

Appendix A

Policy Framework Memorandum

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MONROE NEIGHBORHOOD STREET DESIGN PLAN

POLICY FRAMEWORK & ALTERNATIVE ANALYSIS SELECTION CRITERIA MEMO

August 24, 2015



Introduction

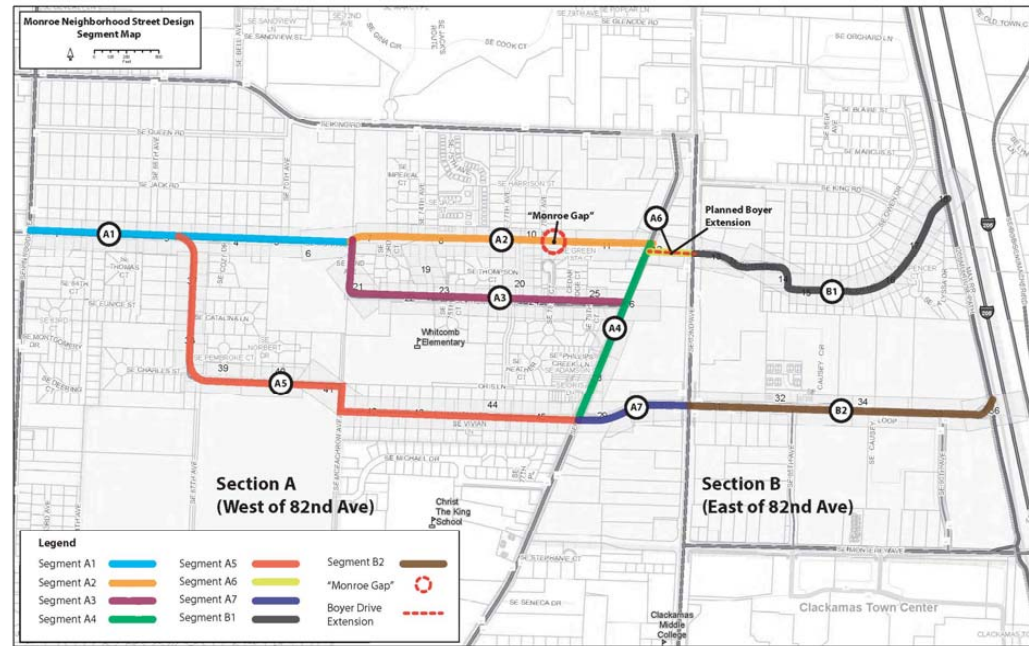
This memorandum summarizes policies and plans that establish the policy framework for the Clackamas County Monroe Neighborhood Street Design Plan effort. In addition, it describes a set of criteria to help the project team evaluate how potential alternatives perform against project objectives. Finally, the memo includes a summary list of comparable projects in the Portland region and beyond that can help inform options for the Monroe Neighborhood Street Design Plan.

Background

The Clackamas County Monroe Neighborhood Street Design Plan was developed to meet the goals and policies set forth in the County’s Transportation System Plan, Active Transportation Plan, and Bicycle and Pedestrian Master Plans.

Stretching east from the Willamette River through Milwaukie and unincorporated Clackamas County to the I-205 multi-use path, Monroe Street is a key active transportation link in the area, connecting the Clackamas Town Center area, MAX Green Line station, and Springwater Corridor trail to downtown Milwaukie, the Milwaukie Orange Line station, and the Trolley Trail via the Monroe Neighborhood Greenway in Milwaukie. Monroe Street is identified as a key east-west pedestrian and bicycle connection in the County’s transportation system plan, and as a Principal Active Transportation Route in the County’s Active Transportation Plan. In addition, Metro’s Regional Transportation Plan and Active Transportation Plan classify Monroe Street as a Bicycle Parkway, that plan’s highest bicycle classification. A related plan has been developed for the section of Monroe located in the City of Milwaukie – the Monroe Street Neighborhood Greenway Concept Plan – and is in the adoption and implementation phase.

To build on this foundation, the Monroe Neighborhood Street Design Plan will develop a design for the section of Monroe between SE Linwood Avenue and the I-205 multi-use path that improves safety and travel conditions for pedestrians and bicyclists while balancing neighborhood livability and the needs of motor vehicle traffic on Monroe Street. The map below illustrates possible routes for the Monroe Neighborhood Street Design Plan. The map, routes, and associated analysis segments are discussed in detail in Technical Memorandum #2: Needs, Constraints, and Potential Solutions.



The primary purpose of the Clackamas County Monroe Neighborhood Street Design Plan is to identify a safe and direct active transportation route and conceptual design from the intersection of SE Linwood Avenue and Monroe Street in order to connect the City of Milwaukie Monroe Street Greenway to the I-205 multi-use path and Clackamas Regional Center area.

The plan will also include a Safe Routes to School element for Lot Whitcomb Elementary School, located one block south of Monroe Street on Thompson Street at 74th. The Safe Routes to School plan will engage students, parents and school staff to assess the physical barriers and hazards within several blocks of Whitcomb that discourage children from walking or biking to school. The Monroe Neighborhood Street Plan will include recommendations to address those barriers with a range of education, enforcement and engineering solutions. In concert with other Monroe Neighborhood Street Plan elements, these solutions will strengthen the active transportation connections between Whitcomb Elementary and local homes, parks, trails and other destinations.

Applicable plans and policies

The following plans, policies, and studies were reviewed and their relevance to the project is highlighted in this memorandum.

Clackamas County plans

- Clackamas County Transportation System Plan
- Clackamas County Active Transportation Plan
- Clackamas Regional Center Area Design Plan
- Clackamas Regional Center Area Pedestrian/Bicycle Connections Project
- Clackamas County Urban Renewal Districts
- Clackamas County Community Health Improvement Plan

- Clackamas County Transportation Safety Action Plan

Other relevant plans

- Metro Regional Active Transportation Plan
- Milwaukie Transportation System Plan
- Milwaukie Monroe Street Neighborhood Greenway Concept Plan
- Bicycle Transportation Alliance Blueprint for World-Class Bicycling

Clackamas County Transportation System Plan

The Clackamas County Transportation System Plan (TSP), adopted in 2013, reflects all relevant national, state, and regional transportation and planning requirements and provides policies, guidelines, and projects to meet transportation needs for residents, businesses, and visitors in unincorporated Clackamas County for 20 years. The TSP envisions a well-maintained and designed transportation system that provides safety, flexibility, mobility, accessibility and connectivity for all modes of travel. It is tailored to Clackamas County's diverse geographies and supports future needs and land use plans in the region. The TSP contains six goals to guide plan implementation:

- Goal 1: Provide a transportation system that optimizes benefits to the environment, the economy and the community
- Goal 2: Plan the transportation system to create a prosperous and adaptable economy and further the economic well-being of business and residents of the County
- Goal 3: Tailor transportation solutions to suit the diversity of local communities.
- Goal 4: Promote a transportation system that maintains or improves our safety, health and security
- Goal 5: Provide an equitable transportation system
- Goal 6: Promote a fiscally responsible approach to protect and improve the existing transportation system and implement a cost-effective system to meet future needs

Project Relevance

The TSP identifies Monroe Street in its 20-Year Capital Projects list as a facility that serves as a key east-west bicycle route connection in the region. 20-Year Capital Projects are the highest priority projects in the TSP and are considered needed transportation projects that can reasonably be undertaken given the current estimates of available funding. Improvements to the Monroe Street route (currently classified as a collector to 77th Avenue and a future connector to 82nd Avenue) are intended to provide bicycle and pedestrian enhancements for the North Clackamas Revitalization Area urban renewal district. The TSP contains three projects for Monroe Street:

- SE Linwood Avenue to 72nd Avenue – Add bikeways (TSP Project ID #1036)
- 72nd Avenue to Fuller Road – Add bikeways, pedestrian facilities, and traffic calming (TSP Project ID #1035)

Other TSP projects that intersect with Monroe Street include:

- Boyer Extension West project (TSP Project ID #1012)
- Boyer Drive/85th Ave/Spencer Drive – bikeway connection from 82nd Ave to the I-205 bike path (TSP Project ID #1013)

- Monroe Street to 72nd Avenue to Thompson Road – Add pedestrian facilities. (TSP Project ID# 2010)

Active Transportation Policies

The TSP states that new facilities should improve safety and connectivity for active transportation users in the County. The active transportation policies in the TSP incorporates the development of the Clackamas County Pedestrian Master Plan and the Clackamas County Bicycle Master Plan. These policies support the development and implementation of walking and biking infrastructure that encourage direct, continuous routes on low-volume, local streets – such as the section of Monroe Street addressed by this plan. Several of those policies support the Monroe Neighborhood Street Plan, including:

5.J. General Active Transportation Policies

5.J.8: Identify low traffic volume streets that are appropriate for signing as bicycle routes to enhance safety and connectivity and to supplement the system of bikeways found on the major street system.

5.K. Design Policies

5.K.3: Improve the safety and appeal of walking and biking by supporting the development of bikeways and pedestrian facilities and networks on low volume or local roads and off of existing street rights-of-way.

5.K.4: (Urban) – Identify pedestrian facilities and bikeway improvements necessary to ensure direct and continuous networks of pedestrian facilities and bikeways on the county road system.

5.C. Equity, Health and Sustainability Policies

5.C.1: Support programs and projects, such as pedestrian and bike connections to transit stops, that expand and improve transportation options for residents in areas with identified transportation-disadvantaged populations.

5.C.2: Protect neighborhoods, recreation areas, pedestrian facilities, bikeways and sensitive land uses (such as schools, daycare centers and senior centers whose users are more vulnerable to pollution) from transportation-related environmental degradation. Coordinate transportation and land use planning and use mitigation strategies, such as physical barriers and design features, to minimize transmission of air, noise and water pollution from roads to neighboring land uses.

5.C.4: Ensure that programs to encourage and educate people about bicycle, pedestrian, and transit transportation options are appropriate for all County residents, particularly transportation disadvantages populations.

5.C.5: Build working partnerships between the County’s Public Health and Transportation Divisions and utilize tools, such as health impact assessments, to better connect the effects of transportation projects with the health of communities.

Other TSP policies relevant to the plan specify that the County should seek out and implement innovative active transportation treatments to address/meet user needs, and work with neighboring jurisdictions to coordinate facility improvements.

Roadway Policies

Creating and maintaining a safe, continuous County-wide road system is a major goal of the Clackamas TSP. The road system accommodates movement by all travel modes, which means the county must set standards for development of new roads and redevelopment of existing roads, including design and access standards for urban and rural roads.

In addition to policies specifically promoting active transportation, the TSP contains several roadway policies that support the bicycle, pedestrian, and safe routes to schools improvements anticipated as a part of this project. Policies also encourage the implementation of stormwater and “green street” improvements to manage runoff.

5.O. Functional Classification and Design Policies

5.O.5: Develop and implement traffic calming strategies, appropriate for the road functional classification, that will improve the safety and convenience of travel by all modes, particularly in areas with high crash rates or high rates of bicycle and/or pedestrian activity.

5.O.7: (Urban) – Minimize impacts of managing storm water by allowing for Metro’s alternative street standards, such as “green streets,” as design alternatives.

5.O.8: (Urban) – Design arterials and collectors to allow safe and convenient passage of buses, bicycles, and pedestrians.

5.O.9: (Urban) – Streets, alleys, bikeways, pedestrian facilities, multi-use paths, trails and transit stops are allowed uses in all urban zoning districts. Consider all state and County policies relating to these facilities when widening, improving or constructing new transportation infrastructure.

Clackamas County Active Transportation Plan

The Clackamas County Active Transportation Plan (ATP) aims to identify key active transportation routes that connect destination and communities in Clackamas County, both rural and urban. It complements the county’s Bicycle and Pedestrian Master Plans to provide an assessment of policies and plans for the principal active transportation system in unincorporated Clackamas County.

A set of goals was established for the ATP to ensure that Clackamas County has an interconnected, safe, and equitable active transportation network. The plan sets out policies that encourage more residents to bicycle and walk for recreation and transportation by supporting a transportation network that enhances connections to transit, schools, town centers, shopping, employment, and other key destinations. The ATP encourages jurisdictions in the County to work toward an active transportation network that is accessible to all ages, abilities, and incomes, helping improve the health of residents by giving them safe places to walk, run, or bike.

Chapter 5 of the ATP contains the County’s Facility Design Toolkit, a catalog of pedestrian and bicycle facility types for a range of rural and urban settings as well as varying roadway speeds and traffic volumes. Each facility type includes a photo illustration, general description, preferred and minimum dimensions and special design considerations unique to that facility. The Facility Design Toolkit provides guidance to planners and engineers during the planning and design of new roads and roadway improvements throughout Clackamas County.

Project Relevance

Twelve principal active transportation corridors (geographic areas between destinations for active transportation connectivity) were identified during the ATP process, including Milwaukie to the Clackamas Regional Center. This corridor is identified as the area connecting the Milwaukie town center to the MAX Orange Line, MAX Green Line, the Clackamas Regional Center area, schools, parks, Providence Milwaukie hospital, Springwater Corridor, I-205 multi-use path, and the Monroe Street bike boulevard.

Within this corridor, Monroe Street, from Highway 99E to 1-205, is identified as a Principal Active Transportation Route. Principal routes are the most important routes to connect communities and key destinations in the county. The route was selected because although it currently lacks active

transportation facilities, it is relatively low-speed and low-volume, making it a prime candidate for a low-stress shared facility such as a bike boulevard or neighborhood greenway.

Clackamas County Regional Center Area Design Plan

The Clackamas Regional Center is a major residential and business area, comprising 2,100 acres in Clackamas County, including the Clackamas Town Center and several regional corridors such as 82nd Avenue/OR213, Johnson Creek Boulevard, and Sunnyside Road. The Clackamas Regional Center Area Design Plan, one of the six community plans included in Chapter 10 of the county's Comprehensive Plan, sets the framework to plan for growth and guide the area to a preferred future identified by citizens, the business community, and public service providers. The plan builds off the county's Comprehensive Plan and sets specific goals and policies for the regional center area.

Project Relevance

The easternmost section of the Monroe Neighborhood Street Plan is located within the Clackamas Regional Center Area. The Regional Center Area Plan highlights pedestrian and bikeway networks that connect the Clackamas Region Center to neighborhoods and districts via off-street pedestrian linkages, regional multi-use paths, and area greenway trails. The plan also establishes guidelines for new residential and mixed-use developments in the study area that encourage pedestrian and bicycle travel. Policies listed in the plan support direct and convenient connection for public routes connecting residential uses with commercial uses, schools, parks, and other neighborhood facilities. Finally, the plan supports providing bike and pedestrian connections on public right-of-way when full street connections are not possible, a potential element of this project.

Clackamas Regional Center Area Pedestrian/Bicycle Connections Project

In June 2012, Clackamas County and the Oregon Department of Transportation worked with community members around the Clackamas Regional Center to identify safe pedestrian and bicycle connections from the MAX Green Line light rail station to major area employers. The project created an inventory of potential pedestrian and bicycle improvements, analyzed potential solutions, and prioritized connected needed to provide access to the Clackamas Regional Center.

Project Relevance

Planned improvements from the Connections Project will help to support the development of pedestrian and bicycle investments along Monroe Street. While Monroe is not specifically in the Connections project area, nearby streets like Harmony, Causey, and Maplehurst Road are identified as strategic locations for bicycle investment. The Monroe Neighborhood Street Plan will evaluate these streets for bicycle access, and determine which are most appropriate for bicycle improvements as part of this project. In addition, the Plan will improve bicycle connections to these streets, supporting implementation of the Clackamas Regional Center Area Connection Project.

Clackamas County Urban Renewal Districts

Four urban renewal districts have been administered by the Clackamas County Development Agency since the first district was established in 1977. The Development Agency is committed to carrying out plans developed specifically for each urban renewal area that meet three main goals: Increase jobs, improve economic vitality, and improve opportunities and capabilities by removing influences that inhibit development or redevelopment. Urban renewal benefits communities and the County as a whole by enhancing quality of life through new and renovated neighborhood facilities, sidewalks, and bike paths that support safe, health, and active communities, while encouraging economic growth, creating jobs and building new and affordable housing.

Project Relevance

The urban renewal plan created for each district describes the projects and programs planned for each of the four designated area, including how and when they will be funded. Two urban renewal districts include segments of the project area.

Clackamas Town Center Area

Started in 1980, the Clackamas Town Center urban renewal area is located at and around the intersection of I-205 and SE Sunnyside Road. The community needed new and expanded road systems to support the opening of the Clackamas Town Center shopping mall, meet the needs of the growing residential neighborhoods, and serve expanding health care facilities and businesses. The urban renewal district was established to meet several goals, many of which support this project. The program establishes a need for a vibrant and improved business district around Clackamas Town Center, 82nd Avenue, and Sunnyside Road that provides public access to recreational use of open space, safe and efficient traffic circulation, and improved facilities that provide mobility and safety.

North Clackamas Revitalization Area

In 2006, the North Clackamas Revitalization Area (NCRA) was developed, with support from local residents and community organizations. The urban renewal district was primarily established to identify projects to improve the area's livability including public utilities, parks and open spaces, street, curb and sidewalk improvements, and streetscape and neighborhood beautification. The result of the NCRA will be a strong, stable neighborhood for families and small businesses with appropriate infrastructure such as sewers and improved streets. New community amenities are being planned, including the Fuller Road Station Area, featuring a "station community" plan to redevelop a denser street network and a mix of housing, office, institutional, and commercial uses.

Clackamas County Community Health Improvement Plan

In 2012 Clackamas County conducted its first community health improvement planning process to identify priority goals and strategies aimed at addressing the health needs of county residents. The resulting Community Health Improvement Plan (CHIP) includes a series of specific actions to be addressed by community partners and is intended to help the community address significant issues that can improve the overall health of the county. The following mission of the CHIP Planning Committee helped guide plan development:

The mission of the committee was to determine how the collective community's health could be improved. Specifically, this committee agreed to create a CHIP that describes how organizations and individuals throughout Clackamas County will work together to improve the health and population of the county's residents.

Project Relevance

The Clackamas County CHIP includes four strategic directions and 11 measurable objectives. Each of the measurable objectives includes a listing of improvement strategies, names of potential organizations that could be involved and a set of performance measures. The improvement strategies and performance measures applicable to the Monroe Street Neighborhood Street Design Plan include the following:

- **Improvement Strategy:** Promote physical activity before, during and after school
 - **Performance Measure:** Increase number of Safe Routes to School programs implemented at Clackamas County schools
- **Improvement Strategy:** Enhance environment to facilitate ability to be physically active
 - **Performance Measure:** Expand the availability of walking trails and bike paths

Clackamas County Transportation Safety Action Plan

The Clackamas County Transportation Safety Action Plan (TSAP) outlines a strategy for the County to build and implement a County-wide Safety Culture. The plan's ultimate goal is to reduce transportation-related fatalities and serious injuries for all modes by 50% over the next ten years. In order to create this culture and effectively meet the stated goal, the TSAP employs a "5E's" approach, with action items related to engineering, education, enforcement, emergency medical services and evaluation activities. Using a data-driven approach based on a detailed review of County-wide crash data, a number of emphasis areas have been identified with specific detail and actions for three primary focus areas – Aggressive Driving, Young Drivers (ages 15-25) and Roadway Departure crashes. For each focus area, a description of the issue and countermeasures are discussed incorporating the 5E approach.

Project Relevance

A primary project objective of the Monroe Neighborhood Street Design Plan is to develop a route that improves safety for all modes of travel. The County has a strong desire to improve the safety of its transportation system for all users and reduce the number and severity of crashes. Improving safety is a multimodal concern that affects each and every resident of the County. Developing a street design plan for Monroe Street will set the stage for creating a needed space for pedestrians and bicyclists to safely travel through the neighborhood and aligns with the goal of creating a "County-wide Safety Culture" envisioned in the TSAP.

Metro Regional Active Transportation Plan

The 2014 Regional Active Transportation Plan provides a vision, plan and policies for communities in the Portland region to increase transportation options and support economic development, healthy active living and equity.

The Guiding Principles pertaining to this project include:

- Cycling, walking, and transit routes are integrated and connections to regional centers and regional destinations are seamless
- Routes are direct, form a complete network, are intuitive and easy-to-use and are accessible at all times
- Routes are safe and comfortable for people of all ages and abilities and welcoming to people of all income levels and backgrounds
- Routes are attractive and travel is enjoyable
- Facility designs are context sensitive and seek to balance all transportation modes
- Increases corridor capacity and relieves strain on other transportation systems
- Ensures access to regional destinations for people with low-incomes, people of color, people with disabilities, people with low-English proficiency, youth and seniors
- Implements regional and local land use and transportation goals and plans to achieve regional active transportation modal targets

Project Relevance

The Metro Active Transportation Plan recommends five policies to help communities in the region achieve active transportation targets, aspirations, and desired outcomes in adopted state, regional, and local plans. Key policies that support this project state that regional partners should work to make walking and bicycling the most convenient, safe, and enjoyable transportation choices for short trips less than three miles. Similarly, the plan encourages all jurisdictions to work together to complete the regional pedestrian and bicycle network, creating a connected system for residents of the region.

The plan also encourages partners to develop a well-connected regional pedestrian and bicycle system that integrates transit and nature while prioritizing safe, convenient, accessible, and comfortable pedestrian and bicycle access for all ages and abilities.

Monroe Street is classified as a Bicycle Parkway in Metro's Active Transportation Plan, the highest classification for regional bicycle routes. These routes operate as the spine of the bicycle network. Monroe Street's connection to urban centers, transit, and key regional destinations makes it a prime location for a regional Bicycle Parkway that provides a direct and efficient link to jobs, amenities, and housing.

Milwaukie Transportation System Plan

The section of Monroe Street west of Linwood Avenue is designated in the Milwaukie TSP as a "Greenway", an active transportation route and is currently being studied by the City of Milwaukie for improvements as part of the Monroe Street Neighborhood Greenway Conceptual Plan project. The City of Milwaukie project will include recommendations for safety and traffic improvements for the intersection of SE Linwood Avenue and Monroe.

Project Relevance

Several policies from the TSP support the Monroe project in Clackamas County and its connection to the Monroe Street Greenway. The City's TSP establishes many of the same project elements that will be included in Clackamas County's Monroe Neighborhood Street Design Plan, helping leverage funding opportunities and meeting county and regional goals in the process. The collaboration between both jurisdictions supports active transportation in both the City of Milwaukie and Clackamas County, since the route connects local and regional destinations in both City and County.

Milwaukie Monroe Street Neighborhood Greenway Concept Plan

The Monroe Street Neighborhood Greenway Concept Plan is a City of Milwaukie plan to strengthen the neighborhood street character of Monroe Street in Milwaukie and provide safer, low-stress accommodations for pedestrians and bicyclists. The project area extends along Monroe Street from SE 21st Avenue in downtown Milwaukie to SE Linwood Avenue at the city's eastern boundary. The project's goals are to reduce the speeds and volumes of cut-through traffic on Monroe Street. The plan features crossing improvements, stormwater treatment features such as chicanes and curb extensions, and partial diverters at OR 224, SE 42nd, and SE Linwood and Monroe. These diverters are designed to reduce cut-through traffic along Monroe to create a quieter, safer, more neighborhood-oriented street. The partial diverter on Linwood Avenue at Monroe Street, in particular, will prevent through travel for motor vehicles, but will allow passage for bicycles and pedestrians. Along with improved crosswalks, curb extensions, and a pedestrian-activated hybrid beacon, this will greatly improve crossing safety at the intersection.

Project Relevance

The Milwaukie Monroe Street Neighborhood Greenway Concept Plan advances several key goals in the County's TSP, including livability, safety, quality design, and reliability. The project ends where the Clackamas Monroe Neighborhood Street Design Plan begins, creating the opportunity for Clackamas County to develop a seamless low-stress route for east-west bicycle and pedestrian travel. Several features from the Monroe Street Neighborhood Greenway Concept Plan will be considered for application in the Clackamas Monroe Street Neighborhood Design Plan.

Bicycle Transportation Alliance: A Blueprint for World-Class Bicycling

Oregon's bicycle advocacy group, the Bicycle Transportation Alliance (BTA), released **A Blueprint for World Class Cycling** that articulates a vision for bicycling in the Portland-Metro region. The Blueprint includes a goal that 50% of the region's urban population will be served by a low-traffic, low-stress neighborhood greenway less than half a mile from their homes.

Project Relevance

The blueprint calls out Monroe Street as a prime location for a quiet neighborhood bicycle route based on its proximity to mass transit and Milwaukie's downtown core, and its connections to several regional multi-use trails. Monroe Street also provides a direct connection to commercial areas on SE King Street and 82nd Avenue. Bicycle improvements on Monroe would provide a much needed east-west route for families and less experienced riders, connecting businesses, schools, trails and trains.

Development of evaluation criteria for route and design alternatives

The Clackamas County Monroe Neighborhood Street Design Plan builds on all the regional, county, and local policies and plans listed above.

Project objectives

Several key objectives will inform decisions on this project and help drive the development and application of criteria to evaluate route and design alternatives along the corridor:

- Develop a neighborhood street conceptual design plan for the selected route that improves safety for all modes of travel but has a particular focus on pedestrians and cyclists;
- Identify safe crossing treatments for significant intersections along the selected Project routes and for the Safe Routes to Schools selected routes; and
- Support a healthy and active community.

In addition to these substantive project goals, the project seeks to achieve a number of process objectives that ensure community engagement and understanding:

- Include criteria that measure impacts on both safety and health
- Identify the walking and biking destinations within and near the Project Area
- Provide a map showing the "gaps and deficiencies" in sidewalks and bikeway facilities near Whitcomb Elementary School
- Document desired road characteristics conducive to increasing pedestrian and bicycle safety or perceived safety for potential or recommended Project route(s) including Whitcomb Elementary Safe Routes to School routes
- Provide outreach to disadvantaged populations in accordance with the requirements of Title VI and involve the public and stakeholders in developing the Safe Routes to School Plan and Project route and neighborhood street design concept
- Assess the potential impacts resulting from recommended street classifications or street design changes that reroute traffic, if necessary
- Determine if additional right-of-way is needed for potential treatments, identify associated property impacts, and address acquisition and mitigation strategies

- Identify options to address stormwater runoff from impervious surface in the right-of-way, considering green street treatments as well as more conventional measures
- Identify project phasing and potential funding sources for improvements for implementation over time

Selection criteria for route alternatives analysis

As route and design alternatives for the Monroe Neighborhood Street Design Plan are developed, those choices will be evaluated to determine the extent to which they support and advance the Monroe Neighborhood Street Design project objectives. The criteria listed in the table below will be used to assess the performance against project objectives and serve as a framework to structure the evaluation process. Potential improvements will be assessed on a three-point scale based on the extent to which an improvement supports each of the criteria (highly supports, somewhat supports, does not support).

Comparable neighborhood streets

The following examples illustrate treatments that can be applied to achieve a balance among various modes while preserving and enhancing neighborhood character.

SW Maplewood Road, Portland, OR

Pedestrian sidepath

The pedestrian sidepath located on SW Maplewood is located on a neighborhood greenway that is part of the greenway system in Portland. In order to create a more pedestrian friendly environment while keeping costs low, the City of Portland installed speed bumps, paved a new shoulder, reduced the width of the street, and reduced the speed limit. These facility changes have created a safer and more appealing pedestrian path, while avoiding the expense of placing sidewalks along the half-mile road.



1st Street, Gresham, OR

Pedestrian sidepath



A pedestrian path was placed along the north side of 1st Street between Kane and 3rd Street in the City of Gresham to assist community members with a safe and direct connection to the Fred Myers grocery store and other local businesses in the neighborhood. The project was listed in the City's TSP and constructed on a low budget. The path includes asphalt grindings left over from other work in the area.

NE Klickitat Street, Portland, OR

Bicycle and pedestrian connection without through-traffic

The "green street" located on NE Klickitat, between 23rd and 24th Street in Portland's Northeast district makes the section between a school and a playground car-free for users and residents of the neighborhood. The facility features motorized vehicle-diverting bollards at either end, narrowed roadway serving bicycle access, concrete surface, stormwater treatments, and sidewalks that are separated from the bicycle lane.



Source: bikeportland.org

Evaluation Criteria		Performance Measure
Improve safety for all modes, with emphasis on bicycle/pedestrian safety	Reduce and/or avoid bicycle and pedestrian safety hazards	Potential to reduce the number of difficult intersection crossings and high-speed environments
	Reduce conflicts among all modes	Improvement provides physical separation between modes (including at intersections)
	Create a calmer street environment	Potential of improvement to improve neighborhood livability by lowering traffic speeds and/or volumes
Support healthy and active communities	Improve the pedestrian network	Proposed design increases sidewalk connectivity and provides safe pedestrian crossings
	Improve the bicycle network	Proposed design creates continuous and direct bicycle connections between existing and proposed bicycle facilities
	Decrease noise	Potential for improvement to decrease vehicle noise within 500 feet of the study area
	Provide access to essential destinations	Proposed design provides safe bicycle and pedestrian access to essential destinations
Provide safe routes to school	Slow traffic adjacent to Whitcomb Elementary School	Potential of improvement to reduce traffic speeds on streets within half a mile of Whitcomb Elementary
	Provide safer and direct pedestrian access	Completeness of sidewalk and path network within a half mile of Whitcomb Elementary; addresses School District-identified hazards
	Provide safer and direct bicycle access	Completeness of bikeway network within a half mile of Whitcomb Elementary; addresses School District-identified hazards
Provide neighborhood benefits and minimize negative impacts	Provide stormwater management	Potential for "green street" stormwater management features
	Reduce right-of-way/encroachment impacts	Extent of right-of-way impacts and impacts on right-of-way encroachments
	Reduce parking impacts	Number of parking spaces that would be removed with installation of new facilities
	Reduce cut-through traffic	Assessment of whether the proposed design reduces cut-through traffic on Monroe Street
	Improve motor vehicle system	Potential to increase motor vehicle connectivity; potential to address identified motor vehicle safety hazards
Create an implementable project plan	Determine feasibility	Extent of ROW purchases, physical barriers, or ownership issues
	Determine capital cost	Level of needed investment to complete route
	Determine maintenance cost (ongoing)	Alternative aligns well with current or potential future funding and financing sources

Monroe Street, Milwaukie, OR

Conventional bike lane



A portion of Monroe Street, east of the UPRR Main Line crossing, has a 6-foot bicycle lane on the eastbound side separating cyclists from motor vehicles as they climb a steep hill along the corridor. The westbound side has sharrow marks indicating a shared street as vehicles and bicycles go downhill. While there are bike lanes on this road, the street is a high-speed, high-volume road that is not ideal for bicycle riders of all ages and abilities.

17th Avenue NE, Shoreline, WA

Neighborhood greenway

This neighborhood greenway focuses on reducing environmental impacts of urban development in the City of Shoreline. The project on NE 17th Avenue, between NE 150th and NE 145th Streets included treatments for bicycle and pedestrian safety, natural drainage solutions, and enhanced natural habitats. The street features porous asphalt pavement used for walkway and driveways, bioswales, traffic circles, chicanes, walkways, and corners with pedestrian landings at each intersection. The traffic calming elements helped to reduce speeds and discourage cut-through traffic through the neighborhood. Many of the street treatments used in this example are being proposed for a section of Monroe Street in the City of Milwaukie. A permeable pavement path separated from the roadway with either landscaping or parked cars with chicanes for vehicles to reduce speeds is the proposed treatment for that project.



SE Clinton Street, Portland, OR

Neighborhood greenway



Clinton Street is Portland's original neighborhood greenway with the highest bicycle use of any bike boulevard in the city - around 1800 bikes per day along many sections. It has a range of traffic calming tools in place including speed bumps, traffic circles, a bike box, a semi-diverter, & pedestrian crosswalks. Clinton Street has seen a high number of vehicles cutting through the neighborhood, causing tension between autos and bicyclists. The City of Portland is currently considering adding diverters to the greenway to prevent through traffic along the corridor. The City hopes to utilize a mix of on-street pavement markings, signage, & other potential artistic means to lower the use of Clinton Street by motor vehicles.

NE Cully Boulevard, Portland, OR

Raised cycle track

The cycle track located on NE Cully Boulevard in Portland is a grade-separated bike facility that is built of concrete, is separated from motor vehicles by a curb and parked cars, and features distinct pavement marking indicating that the facility is for use by bicycles.

Some of the more distinct pavement markings include large painted "P"s in the street for parking. The raised curb between the cycle track and the parking lane is painted white to bring attention to it, but the curb is painted yellow at locations where driveways are present. The facility also offers dashed marking through intersections, and some also have bike boxes to allow safe left-turn for cyclists.

