



PBOT
PORTLAND BUREAU OF TRANSPORTATION

APRIL 12, 2023

NW 21st/23rd INTERSECTION
ENHANCEMENTS PROJECT
**IDENTITY AND PLACEMAKING
LOOK BOOK**

CONTENTS

01 INTRODUCTION

PROJECT BACKGROUND AND GOALS.....	2
PURPOSE OF LOOK BOOK	3

02 DESIGN PARAMETERS

WHAT KIND OF ENHANCEMENTS CAN BE CONSIDERED?.....	5
EXISTING CORNER ELEMENTS	6
CURB EXTENSIONS - ADDITIONAL SPACE	7

03 POTENTIAL INTERSECTIONS TREATMENTS

CURB EXTENSIONS	9
CROSSING TREATMENTS	10
PEDESTRIAN-SCALE LIGHTING	11
COMMUNITY PLACEMAKING.....	12
PAVING TREATMENTS	14
VEGETATION.....	16
TRANSIT STOPS	17
CONTINUOUS SIDE STREET CROSSINGS.....	18

04 EXISTING INTERSECTIONS

INTERSECTION DETAIL PAGES	19
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01

INTRODUCTION



PROJECT BACKGROUND

INTRODUCTION

This project, led by Portland Bureau Of Transportation (PBOT) in coordination with Bureau of Environmental Services (BES), will identify potential improvements at specific intersections along NW 21st Avenue and NW 23rd Avenue and help prioritize investment opportunities, as part of the BES sewer line replacement project.

The BES project entails partial reconstruction of five side streets (Johnson, Irving, Hoyt, Glisan, and Flanders) that intersect NW 21st and 23rd Avenues. The BES sewer replacement project provides an opportunity to implement some of the 2020 Northwest in Motion Plan goals at ten intersections.

The benefits of aligning the intersection enhancement work with the BES project include significantly lower costs for enhancements and the opportunity to combine construction timelines to reduce impacts on neighbors and businesses.

PROJECT GOALS

- **Develop options for placemaking elements and enhancement to the intersections identified in Figure 2**
- **Engage local stakeholders — including NW Parking District SAC, Northwest Business Association, and Northwest District Association — in a process to evaluate and select options**
- **Coordinate with City staff from PBOT, BES, and other bureaus as necessary**
- **Develop draft and final recommendations and cost estimates**

PROJECT TIMELINE

The final, prioritized project recommendations are needed by the end of July to align with the BES design and engineering schedule. The project schedule is shown in Figure 1.

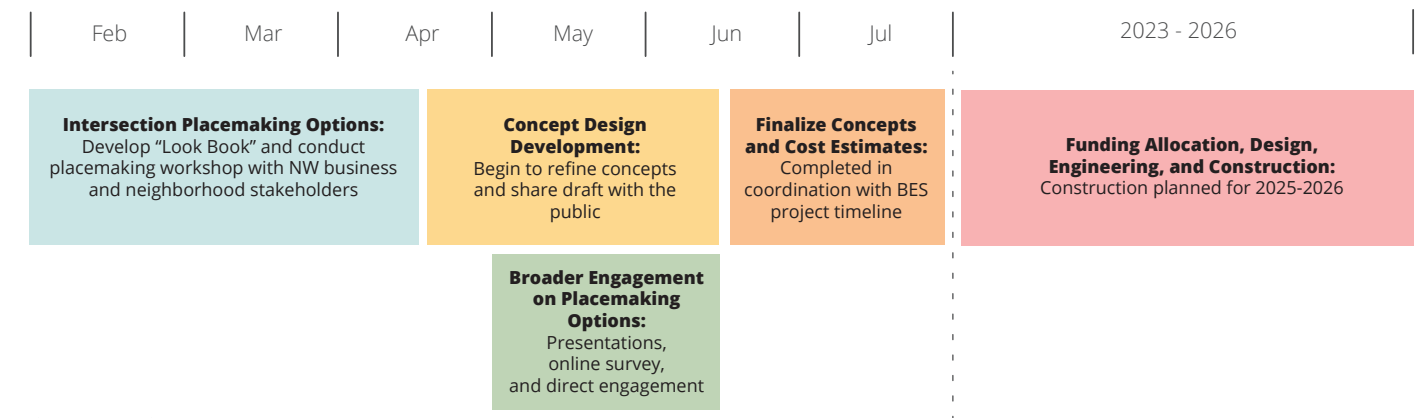


Figure 1. Project Schedule

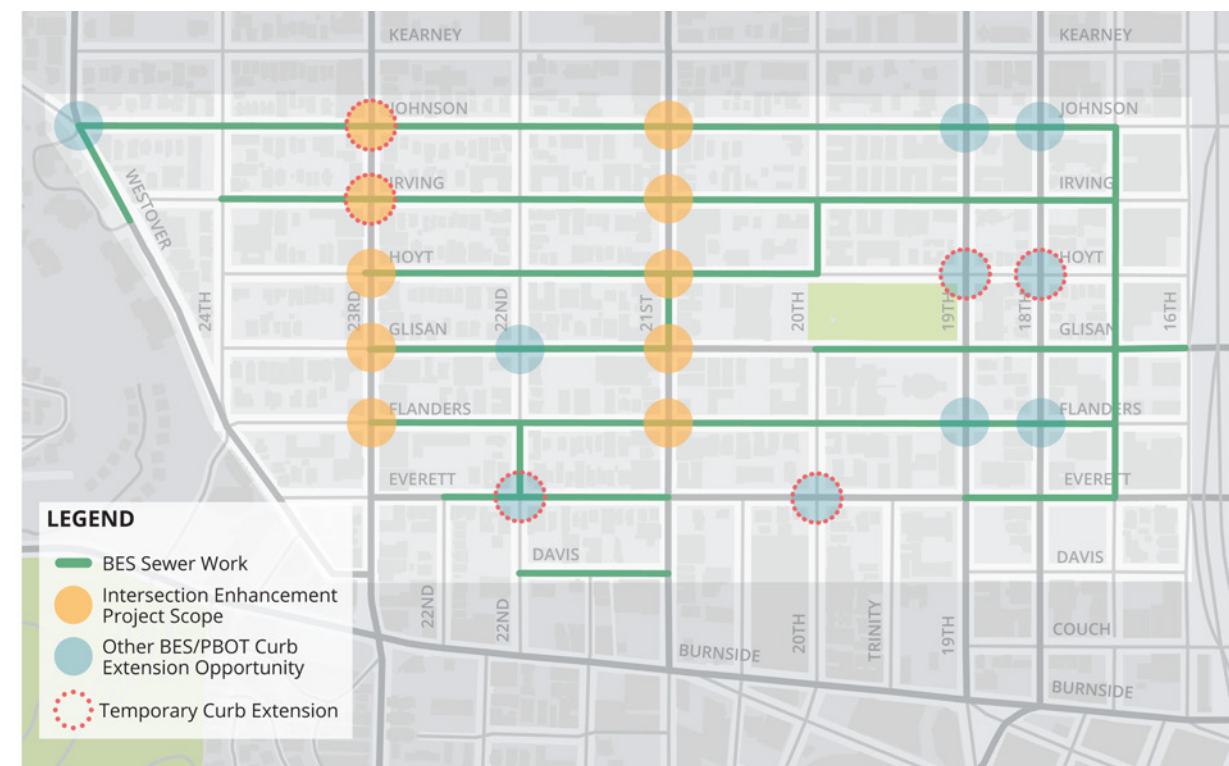


Figure 2. Intersection Enhancement Project Area

PURPOSE OF LOOK BOOK

BACKGROUND

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.

Northwest in Motion Adopted Plan, October 2020

This work builds on the work and recommendations in the 2020 Northwest in Motion Plan, which has a more comprehensive focus that includes program and policy recommendations as well as corridor-scale recommendations. The NW 21st/23rd Intersection Enhancement Project is more narrowly focused on urban design and placemaking elements that can be sited within curb extensions.

WHAT IS A LOOK BOOK?

We are using the term Look Book, which is a collection of photographs used to display a collection of fashion or work, to describe the collection of urban design treatment examples for consideration.

The purpose of the Look Book is to provide a foundation for conversation about intersection treatments that are feasible and leverage the opportunity to align with the BES project. The Look Book will be used as tool for engaging stakeholders in a two step process to determine:


1. Which enhancements align best with the goals and recommendations of the Northwest in Motion Plan and stakeholder interests; and
2. Which enhancements are appropriate for each intersection.

The ultimate goal of this work is to develop preferred concepts for each intersection.



WHAT KIND OF ENHANCEMENTS CAN BE CONSIDERED?

There are always constraints and trade-offs to be made when working in the public right of way. This is due to the need to safely accommodate a range of travel modes, support land uses, provide truck and business access, and enhance street life, among a few considerations. Therefore, this project is operating under a set of design parameters, meaning **intersection enhancements that can be considered must meet the following criteria.**

<p>AVAILABLE RIGHT-OF-WAY/SPACE</p>	<p>CONTEXTUALLY APPROPRIATE</p>	<p>STAKEHOLDER SUPPORT</p>
<ul style="list-style-type: none"> • Leverages and aligns with BES project opportunity • Fits within footprint of the curb extension designs 	<ul style="list-style-type: none"> • Accommodates essential street operations, e.g. transit, loading, etc. • Is not in conflict with existing or future improvements • Is consistent with district character 	<ul style="list-style-type: none"> • Is consistent with Northwest in Motion Plan goals and recommendations • Has broad stakeholder support
<p>PBOT DESIGN STANDARDS</p>	<p>FUNDING </p>	<p>MAINTENANCE </p>
<ul style="list-style-type: none"> • Achieves and enhances accessibility and safety for all users • Aligns with PBOT design standards and guidance for materials and construction 	<ul style="list-style-type: none"> • Is fundable with project resources • Balances higher and lower cost enhancements in alignment with community priorities • Considers quality and longevity of materials 	<ul style="list-style-type: none"> • Aligns with city’s maintenance and operations expectations and capacity

EXISTING CORNER ELEMENTS

NO CURB EXTENSION



BUILT OUT CURB EXTENSION WITH PLANTERS



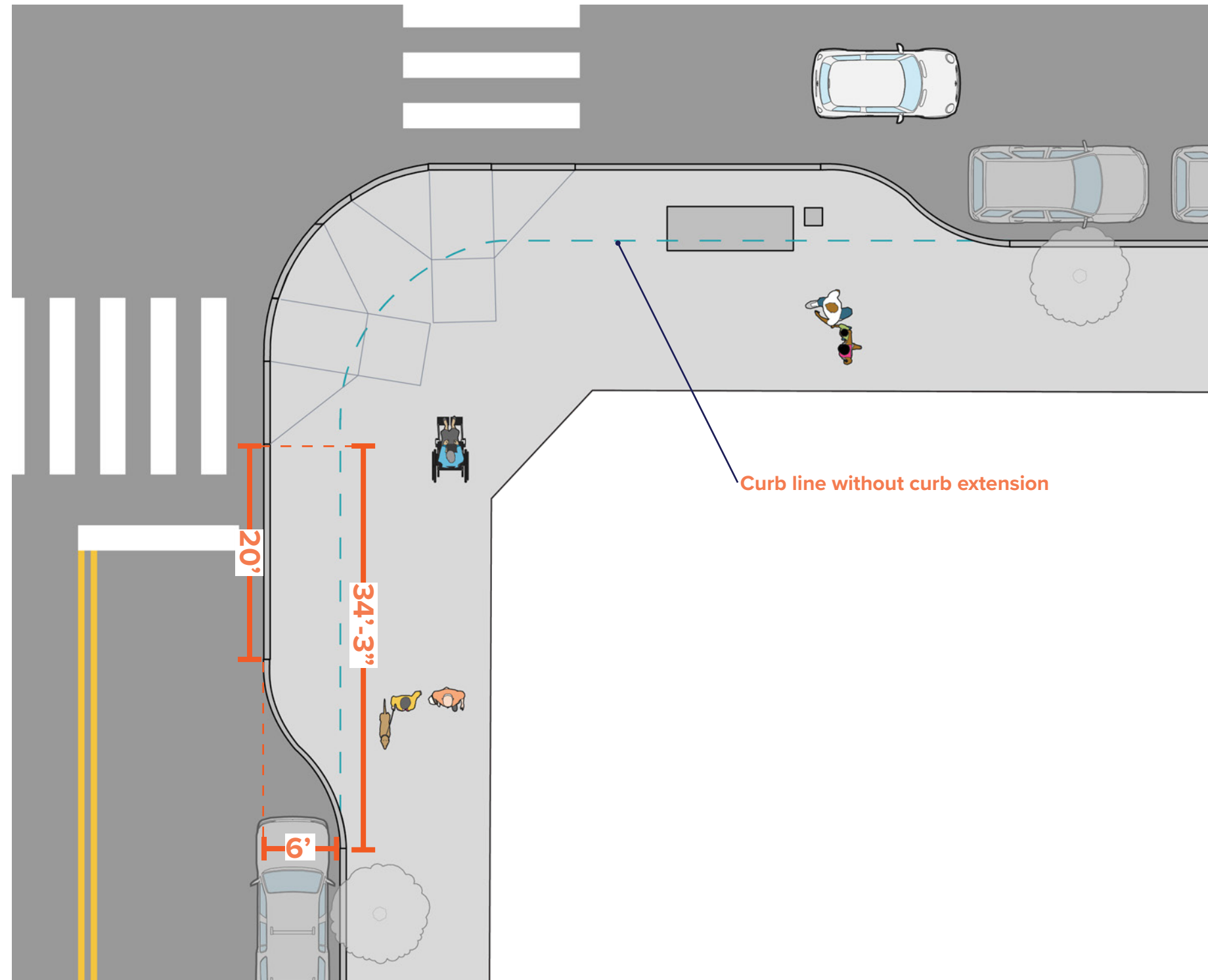
BUILT OUT CURB EXTENSION WITH BIKE RACKS



PAINT AND POST CURB EXTENSION WITH PLANTERS



CURB EXTENSIONS - ADDITIONAL SPACE



CURB EXTENSIONS

Curb extensions are proposed at each of the ten intersections to boost safety and comfort for all users. Curb extensions shorten crossing distance for people walking, allow better placement of curb ramps, and force people driving to turn at slower speeds. They also prevent parking within a certain distances from an intersection to improve visibility and sight lines between people driving and people outside of vehicles.

High-visibility crosswalks increase awareness and visibility of the crosswalk and improve accessibility by providing a marked path that contrasts with the roadway pavement. Curb ramps will be upgraded to meet the basic accessibility and safety standards.



BUILT CURB EXTENSIONS



ALIGNED ACCESSIBLE CURB RAMP



SIGHT LINES AND VISIBILITY



CROSSING TREATMENTS

Crosswalks can be marked with a variety of materials, including surface treatments like long-wearing reflective paint to contrasting paving, pavers, or patterns.

HIGH-VISIBILITY CROSSWALKS



DECORATIVE CROSSWALKS



TEXTURED CROSSWALKS



PEDESTRIAN-SCALE LIGHTING

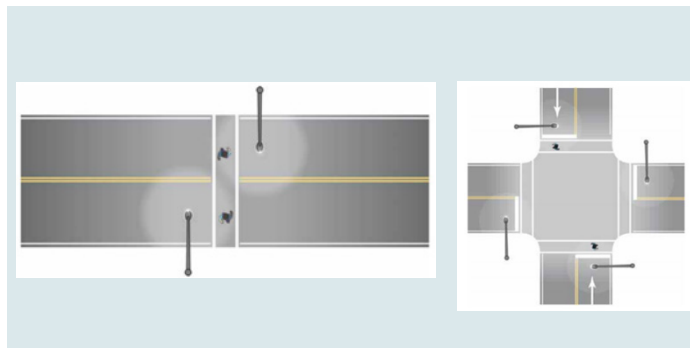
Standard street lighting typically focuses on illuminating roadways for people driving in fast-moving vehicles, and may focus on corridor and intersections. Pedestrian-scale lighting can supplement standard street lights to improve the safety and comfort for people walking and biking. Well-lit intersections are critical for pedestrian safety, to ensure that corners where people are waiting, as well as the crosswalk itself, is well lit. Providing pedestrian-scale lighting is a key piece of visibility, particularly given that typical commute hours for jobs and school occur while it's still dark out for many months of the year. Lighting can also be used to highlight art, landscape, site furnishings, and other features to create a sense of place.



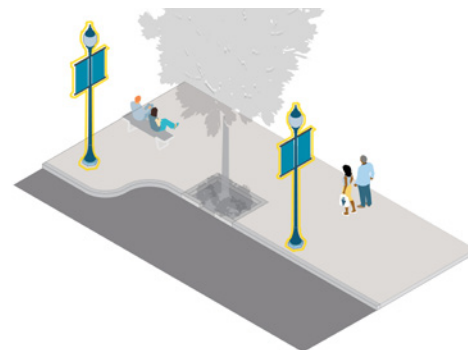
CITY STANDARD PEDESTRIAN-SCALE LIGHTING



CROSSWALK AND INTERSECTION LIGHTING



PEDESTRIAN-SCALE LIGHTING PLACEMENT



ACCENT LIGHTING  



LIGHTING WITH BRANDING/IDENTITY  



COMMUNITY PLACEMAKING: SEATING AND SITE FURNISHINGS

The space within the curb extensions can serve many purposes including providing space for community gathering, bike parking, greening through vegetation, and community identity through art, signage, and wayfinding. Public art enlivens a space and can be integrated with site furnishings such as bike racks, seating or wayfinding. Site furnishings can be fixed, movable, custom, and/or off the shelf and can provide seating, weather protection, collect waste and recycling, etc. Sight lines need to be considered when locating elements at the intersection to make sure people driving can see people walking and rolling as they enter the intersection.



STREET SEATS



LANDSCAPE-ORIENTED SEATING



STREET SEATS 



CUSTOM OR INTEGRATED SITE FURNISHINGS



MOVABLE SITE FURNISHINGS (AND MURALS) 



PUBLIC ART WITH SEATING



COMMUNITY PLACEMAKING, CONT.

PLAZA TREATMENTS/OUTDOOR ROOMS 



OFF THE SHELF SITE FURNISHINGS



PAVEMENT EMBEDDED PUBLIC ART 



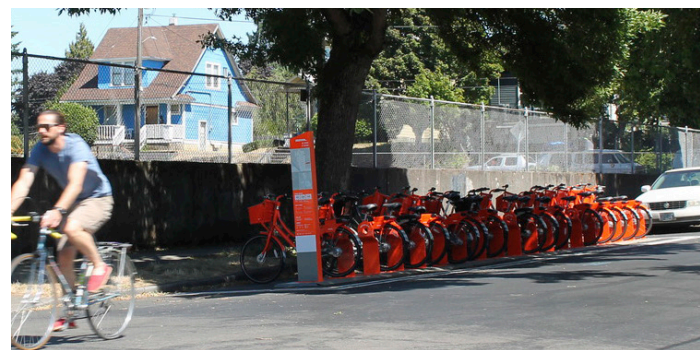
BIKE CORRAL



BIKE RACKS



BIKESHARE STATION



INFORMATIONAL/PLACEMAKING KIOSK 



WAYFINDING AND IDENTITY SIGNAGE



WAYFINDING GROUND MARKINGS



PAVING TREATMENTS

Many pavement treatments are available to provide both functional and aesthetic value by defining spaces, separating modes of travel, highlighting design elements, and adding to a location's identity. Concrete can be stamped, sandblasted, sawcut, colored, have embedded art, or have exposed aggregate to create a unique identity. Unit pavers can create patterns and may be permeable to allow water to flow through their joints. Asphalt can be used to define bike paths in mixing zones. Temporary treatments, such as paint and epoxied gravel, provide options that can be tested before being permanently installed. Pavement treatments in the pedestrian access route must meet accessible guidelines.

STAMPED CONCRETE



INTEGRAL COLOR CONCRETE



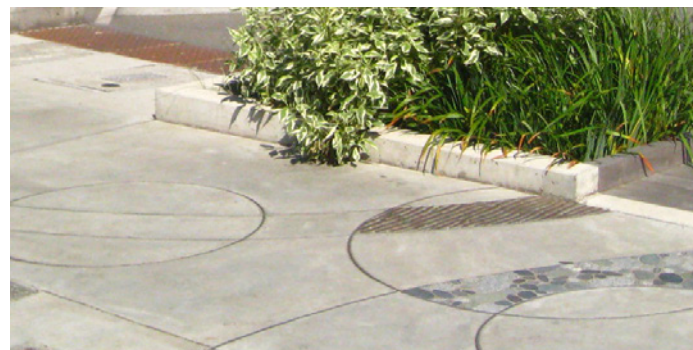
CONTRASTING ASPHALT & CONCRETE



UNIT PAVERS



EMBEDDED ART



PAVING TREATMENTS, CONT.

SANDBLASTING



INTEGRAL COLOR CONCRETE



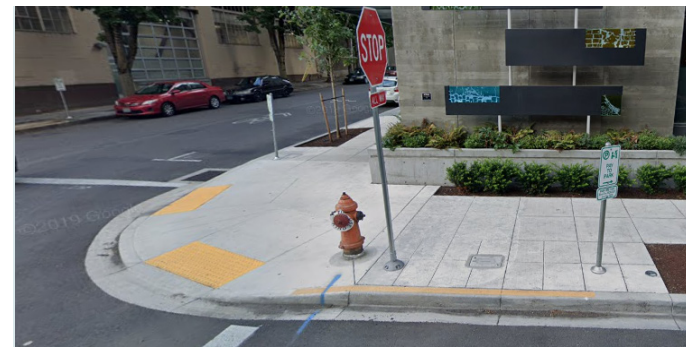
EXPOSED AGGREGATE



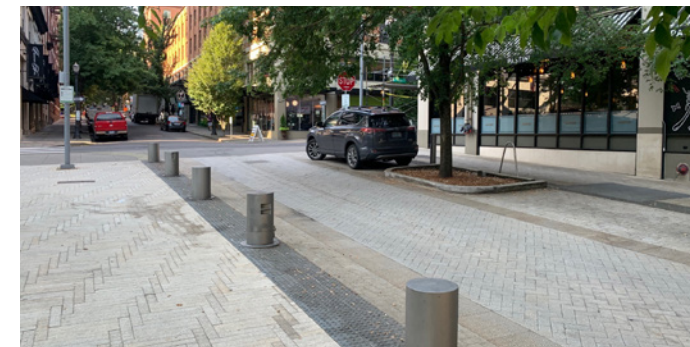
EPOXY GRAVEL



SIDEWALK SCORING PATTERNS



COMBINATION USED TO DEFINE SPACE



BOARDWALK AS SIDEWALK



PERMEABLE UNIT PAVERS



PAINT



VEGETATION

Vegetation at intersections provide aesthetic value, reduce impervious surfaces and heat island effect, and provide food and habitat for other organisms. Plants should be selected and located to ensure they will not block sight lines at the intersection. Trees must be set back 25 feet from the intersection. A long curb extension or soil cells can provide additional soil volume for trees when space is limited.

CURBED AT-GRADE PLANTER



FLUSH AT-GRADE PLANTER



COMMUNITY-ADOPTED PLANTERS



RAISED, EXTENDED PLANTER WITH TREE



TRAFFIC DIVERTER PLANTER



CONTAINERS



TRANSIT STOPS

Access to transit can be improved with curb extensions that provide additional space and prevent vehicles from blocking bus stops. Bus stop islands can reduce conflict between people biking and buses. Coordination with TriMet is required.

BUS STOP CURB EXTENSION



BUS STOP ISLAND



STOP PARKLET  



MULTI-FUNCTIONAL STOPS



BUM AND LEAN RAILS

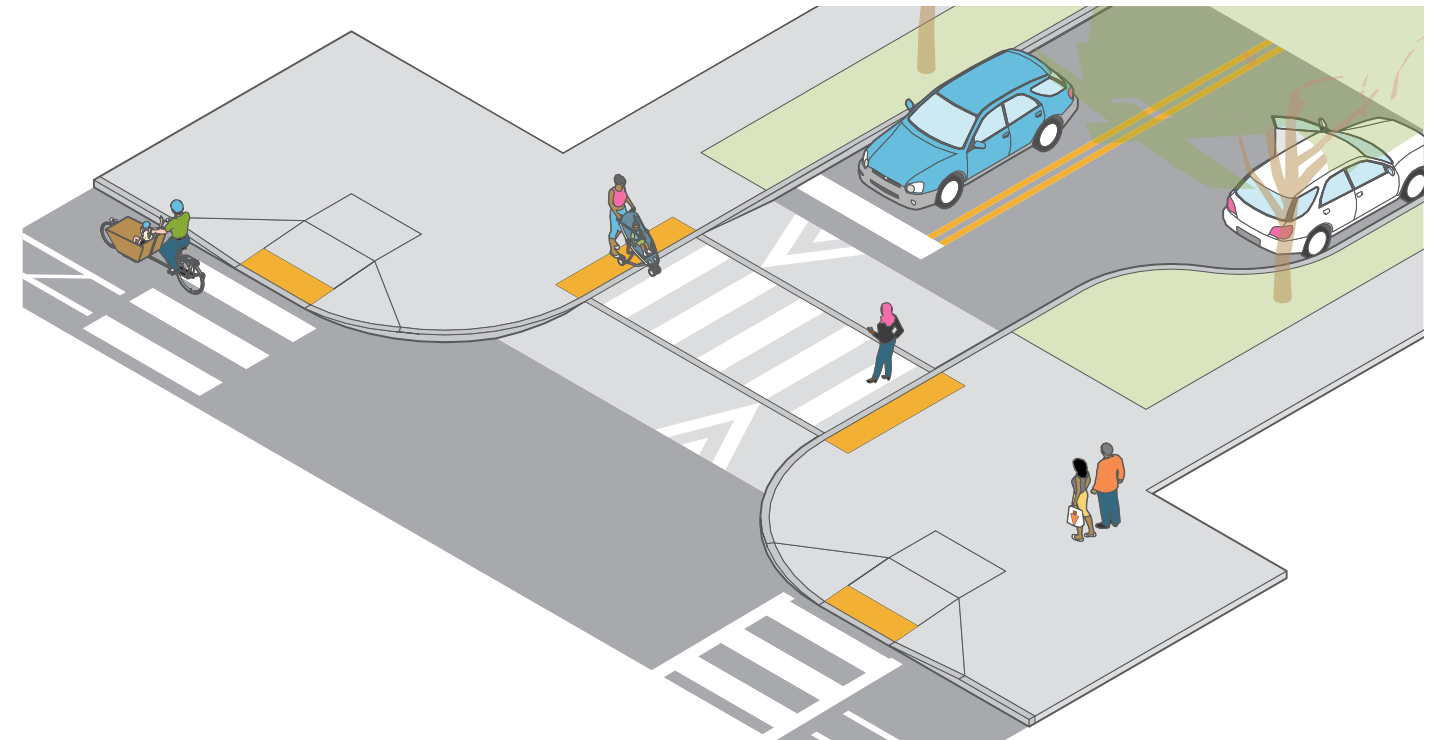


CONTINUOUS SIDE STREET CROSSINGS

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.

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.



NW 21ST AVENUE & NW FLANDERS STREET

BIKEWAY CROSSING

Topography

- Flanders uphill to east; downhill to west

Infrastructure

- Diverter: Right only east and westbound on Flanders
- Crosswalks and cross-bike across 21st on Flanders
- Sharrows on Flanders
- Subpar curb ramps on NW and SW corners; No curb ramps across 21st on south side
- Existing curb extensions into NW 21st on north side

Parking

- Parking on both sides on all approaches except at bike corral
- Bike corral south of Flanders, south side of 21st

Utilities and Street Furnishings

- Power pole on SE corner
- Trash can on NE corner
- Hydrant on SE corner

Restaurants and Businesses

- Cafe Seating at multiple businesses
- Restaurants, Bakery



NW 21ST AVENUE & NW JOHNSON STREET

BIKEWAY CROSSING

Topography

- Flat terrain

Infrastructure

- Crosswalks and cross-bike on Johnson across 21st
- Sharrows on Johnson
- Small curb extensions on NE and NW corners into NW 21st on north side
- Bad curb ramps on south side

Parking

- Parking on both sides, all approaches
- Bikeshare Station on SW corner
- Bike racks on sidewalk

Utilities and Street Furnishings

- Mailbox on SW corner
- Hydrants on NE and SE corners
- Two power poles on SE corner

Restaurants and Businesses

- Streateries further from intersection
- Restaurant, Apartments



NW 23RD AVENUE & NW FLANDERS STREET

BIKEWAY CROSSING

Topography

- Flanders steep uphill to east; downhill to west
- Relatively flat intersection

Infrastructure

- Crosswalks and cross-bike on Flanders across 23rd
- Sharrows on Flanders
- Line 15 - Bus stop on SE corner on existing curb extension (sign and bench)
- Line 15 - Bus stop on NW corner on existing curb extension (sign and shelter)
- Existing curb extension on NE corner
- All curb ramps in good condition

Parking

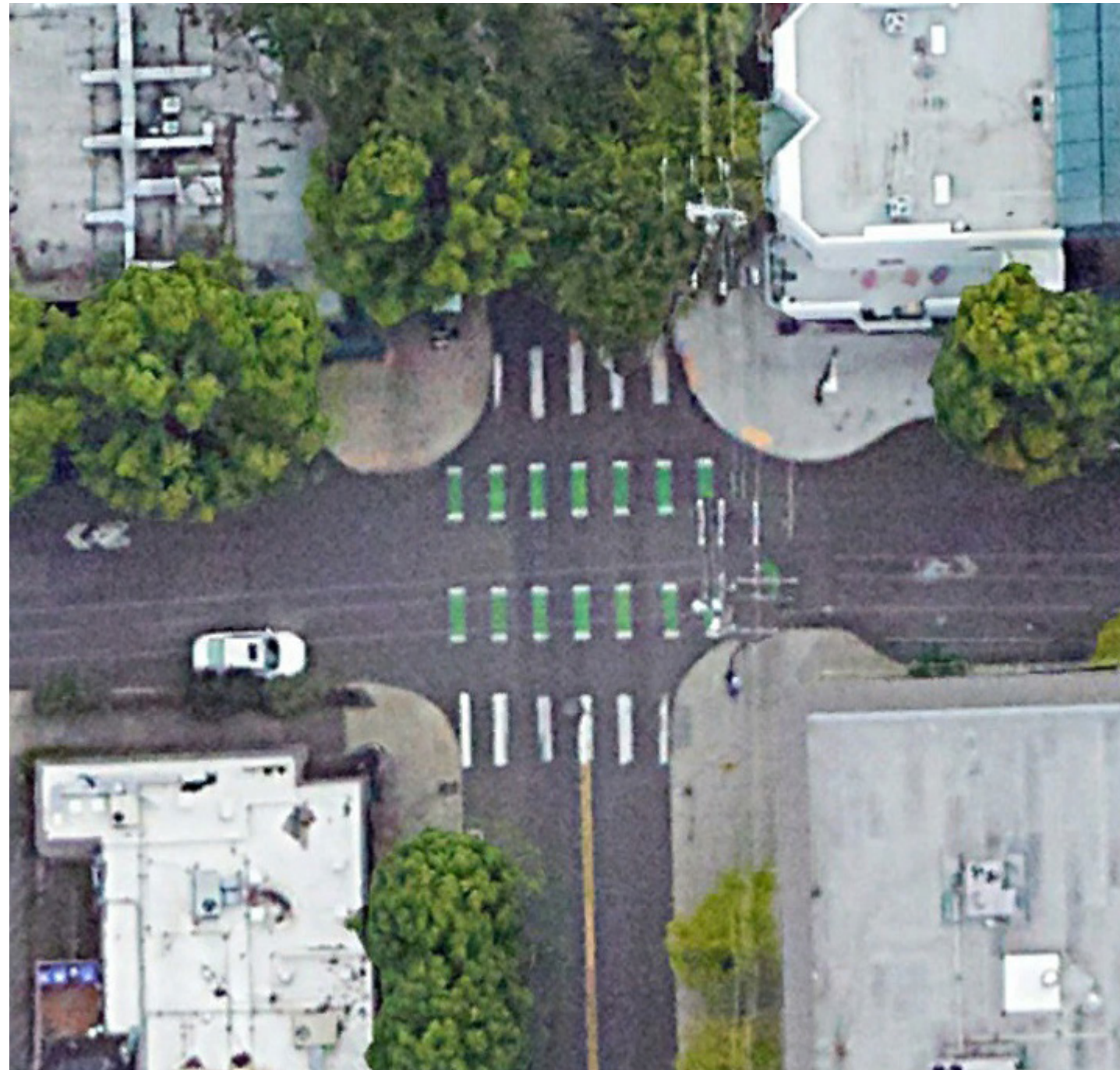
- Parking both sides on all approaches
- Bike racks on sidewalk

Utilities and Street Furnishings

- Mailbox on NE corner
- Newspaper box on SE corner
- Hydrant on SE corner

Restaurants and Businesses

- Restaurants, Retail, Healthcare



NW 23RD AVENUE & NW JOHNSON STREET

BIKEWAY CROSSING

Topography

- Flat terrain

Infrastructure

- Crosswalks and cross-bike across 23rd on Johnson
- Sharrows on Johnson
- Existing curb extension on NW and SE corners into NW 23rd
- Temporary curb extension (art) on NE corner, flex posts on SW corner
- Newer curb ramps

Parking

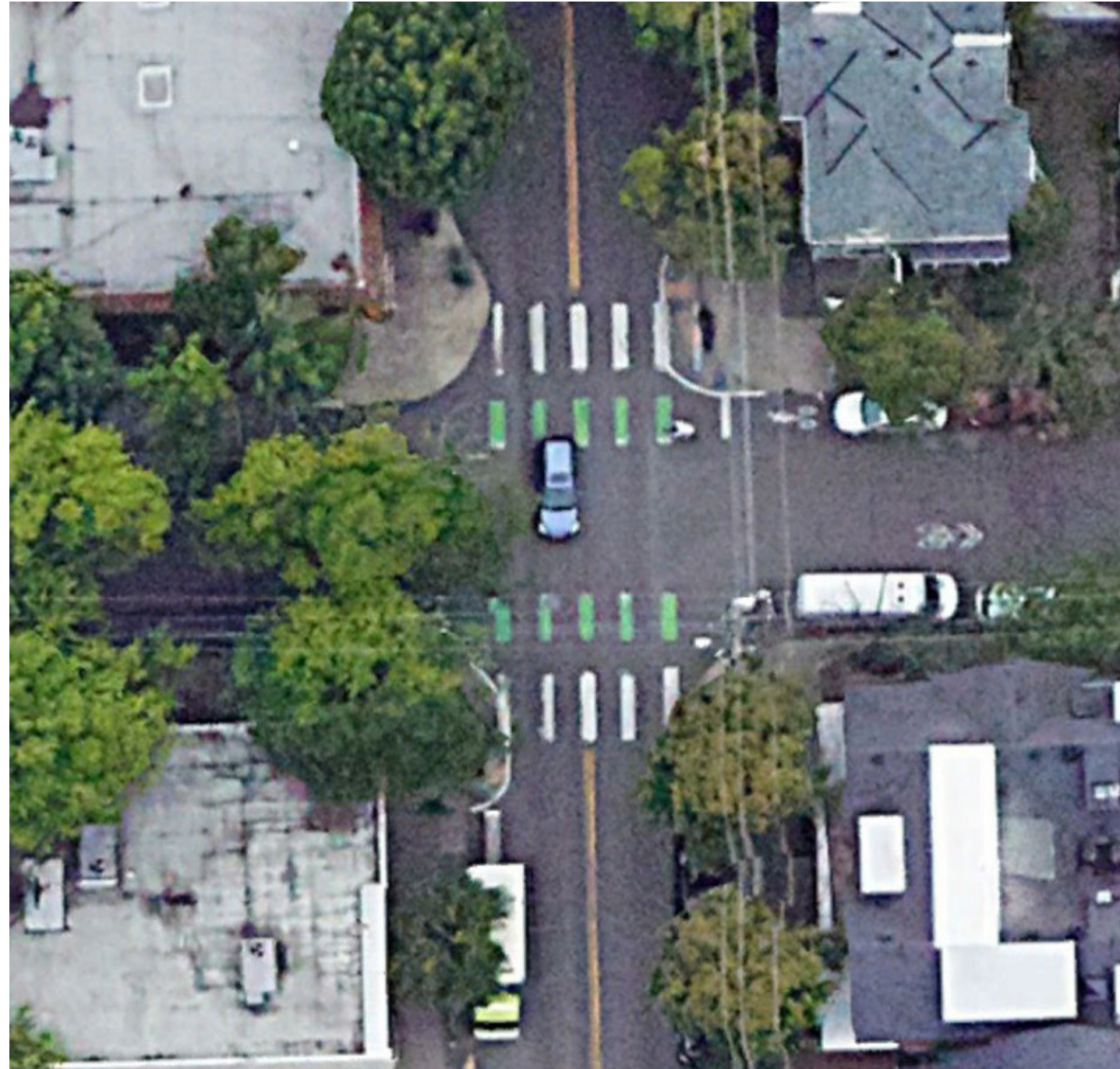
- Parking both sides on all approaches

Utilities and Street Furnishings

- Older trees
- Utility pole on SW corner, already has small curb extension
- Trash cans on SW corner
- Hydrant on NE corner

Restaurants and Businesses

- Outdoor seating for restaurant on north side of Johnson, west of 23rd
- Some sidewalk tables



NW 21ST AVENUE & NW GLISAN STREET

SIGNALIZED INTERSECTION

Topography

- 21st uphill to south
- Relatively flat intersection

Infrastructure

- Signalized intersection, poles and mast arms on NW and SW corners
- Bus stop line 77; Bus stop on NE corner
- Biketown station on north side of Glisan, west of 21st

Parking

- No Parking / DO NOT BLOCK area for bus turn on NW corner

Utilities and Street Furnishings

- Newspaper bins on NE corner
- Trash cans on SE corner
- Hydrant on SW corner

Restaurants and Businesses

- In-street outdoor seating for restaurant on NW and SW corner on Glisan and SE corner of 21st
- Cafe Seating at multiple businesses
- Restaurants, Pharmacy



NW 23RD AVENUE & NW GLISAN STREET

SIGNALIZED INTERSECTION

Topography

- Flat terrain

Infrastructure

- Signalized intersection
- Transverse crosswalks on all legs
- Recently updated curb ramps

Parking

- Parking on both sides on all approaches

Utilities and Street Furnishings

- Mast arms on NE and SW corners
- Power poles on NE and SE corners
- Planter boxes from business
- Hydrant on NE corner

Restaurants and Businesses

- Sidewalk seating from corner cafés, NE and NW corners
- Restaurants, Apartments, Office Supply



NW 23RD AVENUE & NW IRVING STREET

BUS STOPS

Topography

- Flat terrain

Infrastructure

- Crosswalks across 23rd on Irving
- Line 15 - Bus stop on SE corner on existing curb extension (sign and bench)
- Line 15 - Bus stop on NW corner on existing curb extension (sign and shelter)
- Temporary Curb Extensions on NE and SW corners

Parking

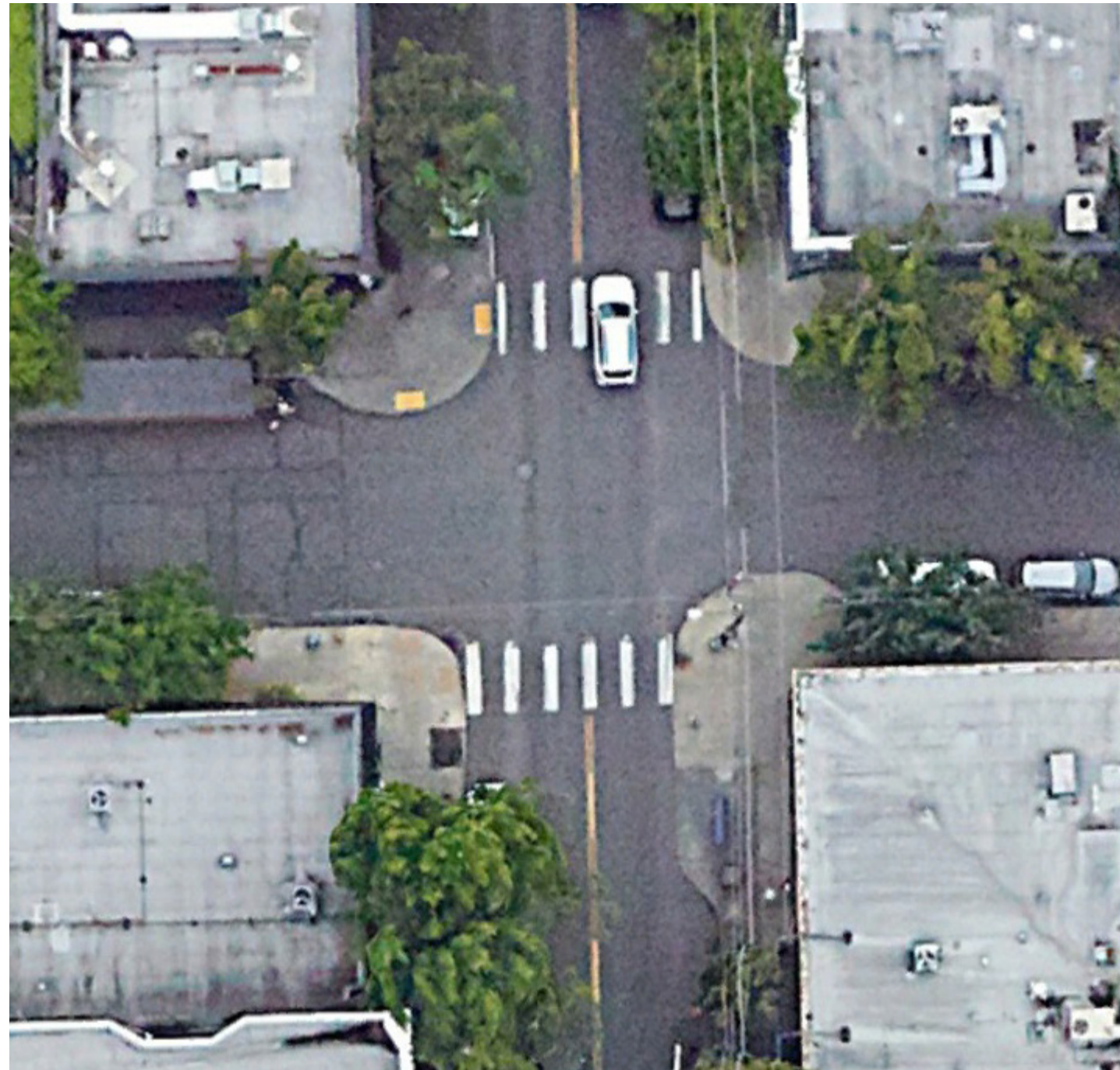
- Parking on both sides
- Bike racks on sidewalk

Utilities and Street Furnishings

- Older tree on SW corner
- Trash cans at bus stops
- Mailbox on SW corner
- Planter boxes from business
- Hydrant on SW corner

Restaurants and Businesses

- Restaurants, Retail



NW 21ST AVENUE & NW IRVING STREET

BUS STOPS

Topography

- Flat terrain

Infrastructure

- Line 77 - Bus stop on SE corner on existing curb extension (sign and bench)
- Line 77 - Bus stop on NW corner on existing curb extension (sign and shelter)
- Small existing curb extension on SW corner

Parking

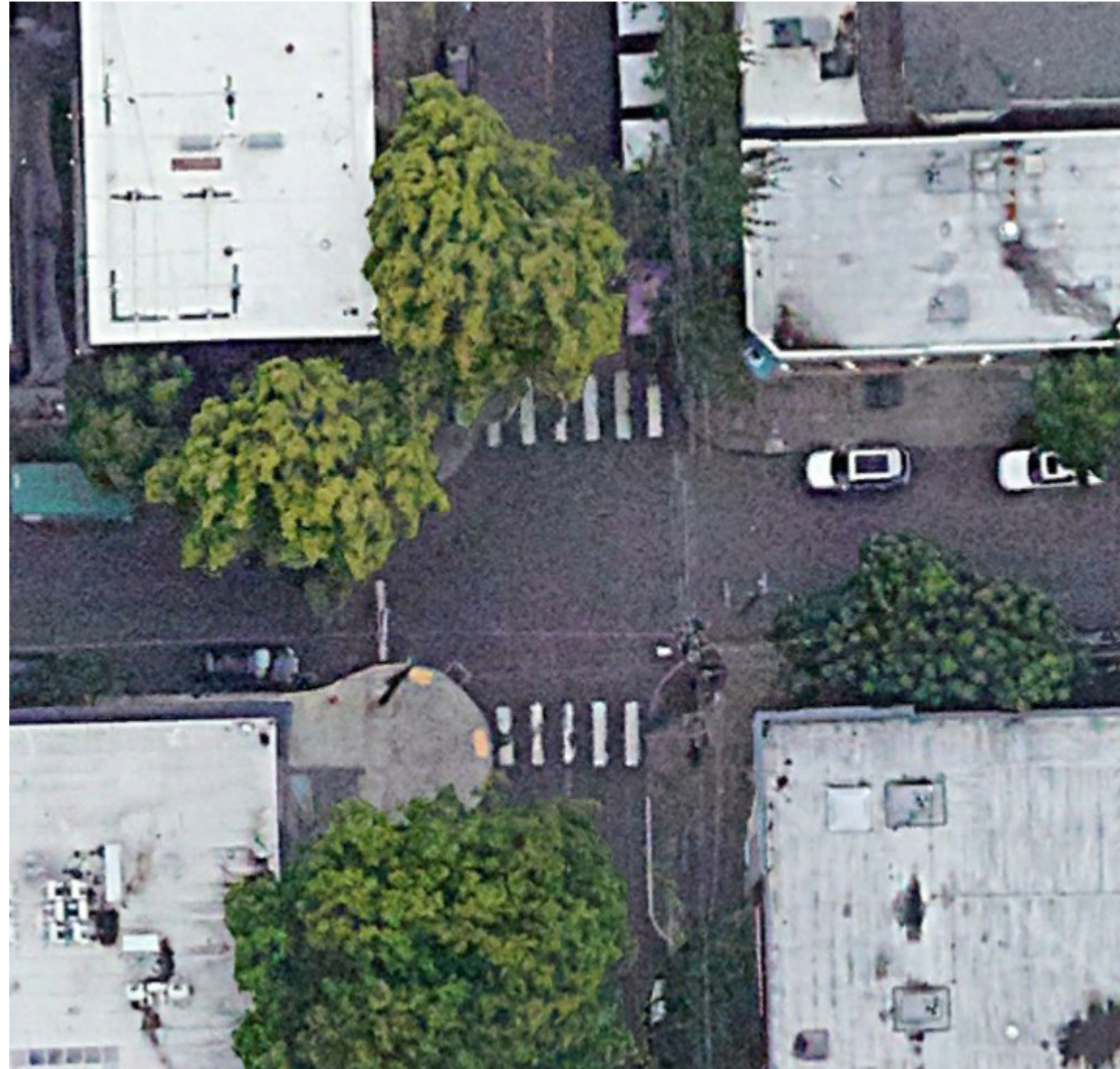
- Parking both sides all approaches except where in-street seating
- Bike racks on sidewalk

Utilities and Street Furnishings

- Trash cans at bus stops
- Hydrant on SW corner

Restaurants and Businesses

- Outdoor seating for restaurant on NE corner along half of block
- Sidewalk tables on NE side
- Restaurants, Bank, Retail, Apartments



NW 21ST AVENUE & NW HOYT STREET

NO EXISTING CURB EXTENSIONS

Topography

- Flat terrain

Infrastructure

- Crosswalks across 21st on Hoyt
- Subpar curb ramps

Parking

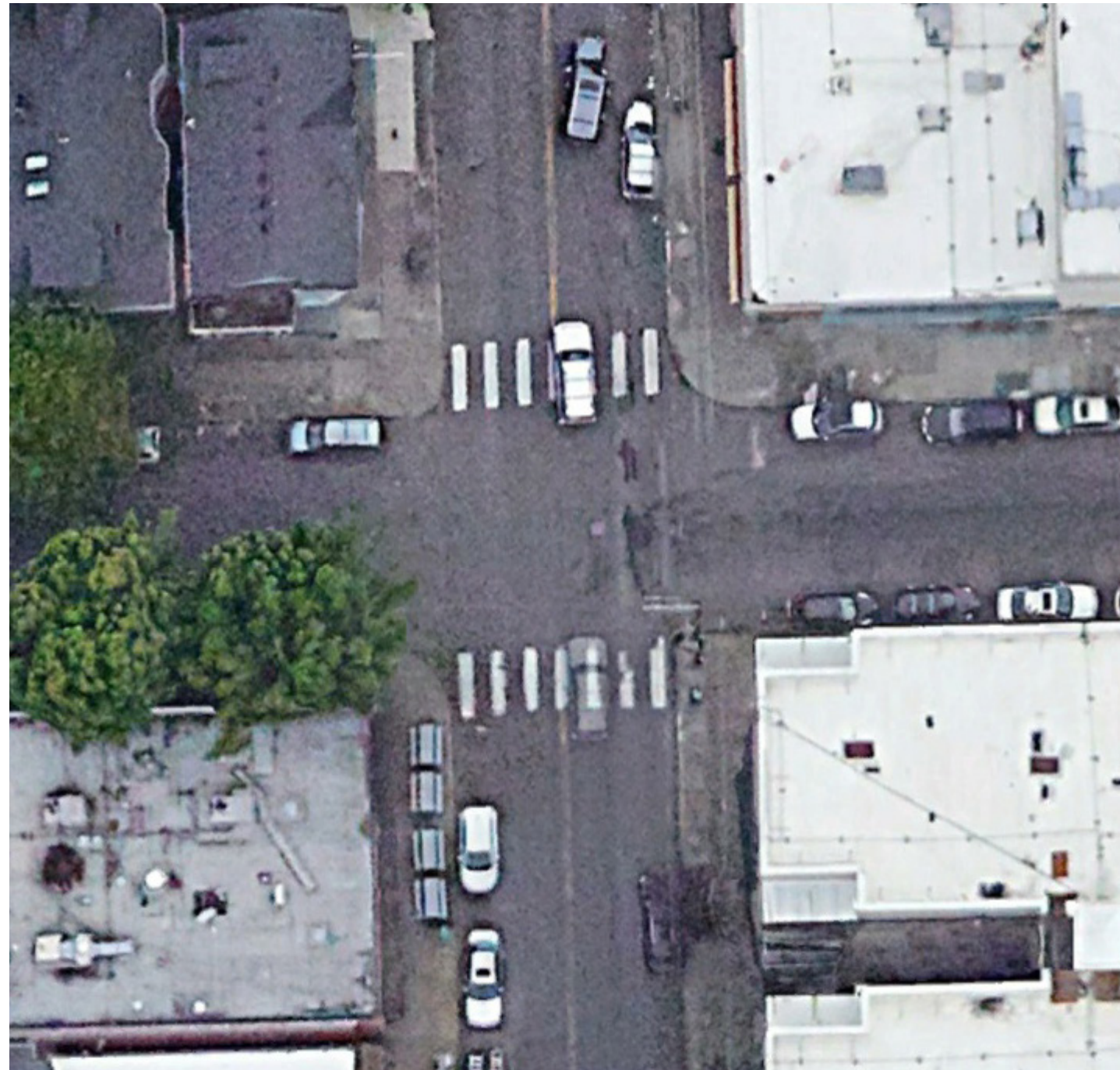
- Parking both sides all approaches
- Bike racks on sidewalk

Utilities and Street Furnishings

- Trash can and NE and NW corners
- Magazine boxes on NE and NW corners
- Power pole on SE corner
- Mailbox on SE corner
- Inlets at SW and SW corners
- Hydrant on NE corner

Restaurants and Businesses

- Cafe Seating on SW corner
- Restaurants, Apartments, Market, Cinema



NW 23RD AVENUE & NW HOYT STREET

NO EXISTING CURB EXTENSIONS

Topography

- Flat terrain

Infrastructure

- Crosswalks across 23rd on Hoyt
- Newer curb ramps

Parking

- Parking both sides on all approaches

Utilities and Street Furnishings

- Inlet on NW, SW (2), SE corners
- Power pole on SW corner
- Trash can on NE corner
- Planter boxes from business
- Hydrants on SE and SW corners

Restaurants and Businesses

- Sidewalk tables on 23rd south of Hoyt
- In-street outdoor seating on Hoyt west of 23rd
- Restaurants, Retail, Apartments



