

EXHIBIT B

Montgomery Park

AREA TRANSPORTATION PLAN | AS AMENDED DRAFT



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Montgomery Park Area Transportation Plan

1.

Montgomery Park Area, Past and Present

What is the *Montgomery Park Area Transportation Plan*, and why is this plan needed? Also, the history and present character of the area and an overview of previous plans.

2.

Future of the Montgomery Park Area

An overview of the future vision for the Montgomery Park Area, including how people and goods will move in, to, from, and through the area as it redevelops.

3.

Plan Process and Community Engagement

How was this plan made, and who was consulted? An overview of the planning process and how community input shaped the *Montgomery Park Area Transportation Plan*.

4.

Multimodal Recommendations

The *Montgomery Park Area Transportation Plan* recommends projects around scales of connections: Internal Connections, Neighborhood Connections, and City and Regional Connections. This chapter details those recommendations, with focus on the centerpiece Big Move recommended project: an extension of Portland Streetcar to Montgomery Park.

Big Move

Internal Connections

Neighborhood Connections

City and Regional Connections

5.

Policy Recommendations

In addition to projects, the *Montgomery Park Area Transportation Plan* includes policy-based recommendations to update the City's *Transportation System Plan*.

6.

Implementation Strategies

A breakdown of strategies to support the implementation of the *Montgomery Park Area Transportation Plan*.

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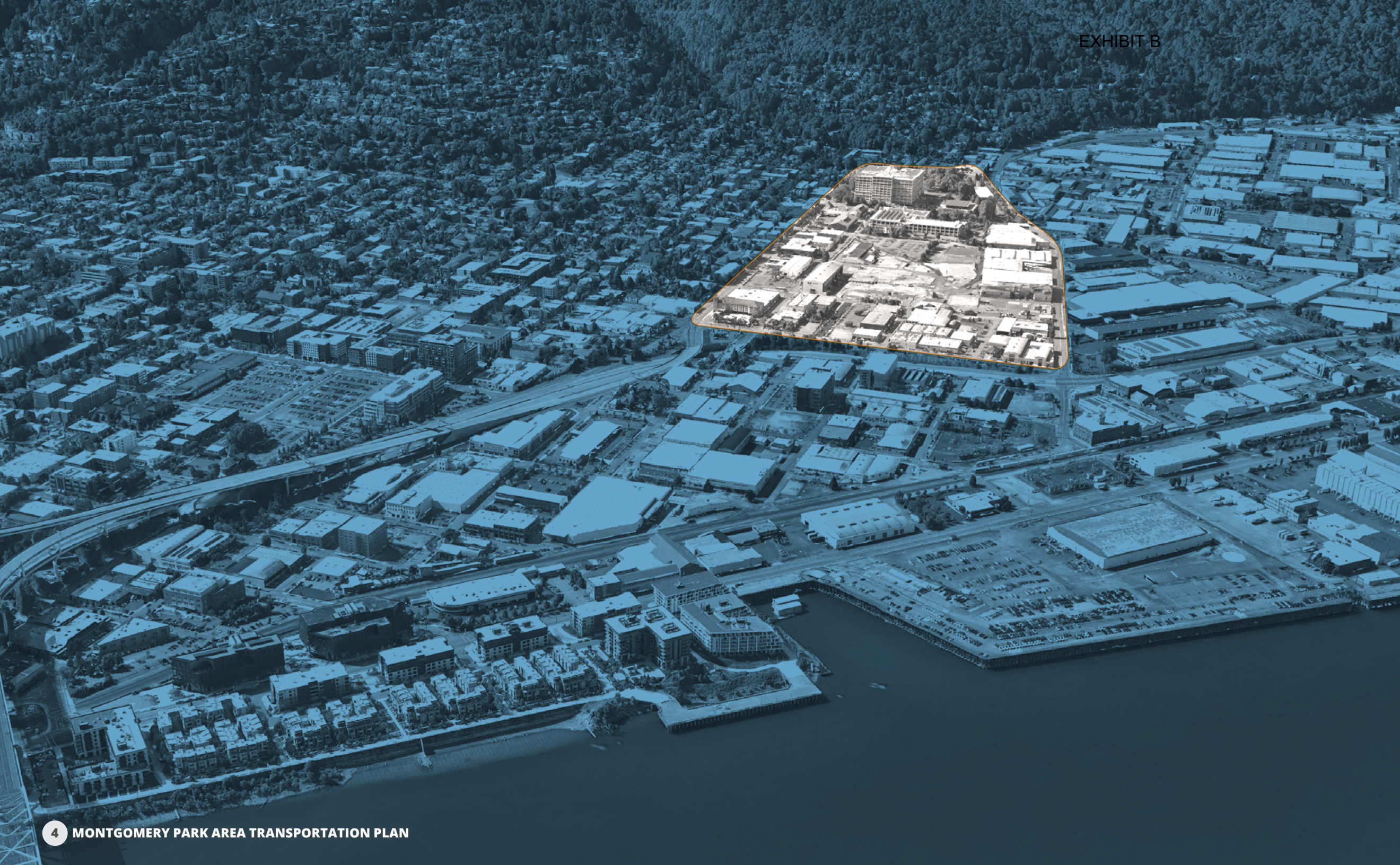
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Part 1

Montgomery Park Area Past and Present

What is the *Montgomery Park Area Transportation Plan*, and why is this plan needed? Also, the history and present character of the area and an overview of previous plans.

What is the Montgomery Park Area Transportation Plan?

The *Montgomery Park Area Transportation Plan* identifies transportation priorities to make it easy for people to walk, roll, bike, and take transit to, from, and within the growing Montgomery Park Area of Northwest Portland. The plan’s recommendations aim to facilitate the safe, equitable, and comfortable movement of people within the emerging area itself, as well as to and from adjacent neighborhood amenities and throughout the broader city and region.

The *Montgomery Park Area Transportation Plan* is part of the City of Portland’s broader *Montgomery Park Area Plan (MPAP)*. Funded in part by a grant from the Federal Transit Administration, the *MPAP* plans for a new transit-oriented mixed use district between NW Nicolai and NW Vaughn streets west of Highway 30 in Northwest Portland. The *MPAP* proposes land use changes and identifies a framework for affordable housing, economic development, and community benefit opportunities along a recommended extension of Portland Streetcar to Montgomery Park.



The Montgomery Park Area today

Where is the study area?

The core project area sits at the intersection of industry, urban Portland, and nature. Making up a portion of Portland’s Northwest District, the core project area—hereafter called the Montgomery Park Area—is bounded by NW Nicolai Street to the north, NW 23rd Avenue to the east, and NW Vaughn Street/NW Wardway Street to the south and west. The area sits next to the 5,200 acres of Forest Park, which is one of the nation’s largest urban forests. The iconic Montgomery Park office building gives the area its namesake, as it is a well-known and prominent feature of Portland’s skyline and is also one of the largest office buildings in Oregon. The Montgomery Park Area is also home to the ESCO site, a 22-acre former steel foundry, as well as dozens of industrial and commercial businesses.

Areas surrounding the Montgomery Park Area vary in uses in character. North of NW Nicolai Street, uses are largely industrial, with businesses ranging between manufacturing, light industrial, office, warehousing, and storage. East of NW 23rd Avenue, more industrial land is home to small businesses. South of NW Vaughn Street, a mix of land uses include some of Portland’s first single-dwelling homes, apartments, rowhouses, duplexes, and both older and newer commercial and mixed use buildings, including several retail services. To the west lie Forest Park and the trailhead to Lower Macleay Trail, one of the city’s most popular hiking trails.

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MONTGOMERY PARK AREA TRANSPORTATION PLAN STUDY AREA MAP



Why Northwest? Why now?

The *Montgomery Park Area Transportation Plan* arrives at a critical moment in the area's evolution. Transportation needs are shifting in the area, driven by a few significant opportunities:



Intensive private development is anticipated in the area.

On the Montgomery Park site alone, development may include more than 800 housing units and nearly 2 million gross square feet of renovated and new commercial, retail, and residential space.



The former ESCO steel foundry site is expected to redevelop.

Located in the heart of the Montgomery Park Area, the 22-acre site has recently been decommissioned and sold. Proposed land use changes on this site will support dense mixed use development.



The area's transition presents an opportunity to deliver on previous planning efforts.

An extension of the Portland Streetcar to Montgomery Park was identified in the 2009 *Portland Streetcar System Concept Plan*.

Over the next 20 years, the broader *Montgomery Park Area Plan (MPAP)* study area is expected to grow by up to 14,000 new households and 1,500 new jobs. Within the core project area, more than 2,000 new households and hundreds of new jobs could be accommodated. The existing transportation network would be unable to support this future growth if residents, workers, and visitors travel by driving alone.

A 2019 Federal Transit Administration grant funded a portion of this plan. In addition to studying the proposed streetcar extension to Montgomery Park, the companion *MPAP* addresses urban design, land use, housing, and equitable development in the area, as well as broader policy considerations.



A potential future for the Montgomery Park Area, based on land use changes proposed in the Montgomery Park Area Plan. The area could provide for thousands of new housing units and hundreds of new jobs served by high-capacity transit.

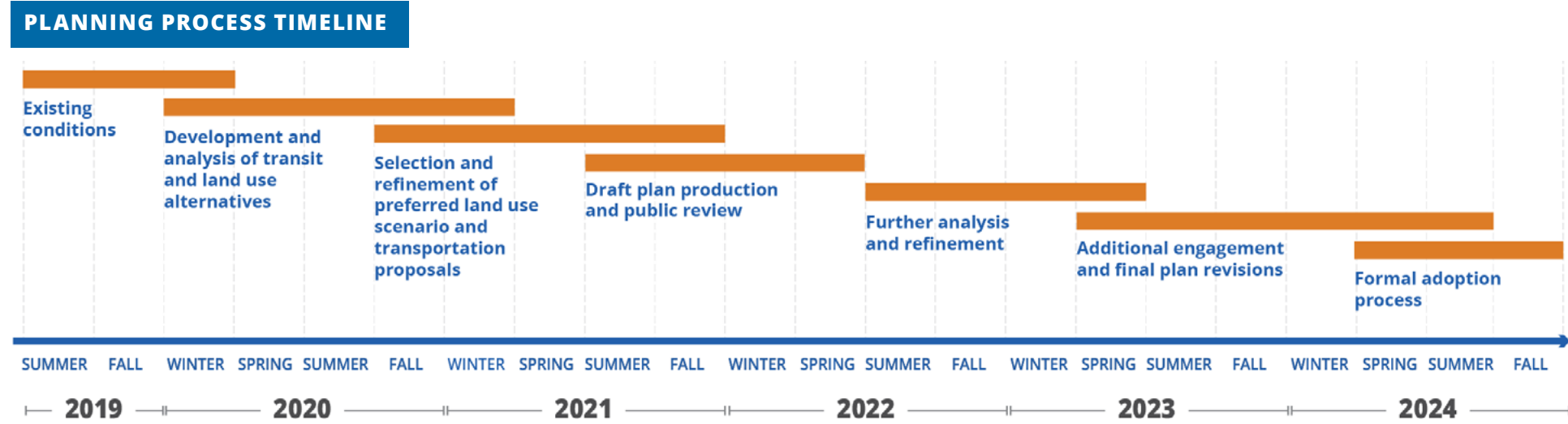




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People wait for the Portland Streetcar at the Northwest 23rd and Marshall Station.

How does this plan support equity?

The transition of the Montgomery Park Area into a mixed use district served by high-capacity transit can support equitable outcomes. Through improved access to affordable transportation options, expanded housing stock, job opportunities, and other community benefits, the area can advance the City of Portland’s equity priorities.

Considering equity

While developing the *Montgomery Park Area Transportation Plan* and *MPAP*, we evaluated how the proposed extension of Portland Streetcar and planned land use changes would impact equity. In addition to understanding whether these changes would support City goals including increased transit use, housing development, and carbon emissions reductions, we considered how they might reduce or exacerbate racial disparities in our community. We examined the potential impacts of public infrastructure investments and mixed use development to land values, housing, jobs, and businesses, as well as gentrification and displacement risk in the project area. We also explored how to include impacted community members in the planning process.

The following page contains overviews some of the equitable benefits of the *Montgomery Park Area Transportation Plan* and the *MPAP*. More information about the equity analysis and equitable engagement is available in the *Preliminary Racial Equity Analysis (2019)* and the *Equitable Development Report (2023)*, which can be found at the [MPAP webpage](#).

Mobility options

Transportation costs are typically the second largest expense for households. Households of color and households living on lower incomes are more likely to be cost burdened than white households. These cost burdens can aggravate disparities, and vice versa. Offering high quality, accessible, and sustainable mobility choices in the Montgomery Park Area can help lower combined household and transportation costs for overburdened households.

Job opportunities

Communities of color and other underrepresented groups benefit from industrial jobs, in part due to lower barriers to entry. The *MPAP* proposes focused land use changes in the Montgomery Park Area, preserving existing industrial land east of US-30. The *MPAP* also proposes implementation strategies to help offset the loss of industrial land in the area and help retain and grow employment opportunities.

Housing choices

The Montgomery Park Area is also considered a “High Opportunity” area, a designation that reflects the area’s proximity to multiple community amenities that correlate with better quality of life outcomes. Expanding housing stock in the Montgomery Park Area, where there is currently very little, can help ease region-wide housing pressures, adding more housing options in a high opportunity area while relieving housing pressures in other gentrifying areas.

Equitable public benefits

To achieve more equitable outcomes, the *MPAP* includes a package of implementation tools that direct some of the value created from public infrastructure investments and land use changes toward public benefits that serve the broader community. These include creating opportunities for middle-wage jobs, more immediate or additional affordable housing, affordable commercial spaces, and new public open space.

History of the Montgomery Park Area

Native history

The area that would become the City of Portland was populated for thousands of years by various Native peoples prior to settlement by European Americans. The Multnomah, Wasco, Cowlitz, Kathlamet, Clackamas, Bands of Chinook, Tualatin, Kalapuya, Molalla, and many other tribes and bands created communities and seasonal encampments along the Columbia and Willamette rivers.

When white settlers began entering the Portland Basin in the early 1800s, they brought with them diseases and created pandemics that decimated many of these longstanding communities. Institutionalized removal of Native peoples from their ancestral lands to make way for white settlement began with the Indian Removal Act of 1830. Subsequent government actions resulted in the forced resettlement of many of these original settlers to remote reservations. Broken treaties formalized state-sanctioned theft of land and livelihood from Native peoples in the area well into the twentieth century.

Today, Portland is home to the nation’s ninth largest urban Native American population, representing more than 380 tribal affiliations. Some are descendants of northwestern tribes, while others are affiliated with tribes from across the country.



Guild’s Lake, looking northwest, in around 1900; St Helens Road is in the foreground, made of planks.

Early settlement

The area north of NW Vaughn Street was sparsely developed until the 1900s but included lumber mills, grain storage, railroads, and docks along pastureland and a large, shallow lake known as Guild’s Lake. The Guild’s Lake Rail Yard, constructed by the Northern Pacific Railroad in the 1880s, served as a major switching facility for a number of Portland’s railroads.

In the 1880s, Chinese immigrants lived in the Guild’s Lake area, where they operated small farms. Chinese people experienced severe discrimination despite their broad contributions to the community.

Area streets

As the area developed, east-west streets continued the alphabetical naming pattern established in Northwest Portland in the 1800s. These streets include NW Vaughn Street, NW Wilson Street, and NW York Street; there are currently no “X” or “Z” streets, however. In 2002, as a result of the advocacy and efforts of award-winning filmmaker and historian Ron Craig, Portland City Council declared NW York Street in honor of York, the enslaved man who was critical to the success of the Lewis and Clark Expedition.



York, portrayed in the 1912 painting by E.S. Paxson, “Lewis and Clark at Three Forks,” which hangs in the Montana State Capitol



Northwest Vaughn Street looking west toward Vaughn Street Park and Montgomery Ward & Company Building (now Montgomery Park), 1939

Who was York?

In 1803, President Thomas Jefferson commissioned the Lewis and Clark Expedition to explore the western portion of the continent. York, enslaved personal servant of William Clark, served as an integral member of the expedition and contributed significantly to its success. York appears in both Clark’s and Lewis’s journals and is noted for going above-and-beyond in demonstrating skill, care, and compassion. Among his contributions, York risked his life to save Clark, Sacajawea, and her son when they were caught in a flash flood. At the conclusion of the journey in 1806, York requested his freedom from William Clark and was denied. He was finally freed, however, sometime after 1815.

The land use and transportation changes in the Montgomery Park Area present an opportunity to increase awareness of York, for whom NW York Street is named, and to recognize and commemorate both his and other Black individuals’ contributions to the history of Portland.

Source: Millner, Darrell M. (Fall 2003). “York of the Corps of Discovery: Interpretations of York’s Character and His Role in the Lewis and Clark Expedition”. *Oregon Historical Quarterly*. 104 (3): 302–333.

History of the Montgomery Park Area

Vaughn Street Park

In 1901, construction was completed on one of the city's first baseball parks, located on the north side of NW Vaughn Street between NW 24th and NW 25th avenues. Over the decades, it was renovated and expanded; at its largest, the ballpark seated 12,000. The Portland Beavers were the last team to play at Vaughn Street Park in 1955. The ballpark was demolished in 1956, and the site transitioned to industrial uses. One such use was the recently demolished ESCO steel foundry.



Vaughn Street Park hosted baseball games for more than fifty years beginning in 1901.

1905 World's Fair

In 1905, the 100-year anniversary of the Lewis and Clark Exhibition was celebrated with the 1905 World's Fair, also known as the Lewis and Clark Centennial Exposition, located on an artificial island in Guild's Lake. The site was selected in part for its access—two local trolley lines ran within one block of the fair entrance. Little of the exposition remains today, as most of the structures were temporary and were torn down in 1906.

Following the World's Fair, Guild's Lake and the surrounding lowlands were filled with soil sluiced from development in the West Hills and sediment dredged from the Willamette River. The lake was completely filled by the mid-1920s, and industrial operations in the area proliferated.



A birds-eye view illustration of the Lewis and Clark Exhibition used to advertise the 1905 event

Montgomery Park Building

In 1920, Montgomery Ward & Company constructed a new nine story building in the area. At the time of its completion, the building was the largest in Portland in floor area. A wing was added in 1936, which included a retail store. After World War II, the retail business declined in part due to rapid suburbanization and eventually closed in 1976. By 1982, the warehouse closed, eliminating 500 jobs at the site. In 1985, the building was rehabilitated for office and retail uses and renamed Montgomery Park—with a new sign to match.



The Montgomery Ward & Company Building (now Montgomery Park) in 1939, with the American Can Company to the front right

Guild's Lake Courts

During World War II, a large temporary housing project was constructed in the area for shipyard workers and their families. Called Guild's Lake Courts, the community was the eighth largest housing project in the United States. While lesser known than its counterpart, Vanport City, Guild's Lake Courts housed a diverse population and included a significant number of Black/ African American households. The housing project was demolished in 1951, and remaining residents were displaced to other areas of Portland and the region.



Guild's Lake Courts, a temporary public housing project, housed around 10,000 people during the peak of World War II. This photograph is from 1942.



The Montgomery Park Building today

The Montgomery Park Area today

Today, the Montgomery Park Area is a transitional space between Northwest Portland's industrial areas to the north/northeast and the residential areas and commercial spines to the south. North of NW Vaughn Street, the eastern portion of the area is largely zoned industrial, while the western half includes large parcels of mixed use and general employment. Businesses range between manufacturing, light industrial, office, storage, hotel, food carts, and others. As an area in transition, it includes a mix of longstanding active businesses, newer uses, and vacant sites. There are also a small number of older homes between NW 23rd and NW 24th avenues.

The core project area is predominantly industrial in character. The development pattern is dominated by one and two story buildings on a mix of medium and large lots, including the former ESCO steel foundry site. There, several large industrial structures were recently demolished, and the site sits largely vacant.



The former ESCO steel foundry site in the Montgomery Park Area sits mostly vacant.

The Montgomery Park Area today

Character of the Montgomery Park Area

Major character-defining features of the area include:



The Montgomery Park office building, the second largest in Portland, anchors the western portion of the area.



Industrial small businesses are dispersed throughout southern and eastern portions of the area.



The American Can Company Complex, a Historic Landmark, sits east of and adjacent to Montgomery Park.



Large surface parking lots cover significant acreage in the area and have long supplied Montgomery Park workers with free parking.



Decommissioned railroad tracks run down a few area streets, vestiges of the area's previous heavy industrial uses.



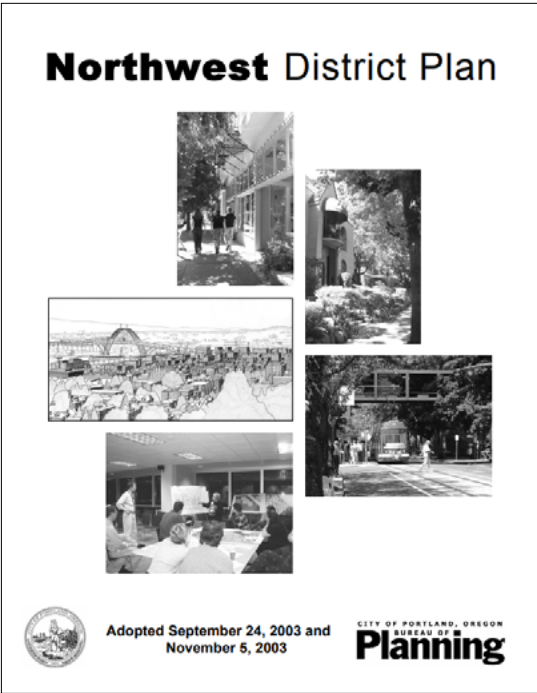
A small group of older homes is concentrated in the eastern portion of the area.

In January 2020, the project team published an [Existing Conditions Report](#) documenting demographic, transportation, land use, jobs, and commercial conditions in the larger MPAP study area ([see map on page 7](#)). The transportation section of the report includes information about current street classifications, employment patterns and travel behavior, and recent and planned investments in and near the Montgomery Park Area. While the analysis in the *Existing Conditions Report* focuses on the areas surrounding a previous potential alignment of the Portland Streetcar extension to Montgomery Park, the report's study area still includes all of the core Montgomery Park Area.

Planning context

Portland Streetcar System Concept Plan (2009)

The *Portland Streetcar System Concept Plan* identifies potential corridors to expand streetcar service to better serve Portland's neighborhoods. The planning process analyzed potential alignments to determine the most promising for future extensions based on public involvement, development potential, operational feasibility, and transit connectivity. The plan identifies an extension of streetcar service to serve the Montgomery Park Area as a priority.



Northwest District Plan (2003)

The *Northwest District Plan* sets a specific framework for desired land uses and development in the district and includes broad transportation goals. The plan's boundaries overlap the western portion of the Montgomery Park Area, and the *Montgomery Park Area Transportation Plan* advances the *Northwest District Plan's* goals by investing in walking, bicycling, transit, goods delivery, and connections to shared mobility services.

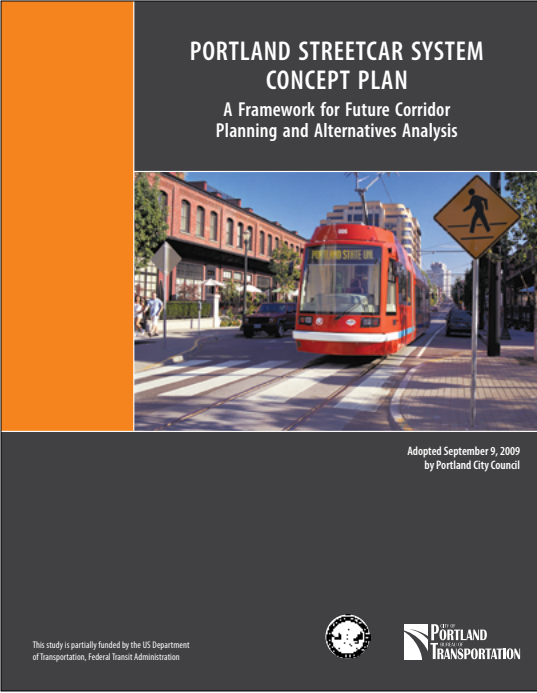


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Northwest in Motion (2020)

Northwest in Motion (NWIM) is a plan to make Portland's Northwest District safer and more convenient for people walking, rolling, biking, and taking public transit. The plan prioritizes near-term projects to be built in the next five to ten years. The plan's study area abuts the *Montgomery Park Area Transportation Plan* core project area at Northwest Vaughn Street, which is *NWIM's* northern boundary.

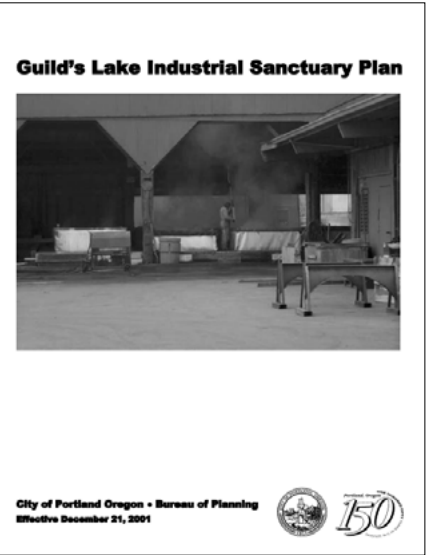
Three *NWIM* projects are included in Montgomery Park Area Transportation Plan:

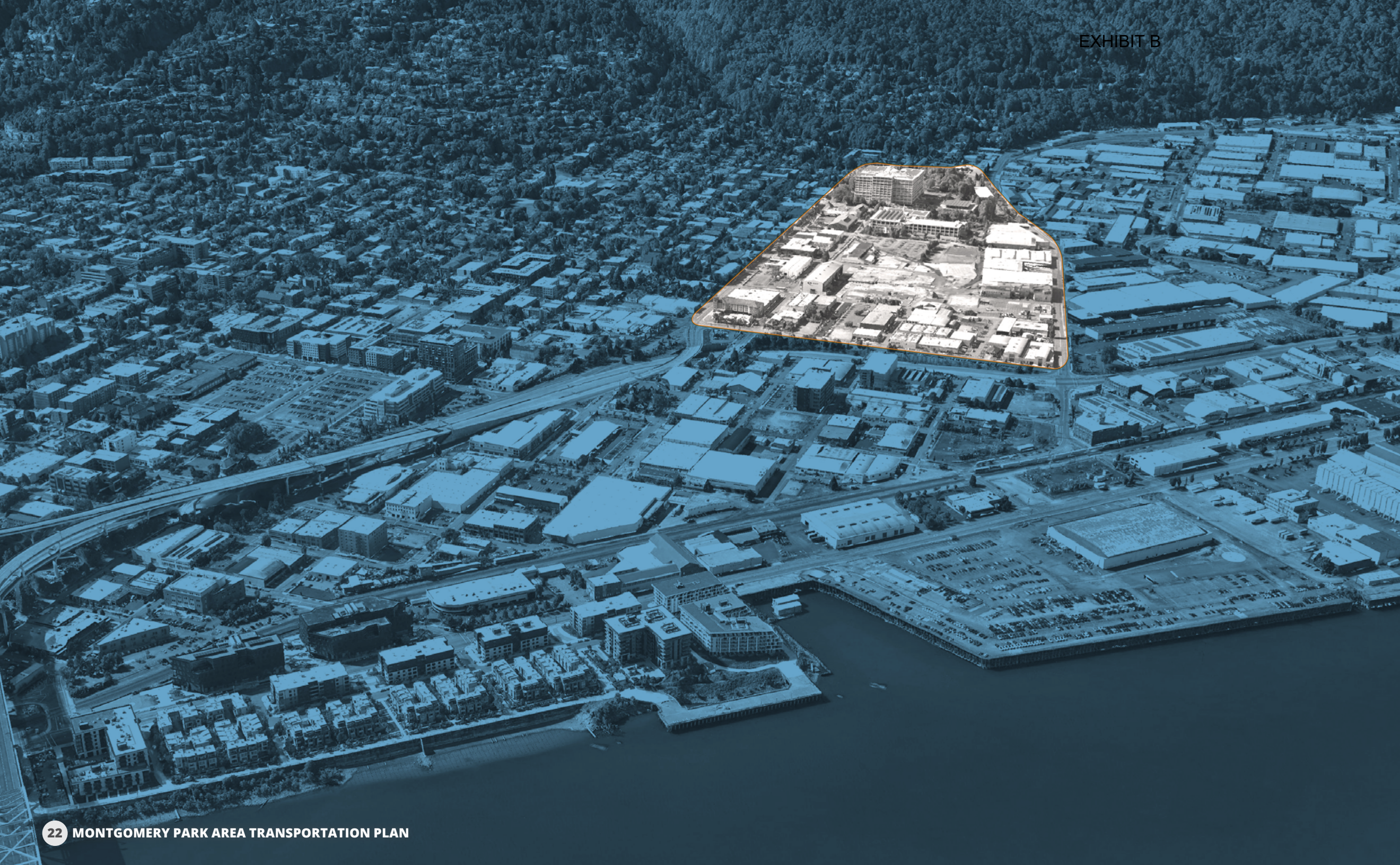
1. **NW 24th Avenue Neighborhood Greenway (NG.5):** Retrofit, improve, and extend the existing greenway from NW Vaughn Street to the NW Flanders Neighborhood Greenway.
2. **NW 25th Avenue Corridor Improvements (CI.1):** Calm traffic along NW 25th Avenue by adding traffic-slowing devices and enhanced pedestrian/ bicycle crossings.
3. **NW Vaughn Street Corridor Improvements (CI.5):** Improve safety along NW Vaughn Street and NW Wardway by adding improved crossings and bikeway enhancements.



Guild's Lake Industrial Sanctuary Plan (2001)

The *Guild's Lake Industrial Sanctuary Plan (GLIS)* covers portions of Northwest Portland from NW Vaughn Street north to the Willamette River and west to Forest Park. The plan provides a policy framework to preserve industrial land in the area. The recommendations in the *Montgomery Park Area Transportation Plan* and *MPAP* propose changing the primary industrial land use in the core Montgomery Park Area but preserve industrial uses east and north of US-30, as well as north of NW Nicolai Street. More information is available in Volumes 1 and 2 of the *MPAP*.



*Part 2*

Future of the Montgomery Park Area

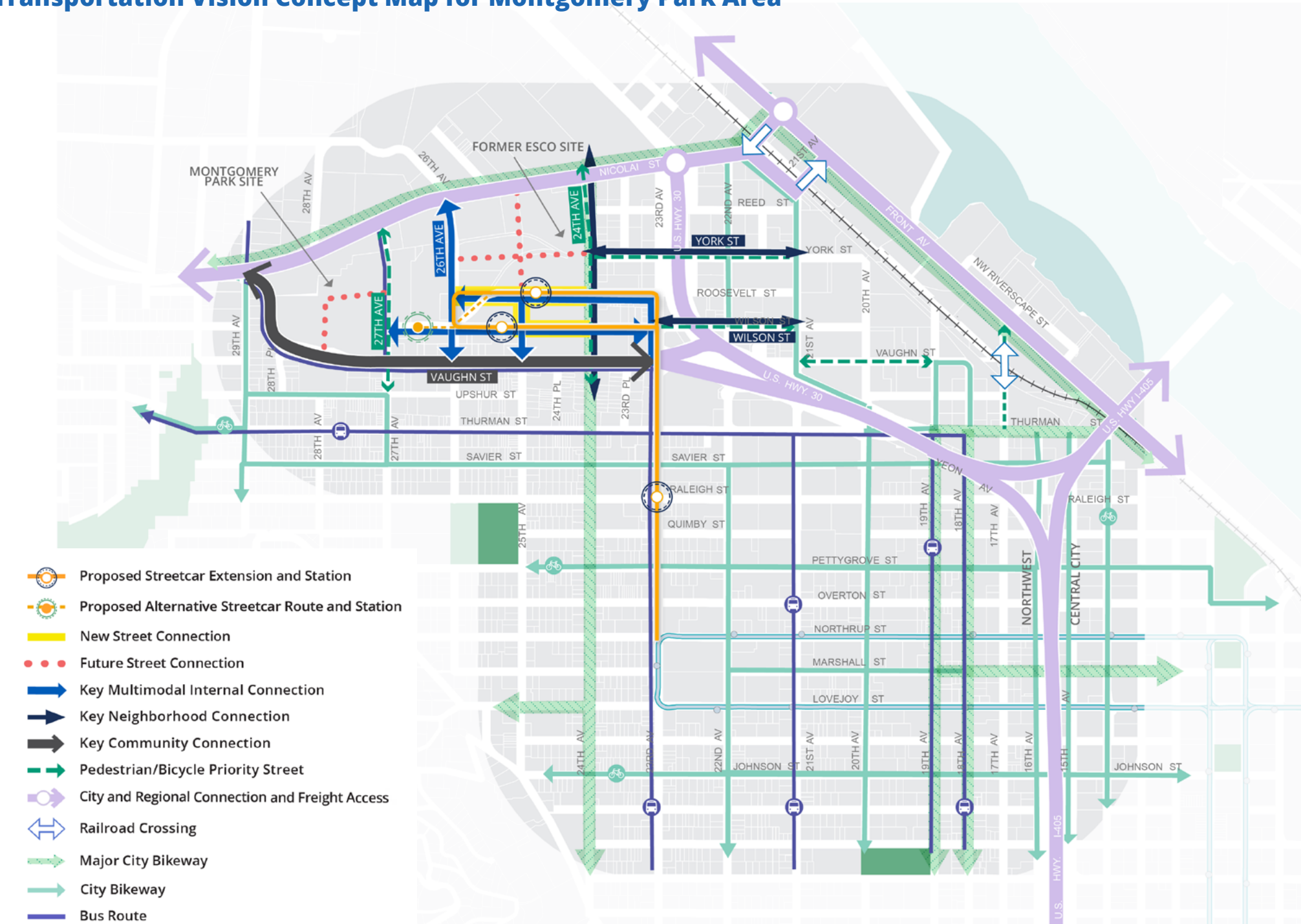
An overview of the future vision for the Montgomery Park Area, including how people and goods will move in, to, from, and through the area as it redevelops.



With this plan, the Montgomery Park Area—which includes the historic Montgomery Park office building and site, the historic American Can Company building, the former ESCO steel foundry site, and many other individual properties nearby—can transition from a relatively low-density industrial and office-employment area into a thriving, walkable and rollable new mixed use district served by sustainable, low carbon transportation options.

Supporting this transition are recommended investments in new and improved transportation facilities, including an extension of the Portland Streetcar North/South (NS) Line to Montgomery Park, new streets to support mobility in the district, and improvements for pedestrians, people bicycling, people using mobility devices, and people accessing transit.

A variety of tools are being proposed by project partners at the Bureau of Planning and Sustainability and Prosper Portland to ensure the new transit-oriented district includes significant investment in affordable housing and opportunity for living wage jobs. These tools will work to direct some of the value created by proposed land use changes and investments in the Montgomery Park Area toward public benefits that serve the broader community. These benefits include middle-wage job opportunities, affordable housing, affordable commercial spaces, and the development of public open space in the area.



How will people move in the Montgomery Park Area?

Residents, workers, and visitors of the planned Montgomery Park Area can play a major role in meeting our citywide transportation and sustainability goals. The *Transportation System Plan (TSP)* sets a goal of reducing the share of trips made by single occupancy personal vehicles to 30 percent of all citywide trips by 2035. The Montgomery Park Area is planned to ensure that residents can meet their daily needs without a personal automobile. By planning an extension of the transit and infrastructure-rich character of much of Northwest Portland northward into the Montgomery Park Area, this plan can help us make that goal a reality.



The extension of Portland Streetcar to Montgomery Park will connect the area to other parts of Northwest Portland and the broader city via convenient, frequent, and high-quality transit service. The streetcar extension along NW 23rd Avenue and through the Montgomery Park Area will serve as a critical mitigation measure for the future trips generated by area growth.

Enhanced crossings in the study area will improve connections between existing bus service and future streetcar stations. New or improved pedestrian connections identified in the *Montgomery Park Area Transportation Plan* will make walking and rolling between transit and area destinations comfortable and convenient for users of all ages and abilities.

Multiple transportation options located near the streetcar terminus will centralize connections for users. Around the planned end-of-line station, people will be able to access transit, shared mobility services, wayfinding, travel information, and other transportation options and incentives provided through area transportation demand management (TDM) programming.

Sustainable Mobility Options in the Future Montgomery Park Area



Future of the Montgomery Park Area

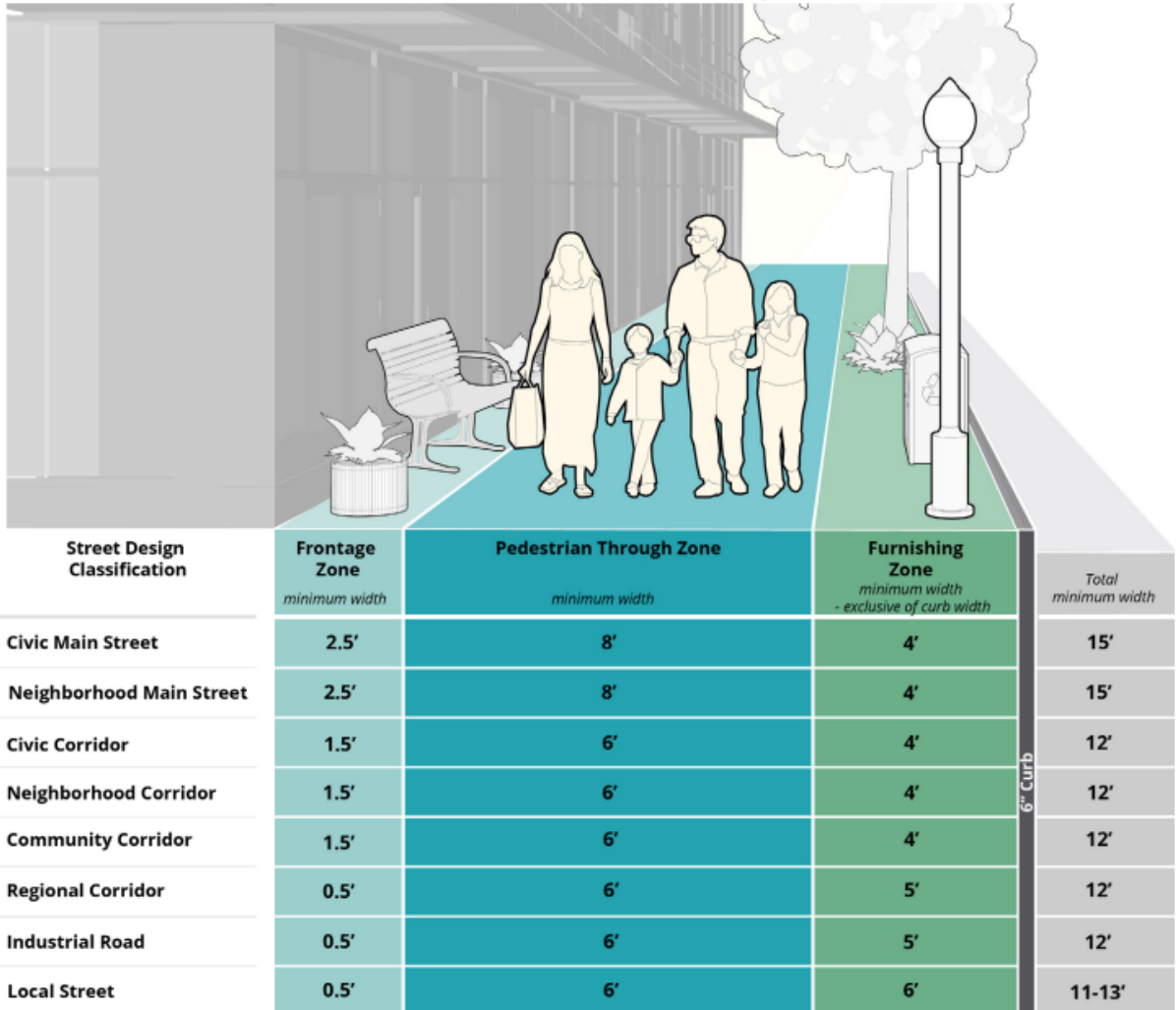
Pedestrian connections

Today, the Montgomery Park Area’s street network is disconnected, and some streets lack sidewalks. This makes it difficult for pedestrians to comfortably travel in and through the area. New street connections and enhanced crossings of busy streets will improve connectivity and accessibility for people walking and rolling in, to, and through the area.

Extensions of existing roads will create a more connected, walkable, and rollable street grid. Recommendations include key street extensions to enhance connectivity for both north-south and east-west travel. Through future redevelopment, City of Portland street connectivity requirements will ensure continued improvements to the pedestrian network in the area. Generally, these new connections are dedicated as right-of-way. Under certain circumstances, however, private streets with public access easements may be permitted.

Improved crossings of NW Vaughn Street will enhance connections to existing bus and future streetcar stations, as well as between the Montgomery Park Area and the destinations of Northwest Portland. The *Montgomery Park Area Transportation Plan* supports recommendations in *Northwest in Motion* to improve pedestrian crossings of NW Vaughn Street at NW 24th Avenue, NW 26th Avenue, and along NW Wardway to improve safety and reduce distances between crossings for pedestrians. These improvements will help stitch the redeveloping Montgomery Park Area to the destinations of Northwest Portland south of NW Vaughn Street and will serve as alternate routes to the wide, busy intersection of NW Vaughn Street, US-30, and NW 23rd Avenue.

City Pedestrian Design Guide standards and a new Pedestrian District will ensure sidewalk corridors are wide enough to support safe and comfortable pedestrian movement, an enjoyable streetscape, and active uses as the area redevelops. The 2022 revised [Pedestrian Design Guide](#) establishes sidewalk corridor width requirements based on a street’s Design Classification in the *Transportation System Plan (TSP)*, as well as requirements for sidewalks within Pedestrian Districts. The *Montgomery Park Area Transportation Plan* recommends a new Pedestrian District for the Montgomery Park Area and a Neighborhood Main Street Design Classification along the streetcar alignment on NW Wilson Street. These combined recommendations will result in a 15-foot sidewalk corridor on each side of the street. These requirements will ensure ample space for uses like café dining, larger street trees and planting areas, pedestrian movement, and streetcar access along the emerging Neighborhood Main Street of NW Wilson Street. All other streets in the area are required to include 12-foot sidewalk corridors upon redevelopment, further supporting pedestrian movement.



The City’s Pedestrian Design Guide establishes required sidewalk corridor widths based upon a street’s Design Classification. For streets within Pedestrian Districts, all sidewalk corridors are required to be a minimum of 12 feet wide. In the Montgomery Park Area, where a Pedestrian District is proposed, NW Wilson Street along the streetcar alignment is recommended to be classified as a Neighborhood Main Street. These combined recommendations will result in a 15-foot sidewalk corridor on both sides of the street. For more information about contextual factors impacting sidewalk width requirements, please refer to the [Pedestrian Design Guide](#).



A pedestrian push button at a signalized intersection

Future of the Montgomery Park Area

Bicycle connections

The current bicycle network in the Montgomery Park Area is limited, indicative of its recent and current industrial and freight uses. New bikeway connections will link the area to the surrounding bicycle network, making biking comfortable and convenient for current and future workers, residents, and visitors of all ages and abilities.



A sidewalk level bikeway along NW Front Avenue and NW 17th Avenue in Portland

The NW 24th Avenue Neighborhood Greenway will provide the primary north-south connection for people bicycling to and from the Montgomery Park Area. This plan builds upon recommendations in *Northwest in Motion* to improve the 24th Avenue Neighborhood Greenway across NW Vaughn Street and northward to an improved crossing of NW Nicolai Street, connecting people bicycling to a planned multi-use path along NW Nicolai Street and broader city and regional destinations. An extension of the NW 27th Avenue Neighborhood Greenway will offer an additional north-south connection.

A multi-use path along NW Nicolai Street and NW St Helens Road will connect people from the Willamette River waterfront to the Montgomery Park Area, as well as to longer-term destinations. This plan recommends a new shared multi-use path along the underutilized right-of-way along the north side of NW Nicolai Street from NW 24th Avenue to NW 29th Avenue, and potentially farther west, with crossing improvements at NW 24th Avenue, NW 26th Avenue, and NW 29th Avenue. Longer term, improvements could connect the path to broader destinations such as St Johns, Linnton, and Sauvie Island.

New bikeways along the planned streetcar alignment on NW Roosevelt and NW Wilson streets will connect people bicycling east and west. Dedicated bikeways along these streets will serve people within the Montgomery Park Area, while connecting to north-south connections on NW 24th and NW 27th avenues. The *Montgomery Park Area Transportation Plan* recommends additional right-of-way dedication where required as a condition for new development. Bikeway design will minimize conflicts with streetcar tracks.

Additional recommended future bikeway connections will fill gaps in the bicycle network, connecting people bicycling across US-30 and from the Montgomery Park Area to the Central City and destinations across the Willamette River. This plan identifies bicycle network connections that connect the Montgomery Park Area and NW Portland to the industrial area north and east of US-30, connecting people bicycling to NW Front Avenue and the Willamette Greenway Trail while avoiding difficult intersections to reduce conflicts with other modes and to improve comfort for people bicycling in and through the area.



Vehicles queuing at the intersection of NW Vaughn Street and NW 23rd Avenue



Freight trucks and vehicles at the intersection of NW Nicolai Street and US-30

Future of the Montgomery Park Area

Vehicle circulation

Currently, street connectivity in the Montgomery Park Area is limited due to large block sizes and piecemeal streets reflective of the industrial uses that previously occupied much of the area. Improved connections and continued access to US-30 will support circulation and multimodal travel in, to, and through the area as it develops.

US-30 access points located at NW Nicolai Street, as well as at NW Vaughn Street and NW 23rd Avenue, are key vehicle pathways in and out of the Montgomery Park Area.

The intersections and corridors connecting to US-30 often experience congestion during peak hours. This plan details opportunities to calm traffic at key intersections and improve safety on local streets. Recommendations will encourage automobile traffic to use appropriate streets, whether people driving are traveling to, from, or through the area.

New street connections will support the vision of a mixed use employment and housing district, while providing more travel pathways and reducing demand on key arterials by creating alternate routes for local trips.

New connections on NW Roosevelt Street, NW Wilson Street, and NW 25th Avenue will fill gaps in the Montgomery Park Area's street grid, while retaining developable parcel sizes and ensuring flexibility for development programming. With improved connectivity, the transportation network will provide safe and comfortable connections for all modes.

Shifting the boundary between mixed use/residential land uses and industrial land uses northward from NW Vaughn Street to NW Nicolai Street will create connections between the Montgomery Park Area and neighborhood destinations to the south.

NW Vaughn Street has long served as the northern border of Northwest Portland's mixed use areas, dividing them from industrial land to the north. This plan builds upon planned bikeway and pedestrian crossing improvements along NW Vaughn Street, to improve multimodal connections to the Montgomery Park Area from the thriving area to the south.

Goods movement

The Montgomery Park Area is currently part of a designated Industrial District. However, the character and uses of the area are changing. This plan seeks to ensure safe and reliable freight access and movement where necessary, while supporting future mixed use development in the area.

NW Nicolai Street is prioritized for freight movement, connecting goods to and from industrial areas in Northwest Portland to US-30 and beyond. NW Nicolai Street is designated as a Priority Truck Street in the *Transportation System Plan*. US-30 is a regionally significant freight route with key connections that support goods movement and delivery throughout and beyond the Montgomery Park Area. Recommendations in this plan preserve safe, reliable freight access along NW Nicolai Street to and from US-30.

Updates to the Freight District boundary will support the shift of the Montgomery Park area from industrial uses to mixed use employment and residential uses. Moving the boundary of the existing Freight District to support redevelopment of the Montgomery Park Area will ensure that people can move in, to, and through the emerging area while reducing modal conflicts with goods movement. Freight access for goods delivery in the area will be provided.



Part 3

Plan Process and Community Engagement

How was this plan made, and who was consulted? An overview of the planning process and how community input shaped the *Montgomery Park Area Transportation Plan*.

Plan process

The *Montgomery Park Area Transportation Plan* is part of the *Montgomery Park Area Plan*. Both plans were initially developed as draft outcomes of the *Montgomery Park to Hollywood Transit and Land Use Development Strategy (MP2H)*, which studied opportunities to create an equitable development plan for transit-oriented districts in Northwest Portland and Northeast Portland. Funded in part by a grant from the Federal Transit Administration (FTA), *MP2H* was a collaboration between the Portland Bureau of Transportation (PBOT) and the Bureau of Planning and Sustainability (BPS) and took place from 2019 to 2023.

In Northwest Portland, *MP2H* explored development scenarios related to a potential extension of the Portland Streetcar system to the Montgomery Park building located in a predominantly industrial area between NW Nicolai and NW Vaughn streets west of US-30. During the *MP2H* process, the project team considered opportunities to generate public benefits for the broader community through equitable development strategies and incentives. Urban design options, land use development scenarios, and various transit alignments were also explored for their ability to support the City's transportation, climate, housing, equity, and economic and business development goals. To support these outcomes, we worked to develop, analyze, and refine a suite of multimodal transportation projects and policy recommendations to include in the *Montgomery Park Area Transportation Plan*. Community engagement was integral to the process, with community input shaping project goals and outcomes.

This section overviews the process we undertook to produce the *Montgomery Park Area Transportation Plan*. A timeline ([pages 38-39](#)) outlines the plan process and key milestones. An overview of community engagement ([pages 40-43](#)) describes who we consulted, what methods we used, and what we learned from public input. How we chose streetcar and developed the preferred alignment ([pages 44-46](#)) is also explained, and a brief description of traffic analysis ([page 47](#)) we conducted overviews key assumptions and takeaways.

EXHIBIT B



Ariel view east-southeast over the Montgomery Park Area toward the Willamette River, Fremont Bridge, and Central City from above the American Can Company Building

Plan process

PROCESS TIMELINE AND KEY DELIVERABLE MILESTONES

2019

- Background research and existing conditions
- Begin Phase 1 community engagement

2020

- Development and analysis of transit and land use alternatives
- Streetcar is selected as preferred transit mode

2021

- Selection and refinement of preferred land use scenario and transportation proposals
- Draft transportation and land use plans are released

2022

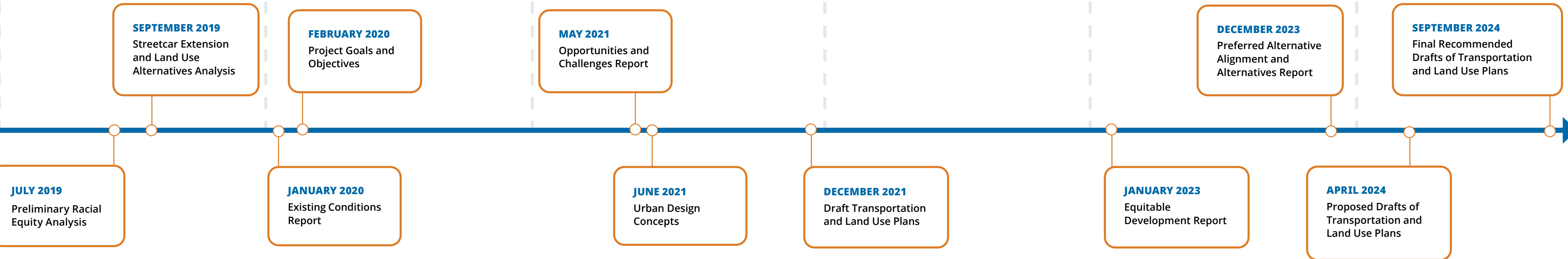
- Public review and comments on draft plans
- Further analysis and refinements of transportation and land use plans

2023

- Phase 2 community engagement
- Continued evaluation and refinements to transportation and land use plans

2024

- Final plan revisions
- Publish proposed and recommended drafts of transportation and land use plans
- Legislative process toward plans adoption



Community engagement

PHASE 1 | FALL 2019 - WINTER 2021/22

MONTGOMERY PARK TO HOLLYWOOD (MP2H) TRANSIT AND LAND USE DEVELOPMENT STRATEGY

Much of the community engagement for the *Montgomery Park Area Transportation Plan* was conducted as part of *MP2H*. Planned for Spring and Summer of 2020, our approach to engagement had to adapt significantly in response to the Covid-19 pandemic. This phase focused on gathering feedback as we developed and analyzed alternative transportation and land use scenarios for Northwest Portland, with focus on the Montgomery Park Area.

During Phase 1, we convened a Project Working Group of 16 community members representing a variety of viewpoints, many of whom had connections to local neighborhood groups, business organizations, transportation advocates, and property owners in the area. We also utilized funding from a Federal Transit Administration (FTA) grant to provide funding to two area Community Based Organizations to provide outreach to underserved communities regarding their aspirations, concerns, and priorities for the project.

We asked questions to better understand the existing transportation and land use conditions in the study area. We sought feedback on what goals the *Montgomery Park Area Transportation Plan* should seek to achieve. We also gathered input on various land use development scenarios and potential streetcar extension alignments.



A virtual meeting snapshot of the Project Working Group

ENGAGEMENT METHODS

PHASE 1 | FALL 2019 - WINTER 2021/22

7 Project Working Group Meetings
May 2020 - November 2021 | Serving as representatives for various community and business viewpoints through sounding board

1 Kickoff Open House
March 2020 | Input on area existing conditions, project goals, and desired outcomes

- 25 participants

1 Urban Design Concept Open House
Summer 2020 | Feedback on preferences for land use scenarios and transit alignments

- 69 participants
- 250 unique comments

2 Community Based Organization Partnerships
Summer - Fall 2020 | Funded partnerships to reach underserved community members

- 2500 e-newsletters
- 2,000 mailers
- 192 survey responses
- 70 information-sharing conversations
- 3 virtual community forums

1 Comment Period for Draft Plans
Winter 2021/22 | Feedback on the draft land use and transportation plans

- 3,000+ mailers
- 60+ individual comments and letters

Meetings with Neighborhood Organizations and Business Associations

Fall 2019 - Winter 2021/22 | Information-sharing and gathering input throughout the process

KEY TAKEAWAYS

WHAT WE LEARNED DURING PHASE 1

- **Desire for a broad and inclusive mix of land uses** including affordable housing, jobs, and services supported by multimodal transportation options
- **Interest in a dense, connected, and walkable urban district** with industrial uses intermingled and preserved if possible
- **Desire for improved safety** for people walking, rolling, biking, accessing transit, and driving in the area
- **Interest in more services and amenities**, including businesses that serve households of varying income levels
- **Desire to ensure that underserved community members have access** to benefits of investments and growth
- **Concern about neighborhood change** and the potential for gentrification and displacement
- **Concern that major investment in the area may lead to loss of jobs and neighborhood businesses**, especially industrial businesses offering well-paying jobs that benefit communities of color
- **Concern about impacts of the streetcar extension** to parking and small business access along NW 23rd Avenue and in the Montgomery Park Area

Community engagement

PHASE 2 | SPRING 2023 - WINTER 2023/24

PORTLAND STREETCAR MONTGOMERY PARK EXTENSION

Phase 2 focused on learning more about the community's needs and priorities for the proposed streetcar extension. As time had passed since our Phase 1 engagement had ended, we used this phase to reintroduce the project to community members and groups and to gather feedback on the project and additional input on proposals in the *Montgomery Park Area Transportation Plan*.

Since in-person meetings were an option again, we combined face-to-face conversations with remote opportunities. This ensured we could share information and learn more from a broader portion of the Northwest District community. We held an online open house, and we canvassed businesses along NW 23rd Avenue. We also spoke with transit users of Northwest Portland near regulated affordable housing and existing transit stations.



Tabling event with Get Around Slabtown, Slabtown's TDM program

ENGAGEMENT METHODS

PHASE 2 | SPRING 2023 - WINTER 2023/24

5 Meetings with Neighborhood Groups

May - December 2023 | Reintroducing the project and gathering feedback, both in-person and remotely

7000 Postcards Sent to Area Addresses

May - June 2023 | Sharing information about the project and how to engage

1 Online Open House and Survey

June - July 2023 | Gathering input about the project, as well as interests and concerns

- 179 respondents

1 Northwest Parking District Open House

June 2023 | Tabling in the community to talk directly to people about the project

- 50 attendees

42 Businesses Canvassed

June 2023 | Visiting businesses along the preferred streetcar alignment to discuss the project

4 Days Spent Tabling, Canvassing, and Conducting Intercept Surveys

June - November 2023 | Telling people about the project and gathering feedback in Slabtown, in area parks, around regulated affordable housing developments, and at existing streetcar stations near the proposed extension

- 127 conversations

KEY TAKEAWAYS

WHAT WE LEARNED DURING PHASE 2

- **Overall majority support for the streetcar project** and desire for more transit opportunities in Northwest Portland and throughout the city
- **Interest in placemaking opportunities in the area**, especially along NW 23rd Avenue around the alignment
- **Desire for improved safety** for people walking, rolling, biking, accessing transit, and driving in the area
- **Interest in being involved more** in future phases of the project
- **Desire for more pedestrian focus and bicycle infrastructure** in the project area
- **Concern about using newer technologies for the streetcar extension** like utilizing batteries instead of overhead wires
- **Concern about impacts of the streetcar extension** to vehicle parking and movement along NW 23rd Avenue
- **Concerns about the potential costs and funding sources of the project**, as well as the impacts of a Local Improvement District to affordability in the area
- **Concerns about livability** and potential negative impacts of the streetcar extension and continued growth affecting crime, traffic, and living costs
- **Some opposition to the streetcar project**, with some individuals questioning the value of the project for Northwest Portland



Northwest Parking District Open House

Developing the preferred alignment

For more than five years, the *MP2H* team explored alignment options to connect the Portland Streetcar to the Montgomery Park Area. Through community engagement, analysis of suitability and feasibility, and application of local policy, the preferred alignment was developed and selected.

Considering transit alternatives

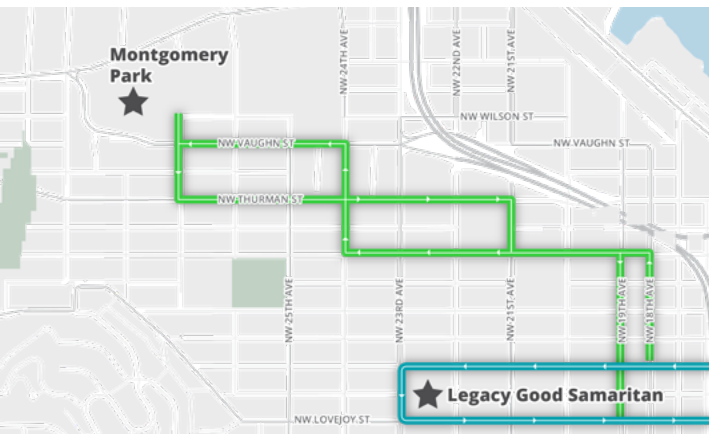
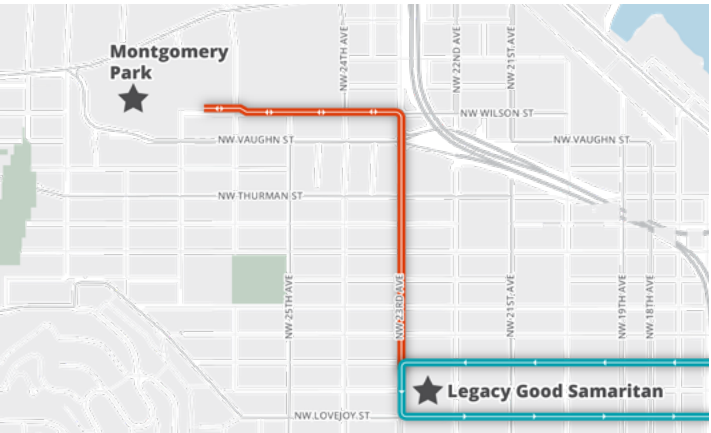
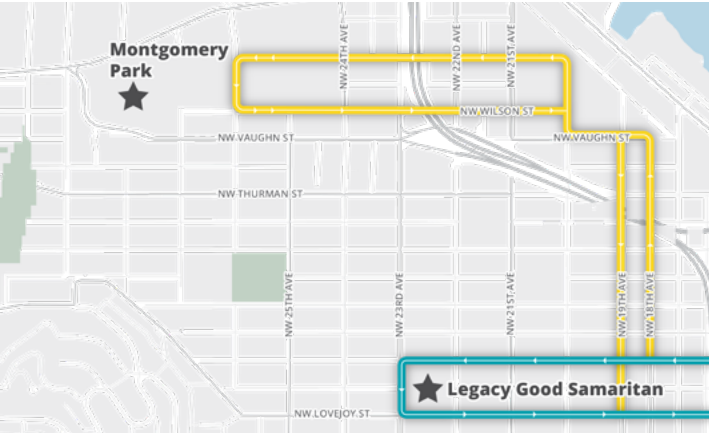
Different transit modes suit different land uses and intensities of development. Lower capacity transit types like traditional buses or microshuttles are better suited to low-density uses like single-dwelling residential or industrial. Higher capacity transit types including streetcar and enhanced buses are more appropriate for higher-density mixed land uses. With this in mind, we evaluated various transit mode alternatives for their feasibility and suitability.

Streetcar was chosen because of its suitability to support the densest development for the area. Streetcar offers the highest capacity of any of the alternatives and draws high ridership, with a proven background of spurring dense development including affordable housing. It also has the ability to leverage various funding sources toward its construction, as well as the potential to generate additional community benefits in the project area.



We considered four different transit alternatives for their suitability in the Montgomery Park Area. Clockwise from top left, we considered: Streetcar; Enhanced Bus; Traditional Bus; and Microshuttle.

EXHIBIT B



We considered various alignments to connect Portland Streetcar to Montgomery Park, including the three above.

Development and analysis of alternative alignments

The preferred alignment was developed through research, community engagement, and analysis during the *MP2H* process. We analyzed various land use scenarios to understand which changes would have the best potential to facilitate the development of an equitable mixed use neighborhood, including affordable housing and jobs.

When it became clear that the most expected growth in the area would be concentrated on and around the former ESCO site in the Montgomery Park Area, a new land use scenario was developed to focus changes in the area of greatest impact. This scenario responds to community support for balance between more housing and retaining industrial character and jobs.

Further analysis of potential streetcar alignments revealed that a route on NW 23rd Avenue, connecting from the existing streetcar line at NW Northrup Street, would be the most feasible and cost effective. It would strategically serve the area of greatest expected change while directing the streetcar along NW 23rd Avenue, a bustling Neighborhood Main Street with high transit priority in local policy.

The preferred alignment was refined from previous alternatives using NW 23rd Avenue. When compared to those alignments, it was chosen for a number of reasons, including being free of fatal flaws in traffic analysis, supporting trip access and demand now and in the future, being cost competitive due to its length, and supporting phased redevelopment in the Montgomery Park Area over time.

More about the development of the preferred alignment, as well as the consideration of alternatives, is available in *Appendix A: Portland Streetcar Montgomery Park Extension: Preferred Alignment Overview*. The preferred land use plan concept and information about its development are available in Volume 1 of the *Montgomery Park Area Plan*.

The preferred alignment

The preferred alignment is a short, direct route to Montgomery Park through an extension of the existing Portland Streetcar North-South (NS) Line along NW 23rd Avenue to a new one-way parallel couplet along NW Roosevelt and NW Wilson streets. This alignment will efficiently serve expected development around Montgomery Park. It will also serve one of Northwest Portland’s most vibrant Main Streets, NW 23rd Avenue.

Current and future demand along the bustling corridor of NW 23rd Avenue will be supported by permanent mass transit. The street is designated in the *Transportation System Plan* to prioritize frequent transit and high-volume pedestrian movement. Because NW 23rd Avenue is a Neighborhood Main Street, it should effectively serve the surrounding neighborhood while its design emphasizes multimodal access and movement.

Additionally, NW 23rd Avenue is in disrepair and is in desperate need of rehabilitation. Community members have called for improvements to this street for years. Routing the streetcar along NW 23rd Avenue allows us to address current deficiencies on the street, including accessibility, utility, and stormwater management while constructing the streetcar extension. Combining improvements to NW 23rd Avenue with the streetcar extension will reduce construction impacts in the area and help us use public funds more efficiently.



The preferred alignment is a direct route to Montgomery Park, extending via a two-way on NW 23rd Avenue to a new parallel one-way couplet along rebuilt and extended NW Wilson and NW Roosevelt streets.

Traffic analysis

We performed traffic modeling to estimate the impacts of land use changes to traffic in the Montgomery Park Area in the future. Using the City’s Transportation Demand Model, we developed an existing year model and a future year model for 2040 to compare present-day conditions with forecasted growth in the area—both with and without the land use changes proposed in the *Montgomery Park Area Plan*.

Our analysis indicates that the Montgomery Park Area can absorb the proposed land use changes. However, in order to mitigate the impacts of added trip demand in the area as it grows, various project and programmatic elements are necessary. Those mitigation measures include transit improvements, improved multimodal facilities, improved or new signalized intersections, and some operational changes to support better movement. Programmatic recommendations are intended to manage demand and promote more spatially-efficient ways of travel in, to, and through the project area, including walking, rolling, biking, and taking transit.

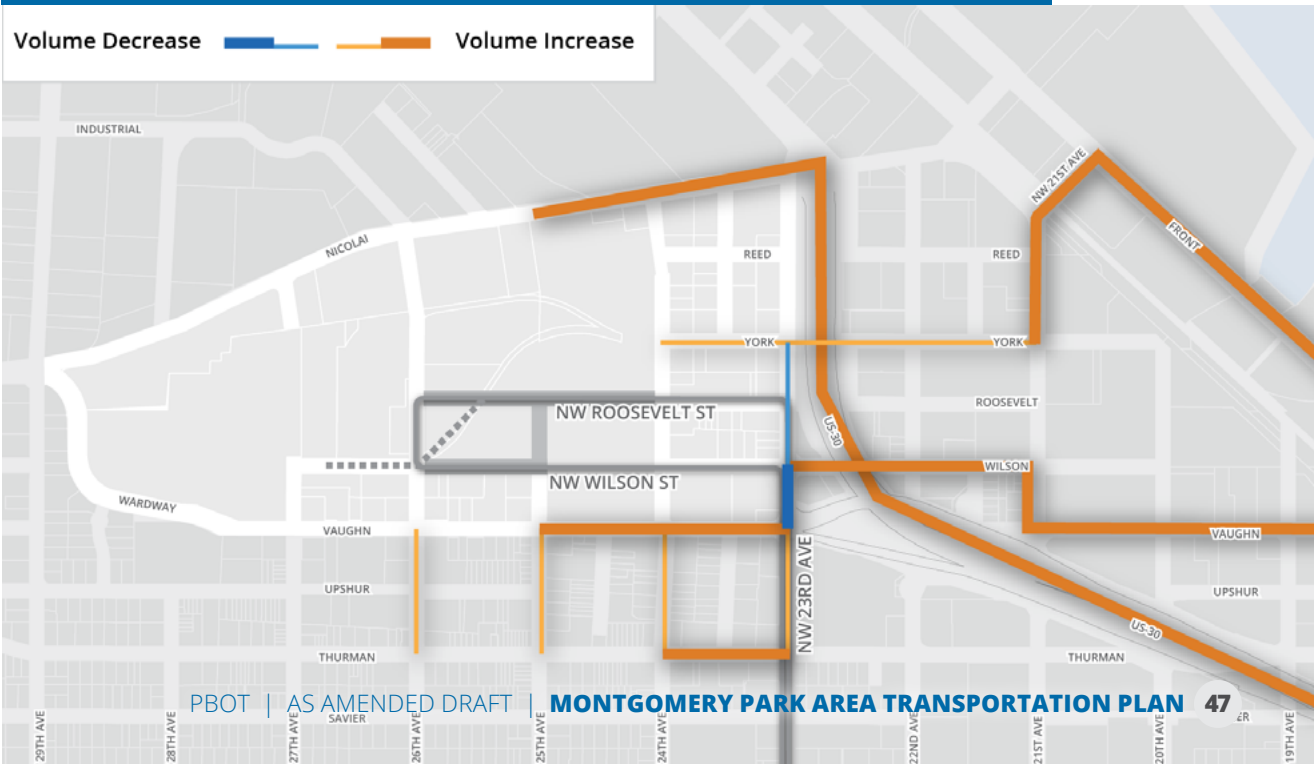
KEY ANALYSIS ASSUMPTIONS

- All new streets will meet City Title 17 street connectivity standards.
- A southbound left turn at the intersection of NW 23rd Avenue and NW Vaughn Street to access US-30 will be closed to support streetcar operations, with US-30 access maintained at NW Nicolai Street.
- Trip adjustments were made to account for expected nearby destinations and planned multimodal transportation options and connections in the area.

KEY TAKEAWAYS

- The transportation network within and around the Montgomery Park Area can support expected growth and demand.
- With proposed land use changes, auto trips are expected to increase 36 percent overall.
- Increases in trips are not expected to cause unacceptable impacts to traffic operations in or around the area.
- More information about traffic analysis is available in *Appendix B: Traffic Technical Memorandum*.

EXPECTED TRAFFIC VOLUME CHANGES WITH FORECASTED GROWTH MONTGOMERY PARK AREA | YEAR 2040 MODEL WITH LAND USE CHANGES



*Part 4*

Multimodal Recommendations

The *Montgomery Park Area Transportation Plan* recommends projects around scales of connections: Internal Connections, Neighborhood Connections, and City and Regional Connections. This chapter details those recommendations, with focus on the centerpiece Big Move recommended project: an extension of Portland Streetcar to Montgomery Park.

All about connections

The *Montgomery Park Area Transportation Plan* contains multimodal recommendations organized around scales of connections:

IC

Internal Connections

Connections within the Montgomery Park Area itself

The centerpiece recommended project of this plan is the extension of the Portland Streetcar to Montgomery Park. The streetcar extension improves connections at all three of the above scales. The project will improve internal connections within the Montgomery Park Area, connect to the Northwest District to the south via NW 23rd Avenue, and connet to the broader Portland Streetcar system and regional transit network. Because of this, we call this project the *Montgomery Park Area Transportation Plan's Big Move*.

NC

Neighborhood Connections

Connections that stitch the Montgomery Park Area together with the rest of the Northwest District

CR

City and Regional Connections

Connections for movement to and from destinations across Portland and the region

B

Big Move

The extension of Portland Streetcar to Montgomery Park, which improves connections at all of the above scales

EXHIBIT B

RECOMMENDED PROJECTS

Big Move (details on pages 52-53)

B.1 Streetcar Extension to Montgomery Park

Extend the Portland Streetcar North-South (NS) Line to Montgomery Park, via NW 23rd Avenue, NW Roosevelt Street, and NW Wilson Street.

Internal Connections (details on pages 54-69)

IC.1 NW Roosevelt Street Extension

Extend NW Roosevelt Street from NW 23rd Avenue to NW 26th Avenue for one-way westbound movement, including streetcar. Include a protected bikeway connection and a general purpose travel lane, as well as 12-foot sidewalks and onstreet parking.

IC.2 NW Roosevelt Street to Montgomery Park Station

Connect the streetcar extension from NW Roosevelt Street to a new Montgomery Park Station near the intersection of NW 26th Avenue and NW Wilson Street, where the terminus of the streetcar extension will allow for charging, layover, and turnaround.

IC.3 NW Wilson Street Extension

Extend and rebuild NW Wilson Street between NW 23rd Avenue and NW 26th Avenue for one-way eastbound movement, including streetcar. Include a protected bikeway connection, a general purpose travel lane, 15-foot sidewalks, and onstreet parking.

IC.4 NW York Street Improvements and Future Extension

As a condition of redevelopment, require pedestrian and accessibility improvements and full roadway construction, including removal of abandoned railroad tracks. Require street connection across former ESCO site north of NW Roosevelt Street. Develop right of way standards for loading dock preservation.

IC.5 NW 25th Avenue Extension

Extend NW 25th Avenue between NW Roosevelt and NW Wilson Streets to improve access and north-south connectivity. As a condition of redevelopment, require street connections between NW Nicolai and NW Roosevelt streets in accordance with City street connectivity requirements.

IC.6 NW 26th Avenue and NW 27th Avenue Recommendations

Configure NW 26th Avenue as needed to support the streetcar extension. Through redevelopment, include upgrades between NW Nicolai and NW Vaughn streets. Ensure that NW 27th Avenue remains publicly accessible when redevelopment occurs, with emphasis on pedestrian and bicycle movement.

Neighborhood Connections (details on pages 70-79)

NC.1 NW Vaughn Street Corridor and Crossing Improvements

Refine and implement corridor and crossing improvements on NW Vaughn Street and NW Wardway Street between NW 24th and NW 29th avenues, as recommended in *Northwest in Motion*.

NC.2 NW 23rd Avenue Northwest District Connection

Connect the streetcar extension to existing North-South (NS) terminus at NW Northrup Street via NW 23rd Avenue. Rehabilitate roadway surface on NW 23rd Avenue between NW Vaughn and NW Lovejoy streets, and include interventions to improve safety and accessibility and to support streetcar movement.

NC.3 NW 24th Avenue Neighborhood Greenway

Connect the bicycle network to the rest of the Northwest District by extending the NW 24th Avenue Neighborhood Greenway between NW Nicolai and NW Vaughn streets. Include signage, necessary traffic calming elements, and safety improvements for pedestrians and people bicycling.

NC.4 Bikeway Connections to NW Front Avenue

Provide low-stress alternative routes for people to walk, roll, and bicycle between the Montgomery Park Area and NW Front Avenue, avoiding conflicts with US-30 on/off ramps and other high-stress streets.

City and Regional Connections (details on pages 80-85)

CR.1 NW Nicolai Street Freight Route

Emphasize NW Nicolai Street over NW Vaughn Street as the key freight connector to US-30 in the area, including updated signage.

CR.2 NW Nicolai Street Multi-Use Path

Convert the former railroad tracks north of NW Nicolai Street to a multi-use path for walking, rolling, and bicycling. Improve safety by providing an all ages and abilities active transportation route between NW 24th and NW 29th avenues, with eventual connections farther east and west for longer trips.

CR.3 Montgomery Park Station Transit Hub

Encourage transit use and multimodal options by establishing a transit hub within one block of NW Wilson Street and NW 26th Avenue, providing easy connections to different modes for all users near the streetcar terminus.

Big Move

The extension of Portland Streetcar to Montgomery Park via NW 23rd Avenue, linking a major employment area and emerging residential and high-density mixed use area to the region's larger transit system

B.1 Streetcar Extension to Montgomery Park



PROJECT DESCRIPTION

Extend Portland Streetcar's North-South (NS) Line along NW 23rd Avenue from NW Northrup Street to a new terminus on NW Wilson Street near the entrance of Montgomery Park. A one block parallel couplet will allow the streetcar to move west on NW Roosevelt Street and east on NW Wilson Street.

+ PROJECT GOALS

- Connect the Montgomery Park Area to the rest of the Northwest District.
- Provide reliable, convenient, and comfortable single-seat ride from Montgomery Park to Downtown, Portland State University, OHSU, and the larger transit network.
- Leverage a major transit investment to advance the City's affordable housing and equity goals.
- Support trip demands and mitigate transportation impacts as the area grows.

... KEY CONSIDERATIONS

- Streetcar operations are anticipated to require the removal of the southbound left-turn lane onto US-30 from NW 23rd Avenue at NW Vaughn Street. People driving that route today will be redirected to US-30 via NW Nicolai Street in the future.
- Signal timing for the streetcar crossing at NW 23rd Avenue/NW Vaughn Street/US-30 will need to be determined.
- Right-of-way dedication will be required for the streetcar couplet in the Montgomery Park Area.
- Transit operations may impact some onstreet parking in select locations, though impacts should be minimized.
- More detailed information about design, including recommended cross sections, is available in recommended projects IC.1 ([page 56](#)), IC.2 ([page 58](#)), IC.3 ([page 60](#)), and NC.2 ([page 74](#)).

Streetcar Extension to Montgomery Park



Internal Connections

Multimodal connections within the Montgomery Park Area itself, filling gaps in the street grid and providing local trip options for residents, workers, and visitors



Extend NW Roosevelt Street, NW Wilson Street, and NW 25th Avenue to improve connectivity, support streetcar operations, and provide multimodal transportation options in the area.

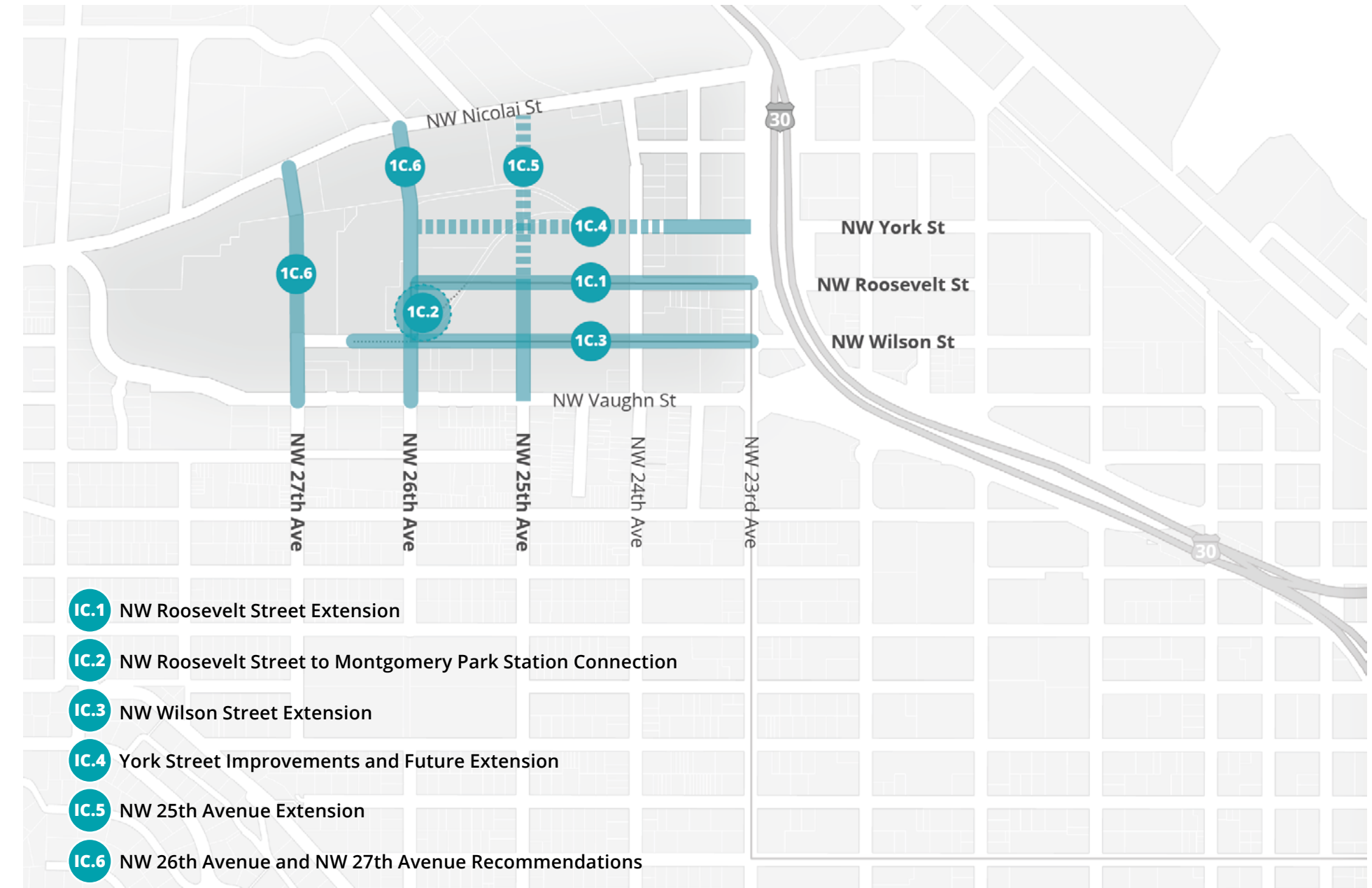


Build new and improve existing sidewalks and bikeway connections along the streetcar alignment and in key areas to improve conditions for pedestrians and people bicycling.



Ensure future street connectivity and multimodal access as the area redevelops in the future.

Internal Connections recommended project locations



Internal Connections

IC.1 NW Roosevelt Street Extension

PROJECT DESCRIPTION

Extend NW Roosevelt Street from NW 23rd Avenue to NW 26th Avenue for one-way westbound streetcar movement. Include a westbound general purpose travel lane, a shared streetcar priority lane, a bikeway on the north side of the street, and onstreet parking on the south side of the street. Improve conditions for pedestrians by requiring 12-foot sidewalk corridors on both sides of the street.

+ PROJECT GOALS

- Ensure that NW Roosevelt Street serves its critical role as the westbound portion of the couplet connecting the streetcar extension toward its terminus at a transit hub near Montgomery Park.
- Provide all-ages-and-abilities bicycle facilities in the area connecting to the rest of the city's bike network.
- Prioritize pedestrian movement and access to streetcar stations.
- Support internal multimodal circulation for all users.

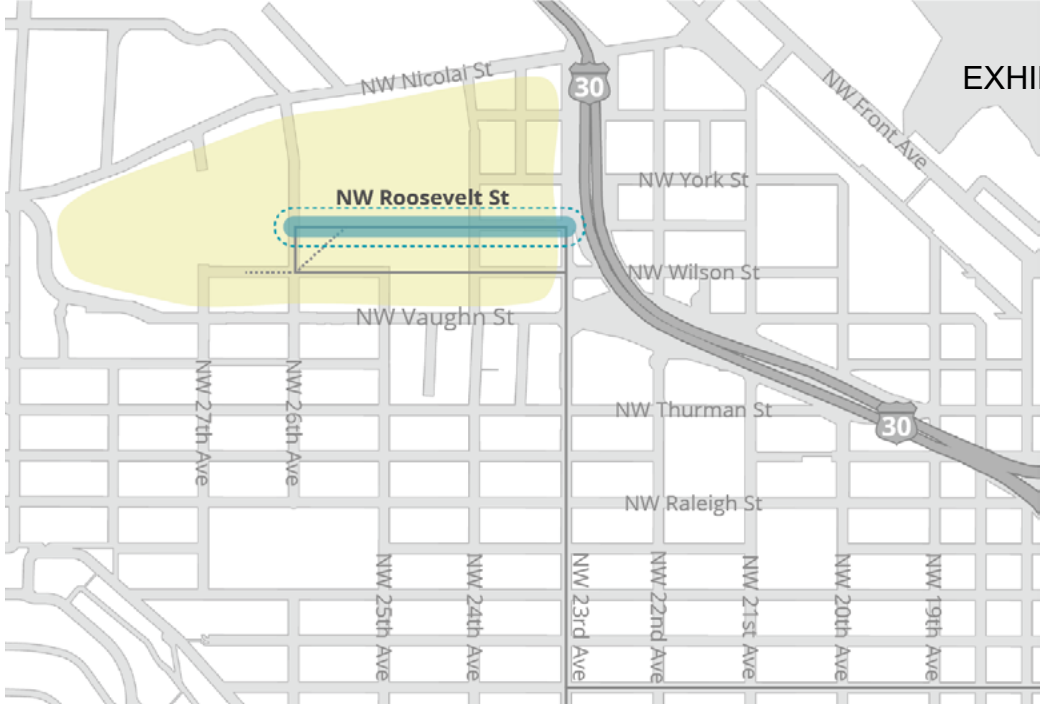
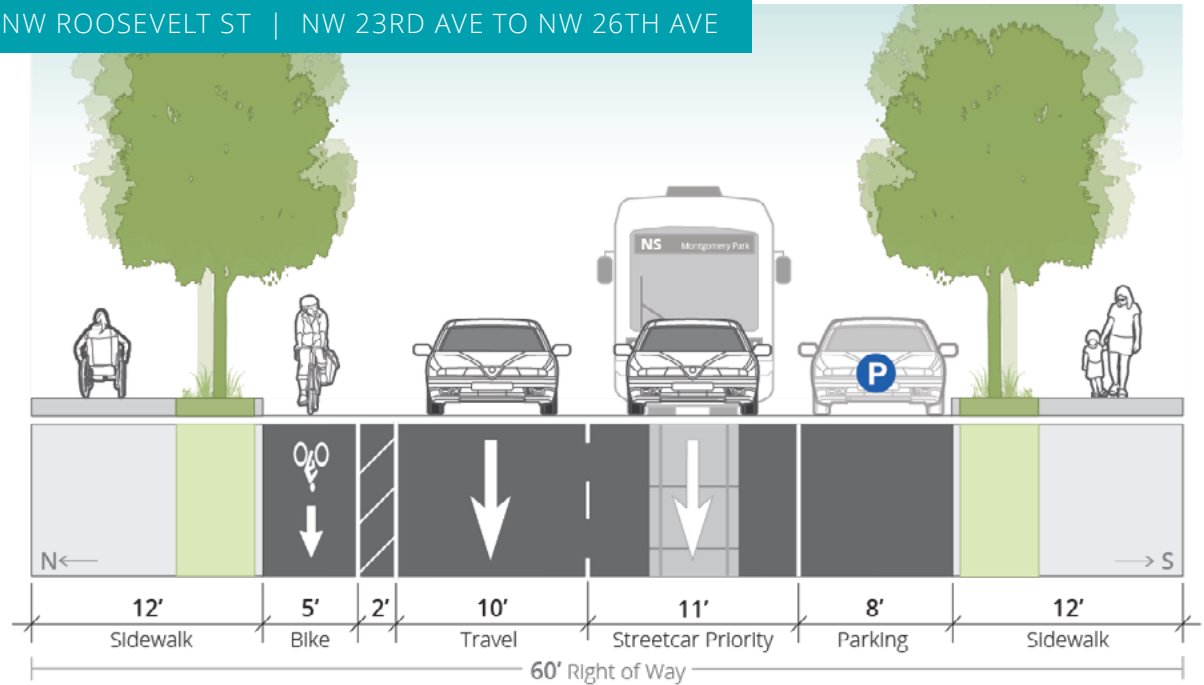


EXHIBIT B

... KEY CONSIDERATIONS

- The one-way westbound conversion of NW Roosevelt Street between NW 23rd Avenue and NW 24th Avenue will change local travel patterns.
- The protected bikeway will be located on the opposite side of the street from the shared streetcar priority lane, reducing conflicts between the two modes.
- The protected bikeway is currently recommended to be at street level due to physical constraints of underground utilities.
- Traffic control at the intersection of NW Roosevelt Street and NW 23rd Avenue will likely require a new signal. Future design phases should confirm.
- Between NW 23rd Avenue and NW 24th Avenue, it may be possible to maintain onstreet parking on both sides of the street, dependent on final design of the streetcar extension and finalized north-south bicycle connections in the area.

RECOMMENDED CROSS SECTION NW ROOSEVELT ST | NW 23RD AVE TO NW 26TH AVE



EXISTING CONDITIONS LOOKING WEST OF NW 24TH AVE FROM NW ROOSEVELT ST



Internal Connections

IC.2 NW Roosevelt Street to Montgomery Park Station Connection

PROJECT DESCRIPTION

Connect the westbound streetcar alignment on NW Roosevelt Street to the extension’s terminus at Montgomery Park Station near NW Wilson Street and NW 26th Avenue. There are currently three potential options for this connection: two use NW 26th Avenue for southbound movement of the streetcar, and one uses a diagonal route connecting to NW Wilson Street along the alignment of an abandoned rail spur.

+ PROJECT GOALS

- Connect streetcar transit to a future Montgomery Park Station located on NW Wilson Street near NW 26th Avenue.
- Create a transit hub near the terminus of the streetcar extension where multiple transit and shared mobility options are easily accessible.
- Provide clear, direct, safe connections for users of all modes to reach destinations within the Montgomery Park Area.

... KEY CONSIDERATIONS

- All three options will require property dedication to support streetcar turning movements and end-of-line station location.
- For the two routes using NW 26th Avenue to connect the streetcar to Northwest Wilson Street, the tail track terminus between NW 26th Avenue and NW 27th Avenue is not required for streetcar operation. If eliminated in future design, the station on NW Wilson Street should be located as close to the intersection of NW 26th Avenue as possible.
- The diagonal route connecting NW Wilson Street along the location of an abandoned rail spur running southwest from NW Roosevelt Street to NW Wilson Street would require the inclusion of the tail track terminus between NW 26th and NW 27th avenues for turnaround, layover, and charging.



EXHIBIT B

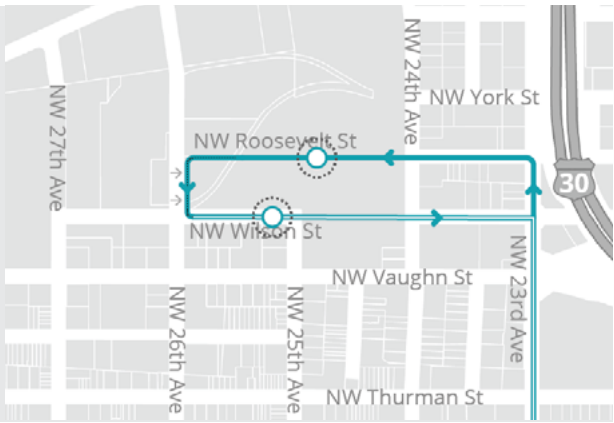
PROJECT OPTIONS AND KEY CONSIDERATIONS

1 NW 26TH AVENUE CONNECTION USING EAST SIDE OF STREET (PREFERRED)

Continue streetcar alignment along NW Roosevelt Street to the intersection with NW 26th Avenue, turning south and traveling along the east side of NW 26th Avenue to connect with NW Wilson Street.

... KEY CONSIDERATIONS

- This option will require property dedication or acquisition, especially on the east side of NW 26th Avenue between NW Roosevelt and NW Wilson streets, though this routing could eliminate the need for signalized intersections.
- This option would support southbound bicycle movement to connect the recommended protected bikeways on NW Roosevelt Street and NW Wilson Street.

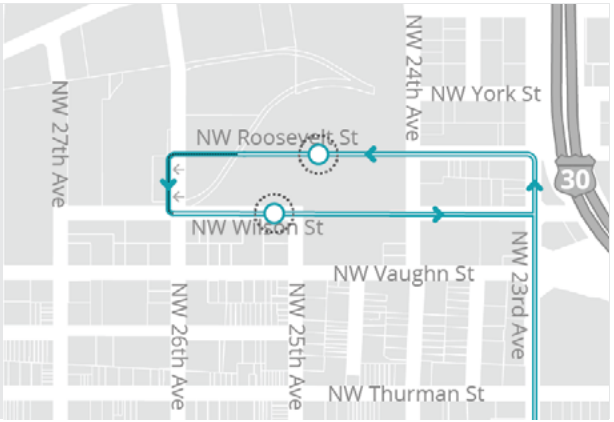


2 NW 26TH AVENUE CONNECTION USING WEST SIDE OF STREET

Continue streetcar alignment along NW Roosevelt Street to the intersection with NW 26th Avenue, turning south and traveling along the west side of NW 26th Avenue to connect with NW Wilson Street.

... KEY CONSIDERATIONS

- This option will require property dedication or acquisition beyond the existing right-of-way, though it would minimize impacts to developable parcels east of NW 26th Avenue between NW Roosevelt and NW Wilson streets.
- If selected, final design must include a way for southbound bicycle movement to avoid conflicts with streetcar or other modes.

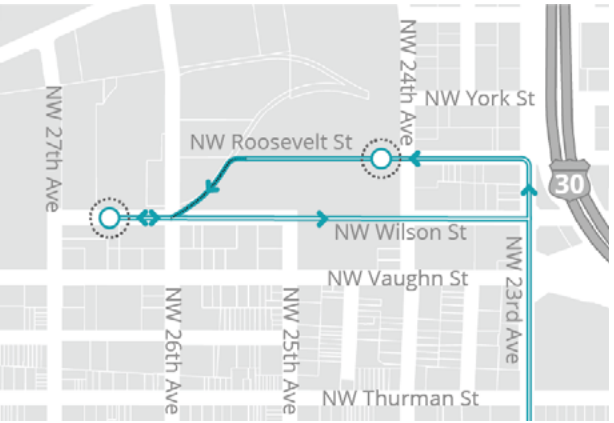


3 DIAGONAL ROUTE USING LOCATION OF ABANDONED RAIL SPUR

Route streetcar alignment southwest following an existing abandoned rail spur along the property line between the Montgomery Park Site and the former ESCO site.

... KEY CONSIDERATIONS

- This option would support optimal streetcar operations due to larger turning radiuses, improving transit speeds and reliability.
- This option could create the opportunity for the creation of a public space surrounding the diagonal track, but impacts developable parcels the most of all three options and reduces programmatic flexibility for property owners.



Internal Connections

IC.3 NW Wilson Street Extension

PROJECT DESCRIPTION

Extend and rebuilt NW Wilson Street from NW 23rd Avenue to NW 26th Avenue for one-way eastbound streetcar movement. Include an eastbound general purpose travel lane, a shared streetcar priority lane, a bikeway on the south side of the street, and onstreet parking on the north side of the street. Support conditions for a Neighborhood Main Street on NW Wilson Street by requiring 15-foot sidewalk corridors. Add a new signal at intersection with NW 23rd Avenue.

Between NW 26th and NW 27th avenues, the optional bidirectional tail track for the streetcar terminus would be located on the north side of the street. Two general purpose travel lanes and parking on the south side of the street would be maintained, and a new signal at NW 26th Avenue would be added.

+ PROJECT GOALS

- Ensure that NW Wilson Street serves its critical role as the eastbound portion of the couplet connecting the streetcar extension from its terminus near Montgomery Park to NW 23rd Avenue and the larger transit network.
- Provide all-ages-and-abilities bicycle facilities in the area connecting to the rest of the city's bike network.
- Prioritize pedestrian movement and access to streetcar stations, as well as active sidewalk uses.
- Support internal multimodal circulation for all users.

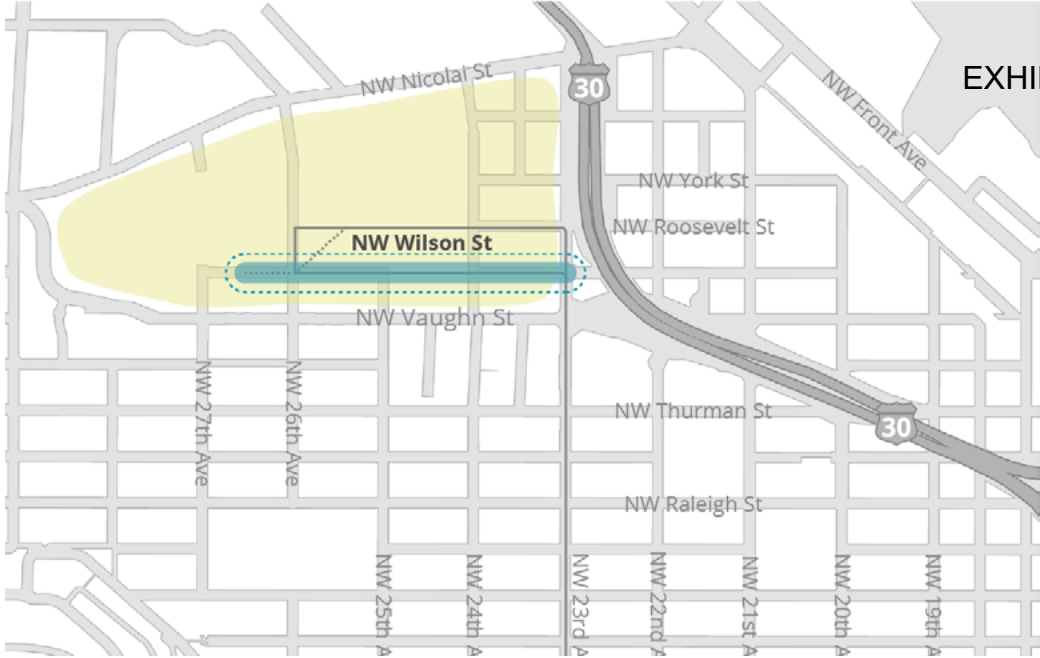
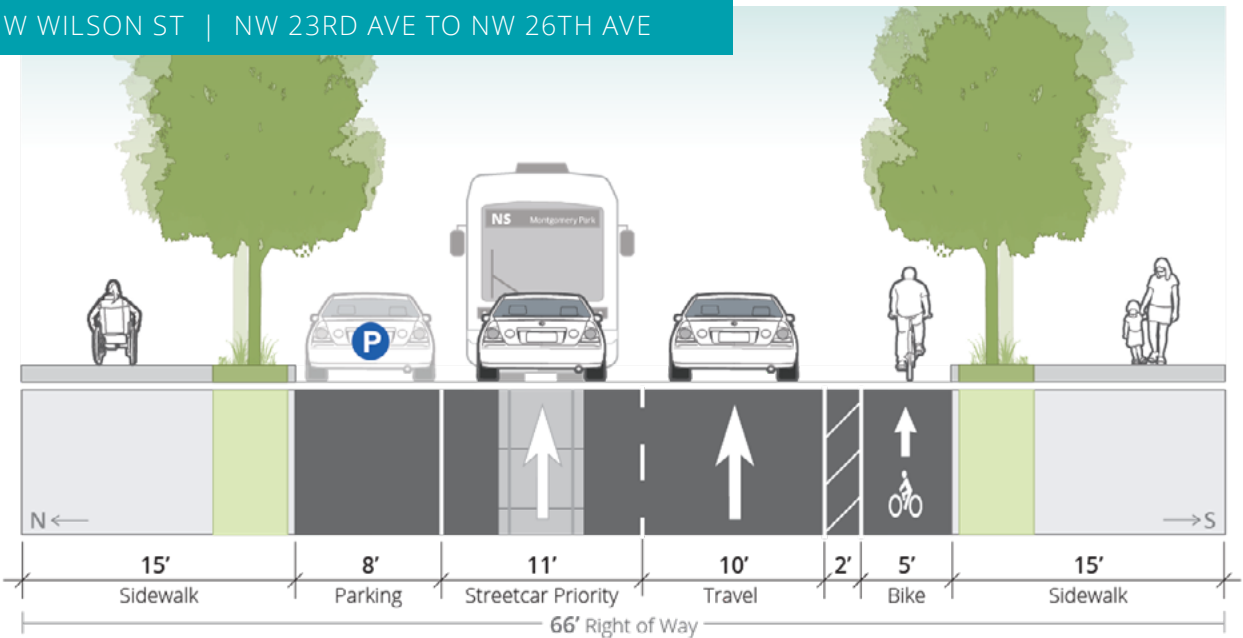


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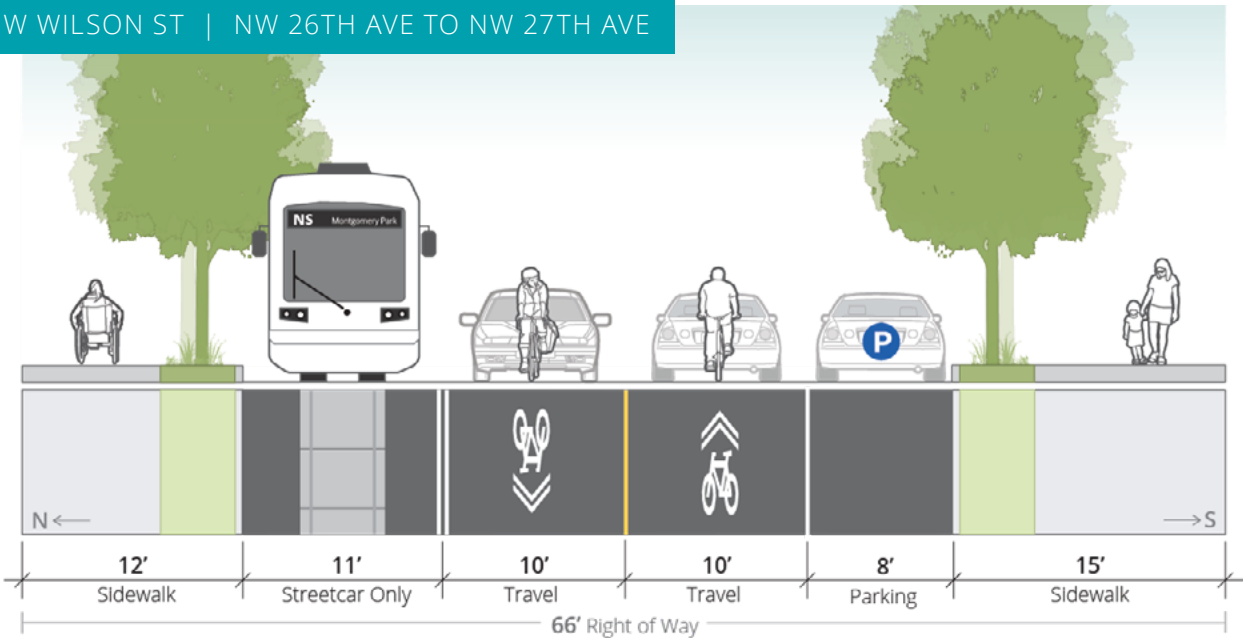
... KEY CONSIDERATIONS

- The one-way eastbound conversion of NW Wilson Street will change local travel patterns.
- The protected bikeway will be located on the opposite side of the street from the shared streetcar priority lane, reducing conflicts between the two modes.
- The protected bikeway is currently recommended to be at street level due to physical constraints of underground utilities.
- Streetcar alignment on the north side of the street enables the turn onto NW 23rd Avenue and supports the optional terminus tail track between NW 26th and 27th avenues.
- The sidewalk corridor width on the north side of NW Wilson Street between NW 26th and 27th avenues will be constrained by the historic American Can Company building.
- Between NW 23rd Avenue and NW 24th Avenue, it may be possible to maintain onstreet parking on both sides of the street, dependent on final design of the streetcar extension. However, no final design should preclude this connection in the future.

RECOMMENDED CROSS SECTION NW WILSON ST | NW 23RD AVE TO NW 26TH AVE



OPTIONAL RECOMMENDED CROSS SECTION NW WILSON ST | NW 26TH AVE TO NW 27TH AVE



Internal Connections

IC.4 NW York Street Improvements and Future Extension

PROJECT DESCRIPTION

As a condition of redevelopment, require pedestrian and accessibility improvements and full roadway construction, including removal of abandoned railroad tracks. Require street connection across former ESCO Site north of NW Roosevelt Street in accordance with City Title 17 street connectivity requirements. Develop right-of-way standards to support the preservation of loading docks as recommended by the urban design direction in Volume 1, if accessibility requirements can be met.

+ PROJECT GOALS

- Increase connectivity for all modes by eliminating superblocks in the area, while supporting flexibility for future development programming.
- Provide regular, safe multimodal connections through the area as it grows, especially for pedestrians and people bicycling.
- Disperse vehicle traffic by providing multiple local routes to reach destinations.

... KEY CONSIDERATIONS

- Raised concrete loading docks are a common feature of buildings on NW York Street between NW 23rd and NW 24th avenues. While in active use, these docks present challenges for pedestrian access. Right-of-way standards are needed to support modification as redevelopment occurs, especially to meet accessibility requirements.
- Design and final location of the future east-west connection through the former ESCO site between NW 24th and NW 26th avenues will be determined through future development review process and City approval. This street shall be dedicated as public right-of-way.



EXHIBIT B

EXISTING CONDITIONS ON NW YORK STREET WEST OF NW 23RD AVENUE



Internal Connections

IC.5 NW 25th Avenue Extension

PROJECT DESCRIPTION

Extend NW 25th Avenue between NW Roosevelt and NW Wilson streets to improve access and north-south connectivity. As a condition of redevelopment, require north-south street connection between NW Nicolai and NW Roosevelt streets in accordance with City Title 17 connectivity requirements.

+ PROJECT GOALS

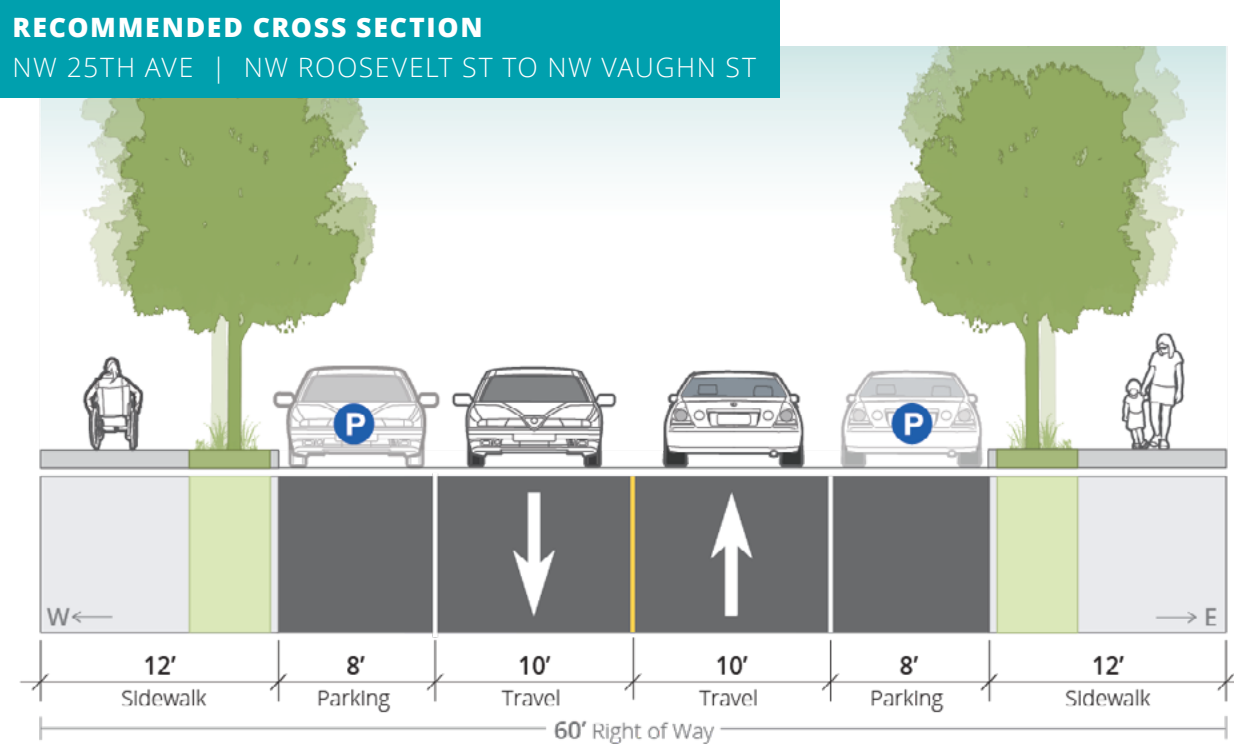
- Improve north-south connectivity through the area by eliminating existing superblocks.
- Provide a main vehicle access route into the center of the Montgomery Park Area using the existing traffic signal at NW Vaughn Street and NW 25th Avenue.
- Provide service access to buildings in the area while avoiding service access on streetcar alignment streets or Neighborhood Greenways.
- Provide onstreet parking and loading zones.

... KEY CONSIDERATIONS

- NW 25th Avenue is currently used as a cut-through route for regional traffic south of NW Vaughn Street. The extension of NW 25th Avenue to NW Roosevelt Street—and eventually to NW Nicolai Street—may increase cut-through traffic. Evaluation for future mitigation is recommended.
- North of NW Vaughn Street, NW 25th Avenue will serve a building access function. This street will accommodate driveway, curb cut, and loading areas, as they cannot be located on the streetcar alignment.
- Design and final location of the future north-south connection through the former ESCO site between NW Nicolai and NW Roosevelt streets will be determined through future development review process and City approval. This street shall be dedicated as public right-of-way.



EXHIBIT B



EXISTING CONDITIONS ON NW 25TH AVE NORTH OF NW VAUGHN ST



Internal Connections

IC.6 Part 1: NW 26th Avenue Recommendations

PROJECT DESCRIPTION

Improve safety and access by adding a pedestrian refuge crossing at the intersection of NW Vaughn Street and NW 26th Avenue, as identified in *Northwest in Motion*. Upgrade striping, curbs, and sidewalks in conjunction with redevelopment. In the event the streetcar alignment is routed along NW 26th Avenue, rebuild the street between NW Roosevelt and NW Wilson streets to support streetcar movement. Ensure design minimizes conflicts between modes and supports multimodal movement.

+ PROJECT GOALS

- Improve safety and transit access for pedestrians by providing 12-foot sidewalk corridors on both sides of the street.
- Complete the internal bike network in the area by connecting new bikeways on NW Roosevelt and NW Wilson streets.

... KEY CONSIDERATIONS

- The addition of a recommended pedestrian refuge crossing at the intersection of NW Vaughn Street and NW 26th Avenue will require the removal of a limited number of parking spaces on the south side of NW Vaughn Street.
- Final design should support southbound bicycle movement to connect people bicycling from NW Roosevelt Street to NW Wilson Street.
- It may be possible to improve connections between streetcar, recommended shared mobility services, and existing buses by moving the existing bus layover from NW 27th Avenue to NW 26th Avenue. Coordination with TriMet would be necessary.
- Coordination with recommended project IC.2: NW Roosevelt Street to Montgomery Park Station Connection ([page 58](#)) will be required. The first cross section on the following page will change based upon the selected project option for IC.2.

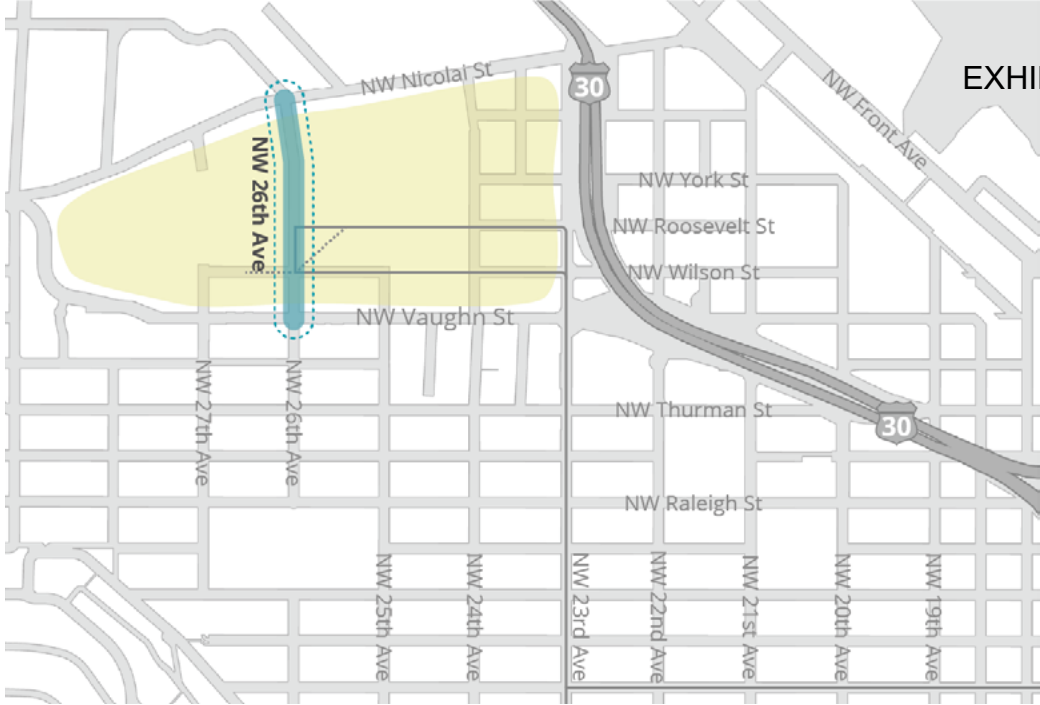
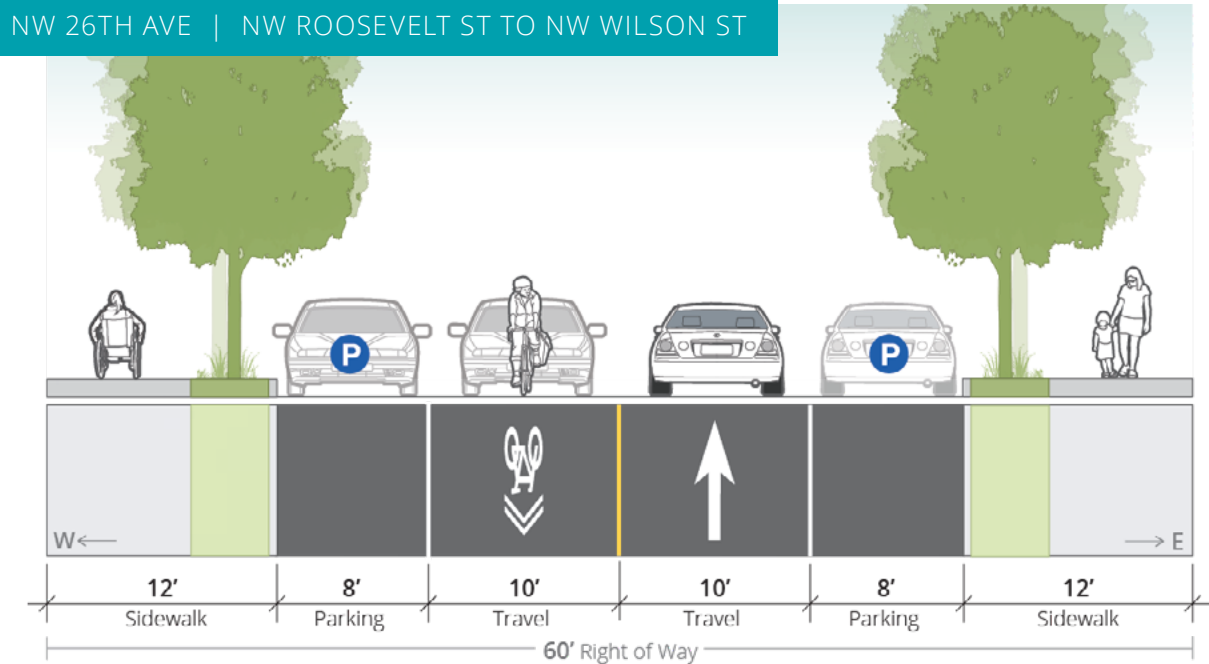


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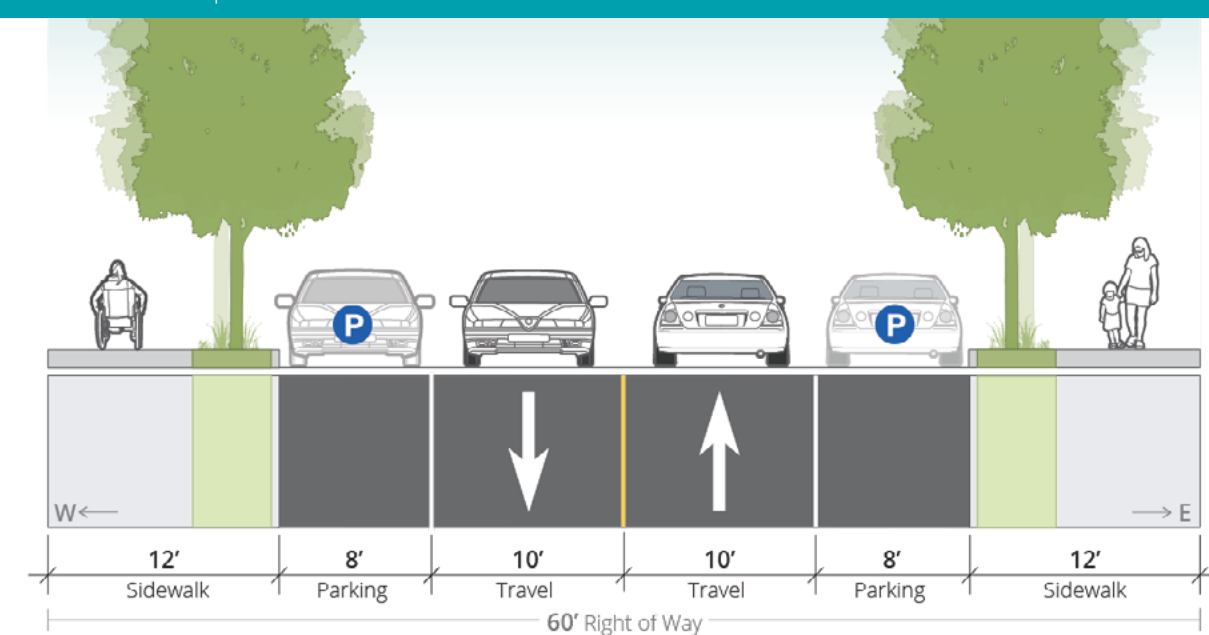
RECOMMENDED GENERAL CROSS SECTION

NW 26TH AVE | NW ROOSEVELT ST TO NW WILSON ST



RECOMMENDED CROSS SECTION

NW 26TH AVE | NW NICOLAI ST TO NW ROOSEVELT ST & NW WILSON ST TO NW VAUGHN ST



IC.6 Part 2: NW 27th Avenue Recommendations

PROJECT DESCRIPTION

NW 27th Avenue is a partially-private street connecting people to the front door of the Montgomery Park building. Future improvements during redevelopment should emphasize NW 27th Avenue as a primary entrance to Montgomery Park, with supportive pedestrian infrastructure. Extend the NW 27th Avenue Neighborhood Greenway between NW Nicolai and NW Savier streets to provide safe, direct access to Montgomery Park from the rest of the Northwest District to the south.

+ PROJECT GOALS

- Maintain privately-owned, publicly-accessible status of NW 27th Avenue between NW Nicolai Street and NW Wilson Street.
- Emphasize NW 27th Avenue as a pedestrian-oriented street, functioning as the primary north-south connection for pedestrians accessing the Montgomery Park Building.
- Extend the 27th Avenue Neighborhood Greenway from NW Nicolai Street to NW Savier Street to provide safe, direct access to Montgomery Park from the Northwest District to the south.

... KEY CONSIDERATIONS

- Public access must be maintained on NW 27th Avenue as redevelopment occurs on and around Montgomery Park in the future. Future design should be finalized as a condition of redevelopment onsite.
- TriMet currently uses NW 27th Avenue for bus layovers. In the event this street continues to serve a layover function for transit, future street design should ensure adequate space for buses while still supporting safe and comfortable movement for pedestrians, people bicycling, and people driving on the street.
- An enhanced pedestrian and bicycle crossing of NW Nicolai Street is recommended, in order to support the street as a Neighborhood Greenway and important north-south connection for people walking, rolling, and biking to and through the Montgomery Park Area.

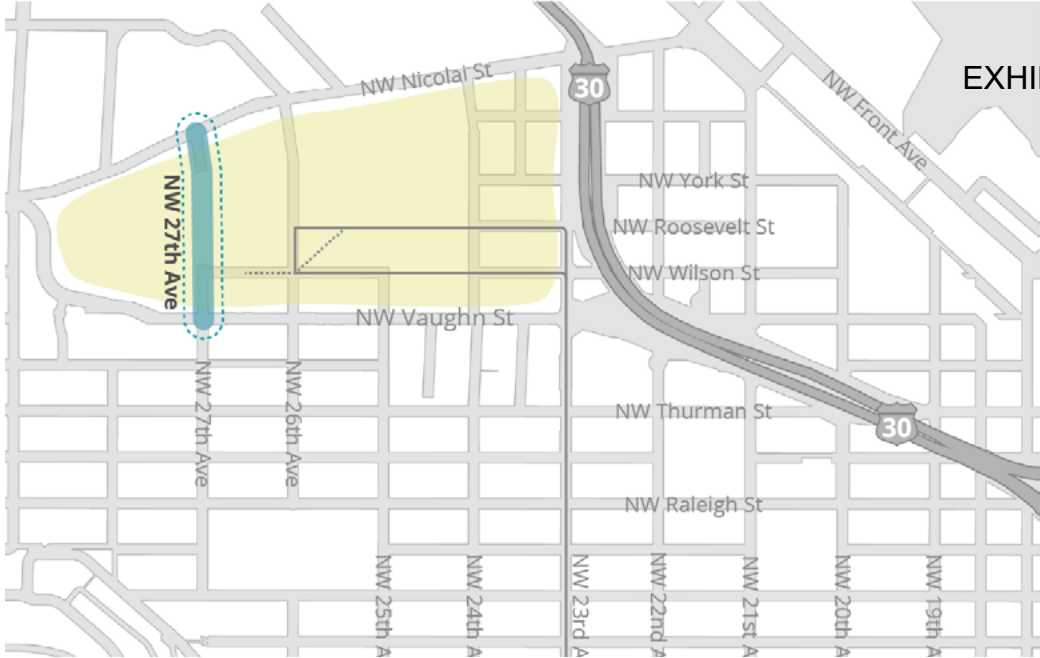


EXHIBIT B

EXISTING CONDITIONS ON NW 27TH AVE BY MONTGOMERY PARK



Neighborhood Connections

Multimodal connections that stitch the Montgomery Park Area together with the rest of the Northwest District, improving access for people walking, rolling, bicycling, or using transit in the neighborhood



Improve corridor and crossings on NW Vaughn Street to stitch together the area with the rest of the neighborhood and move the industrial boundary northward to NW Nicolai Street.

Connect the area to the NW 23rd Avenue Neighborhood Main Street and reduce conflicts between modes.

Create alternate pedestrian and bike routes toward the east to improve low-stress connections between the area and NW Front Avenue across US-30.

Neighborhood Connections recommended project locations



Neighborhood Connections

NC.1 NW Vaughn Street Corridor and Crossing Improvements

PROJECT DESCRIPTION

Refine and implement corridor and crossing improvements on NW Vaughn Street and NW Wardway Street between NW 24th and NW 29th avenues, as recommended in *Northwest in Motion*. Prioritize short-term implementation to support multimodal movement between the Montgomery Park Area and the Northwest District Neighborhood, as well as along NW Vaughn Street. Explore opportunities to support greening in the right-of-way. Ensure operational needs of streetcar are met at intersection of NW Vaughn Street, NW 23rd Avenue, and US-30 ramps.

+ PROJECT GOALS

- Improve pedestrian safety and comfort along NW Vaughn Street by enhancing crossings between the Montgomery Park area and Northwest District areas to the south.
- Move the functional southern boundary of Northwest Portland’s industrial district northward from NW Vaughn Street to NW Nicolai Street.
- Satisfy operational needs at the intersetion of NW Vaughn Street/NW 23rd Avenue/US-30.
- Mitigate congestion on NW Vaughn Street by improving connectivity and comfort for people walking, rolling, biking, and taking transit.



EXHIBIT B

INSTALLED INTERIM DESIGN
NW VAUGHN ST AND NW 24TH AVE



... KEY CONSIDERATIONS

- As redevelopment occurs along the street, sidewalk dedication requirements will improve conditions for pedestrians.
- The NW 24th Avenue Neighborhood Greenway will be the primary bike route for accessing the Montgomery Park area from the south. A new pedestrian/bicycle refuge and median diverter at the intersection of NW Vaughn Street and NW 24th Avenue may cause some people driving to travel out of direction.
- Crossing improvements with traffic diversion have been installed as an interim treatment at NW 24th Avenue. Funding identification for a permanent design should be prioritized.
- The addition of bike lane striping through intersections with NW 25th and NW 27th avenues will improve visibility for people bicycling. Future design should also explore the extension of bike lanes along NW Vaughn Street.

... KEY CONSIDERATIONS CONTINUED

- Westbound bikes continuing on NW Wardway currently travel in mixed traffic west of the intersection of NW Vaughn Street and NW 27th Avenue. Due to space constraints, this will remain consistent, with sharrows marking the westbound lane west of NW 27th Avenue. If right-of-way on NW Wardway is reallocated in the future, dedicated space for separated westbound bicycle facilities would improve safety for people bicycling to NW St Helens Road via NW Wardway.
- When future traffic signal upgrades occur at intersections with NW 25th Avenue and NW 27th Avenue, protected left turn signals should be considered to improve safety.
- Other recommended crossing improvements are detailed in *Northwest in Motion* in recommended project CI.5: NW Vaughn Street Corridor Improvements.

FUTURE DESIGN CONCEPT
NW VAUGHN ST AND NW 24TH AVE



Neighborhood Connections

NC.2 NW 23rd Avenue Northwest District Connection

PROJECT DESCRIPTION

Connect the streetcar extension to existing North-South (NS) Line terminus at NW Northrup Street via NW 23rd Avenue. Rehabilitate NW 23rd Avenue between NW Vaughn and NW Lovejoy streets, including stormwater, utility, and accessibility upgrades. Address operational needs by eliminating southbound left turn lane onto US-30 from NW 23rd Avenue. Improve safety and efficiency by adjusting existing signal timing, and add a new traffic signal at intersections with NW Wilson Street and NW Roosevelt Street.

+ PROJECT GOALS

- Connect the Montgomery Park Area to the Neighborhood Main Street of NW 23rd Avenue and the rest of the Portland Streetcar system via the recommended streetcar extension project B.1 (page 74).
- Reduce traffic and freight use of the NW Vaughn Street/NW 23rd Avenue/US-30 on-ramp.
- Reduce modal conflicts along NW 23rd Avenue.
- Leverage federal transit project funding opportunity to address known deficiencies on NW 23rd Avenue.

... KEY CONSIDERATIONS

- Two-way streetcar operation on NW 23rd Avenue will require rehabilitation of the roadway, including accessibility upgrades, triggered onsite stormwater management, and utility upgrades.
- No loading zones currently exist on NW 23rd Avenue. To support transit operations, new loading zones should be prohibited.
- As redevelopment occurs on NW 23rd Avenue south of NW Wilson Street, sidewalk dedications will meet Neighborhood Main Street standards of 15-foot sidewalk corridors.
- In order to minimize impacts to parking on NW 23rd Avenue, final streetcar extension project design should coordinate with TriMet to share stations with existing transit service.

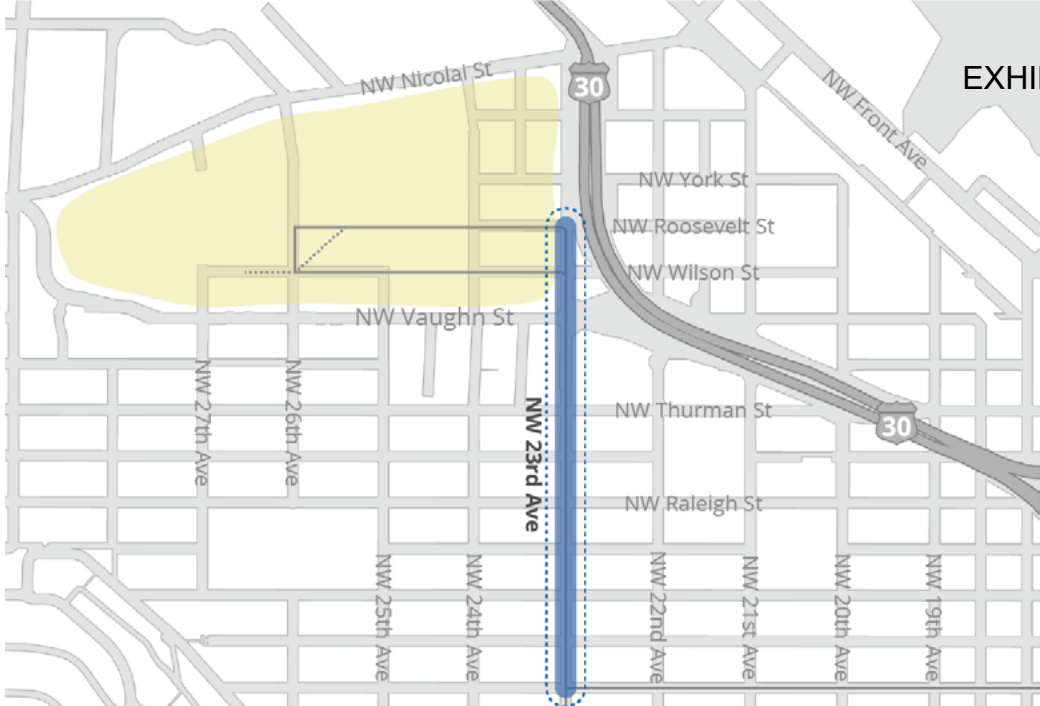


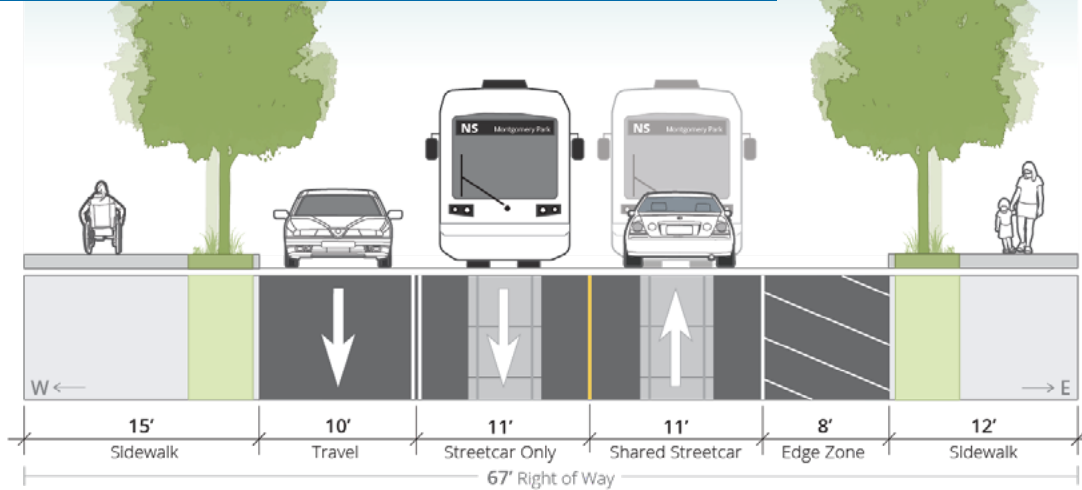
EXHIBIT B

... KEY CONSIDERATIONS CONTINUED

- Between NW Wilson Street and NW Vaughn Street, current recommendations include a 15-foot sidewalk corridor on the west side of the street to facilitate north-south movement for pedestrians to and from the Neighborhood Main Street of NW 23rd Avenue south of NW Vaughn Street. This dedication will be required as a condition of future redevelopment.
- On the east side of the street between NW Wilson Street and NW Vaughn Street, future redevelopment should explore the utilization of the existing 8-foot edge zone (see recommended cross section on the top right of this page) to improve conditions and widen the sidewalk corridor for pedestrians to 15 feet. Alternatively, right-of-way dedication triggered by redevelopment would accommodate a wider sidewalk corridor.
- There may be an opportunity to utilize space on NW 23rd Avenue between NW Roosevelt and NW Wilson streets to connect the recommended one-way protected bikeways on those streets with a northbound bikeway. Future design should confirm based upon right-of-way width and streetcar turning radius requirements from NW 23rd Avenue to NW Roosevelt Street.

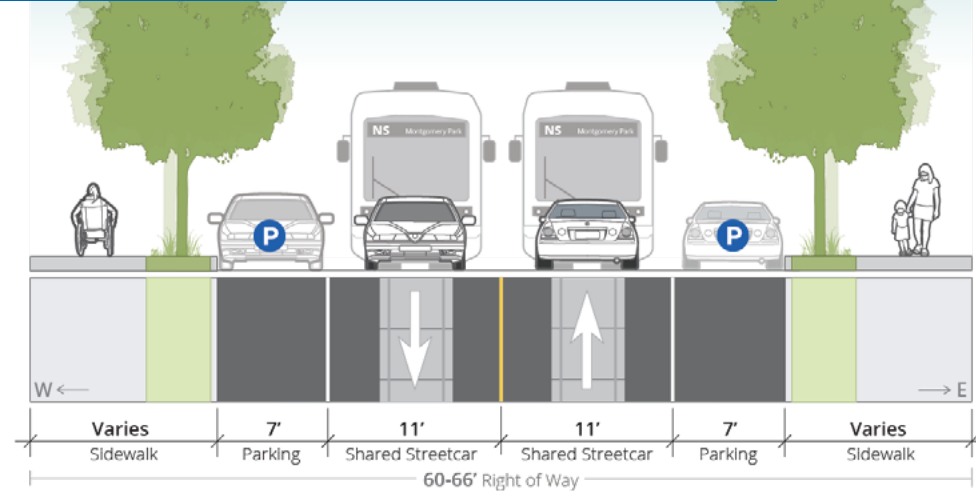
RECOMMENDED CROSS SECTION

NW 23RD AVE | NW WILSON ST TO NW VAUGHN ST



RECOMMENDED TYPICAL CROSS SECTION

NW 23RD AVE | NW VAUGHN ST TO NW NORTHRUP ST



Neighborhood Connections

NC.3

NW 24th Avenue
Neighborhood Greenway

PROJECT DESCRIPTION

Connect the bicycle network to the rest of the Northwest District by extending the NW 24th Avenue Neighborhoo Greenway between NW Nicolai and NW Vaughn streets. Include signage, necessary traffic calming elements, and safety improvements for pedestrians and people bicycling. Improve safety by adding a pedestrian refuge and median diverter at the intersection of NW Nicolai Street and NW 24th Avenue, as well as making the one at NW Vaughn Street and NW 24th Avenue permanent.

+

PROJECT GOALS

- Improve safety and comfort for people walking, rolling, and biking to, from, and through the Montgomery Park Area.
- Extend connection of a low-stress pedestrian and bicycle route for people entering and exiting the district.
- Enhance a low-stress alternative to the NW Vaughn Street/ NW 23rd Avenue/US-30 intersection for pedestrians and people bicycling.

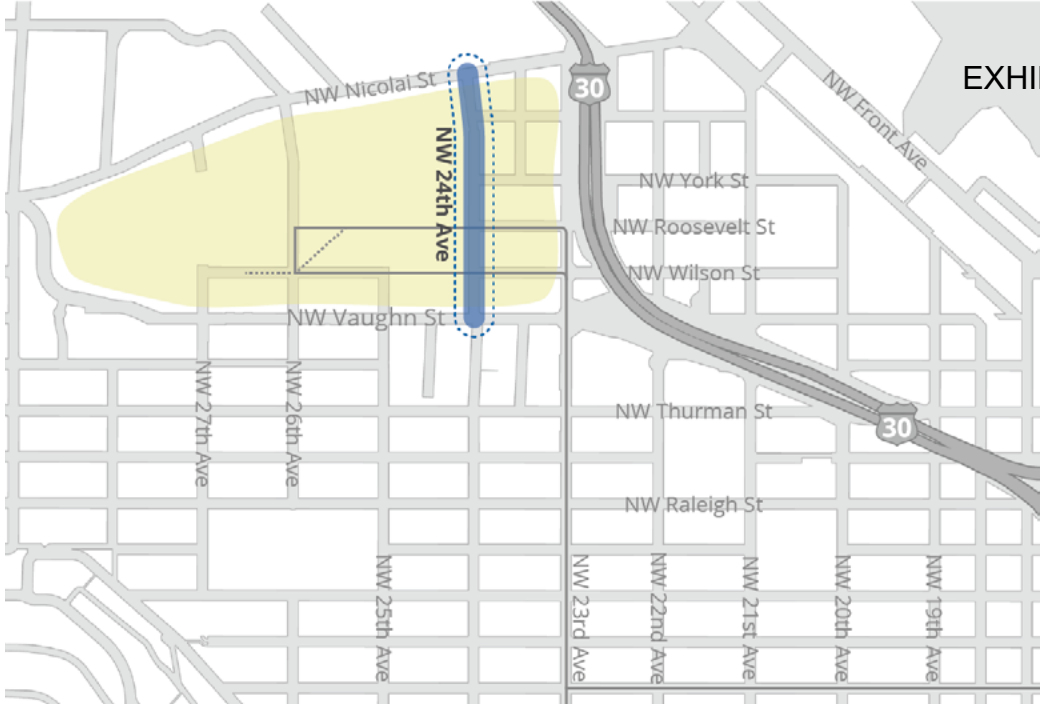


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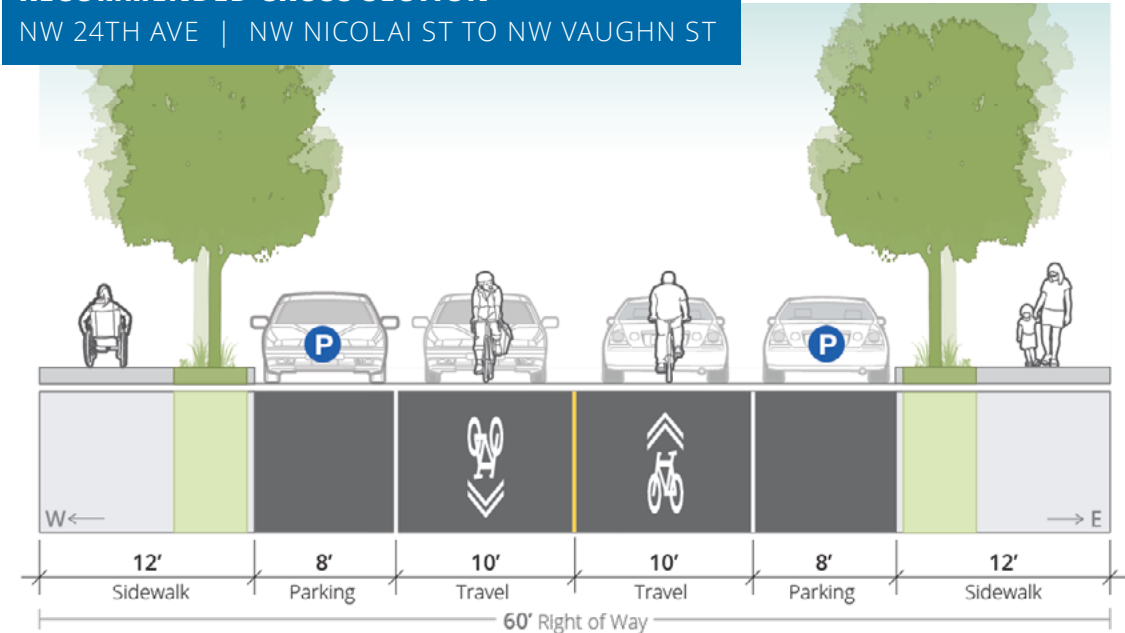
...

KEY CONSIDERATIONS

- A pedestrian refuge and median diverter at NW Vaughn Street and NW 24th Avenue was recommended in *Northwest in Motion* and has been installed as an interim treatment. While it reduces cut-through vehicle traffic on NW 24th Avenue, it may require out-of-direction travel for some people driving in the area. For more information on the funded design and future concept, see NC.1: Vaughn Street Crossing Improvements ([page 72](#)).
- A proposed pedestrian refuge and median diverter at NW Nicolai Street and NW 24th Avenue will also reduce cut-through traffic on the Neighborhood Greenway. The future design concept should be similar to the one on NW Vaughn Street.
- Traffic calming on NW 24th Avenue will reduce traffic speeds and improve comfort for people walking, rolling, and bicycling.

RECOMMENDED CROSS SECTION

NW 24TH AVE | NW NICOLAI ST TO NW VAUGHN ST



EXISTING CONDITIONS ON NW 24TH AVE NORTH OF NW ROOSEVELT ST



Neighborhood Connections

NC.4 Bikeway Connections to NW Front Ave

PROJECT DESCRIPTION

Provide low-stress alternative routes for people walking, rolling, and bicycling between the Montgomery Park Area and NW Front Avenue, avoiding conflicts with US-30 on/off ramps. Connect the bike network across existing overpasses of US-30 at NW York Street and NW Wilson Street and provide north-south connections via NW 21st and NW 22nd avenues.



EXHIBIT B

+ PROJECT GOALS

- Improve safety and comfort for people walking, rolling, and biking to, from, and through the Montgomery Park Area.
- Extend connection of a low-stress pedestrian and bicycle route for people entering and exiting the district.
- Enhance a low-stress alternative to the NW Vaughn Street/ NW 23rd Avenue/US-30 intersection for pedestrians and people bicycling.

... KEY CONSIDERATIONS

- NW 21st Avenue is proposed to be a one-way northbound bike connection across the railroad tracks to NW Front Avenue, with NW 22nd Avenue functioning as a one-way southbound bike connection. These changes will connect to existing bikeway improvements along US-30 between NW 20th and NW 21st Avenues, providing a low-stress route for people bicycling under US-30 at NW 20th Avenue.
- Additional recommended north-south pedestrian and bikeway connections under US-30 include NW 18th Avenue northbound and NW 19th Avenue southbound, and recommended policy changes support these connections.
- NW York Street and NW Wilson Street may support bi-directional bikeways. They may alternatively operate as a one-way bikeway couplet if necessary, with, westbound movement on NW York Street and eastbound movement on NW Wilson Street.

EXISTING CONDITIONS ON NW WILSON EAST OF NW 23RD AVE



An east-west bike connection will use the existing overpass of US-30 on NW Wilson Street.

BICYCLE CONNECTION NORTH OF US-30 BETWEEN NW 20TH AND NW 21ST AVES



North-south bike routes on NW 20th and NW 21st avenues will connect to the bikeway running adjacent to the north side of US-30.

City and Regional Connections

Connections for multimodal movement of people and goods to and from destinations across Portland and the region



Prioritize NW Nicolai Street as a freight route and direct trucks accessing and exiting US-30 to use this route instead of NW Vaughn Street.

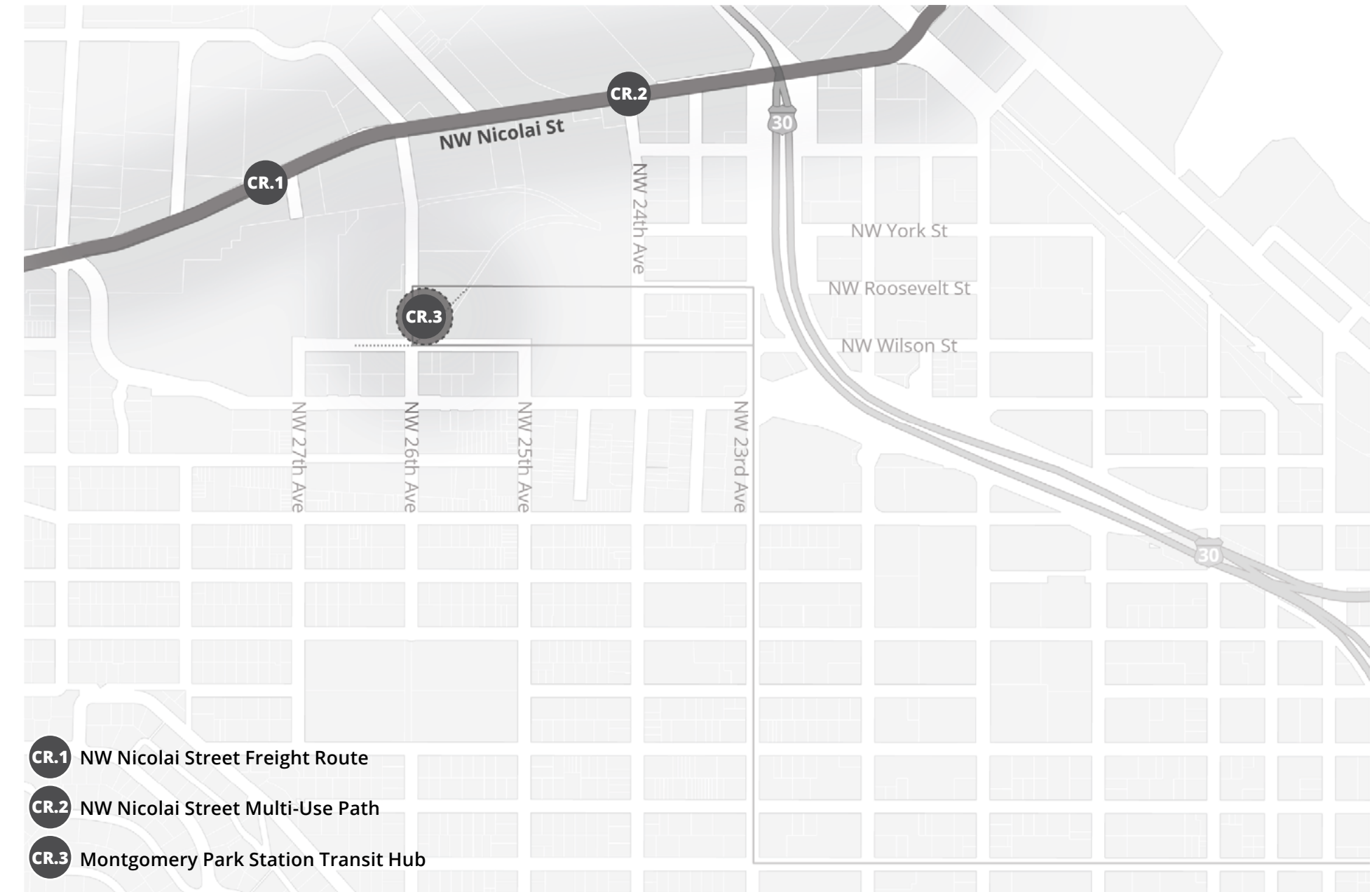


Create a multi-use path connecting Front Avenue to St Helens Road by repurposing an abandoned rail spur on the north side of NW Nicolai Street.



Formalize a transit hub near the terminus of the streetcar extension near Montgomery Park to connect travelers to transit options and shared mobility services.

City and Regional Connections recommended project locations



CR.1 NW Nicolai Street Freight Route

CR.2 NW Nicolai Street Multi-Use Path

CR.3 Montgomery Park Station Transit Hub

City and Regional Connections

CR.1 NW Nicolai Street Freight Route

PROJECT DESCRIPTION

Emphasize NW Nicolai Street over NW Vaughn Street as the key freight connector to US-30 in the area, including updated signage.

+ PROJECT GOALS

- Reduce freight travel and decrease freight through-trips using NW Vaughn Street to access US-30.
- Redirect freight travel to NW Nicolai Street to support multimodal safety, comfort, and access between the Montgomery Park Area and the Northwest District across NW Vaughn Street.

... KEY CONSIDERATIONS

- Prioritizing NW Nicolai Street for city and regional freight trips will help connect the Montgomery Park Area to the Northwest District to the south and reinforce the shift of the boundary of the Northwest industrial district northward.
- Redirecting freight travel will not only improve safety and comfort for pedestrians and people bicycling across NW Vaughn Street, but also will support streetcar and traffic operations at the intersection of NW Vaughn Street/NW 23rd Avenue/US-30 by reducing demand.



NW NICOLAI ST TOWARD NW 23RD AVE/US-30 RAMPS TODAY



City and Regional Connections

CR.2 NW Nicolai Street Multi-Use Path

PROJECT DESCRIPTION

Convert the former railroad tracks north of NW Nicolai Street to a multi-use path for walking, rolling, and bicycling from NW 24th Avenue to NW 29th Avenue, and potentially farther west, with crossing improvements at NW 24th Avenue, NW 26th Avenue, and NW 29th Avenue. Longer term, improvements could connect the path eastward to NW Front Avenue and to broader east/northeast destinations such as St Johns, Linnton, and Sauvie Island.

+ PROJECT GOALS

- Complete a section of the long-planned Willamette Greenway Trail along NW Nicolai Street, supporting longer-term public access to the Willamette River.
- Connect people walking, rolling, and biking safely from the Montgomery Park Area to the larger citywide and regional bicycle network for longer trips.

NW NICOLAI STREET WITH OLD RAIL SPUR ON RIGHT TODAY



... KEY CONSIDERATIONS

- Construction of the multi-use path on the north side of NW Nicolai Street will require formalization of curb cuts on the street and eliminate a limited amount of informal parking currently occurring within the right-of-way.
- The improved crossing of the NW 24th Avenue Neighborhood Greenway at NW Nicolai Street recommended in this plan will eliminate leftbound turn lanes for vehicles from NW Nicolai Street onto NW 24th Avenue. This will cause out of direction travel for some area drivers.
- Longer term extensions will require significant changes to the intersection of NW St Helens Road and NW Yeon Avenue, as well as around the US-30/NW Nicolai Street interchange. Further planning and design will be required.

City and Regional Connections

CR.3 Montgomery Park Station Transit Hub

PROJECT DESCRIPTION

Encourage transit use and multimodal travel by establishing a transit hub within one block of the streetcar extension terminus near NW Wilson Street and NW 26th Avenue. Provide shared mobility options for residents, employees, and visitors near Montgomery Park Station.

+ PROJECT GOALS

- Advance adopted City mobility policies by supporting investments in transit, station amenities, and pedestrian and bicycle infrastructure and services.
- Provide sustainable transportation options to mitigate auto trip demand as the Montgomery Park Area grows.
- Support Montgomery Park as a destination through placemaking and service provision for users of all ages and abilities.



... KEY CONSIDERATIONS

- Transit hubs provide easy connections between modes, integrating multiple travel options with convenience and safety.
- Partnering with area property owners is recommended to focus resources effectively toward the creation of the transit hub.
- Consider integration with PBOT's [Transportation Wallet](#) program to support multimodal travel and help residents and employees meet their daily needs without a personal automobile.
- Elements of the transit hub could include shared mobility services such as bike share stations, carshare parking, dedicated loading zones for ridesharing, and e-scooter parking; bicycle parking and wayfinding signage; placemaking elements; real-time transit arrival and connection information; goods delivery lockers for centralized area delivery options; and electric charging stations for vehicles.

POTENTIAL TRANSIT HUB ELEMENTS MONTGOMERY PARK STATION





Part 5

Policy Recommendations

In addition to projects, the *Montgomery Park Area Transportation Plan* includes policy-based recommendations to update the City's *Transportation System Plan*. These policy recommendations include a Master Street Plan, as well as updates to modal street classifications and design classifications.

Policy Recommendations

Master Street Plan

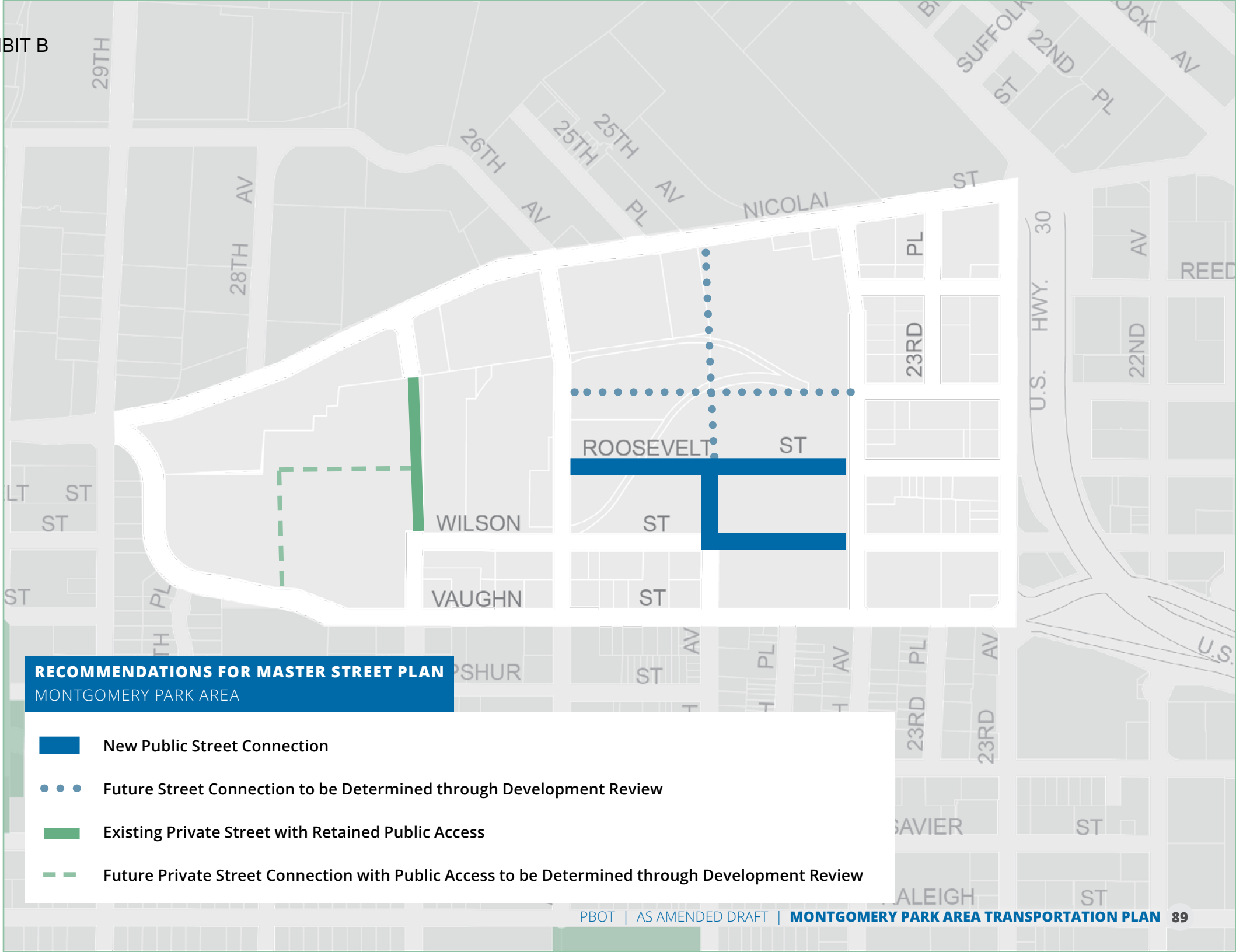
The *Montgomery Park Area Transportation Plan* recommends the adoption of a Master Street Plan to help chart a course for future development and street connectivity in the area. Future street connectivity will increase efficiency of the transportation system, improving multimodal mobility access as the area grows. A dense, connected street grid also helps spread local trips more evenly over the local street network, reducing congestion on arterial roads and improving arterial capacity by as much as 25 percent.

Distance and accessibility are two of the most important factors in mode choice, or how a person decides to move. If street connectivity is limited or blocks are too big, or if streets lack safe and comfortable facilities for pedestrians and people bicycling, the resulting necessary out-of-direction travel discourages people from walking, rolling, biking, or accessing transit. As a result of those conditions, people tend to use automobiles more frequently, even for trips to destinations nearby. Trips need to be relatively short and direct to encourage pedestrian or bicycle travel.

In accordance with State rules, street connectivity must be a part of the *Transportation System Plan (TSP)* and adopting ordinances. The Master Street Plan recommendations on the following page should be included in the next *TSP* update. The Master Street Plan identifies three types of streets within the Montgomery Park Area.

1. **New public streets, where street connection locations and alignments are certain**, based upon the recommended projects in the *Mongomery Park Area Transportation Plan*.
2. **Existing and future private streets with public access easements** supporting redevelopment around the Montgomery Park building.
3. **Future street connections**, where connections and alignment locations are uncertain. Future street connections through the former ESCO site north of NW Roosevelt Street will be required by City of Portland Title 17 street connectivity requirements as a condition for redevelopment. This plan intentionally leaves those future connections undefined in order to offer flexibility in future development programming. When the Master Street Plan is finalized, street classifications for these future connections should be identified.

EXHIBIT B





A Rapid Flash Beacon at a crosswalk in Portland

Policy Recommendations

Pedestrian Classifications Updates

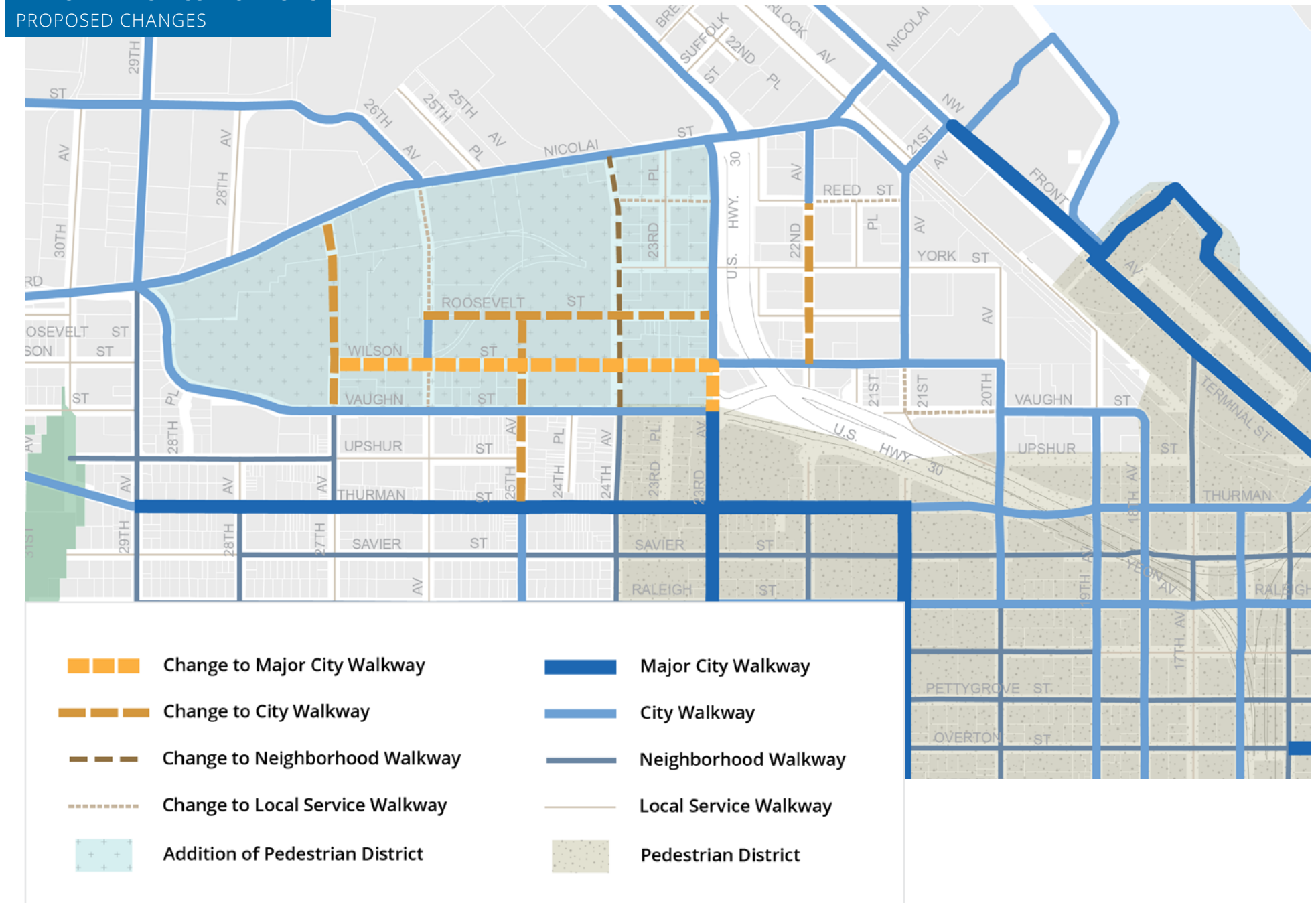
We analyzed Pedestrian Classifications in and near the Montgomery Park Area to understand if any updates are necessary to support the recommended projects in this plan. We sought to ensure convenient and comfortable movement for people walking, rolling, and accessing transit in the Montgomery Park Area as it grows, as well as supportive connections for pedestrians from the area to the rest of the Northwest District.

Streets with high expected pedestrian demand due to a high level of expected transit and land use destinations are given higher pedestrian priority (Major City Walkways and City Walkways). Lower priority Pedestrian Classifications (Neighborhood Walkways and Local Service Walkways) are intended to support neighborhood and local-level demand. A key recommendation is the addition of a Pedestrian District in the Montgomery Park Area. Pedestrian Districts prioritize pedestrian access areas in areas where high levels of pedestrian activity exist or are expected in the future.

Recommended updates to Pedestrian Classifications are displayed in the map on the opposite page. A full list of recommended changes is available in *Appendix C: Recommended Transportation System Plan Updates*.

EXHIBIT B

PEDESTRIAN CLASSIFICATIONS PROPOSED CHANGES



TSP STREET CLASSIFICATIONS PEDESTRIAN HIERARCHY

MAJOR CITY
WALKWAY

CITY
WALKWAY

NEIGHBORHOOD
WALKWAY

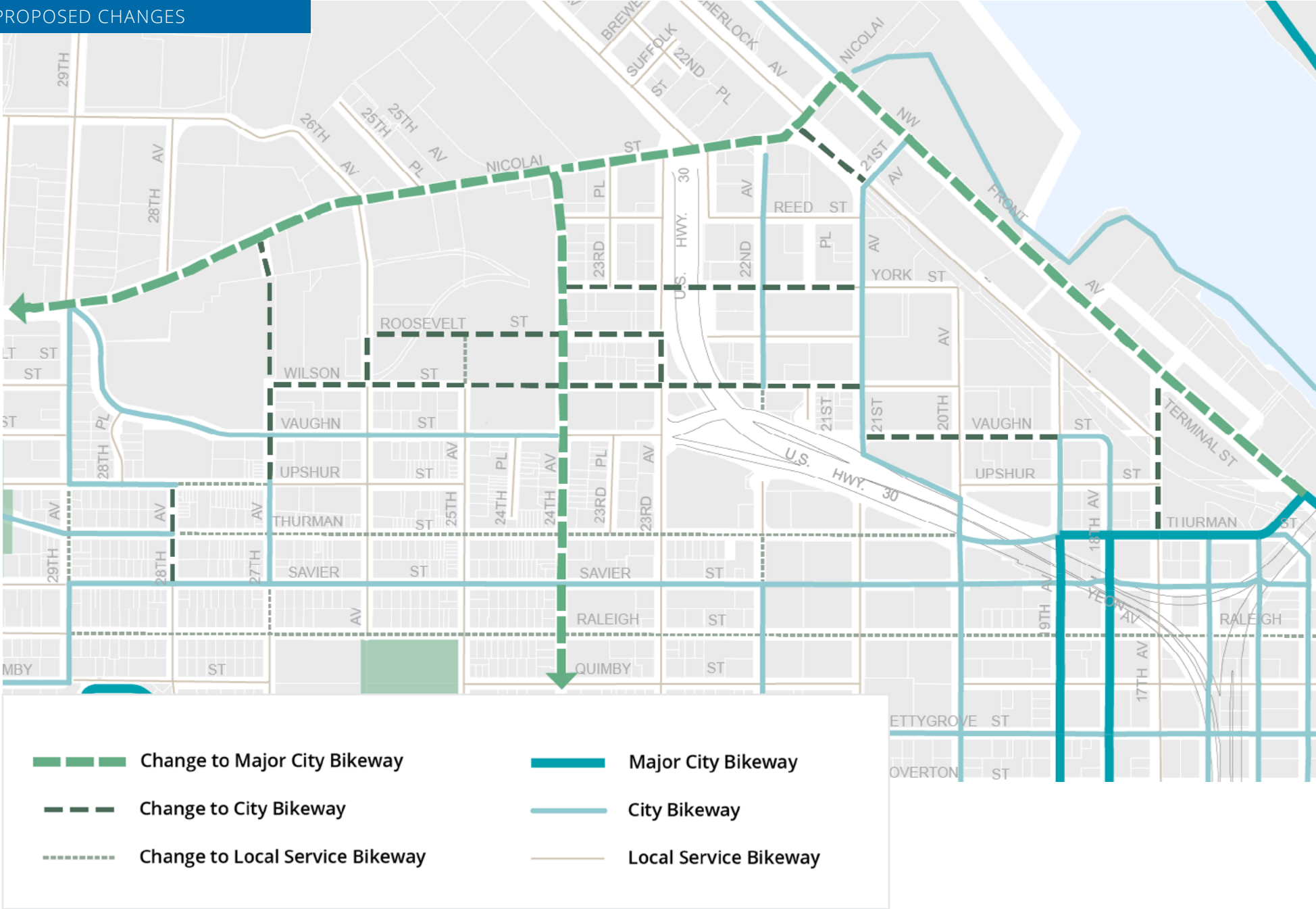
LOCAL SERVICE



A two-way sidewalk level bikeway

EXHIBIT B

BICYCLE CLASSIFICATIONS
PROPOSED CHANGES



Policy Recommendations

Bicycle Classifications Updates

The *Montgomery Park Area Transportation Plan* process included an analysis of Bicycle Classifications in order to understand if any updates are necessary to support the plan’s recommended projects. We worked to ensure that the area will have adequate north-south and east-west connections with higher Bicycle Classifications (Major City Bikeways and City Bikeways) connecting to existing bicycle routes. Some classifications were adjusted based on recommended project alignments or physical constraints. We also analyzed options to support internal bicycle circulation as the Montgomery Park Area grows.

Recommended updates to Bicycle Classifications are displayed in the map on the opposite page. The proposed changes south of NW Vaughn Street are also recommendations in *Northwest in Motion*. A full list of recommended changes is available in *Appendix C: Recommended Transportation System Plan Updates*.

TSP STREET CLASSIFICATIONS
BICYCLE HIERARCHY



**MAJOR CITY
BIKEWAY**

**CITY
BIKEWAY**

**LOCAL SERVICE
BIKEWAY**



The Portland Streetcar on Tillikum Crossing over the Willamette River

Policy Recommendations

Recommended Transit Classifications Updates

We analyzed Transit Classifications to see if updates are needed to support the *Montgomery Park Area Transportation Plan's* recommended projects. The analysis primarily focused on ensuring classifications are consistent with the planned transit network and service levels. The changes reflect updates to the proposed routing of the Portland Streetcar extension to Montgomery Park, with the highest transit priority (Major Transit Priority Street) recommended along the preferred alignment.

Recommended updates to Transit Classifications are displayed in the map on the opposite page. A full list of recommended changes is available in *Appendix C: Recommended Transportation System Plan Updates*.

TSP STREET CLASSIFICATIONS
TRANSIT HIERARCHY

MAJOR TRANSIT PRIORITY STREET

TRANSIT ACCESS STREET

LOCAL SERVICE TRANSIT STREET

EXHIBIT B

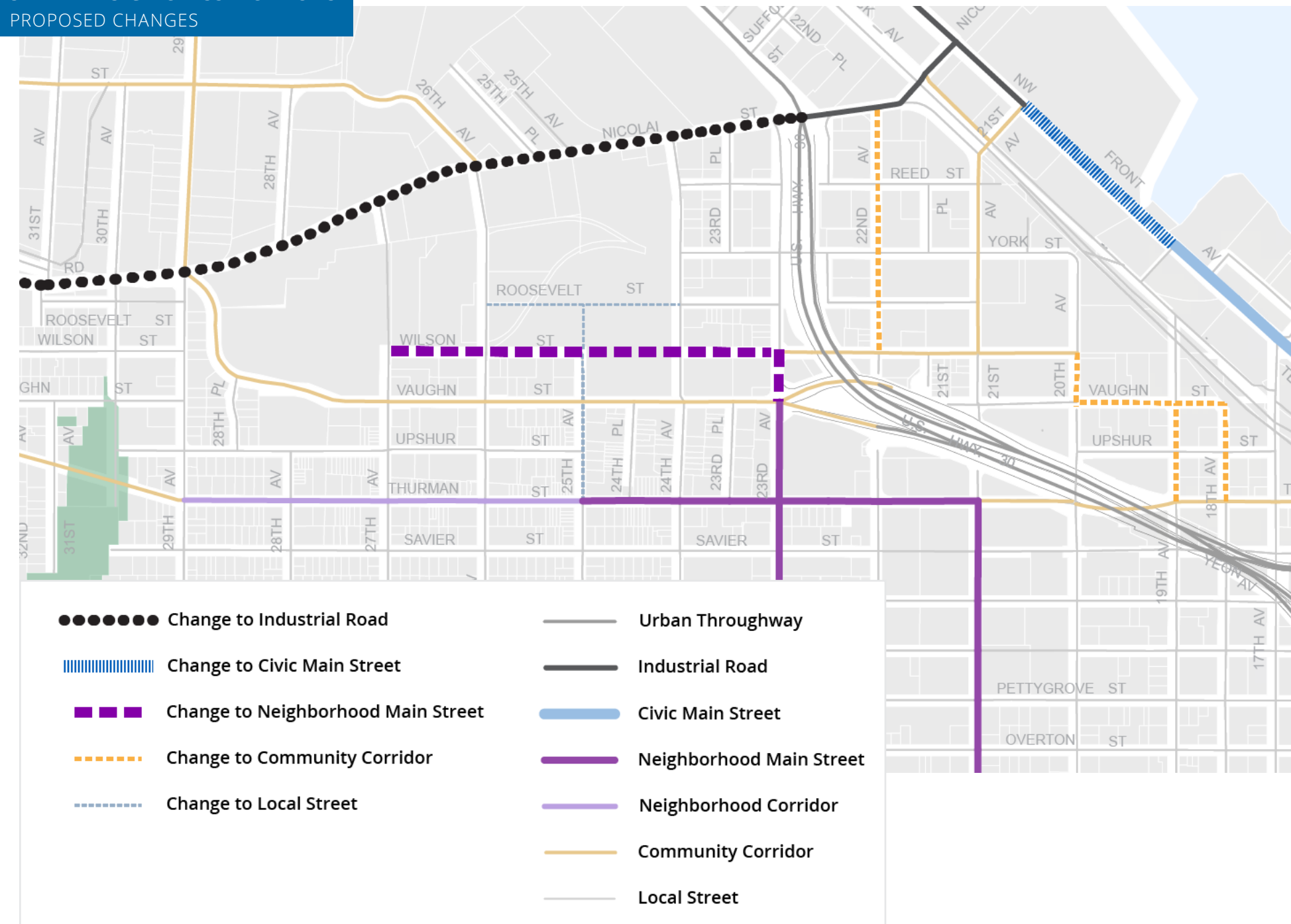
TRANSIT CLASSIFICATIONS
PROPOSED CHANGES





EXHIBIT B

STREET DESIGN CLASSIFICATIONS PROPOSED CHANGES



Policy Recommendations

Street Design Classifications Updates

The *Montgomery Park Area Transportation Plan* process included an analysis of Street Design Classifications in order to understand if any updates are necessary to support the plan's recommended projects, as well as the *Montgomery Park Area Plan's* proposed land use changes. Street Design Classifications offer guidelines based on current and planned land use context around the street.

The City's *Pedestrian Design Guide* bases sidewalk corridor width requirements on Street Design Classifications. Main Streets (both Civic Main Streets and Neighborhood Main Streets) require 15-foot sidewalk corridor widths within Pedestrian Districts. All other Design Classifications typically require 12-foot sidewalk corridors, except for Local Streets which can be more narrow in some areas. In all Pedestrian Districts, including the one recommended for the Montgomery Park Area, all sidewalk corridors must be a minimum of 12 feet wide. That requirement is typically triggered by adjacent redevelopment.

Recommended updates to Street Design Classifications are displayed in the map on the opposite page. A full list of recommended changes is available in *Appendix C: Recommended Transportation System Plan Updates*.



Traffic in downtown Portland

Policy Recommendations

Recommended Traffic Classifications Updates

We analyzed Traffic Classifications to see if updates are needed to support the *Montgomery Park Area Transportation Plan's* recommended projects. We found that, in order to support traffic distribution, a few changes are necessary.

We recommend changing NW Nicolai Street to a District Collector, as many longer trips both starting and ending in the area currently are and will continue to be distributed by this street. Changes east/north of US-30 support adequate collector spacing to support traffic distribution, with some changes reflecting how those streets are already functioning.

Recommended updates to Traffic Classifications are displayed in the map on the opposite page. A full list of recommended changes is available in *Appendix C: Recommended Transportation System Plan Updates*.

EXHIBIT B

TSP STREET CLASSIFICATIONS TRAFFIC HIERARCHY



MAJOR CITY
TRAFFIC STREET

DISTRICT
COLLECTOR

NEIGHBORHOOD
COLLECTOR

LOCAL SERVICE

TRAFFIC CLASSIFICATIONS PROPOSED CHANGES





EXHIBIT B

Policy Recommendations

Recommended Freight Classifications Updates

The *Montgomery Park Area Transportation Plan* process included an analysis of Freight Classifications in order to understand if any updates are necessary to support the plan's recommended projects, as well as the *Montgomery Park Area Plan's* proposed land use changes. The primary recommendation is the elimination of a Freight District in the Montgomery Park Area west of NW 23rd Avenue and south/southwest of US-30, reflecting the area's transition away from industrial uses. As a result, all area streets are proposed to change from Freight District Streets to Local Service Truck Streets, with the updated classification supporting local goods and service delivery within the Montgomery Park Area.

Recommended updates to Freight Classifications are displayed in the map on the opposite page. A full list of recommended changes is available in *Appendix C: Recommended Transportation System Plan Updates*.

TSP STREET CLASSIFICATIONS FREIGHT HIERARCHY

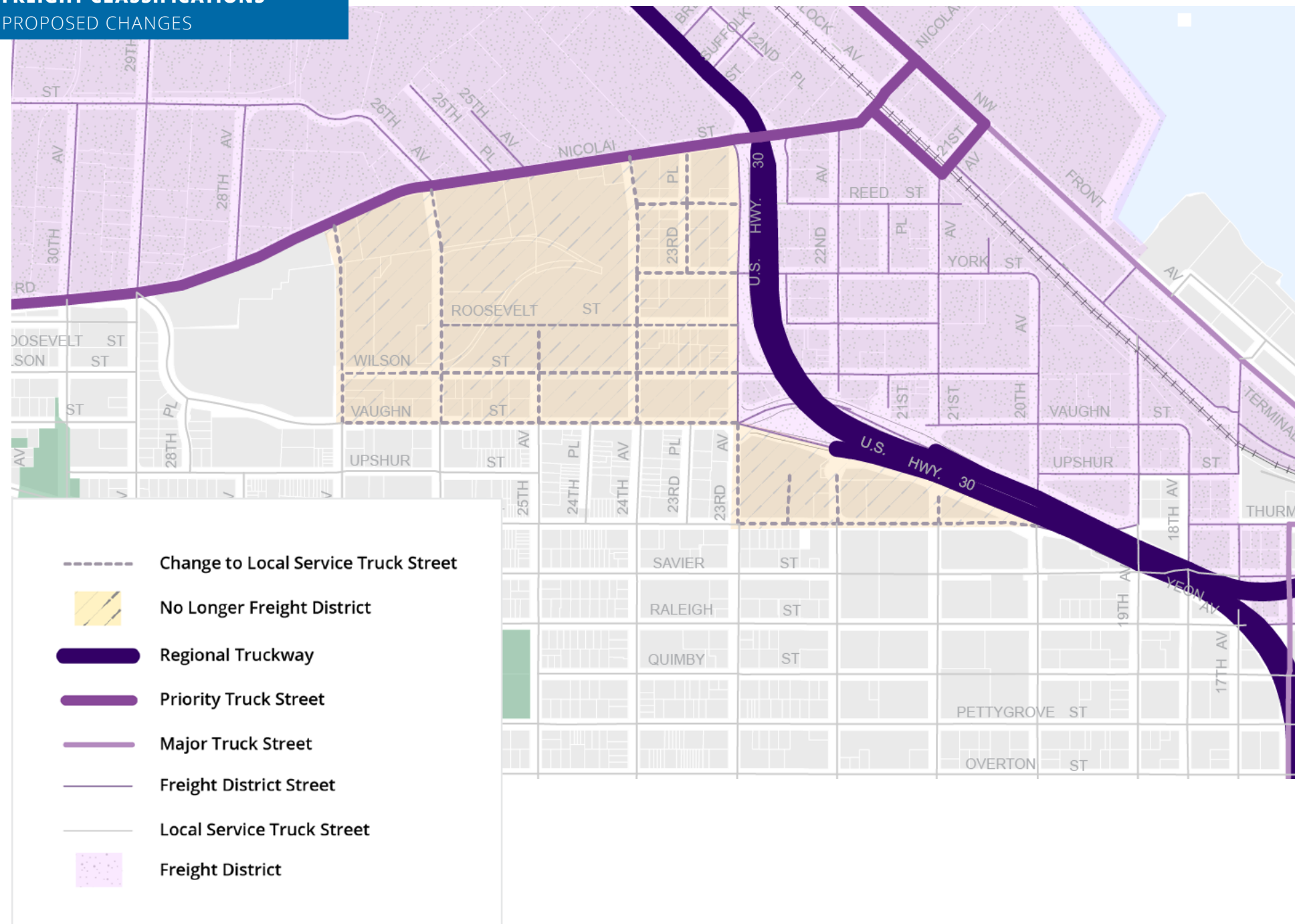
PRIORITY TRUCK STREET

MAJOR TRUCK STREET

FREIGHT DISTRICT STREET

LOCAL SERVICE

FREIGHT CLASSIFICATIONS PROPOSED CHANGES





A firetruck on a street overlooking downtown Portland

Policy Recommendations

Recommended Emergency Response Classifications Updates

The *Montgomery Park Area Transportation Plan* process included analysis of Emergency Response Classifications in order to understand whether changes are necessary to provide a network of streets that facilitate prompt emergency responses.

Some updates are included because of changes to the local street network around US-30 east of NW 23rd Avenue. We also recommend providing a Secondary Emergency Response route east of US-30, shifting one eastward from NW 24th Avenue because it is a recommended Neighborhood Greenway. South of NW Vaughn Street, changes reflect existing street connectivity in the area.

Recommended updates to Transit Classifications are displayed in the map on the opposite page. A full list of recommended changes is available in *Appendix C: Recommended Transportation System Plan Updates*.

TSP STREET CLASSIFICATIONS EMERGENCY HEIRARCHY



**MAJOR
EMERGENCY
RESPONSE**

**SECONDARY
EMERGENCY
RESPONSE**

**MINOR
EMERGENCY
RESPONSE**

EXHIBIT B

EMERGENCY RESPONSE CLASSIFICATIONS PROPOSED CHANGES





Part 6

Implementation Strategies

A breakdown of strategies to support the successful implementation of the *Montgomery Park Area Transportation Plan*.



Implementing the plan

The project and policy recommendations in the *Montgomery Park Area Transportation Plan* will help transform the Montgomery Park Area into a comfortable, accessible, and transit-oriented mixed use district. By making a significant investment in the area through the extension of Portland Streetcar and addressing deficiencies in the local transportation network, successful implementation of this plan will make multimodal transportation choices safer, more comfortable, and more convenient as the area grows in the future.

Many of the recommended projects in this plan will be constructed as part of the extension of streetcar to Montgomery Park. Other recommendations will occur as the area redevelops over time. This approach will allow for significant transformation of connectivity to and within the Montgomery Park Area within a relatively short time frame, while allowing for flexibility of phased development in the area.

IS Implementation Strategies

As this plan is implemented in conjunction with the land use changes and tools proposed in the *Montgomery Park Area Plan (MPAP)*, there are a number of programmatic and structural strategies necessary to realize and support these recommendations.

IS.1 Create a Plan District

Coordinate with the Bureau of Planning and Sustainability to establish a Plan District for the Montgomery Park Area. Pursue approval through the formal legislative process. The recommended York Plan District is a part of the *MPAP*.

IS.2 Manage Parking

Establish a proactive strategy to manage parking supply and demand in the Montgomery Park Area. Meter onstreet parking concurrently with new streets in the area, and explore issuing limited parking permits in new permit zones. Parking revenues may be used to support funding for recommended projects in the *Montgomery Park Area Transportation Plan*.

IS.3 Develop a Transportation Demand Management Program

Apply the City's Transportation Demand Management (TDM) Plan requirements for commercial/mixed use zones in the Montgomery Park Area. Work with area employers to develop commuter programs and incentives for walking, rolling, biking, and transit use.

IS.4 Explore Pilot Projects

Partner with area agencies, organizations, and property owners to explore the implementation of pilot projects and programs in the Montgomery Park Area that activate public space and encourage walking, rolling, biking, gathering, and transit use.

IS.5 Pursue Federal Funding

Pursue necessary steps to apply for federal funding through the Federal Transit Administration's (FTA's) Small Starts Capital Investment Grants (CIG) Program to fund at least 50 percent of the Portland Streetcar Montgomery Park Extension and related projects.

IS.6 Form a Local Improvement District

Work with area property owners to initiate the formation of a Local Improvement District (LID) to fund a portion of the Portland Streetcar Montgomery Park Extension and related projects.

Implementation Strategies

IS.1 Create a Plan District

STRATEGY DESCRIPTION

Coordinate with the Bureau of Planning and Sustainability to establish the York Plan District covering the area. Pursue approval through the formal legislative process.

? WHAT IS A PLAN DISTRICT?

Plan Districts consist of regulations that have been tailored to respond to unique circumstances in a specific, defined area of the city. Plan District regulations are additional provisions that augment regulations of an area's base land use zoning. Plan District provisions can regulate more specific allowable uses of land, the form of future development, incentives for developers who provide specific uses that benefit the public, parking locations and limits, and Transportation Demand Management (TDM) programs.

+ WHY IS THIS IMPORTANT?

In order to achieve the vision for the Montgomery Park Area's future as a dense, walkable and rollable transit-oriented district, Plan District provisions are needed. These additional provisions are intended to ensure an urban, mixed use development pattern with forms that support an active streetscape for pedestrians, people bicycling, and people accessing transit.



An aerial view of the Montgomery Park Area, where the York Plan District is recommended

... KEY CONSIDERATIONS

- The York Plan District would limit the amount of on-site parking for new development, with restrictions on locations near the streetcar alignment in order to encourage walking, rolling, biking, and transit use in the area, as well as active mixed land uses.
- The York Plan District would require developments with ten or more units to develop a plan or participate in a standard TDM program with transit passes for new residents.
- More information about the proposed York Plan District is available in the *Montgomery Park Area Plan*.

EXHIBIT B

IS.2 Manage Parking

STRATEGY DESCRIPTION

Establish a proactive strategy to manage parking supply and demand in the Montgomery Park Area. Meter onstreet parking concurrently with new streets in the area, and explore issuing limited parking permits in new permit zones.

? WHY MANAGE PARKING?

Onstreet parking is planned where feasible along new and existing streets in the Montgomery Park Area. Parking demand is affected by changes in land use and travel patterns. As the Montgomery Park Area grows, parking management will ensure that these parking spaces serve multiple users throughout the day, improving access to area destinations.

+ WHY IS THIS IMPORTANT?

Parking policies that reduce driving and make it easier to find a space help Portland reduce carbon emissions and improve air quality. Revenue generated from managed parking in the area may be used for projects and programs in the area that further reduce demand for parking and improve multimodal access and safety.



A person pays for parking at a meter in Northwest Portland

... KEY CONSIDERATIONS

- Like other areas with managed parking in Portland, a residential and/or employee parking permit zone may be designated.
- To support parking management and reduce parking demand, incentives for residents and employees to use other travel modes should be considered.
- The City's current Parking Meter District Policy requires that the majority (51 percent) of net meter revenues be used for programs and projects in the district where they are raised.
- In order to support parking turnover and access in the emerging area, metered parking is recommended to be implemented concurrently with new street connections.

Implementation Strategies

IS.3 Develop a Transportation Demand Management Program

STRATEGY DESCRIPTION

Apply the City's Transportation Demand Management (TDM) Plan requirements for commercial/mixed use zones. Work with area employers to develop commuter programs and incentives for walking, rolling, biking, and transit use.

? WHAT IS TRANSPORTATION DEMAND MANAGEMENT?

TDM promotes efficient travel modes to move more people within limited roadsapce. In order to prevent, reduce, and mitigate the impacts of new development on an area and broader transportation system, TDM plans are required for new developments in some areas. TDM plans establish programs that provide information, encouragement, incentives, and other tools to promote non-driving trips to, from, and within that area.

+ WHY IS THIS IMPORTANT?

TDM is about choice. Making transportation choices available to people and incentivizing their use helps reduce congestion on roadways. TDM is important because the transportation system in growing urban areas like the Montgomery Park Area cannot support the trips generated if workers, residents, and visitors travel exclusively by driving alone. As the Montgomery Park Area grows, TDM will help maintain and improve livability, support reduced carbon emissions, and provide safe and efficient mobility options.



A postcard for Get Around Slabtown, Slabtown's TDM program in Northwest Portland

... KEY CONSIDERATIONS

- The City's existing Title 33 requirements for TDM Plans in commercial/mixed use areas is recommended for this area.
- First/last mile solutions including electric, autonomous, and micromobility options should also be considered.
- Coordination of TDM strategies for the Montgomery Park Area should be explored with those in the Slabtown TDM District, as should other potential area partnerships in the Northwest District neighborhood.

EXHIBIT B

IS.4 Explore Pilot Projects

STRATEGY DESCRIPTION

Partner with area agencies, organizations, and property owners to explore the implementation of pilot projects and programs in the Montgomery Park Area that activate public space and encourage walking, rolling, biking, gathering, and transit use.

+ WHY IS THIS IMPORTANT?

Pilot projects are a great way to test new services, programs, or technologies in the Montgomery Park Area that help activate streets and reduce driving trips. Using a pilot approach, these projects can be monitored for success, refined in real time to as needed, and transitioned to permanent implementation if effective. If a pilot is unsuccessful, lessons learned can be applied to other programs, services, or projects in the area and across the city.

CASE STUDY: DALLAS, TX



Bicycle Repair Station: University of Texas, Dallas installed bike repair stations, free for anyone in the community. Stations include tools, air, and are equipped with QR codes for smartphone users, which link to videos about basic bike repairs.

CASE STUDY: LONG BEACH, CA



Cargo Bike Program: A partnership with Long Beach, California's Conservation Corps equips at-risk young adults in a workforce development program with e-cargo bikes and trailers for projects along the Lower Los Angeles River in Long Beach.

CASE STUDY: MCALLEN, TX



Interactive Art: Transit hubs are ideal locations for interactive art. In McAllen, Texas a bus stop is turned into a play area for the whole family with swings and hopscotch.

Implementation Strategies

IS.5 Pursue Federal Funding

STRATEGY DESCRIPTION

Pursue necessary steps to apply for federal funding through the Federal Transit Administration's (FTA's) Small Starts Capital Investment Grants (CIG) Program to fund at least 50 percent of the Portland Streetcar Montgomery Park Extension and related projects.

? WHAT IS THE SMALL STARTS PROGRAM?

The Small Starts program is the current discretionary competitive federal grant program funding transit capital projects with fixed guideway systems, including streetcars, with total project costs of less than \$400 million. This program is part of the FTA's CIG Program. In the past decade, the CIG Program has provided more than \$18 billion to dozens of new or extended transit systems throughout the United States. A project may be awarded up to 80 percent of a total project's qualifying costs through the Small Starts program.

+ WHY IS THIS IMPORTANT?

The costs to construct an extension of streetcar to Montgomery Park are high and cannot be funded through local means alone. The FTA provides significant funding for transformational transit projects like this one, which create economic opportunity, improve quality of life, and address climate change. The Small Starts program may fund a share of street construction and rehabilitation along the streetcar's alignment, including improvements to NW 23rd Avenue.



The Small Starts program helped fund the Division Transit Project, which implemented enhanced Bus Rapid Transit between Downtown Portland and Gresham.

... KEY CONSIDERATIONS

- The City is working with project partners to determine the appropriate timing to apply for FTA Small Starts funding. With rising capital construction costs, it is important to seek this funding as soon as is feasible.
- The project has received dedicated funding for the first phase of the Small Starts process, called Project Development. Project Development includes completing environmental review, selecting the Locally Preferred Alternative (LPA), finalizing local funding commitments, completing sufficient design and engineering, and adopting the project into the fiscally constrained long range transportation plan.
- Upon completion of the Project Development phase, the project will be scored based upon a set of criteria determined by the FTA. It will then become eligible to compete for a capital construction grant agreement.

EXHIBIT B

IS.6 Pursue a Local Improvement District

STRATEGY DESCRIPTION

Work with area property owners to initiate the formation of a Local Improvement District (LID) to fund a portion of the Portland Streetcar Montgomery Park Extension and related projects.

? WHAT IS A LOCAL IMPROVEMENT DISTRICT?

An LID is a method by which a group of property owners can share the cost of infrastructure improvements, most commonly for transportation and stormwater projects that benefit a defined area. LIDs are relatively common and have been used to fund improvements throughout the city, including Northwest Portland. More information about LIDs is available at the City of Portland's [Local Improvement District Projects webpage](#).

+ WHY IS THIS IMPORTANT?

The formation of an LID is a key strategy to help fund infrastructure improvements for which other local funding sources are unavailable or insufficient. The LID formation process provides an opportunity for benefiting property owners to provide input into what needs or desires may or may not be included in the defined improvements and anticipated costs of an LID, as well as whether to form one.

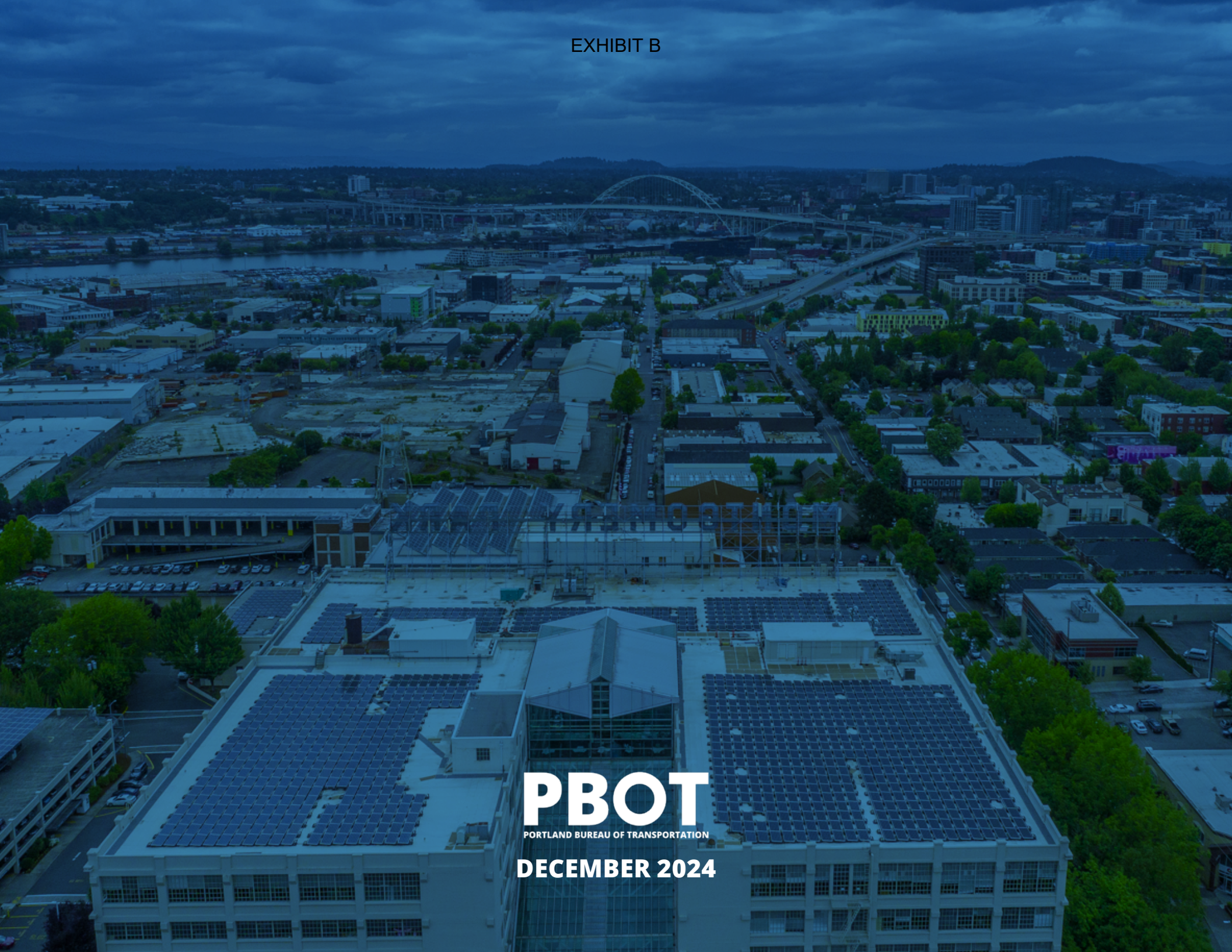


An LID funded the extensions of NW 20th Avenue and NW Thurman Street in Northwest Portland, reconnecting the street grid under US-30.

... KEY CONSIDERATIONS

- LIDs are often the result of a negotiation between the City and benefitting property owners to determine whether and how much will be paid in assessments for improvements.
- While the decision to form an LID ultimately lies with Portland City Council, affected property owners may formally decide whether to support its formation. Property owners representing a majority share of the total LID costs must support the LID for City Council consideration.
- Property owners may provide input into how assessment methodologies are derived for an LID. Those methods must be equitable and comply with state law in capturing measurable benefit received by each included property. This means that those who measurably benefit more from the included infrastructure improvements pay a greater share of the costs.

EXHIBIT B



PBOT
PORTLAND BUREAU OF TRANSPORTATION

DECEMBER 2024

MONTGOMERY PARK

Appendix A

PREFERRED ALIGNMENT OVERVIEW

AS AMENDED DRAFT | DECEMBER 2024



PBOT
PORTLAND BUREAU OF TRANSPORTATION

Portland Streetcar Montgomery Park Extension

PREFERRED ALIGNMENT OVERVIEW

UPDATED APRIL 12, 2024

OVERVIEW

This document describes the development and selection of the preferred alignment for the Portland Streetcar Montgomery Park Extension. It also compares the preferred alignment to alternatives considered during various stages of the Montgomery Park to Hollywood (MP2H) planning process.

For more than five years, the MP2H project team explored alignment options for the project area. They considered community input, local policy, and feasibility. [Federal Transit Administration \(FTA\) Small Starts Project Evaluation Criteria](#) were also considered.

While this document illustrates the project team's evaluation of options, it is not a formal alternatives analysis. Further evaluation will be completed as part of the anticipated environmental review process and will be conducted in accordance with federal requirements.

More information about the Portland Streetcar Montgomery Park Extension, as well as related plans and studies, are available at the project webpage: <http://portland.gov/MPStreetcar>

PROJECT BACKGROUND

The City of Portland and Portland Streetcar, Inc. have been exploring various ways to connect the existing streetcar network to Montgomery Park for many years. Planning documents dating to the 1970s envisioned a streetcar connection to the large office building, and the 2009 [Portland Streetcar System Concept Plan](#) identified Montgomery Park as a key destination for future extension. The [2035 Portland Transportation System Plan](#) and [2035 Comprehensive Plan](#) prioritized this extension for planning and implementation. However, none of these documents identified an alignment.

In 2018, Portland City Council funded a preliminary [Northwest Public Streetcar Extension and Land Use Alternatives Analysis](#) to study an extension of streetcar to Montgomery Park. In 2019, the [Montgomery Park to Hollywood Land Use and Development Study \(MP2H\)](#) was funded through a grant from the FTA. In Northwest Portland, MP2H focused on short-term potential transit investment and land use changes in the area.

Over the next two and a half years, the Portland Bureau of Transportation (PBOT) worked with the Bureau of Planning and Sustainability (BPS) to develop the [Draft Montgomery Park Area Transportation Plan](#) and the [Northwest Plan \(MP2H-NW\) Discussion Draft](#). Through community engagement and study, various land use scenarios, transit modes, and alignments were explored for their potential to support local and regional transportation needs and to facilitate mixed-use and equitable development.



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FORMER ESCO SITE IN NORTHWEST PORTLAND

WHY NOW?

The industrial areas of inner Northwest Portland are undergoing a major transformation. Since the 2000s, major industries have been leaving the area. This phenomena is reflected in the loss of major industrial tenants including Con-way and ESCO. This shift has created an opportunity to reimagine the role these large sites play in providing for future housing and jobs in a growing region.

Over the past decade, the land that was once used for Con-way's logistics operations has given way to a sustainable new urban area in Slabtown. The ESCO site now sits largely vacant and has the potential to become a place of living, work, and play for thousands of community members. The ESCO site, taken in context with investment potential in Montgomery Park, presents a unique opportunity for large-scale housing and employment development near Portland's Central City.

The City of Portland has the ability to leverage land use and transportation decisions to shape a vibrant new district west of Highway 30 between NW Nicolai and Vaughn streets. A key strategy to spur development is to make a high-quality, high-capacity transit investment paired with focused land use changes in this area. A framework to promote equitable development is also being proposed, in order to ensure the provision of middle-wage jobs, affordable housing, affordable commercial space, and climate-friendly features through development.

WHY STREETCAR?

For more than 20 years, the Portland Streetcar has been one of the City's tools for equitable and sustainable development. With its proven track record of spurring the creation of dense, walkable, and rollable neighborhoods, the streetcar helps Portland achieve its climate goals and address the city's housing shortage.

The streetcar functions as a high-capacity, sustainable transit mode that helps people meet their daily needs without a personal automobile. It presents many of the same benefits of light rail at a much lower cost, so streetcar offers a more cost effective route toward transit-oriented urban living.

The Portland Streetcar also helps the City achieve its equity goals. It supports the development of centrally-located affordable housing while improving access to critical destinations for its diverse riders. It also provides opportunity for economic development and job creation in areas with permanent access to affordable, climate-friendly transit.

SINCE 2001 IN PORTLAND,
40 PERCENT OF ALL NEW REGULATED
AFFORDABLE HOUSING AND 50 PERCENT
OF ALL NEW HOUSING HAS BEEN BUILT
WITHIN ONE QUARTER MILE OF A
STREETCAR LINE.



PORTLAND STREETCAR RIDERS ARE MORE DIVERSE AND TRANSIT-DEPENDENT THAN PORTLANDERS AS A WHOLE...

- 35% EARN LESS THAN \$30,000 PER YEAR
- 32% IDENTIFY AS PEOPLE OF COLOR AND/OR HISPANIC/LATINÉ
- 26% USE TRIMET'S HONORED CITIZEN FARE
- 76% RIDE DAILY



PORTLAND STREETCAR IN THE PEARL DISTRICT



CONSIDERING TRANSIT ALTERNATIVES

Different transit modes suit different land uses and intensities of development. Lower capacity transit types like traditional buses or microshuttles are better suited to low-density uses like single-dwelling residential or industrial. Higher capacity transit types including streetcar and enhanced buses are more appropriate for higher-density mixed land uses.

With this in mind, the MP2H project team evaluated the four most feasible transit alternatives to develop a more comprehensive understanding of the costs, benefits, and suitability of each mode to serve various land use scenarios and growth potential being explored for the area. The study assessed standard bus, enhanced bus like the TriMet Frequent Express (FX), streetcar, and microshuttle service.

Criteria in the study were both qualitative and quantitative. They included land use suitability, support of development, improved access, costs, potential ridership, improved connectivity, construction and funding feasibility, pollution impacts, and equity impacts.

When a preferred land use scenario was developed and selected for MP2H with high-density mixed land uses in part of the study area, the project team considered the results of the transit alternatives assessment along with additional deliberation about funding and project feasibility.

Streetcar was chosen as the preferred transit alternative because of its suitability to support the most dense development potential for the area. Streetcar offers the highest capacity of any of the alternatives and draws high ridership, with a proven background of spurring dense development including affordable housing. It also has the ability to leverage various funding sources toward its construction, and streetcar has the potential to generate additional community benefits through binding agreements with property owners near Montgomery Park.



DEVELOPING THE PREFERRED ALIGNMENT

The preferred alignment was developed through research, community engagement, and analysis during the MP2H process. The project team analyzed various land use scenarios to understand which changes would have the best potential to facilitate the development of an equitable mixed-use neighborhood, including affordable housing and jobs.

When it became clear that the most expected growth in the area would be concentrated on and around the former ESCO site, a new land use scenario was developed to focus changes in the area of greatest impact. This scenario responds to community support for balance between more housing and retaining industrial character and jobs. It retains industrial uses east of Highway 30, maintaining a significant amount of existing prime industrial land.

Further analysis of potential streetcar alignments revealed that a route on NW 23rd Avenue, connecting from the existing streetcar line at NW Northrup Street, would be most feasible and cost effective. It would strategically serve the area of greatest expected change while directing the streetcar down NW 23rd Avenue, a street designated as both a Neighborhood Main Street and a Major Transit Priority Street in the City's Transportation System Plan.

The project team then considered three different routes where the streetcar would connect from NW 23rd Avenue to Montgomery Park. The preferred alignment was selected from these three alternatives. In this document, those options are the Preferred Alignment, Alignment D, and Alignment E.





PEOPLE WAITING FOR STREETCAR ALONG NW 23RD AVENUE

THE PREFERRED ALIGNMENT

The preferred alignment is a short, direct route to Montgomery Park through an extension of the existing Portland Streetcar North-South (NS) Line along NW 23rd Avenue to a new one-way couplet along NW Roosevelt and NW Wilson streets. This alignment would efficiently serve expected development around Montgomery Park as well as one of Northwest Portland's most vibrant Main Streets, NW 23rd Avenue.

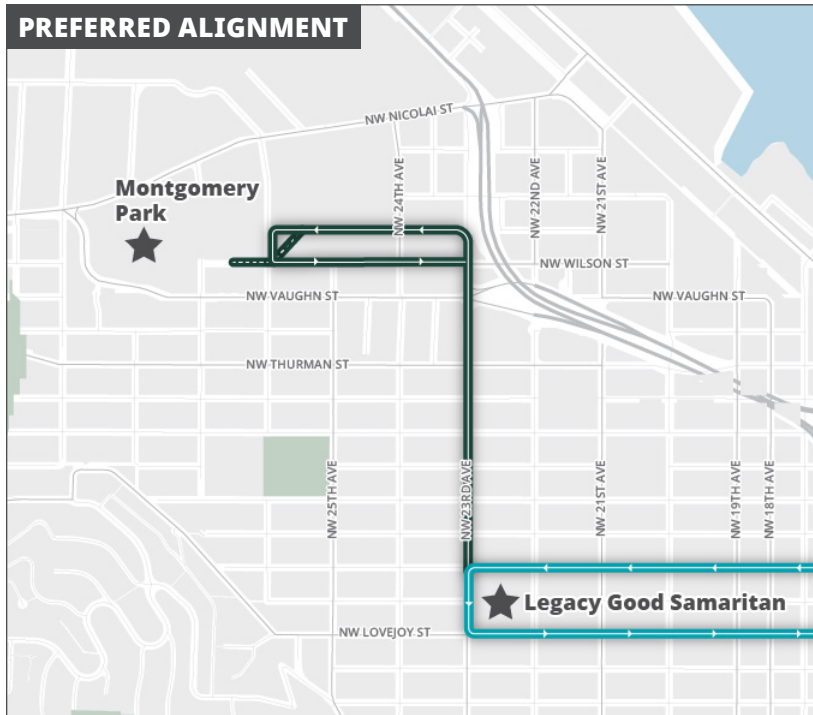
NW 23rd Avenue was chosen as the preferred route for the streetcar extension for several reasons. Current and future demand along the bustling corridor would be supported by mass transit. The street is designated in City policy to prioritize frequent transit and high-volume pedestrian movement, and its designation as a Neighborhood Main Street means it should effectively serve the surrounding neighborhood while its design emphasizes multimodal access and movement.

Additionally, NW 23rd Avenue is in disrepair and is in desperate need of rehabilitation. Community members have called for improvements on this street for years. Combining the two projects would provide

the opportunity to address NW 23rd Avenue's current deficiencies between NW Lovejoy and NW Vaughn streets, including accessibility, utilities, and stormwater management. Folding the two otherwise separate major construction efforts into one would reduce construction impacts in the area and use public funds more efficiently.

The preferred alignment was refined from previous alternatives using NW 23rd Avenue. Those alternatives include Alignments C, D, and E in this report. When compared with those alignments, the Preferred Alignment is the most feasible for a number of reasons, including being free of fatal flaws in traffic analysis, supporting traffic demands now and in the future, being cost competitive due to its length, and supporting phased development in the area of proposed land use changes along and near the new proposed couplet.

EXHIBIT B



ALIGNMENT DESCRIPTION:

The preferred alignment is an extension of the NS Line, connecting to Montgomery Park using **NW 23rd Avenue** and tying into a one-block parallel one-way couplet on **NW Roosevelt and NW Wilson streets**.

This alignment would include the construction of new complete streets to connect both NW Roosevelt and NW Wilson streets through the former ESCO site.

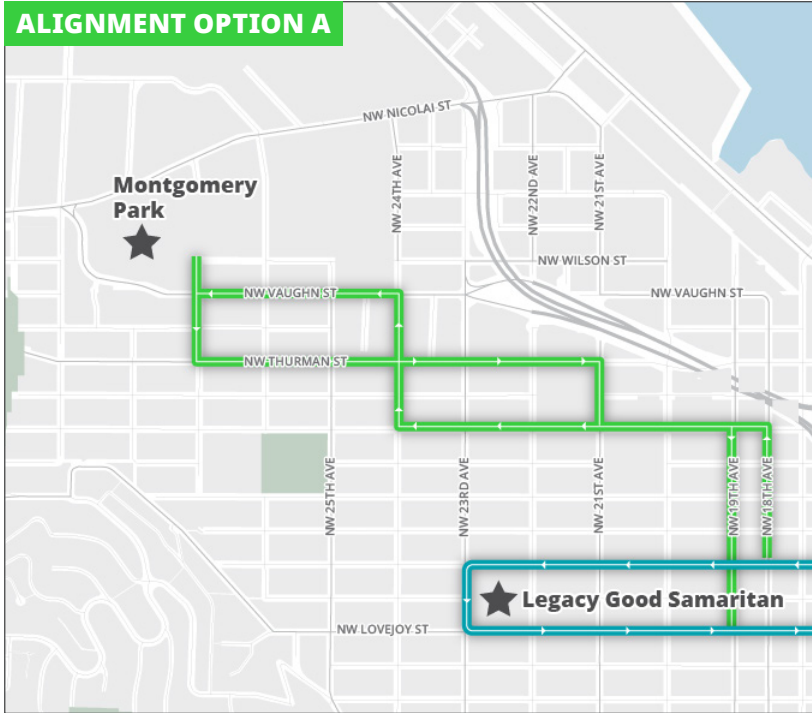
The extension's terminus is proposed to be located near NW 26th Avenue and NW Wilson Street and include a new transit hub.

1.3 miles of new track and two new streetcars would be required.

CRITERION	SCORE	CONSIDERATION FOR PREFERRED ALTERNATIVE
CAPITAL COST AND FEASIBILITY	●	Length makes this alignment cost competitive, with one-block couplet supporting internal circulation and phased land development
OPERATING COST	●	Minimal increases in operating cost compared to other alternatives, due to direct route and length of alignment
RIDERSHIP POTENTIAL	●	Would serve the area of most development potential directly, while serving the vibrant Main Street of NW 23rd Avenue
COMPATIBILITY WITH EXISTING TRANSIT	●	Utilizes streets prioritized for transit while tying efficiently into existing streetcar system; would share stations with buses
TRAFFIC AND OPERATIONS	◐	Transportation modeling analyses indicate that impacts are minimal overall, and any issues can be mitigated effectively
MOBILITY IMPROVEMENTS	◐	Would include multimodal improvements on new streets with connections to broader network, while creating a couplet through area with existing limited access; one-block couplet easily accessible
CONSISTENCY WITH ADOPTED PLANS AND POLICY	●	Supports preservation of prime industrial land east of Highway 30 and utilizes a Main Street prioritized for transit operations and access
NEW HOUSING OPPORTUNITY	●	Creates a direct route to/through area of highest development potential while preserving development options north of NW Roosevelt Street
NEW JOBS OPPORTUNITY	●	Creates a direct route to/through area of highest development potential while preserving development options north of NW Roosevelt Street
FUNDING POTENTIAL	●	Requires lower capital costs and limited LID participation compared to alternatives; federal funding can help pay for NW 23rd Avenue



EXHIBIT B



ALIGNMENT A DESCRIPTION:

New line connecting to Montgomery Park via a combination of **NW Raleigh, Thurman, and Vaughn Streets** as well as **NW 18th, 19th, 21st, and 24th avenues**.

The alignment's terminus would be a station on NW 27th Avenue between NW Wilson and NW Vaughn streets.

This route would be slow and circuitous to its final destination on narrow streets using tight turns and requiring significant right-of-way acquisition.

2.7 miles of new track construction and six new streetcars would be required.

CRITERION	SCORE	CONSIDERATION FOR ALIGNMENT OPTION A
CAPITAL COST AND FEASIBILITY		Length, alignment, and right-of-way acquisition requirements would make this alignment expensive and challenging to construct
OPERATING COST		New line would require six new streetcars, and length would require more operators and significant maintenance costs
RIDERSHIP POTENTIAL		Alignment serves existing and new housing and retail in Slabtown and more intense uses planned on Montgomery Park and ESCO site
COMPATIBILITY WITH EXISTING TRANSIT		Much of the alignment is within a quarter mile of existing streetcar service
TRAFFIC AND OPERATIONS		Alignment uses narrow streets with tight turns and would likely require significant parking removal and potential ROW acquisition near corners
MOBILITY IMPROVEMENTS		Slow, circuitous route to final destination with limited space between curbs for streetcar movement or other multimodal improvements
CONSISTENCY WITH ADOPTED PLANS AND POLICY		Compatible with Streetcar Concept Plan, Conway Master Plan, and Northwest District Plan, but utilizes streets with limited transit priority
NEW HOUSING OPPORTUNITY		Portions of the alignment run through historic areas with low planned densities for future housing
NEW JOBS OPPORTUNITY		Most of the alignment runs through areas with low planned densities for future jobs
FUNDING POTENTIAL		Scale of extension would require significant LID participation, including areas of limited growth potential

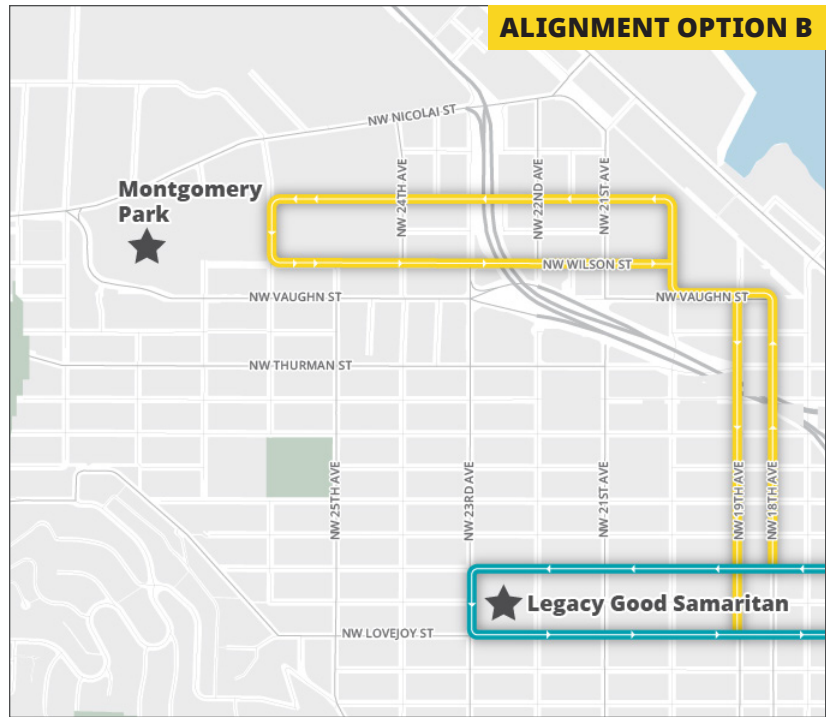
EXHIBIT B

ALIGNMENT B DESCRIPTION:

New line heading north along **NW 18th and 19th avenues**, connecting to Montgomery Park via **NW York and Wilson streets**.

This alignment was used for much of MP2H's earlier analysis process, prior to the development of a land use scenario intended to preserve prime industrial land east of Highway 30.

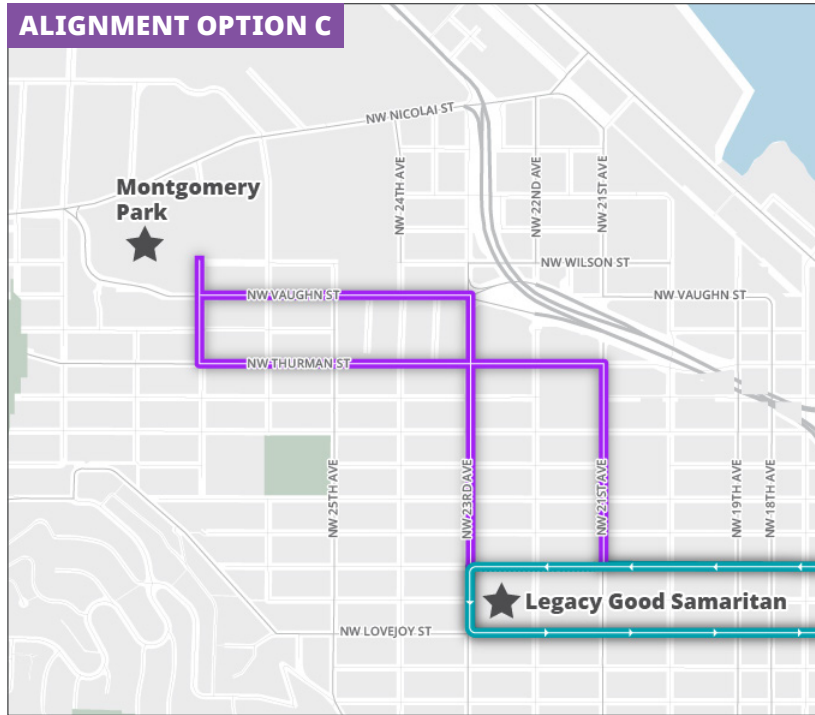
3.5 miles of new track construction and six new streetcars would be required.



CRITERION	SCORE	CONSIDERATION FOR ALIGNMENT OPTION B
CAPITAL COST AND FEASIBILITY		Length of extension would make this alignment the most expensive, and much of the extension would traverse prime preserved industrial land
OPERATING COST		New line would require six new streetcars, and length would require more operators and significant maintenance costs
RIDERSHIP POTENTIAL		Alignment serves existing and new housing as well as areas of growth potential, with limited opportunity in industrial area
COMPATIBILITY WITH EXISTING TRANSIT		Would add transit service to underserved areas and use streets prioritized for transit
TRAFFIC AND OPERATIONS		Alignment utilizes overpasses on Highway 30 and avoids high-traffic streets
MOBILITY IMPROVEMENTS		Relatively direct route to final destination and expands transit benefits; conflicts with freight district with wayfinding challenges
CONSISTENCY WITH ADOPTED PLANS AND POLICY		Alignment traverses through low-density industrial land which could eventually pressure land use changes in industrial preserve; potential conflicts with large section of freight district
NEW HOUSING OPPORTUNITY		Potential for housing along some of the alignment, with limited opportunity east/northeast of Highway 30 without land use changes
NEW JOBS OPPORTUNITY		Significant potential for jobs along some of the alignment, but supportive land use changes would result in loss of industrial jobs
FUNDING POTENTIAL		The length and location of this extension would make this alignment the most expensive, with LID support challenging in industrial preserve

BEST - WORST

EXHIBIT B



ALIGNMENT C DESCRIPTION:

Extension of existing NS Line, connecting to Montgomery Park via **NW 21st and 23rd avenues**, as well as **NW Thurman and Vaughn streets**.

This alignment would face significant challenges due to required turning movements and ROW width in some areas and would require closure of stops near the hospital.

2 miles of new track construction and two new streetcars would be required.

CRITERION	SCORE	CONSIDERATION FOR ALIGNMENT OPTION C
CAPITAL COST AND FEASIBILITY		Challenges on NW Thurman Street and at key intersections on NW Vaughn Street make this route challenging to construct
OPERATING COST		Length of alignment versus other alternatives puts this operating cost in the mid-range compared to others
RIDERSHIP POTENTIAL		Would serve two Main Streets and could capture ridership of recently developed neighborhoods with high density
COMPATIBILITY WITH EXISTING TRANSIT		Much of alignment would use streets prioritized for transit, with impacts to existing NS line users near hospital
TRAFFIC AND OPERATIONS		A challenging turning movement from NW Vaughn Street to NW 23rd Avenue would likely cause significant issues, as would conflicts between Streetcar and higher-volume auto traffic
MOBILITY IMPROVEMENTS		Requires closure of stops near hospital; couplet width and directionality challenging for access; tight right-of-way on NW 27th Avenue
CONSISTENCY WITH ADOPTED PLANS AND POLICY		Supports preservation of industrial land and utilizes streets prioritized for transit operations, except NW 27th Avenue
NEW HOUSING OPPORTUNITY		Limited value capture opportunity due to service through areas with limited development potential
NEW JOBS OPPORTUNITY		Limited value capture opportunity due to service through areas with limited development potential
FUNDING POTENTIAL		Alignment would require larger area of LID participation than preferred alignment and large-share participants may have limited access

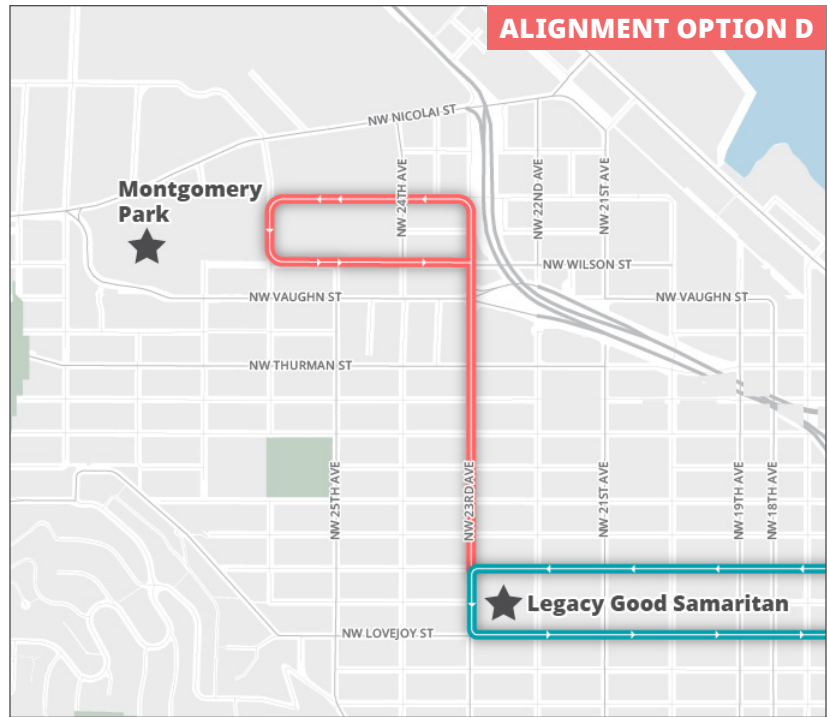
EXHIBIT B

ALIGNMENT D DESCRIPTION:

Extension of existing NS Line, connecting to Montgomery Park along **NW 23rd Avenue** and tying into a two-block parallel one-way couplet along **NW York and Wilson streets**.

While this alignment would provide many of the same benefits of the preferred alignment, the couplet width would limit large-scale development flexibility and would be more challenging for wayfinding and transit access.

1.7 miles of new track construction and two new streetcars would be required.



CRITERION	SCORE	CONSIDERATION FOR ALIGNMENT OPTION D
CAPITAL COST AND FEASIBILITY		Direct route and length make it cost-competitive, but two-block couplet would likely serve area large enough to take many years to fully develop
OPERATING COST		Minimal increases in operating cost compared to other alternatives, due to direct route and length of alignment; not the best
RIDERSHIP POTENTIAL		Would serve the area of most development potential directly, while serving one of Northwest Portland's most vibrant Main Streets
COMPATIBILITY WITH EXISTING TRANSIT		Utilizes new streets and streets prioritized for transit
TRAFFIC AND OPERATIONS		Careful planning required at NW Vaughn Street and NW 23rd Avenue and a tight turn from NW Northrup Street onto NW 23rd Avenue
MOBILITY IMPROVEMENTS		Would include multimodal improvements on new streets with easy long-term connections, but access and wayfinding would be more challenging
CONSISTENCY WITH ADOPTED PLANS AND POLICY		Supports preservation of industrial land east of Highway 30 and utilizes a Main Street prioritized for transit operations and access
NEW HOUSING OPPORTUNITY		Creates a direct route to/through area of highest development potential, but limits development flexibility north of NW Roosevelt Street
NEW JOBS OPPORTUNITY		Creates a direct route to/through area of highest development potential, but limits development flexibility north of NW Roosevelt Street
FUNDING POTENTIAL		Requires limited LID participation, but couplet size creates development challenges for large-share participants

BEST - WORST

EXHIBIT B



ALIGNMENT E DESCRIPTION:

Extension of existing NS Line, connecting to Montgomery Park via **NW 23rd Avenue** and two-way movement on **NW Wilson Street**.

This alignment has critical flaws in its design, both in required right-of-way acquisition for two-way turning movement at NW 23rd Avenue and NW Wilson Street as well as unacceptable traffic queues backing up onto Highway 30.

1.2 miles of new track construction and two new streetcars would be required.

CRITERION	SCORE	CONSIDERATION FOR ALIGNMENT OPTION E
CAPITAL COST AND FEASIBILITY		Shortest alignment makes this option cost-competitive, but critical design flaws and right-of-way acquisition impacts limit feasibility
OPERATING COST		Shortest track length makes this alignment's operating cost low
RIDERSHIP POTENTIAL		Would serve the area of most development potential directly, while serving one of Northwest Portland's most vibrant Main Streets
COMPATIBILITY WITH EXISTING TRANSIT		Utilizes new and rehabilitated streets and streets prioritized for transit
TRAFFIC AND OPERATIONS		Traffic backups are a critical flaw, with auto traffic backing up onto Highway 30
MOBILITY IMPROVEMENTS		While this alignment provides opportunity for Main Street design on NW Wilson Street, right-of-way limitations would impact potential for dedicated bike lanes and cause unacceptable impacts to auto traffic
CONSISTENCY WITH ADOPTED PLANS AND POLICY		Supports preservation of industrial land and utilizes a Main Street prioritized for transit operations and access
NEW HOUSING OPPORTUNITY		Creates a direct route to/through area of highest development potential
NEW JOBS OPPORTUNITY		Creates a direct route to/through area of highest development potential
FUNDING POTENTIAL		Least amount of new streets and alignment lower capital costs and minimize area of LID participation

COMPARISON OF ALTERNATIVES

ALIGNMENT OPTION	CAPITAL COST AND FEASIBILITY	OPERATING COST	RIDERSHIP POTENTIAL	COMPATIBILITY WITH EXISTING TRANSIT	TRAFFIC AND OPERATIONS	MOBILITY IMPROVEMENTS	CONSISTENCY WITH ADOPTED PLANS AND POLICY	NEW HOUSING OPPORTUNITY	NEW JOBS OPPORTUNITY	FUNDING POTENTIAL	TOTAL SCORE*
PREFERRED ALIGNMENT: Extension via NW 23rd Avenue with NW Roosevelt Street and NW Wilson Street couplet											38
OPTION A: New line via NW Raleigh, NW Thurman, and NW Vaughn streets											15
OPTION B: New line via NW 18th and NW 19th avenues as well as NW York and NW Wilson streets											20
OPTION C: Extension via NW 21st and NW 23rd avenues, and NW Thurman and NW Vaughn streets											23
OPTION D: Extension via NW 23rd Avenue with NW York Street and NW Wilson Street couplet											32
OPTION E: Extension via NW 23rd Avenue with two-way on NW Wilson Street											30

BEST - WORST

*This score is based upon project team interpretation of both qualitative and quantitative "criteria" as listed. For each criterion considered, a score of 0-4 was assigned based upon the scale to the left (where "BEST" = 4 and "WORST" = 0).

EXHIBIT B

WHAT'S NEXT?

In August 2023, The Portland Bureau of Transportation (PBOT) worked with the Bureau of Planning and Sustainability (BPS) to finalize the FTA grant that funded the Montgomery Park to Hollywood (MP2H) Study.

The project team is also working to integrate community feedback and additional refinements into current drafts of the Montgomery Park Area Transportation Plan and the MP2H Northwest Plan. City staff will propose final proposed draft versions of these plans for consideration and adoption in 2024.

PBOT staff recently completed Summer-Fall 2023 community engagement. The project team is also working on preliminary engineering and cost estimation for the proposed alignment. As a funding strategy is explored for the proposed streetcar extension, a Locally Preferred Alternative (LPA) is expected to be presented to City Council in 2024. The project team may seek federal funding in 2024, as well.

The extension of the streetcar to Montgomery Park and rehabilitation of NW 23rd Avenue between NW Lovejoy and NW Vaughn streets could be under construction by 2026, including new stormwater and accessibility upgrades. The project may be completed and in service by 2028.

**LEARN MORE AND SIGN UP FOR
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WEBPAGE:**

<http://portland.gov/MPstreetcar>

**QUESTIONS OR COMMENTS?
EMAIL THE PROJECT TEAM AT:**

MPStreetcar@portlandoregon.gov



PBOT
PORTLAND BUREAU OF TRANSPORTATION


THE BUREAU OF **PLANNING
& SUSTAINABILITY**

MONTGOMERY PARK

023

NS NU 23rd Ave
Via Pearl

Appendix B

TRAFFIC MODELING OVERVIEW

AS AMENDED DRAFT | DECEMBER 2024



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EXHIBIT B

MONTGOMERY PARK AREA TRANSPORTATION PLAN | APPENDIX B: Traffic Modeling Overview

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Overview

During the planning process for the Montgomery Park Area Plan (MPAP) and Montgomery Park Area Transportation Plan, the Portland Bureau of Transportation (PBOT) conducted transportation modeling to estimate the impacts of the proposed land use changes to the Montgomery Park Area in the future. Initial modeling was conducted as part of scenario planning during the Montgomery Park to Hollywood Transit and Land Use Development Strategy (MP2H) process, from which the proposed land use changes and transportation recommendations in the MPAP and Montgomery Park Area Transportation Plan were developed.

Early Scenario Planning and Analysis

To achieve the proposed vision in the MPAP of a dynamic, mixed-use neighborhood with equitable access to housing, and economic opportunity, the project team created three preliminary development scenarios as part of the MP2H process: Enhanced Industrial; Employment; and Mixed-Use. An overview of this process and related land development analysis are available in Volume 1 of the MPAP (page 36), as well as in the [MP2H Northwest Opportunities and Challenges Report](#). Through this process, public feedback and further analysis resulted in the development of a fourth hybrid scenario combining Industrial and Mixed-Use focuses.

PBOT conducted preliminary transportation modeling for all four of these scenarios. Initial results were compiled into a list of congestion hotspots for further analysis. As the hybrid scenario moved forward for further planning and analysis, the preferred alignment of the streetcar was also changed to support the area of focused land use changes. More information about the development and selection of the preferred transit alignment alternative is available in Appendix A: Preferred Alignment Overview.

EXHIBIT B

Further Traffic Analysis

The project team conducted further analysis to understand the traffic impacts of the preferred hybrid development scenario land use changes with the preferred alignment. Intersections and movements in and near the Montgomery Park Area were modeled to identify any hotspots with failing Levels of Service (LOS) under future build conditions with the land use changes. This analysis included proposed transportation improvements in the area, including circulation improvements to address hotspots identified in earlier analyses. The results of this analysis, available in Appendix B - Part 2: Traffic Technical Memorandum, indicate no failing intersections or street segments under future build conditions.

Analysis of Development Scenario Refinements

Drafts of the MPAP and Montgomery Park Area Transportation Plan were released in December 2021. Based on community input and further research and analysis, the project team refined both plans and released Proposed Drafts in April 2024. During refinement, the project team worked to further respond to concerns about job losses, and particularly middle-wage job losses, in the Montgomery Park Area. As a result, refinements to the hybrid development scenario were made to emphasize an employment focus in the area.

PBOT conducted transportation modeling to understand whether these changes would lead to any areas of traffic congestion in and near the Montgomery Park Area in the future. The results of this analysis, which are available in Appendix B – Part 3: MPAP Model Outputs – Land Use #5 Proposal, indicate that the Montgomery Park Area can absorb development resulting from the proposed land use changes with acceptable impacts to traffic, as long as future trip demand is mitigated.

In order to mitigate the impacts of added trip demand in the area as it grows, the project and programmatic recommendations within the Montgomery Park Area Transportation Plan are necessary. Mitigation measures include investment in high-capacity streetcar transit, multimodal street grid connections to support trip dispersion, and improvements for non-driving modes to promote walking, rolling, biking, and transit use. Additional required interventions include improved or signalized intersections, as well as some operational changes to support better movement. More information is available in Parts 4, 5, and 6 of the Montgomery Park Area Transportation Plan (pages 48-113).

EXHIBIT B

Summary of Results

The traffic analysis described in Appendix B – Part 3: MPAP Model Outputs Land Use #5 Proposal indicates the following key takeaways:

The traffic analysis indicates a 36 percent increase in auto demand over base 2040 conditions during the PM Peak Hour in 2040. Further assessment of traffic patterns concludes that no more than 100 vehicles would be added to any streets in or surrounding the Montgomery Park Area during the PM Peak Hour, with an average increase of 35 vehicles (representing an average 5 percent increase over the base model demand per street segment).

PM Peak Hour Volume over Capacity (V/C) ratios were also calculated to identify any congested areas. Based on these calculations, no street segments within the Montgomery Park study area are expected to experience worse congestion than the 2040 base assumption.

Two freeway interchanges are located adjacent to the Montgomery Park Area. Offramp congestion can be a safety issue if vehicle queues extend beyond the offramps into freeway through lanes. To address this concern, PBOT completed a supplemental planning-level safety analysis to estimate the potential maximum queue lengths at the two US-30 offramps in the area during the 2040 PM Peak Hour. This analysis indicates that expected queues will be shorter than the ramp lengths and do not present a safety issue.

MONTGOMERY PARK

023

NS NU 23rd Ave
Via Pearl

Appendix B - Part 2

TRAFFIC TECHNICAL MEMORANDUM

AS AMENDED DRAFT | DECEMBER 2024



PBOT
PORTLAND BUREAU OF TRANSPORTATION



Traffic Technical Memorandum

Montgomery Park District Transportation Plan
Portland, OR

December 30, 2021

EXHIBIT B

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Appendix B. Turning Movement Volumes

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Appendix D. Existing Conditions Synchro Reports (AM and PM)

Appendix E. No-Build Conditions Synchro Reports (AM and PM)

Appendix F. Build Conditions Synchro Reports (AM and PM)

Appendix G. Traffic Analysis Methodology Memo

1 Introduction

Portland Bureau of Transportation (PBOT) is developing the “Montgomery Park District Transportation Plan” (MPD Transportation Plan) in northwest Portland. The plan presents recommendations for implementing multi-modal transportation alternatives in the study area to accommodate existing and future growth. Transportation improvements include extending the streetcar into the Montgomery Park District area in order to serve the businesses and residences located in the proposed development. This Traffic Technical Memorandum (Tech Memo) is a supporting appendix to the MPD Transportation Plan.

The purpose of this Tech Memo is to identify intersections and movements in the study area that are expected to experience failing Levels of Service (LOS) under future build conditions identified as part of the recommended alternative in the MPD Transportation Plan. The MPD Plan details the nature of the study area roadways.

The scenarios studied by this traffic analysis are summarized as follows:

- Existing – Existing conditions as of the date of the report
- No Build– Future traffic growth in the study area without the proposed changes (construction of the streetcar extension, street network changes, and land use changes)
- Build – Future traffic growth in the study area with construction of the streetcar extension, implementation of street network and land use changes

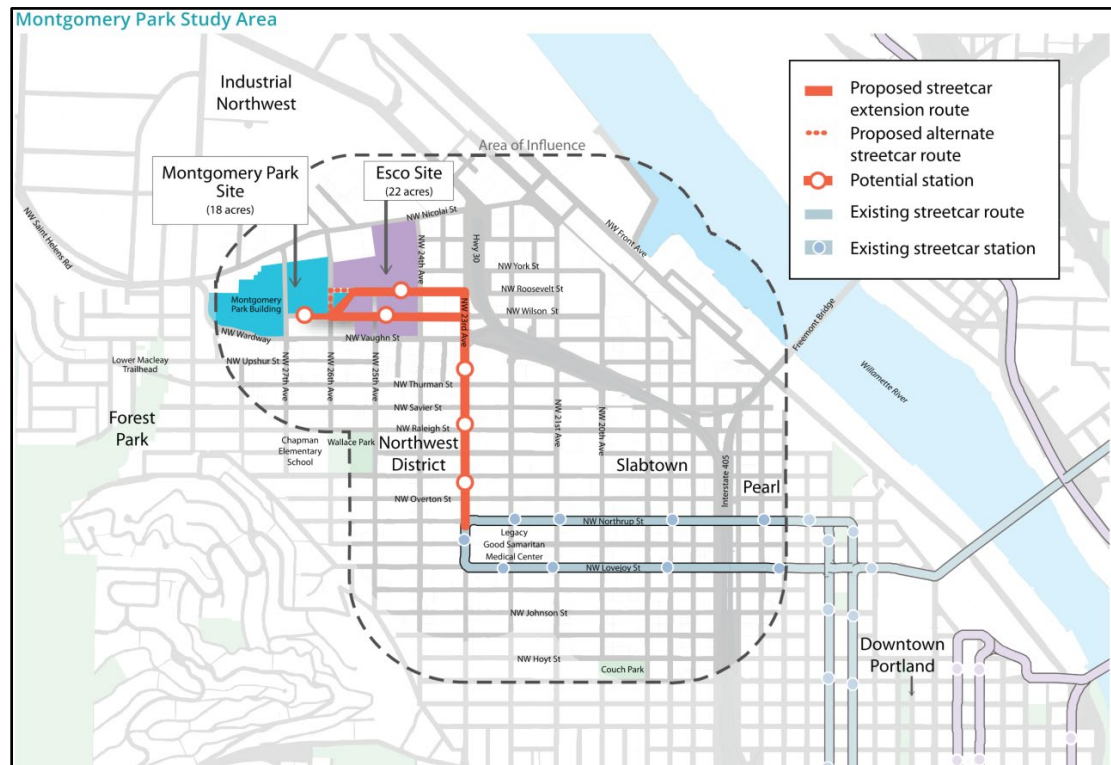
2 Data Collection

2.1.1 Turning Movement Counts

The project study area is shown in **Figure 1**. The following intersections along the preferred alternative were identified for traffic analysis. Peak hour turning movement counts were collected at these intersections in February 2021 and June 2021.

- | | |
|---|---------------|
| ▪ NW 23rd Ave. and Roosevelt St. | (August 2021) |
| ▪ NW Nicolai St. and NW Yeon Ave. / US 30 | (June 2021) |
| ▪ NW Nicolai St. and Wardway St. | (Feb 2021) |
| ▪ NW 23rd Ave. and Vaughn St. | (June 2021) |
| ▪ NW 23rd Ave. and Thurman St. | (Feb 2021) |
| ▪ NW 23rd Ave. and Wilson St. | (Feb 2021) |
| ▪ NW 25th Ave. and Vaughn St. | (Feb 2021) |
| ▪ NW 27th Ave. and Vaughn St. | (Feb 2021) |

Figure 1: Montgomery Park Study Area



(Source: MPD Transportation Plan)

Historic turning movement counts at the study intersections were obtained from the Oregon Department of Transportation (ODOT) and PBOT websites, where available, to compare them to the 2021 counts and identify locations where traffic volumes may have been decreased due to the COVID-19 pandemic. The following historic turning movement counts were available in the project area:

- NW 23rd Ave. and Thurman St. – November 2017 (the week after Thanksgiving)
- NW 25th Ave. and Vaughn St. – May 2016
- NW 27th Ave. and Vaughn St. – May 2016

Raw turning movement counts are included in **Appendix A: Raw Turning Movement Counts**. In general, the historic traffic counts were higher than the 2021 counts but not for all movements. The higher of these two volumes, where applicable, was used for volume development.

2.2 Signal Timings

Existing signal timings for the following intersections were provided by PBOT:

- NW 23rd Ave. and Thurman St.
- NW 23rd Ave. and Vaughn St.
- NW 25th Ave. and Vaughn St.
- NW 27th Ave. and Vaughn St.

- NW Nicolai St. and NW Yeon Ave. / US 30
- NW Nicolai St. and Wardway St.

3 Volume Development

A traffic analysis Methodology Memo was developed to identify the volume development methodology for this project. The methodology included using the *Iterative Method* from the National Cooperative Highway Research Program (NCHRP) Report 765: Analytical Travel Forecasting Approaches for Project-Level Planning and Design to develop future PM turning movement volumes. Based on further discussions with PBOT, the future volume development was revised to use the *Ratio Method* from NCHRP, which deviates from the approved methodology. The previously agreed upon Methodology Memo is included in **Appendix G: Traffic Analysis Methodology Memo**

3.1 Existing Conditions

Historic turning movement counts and Annual Average Daily Traffic (AADT) volumes in the project area were analyzed to determine the appropriate existing conditions volumes to be analyzed by this project.

3.1.1 Peak Hour Determination

The global peak hours for the project area were based on the peak hours of the two major intersections in the study area, NW 23rd Ave. at Vaughn St., and NW Yeon Ave. at Nicolai St. The AM and PM peak hours were determined to be 7:45 – 8:45 AM and 4:30 – 5:30 PM, respectively.

3.1.2 Existing Turning Movement Volumes

ODOT's "Covid-19 Traffic Reports" track the change in traffic across Oregon roadways from the beginning of 2019 through the pandemic. Comparing volumes in the month of June between 2019, 2020, and 2021, these reports show that average weekday traffic in June 2021 is approximately 11 percent higher than the June 2019 volumes. The report also states that, by May 2021, "traffic volumes are approaching pre-Covid volumes." Therefore, it was determined that the turning movement counts obtained for this project in Summer 2021 would not require any adjustments.

The following methodology was adopted to adjust turning movement counts that were obtained in February 2021:

1. The February 2021 counts were compared to historic turning movement counts and the higher volume for each movement was used for the existing conditions analysis to account for a conservative analysis.
2. Study intersections located adjacent to the intersections with the Summer 2021 turning movement counts were increased and adjusted to balance the volumes along the corridor.

The adjusted turning movement volumes used for existing conditions analysis are shown in **Appendix B: Turning Movement Volumes**.

3.2 No-Build and Design Conditions

3.2.1 No-Build Volumes

The design year for the project was determined to be 2040. PBOT provided travel demand model (TDM) data with peak hour, directional future volumes along the roadway segments in the project area for the PM peak hour. These volumes are included in **Appendix C: Travel Demand Model Reports**. An average annual background growth of 0.9 percent for the project area was determined based on the model growth.

The following methodologies were used to determine the 2040 no-build volumes for this study:

1. For intersections with two-way streets, the *NCHRP Report 765 Ratio Method* was used to develop future PM turning movement volumes. This methodology was applied to the following intersections:
 - NW 23rd Ave. and Thurman St.
 - NW 23rd Ave. and Vaughn St.
 - NW 23rd Ave. and Wilson St.
 - NW Yeon Ave. and Nicolai St.
 - NW 25th Ave. and Vaughn St.
2. For intersections with one-way streets, or at locations where the TDM had no future volumes, existing turning movement volumes were grown at a rate of 0.9 percent per year to determine 2040 no-build PM peak hour volumes. This methodology was applied to the following intersections:
 - NW 23rd Ave. and York St.
 - NW 23rd Ave. and Roosevelt St.
 - NW 27th Ave. and Vaughn St.
 - NW Nicolai St. and Wardway St.

The no-build TDM showed a decrease in peak hour traffic along Nicolai St. compared to the 2021 volumes. For the purpose of this planning study, the 2021 volumes at the NW Nicolai St. and Wardway St. intersection were grown at an average rate of 0.9 percent per year to obtain the future no-build volumes, with the exception of traffic going to and from Wardway St. This intersection is not failing under no-build conditions and with residual capacity on NW Nicolai St., it was assumed that this section of Wardway St. is unlikely to see much growth in the future. Therefore, the no-build volumes were assumed to match existing counts.

3. AM Peak Hour Volumes

The TDM for no-build conditions was only developed for the PM peak hour. In order to estimate the traffic impacts of the two critical study area intersections, the design year intersection volumes for the AM peak hour were developed for NW 23rd Ave. at Vaughn St. and NW Yeon Ave. at Nicolai St. intersections.

For the purpose of this planning study, the existing AM peak hour volumes at these two intersections were grown at an average rate of 0.9 percent per year to obtain the future no-build volumes.

4. Additional adjustments were made at the following intersections as described:

- NW Nicolai St and Yeon Ave

Westbound departing link volume from future Build TDM data was used instead of the *NCHRP Report 765 Ratio Method* due to unreasonably high growth.

The future no-build volumes analyzed for this project are shown in **Appendix B: Turning Movement Volumes**.

3.2.2 Build Volumes

The design year for the project was determined to be 2040. PBOT provided travel demand model (TDM) data with peak hour, directional future volumes along the roadway segments in the project area for the PM peak hour. The build volumes sheets from the TDM are included in **Appendix C: Travel Demand Model Reports**.

The future build conditions assume the implementation of the hybrid land-use plan, which includes the Montgomery Park Master Plan in the study area, and growth was projected using the provided TDM data. As part of this plan, the streetcar or comparable transit service will be extended into the Montgomery Park district, going north-bound along NW 23rd Avenue, west-bound along Roosevelt St., southwest-bound through the ESCO site after passing approximately NW 25th Ave, west-bound along Wilson St. to the layover, east-bound along Wilson St., and south-bound on NW 23rd Ave. in the study area.

As part of this alternative, the southbound left turn at the intersection of NW 23rd Ave. and Vaughn St. will be eliminated. For the AM peak hour, where no TDM data was provided, this left turn volume is assumed to use the intersection of NW Yeon Ave. and Nicolai St. to access US 30 and I-405.

The TDM was developed to reflect a previous version of the Montgomery Park Master Plan where the streetcar extension was proposed along York Street, with York Street being converted into a one-way street going westbound. This lane configuration was retained for the traffic analysis since York Street currently carries higher traffic volumes when compared to Roosevelt Street and would therefore provide for a conservative traffic analysis in the study area.

The following methodologies were used to determine the 2040 build volumes for this study, similar to the no-build volumes:

1. For intersections with two-way streets, the *NCHRP Report 765 Ratio Method* was used to develop future PM turning movement volumes. This methodology was applied to the following intersections:
 - NW 23rd Ave. and Thurman St.
 - NW 23rd Ave. and Vaughn St.
 - NW 23rd Ave. and Wilson St.
 - NW Yeon Ave. and Nicolai St.

EXHIBIT B

- NW 25th Ave. and Thurman St.
- 2. For intersections with one-way streets, or at locations where the TDM had no future volumes, existing turning movement volumes were grown at a rate of 0.9 percent per year to determine 2040 no-build PM peak hour volumes. This methodology was applied to the following intersections:
 - NW Nicolai St. and Wardway St.
- 3. Build volumes for NW 23rd at York Ave. and Roosevelt St. were determined by initially using TDM turning volumes before reducing them to balance between Nicolai St. and Vaughn St.
- 4. Additional adjustments were made at the following intersections as described:
 - NW 23rd Ave and Wilson St

Turning movement counts at this intersection were determined using the *NCHRP Report 765 Ratio Method*, except for the westbound left turn. This movement was determined by growing the existing westbound left turn volumes at the rate of 0.9 percent per year in order to balance network volumes along the corridor.
 - NW 23rd Ave and York St

Turning movement volumes were determined using the TDM turning movement counts since the TDM model was adjusted to account for the streetcar traveling on this roadway. The turning movement volumes were then adjusted to balance network volumes along the corridor.
 - NW Nicolai St and Yeon Ave

Westbound departing link volume from future Build TDM data was used instead of the *NCHRP Report 765 Ratio Method* due to unreasonably high growth.

5. AM Peak Hour Volumes

The TDM for build conditions was only developed for the PM peak hour. In order to estimate the traffic impacts of the two critical study area intersections, the design year intersection volumes for the AM peak hour were developed for NW 23rd Ave at Vaughn Street and NW Yeon Ave at Nicolai Street intersections.

For the purpose of this planning study, the existing AM peak hour volumes at these two intersections were grown at an average rate of 0.9 percent per year to obtain the future build volumes.

The southbound left turn at the intersection of NW 23rd Ave and Vaughn Street is proposed to be eliminated under future build conditions. With no TDM data provided for the AM peak hour, this volume was assumed to use the intersection of NW Yeon Ave and Nicolai Street. The westbound, southbound and eastbound volumes at NW Yeon Ave and Nicolai Street were adjusted accordingly.

The future build volumes analyzed for this project are shown in **Appendix B: Turning Movement Volumes**.

4 Traffic Analysis

A traffic analysis Methodology Memo was developed to identify the traffic analysis methodology and measures of effectiveness (MOEs) for this project. The Methodology Memo is included in **Appendix G: Traffic Analysis Methodology Memo**.

The existing, no-build, and build condition volumes developed as described under Section 3 were analyzed using Synchro 10, a traffic analysis and signal optimization software that replicates Highway Capacity Manual (HCM) methodologies. Signalized intersection results were obtained from the HCM 2000 report in Synchro and unsignalized intersection results were obtained from the HCM 2010 report in Synchro.

4.1 Existing Conditions

Table 1 and **Table 2** show the results of the analysis for the existing conditions AM and PM peak hours, respectively. The detailed HCM reports for each of the study intersections are included in **Appendix D: Existing Conditions Synchro Reports**.

Table 1. Existing Intersection Performance (AM Peak)

Intersection	Control Type	Intersection v/c	Intersection Delay	Intersection LOS	Failing approaches
Units		s/veh		v/c > 1	
NW Vaughn & NW 23rd Ave	Signalized	0.64	30.7	C	SBL
NW Nicolai & NW Yeon Ave	Signalized	0.65	14.6	B	v/c < 1

Table 2. Existing Intersection Performance (PM Peak)

Intersection	Control Type	Intersection v/c	Intersection Delay	Intersection LOS	Failing approaches
Units		s/veh		v/c > 1	
NW Nicolai & Wardway St	Signalized	0.38	19.6	B	v/c < 1
NW Wilson & NW 23rd Ave	TWSC*	N/A	19.4	E**	v/c < 1
NW Vaughn & NW 23rd Ave	Signalized	0.66	43.2	D	SBL
NW Thurman & NW 23rd Ave	Signalized	0.58	48.5	D	SB
NW Vaughn & NW 27th Ave	Signalized	0.4	11.4	C	v/c < 1
NW Vaughn & NW 25th Ave	Signalized	0.50	13.9	B	v/c < 1
NW Nicolai & NW Yeon Ave	Signalized	0.66	14.1	B	v/c < 1
NW York & NW 23rd Ave	AWSC*	N/A	7.3	A**	v/c < 1
NW Roosevelt & NW 23rd Ave	TWSC*	N/A	1.5	A**	v/c < 1

* AWSC – All-way STOP Control; TWSC – Two-way STOP Control

**Note: Intersection delay for AWSC and TWSC intersections are based on worst stop-controlled movement at the intersection.

4.2 Future No-Build Conditions

The no-build volumes were modeled in Synchro to estimate future no-build traffic conditions in the study area. The no-build Synchro models reflect existing land use conditions and existing lane configurations with signal timings optimized and coordinated for the forecast 2040 volumes. **Table 3** and **Table 4** show the results of the no-build analysis during the AM and PM peak hours, respectively. The detailed HCM reports for each of the study intersections are included in **Appendix E: No-Build Conditions Synchro Reports**.

Table 3. No-Build Conditions Intersection Performance (AM Peak)

Intersection	Control Type	Intersection v/c	Intersection Delay	Intersection LOS	Failing approaches
<i>Units</i>		<i>s/veh</i>			<i>v/c > 1</i>
NW Vaughn & NW 23rd Ave	Signalized	0.72	33.3	C	v/c < 1
NW Nicolai & NW Yeon Ave	Signalized	0.76	21.8	C	v/c < 1

Table 4. No-Build Conditions Intersection Performance (PM Peak)

Intersection	Control Type	Intersection v/c	Intersection Delay	Intersection LOS	Failing approaches
<i>Units</i>		<i>s/veh</i>			<i>v/c > 1</i>
NW Nicolai & Wardway St	Signalized	0.43	18.1	B	v/c < 1
NW Wilson & NW 23rd Ave	TWSC*	N/A	78.3	F**	v/c < 1
NW Vaughn & NW 23rd Ave	Signalized	0.69	33.9	C	v/c < 1
NW Thurman & NW 23rd Ave	Signalized	0.58	14.6	B	v/c < 1
NW Vaughn & NW 27th Ave	Signalized	0.48	12	B	v/c < 1
NW Vaughn & NW 25th Ave	Signalized	0.58	13.3	B	v/c < 1
NW Nicolai & NW Yeon Ave	Signalized	0.73	14.4	B	v/c < 1
NW York & NW 23rd Ave	AWSC*	N/A	7.2	A**	v/c < 1
NW Roosevelt & NW 23rd Ave	TWSC*	N/A	2.5	A**	v/c < 1

* AWSC – All-way STOP Control; TWSC – Two-way STOP Control

**Note: Intersection delay for AWSC and TWSC intersections are based on worst stop-controlled movement at the intersection.

4.3 Future Build Conditions

The future build volumes were also modeled in Synchro to estimate future build conditions in the study area. **Table 5** and **Table 6** show the results of the build analysis during the AM and PM peak hours, respectively. The detailed HCM reports for each of the study intersections are included in **Appendix F: Build Conditions Synchro Reports**.

The streetcar is currently scheduled to operate every 20 minutes in the AM peak hour and 15 minutes in the PM peak hour. According to the Montgomery Park District Transportation Plan, a streetcar stop is proposed to be located at the intersection of NW 23rd Ave. and Thurman St.

Table 5. Build Conditions Intersection Performance (AM Peak)

Intersection	Control Type	Intersection v/c	Intersection Control Delay	Intersection LOS	Failing approaches
Units		s/veh			v/c > 1
NW Vaughn & NW 23rd Ave	Signalized	0.69	28	C	v/c < 1
NW Nicolai & NW Yeon Ave	Signalized	0.79	20.4	C	v/c < 1

Table 6. Build Conditions Intersection Performance (PM Peak)

Intersection	Control Type	Intersection v/c	Intersection Delay	Intersection LOS	Failing approaches
Units		s/veh			v/c > 1
NW Nicolai & Wardway St	Signalized	0.47	17.8	B	v/c < 1
NW Wilson & NW 23rd Ave	Signalized	0.16	6.9	A	v/c < 1
NW Vaughn & NW 23rd Ave	Signalized	0.74	34.5	C	v/c < 1
NW Thurman & NW 23rd Ave	Signalized	0.74	26.1	C	v/c < 1
NW Vaughn & NW 27th Ave	Signalized	0.51	11.6	B	v/c < 1
NW Vaughn & NW 25th Ave	Signalized	0.46	7.6	A	v/c < 1
NW Nicolai & NW Yeon Ave	Signalized	0.73	15.7	B	v/c < 1
NW York & NW 23rd Ave	AWSC*	N/A	7.3	A**	v/c < 1
NW Roosevelt & NW 23rd Ave	TWSC*	N/A	1.3	A**	v/c < 1

* AWSC – All-way STOP Control; TWSC – Two-way STOP Control

**Note: Intersection delay for AWSC and TWSC intersections are based on worst stop-controlled movement at the intersection.

5 Summary

A comparison of intersection operations between future no-build and build conditions is provided in **Table 7** and **Table 8**. The information in these tables matches the MOEs that were identified in the Methodology Memo. According to the Synchro analysis, all study area intersections are operating below a v/c of 0.99, and both ramp terminal intersections are operating below a v/c of 0.85. In addition, all study area intersections are operating at LOS C or better in the future build condition. Due to the close proximity of many of the study area intersections, there are several 95th percentile queue lengths that block upstream intersections as noted in **Table 9**.

EXHIBIT B

Although the analysis indicates that no mitigation is required, Synchro is limited in its capacity to evaluate transit impacts on a corridor, including impacts of a streetcar and the effects of implementing transit signal priority at signalized intersections. It is therefore recommended that detailed micro-simulation be performed during the design stage with updated tuning movement counts to determine the multi-modal traffic impacts of the build alternative.

Table 7. Signalized Intersection v/c Summary

Intersection	Control Type (No-Build)	Control Type (Build)	No-Build AM	No-Build PM	Build AM	Build PM
NW Nicolai & Wardway St	Signalized	Signalized	N/A	0.43	N/A	0.47
NW Wilson & NW 23rd Ave	TWSC*	Signalized	N/A	N/A	N/A	0.16
NW Vaughn & NW 23rd Ave	Signalized	Signalized	0.72	0.69	0.69	0.74
NW Thurman & NW 23rd Ave	Signalized	Signalized	N/A	0.58	N/A	0.74
NW Vaughn & NW 27th Ave	Signalized	Signalized	N/A	0.48	N/A	0.51
NW Vaughn & NW 25th Ave	Signalized	Signalized	N/A	0.58	N/A	0.46
NW Nicolai & NW Yeon Ave	Signalized	Signalized	0.76	0.73	0.79	0.73

* TWSC – Two-way STOP Control

Table 8. Intersection LOS Summary

Intersection	Control Type (No-Build)	Control Type (Build)	No-Build AM	No-Build PM	Build AM	Build PM
NW Nicolai & Wardway St	Signalized	Signalized	N/A	B	N/A	B
NW Wilson & NW 23rd Ave	TWSC*	Signalized	N/A	F**	N/A	A
NW Vaughn & NW 23rd Ave	Signalized	Signalized	C	C	C	C
NW Thurman & NW 23rd Ave	Signalized	Signalized	N/A	B	N/A	C
NW Vaughn & NW 27th Ave	Signalized	Signalized	N/A	B	N/A	B
NW Vaughn & NW 25th Ave	Signalized	Signalized	N/A	B	N/A	A
NW Nicolai & NW Yeon Ave	Signalized	Signalized	C	B	C	B
NW York & NW 23rd Ave	AWSC*	AWSC*	N/A	A**	N/A	A**
NW Roosevelt & NW 23rd Ave	TWSC*	TWSC*	N/A	A**	N/A	A**

* AWSC – All-way STOP Control; TWSC – Two-way STOP Control

**Note: Intersection delay for AWSC and TWSC intersections are based on worst stop-controlled movement at the intersection.

Table 9. Approaches with 95th Percentile Queue Blocking Upstream Intersections

Approaches with 95 th percentile queue blocking upstream intersections					
Intersection	Control Type	No-Build AM	No-Build PM	Build AM	Build PM
		<i>Movements (95th percentile queue length)</i>			
NW Vaughn & NW 23rd Ave	Signalized	*EB (388'), SB (187'), *WB (533'), *NB (113')	EB (378'), *WB (416'), *NB (113), SB (233')	SB (62'), EB (363'), *WB (533'), *NB (92')	*SB (91'), EB (558'), *WB (450'), *NB (215')
NW Nicolai & NW Yeon Ave	Signalized	*EB (105'), *WB (184'), *NB (476'), *SB (660')	*EB (74'), *WB (233'), *NB (593), SB *(413')	*EB (103'), *WB (222'), *NB (508'), *SB (696')	*EB (58'), *WB (241'), *NB (592'), *SB (455')

*95th percentile queue does not block upstream intersection but is reported because the intersection is a ramp terminal.

EXHIBIT B

MONTGOMERY PARK

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NS NU 23rd Ave
Via Pearl

Appendix B - Part 3

MPAP MODEL OUTPUTS: LAND USE #5 PROPOSAL

AS AMENDED DRAFT | DECEMBER 2024



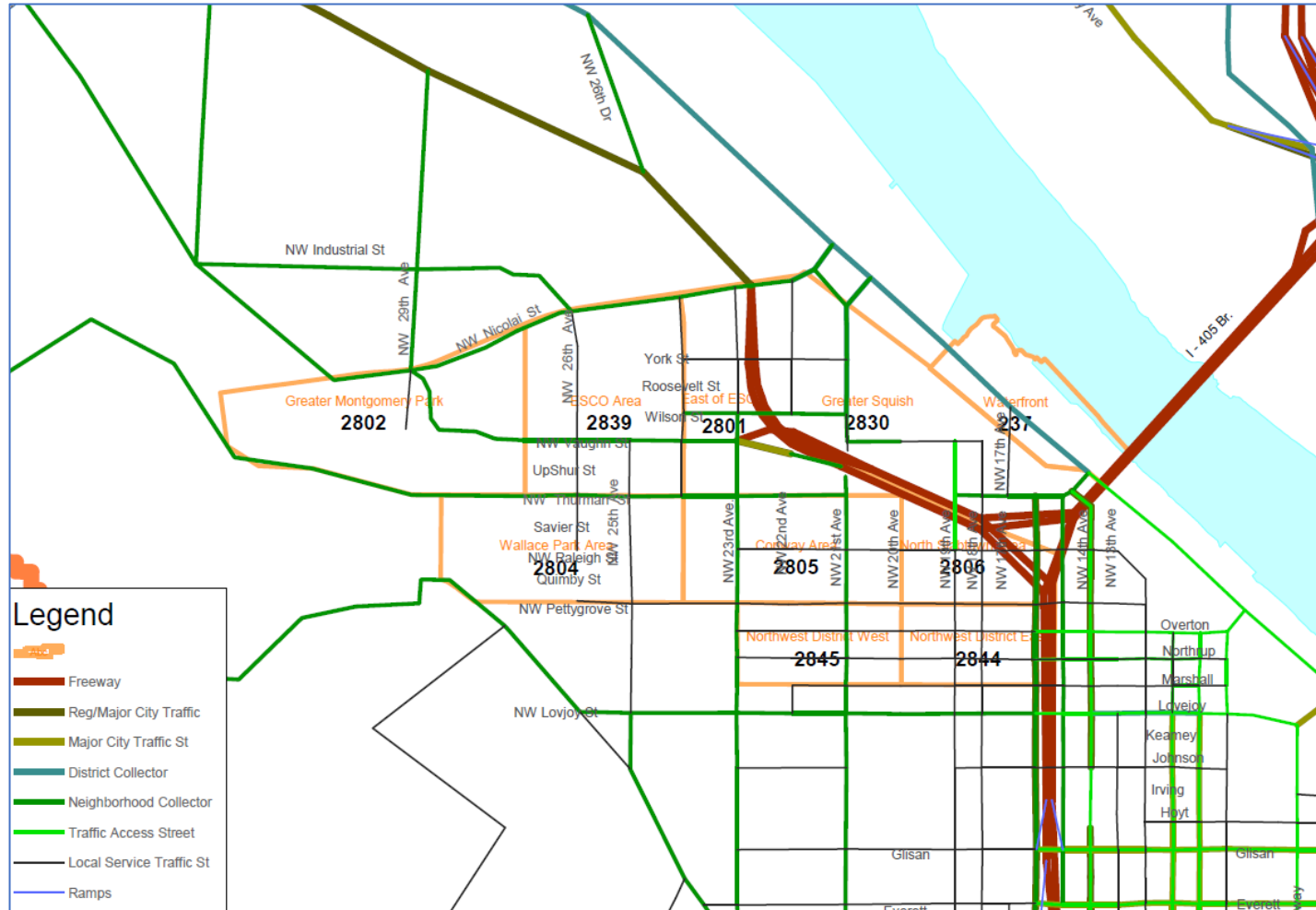
PBOT
PORTLAND BUREAU OF TRANSPORTATION

MPAP Model Outputs – Land Use #5 Proposal

Ning Zhou, PBOT
April 2023

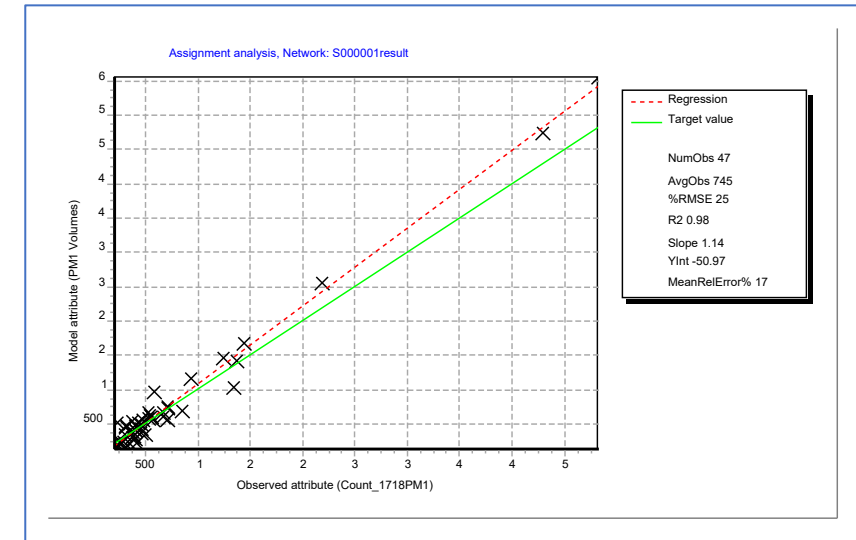
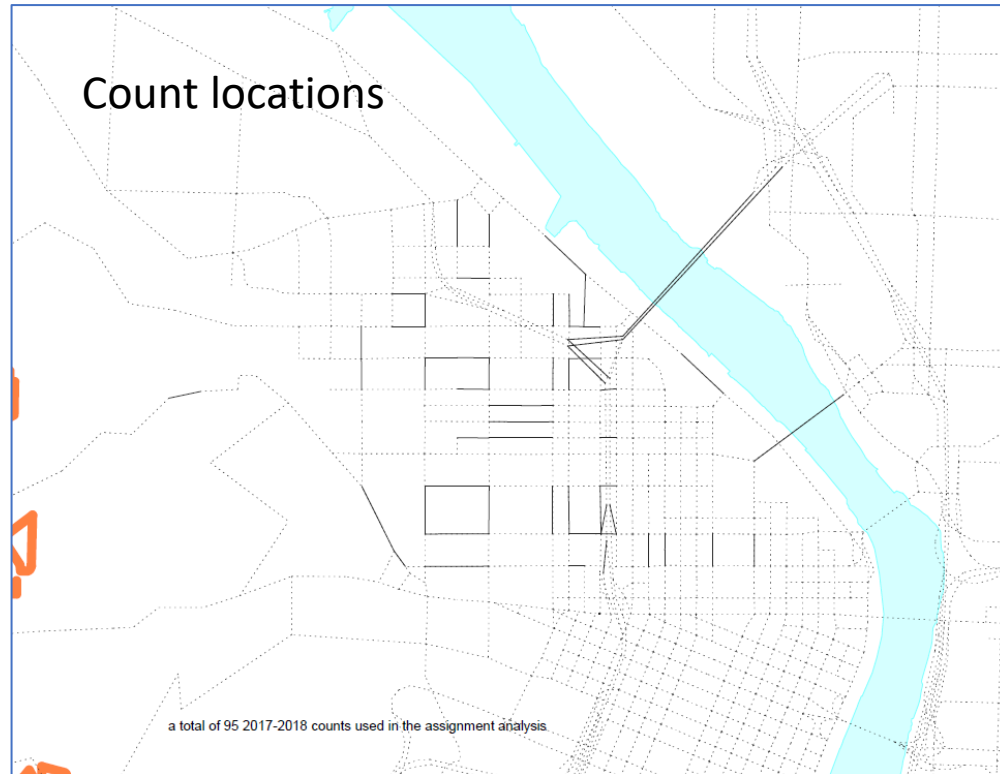
- Base model
- MPAP land use plan Scenario #5
- Transportation improvements planned in the area
- Traffic changes result from the land use plan
- Conclusions

2040 RTP Base Model



- Converted from Metro's 2040 RTP FC model
- With all RTP improvements
- Within MPAP area --
 - Two FWY interchanges
 - NW Front Ave, NW Yeon Ave support regional / Citywide traffic
 - NW Nicolai St, Vaughn St, Thurman St, 23rd Ave, 21st Ave form the back bone of the area circulation network

RTP Base Model – MPAP Area Assignment Validation

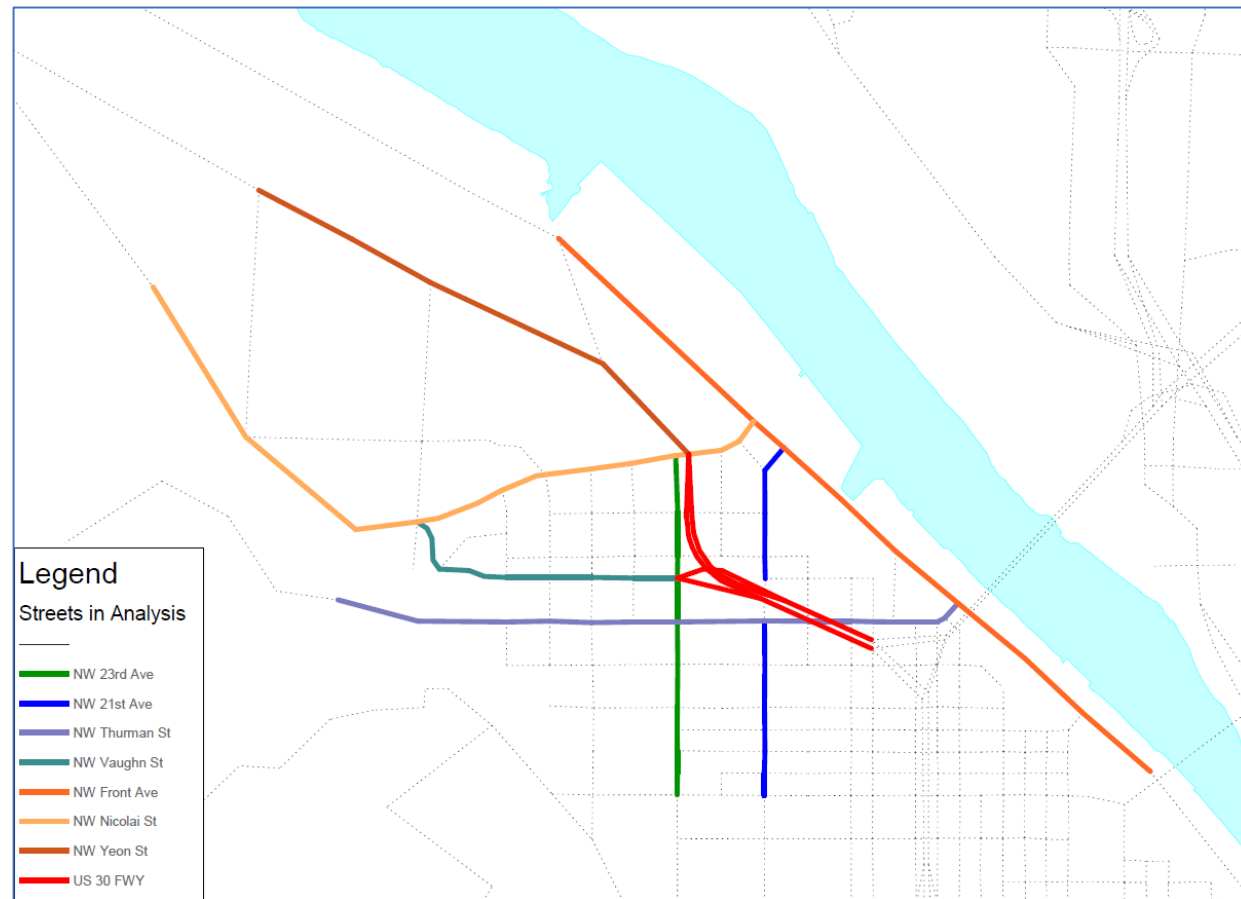


A total of 95 2017-2018 traffic counts in the MPAP area, and half of them (47) with a volume > 200.

The R^2 score for the 47 count locations is 0.98, with the mean relative error of 0.17. About 60% of the mismatched locations are over assigned.

(Validation standard: $\pm 15\%$ deviation from counts)

MPAP Traffic Analysis Settings

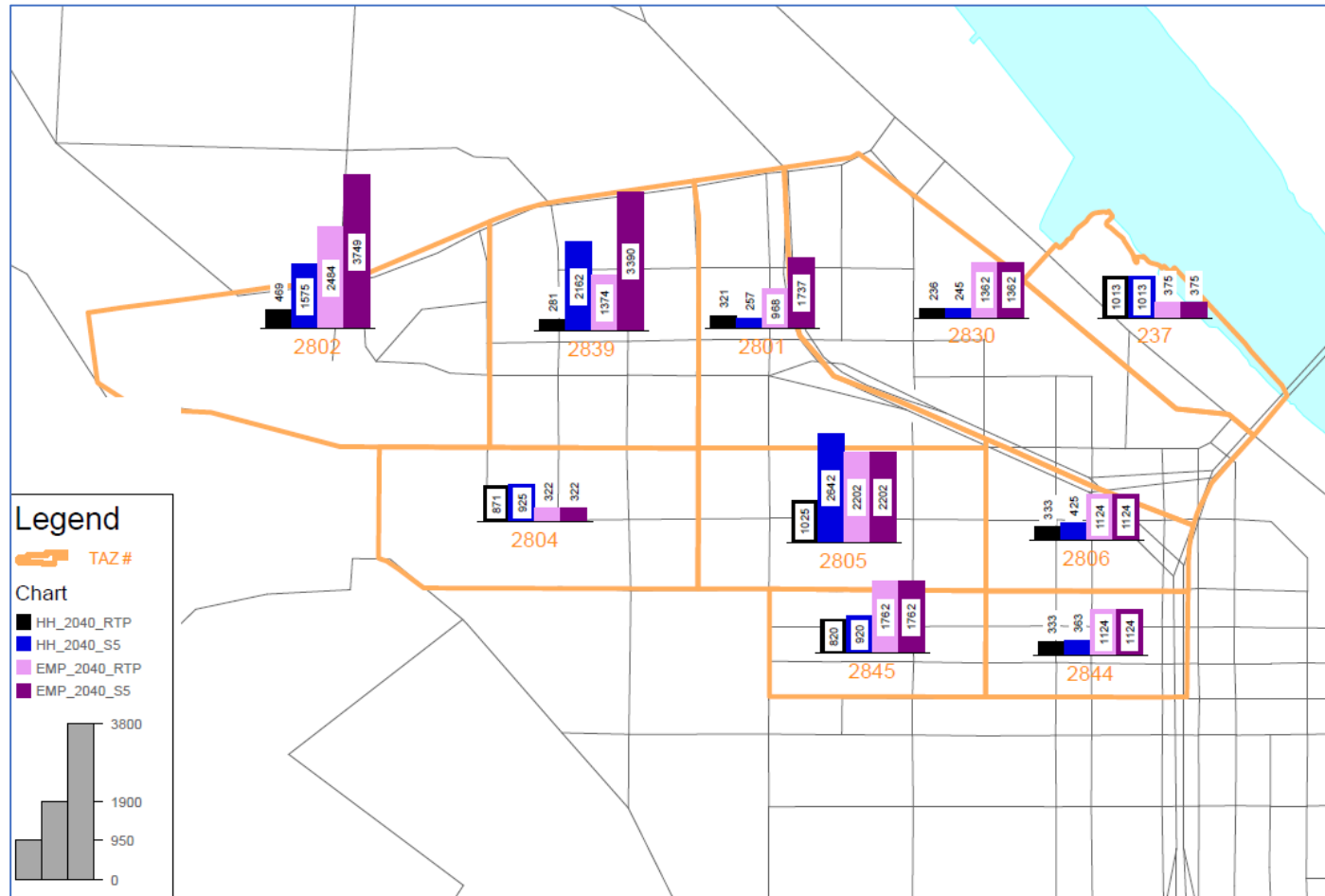


Streets Included in Traffic Analysis

- FWY –
 - US30
- Major City Traffic Way –
 - NW Yeon St
- District Collector –
 - NW Front Ave
- Neighborhood Collector –
 - NW Nicolai St
 - NW Vaughn St
 - NW Thurman St
 - NW 23rd Ave
 - NW 21st Ave

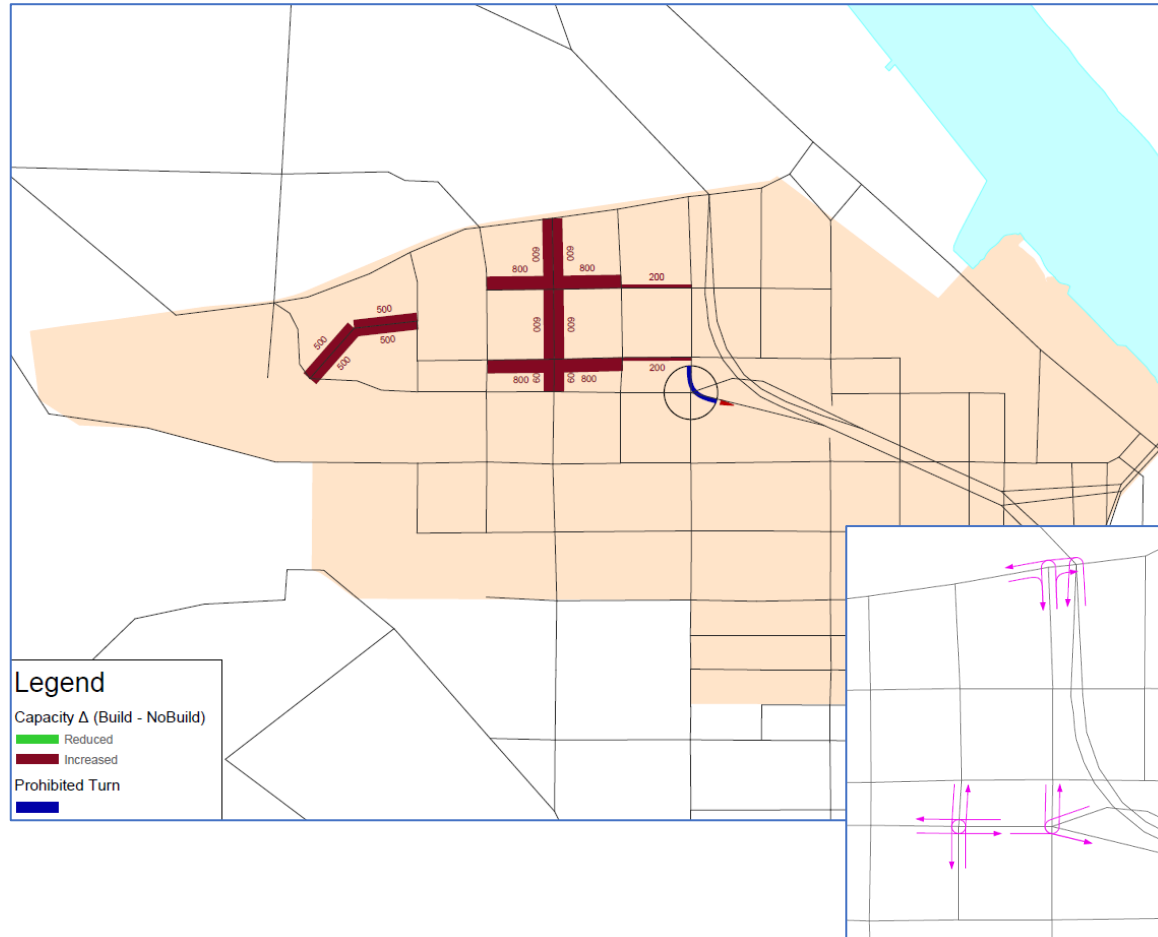
The average length per street in the analysis is about 1.2 miles

MPAP Land Use Plan Proposal Scenario #5



- Propose to increase 4,825 Household, and 4,050 Employments in the area from 2040 RTP (Regional Transportation Plan)
- Almost all new developments are at four TAZs of 2802, 2839, 2801 and 2805, which make 94% and 100% of the total proposed HH and Emp new developments, respectively.

Proposed Transportation Improvements at the Area



- Recent improvements and updates in the future base model:
 - The US30 tunnel connection on NW 20th Ave
 - The Vaughn On-ramp connection
- Updated circulation improvements over RTP:
 - Extension of NW 25th Ave
 - Extension of one-way couplet of NW York St and Wilson St
 - Prohibit the SB left turn at intersection of Vaughn St and 23rd Ave.
 - A connection local street west of NW 27th Ave.
 - Turn prohibitions at intersection of NW 24th Ave and Vaughn St
- Expansion of Streetcar network to this area. Alignment?

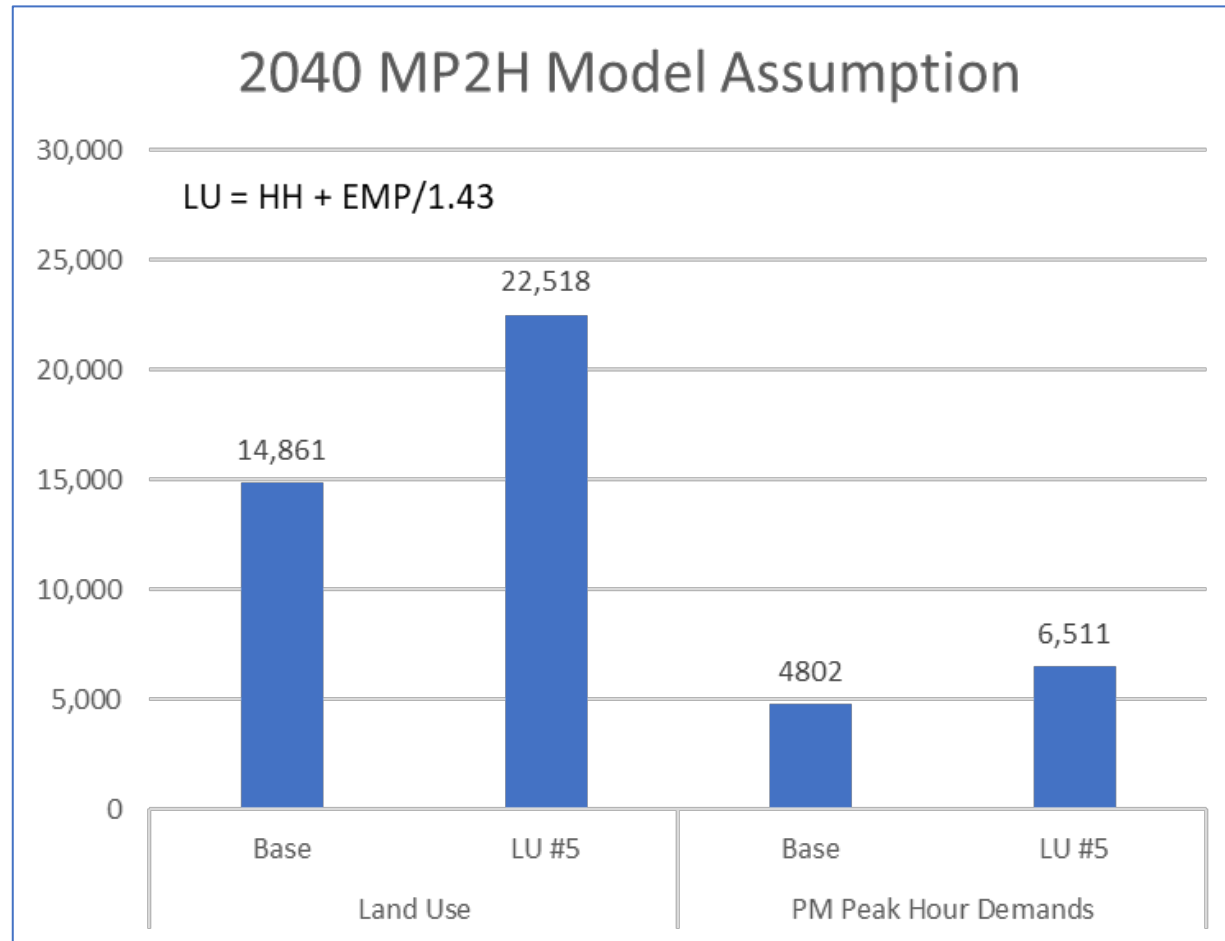
TSP Measurements -- MPAP area mode share data

	2015 RTP				2040 RTP				2040 LU #5
	Daily		Commuting		Daily		Commuting		Daily
	MP2H	C-City	MP2H	C-City	MP2H	C-City	MP2H	C-City	MP2H
Auto-P	78.0%	62.2%	76.7%	45.7%	70.0%	45.8%	62.3%	22.0%	66.6%
Transit	5.0%	16.2%	10.3%	38.7%	11.2%	28.4%	21.1%	56.7%	12.5%
Bike	6.2%	7.4%	8.2%	11.0%	7.5%	9.6%	11.1%	14.8%	8.3%
Walk	10.8%	14.3%	4.7%	4.5%	11.3%	16.2%	5.5%	6.4%	12.6%
Non-SOV	54.2%	66.9%	33.2%	63.6%	60.7%	78.9%	47.4%	85.2%	

- MPAP area mode share is much behind the nearby Central City area, especially in transit mode
- The rate of the future mode share improvement in MPAP area is even slower than Central City area
- With the assumed - 10% reduction, the auto mode share is still much higher than Central City area.

* 2040 LU #5 daily mode share data is estimated from PM peak hour added auto demands upon the development proposal

2040 PM Peak Hour Added Auto Demands



- Assume the MPAP development will maintain the same traffic pattern as the RTP model at the site.
- MPAP development scenario #5 raises 52% in HH and EMP from the 2040 RTP
- Accordingly, the 2040 PM peak hour auto demand is projected to increase 50%.
- The model assumed -10% deduction auto demands for MPAP TAZ based on:
 - Streetcar expansion to the area
 - More dense developments
 - Active travel network improvements
- With the -10% mode shift discount, additional 36% auto demands is modelled

Table 1. 2040 PM Peak Hour Volume Changes (by direction)

	Length (Mi)	Base		LU Scenario #5		
		Max	Average	Max	Average	Δ of the Average
US30	0.9	4240	2375	4320	2465	90
NW Yeon Ave	1.2	1730	1345	1770	1360	15
NW Front Ave	1.8	815	695	880	720	25
NW Nicolai St	1.7	550	265	600	300	35
NW Vaughn St	0.7	660	510	950	550	40
NW Thurman St	1.4	580	330	580	360	30
NW 21 st Ave	0.6	410	220	435	310	90
NW 23 rd Ave	0.8	775	370	820	370	0

- No streets add traffic more than 100
- On average, traffic increased 35 v/h, 5% of the base
- NW 21st Ave will find heaviest traffic increase, 90 v/h, on average. No congestion is expected though.

Plot 1. 2040 PM Peak Hour Volumes (Scen #5)

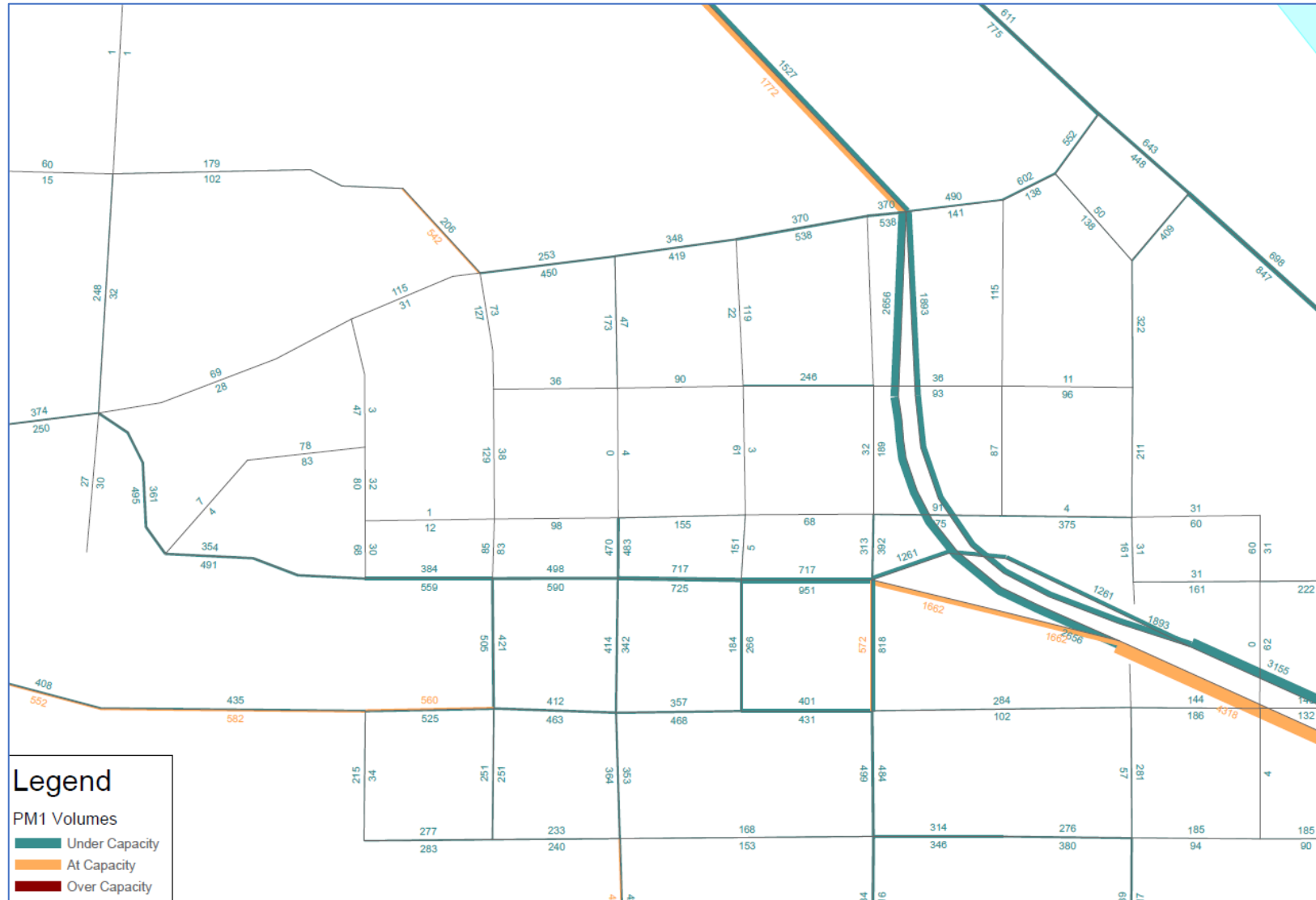


EXHIBIT B

Plot 2. 2040 PM Peak Hour Volume Changes (LU S5 – Base)

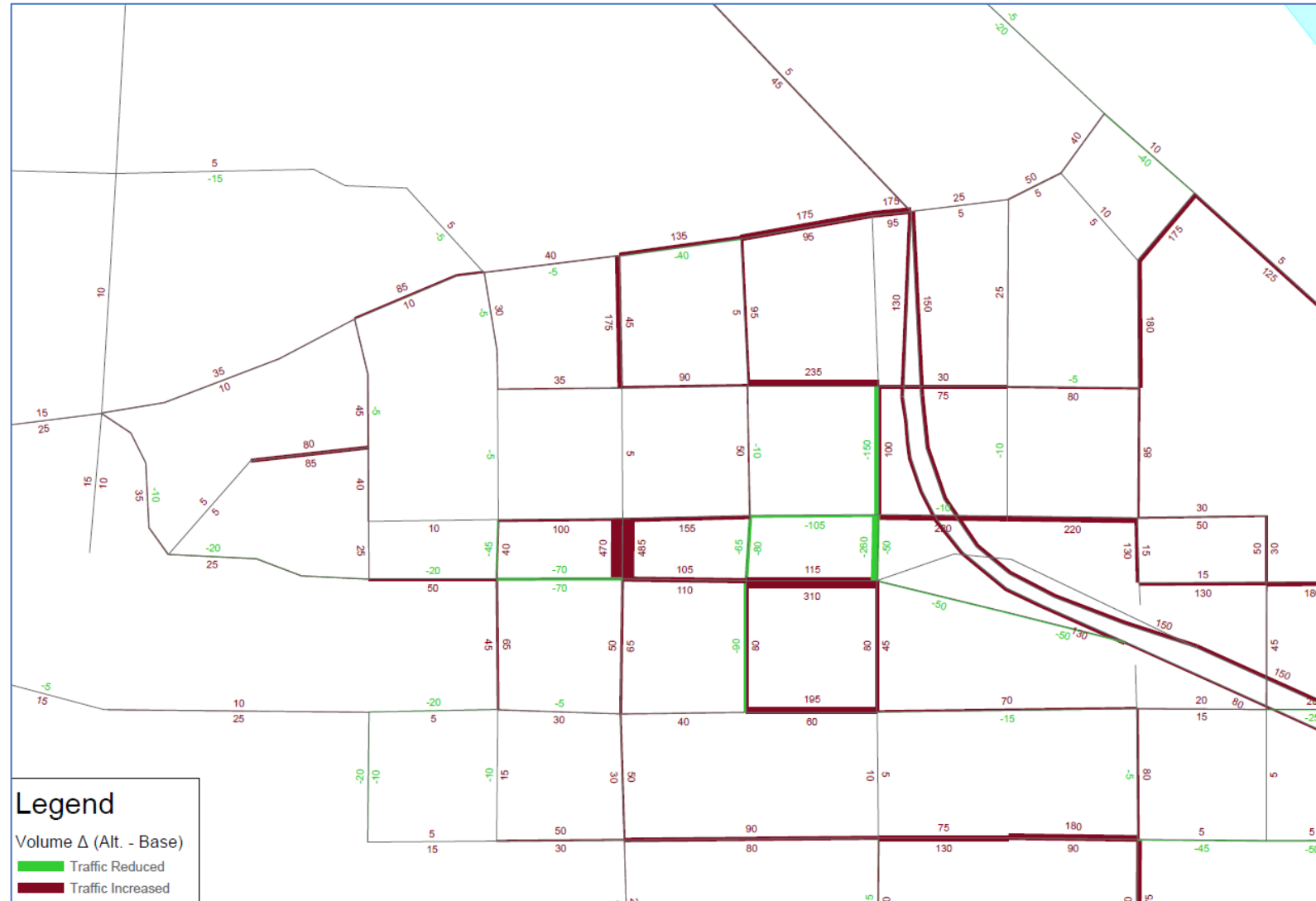
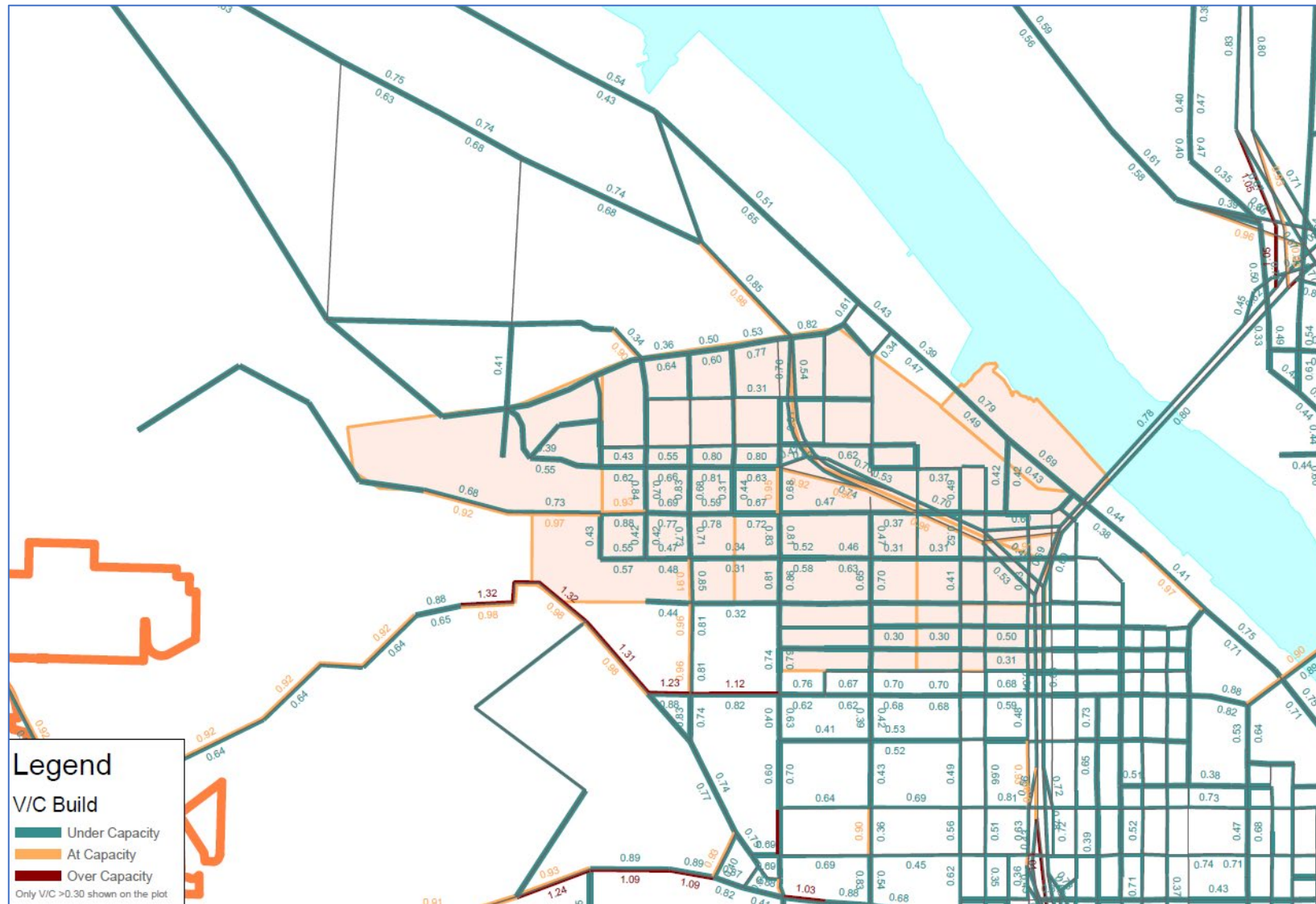


Table 2. 2040 PM Peak Hour R/C Ratio Changes

	Length (Mi)	Base		LU Scenario #5		
		Max	Length with V/C ≥0.9	Max	Length with V/C ≥0.9	Δ of the Cong. length
US30	0.9	0.95	0.47	0.96	0.47	0
NW Yeon Ave	1.2	0.96	0.28	0.98	0.28	0
NW Front Ave	1.8	0.90	0.18	0.97	0.18	0
NW Nicolai St	1.7	0.77		0.82		
NW Vaughn St	0.7	0.77		0.83		
NW Thurman St	1.4	0.97	0.3	0.97	0.49	0.19
NW 21 st Ave	0.6	0.68		0.72		
NW 23 rd Ave	0.8	0.95	0.05	0.95	0.10	0.05

- No streets is projected to reach V/C ≥ 1
- Only two streets, Thurman and 23rd are projected to have longer streets with V/C ≥0.9, and the addition is small

Plot 3. 2040 PM Peak Hour V/C Ratios



Plot 4. 2040 PM Peak Hour V/C Ratio Changes

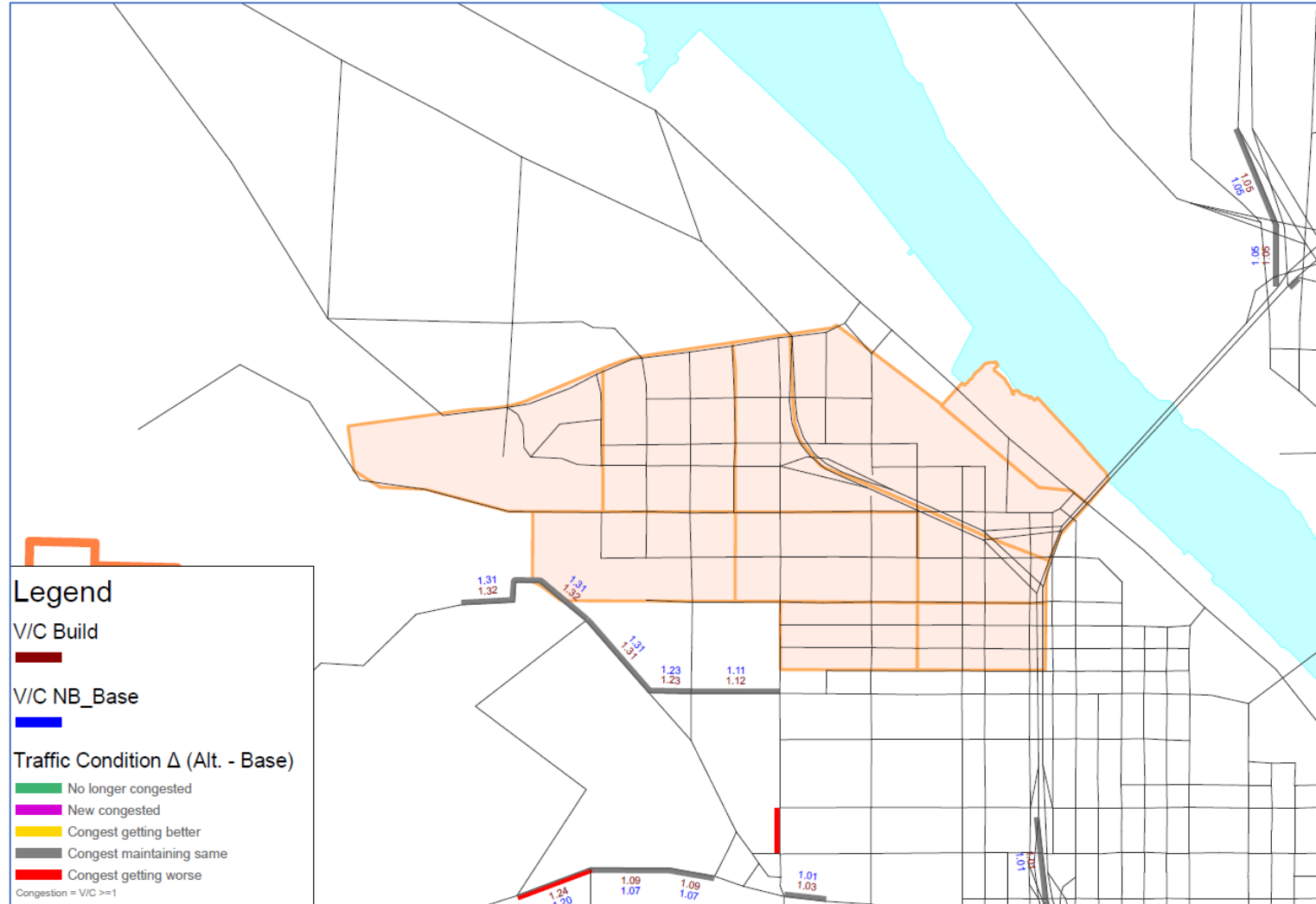


Table 3. 2040 PM Peak Hour Average Speed Changes

	Length (Mi)	Base		LU Scenario #5		
		Speed (m/h)	Travel Time (m)	Speed (m/h)	Travel Time (m)	Travel Time Δ
US30	0.9	32.7	1.6	31.7	1.7	
NW Yeon Ave	1.2	27.4	2.6	26.8	2.6	
NW Front Ave	1.8	29.9	3.7	29.1	3.8	
NW Nicolai St	1.7	28.8	3.4	27.8	3.6	0.2
NW Vaughn St	0.7	20.8	1.9	19.2	2.1	0.2
NW Thurman St	1.4	19.4	4.4	18.6	4.6	0.2
NW 21 st Ave	0.6	21.8	1.6	20.8	1.7	
NW 23 rd Ave	0.8	15.0	3.1	14.7	3.2	

- No street is projected to have noticeable travel time increase within the project area.
- Note, the travel time from demand model doesn't count the intersection delay

Traffic Growth Rate Calculation

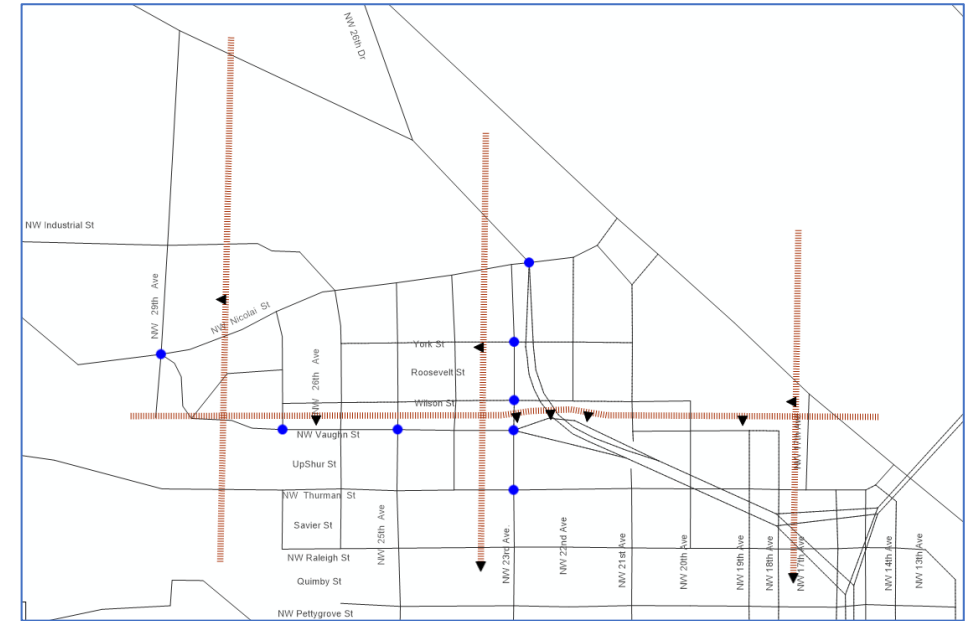
	2018PM	2040PM NB Base	2040PM LU#5
Sum	25,775	29,270	32,135
Growth		13.6%	24.7%
Annual Growth Rate		0.6%	1.0%

Annual growth rate is projected at **1.0%** to 2040

The growth rate calculation is based on the total traffic on the 4 screen-lines as in the right plot.

The traffic growth counts:

- Added trips from the land use development proposal
- Rerouted traffic results from the network circulation plan



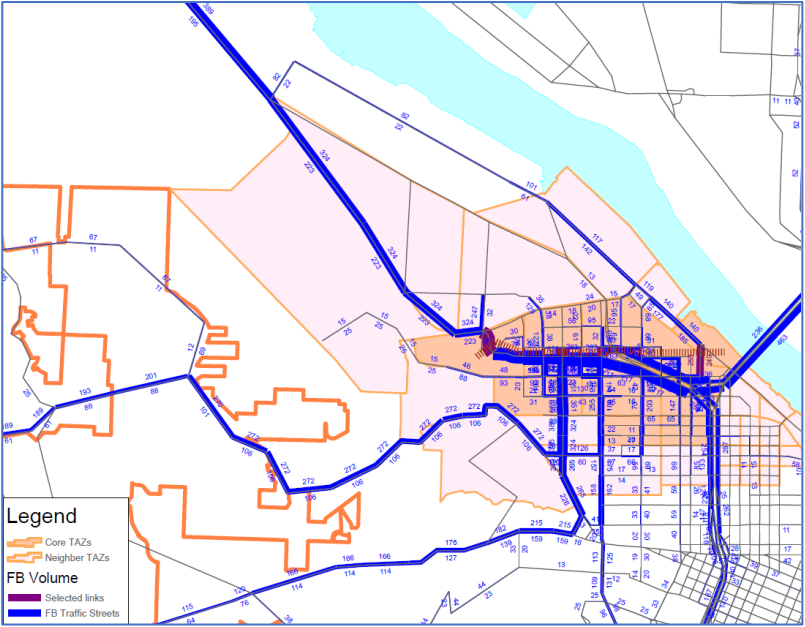
TSP Traffic Classification Policy for Neighborhood Collectors:

“Neighborhood Collectors are intended to serve as distributors of traffic from Major City Traffic Streets or District Collectors to Local Service Streets or to serve trips that both start and end within areas bounded by Major City Traffic Streets and District Collectors.”

The main task is to identify if the circulation plan attracts more through traffic to the area's neighborhood collector and local streets as marked in the right plot

Through traffic analysis 2

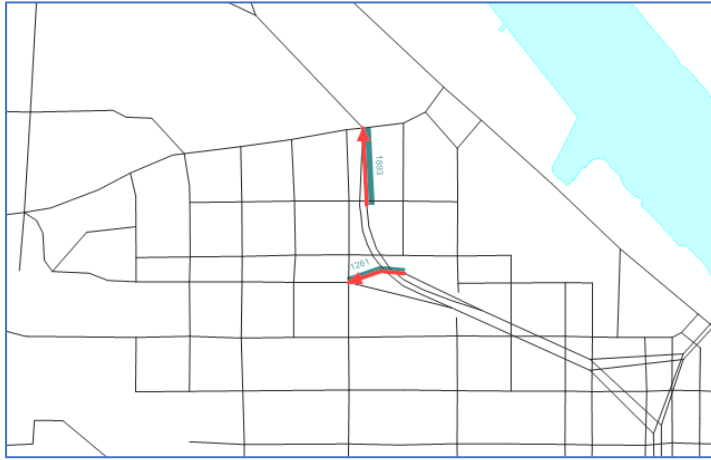
	Through1		Through2	
	Base	LU #5	Base	LU #5
Through Trips	1,215	1,210	390	365
Through Trip %	41.1%	32.8%	13.1%	9.9%



The proposed development and circulation network **will not attract more through traffic** to the area’s Neighborhood Collector and Local Streets, even though the total trips on those streets increased from 2,950 to 3,690.

Through1 measured as the trips with both trip ends outside the core 10-TAZ area (dark Brown area)
Through2 measured as the trips with both trip ends outside the neighbor TAZ area (light brown area)

Safety Analysis -- Freeway Off Ramp Queue length Estimation



	Ramp Length (ft)	# lanes	Volume	Max Queue in Cars	Max Q length (ft)
to Vaughn	590	3	1,260	8	200
To Nicolai	740	4	1,895	11	275

- Analysis to estimate the potential max queue length at the ramps based on:
 - 2040 PM peak hour volumes (MP2H model)
 - Ramp characters: # of lanes, length (measured from Google Maps)
- Planning level analysis methods:
 - Assumed 90s signal cycle length, 50% green time split
 - Max arrival per cycle estimated by Poisson distribution with 95th confidence
 - Max queue is ½ of max arrival (50% green time)
- The estimated max queue lengths at the 2 FWY off ramps are **shorter** than their ramp lengths during 2040 PM peak hour with the proposed development.

Conclusions

- MPAP area needs multi-mode transportation improvements
- Compared to the 2040 RTP No-Build base, the proposed land use development, scenario #5, along with the network circulation plan will not degrade the transportation service in MP2H planning area:
 - It will result in a slight additional traffic increase on area streets, adding 70 vehicles more per street in 2040 PM peak hour, or 5% increase
 - The added traffic will not result in significant traffic condition changes, no streets will have $V/C \geq 1$
 - The travel time increases from the development on MP2H streets are negligible
 - The through traffic will be kept no changes
 - FWY off-ramp will still be running at safety level

MONTGOMERY PARK

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NS NU 23rd Ave
Via Pearl

Appendix C

RECOMMENDED TRANSPORTATION SYSTEM PLAN UPDATES

AS AMENDED DRAFT | DECEMBER 2024



PBOT
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EXHIBIT B

MONTGOMERY PARK AREA TRANSPORTATION PLAN | APPENDIX C: Recommended Transportation System Plan Updates

Recommended Updates to Pedestrian Street Classifications

NAME	CURRENT	UPDATE	RATIONALE
NW Reed St (NW 21 st Ave – NW 22 nd Ave; NW 23 rd Ave – NW 24 th Ave)	City Walkway	Local Walkway	Reflects existing conditions and uses while aligning with Montgomery Park Area Transportation Plan recommendations
NW Roosevelt St (NW 23 rd Ave – NW 26 th Ave)	Local Service Walkway	City Walkway	Proposed alignment of streetcar extension
NW Wilson St (NW 23 rd Ave – NW 27 th Ave)	Local Service Walkway	Major City Walkway	Proposed alignment of streetcar extension, with proposed Street Design Classification of Neighborhood Main Street
NW Vaughn St (NW 20 th Ave – NW 21 st Ave)	City Walkway	Local Service Walkway	Directs pedestrian priority to streets with clear access through the area
NW 21 st Ave (NW Wilson St – NW Vaughn St)	City Walkway	Local Service Walkway	Directs pedestrian priority to streets with clear access through the area
NW 22 nd Ave (NW Reed St – NW Wilson St)	Local Service Walkway	City Walkway	Provides critical north-south pedestrian connection east of US-30
NW 23 rd Ave (NW Wilson St – NW Vaughn St)	City Walkway	Major City Walkway	Proposed alignment of streetcar extension, with proposed Street Design Classification of Neighborhood Main Street; connects proposed NW Wilson Neighborhood Main Street with existing Neighborhood Main Street of NW 23 rd Avenue south of NW Vaughn St
NW 24 th Ave (NW Nicolai St – NW Vaughn St)	Local Service Walkway	Neighborhood Walkway	Proposed extension of NW 24 th Avenue Neighborhood Greenway, which should prioritize pedestrians and bicycles with lower traffic volumes
NW 25 th Ave (NW Roosevelt St – NW Thurman St)	Local Service Walkway and Major City Walkway	City Walkway	Aligns with Montgomery Park Area Transportation Plan recommendations while still placing emphasis on pedestrian access to transit and Major City Walkways
NW 26 th Ave (NW Nicolai St – NW Roosevelt St; NW Wilson St – NW Vaughn St)	City Walkway	Local Service Walkway	Aligns with Montgomery Park Area Transportation Plan recommendations; directs pedestrian priority to streets with clear connections to signalized intersections on NW Vaughn St; Between NW Roosevelt and NW Wilson streets, this plan recommends that the segment of NW 23 rd Avenue remain a City Walkway due to the proposed alignment of the streetcar extension
NW 27 th Avenue (NW Nicolai St – NW Vaughn St)	Neighborhood Walkway	City Walkway	NW 27 th Avenue is the main north-south pedestrian access route to the Montgomery Park Building; this plan recommends shifting the connected City Walkway between NW Nicolai and NW Vaughn streets to NW 27 th Avenue to support increased pedestrian activity and place higher north-south pedestrian priority on a street with an existing signalized intersection with NW Vaughn Street

EXHIBIT B

Recommended Updates to Bicycle Street Classifications¹

NAME	CURRENT	UPDATE	RATIONALE
NW Nicolai St/St Helens Rd (NW Front Ave – NW Kittridge Ave)	City Bikeway	Major City Bikeway	Supports long-term city/regional bicycle connection toward St Johns and aligns with Montgomery Park Area Transportation Plan recommendations
NW Front Ave (NW Nicolai St – NW Thurman St)	City Bikeway	Major City Bikeway	Continues Major City Bikeway Designation between NW Naito Pkwy and NW Nicolai St; supports highest priority city/regional bicycle connection to the Central City and further destinations
NW Sherlock Ave (NW Nicolai St – NW 21 st Ave)	Local Service Bikeway	City Bikeway	Provides low stress connection to nearby City Bikeways and Major City Bikeways, improving the network
NW York St (NW 21 st Ave – NW 24 th Ave)	Local Service Bikeway	City Bikeway	Completes an important connection in the bike network, utilizing an existing overpass of US-30
NW Roosevelt St (NW 23 rd Ave – NW 26 th Ave)	Local Service Bikeway; N/A	City Bikeway	Supports bicycle connections to and circulation within the Montgomery Park Area; NW Roosevelt St is a key connection for internal area circulation
NW Wilson St (NW 21 st Ave – NW 27 th Ave)	Local Service Bikeway; N/A	City Bikeway	Supports bicycle connections to and circulation within the Montgomery Park Area; NW Wilson St is a key connection for internal area circulation
NW Vaughn St (NW 19 th Ave – NW 21 st Ave)	Local Service Bikeway	City Bikeway	Fills a gap in the low-stress bike network, connecting the area to the bikeway couplet on NW 18 th and NW 19 th Aves
NW 17 th Ave (NW Front Ave – NW Thurman St)	Local Service Bikeway	City Bikeway	Recent improvements to this segment warrant an upgrade to City Bikeway classification
NW 22 nd Ave (NW Wilson St – NW Xavier St)	City Bikeway	Local Service Bikeway	Reflects actual conditions; segment dead ends and is for local service only
NW 23 rd Ave (NW Roosevelt St – NW Wilson St)	Local Service Bikeway	City Bikeway	This segment fills an important circulation gap between NW Wilson St and NW Roosevelt St
NW 24 th Avenue (NW Nicolai St – NW Lovejoy)	City Bikeway	Major City Bikeway	Aligns with Montgomery Park Area Transportation Plan recommendations; NW 24 th Avenue Greenway extension is key low-stress north-south connection through the district and connects to recommended Major City Bikeway on NW Nicolai St and Existing Major City Bikeway on NW 24 th Avenue south of NW Lovejoy St
NW 25 th Ave (NW Roosevelt St – NW Wilson St)	N/A	Local Service Bikeway	New street segment for local service
NW 26 th Ave (NW Roosevelt St – NW Wilson St)	Local Service Bikeway	City Bikeway	Supports bicycle circulation within the Montgomery Park Area, connecting one-way parallel bikeway couplet recommended on NW Roosevelt and NW Wilson streets
NW 27 th Ave NW Nicolai St – NW Upshur St)	Local Service Bikeway	City Bikeway	Provides low stress connection to nearby City Bikeways, improving the network and supporting an extension of the NW 27 th Avenue Greenway

¹ Note: Additional recommended updates to Bicycle Street Classifications in the *Montgomery Park Area Transportation Plan* map (page 93) not included in the above table are recommendations in *Northwest in Motion*. See *Northwest in Motion* for extents and rationales.

EXHIBIT B

Recommended Updates to Transit Street Classifications

NAME	CURRENT	UPDATE	RATIONALE
NW Roosevelt St (NW 23 rd Ave – NW 26 th Ave)	Local Service Transit Street and N/A	Major Transit Priority Street	Alignment of proposed streetcar extension
NW Wilson St (NW 23 rd Ave – NW 27 th Ave)	Local Service Transit Street	Major Transit Priority Street	Alignment of proposed streetcar extension
NW Wilson St (NW 20 th Ave – NW 23 rd Ave)	Transit Access Street	Local Service Transit Street	No longer part of a transit route
NW Vaughn St (NW 18 th Ave – NW 21 st Ave)	Transit Access Street	Local Service Transit Street	No longer part of a transit route
NW 18 th Ave (NW Vaughn St – NW Thurman St)	Transit Access Street	Local Service Transit Street	No longer part of a transit route
NW 19 th Ave (NW Vaughn St – NW Thurman St)	Transit Access Street	Local Service Transit Street	No longer part of a transit route
NW 20 th Ave (NW Wilson St – NW Vaughn St)	Transit Access Street	Local Service Transit Street	No longer part of a transit route
NW 21 st Ave (NW Wilson St – NW Vaughn St)	Transit Access Street	Local Service Transit Street	No longer part of a transit route
NW 23 rd Ave (NW Roosevelt St – NW Vaughn St)	Local Service Transit Street and Transit Access Street	Major Transit Priority Street	Alignment of the proposed streetcar extension
NW 25 th Ave (NW Roosevelt St – NW Wilson St)	N/A	Local Service Transit Street	New street segment for local service
NW 26 th Ave (NW Roosevelt St – NW Wilson St)	Local Service Transit Street	Major Transit Priority Street	Alignment of proposed streetcar extension

Recommended Updates to Street Design Classifications

NAME	CURRENT	UPDATE	RATIONALE
NW Nicolai St/St Helens Rd (NW Yeon Ave/US-30 – US-30)	Community Corridor	Industrial Road	NW Nicolai Street is preferred Freight Route in the area; prioritizes NW Nicolai for Industrial uses over NW Vaughn Street
NW Front Ave (NW 21 st Ave – NW 19 th Ave)	Industrial Road	Civic Main Street	Emphasizes multimodal access and supports existing mixed land uses along the corridor; extends existing Civic Main Street
NW Roosevelt St (NW 24 th Ave – NW 26 th Ave)	N/A	Local Street	New street segment classified to support local multimodal circulation
NW Wilson St (NW 23 rd Ave – NW 27 th Ave)	Local Street	Neighborhood Main Street	Proposed land use changes including active uses along NW Wilson Street should emphasize pedestrian access along streetcar alignment
NW Vaughn St (NW 18 th Ave – NW 20 th Ave)	Local Street	Community Corridor	Proposed change to Community Corridor in Traffic Classifications
NW 18 th Ave (NW Vaughn St – NW Thurman St)	Local Street	Community Corridor	Proposed change to Community Corridor in Traffic Classifications
NW 19 th Ave (NW Vaughn St – NW Thurman St)	Local Street	Community Corridor	Proposed change to Community Corridor in Traffic Classifications
NW 20 th Ave (NW Wilson St – NW Vaughn St)	Local Street	Community Corridor	A Community Corridor in Traffic Classifications
NW 22 nd Ave (NW Nicolai St – NW Wilson St)	Local Street	Community Corridor	Proposed change to Community Corridor in Traffic Classifications
NW 23 rd Ave (NW Wilson St – NW Vaughn St)	Community Corridor	Neighborhood Main Street	Connecting the Neighborhood Main Street Classifications of NW 23 rd Avenue to the south and the proposed classification on NW Wilson Street; streetcar gateway to Montgomery Park
NW 25 th Ave (NW Roosevelt St – NW Thurman St)	Local Street and Neighborhood Main Street	Local Street	Reflects actual conditions and proposed projects in Montgomery Park Area Transportation Plan

EXHIBIT B

Recommended Updates to Traffic Street Classifications

NAME	CURRENT	UPDATE	RATIONALE
NW Nicolai St/NW St Helens Rd (NW Kittridge Ave/NW Yeon Ave Frontage Rd – NW Front Ave)	Neighborhood Collector Street	District Collector Street	Reflects current function/conditions as well as recommendations in the Montgomery Park Area Transportation Plan
NW Sherlock Ave (NW Nicolai St – NW 21 st Ave)	Neighborhood Collector Street	District Collector Street	Reflects current function/conditions
NW Roosevelt St (NW 24 th Ave – NW 26 th Ave)	N/A	Local Service Traffic Street	New street segment for local traffic access
NW Vaughn St (NW 18 th Ave – NW 20 th Ave)	Local Service Traffic Street	Neighborhood Collector Street	Reflects current function/conditions
NW 18 th Ave (NW Vaughn St – NW Thurman St)	Local Service Traffic Street	Neighborhood Collector Street	Reflects current function/conditions
NW 19 th Ave (NW Vaughn St – NW Thurman St)	Local Service Traffic Street	Neighborhood Collector Street	Reflects current function/conditions
NW 20 th Ave (NW Vaughn St – NW Thurman St)	Neighborhood Collector Street	Local Service Traffic Street	Recent changes to street network have deprioritized this street for traffic movement
NW 21 st Ave (NW Front Ave – NW Sherlock Ave)	Neighborhood Collector Street	District Collector Street	Reflects current functions/conditions
NW 22 nd Ave (NW Nicolai St – NW Wilson St)	Local Service Traffic Street	Neighborhood Collector Street	Reflects current function/conditions
NW 25 th Ave (NW Roosevelt St – NW Wilson St)	N/A	Local Service Traffic Street	New street segment for local traffic access

Recommended Updates to Freight Street Classifications

NAME	CURRENT	UPDATE	RATIONALE
NW Reed St (NW 23 rd Ave – NW 24 th Ave)	Freight District Street	Local Service Truck Street	Proposed removal of Freight District in the Area
NW York St (NW 23 rd Ave – NW 24 th Ave)	Freight District Street	Local Service Truck Street	Proposed removal of Freight District in the Area
NW Roosevelt St (NW 23 rd Ave – NW 26 th Ave)	Freight District Street and N/A	Local Service Truck Street	Proposed removal of Freight District in the Area
NW Wilson St (NW 23 rd Ave – NW 27 th Ave)	Freight District Street	Local Service Truck Street	Proposed removal of Freight District in the Area
NW Vaughn St (NW 23 rd Ave – NW 27 th Ave)	Freight District Street	Local Service Truck Street	Proposed removal of Freight District in the Area
NW 23 rd Pl (NW Nicolai St – NW York St)	Freight District Street	Local Service Truck Street	Proposed removal of Freight District in the Area
NW 24 th Ave (NW Nicolai St – NW Vaughn St)	Freight District Street	Local Service Truck Street	Proposed removal of Freight District in the Area
NW 25 th Ave (NW Roosevelt St – NW Vaughn St)	N/A	Local Service Truck Street	Proposed removal of Freight District in the Area, new segment
NW 26 th Ave (NW Nicolai St – NW Vaughn St)	Freight District Street	Local Service Truck Street	Proposed removal of Freight District in the Area
NW 27 th Ave (NW Nicolai St – NW Vaughn St)	Freight District Street	Local Service Truck Street	Proposed removal of Freight District in the Area

EXHIBIT B

Recommended Updates to Emergency Response Street Classifications

NAME	CURRENT	UPDATE	RATIONALE
NW York St (NW 23 rd Ave – NW 24 th Ave)	Major Emergency Response	Minor Emergency Response	Supports recommendations in the Montgomery Park Area Transportation Plan
NW Roosevelt St (NW 24 th Ave – NW 26 th Ave)	N/A	Minor Emergency Response	New street segment, intended to serve shorter local leg of emergency response trips
NW Wilson St (NW 23 rd Ave – NW 24 th Ave)	Major Emergency Response	Minor Emergency Response	Supports recommendations in the Montgomery Park Area Transportation Plan
NW Wilson St (NW 20 th Ave – NW 21 st Ave)	Minor Emergency Response	Major Emergency Response	Completes emergency response network, shifts major response from NW 21 st Ave to NW 18th and NW 19 th Aves under US-30
NW Vaughn St (NW 18 th Ave – NW 20 th Ave)	Minor Emergency Response	Major Emergency Response	Completes emergency response network, shifts major response from NW 21 st Ave to NW 18th and NW 19 th Aves under US-30
NW Thurman St (NW 20 th Ave – NW 21 st Ave)	Minor Emergency Response	Major Emergency Response	Completes emergency response network; Thurman now connects under US-30
NW 18 th Ave (NW Vaughn St – NW Thurman St)	Minor Emergency Response	Major Emergency Response	Completes emergency response network, shifts major response from NW 21 st Ave to NW 18th and NW 19 th Aves under US-30
NW 19 th Ave (NW Vaughn St – NW Thurman St)	Minor Emergency Response	Major Emergency Response	Completes emergency response network, shifts major response from NW 21 st Ave to NW 18th and NW 19 th Aves under US-30
NW 20 th Ave (NW Wilson St – NW Vaughn St)	Minor Emergency Response	Major Emergency Response	Completes emergency response network, shifts major response from NW 21 st Ave to NW 18th and NW 19 th Aves under US-30
NW 21 st Ave (NW Wilson St – NW Thurman St)	Major Emergency Response	Minor Emergency Response	Reflects actual conditions; street does not connect across US-30
NW 22 nd Ave (NW Nicolai St – NW Wilson St)	Minor Emergency Response	Secondary Emergency Response	Completes major emergency response network; offers secondary north-south route
NW 24 th Ave (NW Nicolai St – NW Vaughn St)	Secondary Emergency Response	Minor Emergency Response	Reflects recommendations in the Montgomery Park Area Transportation Plan; secondary route shifted to NW 25 th Avenue or equivalent to centralize secondary alternative route through area
NW 25 th Ave (NW Roosevelt St – NW Wilson St)	N/A	Secondary Emergency Response	New street segment; offers secondary emergency response access into Montgomery Park Area on loading/vehicle access priority street
NW 25 th Ave or equivalent (NW Nicolai St – NW Roosevelt St)	N/A	Secondary Emergency Response	When north-south connection between NW 24 th and NW 26 th avenues is constructed, it should prioritize secondary emergency response through the area
NW 26 th Ave (NW Vaughn St – NW Thurman St)	Major Emergency Response	Minor Emergency Response	Secondary emergency response offered on NW 25 th Avenue, where access for trucks is prioritized
NW 27 th Ave (NW Vaughn St – NW Thurman St)	Major Emergency Response	Minor Emergency Response	Reflects current conditions; street does not connect for vehicles