIL

Neighborhood Greenways

Northwest in Motion's Tier 1 Neighborhood Greenways expand and upgrade existing neighborhood greenways to create a district-wide low-stress walking and biking network. Once fully implemented, these projects will have a transformational effect on Northwest Portland by allowing people of all ages and abilities access to safe and comfortable routes around the neighborhood.

Northwest in Motion will build the most dense bikeway network in the City of Portland. In addition to the Tier 1 Neighborhood Greenway Network, this plan also recommends additional upgrades and spot improvements to the recently completed NW 20th Ave Neighborhood Greenway and funded NW Flanders Neighborhood Greenways.

Combined with the existing low stress biking network, these **recommended Tier 1 Neighborhood Greenways will make it so nearly all residences and destinations will be within 500ft of a low-stress bikeway.** Once Tier 2 projects are implemented, every home and destination in the Northwest and Pearl Districts will be connected in a fine grained network of neighborhood greenways.

WHAT ARE NEIGHBORHOOD GREENWAYS?

Neighborhood greenways are calm streets designed to create a safe and comfortable biking and walking experience. They allow people of all ages and abilities to use low-volume, low-speed neighborhood streets rather than busy arterials.

Neighborhood greenways typically feature a shared street environment rather than separated bike lanes, and use elements such as speed bumps, traffic diverters, enhanced crossings, and wayfinding to ensure that the street is clearly prioritized for people walking and biking while preserving local motor vehicle access. Neighborhood greenways are also great walking routes, providing an alternative to walking along traffic-heavy streets.

KEY DESIGN ELEMENTS

Neighborhood greenways are intentionally designed to be low-stress streets that are great places for walking, biking, and rolling.

Slow Speeds
Traffic calming tools including speed bumps, curb extensions, and median islands to help keep vehicles moving at slow and safer speeds.

Low Vehicle Volumes
Some streets require traffic pattern changes to discourage cut-through traffic and keep traffic volumes low. These changes can be achieved through physical barriers (diverters) or through signage.

Safer Crossings
When a neighborhood greenway reaches a busy street, crossing treatments such as median islands, curb extensions, and high-visibility crosswalks make it safer and easier to cross.

Placemaking and Wayfinding
Neighborhood greenways often connect key neighborhood destinations like parks and schools. Project designs look for opportunities to create new and great places in Northwest Portland.

Why Neighborhood Greenways in Northwest Portland?

Neighborhood greenways are the City of Portland's quietest, calmest, and most welcoming local streets. With interventions to keep vehicle speeds and volumes low, these streets are ideal, low-stress routes to get around by walking or cycling.

Northwest Portland has a long tradition of advocating for calm local streets throughout the district. But as both the district and the City continues to grow and develop, vehicle traffic has increased in equal measure - turning quiet streets into busy streets that are difficult to cross and unwelcoming to most cyclists.

Northwest in Motion presents an opportunity to step back and reconsider PBOT's approach to creating a comprehensive bikeway network in the district. Today, Northwest has a network of streets that are designated as neighborhood greenways. But none of these streets have the adequate traffic calming or low traffic volumes needed to make the streets accessible to riders of all ages and abilities.

A central goal of planning for cycling in Northwest was to create a network that was useful, complete, and accessible to new, inexperienced and non-traditional riders. We also wanted to create a network that strengthened district-wide goals and priorities around calm local streets and great places to walk, congregate, and socialize.

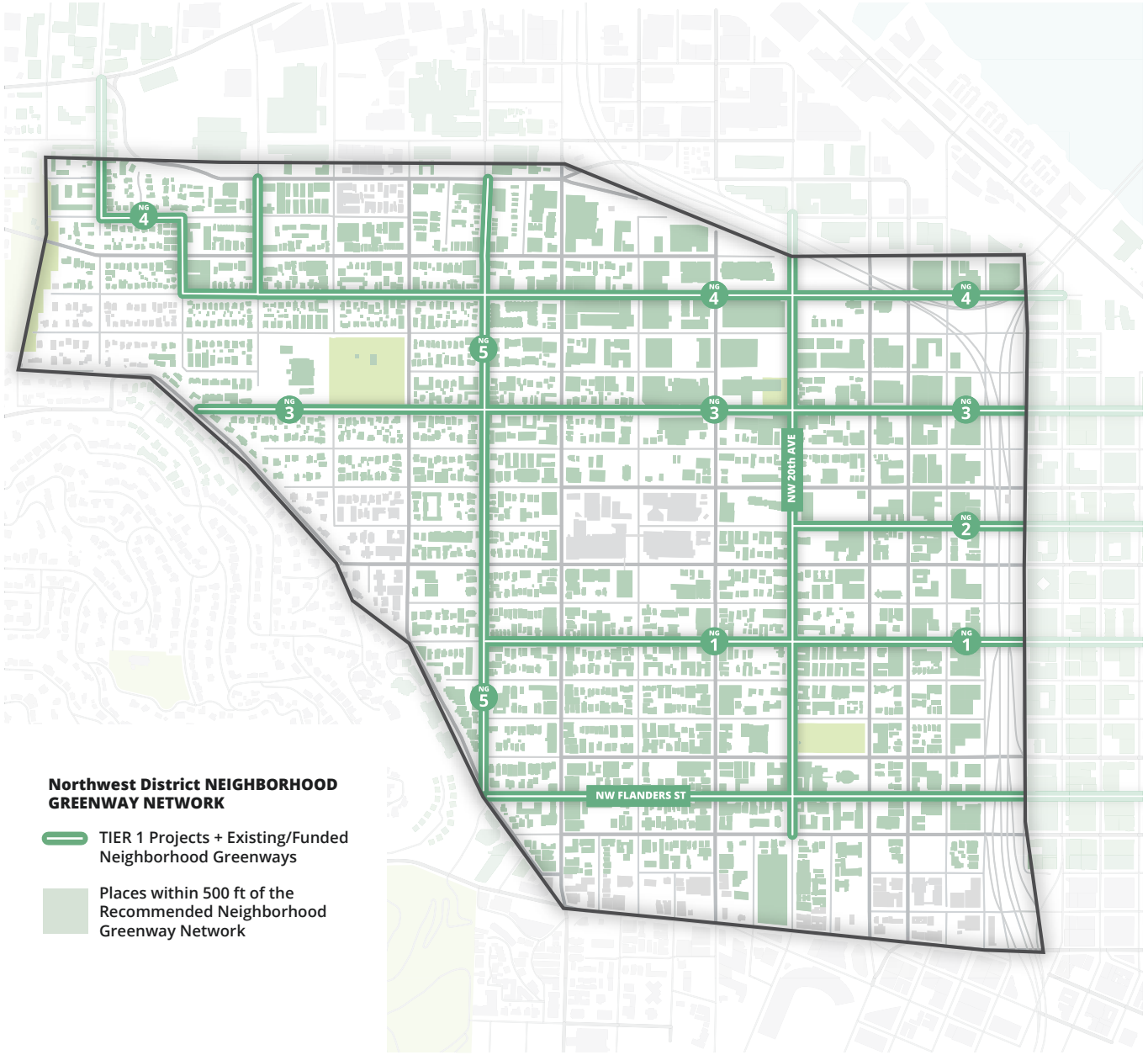
A dense network of neighborhood greenways serves multiple goals for the district. The recommended network helps keep regional flows of traffic off Northwest Portland's local streets and helps maintain flexible use of the area next to the curb for curb extensions, deliveries, regulated on-street parking, and other uses.

This direction led us to develop an ambitious and comprehensive district-wide neighborhood greenways strategy for Northwest Portland. This approach allows us to provide a low-stress cycling experience and at the same time address issues of regional cut-through vehicle traffic.

Northwest in Motion recommended neighborhood greenways rely primarily on tools like speed bumps and occasional traffic diverters to keep street volumes low and speeds slow. The most common traffic diverter recommended in this plan is a one-way street with a contra-flow bike lane for a single block (pictured above).

A low-stress cycling connection to every home and destination in Northwest

A bike network is most useful when it allows you the freedom to access all the places you need to go. Once fully implemented, the recommended neighborhood greenway network will allow people to access nearly every destination in Northwest Portland on foot or with a bike. The network of low-stress biking routes will be one of the densest in the City of Portland, with most places within 500ft of a neighborhood greenway. When the Tier 2 projects are completed, every single building in Northwest will be within 500 feet of a low-stress bikeway.

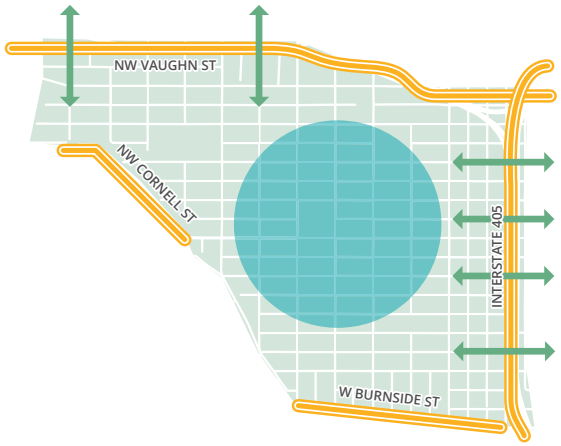


A District-Wide Strategy for Neighborhood Greenways

Northwest in Motion recommends a context-sensitive, phased approach to neighborhood greenway implementation in Northwest Portland.

Neighborhood greenways use a variety of design tools to achieve a low-stress environment for walking and biking. Traffic calming tools can be used to reduce speeding and keep speeds at or below 20mph, through the use of speed bumps. When a street becomes too busy with vehicle traffic it is necessary to strategically change traffic patterns to limit vehicle volumes. **PBOT's guidelines recommend that neighborhood greenways are designed to carry less than 1,000 vehicles per day, with no more than 50 vehicles per hour in the peak direction.**

Northwest in Motion recommends a phased implementation approach including a defined traffic and impacts monitoring period. This incremental approach allows for accountability by assessing whether the project meets its intended targets for speeds and traffic volume. If during the monitoring period, the project is shown to not be meeting established guidelines, additional traffic calming and traffic pattern changes would be recommended. However, if the project is successful in sufficiently addressing vehicles speeds and volumes, no further changes would be recommended. This approach allows PBOT to minimize impacts to neighborhood circulation without compromising the neighborhood greenway network.



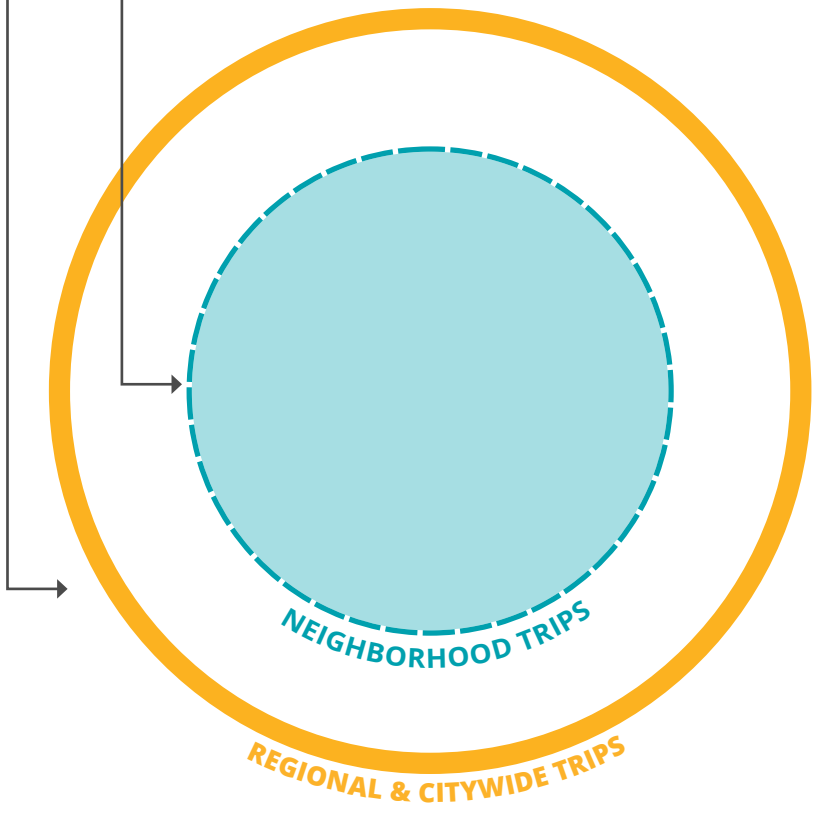
Northwest is a dense, mixed use district of small streets bounded by busy regional corridors. These boundaries serve as 'edges' that define the scale, character, and urban form of the interior neighborhood streets. The *Northwest in Motion Neighborhood Greenways Strategy* considers these natural edges and utilizes a consistent, district-wide approach to building out a network of low-stress walking and biking streets.

These connections provide comfortable options for traveling within the neighborhood without using a car. Crossing improvements at the edges provide safe points of access when traveling to other neighborhoods.

This approach seeks to 'reinforce existing edges' by focusing interventions at the periphery of the neighborhood. The intention is to discourage cut-through traffic and direct longer trips onto busier streets that are designed to handle larger volumes of vehicles. This will be the first step before considering internal circulation changes to the neighborhood.

#1 Reinforce existing edges.
I-405, W Burnside St, NW Vaughn St, and NW Cornell Rd define the edges of Northwest. These natural edges can be strengthened to redirect through traffic to collectors, traffic calm the neighborhood as a whole, and support the neighborhood greenway network.

#2 Strategically consider additional traffic pattern changes.
If the initial diverters are insufficient in reducing long-distance trips on local streets, it will be necessary to implement additional traffic diverters to direct these vehicle trips away from the neighborhood greenway network.



Implementation Strategy

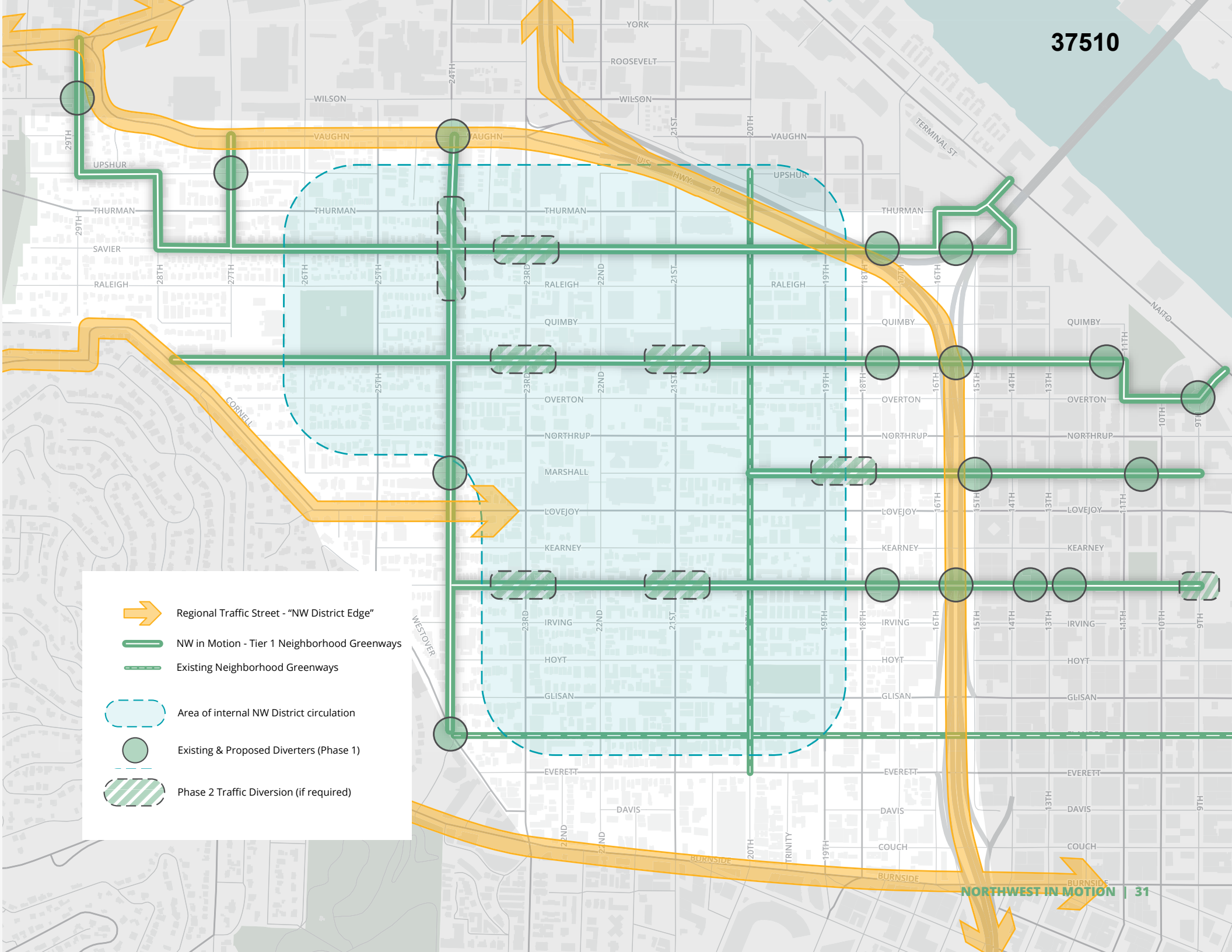
PHASE 1 STRATEGY:

To reduce traffic volumes on existing and proposed neighborhood greenways in the project area, and meet established guidelines, interim diverters will be used around the edges of the neighborhood. PBOT will monitor the changes in traffic volumes on the neighborhood greenway network approximately one year later, to give adequate time for traffic patterns to adjust. Additional monitoring will also be conducted on other local streets as well as the district's busier collector streets to better understand how traffic patterns are adapting to the new traffic diverters. After a period of district-wide traffic monitoring is completed, PBOT will consider modifications, adjustments, or changes to address unintended negative safety or operational issues.

The data gathered from this monitoring period will inform whether additional traffic diverters are needed to support the neighborhood greenway network. If traffic volumes on the greenway network have fallen to acceptable levels, and no other major outstanding issues are present, the temporary diverters will be replaced with permanent diverters and no additional diverters will be added. However, if traffic volumes remain at levels too high for the network to serve people of all ages of abilities (greater than 1000 daily vehicles or 50 vehicles per hour in the peak direction) or if the diverter locations have resulted in unacceptable impacts on other streets, PBOT will reassess the locations and number of diverters and will develop and implement new diversion plans to support the district's neighborhood greenways.

PHASE 2 STRATEGY:

If Phase 1 implementation is unsuccessful in achieving acceptable traffic volumes on the proposed neighborhood greenways, PBOT will design and implement a Phase 2 diversion strategy to reduce vehicle trips within the neighborhood. Areas where additional diversion could be added are specified with individual recommended neighborhood greenways projects. As with the Phase 1 diverters, these interventions would begin using interim materials to ensure they function properly and do not pose negative unintended impacts. Adjacent residents and business will be informed of traffic pattern changes and outreach will allow the opportunity for feedback on these circulation changes. While the locations of Phase 2 diverters are identified for each recommended neighborhood greenway, the exact type of traffic diverter to be installed will be decided at the time of installation, following an updated traffic count and the guidance of a city traffic engineer.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Regional Traffic Street - "NW District Edge"
NW in Motion - Tier 1 Neighborhood Greenways
Existing Neighborhood Greenways
Area of internal NW District circulation
Existing & Proposed Diverters (Phase 1)
Phase 2 Traffic Diversion (if required)
YORK
ROOSEVELT
WILSON
VAUGHN
UPSHUR
THURMAN
SAVIER
RALEIGH
QUIMBY
OVERTON
NORTHRUP
MARSHALL
LOVEJOY
KEARNEY
IRVING
HOYT
GLISAN
EVERETT
DAVIS
COUCH
BURNSIDE
TERMINAL ST
CORNELL
WESTOVER
NAITO
TRINITY
U.S. HWY. 30

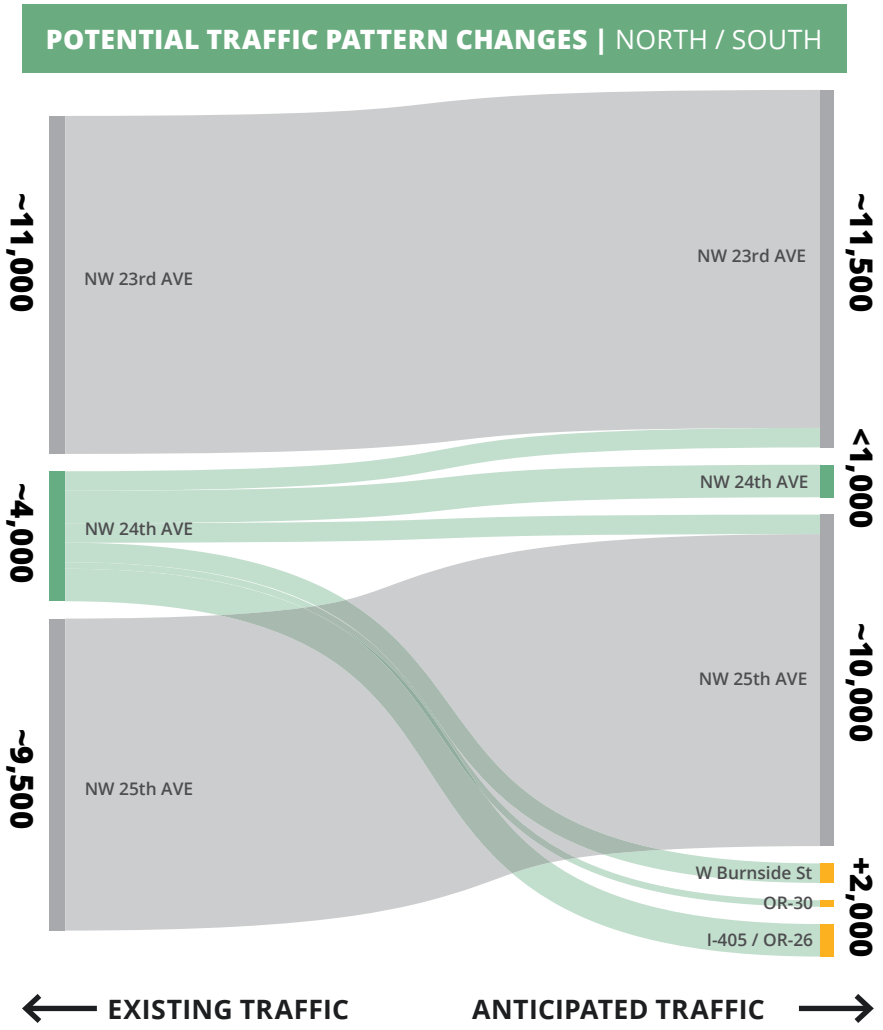
Moving regional traffic off Northwest's local streets

NW 24th Ave Discussion:

Today, a high amount of traffic during commute hours cuts through the Northwest District to reach the west side of the region. This cut through traffic is a result of other congested regional routes over the West Hills, namely OR 26, OR 30, and W Burnside St. Regional traffic tends to cut through Northwest District, first filling up NW 23rd and NW 25th Avenues. Since those streets already fill up during rush hour with Northwest District traffic, regional traffic begins using NW 24th Ave as well. This regional cut through traffic contributes to NW 24th Ave carrying high traffic volumes.

Northwest in Motion proposes to retrofit the existing neighborhood greenway on NW 24th Ave to meet current city guidelines of less than 1,000 vehicles a day. In an effort to create a low-stress street for people to walk and bike, the NW 24th Ave project would include multiple diverters to keep through traffic off the street. The diagram to the left illustrates our best assumption of where this diverted traffic would reroute to. While we expect some trips may switch to NW 23rd Ave and NW 25th Ave, because they are already congested, much of the traffic would likely travel by different routes (i.e., stay on the regional highway system), travel at different times (off-peak instead of peak), switch modes (transit or bike), or simply not take the trip at all.

Extensive monitoring on other surface streets in Northwest Portland will be conducted throughout the Northwest in Motion implementation period to verify these assumptions, and make adjustments as needed to mitigate unforeseen impacts.



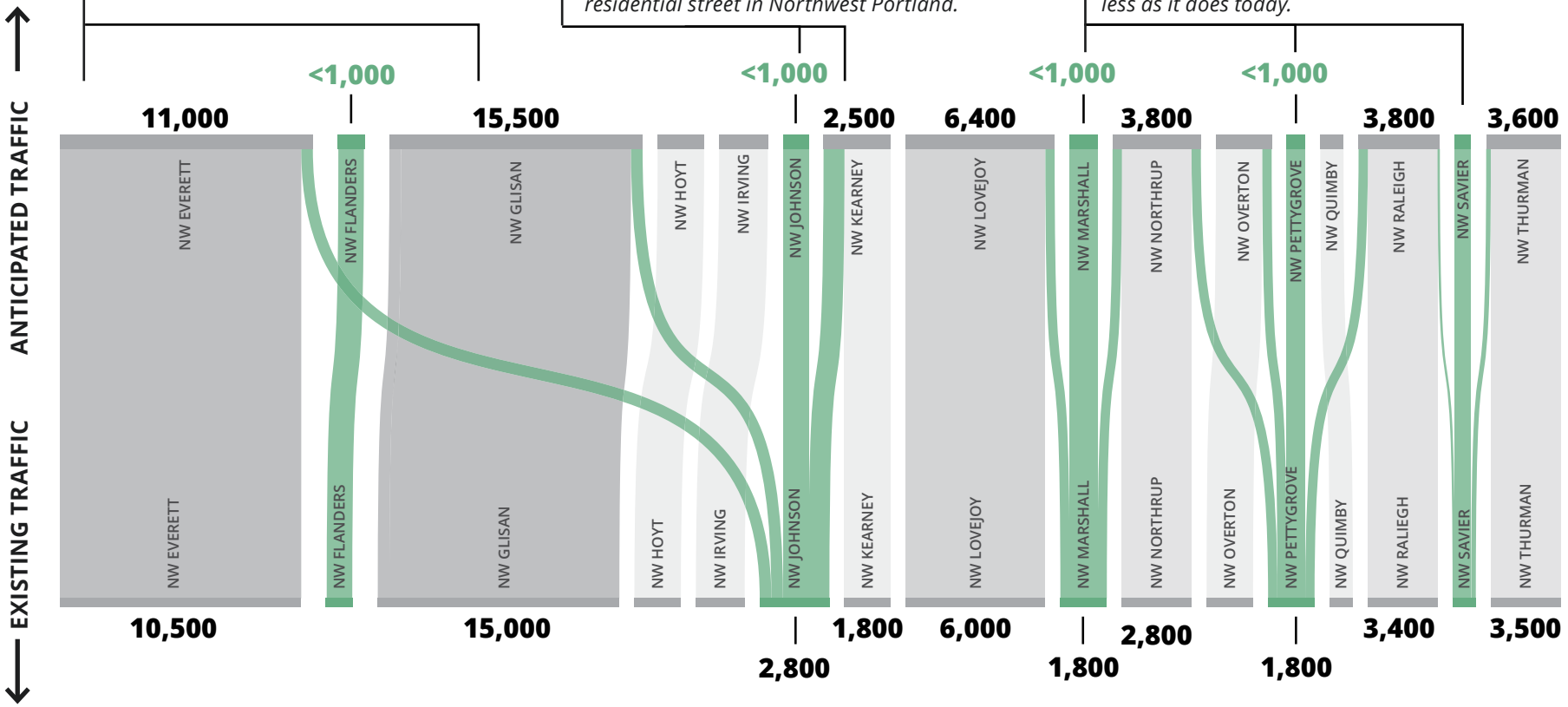
Very little traffic diverted from NW 24th Ave is expected to continue via NW 23rd and NW 25th Avenues as those routes are already very congested during rush-hour. Instead, we expect the majority of regional trips to stay on the regional highway and arterial network.

POTENTIAL TRAFFIC PATTERN CHANGES | EAST / WEST

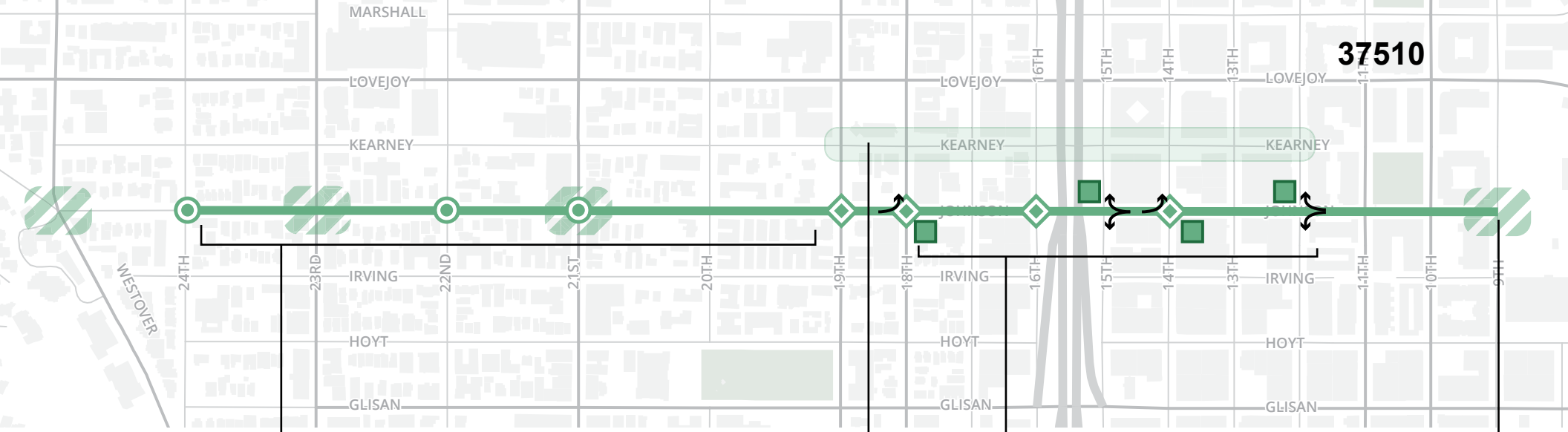
NW Everett St & NW Glisan St will continue to be busy streets in the neighborhood and will absorb small marginal traffic increases from NW Flanders St and NW Johnson St Neighborhood Greenways.

Recommended diversion on NW Johnson St carries the risk of increased diversion onto NW Kearney St. While volumes are likely to increase, traffic on NW Kearney will be within normal range for a residential street in Northwest Portland.

NW Marshall, NW Pettygrove, and NW Savier Neighborhood Greenways will only have slight impacts on overall traffic patterns in Northwest. Some streets might experience small increases in traffic, but overall, the system will function more or less as it does today.



The above diagram illustrates our general expectations for the redistribution of east/west traffic towards the center of the Northwest in Motion study area. In general, we expect the bulk of longer-distance trips to redistribute to busier streets that are designed to carry larger volumes of traffic. Shorter, neighborhood-based trips will likely disperse evenly amongst both local and non-local streets as residents adjust their travel patterns slightly to follow the new traffic patterns.



Traffic calming on Johnson between NW 24th and NW 19th Ave

Ongoing traffic monitoring on NW Kearney to measure possible diversion impacts on this local street

Alternating one-way streets with contraflow bike lanes between NW 12th Ave and NW 18th Ave

Upon redevelopment of the USPS site, traffic pattern changes at NW 9th Ave will likely be required to maintain low speeds and volumes on NW Johnson St

NG.1 NW Johnson Neighborhood Greenway

PROJECT DESCRIPTION

Improve conditions for walking and biking on an existing neighborhood greenway by adding new traffic calming, adjusting stop signs, and adding new traffic diverters to keep speeds slow and vehicle volumes low on NW Johnson St between NW 24th Ave and NW 9th Ave. New enhanced crossings at busier streets will make it easier for people walking and biking to cross the street by improving visibility.

PROJECT ELEMENTS:

- "Bikes Behind" Median Island Crossing
- Crossing Improvement
- Phase 1 Traffic Diversion
- Diverted Vehicle Movements
- Phase 2 Traffic Diversion (if required)

RECOMMENDED DESIGN

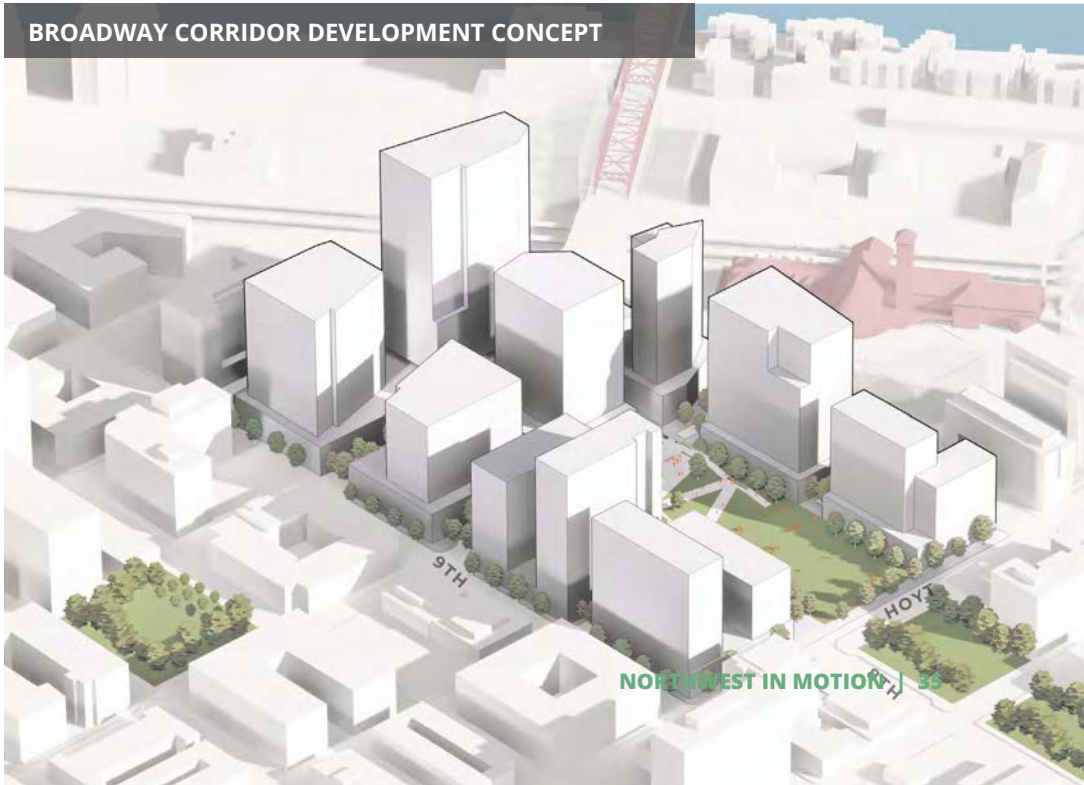
NW Johnson | NW 14th Ave
This rendering shows how the proposed crossing of 14th Ave at Johnson St would improve safety and comfort for bicyclists riding along both 14th Ave and Johnson St. Pedestrians would also benefit by being able to cross the bike lane first, then the motor vehicle travel lane.

PRELIMINARY DESIGN: NW JOHNSON AT NW 14TH AVE

FUTURE CONSIDERATION

USPS Central City Master Plan Site
The redevelopment of the former United States Postal Service site near Union Station will permanently transform Downtown Portland. The current urban design concept envisions a human scaled, sustainable, mixed-use development that knits together surrounding neighborhoods. Upon redevelopment, NW Johnson St will be extended through the site - creating a direct connection to Union Station, adding a two-way protected bikeway, and becoming a lively, pedestrian-friendly 'main street' in the area. Upon redevelopment, Northwest in Motion recommends that a traffic diverter be installed in the vicinity of NW 9th Ave and NW Johnson to strengthen the low-stress bike connection to this new redevelopment area.

BROADWAY CORRIDOR DEVELOPMENT CONCEPT



RECOMMENDED DESIGN
NW JOHNSON | NW 19TH TO NW 16TH AVE

Combination refuge island and traffic diverter at NW 18th Ave.

One-way westbound vehicle traffic with contraflow eastbound bike lane.

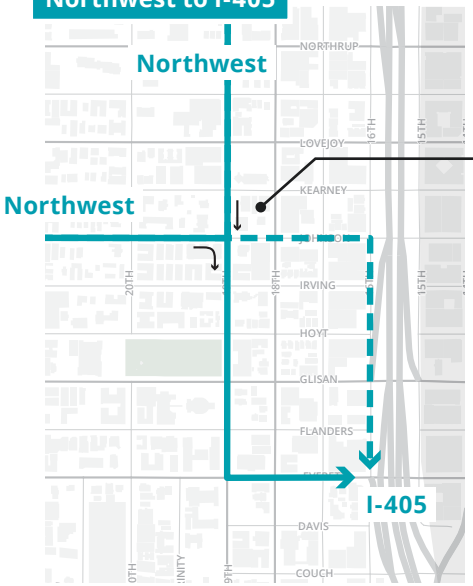
Refuge island crossing improves the crossing at NW 16th Ave.

One-way eastbound vehicle traffic with contraflow westbound bike lane.

Moving inter-district trips off of NW Johnson St

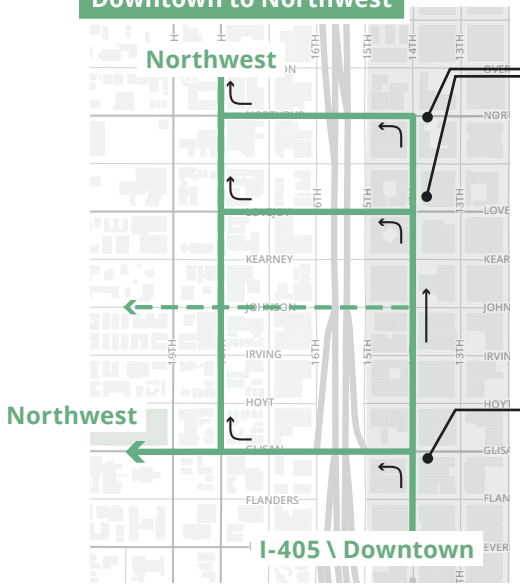
Today, people drive on NW Johnson St for many trips that are better suited for busier streets built to carry more vehicles. A diversion strategy focused between NW 19th Ave and NW 12th Ave will move many of these trips from NW Johnson St onto nearby alternate routes better designed and able to carry those trips.

Northwest to I-405



Longer trips from further into the Northwest District could remain on NW 19th Ave to access I-405 via NW Everett St.

Downtown to Northwest



Trips from Downtown to Northwest could stay on NW 14th Ave until turning on NW Northrup St or NW Lovejoy St....

... or turn earlier on NW Glisan St, depending on their final destination.

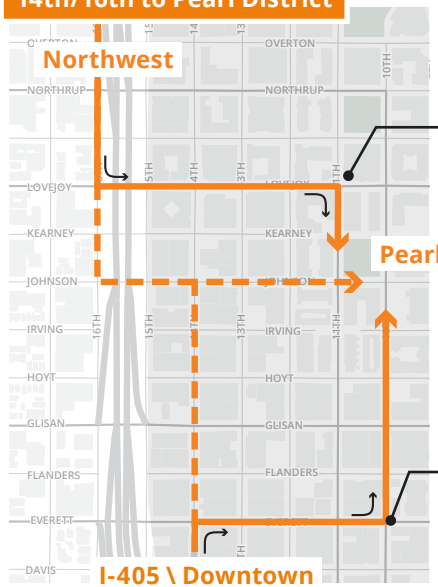
RECOMMENDED DESIGN
NW JOHNSON | NW 15TH TO NW 12TH AVE

Westbound vehicles must turn at NW 15th Ave

Combination "bikes behind" crossing island and eastbound traffic diverter at NW 14th Ave

Shared roadway environment between NW 14th and NW 13th Ave

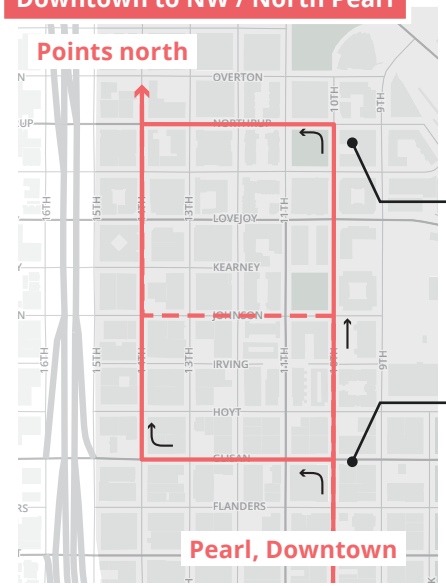
14th/16th to Pearl District



Trips from further Northwest could turn earlier at NW Lovejoy St and take a busier street like NW 11th Ave.

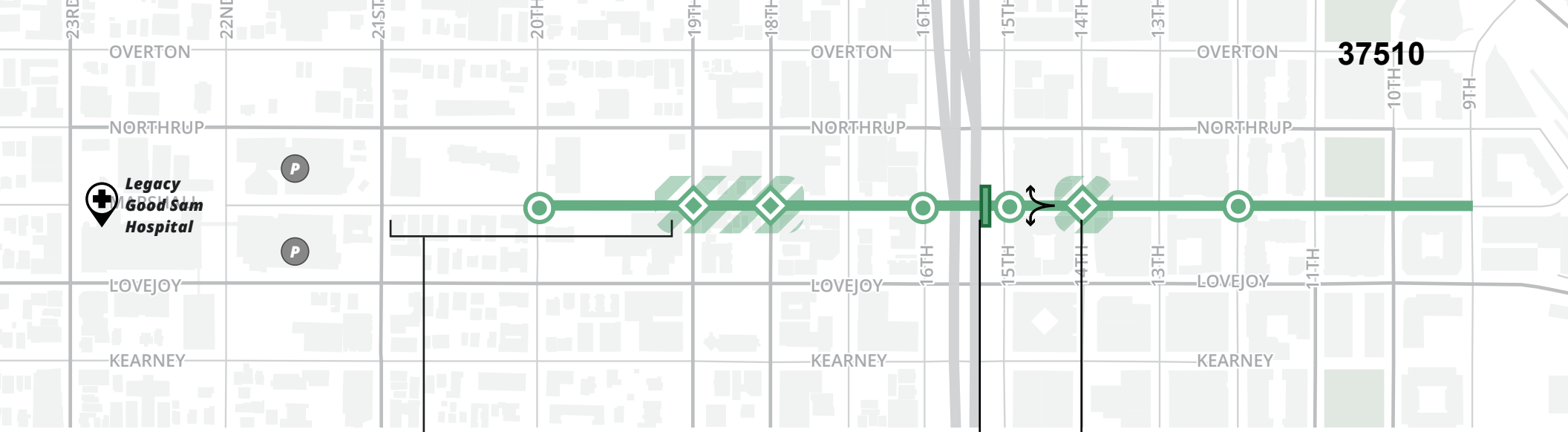
Trips from NW 14th Ave or Downtown could take NW Everett to NW 10th Ave.

Downtown to NW / North Pearl



Northbound trips via NW 10th Ave could wait to turn until reaching NW Northrup St...

... or turn earlier and take NW Glisan St to access a busier northbound street like NW 14th Ave or NW 18th Ave.



Recommended traffic calming on the 'longer blocks' west of NW 19th Ave.

Full diverter at west side of NW Marshall St and NW 15th Ave allows full access for people walking and biking. *(see detail on next page)*

Bikes behind crossing island and improved curb extension at northeast corner.

NG.2 NW Marshall Neighborhood Greenway

PROJECT DESCRIPTION

Extend and improve the existing NW Marshall Neighborhood Greenway to provide a direct connection to the NW 20th Ave Neighborhood Greenway. Add new traffic calming such as speed bumps to slow down traffic speeds and add a new traffic diverter at NW 15th Ave to redirect through vehicle trips to keep vehicle volumes below established neighborhood greenway guidelines.

PROJECT ELEMENTS:

- Crossing Improvement
- Phase 1 Traffic Diversion
- Diverted Vehicle Movements
- Phase 2 Traffic Diversion (if required)

RECOMMENDED DESIGN

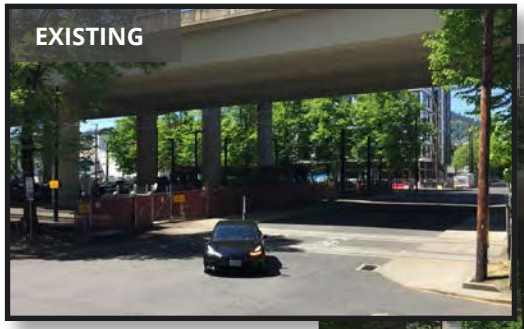
NW Marshall | NW 14th Ave

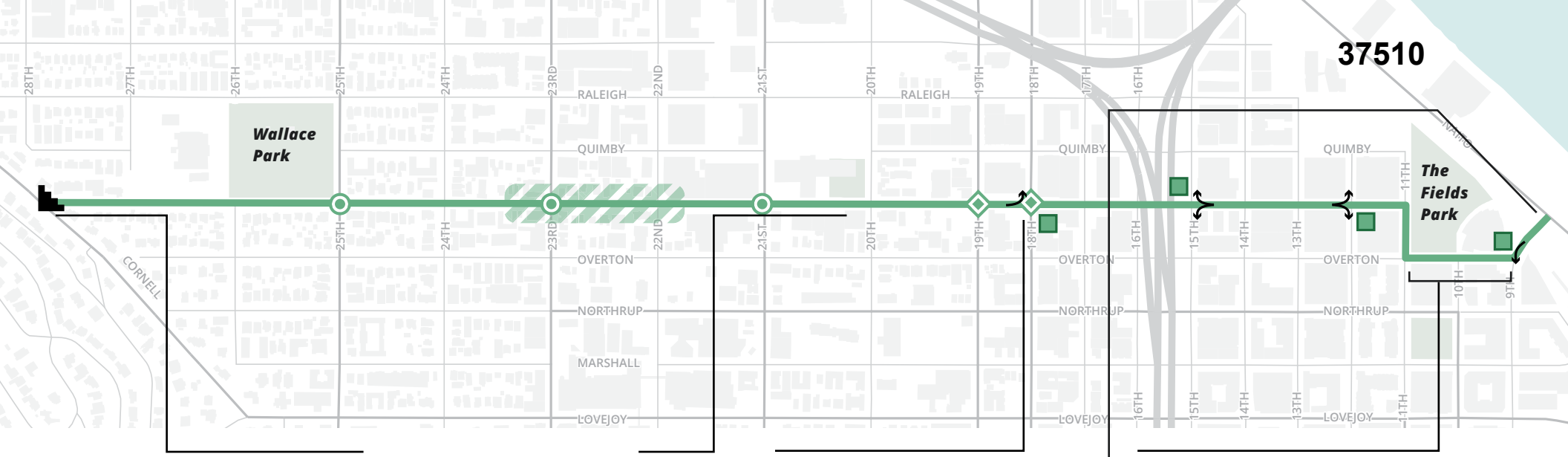
Historically, the northeast corner of NW 14th Ave and NW Marshall St has been offered pedestrians an irregular, constrained sidewalk and a lack of ADA accessibility at the crossing. As part of the curb-ramps-by-request program, PBOT is currently widening this pinch point and installing an ADA compliant curb-ramp at this location. Northwest in Motion further recommends that the intersection be reconfigured by bringing the bike lane against the curb and offering a crossing island to make it easier to cross this busy street.

RECOMMENDED DESIGN

NW Marshall | NW 15th Ave

The Pearl District Access and Circulation Plan (2012), recognized that the diverter at NW 10th Ave & NW Marshall St might not sufficiently address cut-through traffic issues on the Marshall Neighborhood Greenway. That plan recommends a potential additional diverter at NW 15th Ave & NW Marshall St to prevent through traffic under I-405. Recent traffic counts confirm that NW Marshall St currently has traffic volumes that greatly exceed the recommended guidelines for a neighborhood greenway. Portland Streetcar has also indicated that closing this segment of NW Marshall St to through car traffic at NW 15th Ave, while maintaining employee access from NW 16th Ave, would improve their maintenance operations.





NG.3 NW Pettygrove Neighborhood Greenway

PROJECT DESCRIPTION

Create a new neighborhood greenway on NW Pettygrove St to replace the current neighborhood greenway on NW Overton St. This neighborhood greenway would providing a connection to the growing Slabtown and northern extents of the Pearl District. This new low-stress walking and biking route will also connect major parks within the district including Wallace Park and The Fields Park and could potentially extend "green street' features further into the Northwest District. Use traffic calming and traffic diverters to keep traffic speeds and volumes low, creating a welcoming environment for walking and biking.

PROJECT ELEMENTS:

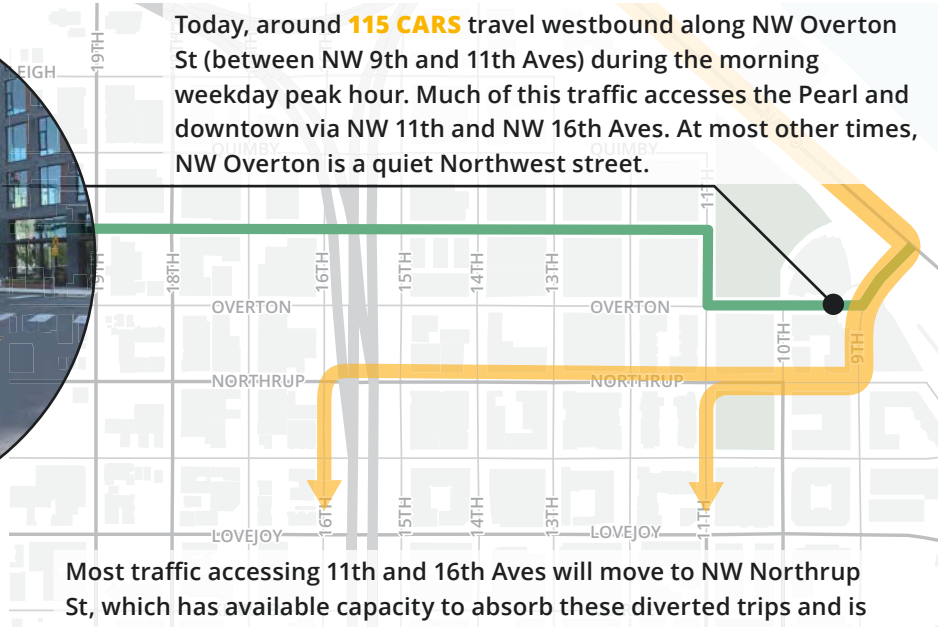
- "Bikes Behind" Median Island Crossing
- Crossing Improvement
- Phase 1 Traffic Diversion
- Diverted Vehicle Movements
- Phase 2 Traffic Diversion (if required)

RECOMMENDED DESIGN

NW Overton at NW 9th Ave

NW Overton St is meant to be a local access street, but it is also a major emergency response route and is one of the few ways to access Naito Pkwy from the west. In the westbound direction, a diverter would allow only bike access from 9th Ave. This design allows garage and loading access to the Encore building, as the curbside bike lane transitions to a shared environment. In the eastbound direction, bikes coming from 11th Ave will be given priority and a low-stress connection will be maintained to NW Naito Parkway through a mix of bike lanes and shared roadway environments.

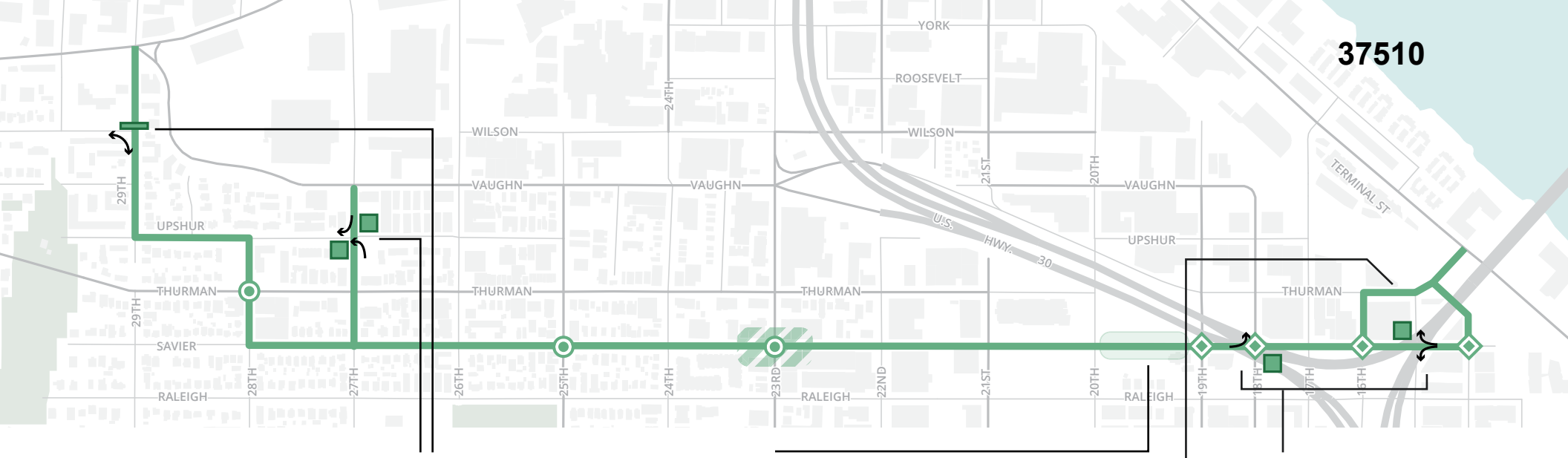
Traffic diverter redirects west-bound vehicles and provides a connection for people biking.



RECOMMENDED DESIGN

NW Pettygrove Green Street Treatments

The River District Right-of-way Standards were amended in 2012 to add an innovative “green street” design for NW Pettygrove St from 11th Ave to 15th Ave. This standard requires new developments to provide an expanded planting strip, with optional parking bays, to provide more space for wide-canopy trees and other greenery. The design also helps to calm traffic by narrowing the roadway. The upcoming new park at 20th & Pettygrove offers an opportunity to apply this green street design further west, at the intersection of two neighborhood greenways.



Improvements to existing diverters at Upshur/27th & Wilson/29th

Striped interim two-way bikeway on existing half street to be replaced with a new street connection upon redevelopment.

Extend bike lanes on NW Thurman to connect to NW Naito Parkway

Paired one-way street traffic diversion strategy between NW 18th Ave and NW 15th Ave

NG.4 NW Savier Neighborhood Greenway

PROJECT DESCRIPTION

Create a new neighborhood greenway on NW Savier St to replace the current neighborhood greenway on NW Raleigh St. Use traffic calming tools such as speed bumps and use traffic diverters to keep vehicle volumes low to create a welcoming environment for people to walk and bike. Upgrade and improve crossings at busy streets to improve pedestrian safety and visibility.

Additionally, this project will provide connections to employment and industrial areas to the north of the district via NW 27th Ave and NW 29th Ave. On the east end, it will use a combination of bike lanes and wayfinding signage to provide a comfortable, safe biking connection to NW Naito Parkway.

PROJECT ELEMENTS:

- Crossing Improvement
- Phase 1 Traffic Diversion
- Diverted Vehicle Movements
- Phase 2 Traffic Diversion (if required)

RECOMMENDED DESIGN

NW Savier | 19th Ave to 20th Ave

A portion of NW Savier St in the Slabtown area has a limited public right-of-way that only contains a single westbound travel lane and a sidewalk on the north side. Where the rest of the street should be on the south side, the space is currently private property, mostly used as a parking lot. As properties redevelop, they will be required to dedicate this space as public right-of-way and build the rest of the street and sidewalk. If there is a gap in the pace of development, it may be feasible to implement an interim bike and pedestrian only connection where the current partially built out street exist today through this section of NW Savier St. Upon redevelopment, this segment will be constructed as a full street with two-way traffic allowed. (*See pages 44-45 for a detailed overview*)

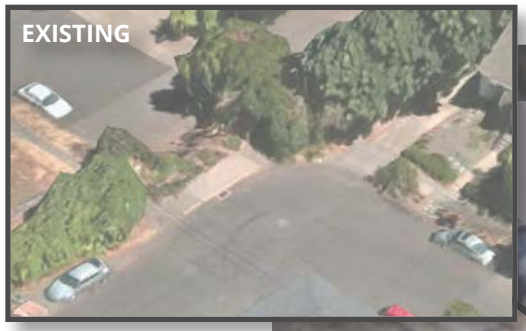
RECOMMENDED DESIGN

NW Wilson and NW 29th Ave

The existing diverter at NW Wilson St & NW 29th Ave is effective at eliminating cut-through traffic from NW Nicolai St to NW Thurman St, but the design is not ideal for bike travel. It has a single opening for bikes, off to one side, that is obscured by vegetation. This concept design shows an improved bicycle path through the diverter to make this an attractive route for bicyclists who want to travel between the residential and industrial areas of Northwest Portland.

Two-way interim bikeway concept

PRELIMINARY DESIGN: NW SAVIER ST, 19TH TO 20TH AVE



PRELIMINARY DESIGN: NW WILSON AT 29TH AVE

A path through the diverter allows an easier connection for people biking

RECOMMENDED PHASING

NW Savier | NW 21st to NW 19th Ave Implementation Strategy

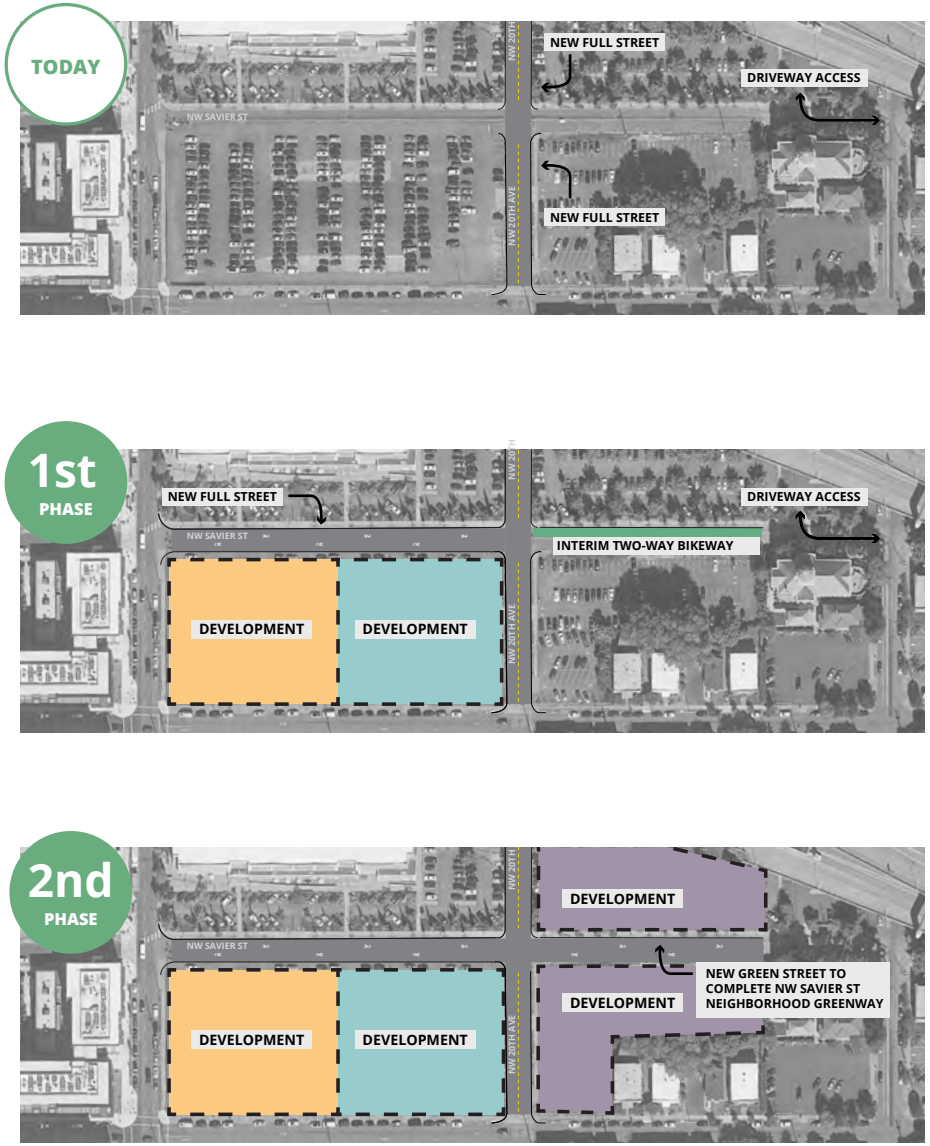
Currently NW Savier St has a limited right-of-way from NW 21st Ave to NW 20th Ave, and for a portion of the block from NW 20th Ave to NW 19th Ave, with a sidewalk on the north side and roadway space for a single westbound travel lane. There is one driveway access on this segment of NW Savier St, on the western half of the block from NW 21st Ave to NW 20th Ave.

As redevelopment of adjacent parcels occurs, the Conway Master Plan requires that the property owners dedicate enough space for a standard 60-foot right-of-way. Based on redevelopment permits that have been submitted, it is anticipated that properties will redevelop in the next several years - roughly in two phases from west to east.

In Phase 1, the two properties between NW 20th and 21st Ave on the southside of NW Savier will redevelop and a full two-way street will be constructed for that half-block. During this phase - if there is an adequate window between Phase 1 and Phase 2 - an interim two-way bikeway will be striped in the partially constructed section of Savier between NW 19th and 20th Ave (*as pictured on the previous page*)

In Phase 2, the final two properties will redevelop on the blocks east of NW 20th Ave. As these properties are developed, PBOT will work through the development process to encourage and collaborate with the developer to build out the streets as a low-speed, green street and/or festival street environment. This design concept is voluntary and does not replace the baseline requirements outlined in the Conway Master Plan

This design (*illustrated on the following page*) would allow two-way car access, but could be designed in a way to prioritize pedestrian and bicycle movement. Additional traffic diverters will be installed between NW 18th Ave and NW 15th Ave to ensure the neighborhood greenway meets or exceeds the design guidance maximum vehicle volumes on neighborhood greenways.



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LONG-TERM VISION

NW Savier St | NW 19th to 20th Ave

Northwest in Motion imagines a long-term vision of a green street connection on NW Savier St between NW 19th Ave and NW 20th Ave. This shared street environment would include elements to strengthen the social element of the street such as small plazas, seating, and lush greenery.

NG.5 NW 24th Ave Neighborhood Greenway

PROJECT DESCRIPTION

Using a sequence of traffic diverters to lower vehicle volumes and a combination of traffic calming tools and stop sign adjustments, this project will upgrade the existing neighborhood greenway on NW 24th Ave to meet or exceed established neighborhood greenway guidelines. A combination median traffic diverter and pedestrian crossing at NW Vaughn will provide a low stress walking and biking connection to the employment and industrial areas north of the district. A traffic diverter on NW 24th Ave just north of NW Flanders St will provide a seamless connection to the upcoming NW Flanders Bikeway and bicycle-pedestrian bridge over I-405. A pair of one-way streets with contraflow bike lanes north of NW Lovejoy will keep traffic volumes low in the northern section of the neighborhood greenway.

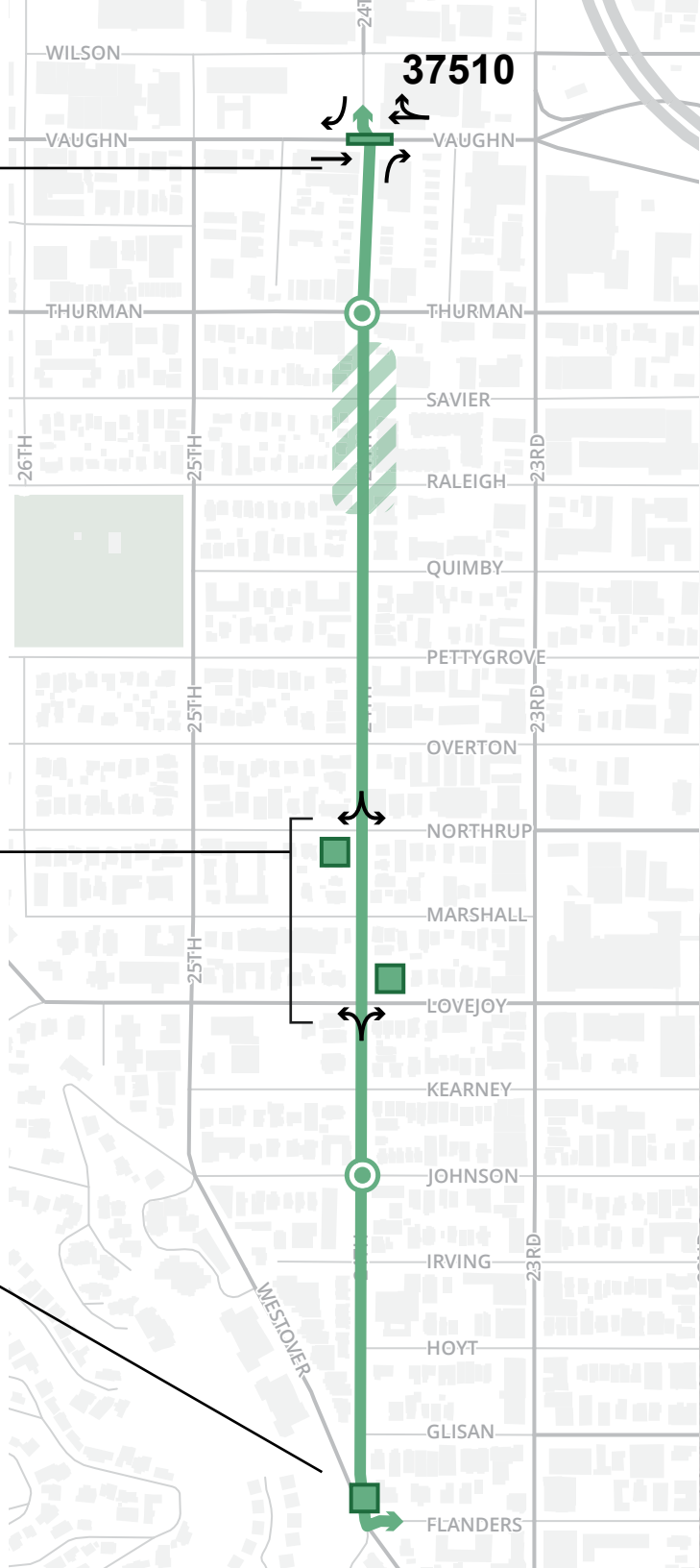
PROJECT ELEMENTS:

- Crossing Improvement
- Phase 1 Traffic Diversion
- Diverted Vehicle Movements
- Phase 2 Traffic Diversion (if required)

A median traffic diverter and crossing improvement limits vehicle access to NW 24th Ave from NW Vaughn St, while making it easier for people walking and biking to cross this busy street.

Diverging one-way traffic diverters between Lovejoy and Northrup route discourage long-distance regional trips on NW 24th Ave.

Full traffic closure of NW 24th Ave at NW Westover Rd / Flanders St preserves local access, simplifies a complex intersection, and creates a low-stress connection between two great bikeways

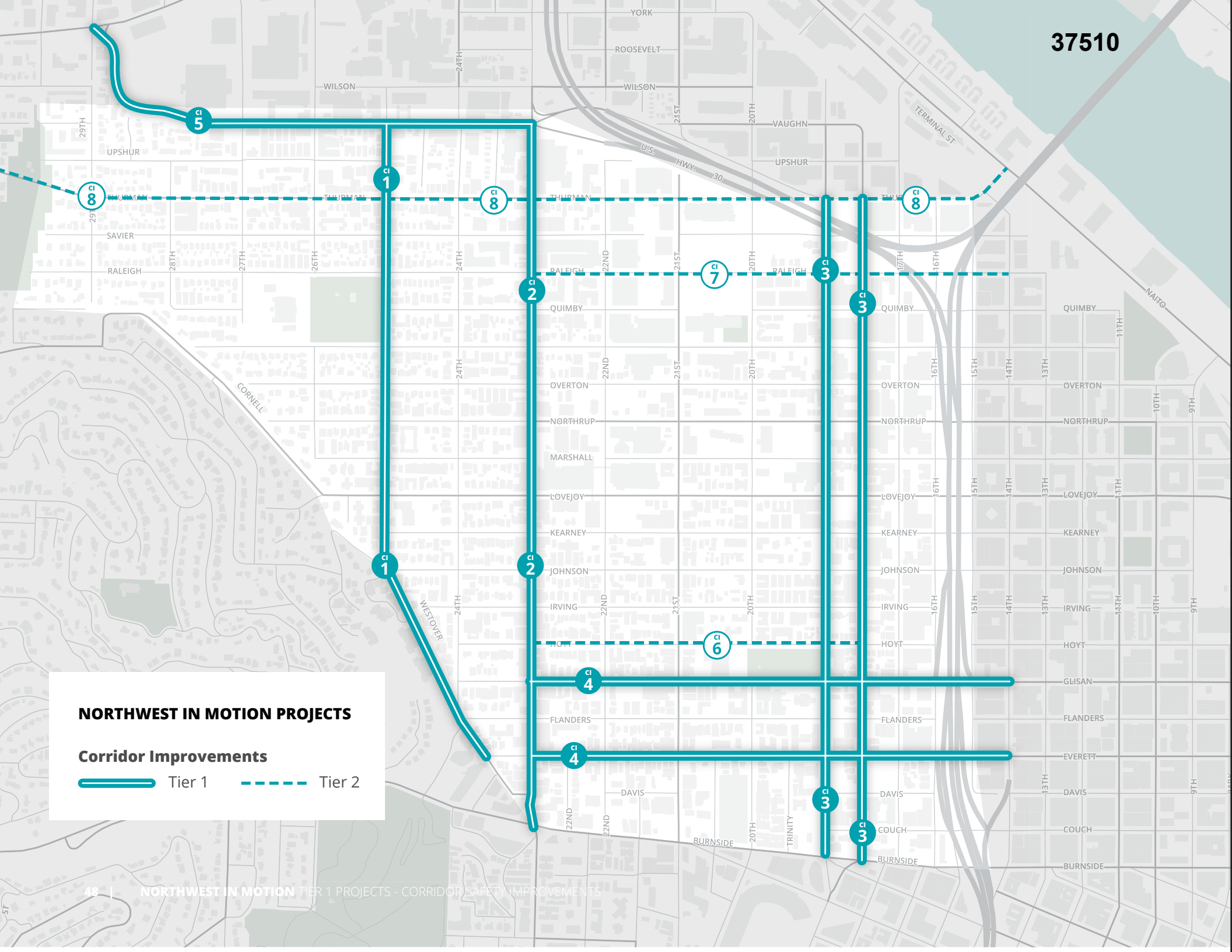


RECOMMENDED DESIGN

NW 24th Ave at Westover Rd / Flanders St

Traffic counts indicate that high volumes of peak-hour commuters are driving on 24th Ave northbound from Westover to access Lovejoy St. The intersection of 24th Ave, Westover Rd, and Flanders St is also confusing and complex, with difficulty in determining motor vehicle movements. The introduction of bikes in both directions on 24th Ave from Flanders to Glisan would further complicate the intersection.

Closing this block of 24th Ave to through traffic with a diverter at Westover and adding bike lanes in both directions would address this issue. Access to the single driveway on the block would be maintained via Glisan St, but on-street parking on one side would be removed. This design concept shows an example of how this improvement could enhance the streetscape environment.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NORTHWEST IN MOTION PROJECTS
Corridor Improvements
Tier 1
Tier 2
YORK
ROOSEVELT
WILSON
VAUGHN
UPSHUR
SAVIER
RALEIGH
QUIMBY
OVERTON
NORTHRUP
MARSHALL
LOVEJOY
KEARNEY
JOHNSON
IRVING
HOYT
GLISAN
FLANDERS
EVERETT
DAVIS
COUCH
BURNSIDE
THURMAN
CORNELL
WESTOVER
TERMINAL ST
NAITO
TRINITY
U.S. HWY. 30
29TH
28TH
27TH
26TH
24TH
22ND
21ST
20TH
17TH
16TH
15TH
14TH
13TH
11TH
10TH
9TH

TIER 1 PROJECTS DETAIL

Corridor Improvements

Busy traffic streets are the places where crossing improvements and other roadway improvement projects can have the biggest benefit for the safety and comfort of people walking, biking, or accessing transit. Corridor improvements are mainly focused on providing safe crossings of busy streets at consistent intervals, but also include improvements such as traffic calming, signal upgrades, transit improvements, and bike lane enhancements.

Corridor Improvements are guided by recent major plans to support people walking and taking transit. Specifically, this includes PedPDX (2019), Portland's Citywide Pedestrian Plan and the Rose Lanes Project (2020) which envisions a network of transit-priority corridors throughout the city and uses a variety of tools to make transit more efficient and reliable.

PedPDX establishes specific policies around pedestrian crossings that guided the development of Northwest in Motion recommended projects. These projects incorporate and build off the PedPDX Implementation Toolbox by incorporating elements such as improving the spacing of marked crosswalks, daylighting intersections to improve visibility, and using interim tools to get improvements on the ground quicker.

The **Rose Lanes Project** identifies the Line 15 (NW 23rd Ave) and Portland Streetcar in its long-term Rose Lanes Network vision. However, smaller-scale spot improvements are included in Northwest Portland as part of the "Phase 1" implementation strategy. This includes transit priority and access treatments at: ***NW Glisan at 14th Ave and 21st Ave; NW 18th/19th at NW Flanders & NW Marshall; and NW Vaughn approaching NW 23rd Ave.***

KEY DESIGN ELEMENTS

Corridor improvement projects are located on NW Portland's busiest streets. While these streets carry higher volumes of vehicles, these projects use design tools to address conflicts between roadway users and improve transit.

ENHANCED CROSSINGS

Enhanced crossing shorten the crossing distance or allow people walking to only have to navigate one lane of traffic at a time.

ROSE LANE TRANSIT IMPROVEMENTS

Tools such as signal improvements and separate signal phases can help reduce conflicts and improve transit speed and reliability. Bus islands minimize conflict and improve station accessibility. Bus-only lanes can give transit a way to bypass traffic congestion.

CURB EXTENSIONS

Curb extensions help improve the visibility of people walking and can help improve yielding compliance by people driving. They can also be used to provide accessible, in-lane transit stops.

CI.1 NW 25th Ave / Westover

PROJECT DESCRIPTION

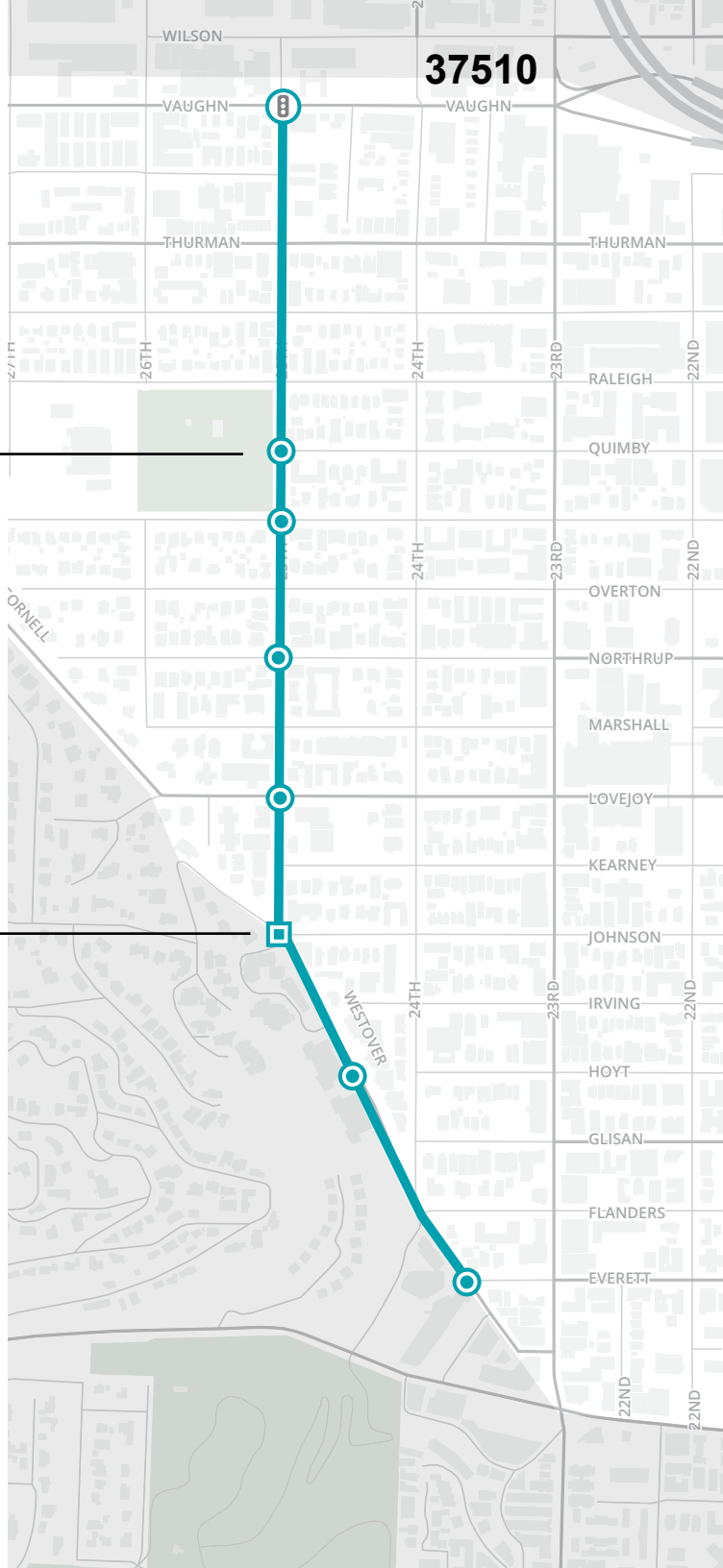
Use traffic calming tools such as speed bumps and median islands to reduce speeds and improve the safety and comfort of people walking on NW 25th Ave. Add new high-visibility crosswalks along the corridor to fill gaps identified in PedPDX, Portland's recently adopted citywide Pedestrian Plan. Reconfigure an irregular intersection at NW 25th Ave and NW Johnson to provide more legibility and reduce conflicts at this intersection.

PROJECT ELEMENTS:

- Intersection reconfiguration
- Crossing improvement
- Improvement to signalized intersection

Upgrade Safe Routes to School crossing with a median island.

Intersection simplification at an irregular intersection at NW Johnson, NW 25th, and NW Westover.



RECOMMENDED DESIGN

NW Westover Rd / Johnson St / 25th Ave

The skewed intersection of Westover, Johnson, and 25th has long been a significant safety concern for the surrounding community. This proposal would realign the intersection with curb extensions and bring the stop bars closer to the intersection and into greater alignment with each other, improving visibility and safety for all modes of travel. Marked crosswalks would improve pedestrian safety and visibility.

Initial implementation would include temporary "interim" materials such as painted curb extensions and vertical delineators. Future funding is necessary for an upgraded version using permanent, higher-quality materials.

Add curb extensions to simplify an irregular intersection

LONG-TERM VISION: NW 25TH, JOHNSON, & WESTOVER

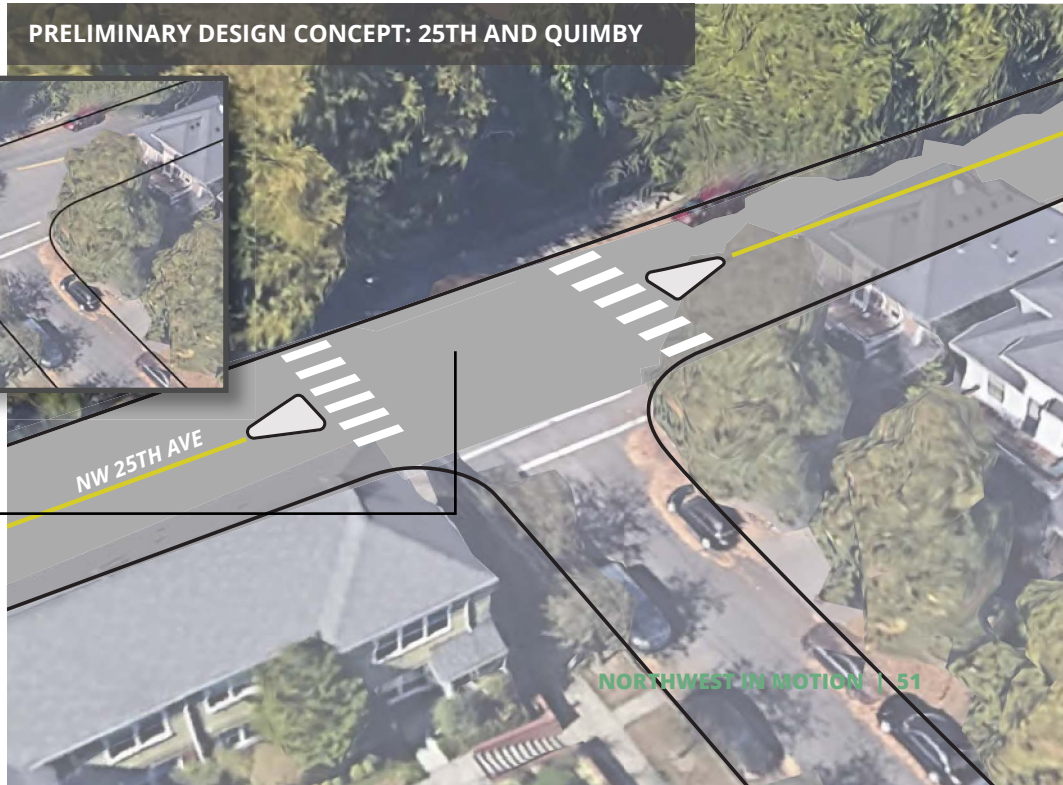
RECOMMENDED DESIGN

NW 25th Ave at NW Quimby St

Community members have raised concerns about pedestrian safety at the traffic circle at 25th & Quimby. This is a popular pedestrian entrance to Wallace Park, and a designated Safe Routes to School route to Chapman Elementary. This concept would upgrade the recently completed Safe Routes to School project by adding median islands.

Add median islands to improve existing crossing.

PRELIMINARY DESIGN CONCEPT: 25TH AND QUIMBY



CI.2 NW 23rd Ave

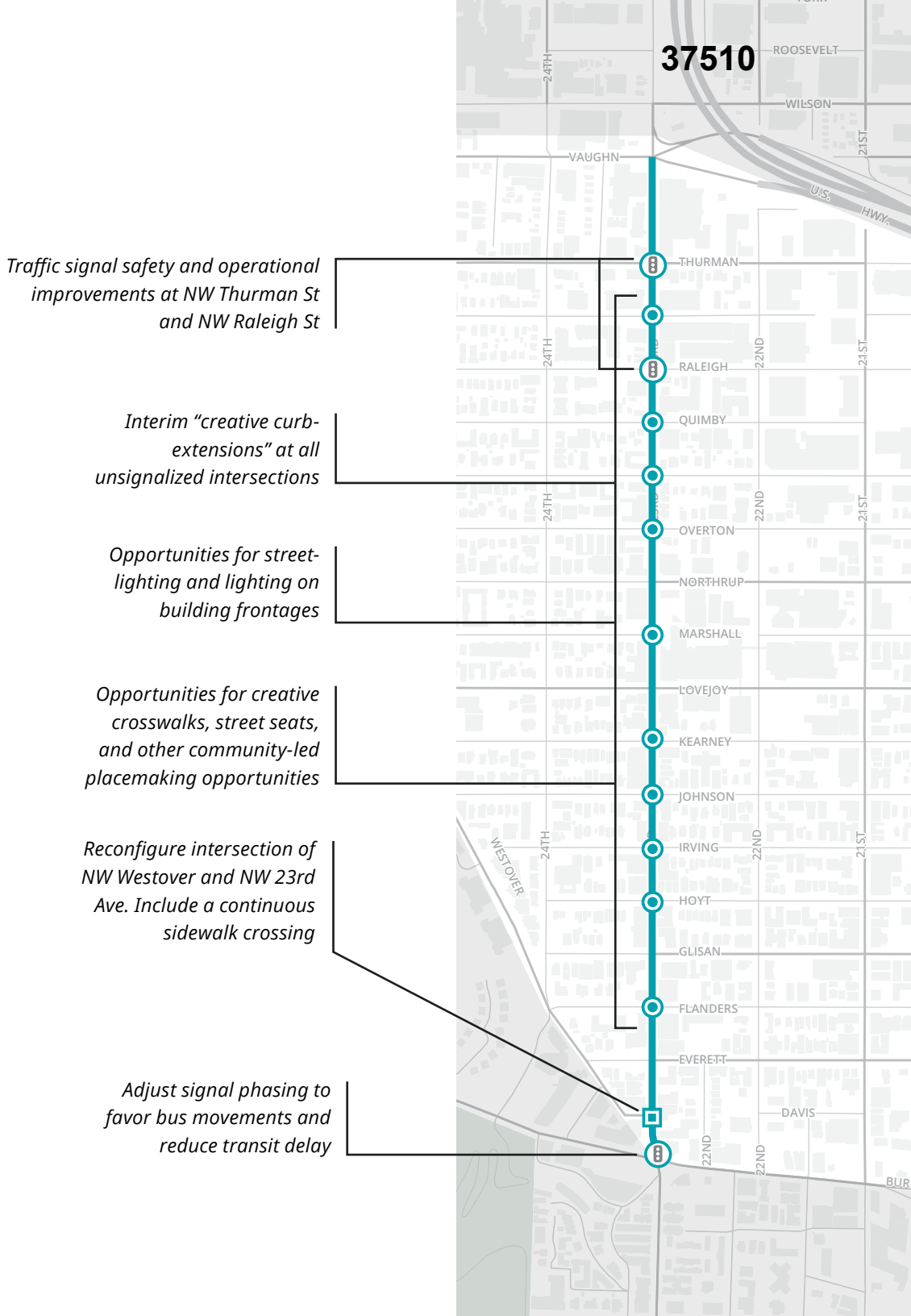
PROJECT DESCRIPTION

There are multiple short-term investment opportunities to improve the streetscape and general safety of NW 23rd Ave. These include elements such as interim “Main St” program investments including temporary street seats, creative crosswalks and curb extensions, and new bike parking. This project also includes a “continuous sidewalk’ element on the west side of NW 23rd Ave at Westover to improve the pedestrian experience and clarify movements at a busy intersection. To reduce transit delay, signal phase improvements are recommended at NW 23rd and Burnside.

Northwest In Motion also identifies a longer-term major investment on NW 23rd Ave. This project would improve the roadway through full pavement reconstruction from NW Lovejoy St to NW Vaughn St and add numerous streetscape and urban design improvements.

PROJECT ELEMENTS:

- Intersection reconfiguration
- Crossing improvement
- Improvement to signalized intersection



RECOMMENDED DESIGN

NW 23rd Ave at NW Westover Rd

This proposal would reconfigure and redesign the intersection of NW 23rd Ave at NW Westover Rd. This proposal would better align either end of the intersection to create a more legible pedestrian experience and clarify vehicle movements as NW 23rd Ave approaches W Burnside.

In addition, this concept includes a continuous sidewalk crossing at this minor intersection to improve accessibility and driver yielding behavior.

Wide curb extension provides more space for pedestrians and clarifies vehicle movements approaching W Burnside St.

Continuous crosswalk provides an accessible walking experience and improves driver yielding behavior

NEAR-TERM OPPORTUNITIES

Community-Led Placemaking

All along NW 23rd Ave, there are placemaking opportunities that can help strengthen the role NW 23rd Ave plays as the Northwest District's main street. Interventions like "Street Seats", "Creative Curb Extensions", and other uses of the curb zone can enhance the pedestrian realm and enhance the dynamic business activity that lines this important corridor. For more information about opportunities for community-led placemaking in the Northwest District, refer to pages 76-77 in the Policy and Programs Recommendations chapter.

Street seats (pictured left) expand the use of the curb zone for outdoor seating, and in turn create a clear walking path on the sidewalk.

"Creative Curb Extensions" (pictured right) are a fun, low-cost way to quickly deliver curb extensions at intersections with lots of pedestrian activity.

Future Opportunities for NW 23rd Ave

A need for a major investment

NW 23rd Ave is Northwest Portland's main street and improvements on this street are a high community priority. While the segment south of NW Lovejoy St is in a good state of repair with high quality sidewalks and smooth pavement, the section between NW Lovejoy St to the northern edge of the district is in dire condition and in need of major investment.

In fact, NW 23rd Ave from Lovejoy to Vaughn has deteriorated so much that it needs full depth reconstruction to address the pavement issues. This type of capital investment would be expensive enough by itself, but it also triggers utility relocations, removal of buried historic streetcar tracks, and stormwater upgrades. Roadway reconstruction is estimated to cost roughly $8 million. Adding in the cost of the Thurman signal upgrade and the missing curb extensions along the corridor, the cost goes up to roughly $10 million. This far exceeds the combined cost of all Northwest in Motion Tier 1 projects, and will require a large amount of new funding to design and construct.

A unique opportunity to reimagine Northwest's Main Street

A major rebuild of NW 23rd Ave presents PBOT with a unique opportunity to reimagine the main street typology and include a host of streetscape, urban design, and placemaking opportunities. Though NW 23rd moves many people in vehicles and buses everyday, in many ways, the street is more of a 'place' than a 'corridor'. Numerous shops, restaurants, and places of employment lines this busy main street which is a destinations for neighbors and visitors alike. Therefore, its design should embrace human-scale uses and incorporate design elements such as outdoor seating, great transit stops, public spaces to sit and congregate, and other uses to support the street's function as Northwest's major commercial street.

The interim improvements outlined in the near-term Northwest in Motion recommended project for NW 23rd Ave can serve as both a prototype and an opportunity to engage with residents, businesses, and community stakeholders about whether those interim treatments should be upgraded and integrated alongside a major rebuild of the street.

POTENTIAL FUNDING STRATEGIES

The NW 23rd Ave pavement and signal reconstruction project would need significant funding, likely $10 million or more.

Potential funding sources that can be pursued are:

Build Portland: This program funds major deferred maintenance projects through issuing municipal bonds. In the last round, $50 million was available across multiple bureaus and PBOT received about $36 million for a variety of road and bridge projects. If there is another round in the future (unknown at this time), NW 23rd Ave would likely be a good candidate for this funding.

Parking Revenue: Some parking revenue could be set aside each year to save up a local match toward the project to leverage outside funding.

System Development Charge Revenue: System development charge funding could be requested, but it could legally only pay for elements that improve capacity and is not eligible for the purely maintenance-related portions of the project.

Private Fundraising: While private fundraising is not typically employed for transportation projects, there have been some notable exceptions such as the recent Barbara Walker Crossing over Burnside.

Local Improvement District: In this model, property owners along the street improvement project pool funds to help pay for the project and are given the option to pay their share off over 20 years at a low interest rate.

LONG-TERM VISION

NW 23rd Ave | NW Lovejoy St to NW Vaughn St

Northwest in Motion imagines a transformed NW 23rd Ave that is human scaled, accessible, and supports a vibrant, thriving main street. This streetscape design would include many of the innovative urban design tools recommended in this plan including continuous crosswalks at minor intersections and a dynamic curb-zone that includes cafe seating, transit stop amenities, and places to sit and congregate.

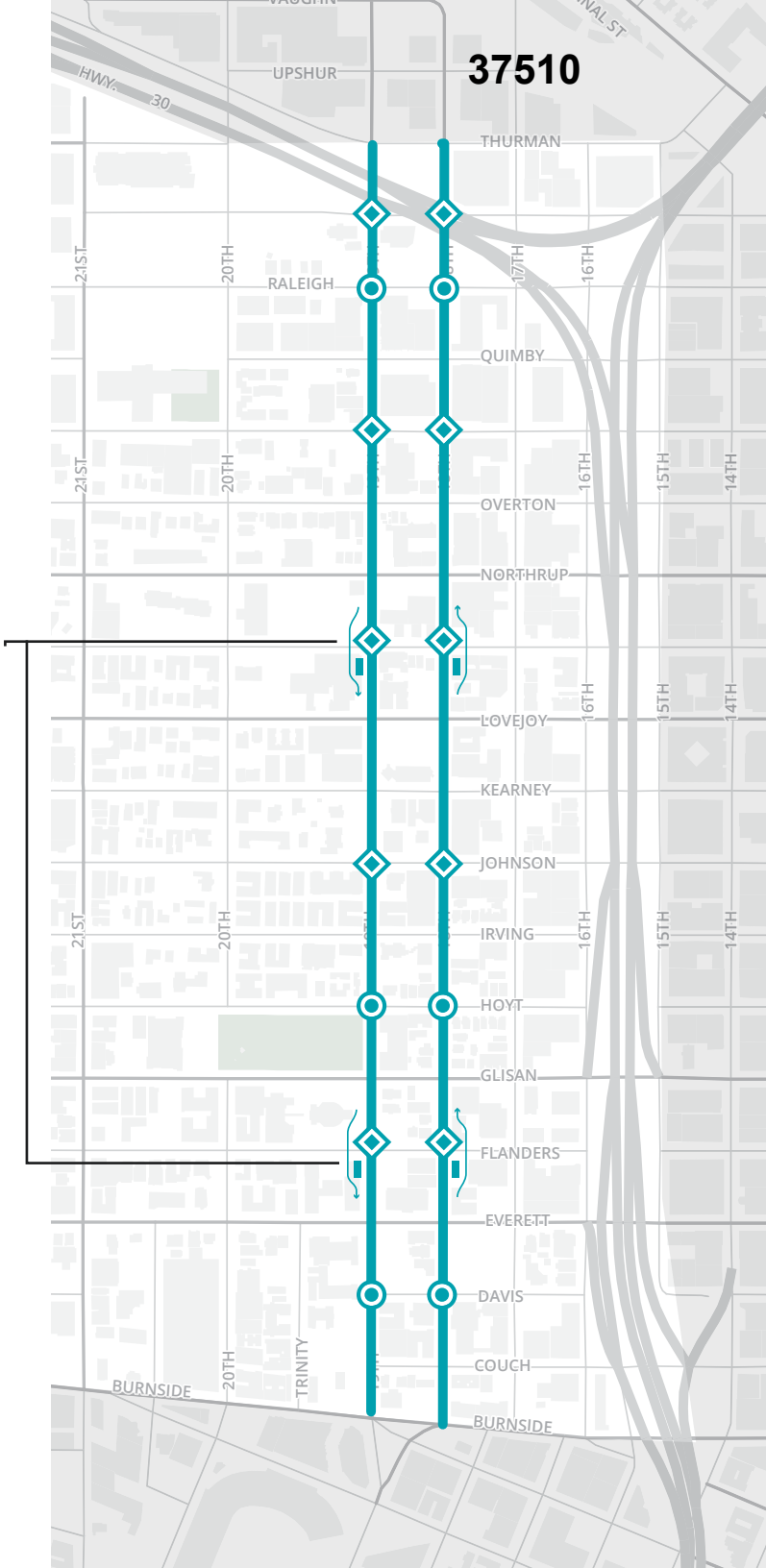
CI.3 NW 18th Ave & NW 19th Ave

PROJECT DESCRIPTION

In coordination with the Rose Lane Project, this project will improve transit speed and reliability and reduce bus/bike conflicts by installing transit platforms with bikes behind at 18th & Marshall, 19th & Marshall, 18th & Flanders, and 19th & Flanders. A future iteration of this project would see the interim platforms upgraded to floating concrete islands. In addition to transit improvements, additional high-visibility crosswalks would be installed along this busy corridor improve comfort, visibility, and safety of pedestrians.

PROJECT ELEMENTS:

- "Bikes Behind" Bus Platform
- Crossing improvement
- Improvement to signalized intersection



Bikes behind bus islands improve transit accessibility and crossings at neighborhood greenways

RECOMMENDED DESIGN

Bus Behind Transit Platform

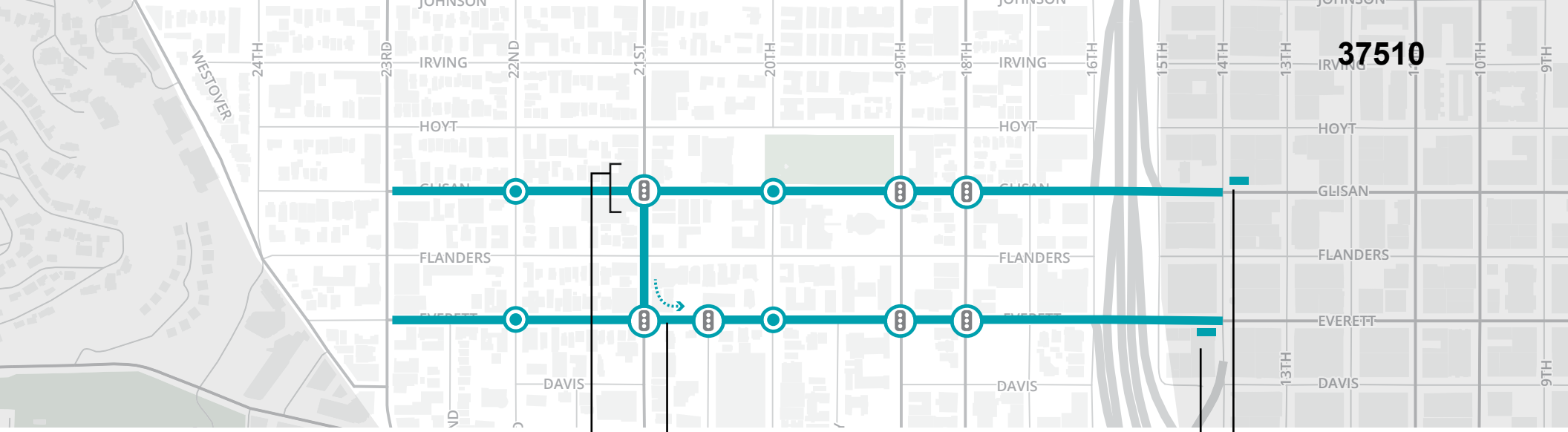
TriMet recently extended the Line 24 bus from NE Portland across the Fremont Bridge and down the 18th and 19th Ave couplet to Providence Park. While this new bus line provides a transit connection for people traveling to and from NW Portland, the combination of curb-side bus stops and bike lanes result in bus/bike conflicts and transit delay, as buses have to cross over the bike lane twice whenever serving a stop.

To address this issue, this design concept shows floating transit platforms with the bike lane shifting to curb-side temporarily to go around the platform. The bus would stop in the travel lane, which is preferred because it reduces the transit delay associated with pulling in and out of traffic and across bike lanes. There would be no conflict between bikes and buses at these stops, and the transit platforms will also provide pedestrians with a refuge that shortens the crossing distance and improves visibility.

Transit platform minimizes conflicts between bicyclists and transit users.

MODULAR TRANSIT PLATFORM CONCEPT DESIGN

LONG TERM VISION: PERMANENT ENHANCED BUS ISLANDS
IMAGE SOURCE: NACTO



CI.4 NW Glisan / Everett St

PROJECT DESCRIPTION

By adding curb extensions and making adjustments to existing signalized intersections, this project will improve the safety and comfort of people walking along and crossing this pair of busier streets. Adjustments to striping and signals at the intersection of NW 21st Ave and NW Everett and NW Glisan Streets will improve transit reliability and accessibility for the Line 77 bus.

PROJECT ELEMENTS:

- Crossing improvement
- Improvement to signalized intersection
- Bus platform curb extension

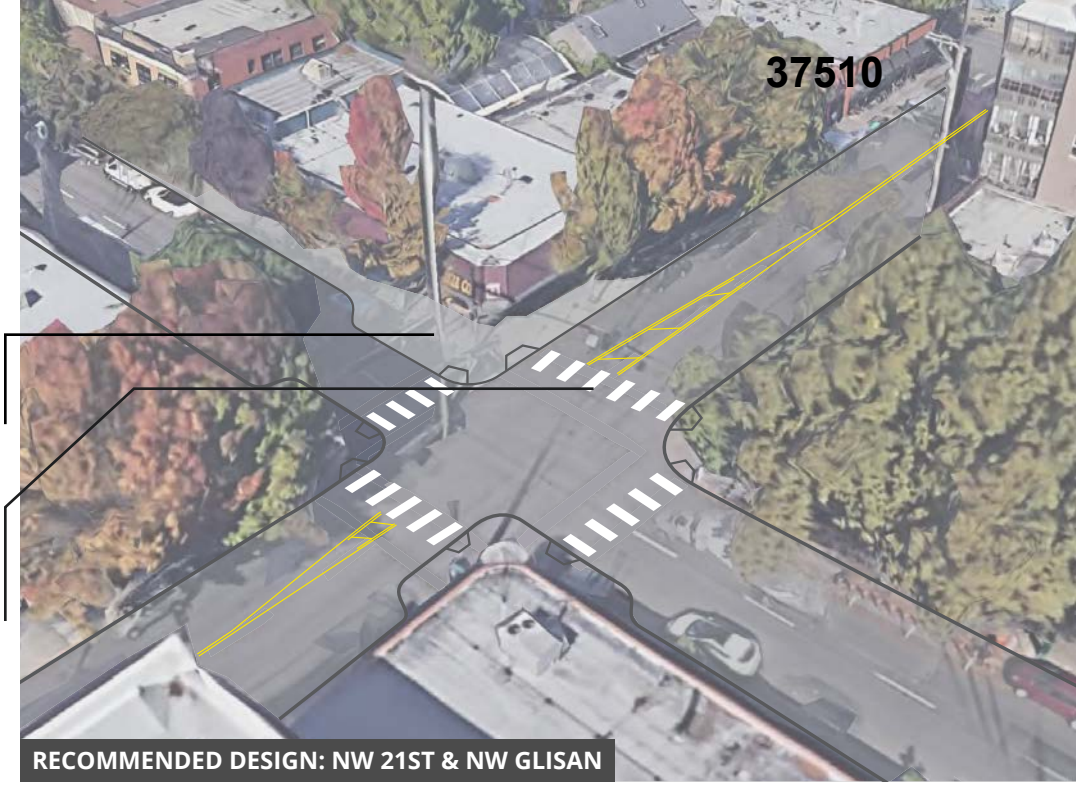
RECOMMENDED DESIGN

NW Glisan at NW 21st Ave

This busy and active neighborhood corner serves as an important place in the district and is where the Line 77 bus turns north from NW Glisan to NW 21 St Ave. This concept recommends wide curb extensions to shorter the crossing distance and an intersection re-striping to assist with a difficult bus turning movement.

Wide curb extensions make it easier to cross at this busy intersection

Intersection restriping makes it easier for the bus to make a tight turn on to NW 21st Ave.



RECOMMENDED DESIGN: NW 21ST & NW GLISAN

RECOMMENDED DESIGN

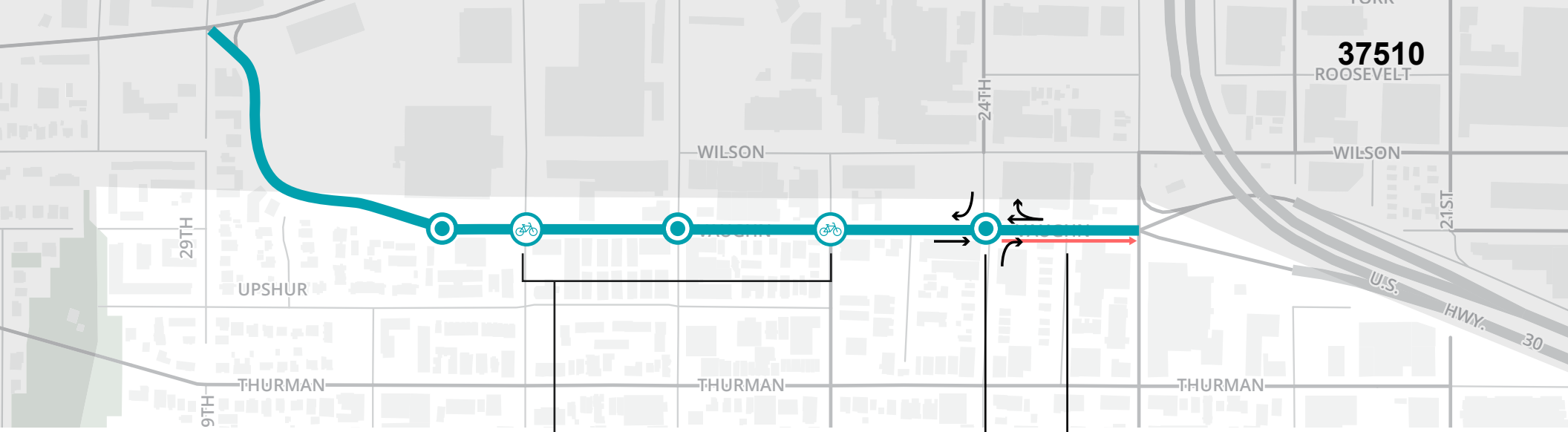
NW Glisan St at NW 22nd Ave

This concept shows curb extensions that improve safety for pedestrians by shortening the crossing distance, improving visibility, and slowing down traffic. Pedestrian scale lighting is also added to improve visibility in low-light conditions. A similar treatment could be applied to other unsignalized crossings of Everett St and Glisan St.

Pedestrian scale lighting at marked crosswalk helps improve visibility.

Curb extensions shorten the distance for people crossing busy streets.

RECOMMENDED DESIGN: NW 22ND & NW GLISAN



CI.5 NW Vaughn St

PROJECT DESCRIPTION

Improvements to crossings and multimodal safety treatments at intersections will make this busy corridor easier to traverse and improve access to employment areas north of the district. A transit priority lane approaching the intersection of NW 23rd Ave and NW Vaughn St will help get transit users out of regional traffic and through this busy intersection.

PROJECT ELEMENTS:

- Crossing improvement
- Improvement to signalized intersection
- Diverted Vehicle Movements
- Bikeway Intersection Improvements
- Transit Priority Lane

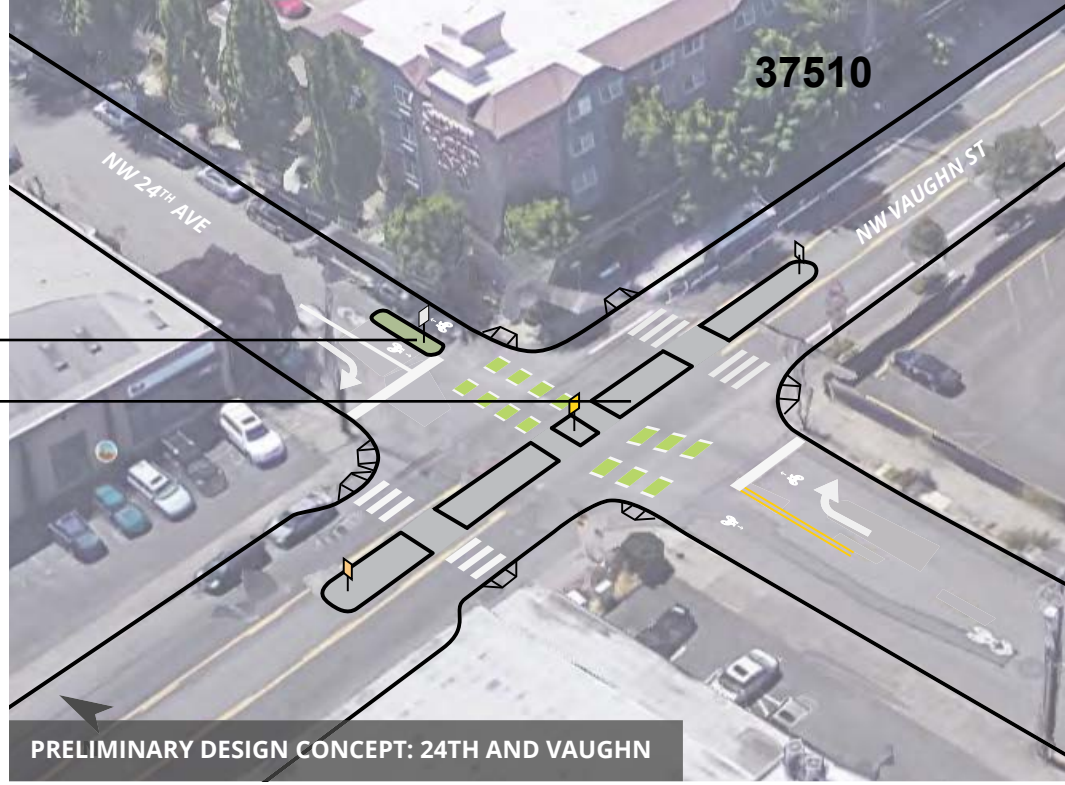
RECOMMENDED DESIGN

NW Vaughn St at NW 24th Ave

A combination median island and traffic diverter across NW Vaughn St provides a range of benefits for multiple roadway users. For people walking or biking, the median island shortens the crossing distance and allows them to only have to navigate one travel lane at time. For people driving, they are redirected to nearby signalized intersections which provide safer left turn opportunities. The median also acts as a diverter, reducing cut-through traffic on the NW 24th Ave Neighborhood Greenway.

Southbound turning vehicle movements from NW Vaughn St would be prohibited.

Median island makes crossing this busy street safer and more comfortable for people walking.



PRELIMINARY DESIGN CONCEPT: 24TH AND VAUGHN

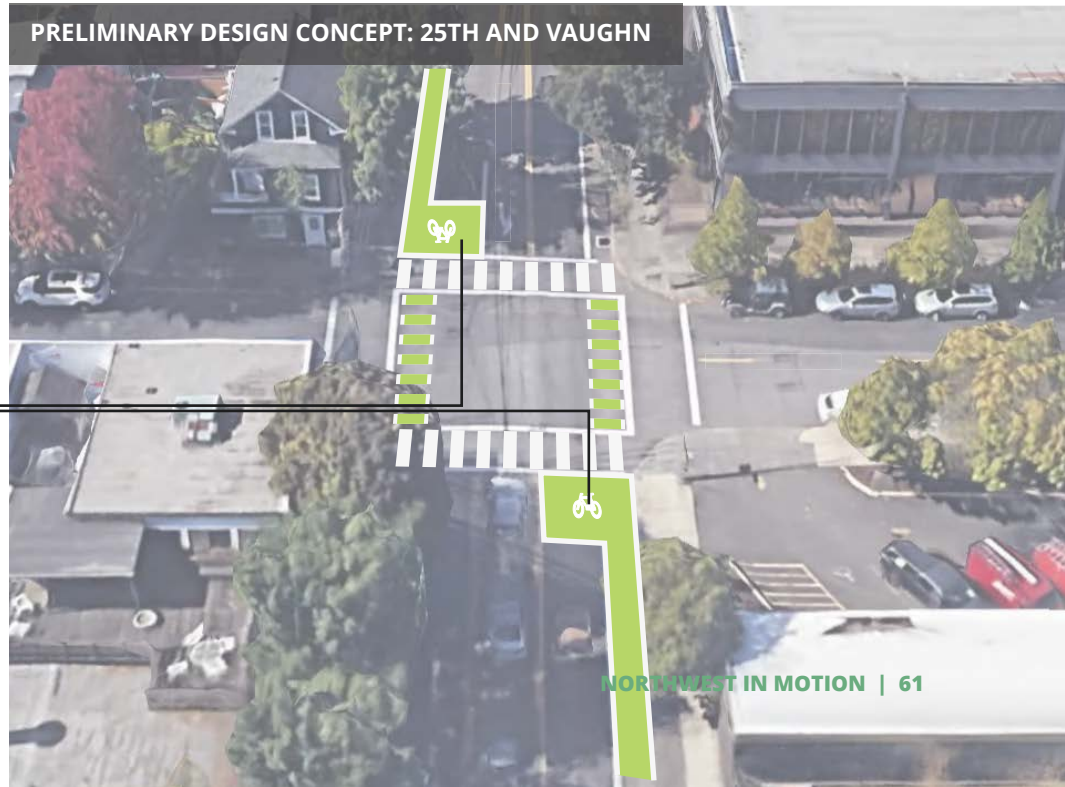
RECOMMENDED DESIGN

NW Vaughn St at NW 25th Ave

To address a documented safety issue of left-turning vehicles conflicting with oncoming bikes, this concept shows green bike boxes and conflict markings to better warn drivers to watch out for bikes and yield to them when turning. High-visibility crosswalks can also be added to improve pedestrian safety while crossing.

"Bike Boxes" improve visibility and safety for people bicycling.

PRELIMINARY DESIGN CONCEPT: 25TH AND VAUGHN



TIER 2 PROJECTS OVERVIEW

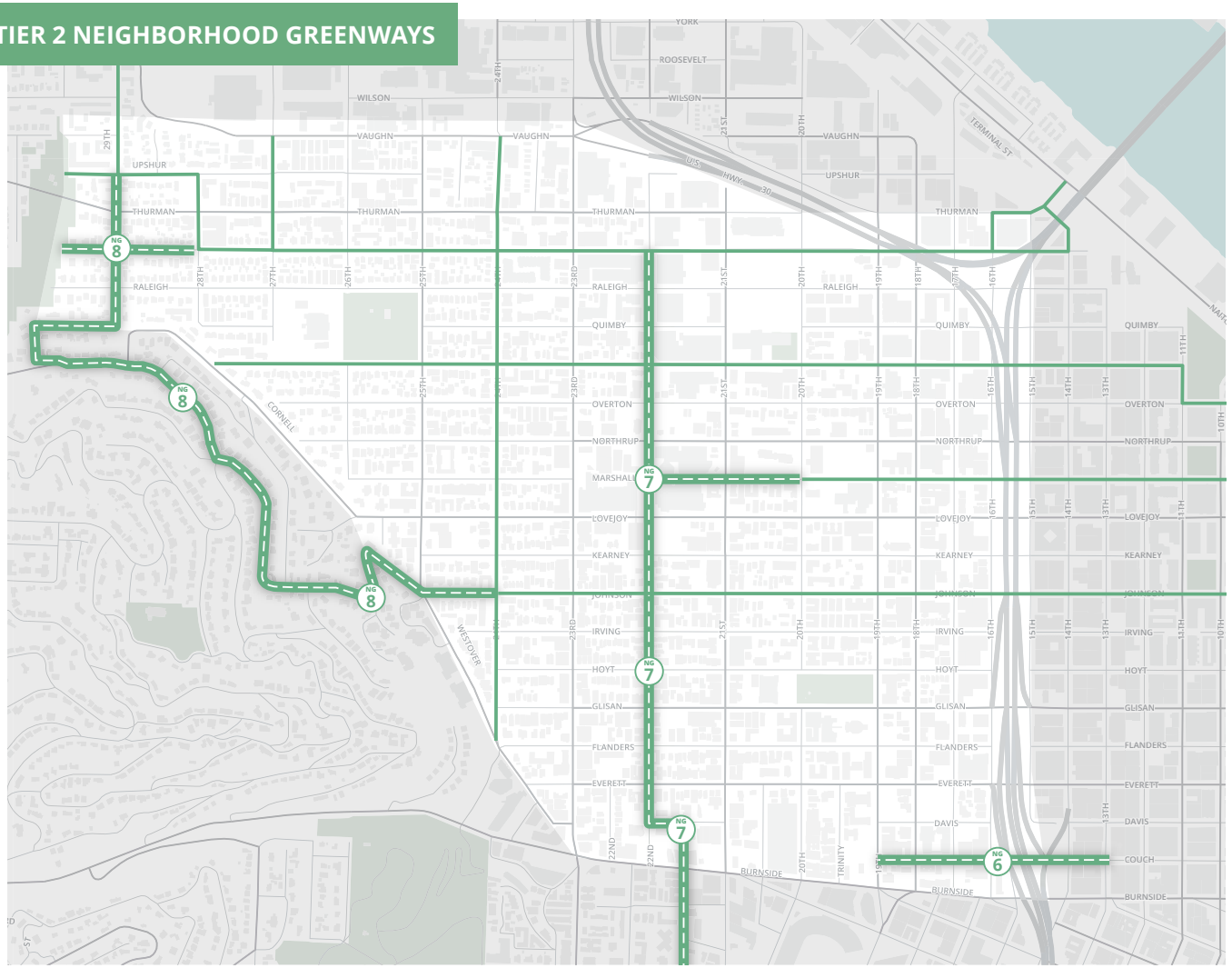
Neighborhood Greenways

NG.6 | NW Couch St
Bikeway connection over I-405 including enhanced crossings and a combination of bike lanes and shared roadway treatments.

NG.7 | NW 22nd Ave & NW Marshall St Extension
Closing a gap in the neighborhood greenway network and providing a connection to Legacy Good Samaritan Campus.

NG.8 | NW Westover Rd / Macleay Park Circulation
Speed bumps, shared lane markings and improvements to existing diverters to provide a connection between Hillside and NW neighborhoods.

TIER 2 NEIGHBORHOOD GREENWAYS



TIER 2 PROJECTS OVERVIEW

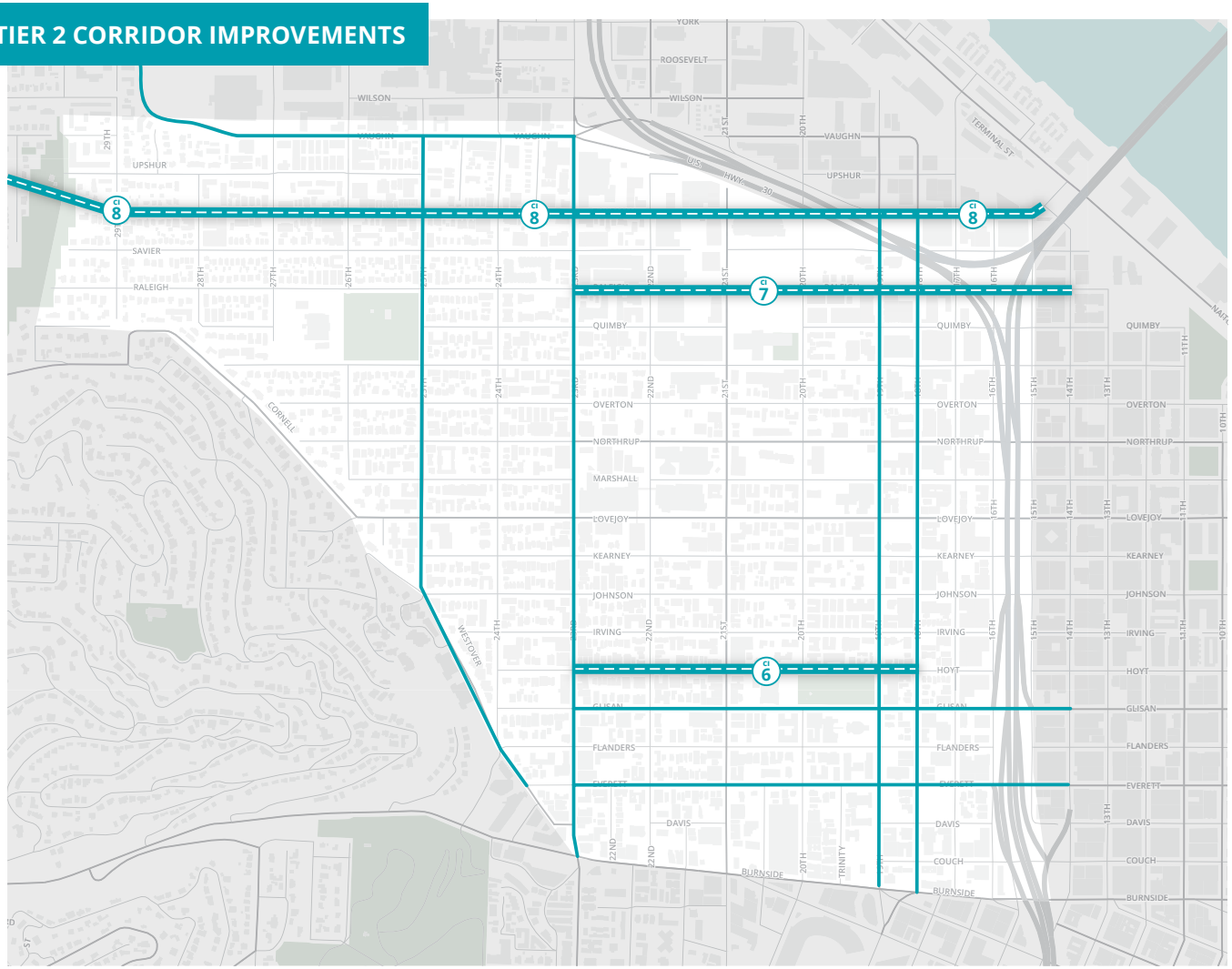
Corridor Improvements

CI.6 | NW Hoyt St
Add marked crosswalks and curb extensions at intersections with major streets.

CI.7 | NW Raleigh St
Add curb extensions, marked crosswalks, and improvements to support future transit service.

CI.8 | NW Thurman St
Improve pedestrian safety along main street portion of Thurman by adding curb extensions and marked crosswalks at all-way stops. Add bike lanes from NW 14th to NW 19th Ave. Consider climbing bike lane and traffic calming from NW 28th Ave across the Thurman Street Bridge.

TIER 2 CORRIDOR IMPROVEMENTS



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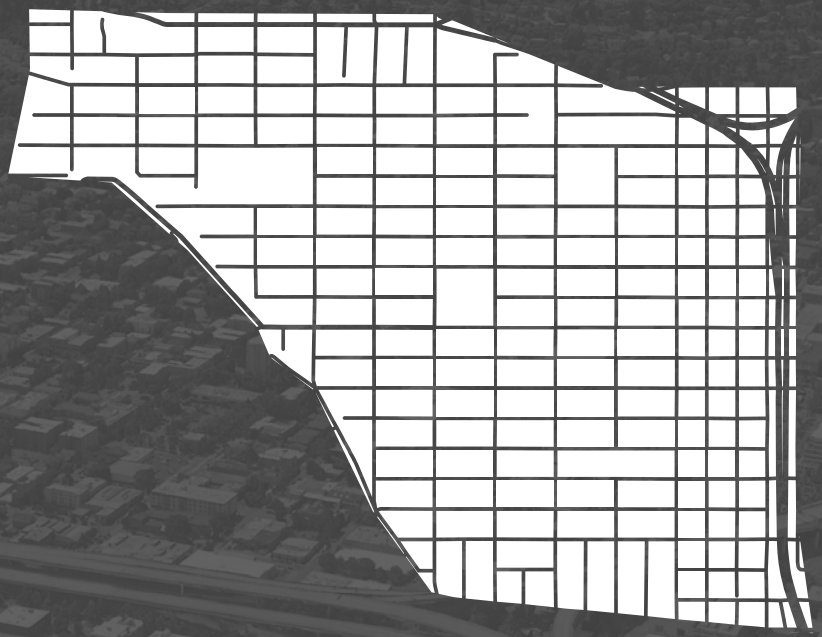


CHAPTER 04

PROGRAM & POLICY RECOMMENDATIONS

In addition to projects, *Northwest in Motion* includes a series of program and policy-based recommendations. These include 10 program recommendations to be applied broadly through the district as well as updates to bicycle, transit, and traffic street classifications.

Program Recommendations

Northwest in Motion contains a series of programmatic recommendations that are distinct from individual projects. **These recommendations are intended to be applied throughout the district - both in places where recommended projects exist, but also more broadly and comprehensively.**

The 10 programmatic recommendations synthesize key themes from our public engagement process, complement projects outlined in the previous chapter, and support the plan's overall goals.

Some of the ideas contained in this chapter draw on existing or recent planning efforts such as PedPDX, Portland's new Pedestrian Master Plan, or the Rose Lanes Project, a recently adopted vision of citywide transit priority streets.

There are also some new ideas to consider that draw on case studies from cities throughout North America and Europe. Some of these require collaboration with other transportation agencies such as TriMet while others will be best implemented by local businesses, resident advocates, or through private development.

LIST OF PROGRAM RECOMMENDATIONS

PROGRAM RECOMMENDATION #1

Make Improvements to Street Lighting

Community members have consistently expressed concerns about inadequate street lighting throughout the district, especially for pedestrians. Furthermore, the issue of inadequate street lighting is a common concern that PBOT has heard time and time again when we ask Portlanders of Color - specifically Black Portlanders - what would make them feel safer when walking on city streets. Streets and intersections are typically lit by cobra-head lights that mainly illuminate the roadway, rather than the sidewalks and corners where pedestrians are walking and trying to cross the street. The Northwest District also features a dense tree canopy, which is generally praised as a feature of walkable urbanism in Northwest. However, the dense canopy can sometime translate to darker sidewalks or intersections. These issues combine to make pedestrians more vulnerable in low-light conditions.

One way to address these issues is to include pedestrian-scaled lighting where needed as a part of capital projects such as enhanced pedestrian crossings. PBOT has a standard practice to evaluate pedestrian light levels at all new or upgraded enhanced pedestrian crossings, and add pedestrian-scale light poles at those locations. This practice has already led to more pedestrian-scale lighting in the area, and more will be added over time *Northwest in Motion* projects are built out.

To address lighting concerns in other areas of the district that are not on the project list, an additional proactive evaluation of lighting levels at existing intersections and crossings should be conducted to develop an inventory of lighting needs. There is also a need to identify and allocate ongoing funding for infill lighting to address the lighting evaluation findings, prioritizing first the designated main streets, neighborhood greenways, and Safe Routes to School in the area. This Plan also recommends incorporating needed pedestrian lighting into the required frontage improvements constructed by new developments, where feasible and appropriate, as is currently the practice in the Con Way Master Plan area.

Finally, *Northwest in Motion* recommends **more proactive tree maintenance in the right-of-way to address the concerns of existing lighting being blocked by large trees.**

Example of pedestrian-scale lighting in Northwest Portland.

RECOMMENDED ACTIONS

- **Develop an inventory of lighting needs and deficiencies throughout the district.**
- **Identify a funding strategy to address a prioritized list of lighting needs.**
- **Incorporate lighting requirements into frontage requirements for new development.**
- **Develop a strategy to proactively maintain trees impacting street lighting levels.**

PROGRAM RECOMMENDATION #2

Improve Visibility at Intersections

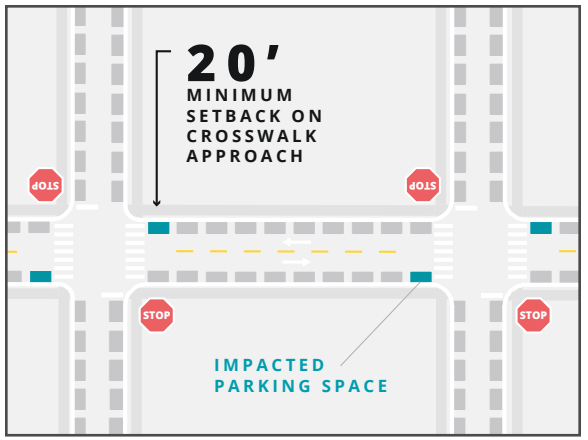
Throughout the City of Portland, vehicles have historically been allowed to park right up to the edge of the street corner - encroaching on the pedestrian zone and limiting the field of vision for all roadway users. Notably, Oregon state law and the Oregon Driver Manual specifically states that parking is prohibited within 20 feet of a marked or unmarked crosswalk or intersection, unless a local jurisdiction has different regulations or guidance. In the past, the City has often permitted parking adjacent to an intersection or crosswalk. This regulatory situation is uncommon in most major American cities and creates a stressful and unsafe condition for people walking, biking and driving - especially in denser areas of the city with more pedestrian activity.

In June of 2019, Portland City Council unanimously adopted PedPDX, the City of Portland's update to the 1998 Pedestrian Master Plan. In addition to an inventory of needs and a prioritized framework for investing in sidewalks and crossings, PedPDX contains the "PedPDX Implementation Toolbox" which outlines many strategies and actions to improve walking in Portland. Key among these recommendations is to implement new 'vision clearance' guidelines as part of new PBOT capital projects, development review, and paving projects. As a default strategy for new projects, this recommended action recommends creating a 20 foot parking setback at the approaches of all marked and unmarked crosswalks to improve visibility at uncontrolled intersections.

Further, PedPDX recommends the additional action of identifying key intersections for retroactive vision clearance implemented by programs such as Safe Routes to School, neighborhood greenways, Vision Zero and Pedestrian Network Completion Programs.

Northwest in Motion intends to build upon this prior planning work by recommending vision clearance guidelines be applied on all streets classified in the Transportation System Plan as Major City Walkways, City Walkways, or Neighborhood Walkways - which generally include busy streets, neighborhood greenways, and Safe Routes to School.

Northwest in Motion also recommends that a district-wide assessment be conducted in collaboration with the Northwest Parking Stakeholder Advisory Committee to evaluate intersection daylighting needs at all uncontrolled intersections. As this district largely falls within a parking meter district, a traffic engineer evaluation is required at each intersection. This evaluation should consider adding additional four-way stops as needed to avoid unnecessary parking removal. It should also include an assessment of current setbacks and the location of street amenities that could be added or relocated within the 20ft setback to maximize the efficient use of the curb zone and minimize impacts to on-street parking.



PedPDX recommends a 20 ft setback at uncontrolled approaches to provide better visibility for people crossing the street.

RECOMMENDED ACTIONS

- **Evalaute intersection daylighting guidelines on all new projects.**
- **Complete a district-wide assessment of intersection daylighting needs, including opportunities to relocate and add new streetscape amenities in the setback area.**
- **Secure funding to implement a comprehensive intersection daylighting strategy in the Northwest District.**

Removing street parking from intersections allows space for important transportation-related amenities like improved transit stations, Biketown stations, shared scooter parking, and bicycle corrals.

ADDITIONAL CONSIDERATIONS

What happens within the extra space created by creating vision clearance (parking setbacks) at intersections?

One advantage of setting back parking is that it creates extra space in the right-of-way for other amenities. **These spaces at intersections should be used for things like curb extensions, bike corrals, Biketown stations, e-scooter parking zones, street seats, community parklets, transit platforms, benches, or wayfinding kiosks.**

Some of these improvements would be more expensive, requiring concrete construction, but others can be constructed using low-cost materials without having to move curbs. Bike parking, e-scooter parking, and street seats in particular would be effective and affordable choices for spaces adjacent to main streets, since there is a high need for bike parking and sidewalk seating in the commercial districts.

PROGRAM RECOMMENDATION #3

Design for Slow Speeds Throughout the District

At the beginning of 2018, Portland City Council approved a local ordinance lowering the speed limit on all residential streets within the City of Portland to 20mph. This action was in support of the City's commitment to Vision Zero, an international movement of cities dedicated to eliminating all transportation related deaths and serious injuries.

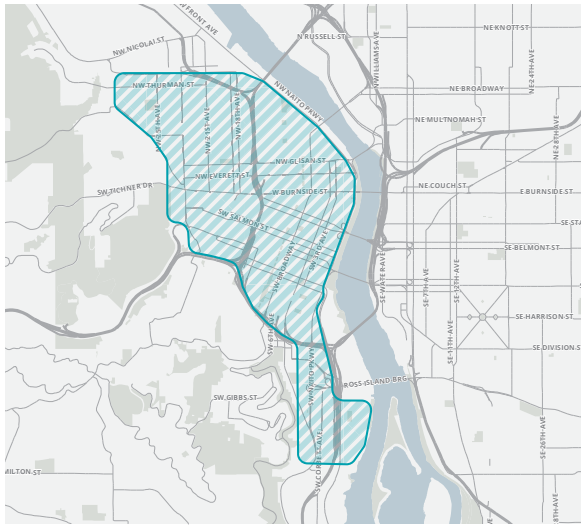
Speed is one of the most important factors determining the severity of a crash. A person walking who is stuck by a vehicle at 20mph faces a 10% likelihood of death or serious injury. When speeds increase to 30mph, this likelihood increases to 40%. At 40mph, it doubles to 80%. Lower speeds are a crucial strategy in improving safety of all roadway users - especially those who are most vulnerable.

During the development of Northwest in Motion, speed limits were reduced on the handful of remaining streets with speed limits higher than 20mph. These streets included: NW Vaughn St, NW Lovejoy St, NW Glisan St, NW Everett St, NW 19th Ave, NW 18th Ave, NW 16th Ave, and sections of NW Thurman St, NW Cornell Rd, and NW Westover Rd. Taken together with the adjacent Pearl District and Downtown Neighborhoods, this speed limit reduction created one of the largest urban slow zones in North America - with the notable exception of W Burnside St.

As a complementary future strategy, Northwest in Motion recommends that PBOT consider ways to further strengthen the district's identity as places with slow speeds and strong pedestrian and social activity. This could include actions such as district-wide traffic calming and strategic use of tools, such as speed bumps to reduce speeds. Designing for slow speeds also means speed limits can be "self-enforced" through urban design, requiring less interactions between Portlanders and traffic enforcement.

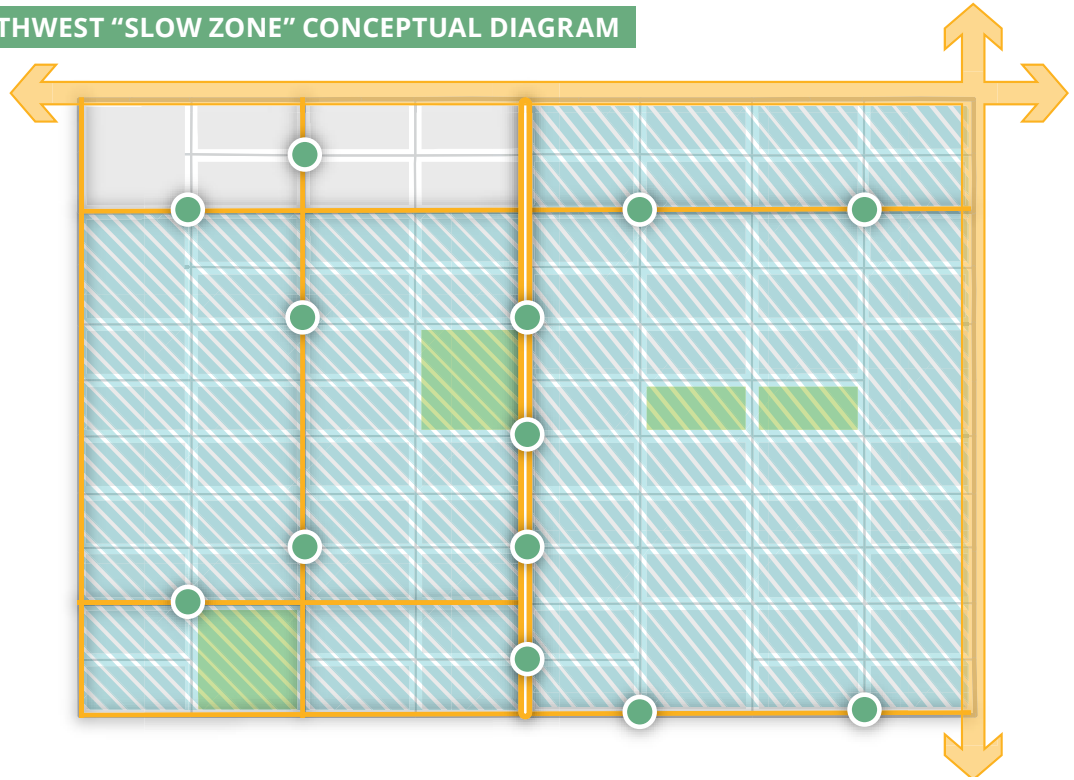
One way of achieving this is through the adaptation of a "Slow Zone" program to the Northwest District, based on successful case studies of this applied strategy in the UK, Germany, and New York City. While implementation varies from city to city, a shared characteristic of Slow Zones are intensely traffic calmed streets where the street is shared amongst all users. They are places where people walking, playing and engaging in social activity are prioritized above the speed and circulation of private vehicles. Custom signage and distinct sub-district home zone boundaries are initial steps the bureau can take for future refinement and exploration of this concept. Additional tools, such as further speed reductions, seasonal play and social infrastructure, or reallocation of street space can be useful tools for future consideration.

In 2018, the City of Portland lowered the speed limit to 20mph on all local streets. In 2020, this speed was applied to busier streets in Northwest Portland creating a continuous 20 mph district.



Full extent of existing 20 mph slow zone in the westside neighborhoods of Northwest, Pearl District and Downtown Portland - bisected only by W Burnside Street.

NORTHWEST "SLOW ZONE" CONCEPTUAL DIAGRAM



Custom signage, such as the concept mock-up above, should be placed at the edges of the slow zone, to inform people of the slow, shared characteristics of the street.

Concept Level "Slow Zones"
"Slow Zones" are traffic calmed neighborhood streets, where cars operate as guests in a shared roadway environment. Additional elements to support the social life of the street can include public benches and areas for play and recreation. These areas are scaled at roughly half-mile by half-mile areas and bounded by designated boundary streets. Signage and other elements are recommended at 'portals' into the 'home zone' area at boundary and access streets. In these environments, a further speed limit reduction to 15mph may be appropriate for future consideration.

District Edges
Busy regional traffic streets define the edge of the Northwest district.

Boundary Streets
Boundary streets are the main portals for vehicles traveling through and into the neighborhood.

Access Streets
Low-speed streets that are able to accommodate high vehicle volumes at low speeds.

Slow "Portal"
Opportunity for special signage and 'gateway' traffic calming treatment at edge of designated home zone.

RECOMMENDED ACTIONS

- **Monitor traffic speeds through Northwest Portland to identify areas where traffic speeds continue to exceed 20 mph.**
- **Use district-wide traffic calming as needed to reduce speeds throughout the district through a lens of 'designing for 20mph"**
- **Work with community partners to implement a pilot "slow zone" traffic calmed district in Northwest Portland.**

PROGRAM RECOMMENDATION #4

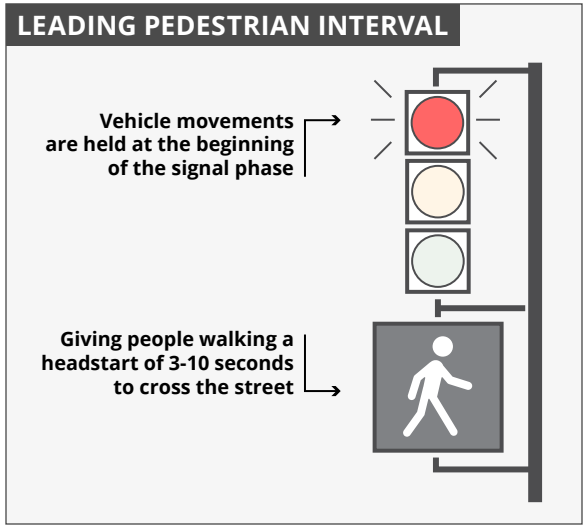
Make Safety Improvements at Signalized Intersections

Northwest in Motion identifies multiple strategies to improve safety at signalized intersections.

#1 LEADING PEDESTRIAN INTERVAL

Conflicts between motor vehicles and pedestrians at signalized intersections have been a growing concern in the Northwest District. The biggest risk is when motor vehicle traffic is allowed to turn right or left concurrently with the pedestrian walk phase. Drivers often turn as soon as the signal turns green, and do not always see pedestrians trying to cross at the same time. This situation is commonly found at most traffic signals in the Northwest District.

An effective tool in addressing this conflict is to provide a "leading pedestrian interval", starting the walk phase 3 to 10 seconds before the signal turns green for motor vehicle traffic. This gives pedestrians a head start and they will often clear the intersection before traffic starts turning. PBOT is moving towards making these leading pedestrian intervals the normal practice at all signals citywide, but it will take time and funding to readjust the signals. ***Northwest in Motion*** **recommends starting with Pedestrian Districts, including the ones in the project area, to ensure this change is benefiting the areas with the most pedestrians.**



#2 PROTECTED TURN PHASING

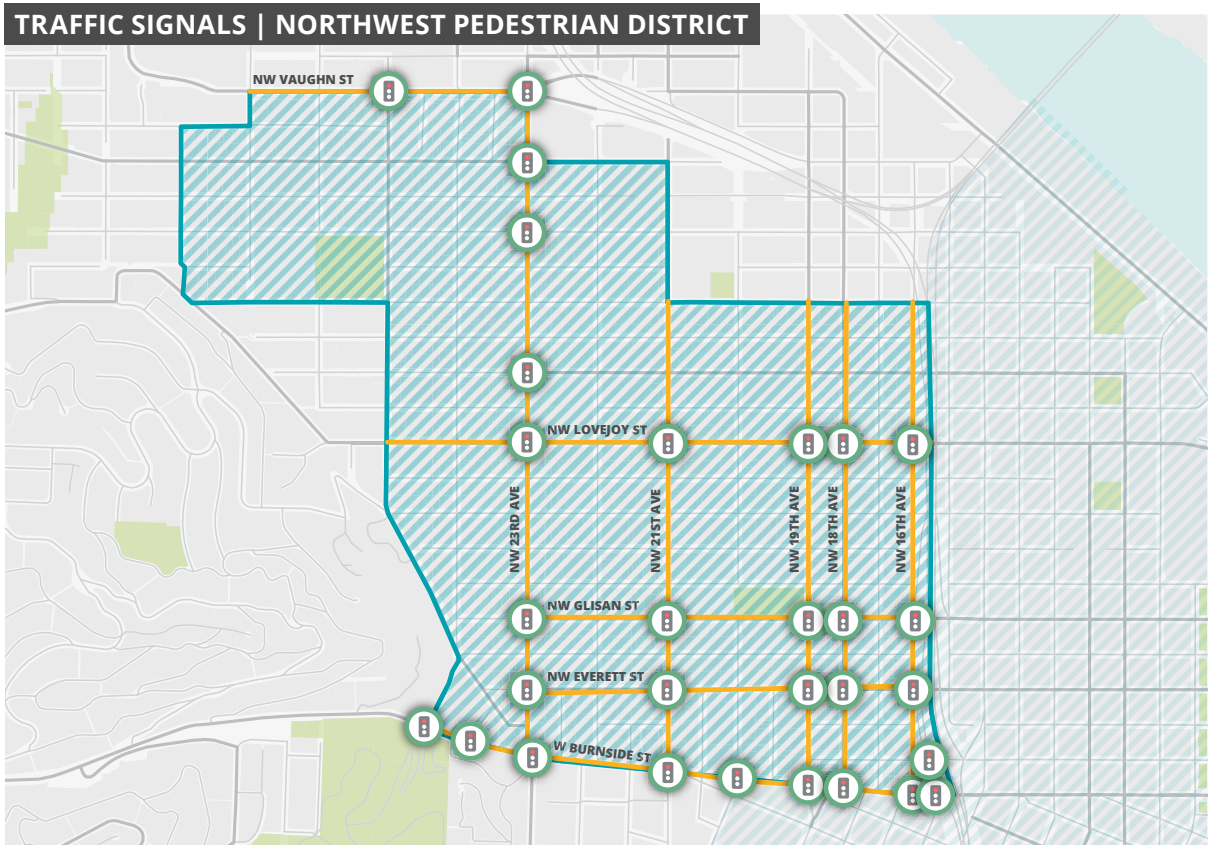
Another strategy to reduce conflicts between turning vehicles and pedestrians is to provide protected turn phasing. PedPDX established new guidelines and practices for protected turn phasing, making it more of a typical practice at new or upgraded traffic signals on major roadways. Older traffic signals are often unable to provide protected turn phasing, so there are situations where this improvement will need to be phased-in as aging signals are replaced. ***Northwest in Motion*** **recommends that PBOT look for opportunities to retrofit existing signals where feasible to provide greater separation of phases to reduce conflicts.**

"Left-Turn" calming installed as part of a pilot project in Southeast Portland.

#3 TURNING MOVEMENT TRAFFIC CALMING

PBOT has recently begun piloting a series of low-cost intersection treatments designed to slow down traffic as they turn left or right at signalized intersections. These usually take the form of modular speed bumps or traffic separators that encourage slow turns and a tighter turning radius, which reduces the risk of a fatal or serious injury crash. Some of these have been installed along West Burnside within the project area. The initial results have been encouraging enough that PBOT plans to deploy these solutions in more locations and will continue to monitor their effectiveness in improving safety. ***Northwest in Motion*** **recommends that these treatments be installed at signals in the project area that show pedestrian crash history or risk factors.**

TRAFFIC SIGNALS | NORTHWEST PEDESTRIAN DISTRICT



Northwest in Motion recommended a No-Turn-On-Red pilot in the Northwest Pedestrian District (pictured above in hatched blue)

#4 NO-TURN-ON-RED

PBOT has received feedback from the public through multiple planning processes, including the Transportation System Plan (TSP), Vision Zero Action Plan, PedPDX, and Northwest in Motion, that motor vehicle "turns on red" have become a growing problem for pedestrian comfort and safety throughout the City and especially in high-volume pedestrian areas.

Additionally, research has shown that restricting turns on red has a demonstrated crash reduction factor for all modes, but especially for vehicle/bicycle and vehicle/pedestrian crashes. **Northwest in Motion recommends a "no turn on red" pilot program in the Northwest Pedestrian District, which encompasses most of the *Northwest in Motion* project area.**

RECOMMENDED ACTIONS

- **Develop and implement a 'No-Turn-On-Red" pilot program in the Northwest Pedestrian District.**
- **Seek opportunities for signal improvement and modifications to eliminate permissive left turns.**
- **Retrofit all existing signalized intersections within the Northwest Pedestrian District to have a leading pedestrian interval.**
- **Implement 'turn calming' at intersections with safety concerns or a history of crashes.**

PROGRAM RECOMMENDATION #5

Explore Opportunities for Innovative Crossing Treatments

Throughout the planning process, community members have expressed significant concerns about how the high volumes of both pedestrians and motor vehicle traffic can lead to conflicts along busy pedestrian corridors. At intersections, pedestrians typically have to leave the sidewalk to cross the street, even a minor side street, and people driving have a tendency to turn in front of pedestrians on and off these side streets.

CONTINUOUS SIDE-STREET CROSSINGS

One tool used in many cities to emphasize pedestrian priority along main streets is the "continuous street crossing." This consists of extending the sidewalk through the intersection along the main street and designing the side street entrance more like a driveway, with pedestrians staying at sidewalk level and cars traveling up and over the sidewalk to access the side street.

This design provides a clear design cue that cars are "guests" in this space and pedestrians have priority over motor vehicles. It slows down traffic making turns and encourages waiting for pedestrians to clear before turning. This design also provides much better accessibility for people with disabilities, since it keeps the sidewalk level and does not require curb ramps.

A raised crosswalk on a busy main street in Stockholm, Sweden. This design prioritizes people walking by offering a continuous, accessible pedestrian experience. Vehicles entering the space must travel up to sidewalk level when entering the street, which improves yielding behavior and encourages slower turning speeds.

PBOT is currently developing standard designs for side street crossings to ensure they work for various types of vehicles and hopes to begin deploying them where feasible and affordable as part of streetscape projects in the future. Because this treatment can be costly, requiring full reconstruction of a leg of an intersection and changes to stormwater management, the most common application would likely be in conjunction with major capital projects that already include a great deal of civil improvements such as ADA curb ramp construction. **This design is recommended for multiple Northwest in Motion projects - including the larger-scale long term vision of a rebuild of NW 23rd Ave north of NW Lovejoy St and at the intersection of NW Westover Rd and NW 23rd Ave.**

Examples of raised crosswalk intersection designs from North American cities, including a retrofit design (left - Victoria, BC) and a major re-design of Bell St in Seattle, WA.

MID-BLOCK CROSSINGS

Mid-block crossings are another type of improvement that could be incorporated into roadway projects, implemented along with redevelopment projects, or built in a programmatic way around the district. The clearest opportunity for mid-block crossings in the Northwest District is on the east-west "long blocks" west of NW 19th Ave. These blocks are twice as long as typical Portland blocks, and in some cases would benefit from a mid-block crossing to calm traffic and make it easier to cross the street as a pedestrian. Implementation of mid-block crossings requires a context-sensitive approach and can be complicated by the placement of driveways, utilities, and other obstructions. They also would likely require building new curb ramps and additional lighting. An alternative approach to curb ramps would be to build raised mid-block crosswalks on top of speed tables, but this is only permitted on Minor Emergency Response Routes. Rather than incorporate new mid-block crossings into projects by default, ***Northwest in Motion*** **recommends they are included where feasible and where they would provide particular benefit. The Plan also recommends they be incorporated into large redevelopment projects where feasible**, similar to the approach found in the Con-Way Master Plan, and that PBOT work with the community in the future to identify top priority locations for new mid-block crossings.

RECOMMENDED ACTIONS

- **Develop an approved design for a raised sidewalk crossing for consideration in future capital projects on Portland's commercial main streets, such as NW 23rd Ave or NW Thurman St.**

- **Conduct a cost comparison study for constructing two ADA curb ramps versus a raised side street crossing, to determine if there is a significant cost difference between the two.**

PROGRAM RECOMMENDATION #6

Develop Better Tools for Community Placemaking

In many ways, a city's streets are its most valuable public spaces as they are a place where neighbors interact, socialize, connect and build new bonds with one another. Street murals, parklets, street seats, painted curb extensions, and temporary pedestrian plazas are all local examples of pop-up and interim placemaking in Portland. Often referred to as *Tactical Urbanism*, these strategies can be broadly defined as "an approach to neighborhood building and activation using short-term, low-cost, and scalable interventions and policies." These types of strategies can strengthen these social bonds and allow for new possibilities for place-making and social activity within the right-of-way.

Within this plan there are multiple projects that contain elements of placemaking and support the social life of the street. While this plan is limited by a short-term implementation window, there are a number of opportunities to invest in and create opportunities for great places to come to fruition later down the road.

A scan of best practices reveal that most of the required elements of tactical urbanism are relatively inexpensive, simple, and common. Under the leadership of Commissioner Janette Sadik-Khan, the New York City Department of Transportation undertook a number of transformational projects which fully re-imagined auto-oriented spaces throughout New York City and created a series of adored pedestrian plazas and public spaces of all sizes. These big projects often started small. With the delineation of space with striping and posts, application of epoxy gravel or paint in the roadway, and a few movable planters and tables, Sadik-Khan's DOT could easily establish interim plazas which would create the opportunity for community-led refinement, programming, and implementation of more permanent investments.

CASE-STUDY:
FOWLER SQUARE, BROOKLYN, NY

The evolution of a plaza from interim design to permanent investment at Fowler Square in Brooklyn, NY is a great example of interim community-making inspiring a long-term investment in a new public space.

BEFORE (2012)

AFTER (2019)

Street Seat Example (Portland)

Creative Curb Extension (Portland)

PBOT's Portland in the Streets program already possesses a range of program areas supportive of these goals. For instance, enhancing interim materials with street murals to make *creative crosswalks and crossings* is a demonstrated strategy that helps bring community together and add a bit of whimsical beauty to otherwise drab interim implementation materials.

Another program area currently underdeveloped in Northwest Portland is the *street seats* program, which allows main street businesses to apply to repurpose street parking into other public uses such as restaurant seating or a parklet.

In response to the COVID-19 pandemic, many small businesses within the Northwest District applied for permits for temporary street seats to allow for businesses to operate safely and adhere to social-distancing guidelines through the Safe Streets | Healthy Businesses program. Lessons learned from the widespread application of these spaces within the district can provide insight into how the program can be improved and expanded in future years. To strengthen these programs, Northwest in Motion recommends that PBOT adopt new tools such as the use of epoxy gravel, planters, and movable street furniture to support better implementation of interim public spaces and active transportation investments.

RECOMMENDED ACTION

- **Expand the set of approved tools available for interim plazas and treatments in the right-of-way to include the use of epoxy gravel, street planters, and movable street furniture.**

- **Identify community partners to support opportunities for public art, maintenance of vegetation, and other decorative elements in the right-of-way.**

PROGRAM RECOMMENDATION #7

Invest in Main Streets

One common theme in both public outreach and staff analysis during the Northwest in Motion planning process was the need for main street improvements in the project area.

The analysis found that main street commercial corridors such as NW 21st Ave, NW 23rd Ave, and NW Thurman St are often lacking in adequate pedestrian through zones and frontage zones, to the extent that large volumes of pedestrians can have difficulty navigating along these busy streets. Some of this is due to lack of right-of-way, as older buildings were constructed closer to the roadway. In these cases, the typical approach is to wait for properties to redevelop, at which time more right-of-way will be dedicated, and wider sidewalks will be constructed. However, given the high number of historic properties that are unlikely to redevelop anytime soon, the Northwest in Motion Plan recommends that PBOT partner with business and neighborhood organizations to identify opportunities to strategically expand the pedestrian realm into the roadway in places where it will make the most positive difference.

This could be done using street seats, where parking spaces are instead used for outdoor seating, by putting planters or trees between parked cars, or by replacing parking spaces with bike corrals. All these tools move certain functions into the curb zone and out of the limited pedestrian corridor where pedestrian movement should be prioritized.

Street seating in the curb-zone can allow business to provide outdoor seating and enhance the streetscape while still permitting adequate space for people to walk by.

Even where pedestrian corridors are considered adequate, they don't function properly because of A-boards, outdoor seating, and bus shelters encroaching into the pedestrian through zones. To address this, the Northwest in Motion Plan recommends that PBOT undertake a more proactive effort to enforce A-board placement and outdoor seating permits, ensuring that minimum pedestrian through zones are maintained at all times. The Plan also recommends that TriMet re-evaluate bus shelter placement to address locations where bus shelters are located within the pedestrian through zone and move them to a more appropriate location where feasible.

RECOMMENDED ACTIONS

- **Develop partnerships between PBOT and local businesses to identify opportunities to expand the pedestrian through zone.**
- **Maintain adequate pedestrian through zones through better regulation of outdoor seating, A-boards, and other potential obstructions.**
- **Partner with TriMet to re-evaluate bus stop locations within the pedestrian through zone.**

PROGRAM RECOMMENDATION #8

Invest in Green Streets

Another theme that came up during public outreach was a general desire for more "green street" treatments along certain streets. A typical green street includes wider-than-usual planting strips to accommodate larger-canopy trees or bioswales that bump out into the roadway to manage stormwater. These elements give the street a "greener" feeling but also are more environmentally beneficial uses of the right-of-way.

NW Pettygrove Street is the most practical candidate for green street improvements because it was identified as such in the Northwest District Plan. It has already begun, as the Pearl District segment was constructed as redevelopment occurred. This was due to the 2012 amendment to the River District Right-of-Way Standards, which offered developers three options for required frontage improvements, with varying amounts of on-street parking but always including wider planting strips and more space for trees and landscaping.

To continue this treatment through the Northwest District, the Northwest in Motion Plan recommends future development of a similar right-of-way standard for NW Pettygrove Street west of I-405, or potentially for the entire district to incorporate other types of streets. The Plan also recommends coordination with BES to consider bioswale treatments in the Northwest District as part of capital projects, especially along neighborhood greenways and main streets.

NW Pettygrove Green Street in Pearl District prioritizes the curb-zone for environmental features such as trees and bioswales. The features not only improve the ecological function of the street, but create a pleasant, park-like environment with increased greenery.

Another way to provide more landscaping in NW Portland is to plant trees within the curb-to-curb space where there are narrow sidewalks or conflicts such as driveways or utilities. A recent BES project on Hawthorne Boulevard (between SE 47th and 48th Aves) planted trees between on-street parking stalls to absorb stormwater and provide more tree canopy in an area with narrow sidewalks. Many parts of the Northwest District could benefit from this kind of approach.

RECOMMENDED ACTIONS

- **Develop a future green street right-of-way standard for NW Pettygrove St and potentially other streets within NW.**
- **Coordinate with BES to consider bioswale or other stormwater treatments when developing capital projects.**
- **Explore opportunities to plant trees within the curb-to-curb roadway in cases where trees are unable to be planted in the furnishing zone.**

PROGRAM RECOMMENDATION #9

Invest in Better Transit Stops

Throughout this planning process, the public expressed a need for more and better bus stop amenities such as shelters, benches, and trash cans, in addition to the need for fully accessible stops, especially from people with physical disabilities who rely on transit.

TriMet generally owns and maintains bus stop amenities, though in some cases adjacent businesses or property owners agree to help with maintenance. TriMet has criteria for placement of shelters and other amenities, and PBOT does not have the ability to mandate these amenities. All of this considered, Northwest in Motion recommends that TriMet evaluate the existing amenities in Northwest to see if there are locations that now meet the criteria for new amenities to be added and if there are locations where amenities are deficient and could be improved to meet current guidelines. PBOT and TriMet should work together with private developers to maximize the opportunities for improved transit stops with redevelopment projects.

PBOT does have control over whether or not bus stops are accessible, through roadway design and bus stop design. The most common reason for bus stops being inaccessible to people with disabilities is on-street parking blocking the bus from being able to pull over to the curb. There are a variety of solutions available, including parking removal, curb extensions, and stop location changes.

The Northwest in Motion Plan recommends that PBOT work collaboratively with TriMet to implement accessible stops using these and any other available tools to ensure that no one is prevented from being able to access the transit system.

Improved bus stop with station amenities located outside of pedestrian through-zone.

RECOMMENDED ACTIONS

- **Conduct an inventory of current amenities at bus stops throughout Northwest.**
- **Work with TriMet and private developers to maximize the opportunity for improved transit stops.**
- **Work with TriMet to implement accessible stops through parking removal, curb extensions, or stop relocations.**

PROGRAM RECOMMENDATION #10

Improve ADA Access

During the Northwest in Motion process, community members brought up concerns about the accessibility of the transportation system for people with disabilities. The most common issues raised were the lack of ADA ramps at crosswalks and the poor condition of the sidewalks.

The issue of corners missing ADA-standard ramps is being addressed in several ways. First, PBOT has an ongoing ADA program that pro-actively builds ADA curb ramps every year. Second, PBOT upgrades all corner ramps any time a street is being paved or otherwise upgraded. Third, PBOT has a "curb ramps by request" program in which community members can request specific routes to be upgraded. Finally, many capital improvement projects, such as enhanced pedestrian crossings, must include ADA curb ramp upgrades. Through these various programs and efforts, PBOT has committed to building at least 1500 curb ramps per year. The Northwest in Motion Plan does not recommend any changes to these programs, but it does include capital projects in the plan area that will include ADA upgrades.

The issue of sidewalks in poor enough condition to pose accessibility concerns is especially acute in areas of the Northwest District with mature trees whose roots lift the sidewalks on a regular basis. Portland's typical practice is complaint driven.

New ADA-compliant curb extensions in Northwest Portland.

However, this practice sometimes leads to long delays in repairs being performed, because complaints may take some time to be sent to the City and property owners may not make the repairs right away. There are also equity concerns because some property owners may not be able to pay for such repairs. The *Northwest in Motion Plan* recommends funding a small, ongoing program for proactive sidewalk repair, targeting locations where there have been persistent delays or where property owners have difficulty paying for the repairs.

RECOMMENDED ACTIONS

- **Develop a small, on-going program for sidewalk maintenance and repair.**
- **Continue seeking ADA improvements with new projects and through the 'curb-ramps-by-request' program.**

Recommended Bicycle Classifications Updates

The Northwest in Motion Plan process included an analysis of bicycle classifications to see if updates were needed to support the plan's goals and recommended projects. This analysis primarily looked at the spacing of current and future bicycle priority streets (City Bikeways and Major City Bikeways), aiming for the Bicycle Plan for 2030 recommendation of a bikeway roughly every 800 feet. The analysis found that planned east-west bikeways are too closely-spaced, with so many parallel routes that they fail to give clear guidance on which streets should be prioritized for bikes. It found that north-south bikeways were well-spaced and did not require any changes. The project team also found that some classifications need to be adjusted based on the recommended project alignments.

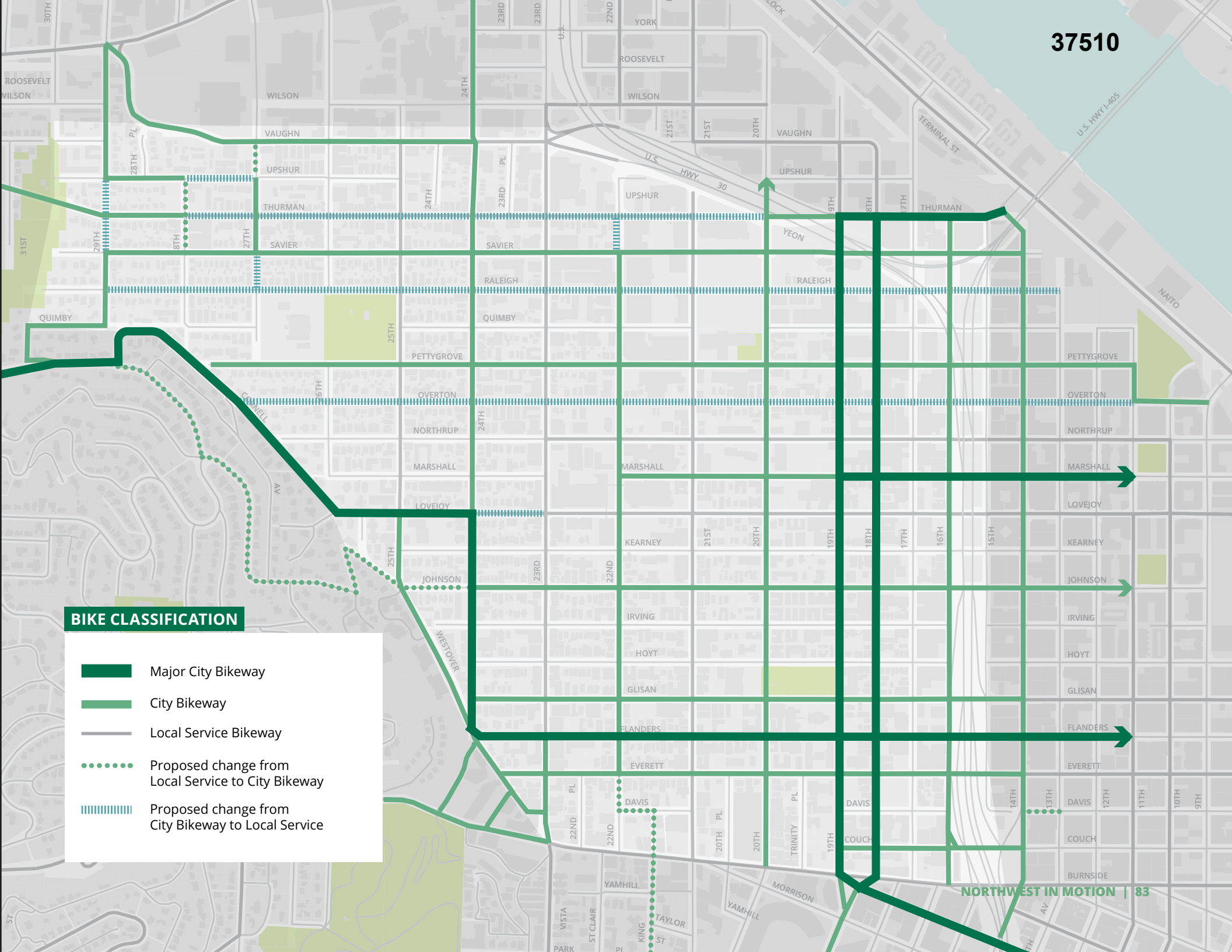
To address these issues, the Northwest in Motion Plan recommends changes to bicycle classifications as displayed on the map on the opposite page. A full detailed list of recommended changes is included in Northwest in Motion Appendix: Recommended Transportation System Plan Updates.

TSP | BICYCLE CLASSIFICATIONS HIERARCHY

MAJOR CITY BIKEWAY

CITY BIKEWAY

LOCAL SERVICE BIKEWAY


37510
BIKE CLASSIFICATION
Major City Bikeway
City Bikeway
Local Service Bikeway
Proposed change from Local Service to City Bikeway
Proposed change from City Bikeway to Local Service
ROOSEVELT
WILSON
VAUGHN
UPSHUR
THURMAN
SAVIER
RALEIGH
QUIMBY
PETTYGROVE
OVERTON
NORTHRUP
MARSHALL
LOVEJOY
KEARNEY
JOHNSON
IRVING
HOYT
GLISAN
FLANDERS
EVERETT
DAVIS
COUCH
BURNSIDE
YAMHILL
MORRISON
TAYLOR
YORK
U.S. HWY. 30
U.S. HWY I-405
TERMINAL ST
YEON
NAITO
CANNELL
WESTOVER
TRINITY PL
ST CLAIR
VISTA
KING
PARK

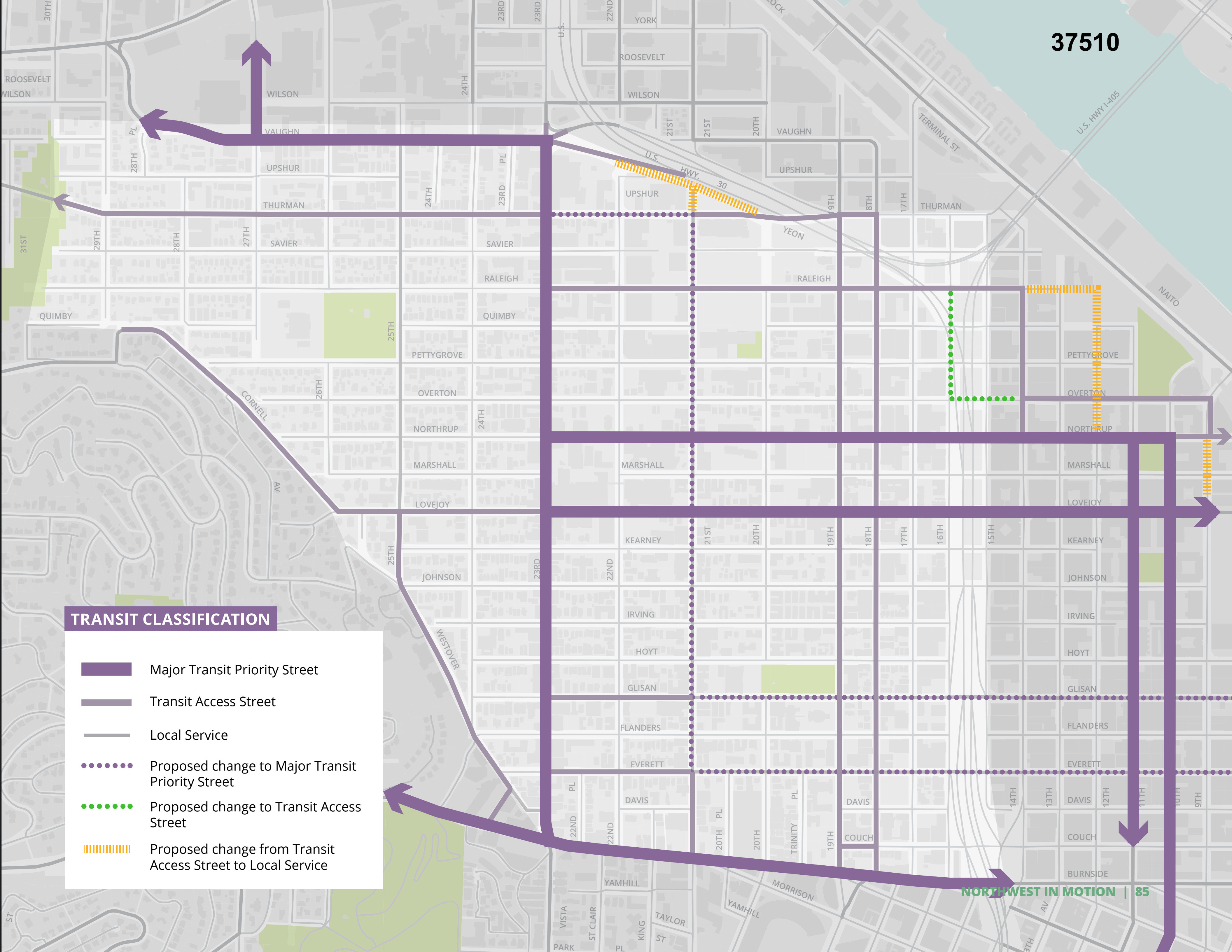
Recommended Transit Classifications Updates

The Northwest in Motion Plan process included an analysis of transit classifications to see if updates were needed to support the plan's goals and recommended projects. The analysis primarily focused on whether the classifications were consistent with TriMet's planned transit network and service levels, to ensure that PBOT appropriately prioritizes and designs streets for transit over time. The primary findings were that the Line 77 route should be changed to a higher classification to reflect the planned upgrade to Frequent Service levels in the coming years, and that the future Line 10 extension route in the north end of the Pearl needs to be adjusted to reflect the most up-to-date street plans for the area.

To address these issues, the Northwest in Motion Plan recommends changes to transit classifications as displayed on the map on the opposite page. A full detailed list of recommended changes is included in Northwest in Motion Appendix: Recommended Transportation System Plan Updates.

TSP | TRANSIT CLASSIFICATIONS HIERARCHY

37510


TRANSIT CLASSIFICATION
Major Transit Priority Street
Transit Access Street
Local Service
Proposed change to Major Transit Priority Street
Proposed change to Transit Access Street
Proposed change from Transit Access Street to Local Service
ROOSEVELT
WILSON
VAUGHN
UPSHUR
THURMAN
SAVIER
RALEIGH
QUIMBY
PETTYGROVE
OVERTON
NORTHRUP
MARSHALL
LOVEJOY
KEARNEY
JOHNSON
IRVING
HOYT
GLISAN
FLANDERS
EVERETT
DAVIS
COUCH
BURNSIDE
YORK
YAMHILL
MORRISON
TAYLOR
YEON
CORNELL
WESTOVER
TERMINAL ST
NAITO
U.S. HWY. 30
U.S. HWY I-405
31ST
30TH
29TH
28TH
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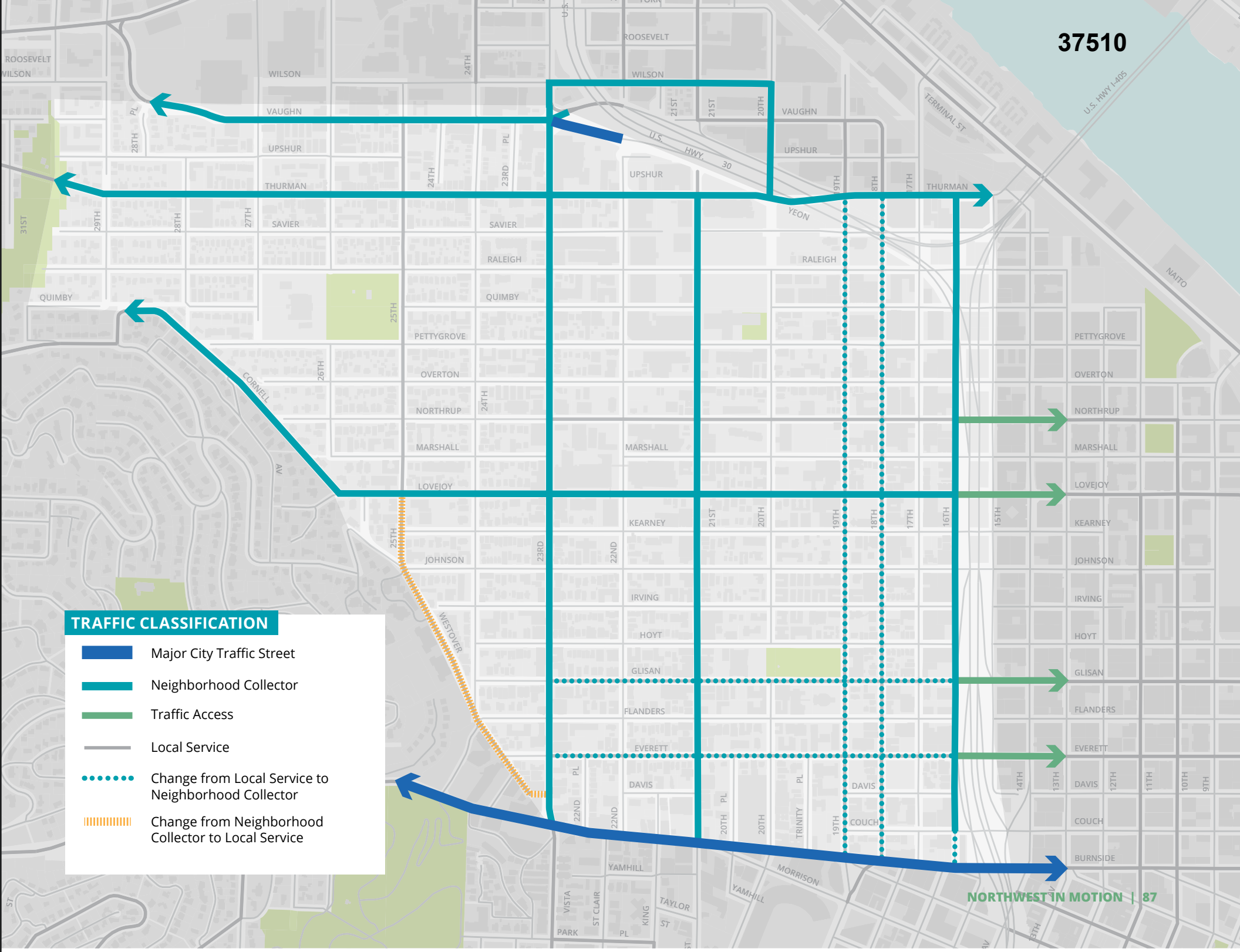
11TH
10TH
9TH
TRINITY
VISTA
ST CLAIR
KING
PARK

Recommended Traffic Classifications Updates

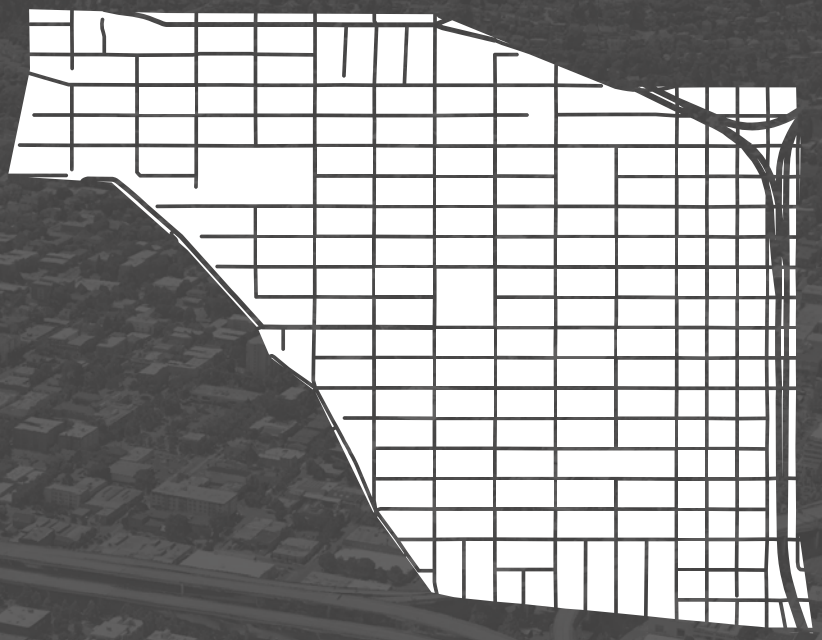
The Northwest in Motion Plan process included an analysis of traffic classifications to see if updates were needed to support the plan's goals and recommended projects. The analysis primarily focused on whether there was a sufficient number of neighborhood collector streets and spacing between them to address traffic distribution needs. The analysis found that the one-way couplets (Everett/Glisan and 18th/19th) in the plan area are already functioning as collector streets and meet the typical criteria to be classified as collectors. By changing these streets to Neighborhood Collector, PBOT can offer more guidance on modal priorities, and give traffic a clear alternative to using neighborhood greenways. The analysis also found that NW 25th Ave and NW Westover St, while currently functioning as collector streets, could feasibly be classified as Local Service in the TSP to reflect neighborhood desires for a long-term reduction in through traffic.

To address these issues, the Northwest in Motion Plan recommends changes to traffic classifications as displayed on the map on the opposite page. A full detailed list of recommended changes is included in Northwest in Motion Appendix: Recommended Transportation System Plan Updates.

TSP | TRAFFIC CLASSIFICATIONS HIERARCHY


37510
TRAFFIC CLASSIFICATION
Major City Traffic Street
Neighborhood Collector
Traffic Access
Local Service
Change from Local Service to Neighborhood Collector
Change from Neighborhood Collector to Local Service
ROOSEVELT
WILSON
VAUGHN
UPSHUR
THURMAN
SAVIER
RALEIGH
QUIMBY
PETTYGROVE
OVERTON
NORTHRUP
MARSHALL
LOVEJOY
KEARNEY
JOHNSON
IRVING
HOYT
GLISAN
FLANDERS
EVERETT
DAVIS
COUCH
BURNSIDE
YAMHILL
MORRISON
TAYLOR
PARK
VISTA
ST CLAIR
KING
TRINITY
WESTOVER
CORNELL
YEON
NAITO
TERMINAL ST
U.S. HWY 30
U.S. HWY I-405

37510



CHAPTER 05

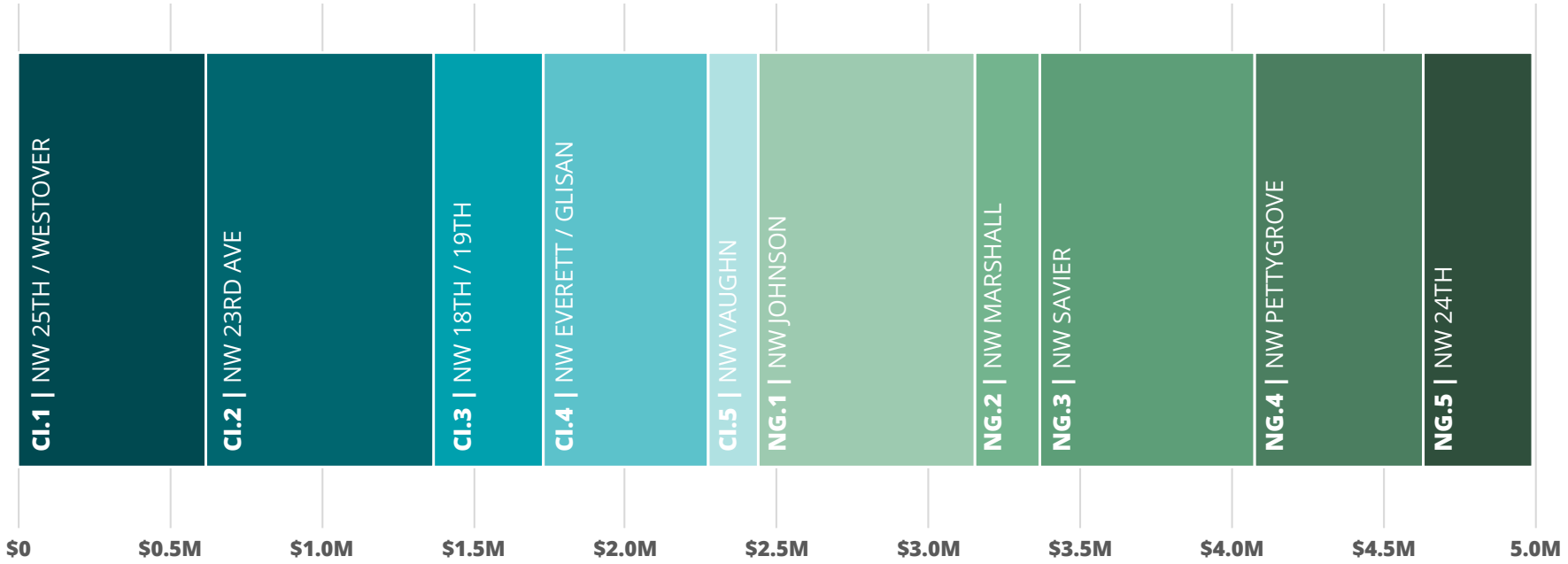
FUNDING STRATEGY & PLAN IMPLEMENTATION

A breakdown of the plan's phased implementation strategy as well as a general overview of how PBOT will monitor and report plan progress and individual project implementation. Also included is an overview of the various funding sources supporting *Northwest in Motion*.

Near-Term Project Costs

The ten recommended Northwest in Motion Tier 1 Projects consist of relatively low-cost capital improvements such as signage and striping, speed bumps, curb extensions, median islands, and modifications to existing signals, and can be fully designed and constructed in the near-term using available resources.

Planning-level cost estimates were prepared using best available costs of similar past projects, and even with a 50% contingency added to the construction costs to cover soft and unanticipated costs, it is calculated that the ten Tier 1 projects add up to less than $5 million. Since Northwest in Motion is meant to be a five-year implementation strategy, this results in a funding need of roughly $1,000,000 per year for these projects. A combination of parking revenue, system development charges, and general transportation revenue will be enough to fund this set of projects.



Funding Sources for Near-Term Implementation

Northwest in Motion should draw from a variety of funding sources to realize the project and program recommendations. The largest pool of funding comes from money generated within the district, specifically from Northwest District parking/ permit revenue and contributions from developers. Some additional funding comes from ongoing citywide programs.

Parking and Permit Revenue

A portion of the parking and permit revenue from the Northwest District Parking Management Plan area must be spent on projects and programs within the area that reduce demand for parking. Roughly $1.5 million dollars are budgeted for recommended projects and programs, with the potential for additional future resources in future years.

Potential funding available:
$1,500,000 initially with additional funding potentially available in future years if rates increase or funding priorities change

Fixing Our Streets 2

In May 2020, Portlanders voted to extend the local gas tax for an additional four years. One of the funding categories for this measure includes programmatic money in support of 'area plans', like Northwest in Motion.

Potential funding available:
$500,000 over four years beginning in 2021

Ongoing Quick Build funding:

Quick Build program funding is a bucket of General Transportation Revenue (combination of gas tax and citywide parking revenue) that PBOT uses for quick deployment of low-cost transportation improvements. This funding must be requested on an annual basis.

Potential funding available:
$275,000 already approved in year one and approximately $200,000 per year expected thereafter

Transportation System Development Charges

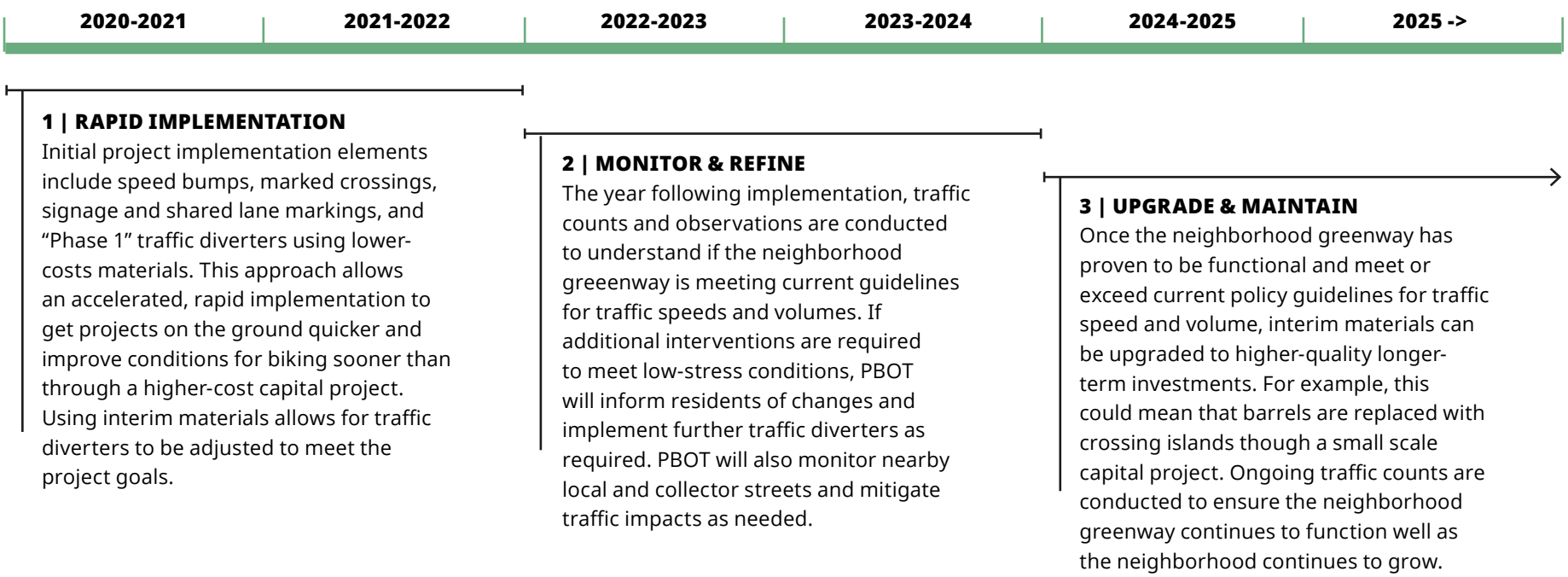
Whenever a new building is constructed in Portland, including a home, store, office, etc., the developer pays Transportation System Development Charges (TSDC). The fee covers part of the cost of building transportation facilities to serve development—things like roads, sidewalks and other facilities that get people to where they need to go. PBOT typically only uses these funds to leverage other funding to get more out of each dollar.

Potential funding available:
$1,500,000 already approved, but eligible for up to $5,000,000 if more match funding is secured

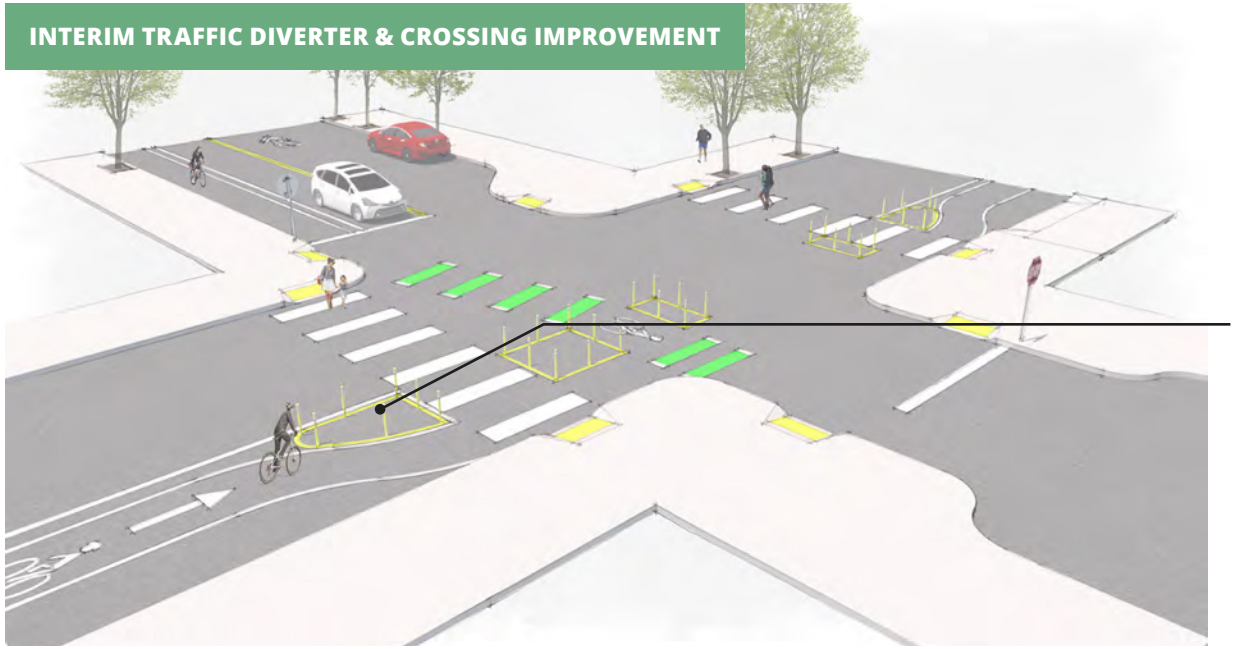
NEIGHBORHOOD GREENWAYS

Implementation Strategy

Implementation of the Northwest in Motion recommended Neighborhood Greeenway network will generally follow three phases, shown below. This approach will allow for faster implementation of core project elements than with a traditional design and construct process, and also gives us the opportunity to measure, adjust, and refine project elements as needed before making them permanent.



INTERIM TRAFFIC DIVERTER & CROSSING IMPROVEMENT



Lower-cost interventions using temporary materials can help get projects on the ground more quickly.

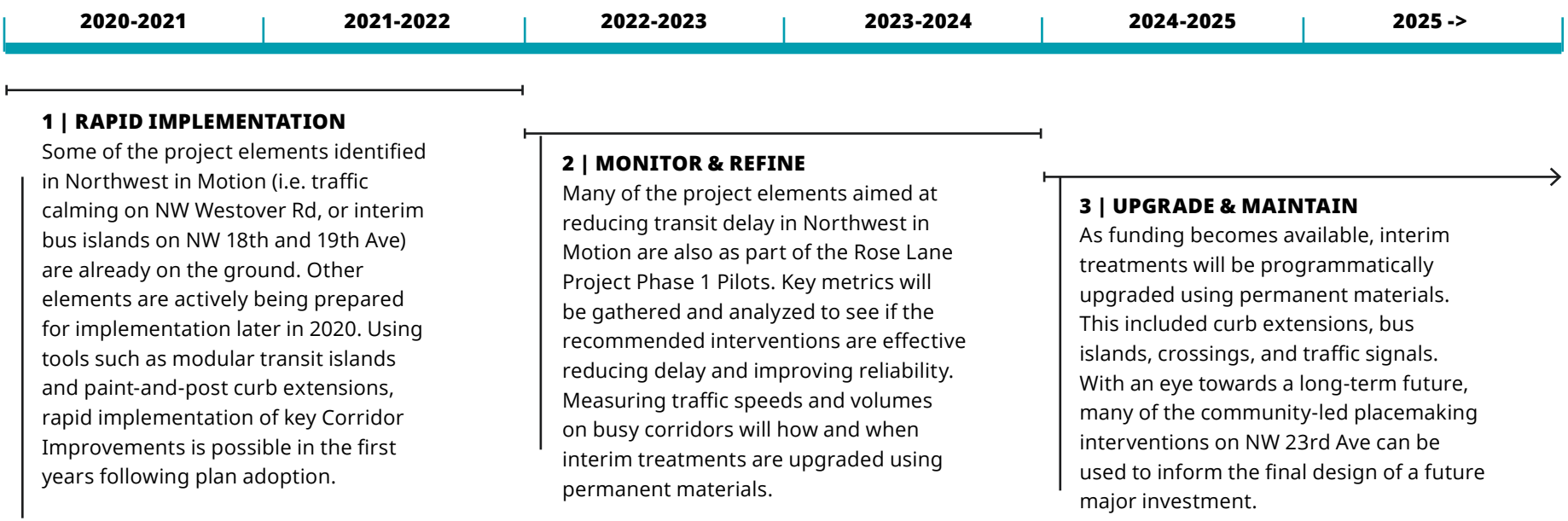
UPGRADED WITH PERMANENT MATERIALS

These same interventions can be upgraded with high-quality permanent materials.

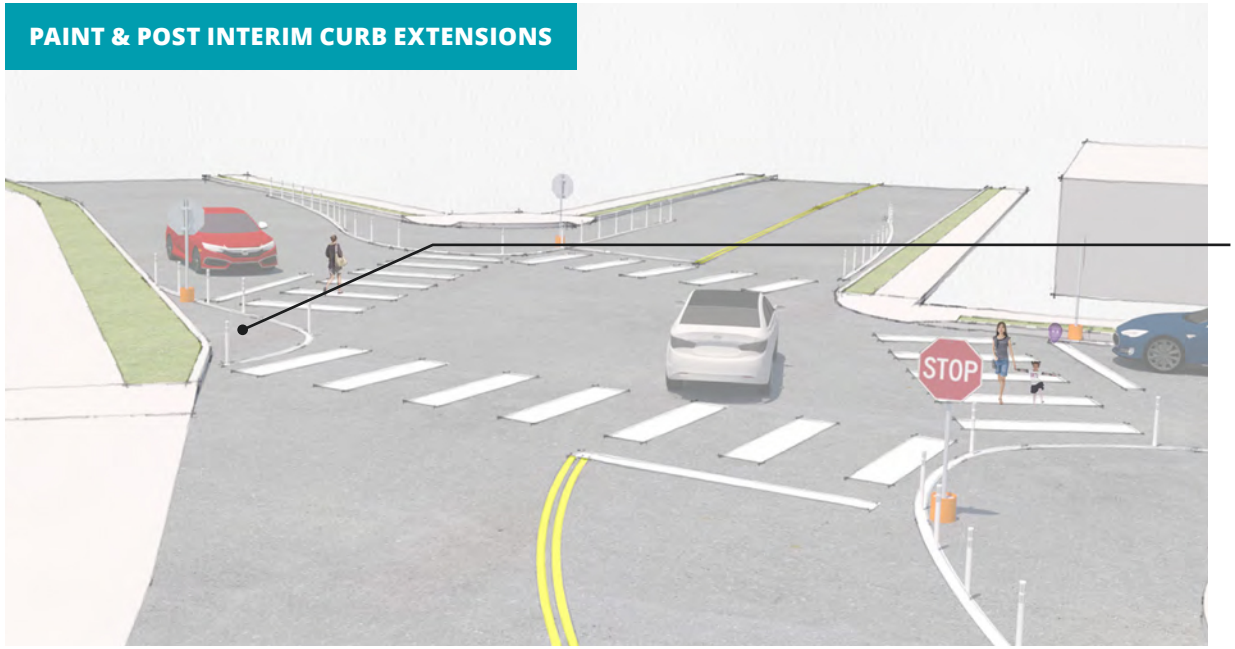
CORRIDOR IMPROVEMENTS

Implementation Strategy

Northwest in Motion's recommended Corridor Improvement projects will follow a similar three-stage process of implementation with some project elements being quickly implemented using temporary materials that are later upgraded to permanent versions.



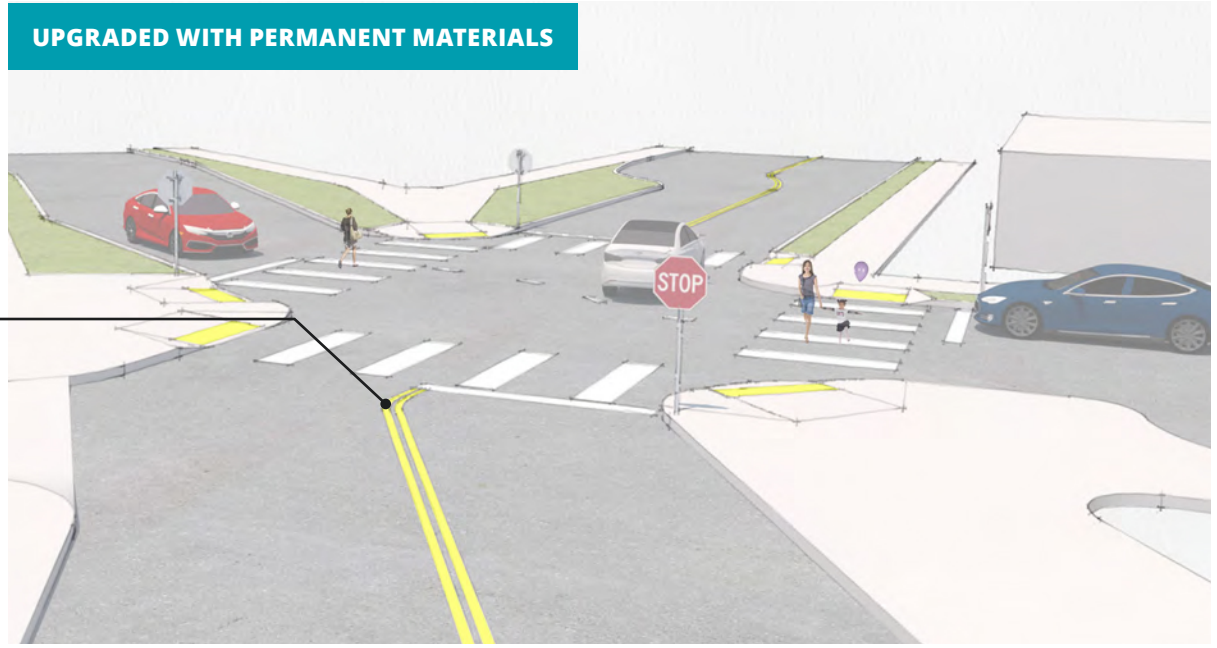
PAINT & POST INTERIM CURB EXTENSIONS



Paint and post curb extensions can help claim roadway space quickly to make it easier for people to cross the street.

UPGRADED WITH PERMANENT MATERIALS

These temporary interventions can be upgraded with full civil improvements including ADA curb ramps to improve accessibility.



Monitoring & Reporting

To understand if the neighborhood greenways in Northwest Portland are performing as intended, PBOT needs to collect traffic data before and after the Northwest in Motion neighborhood greenway phases.

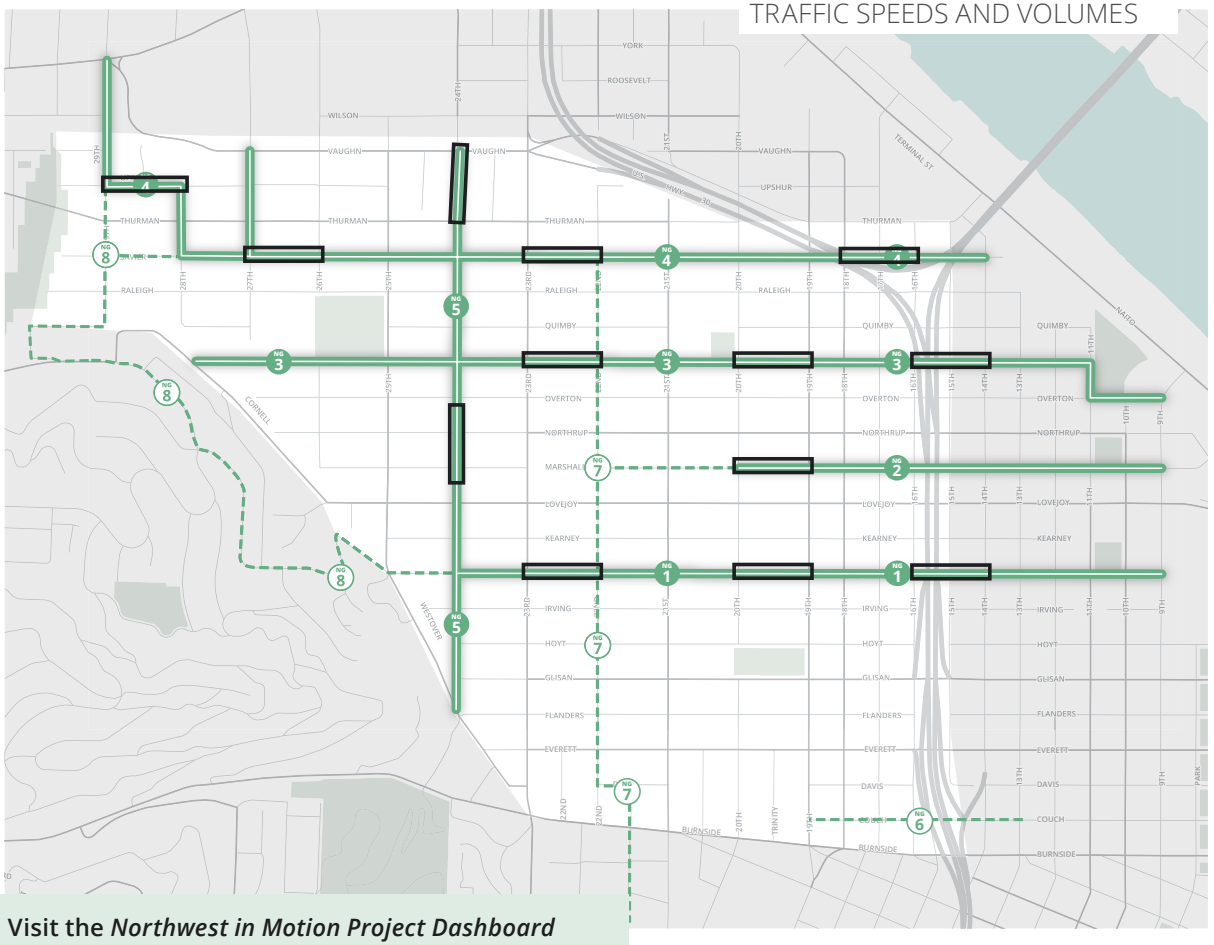
PBOT's Neighborhood Greenway Assessment Report provides the following guidelines for neighborhood greenway performance:

- **Volumes of 1000 to 2000 cars per day; (or 50 to 100 in the peak-hour, peak-direction)**
- **85th percentile speeds at or under 20 mph**

At right are the locations for pre- and post-project data collection. PBOT selected segments of the proposed neighborhood greenways network where there are known car speed and volume concerns today or anticipated fluctuations in the future.

In addition to these specified locations, additional monitoring will be conducted on other local streets and collectors as needed throughout the district to assess traffic circulation changes and make need interventions to mitigate unintended impacts .

DATA COLLECTION LOCATIONS
TRAFFIC SPEEDS AND VOLUMES



Visit the *Northwest in Motion Project Dashboard* at **NorthwestInMotion.com** to view project status updates and metrics relevant to the recommended Neighborhood Greenway network.

CORRIDOR IMPROVEMENTS

Monitoring & Reporting

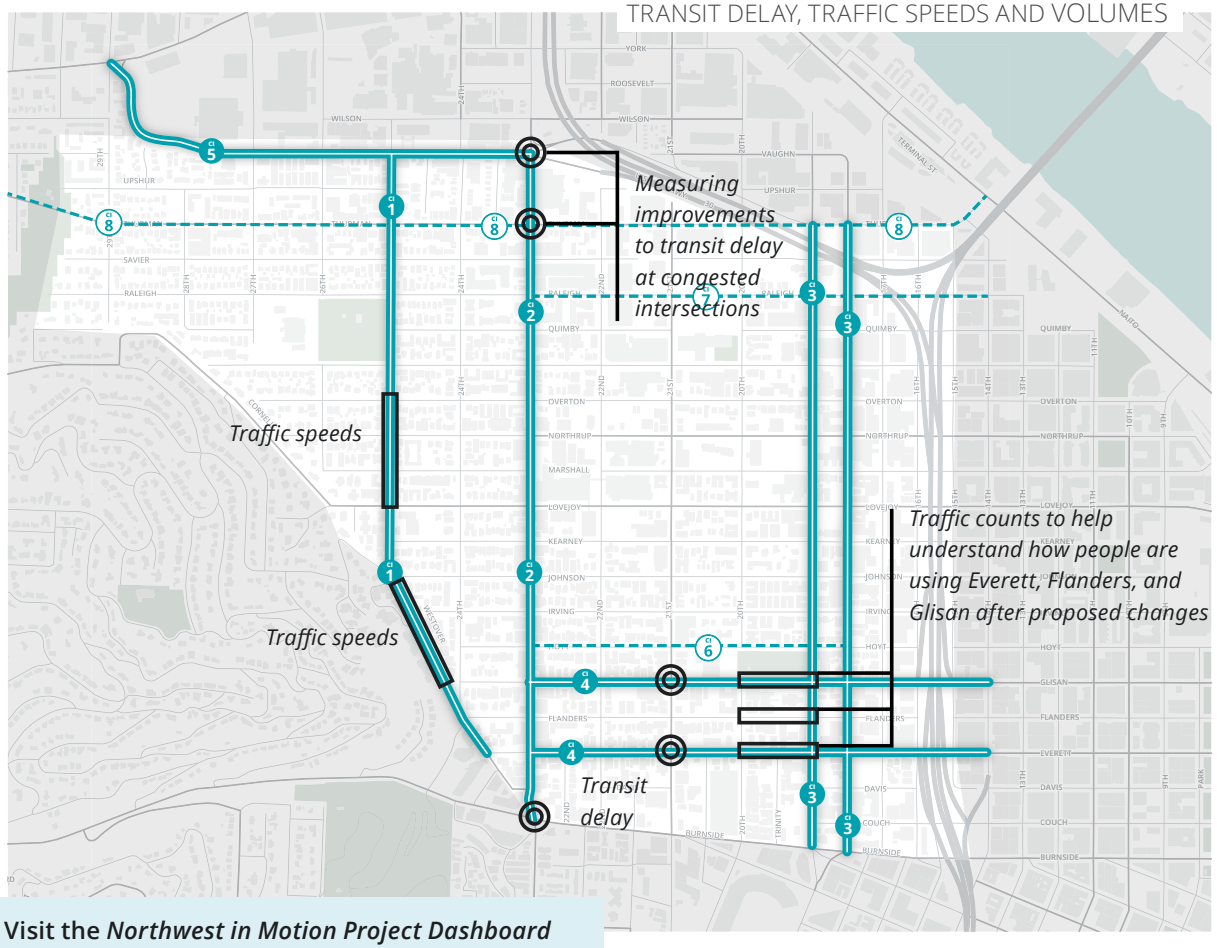
To understand if the corridor improvements in Northwest are performing as intended, PBOT needs to collect traffic and transit data before and after the Northwest in Motion corridor improvement projects are implemented.

Several projects intend to reduce traffic speeds on busy streets, aiming for 85th percentile speeds of 20 mph (the posted speed limit). These streets will be monitored to see if the improvements are having the intended effect.

Other projects are meant to reduce transit delay. TriMet will measure before and after delay to buses to determine the effectiveness of these interventions.

Finally, in the case of NW Everett St and NW Glisan St it will be important to understand the effect of the Flanders Bikeway and other projects in the area on bicycle usage, transit delay, and traffic flow along the corridor. Measuring these changes will help inform future decisions about these streets.

DATA COLLECTION LOCATIONS
TRANSIT DELAY, TRAFFIC SPEEDS AND VOLUMES



Visit the *Northwest in Motion Project Dashboard* at **NorthwestInMotion.com** to view project status updates and metrics relevant to the recommended Corridor Improvement projects.