

82nd Avenue Planning Context

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82nd Avenue has been the focus of extensive planning efforts by numerous agencies and stakeholders. Plans focus on different aspects of 82nd Avenue including safety issues for pedestrians, transit users, bicyclists, and other vulnerable users, and generating economic investment and cultivating vibrancy in the corridor. While plans consider all modes and aspects of 82nd Avenue, much of the recent work has highlighted safety concerns, and improvements for those walking, biking and taking transit in the corridor.

This planning context memorandum includes summaries of eighteen plans prepared by the City of Portland, TriMet, ODOT, and others. It highlights the policies, recommendations and findings most relevant to the 82nd Avenue of Roses Implementation Plan, particularly those recommendations relevant to 82nd Avenue between NE Killingsworth Street and SE Johnson Creek Boulevard. This context of past plans will provide a foundation for the 82nd Avenue of Roses Implementation Plan. They include:

1. 82nd Avenue Community Forum Summary Report
2. 82nd Avenue of Roses High Crash Corridor Safety Plan
3. City of Portland Comprehensive Plan and Update
4. City of Portland Transportation System Plan and Update
5. Clackamas County Comprehensive Plan
6. Eastside MAX Station Communities Project (Station Area Plans)
7. Imagine 82nd
8. Lents Five-Year Action Plan
9. Misc. Contract and Agreement No. 804
10. Metro 2040 Plan (Regional Transportation Plan)
11. Oregon Department of Transportation Region 1 Sidewalk Inventory
12. Oregon Department of Transportation Statewide Improvement Plan (STIP)
13. Pedestrian Network Analysis
14. Pedestrian Safety Studies on 82nd Avenue
15. Portland Bicycle Plan for 2030
16. Portland's Neighborhood Greenways Assessment Report
17. Powell-Division High Capacity Transit Plan (Portland Action Plan and Transit Action Plan)
18. Vestal Safe Routes to School Plan

Plans are presented in alphabetical order below.

Review of Plans

82nd Avenue Community Forum Summary Report

Author: SE Uplift Neighborhood Coalition and Central Northeast Neighbors, Inc.

Date: May 2013

The report summarizes the events and discussion held during a one-day forum of nearly 100 neighbors, business owners, community leaders and representatives from government and community organizations. The purpose of the forum was to discuss ongoing projects occurring on the 82nd Avenue corridor and to envision what the community desired for the area. Participants desired to both connect with the many groups and people currently working on addressing issues along 82nd Avenue, as well as to advocate for greater change and investment.

The forum used a 'World Café' format, with participants sitting in groups identified by the topic areas: arts and culture, business development, crime prevention, family wellness, streetscape design, and sustainable transportation. Each group participated in four rounds of discussion around the topics of:

Round 1: What do you like most about 82nd Avenue in its current condition?

Round 2: What do you think is most challenging about 82nd Avenue?

Round 3: If you could ask civic leaders to promote one change to 82nd Avenue, what would it be?

Round 4: What can you or your neighbors do to improve 82nd Avenue?

Transportation-focused community comments

What do you like?

- The high frequency bus line (#72).
- Access to the MAX.

What is most challenging?

- It is a long street that needs to have distinct areas/places yet also have a sense of continuity.
- Because of the car lots and other elements of 82nd, it seems like a "hard" place.
- Sidewalks have no buffering from the street.
- ODOT sees 82nd as state highway 213, not a local street.
- The funding it will take to improve walking and biking conditions.
- The perception of crime prevents a critical mass of people from walking and biking.
- Agencies like PBOT, ODOT and TriMet don't have a coordinated view of how 82nd Avenue should function.

If you could ask civic leaders to promote one change to 82nd Ave, what would it be?

- Transfer jurisdiction from ODOT to PBOT.
- Direct ODOT and PBOT to develop a clearer vision of the future of 82nd Avenue.
- Re-examine policies regarding street trees.
- Tackle certain segments as demonstration projects to show what corridor could become.
- Use MLK as a model, including islands with small trees, good management of left turns.
- Focus on making it easier to cross by adding things like more rapid flash beacons.
- Change state law to spur development of state highways in urban areas.
- Completely re-do the 82nd Avenue MAX station. It is poorly designed and a source of many problems.

What can you or your neighbors do to improve 82nd Avenue?

- Coordinate tree planting and landscape plantings.
- Advocate for shared jurisdiction on 82nd Avenue.
- Advocate for policy changes to close driveways and improve pedestrian safety.
- Let elected officials and agencies know that it is not acceptable that we can't safely cross the street.

- Ask for better enforcement of crosswalk laws.
- Work with businesses to make it safer for people to walk along 82nd Avenue.

82nd Avenue of Roses High Crash Corridor Safety Plan

Author: City of Portland | **Date: January 2008**

The project area encompassed a seven mile section of 82nd Avenue from NE Killingsworth to Clatsop Street (the southern City limit). The Plan was prompted by the designation of 82nd Avenue as the City of Portland’s first high crash corridor. Data between 1994 and 2005 demonstrated that 82nd Avenue has the highest incidence of traffic crashes, injuries and fatalities. The avenue also has the highest number of high crash intersection locations in the city.

The study found that the five-lane highway is congested and chaotic. Sidewalks exist through most of the corridor but have substandard widths, access, condition, and in general are not-ADA compliant. Extensive community outreach revealed that residents and visitors to the corridor find it to be unfriendly and difficult to navigate either on foot or while riding a bicycle. Long distances between signalized crossings, frequent driveways and the lack of mid-crossing pedestrian medians or refuges likely contribute to the 82nd Avenue’s designation as the highest crash corridor in the city for pedestrians.

Despite inhospitable conditions, high volumes of pedestrians use the corridor due to several schools, housing for seniors, and the most heavily used bus lines in the TriMet service area. The top ten traffic safety concerns expressed by community respondents included:

- | | |
|---|--|
| 1. Pedestrian safety | 6. Overall bike safety |
| 2. Vehicles speeding | 7. Bicycle access |
| 3. Pedestrian jaywalking (especially at intersection of Halsey transit station) | 8. Madison High School area |
| 4. Too much traffic and congestion | 9. Vehicles making left turns |
| 5. Red light runners | 10. 82nd Avenue at Siskiyou big box development traffic concerns |

Safety Action Plan Recommendations

Safety Issue	Potential Near Term Action			Funding Status
	Engineering	Education	Enforcement	
Crossing at Unsignalized Intersections	A. Install six pedestrian median islands at proposed locations	B. Implement the “I Brake for People” pedestrian safety campaign	C. Increase enforcement for violation of Oregon crosswalk laws. The focus should be on designated SAFE (Strategic and Focused Enforcement) areas	Funding identified for all actions

82ND AVENUE PLANNING CONTEXT

Access to Transit	<p>A. Pedestrian median islands.</p> <p>B. Consider relocating bus stops near improved crossings.</p> <p>C. Jonesmore/Halsey bus and MAX transit stop issues being addressed through the Office of Neighborhood Involvement “Crime Prevention Through Environmental Design” (“CPTED”) project</p>	<p>D. Support an education program that teaches transit riders about crossing safely</p>		<p>A. Funding identified</p> <p>B. Funding not identified</p> <p>C. Funding identified for short term solutions</p> <p>D. Funding not identified</p>
Children and Seniors	<p>A. Examine pedestrian signal timing and possibly extend, subject to ODOT approval</p>	<p>B. Conduct “Portland Walks -- Be Safe!” trainings at facilities serving seniors</p> <p>C. Implement Safer Routes to Schools Program at Vestal and Kelly Elementary Schools</p> <p>D. Conduct Young Driver Improvement / Graduated Drivers Licensing classes for young drivers and their parents</p>		<p>Funding identified for all actions</p>
Americans with Disabilities Act Compliance	<p>A. Install 59 curb ramps, locations and design subject to ODOT approval</p>			<p>A. Funding identified for 52 of 59 curb ramps</p>
Sidewalk Environment	<p>A. Add sidewalks where missing (list in plan)</p> <p>B. Remove unnecessary signs and poles that obstruct the sidewalk</p>	<p>C. Develop a letter campaign targeting businesses/property owners to maintain sidewalks, plants, etc.</p>		<p>A. Funding identified for 901 feet of sidewalk (out of total 2939 feet)</p> <p>B. Funding not identified</p> <p>C. Funding identified</p>
High Crash Locations	<p>A. Identify improvements at identified high crash intersections</p>	<p>B. Encourage violators to attend “Share The Road” safety classes</p>	<p>C. Increase enforcement at specific focus areas as staffing allows</p> <p>D. Consider installation of red-light cameras at high crash intersections listed within the top 40 most dangerous</p>	<p>A. Funding identified for items 1-3, planning and construction</p> <p>A. Funding proposed for item 4, planning only</p> <p>B., C. Funding identified</p> <p>D. Funding not identified</p>

Aggressive Driving	<p>A. Consider installation of speed reader boards</p> <p>B. Consider conducting a vehicle speed study</p>	<p>C. Implement a media campaign about stopping distance</p> <p>D. Encourage violators to attend "Share The Road" safety classes</p>	<p>E. Enforcement of aggressive driving (speed, lack of attention, improper lane change)</p> <p>F. Launch media campaign about enforcement of aggressive driving.</p> <p>G. Consider installation of red light cameras at high crash intersections listed within the top 40 most dangerous</p>	<p>A., C., G. Funding not identified</p> <p>B., D. Funding identified</p> <p>E., F. Funding proposed</p>
Wrong -Way Driving	A. Enhanced signage			A. Funding not identified
Access Management	A. While in development review, apply access management principles and standards of OAR 734-051 to new development			A. No funding needed
Connections to Existing Bicycle Facilities	A. Improve bike routes/network signage			A. Funding not identified
Safety for Riding Along & Across 82nd Avenue of Roses	<p>A. See #4A above</p> <p>B. Consider new parallel routes or bike lanes/bikeway on 82nd Avenue of Roses in Bike Master Plan planning process</p>	C. Support wrong way riding media campaign	D. Increase enforcement of bicycle riding laws	<p>A., B. Funding identified</p> <p>C. Funding not identified</p> <p>D. Funding proposed</p>

City of Portland Comprehensive Plan and Update

Author: City of Portland

Date: 1980 - Today; Updated 2015

The City of Portland Comprehensive Plan and Update sets the framework for physical development of the city. Plan designations describe the scale, intensity and type of development and activity allowed on the land. As a major transportation corridor, plan designations on 82nd Avenue are oriented toward higher intensity activity that combine commercial, residential and employment uses. The recent update to the Comprehensive Plan proposes further diversifying and intensifying uses along 82nd Avenue to create transit-supportive densities. Throughout the project area, the comprehensive plan update proposes changing the designation to Mixed Use Dispersed in northern sections of the corridor, and Mixed Use Civic Corridor through the central and southern sections of the project area.

Most Common Proposed Comprehensive Plan Designation Changes:

Mixed Use Dispersed. This designation allows mixed use, multi-dwelling or commercial development that is small in scale, has little impact, and provide services for the nearby residential areas.

Mixed Use Civic Corridor. This designation allows for transit-supportive densities of commercial, residential, and employment uses, including a full range of housing, retail, and service businesses with a local or regional market. This designation is intended for areas along major corridors where urban public services are available or planned including access to high capacity transit, frequent bus service, or streetcar service. The Civic Corridor designation is applied along some of the City's busiest, widest, and most prominent streets.

82ND AVENUE PLANNING CONTEXT

Span on 82nd Ave with Proposed Change Designation	Existing Plan Designation	Proposed Plan Designation
East side of 82nd Avenue from NE Webster Street to NE Alberta Street	Neighborhood Commercial	Mixed Use - Dispersed
West side of 82nd Avenue south of NE Alberta Street	Low Density Multi-Dwelling	Mixed Use - Dispersed
West side of 82nd Avenue south of NE Prescott	Neighborhood Commercial	Mixed Use - Dispersed
West and east side of 82nd Avenue from NE Skidmore Street to NE Siskiyou Street	Neighborhood Commercial	Mixed Use - Dispersed
West side of 82nd Avenue at NE Alameda Street	High Density Single-Dwelling	Institutional Campus
East side of 82nd Avenue from NE Knott Street to approximately NE Pacific Street	Urban Commercial	Mixed Use – Civic Corridor
West side of 82nd Avenue from NE Thompson Street to NE Tillamook Street	General Commercial	Mixed Use – Civic Corridor
West side of 82nd Avenue from NE Tillamook Street to NE Jonesmore Street	General Commercial	Mixed Employment
East and West of 82nd Avenue from NE Schuyler Street to SE Alder Street (with exception of Vestal Elementary School and Montavilla Park)	General Commercial	Mixed Use – Civic Corridor
East and west side of 82nd Avenue from SE Alder Street to SE Mill Street	General Commercial	Mixed Employment
East side of 82nd Avenue from SE Mill Street to SE Raymond Court	General Commercial	Mixed Use – Civic Corridor
West side of 82nd Avenue in the vicinity of SE Harrison Street	Urban Commercial	Mixed Employment
West side of 82nd Avenue in the vicinity of SE Harrison Street to near SE Division Street	Urban Commercial	Institutional Campus
West side of 82nd Avenue from SE Division Street to SE Raymond Court (with exception of Multnomah Park Cemetery)	General Commercial	Mixed Use – Civic Corridor
East and west side of 82nd Avenue from SE Raymond Court to SE Reedway Street	Central Employment	Mixed Use – Urban Center
East and west side of 82nd Avenue from SE Reedway Street to SE Glenwood Street	General Commercial	Mixed Use – Civic Corridor
East side of 82nd Avenue from SE Glenwood Street to SE Bybee Boulevard	Medium Density Multi-Dwelling	Mixed Employment
West side of 82nd Avenue from SE Cooper Street to SE Bybee Boulevard	Urban Commercial	Mixed Use Civic Corridor

City of Portland Transportation System Plan and Update	
Author: City of Portland	Date: 2007 - Today; Update 2015
<p>The City of Portland Transportation System Plan is the long-range plan to guide transportation investments for all modes of travel. Transportation investments are aligned to comply with Metro’s Regional Transportation Plan and to meet Citywide modal goals. The entirety of the project area falls under the 82nd Avenue Corridor Improvement project which seeks to make a number of multimodal improvements. The TSP also includes a pedestrian improvement project for the Eastside MAX station.</p>	
<p>TSP Projects in the Project Area:</p> <p>82nd Avenue Corridor Improvement. Years 1-10. Estimated Cost \$5,000,000</p> <p>Design and implement multimodal improvements to sidewalks, crossings, transit stops, striping, and signals to enhance pedestrian/ bicycle safety, access to transit, and transit operations. Project design will consider freight movement needs, consistent with policies, street classification(s) and uses.</p> <p>Eastside MAX Station Pedestrian Improvements. Years 11-20 Estimated Cost \$3,156,750</p> <p>Retrofit existing streets along eastside MAX and intersecting streets to include better sidewalks and crossings, curb extensions, and benches at 82nd, 148th, and 162nd Stations.</p>	

Clackamas County Comprehensive Plan	
Author: Clackamas County	Date: 2013
<p>The Clackamas County Comprehensive Plan guides land use and transportation planning for the County for years 2013 to 2033. The transportation system plan (Chapter 5) coordinates the priorities and projects for the County’s 16 cities, State of Oregon, and area transit agencies. The vision for the transportation system is to “build on the foundation of our existing assets, we envision a well-maintained and designed transportation system that provides safety, flexibility, mobility, accessibility, and connectivity for people, goods and services; is tailored to our diverse geographies; and supports future needs and land use plans.”</p>	
<p>TSP Projects in the 82nd Avenue Project Area:</p> <ul style="list-style-type: none"> ▪ 20 Year Capital Project on Johnson Creek Boulevard from OR 213 to 92nd Avenue: Add pedestrian facilities, restripe for bikeways (Project #1031) 	

Eastside MAX Station Communities Project (Station Area Plans)

Author: City of Portland Bureau of Planning and Sustainability, Portland Bureau of Transportation

Date: June 2009

The report documents the process of evaluating and selecting the transportation and land use plans for six station area communities served by MAX light rail in SE Portland. The project began with a community vision for the station areas and area maps summarizing the needs, opportunity, and constraints in the communities around the proposed station areas.

NE 82nd at Halsey and I-84 was one of the station areas included in the project. The station area at 82nd is at the crossroads of I-84, the Sullivan's Gulch Trail, and multiple transit lines. The community vision for the station is to serve as a true hub of activity with employment, commercial uses and access by foot, bicycle, bus, streetcar, light rail and vehicles. The community also envisions attractive, easy access to the station via a "red carpet" to the MAX Station on 82nd Avenue. The transportation plan for the station area revolves around the red carpet approach, and associated projects will be proposed in subsequent transportation system plans.

NE 82nd Avenue as a "Red Carpet"

The transportation plan for the 82nd Avenue station to create a "red carpet to the MAX" on 82nd Avenue increases the sidewalk width through dedications and reallocation of the right-of-way, and improves the streetscape with street trees, benches, and lighting. The other focus is on parallel bicycle routes to provide a safe route to the MAX station that minimizes the amount of travel on NE 82nd Avenue. Recommended projects include:

- NE 82nd Avenue streetscape improvements as Avenue of Roses.
- Bike boulevards on NE 80th Avenue and NE 86th Avenue to improve station access.
- Improved bike connection from NE Schulyer Street/NE 78th Avenue to NE Tillamook Street bikeway.
- Improved bike and pedestrian crossing at NE 82nd Avenue and NE Pacific Street.
- Station access connection to planned Sullivan's Gulch Trail.
- Separate pedestrian/bicycle bridge across I-84.

Imagine 82nd

Author: Insight Visioning & Planning (PSU Team)

Date: June 2008

Imagine 82nd is a corridor plan that presents three different community visions of NE 82nd Avenue between the Banfield Expressway (I-84) and Sandy Boulevard. The three visions offer varying levels of development intensity, based on community desires, market demand and development feasibility. The three scenarios are the result two community visioning workshops, one with 125 neighborhood residents and the other with Madison High School Students.

The vision statement, crafted by the community, imagines what NE 82nd Avenue could become: “NE 82nd Avenue of Roses connects surrounding neighborhoods and improves livability as a walkable, safe, green, attractive mixed-use destination that nearby residents are proud of. NE 82nd Avenue of Roses attracts a diversity of people, including families and artists. The corridor provides access to parks, open spaces, community gathering spots, health local food, and a variety of interesting local businesses.”

The Common Vision (shared across development scenarios)

- High quality, pedestrian-oriented, green development and redevelopment
- A marketplace for all, and especially for the neighborhood
- Homes and storefronts still affordable
- Safer pedestrian environment with wider sidewalks, more crosswalks and street trees
- Siskiyou Square site provides quality jobs, is compatible with neighborhood
- East-west greenway, north-south bikeway through Siskiyou Square
- Desired businesses have arrived, undesired ones have left
- Parks and schools are well used and well maintained
- Transit is convenient and safe
- Everyone feels safe and is safe at all hours

Vision 1: The Commercial Corridor (transportation elements)

- Comparable to NE Sandy Boulevard
- 12' sidewalk with individual tree planters
- Pedestrian crossing with median island at NE Brazee Street

Vision 2: The Professional Corridor (transportation elements)

- Comparable to SW Macadam Avenue in Portland, 'A' Avenue in Lake Oswego, Cornell Road in Hillsboro
- 12' sidewalk with 8' through-zone and 4' planter strips with trees
- Landscaped median throughout, giving way to left turn lanes at critical locations

Vision 3: The True Main Street (transportation elements)

- Comparable to SE Hawthorne Boulevard, SE Belmont Street and E Burnside Street in Portland
- Higher development intensities around transit nodes
- High-frequency streetcar route places #72 bus route with faster travel times
- One automobile travel lane in each direction, streetcars in the median, choice between on-street parking or bike lanes
- Pedestrian crossings at every intersection
- 12' sidewalk with 8' through-zone and 4' bioswale

Lents Five-Year Action Plan	
Author: Portland Development Commission & Partners	Date: May 2014
The Action Plan is a five year strategy for investments to implement the Lents Town Center Urban Renewal Area Plan (1998). The Lents Urban Renewal Area (URA) is the second largest URA in Portland, with six neighborhoods, three business districts, and a town center. From SE Powell Boulevard to SE Clatsop Street, SE 82nd Avenue plays an important role as a commercial corridor in the Lents community.	
Goals and Objectives for 82nd Avenue, Powell Boulevard, 122nd, Foster West and Foster East: <ul style="list-style-type: none"> ▪ Invest in commercial corridor safety ▪ Promote commercial corridor vitality and business development 	

Misc. Contract and Agreement No. 804	
Author: Oregon Department of Transportation and City of Portland	Date: 1944
Agreement 804 was drafted in 1944 to fix and define the respective duties, controls and responsibilities of the City of Portland and the State of Oregon concerning City Streets that were also State highways, such as 82nd Avenue. Subsequent agreements have been updated as necessary to assign construction, operation, and maintenance responsibilities.	
ODOT owns and maintains 82nd Avenue throughout the 82nd Avenue of Roses project area (from NE Killingsworth Street to SE Johnson Creek Boulevard). While ODOT maintains the road from curb to curb, ODOT shares jurisdiction over some of the sidewalks with the City of Portland. ODOT and the City of Portland also share responsibility in the maintenance and adjustments of traffic signals.	

Metro 2040 Plan (Regional Transportation Plan)	
Author: Metro	Date: 2014 (Updated)
The Regional Transportation Plan acts as a long-range blueprint to guide transportation investments over a twenty year planning horizon. The 2014 plan continued the goals, policies and objectives enacted in the 2035 Regional Transportation Plan, while updating the list of projects that will be eligible for federal funding (1071 in total).	
The trends shaping the demands on our transportation system today and in the future include: the role of the geographic setting, climate change, global economic competition, shifting demographics, growing congestion, changing travel behavior, deteriorating infrastructure and declining revenues, and public health, environmental and safety concerns. Transportation projects are intended to respond to the trends in ways that improve the health of individuals and communities.	
Metro 2040 Projects in Study Corridor <ul style="list-style-type: none"> ▪ Integrated corridor management plan on 82nd Avenue from Marine Drive to the Multnomah County line ▪ Project 11527: Address multi-modal needs and to address gaps by adding pedways and restriping for bikeways on Johnson Creek Boulevard between 82nd Avenue and 92nd Avenue 	

ODOT Region 1 Sidewalk Inventory	
Author: Oregon Department of Transportation Region 1	Date: 2013
<p>ODOT Region 1 conducted a needs inventory on the more than 800 miles of state highway in Multnomah, Washington, Clackamas and Hood River Counties. The project purpose was to identify gaps in walking and biking facilities, such as missing sidewalks, bike lanes, and paths. The inventory also identified areas where future investments would provide the most benefits for all roadway users. Maps pertaining to the 82nd Avenue of Roses Project includes Map 35, 42, 46, and 51 in the plan.</p>	
<p>Missing Sidewalks on 82nd Avenue</p> <ul style="list-style-type: none"> ▪ From NE Killingsworth Street to NE Alberta ▪ On the east side of the road north of NE Glisan Street ▪ Short segments between SE Woodstock Boulevard and the Springwater Corridor <p>Missing Bicycle Facilities on 82nd Avenue</p> <ul style="list-style-type: none"> ▪ From NE Killingsworth to SE Johnson Creek Boulevard (the entire Implementation Plan segment). 	

Oregon Department of Transportation Statewide Improvement Plan (STIP)		
Author: Oregon Department of Transportation	Date: 2006-2009 Amended; 2008-2011 Amended; 2010-2013 Amended	
<p>The Oregon STIP is the list of transportation projects from capital improvements, maintenance, and programming, to plan for meeting the State's transportation needs. The STIP is inclusive of the approved transportation projects from city, metropolitan, and regional transportation system plans.</p>		
Projects related to 82nd Avenue of Roses:		
Project Name	Project Description	Requestor/ Construction Year
OR213: NE Killingsworth – SE Flavel	Install electric message signs to improve operation of 82nd Avenue	Multnomah County / 2006
OR213:Cascade Highway North at Division Street	Intersection/signal upgrade; access management; install median curbs on Division Street and 82nd Avenue	Multnomah County / 2011

Pedestrian Network Analysis	
Author: TriMet	Date: March, 2012
<p>TriMet's pedestrian network analysis is an effort to assess areas within its service district that need improvement for pedestrians or mobility device users. The agency recognizes that the quality of the local pedestrian network is often a deciding factor in whether a person can, or is willing to take transit.</p> <p>The goals for the pedestrian network analysis were to:</p> <ul style="list-style-type: none"> ▪ Address the needs of seniors, people with disabilities, the economically disadvantaged, and school children; ▪ Make existing transit customers walking trips safer, more direct, and comfortable; ▪ Improve pedestrian safety and comfort through design and operations; ▪ Attract new transit and walking trips; and ▪ Leverage other public and private investments. 	

The project focused on ten areas to prioritize high activity, needs and opportunity areas where improvements to the pedestrian environment would have the highest economic, social and health benefits to the community. Two of the focus areas include 82nd Avenue, and one, SE Powell Boulevard and 82nd Avenue, falls within the 82nd Avenue of Roses Project Area.

TriMet proposed three performance measures to evaluate changes after project implementation occurs. The targets aim to: increase the number of residents who perceive the Focus Areas to be safe and comfortable by 30%; increase pedestrian volumes within the Focus Areas by 20%; increase ridership at transit stops with the Focus Areas by 10%.

Focus Area: SE Powell Boulevard and SE 82nd Avenue

In this area, light rail and bus connections converge nearby at the MAX Green Line Powell Street Station and the MAX Red/Blue Line 82nd Avenue Station. The area serves as a node with a variety of retail and service providers. The high existing transit ridership in this area combined with the mix of land uses makes this focus area a good location for infrastructure investments. The intersection has the second highest transit stop ons and offs, with 17,782 each week.

Observed Issues and Behaviors in Focus Area:

- Many people crossing the street on foot and cars turning at the intersection of SE 82nd Avenue and SE Powell Boulevard. In addition, motor vehicles were observed running red lights at this intersection, mostly on left turns. There are 17,782 people getting on or off a bus at this intersection every week. Most of them likely have to walk across this intersection.
- Many people crossing the street on foot and cars turning at the intersections of SE 82nd Avenue and SE Division Street, and SE 82nd Avenue and SE Holgate Boulevard. There are 17,953 people getting on or off a bus at this intersection every week. Most of them likely have to walk across this intersection.
- People walking along the side of the road on SE Powell Boulevard, east of I-205, where the sidewalk ends.
- Motor vehicles not stopping for people trying to cross SE Powell Boulevard at mid-block crossings and people crossing outside of marked mid-block crossings. Also, elderly residents crossing SE Powell Boulevard at SE 84th Avenue, near Kirkland Manor, to reach Westbound, Line 9 stop. There are no crosswalk or pedestrian facilities at this intersection.

Recommended Actions on 82nd in Focus Area:

- Shorten crossing distances, make crosswalks more visible, and lengthen crossing signal phases to allow children and senior citizens to cross the street comfortably in the protected phase (at the intersection of SE Powell Boulevard).
- Consider other signal treatments like leading pedestrian phases, automatic recall for pedestrian actuated signals, and right turn on red restrictions. Curb radius reduction, curb extension, and crossing island treatments should also be considered to shorten crossing distances.
- Install additional pedestrian warning systems at mid-block crossings along SE Powell Boulevard. Consider treatments like Rectangular Rapid Flashing Beacons (RRFBs) to provide more visibility to drivers and assist pedestrians with crossing the street.
- Build sidewalks that are at least 10 ft. wide along SE 82nd Avenue, where there are none, and widen existing sidewalk corridors all along SE 82nd Avenue, so there is landscaped buffer between pedestrians and the motor vehicles. The minimum sidewalk corridor width for a busy road like this should be 10 ft., including a landscaped buffer, but wider is better, preferably 14 ft.

Pedestrian Safety Studies on 82nd Avenue	
Author: Oregon Department of Transportation, Region 1	Date: June 2014
<p>ODOT conducted studies on sections of 82nd Avenue to assess conditions impacting pedestrian safety. The project created a list of deficiencies and possible improvements that would: 1) directly address factors that may be contributing to pedestrian crashes and 2) improve the pedestrian conditions that, while resulting in a safer pedestrian environment, were not necessarily related to existing pedestrian crashes.</p> <p>The studies took into account concerns raised by neighborhood stakeholders, pedestrian volumes and crashes, bus ridership, pedestrian crossing spacing and locations, and the land uses along 82nd Avenue that may impact pedestrian safety. The study segments (in three separate reports) include NE Webster Street to SE Division Street, NE Glisan Street to SE Division Street, and SE Division Street to Sunnybrook Boulevard.</p> <p>Throughout each of the segments, 82nd Avenue was found to experience heavy use by cars, truck, buses, and pedestrians. There are several pedestrian traffic generators along the corridors (high schools, a community college, light rail stations, and the most heavily used bus lines in the metropolitan area). Despite the heavy foot traffic, signalized intersections that offer safer pedestrian crossings are often widely spaced. Crossing at unsignalized intersections is made more difficult by few gaps in traffic and a lack of median refuges. Sidewalk conditions are poor: narrow, cracked, often obstructed by utility poles, sign posts, or bus shelters. There is little or no buffer between sidewalks and roadway traffic.</p>	
<p>Project Recommendations on 82nd from the Pedestrian Safety Studies- NE Webster to SE Division Street</p> <p>Highest Priority:</p> <p><u>Crossing Improvements</u></p> <ul style="list-style-type: none"> ▪ Near Portland Community College north of Division Street (add refuge island, RRFB system, signs, pavement markings) ▪ Near Portland Community College south of Harrison Street (add refuge island, signs, stop bar markings) ▪ Near Madison High School at Russel Street (add refuge island, signs, stop bar markings) ▪ Beech Street (add refuge island, signs, stop bar markings) ▪ Oregon Street (add refuge island, signs, stop bar markings) <p><u>Traffic Signal Improvements</u></p> <ul style="list-style-type: none"> ▪ Upgrade older pedestrian signal heads to current display standards with crossing count-down feature. This applies to the pedestrian signals at Mill Street and on the northeast corner of the Burnside intersection ▪ Investigate and re-time as needed the pedestrian clearance (flashing hand) intervals for crossings of 82nd Avenue ▪ Provide larger 12-inch red lenses and back plates on all signals for through traffic on 82nd Avenue to encourage greater motorist compliance <p><u>Other Improvements</u></p> <ul style="list-style-type: none"> ▪ Move southbound bus stop at Hassalo Street closer to the Multnomah Street traffic signal to encourage riders to cross at the signal <p>High Priority:</p> <p><u>Crossing Improvements</u></p> <ul style="list-style-type: none"> ▪ Klickitat Street (add refuge island, signs, stop bar markings) ▪ Schuyler Street (add refuge island on north side) ▪ Pacific Street (add RRFB system, signs, pavement markings) ▪ Ash Street (add refuge island on south side) ▪ Salmon Street (add refuge island on north side) <p><u>Traffic Signal Improvements</u></p> <ul style="list-style-type: none"> ▪ Implement one to two second leading pedestrian intervals (LPI) at signalized intersections where they do not exist today 	

and that have histories of pedestrian crashes or high volumes of pedestrians

- Add pedestrian push buttons (PPB) to the crossing of side streets at intersections that use flashing yellow arrow (FYA) permissive left turns.
- With PPBs installed, implement software that will not allow the FYA phase when a pedestrian call is received for the corresponding side-street crossing
- Add a left-turn signal and a protected phase for vehicles turning left into the Madison High School lot (Alameda Street)

Other Improvements

- Implement a right-run-only (RTO) restriction for the west leg (eastbound approach) at Multnomah Street
- Physically close (with rail barriers and signs) the pedestrian crossing of 82nd at the southwest corner of the Multnomah Street off-set intersection

Lower Priority:

Crossing Improvements

- Going Street (add refuge island on south side)
- Skidmore Street (add refuge island on north side)
- Failing Street (add refuge island on north side)

Traffic Signal Improvements

- Reconstruct the driveway approach (apron) at the Madison High School access (Alameda Street) with curb and gutter to create a street like look and feel.
- Install PPBs for the crossing of 82nd Avenue at Burnside Street

Project Recommendations from Study of SE Division to Sunnybrook Boulevard.

The study does not place priority on the recommendations. Projects within the 82nd Avenue of Roses Study Area include:

- Clinton Street – Consider future pedestrian refuge island
- Woodward Street – Signal equipment upgrade; modify signal operation to eliminate ped-left-turn (LT) conflicts; upgrade illumination
- Kelly Street – Pedestrian refuge island
- Powell Boulevard – Left turn enforcement and/or ped phase delay
- RRFB Crossing between Francis and Center Streets – Beacon placement changes’ foliage-sight distance inspections
- Boise Street – Signal operation changes to eliminate ped-left-turn conflicts
- Holgate – Consider education and/or enforcement programs for area bicyclists
- Schiller Street – Pedestrian Refuge Island; move NB bus stop; investigate illumination needs.
- Raymond Street- Upgrade signal equipment
- Mitchell Street – Pedestrian refuge island; investigate illumination needs
- Midblock between Inslay and Mitchell Streets – New midblock crossing with Rectangular Rapid Flash Beacon; investigate illumination needs
- Foster Road – Consider pedestrian education/enforcement programs; enhanced warning features for right turn only lanes
- Ramona Street – Pedestrian refuge island; investigate illumination needs
- Woodstock Boulevard – Interim: split phase or add left turn signals and phases; Long term: complete intersection upgrade, consider additional illumination
- Tolman Street – Consider a future pedestrian refuge island
- Duke Street – Interim: operate split phase on Duke; Long term: complete signal upgrade; provide protected left turns from Duke Street
- Duke Street to Cooper Street – Upgrade sidewalk and ADA ramps to standard
- Ogden Street – Pedestrian refuge island; investigate illumination needs; install sidewalks in deficient areas
- Flavel Street – Upgrade signal equipment
- Lambert Street - Pedestrian refuge island; move one bus stop; investigate illumination needs
- Springwater Trail - Consider publicized enforcement of pedestrians who cross against the signal
- Harney Street (east) – Pedestrian refuge island; investigate illumination needs.
- Luther Street – Pedestrian refuge island; move southbound bus stop; investigate illumination needs.
- Between Luther Street and Gray Street – Construct sidewalk on east side

- Between Gray Street and Cornwell Street – Bring sidewalk on west side to standard width
- Between Cornwell Street and Lindy Street – Pave sidewalk on east side; consider a bicycle education and violation enforcement campaign
- Clackamas Street – Pedestrian refuge island

Portland Bicycle Plan for 2030

Author: Portland Bureau of Transportation

Date: 2010

The Portland Bicycle Master Plan for 2030 envisions the network of bicycle infrastructure needed to meet the needs of Portlanders today and into the future. The plan is defined by the vision of “A healthy community, vibrant neighborhoods, and bicycles everywhere!”

The plan recommend expanding the network of planned bikeways from 630 to 962 miles. The network is made of varying levels of infrastructure intensity from painted sharrows on greenways to cycle tracks. On 82nd Avenue, the plan calls recommends a future in-roadway bikeway, described as bike lanes, buffered bike lanes, or cycle tracks. The recommendation for 82nd Avenue spans the whole of the study area, from NE Killingsworth Street to the Springwater Corridor trail.

The plan proposes low-stress bicycle boulevards (now called neighborhood greenways) on parallel north-south routes including: on 77th Avenue between NE Alberta and Sacramento Street, and on 80th Avenue between NE Halsey Street and Harrison Street. The boulevard continues from Harrison Street to SE Flavel, on segments from 75th Avenue to 78th Avenue, jogging east as the corridor moves south.

List of recommended projects on or crossing 82nd Avenue

- 8004 – Ambassador Street – Bicycle boulevard or enhanced shared roadway connecting to NE 82nd Avenue
- 8043 – Duke Street- Bicycle boulevard from SE 82nd Avenue to SE 92nd Avenue
- 8092 – On Knapp- street: separated in roadway on 82nd from Ogden Street
- 8205- Outer NE Tillamook – Multiple facility types: separated in-roadway (78th-82nd); bicycle boulevard from 82nd to 92nd Avenue
- 8231 – Schuyler Street Bicycle boulevard that connects to 82nd Avenue on 81st Avenue and Halsey Street
- 8258 – Bicycle boulevard on SE Center from SE 42nd to SE 82nd Avenue

Portland’s Neighborhood Greenways Assessment Report

Author: Portland Bureau of Transportation

Date: 2015

The report offers an assessment of the Portland’s more than 70 miles of neighborhood greenways. When the program began nearly 30 years ago, the residential streets were called “bicycle boulevards” and designed to prioritize bicycling and enhance walking. The program of investing in a network of greenways has enjoyed popular support, and the project is intended to collect data on the performance of the greenways, understand their role within the wider transportation system, and to offer recommendations on how to expand and improve the greenways system.

Staff found that in Portland neighborhoods where overall bicycle use is high, bicycle ridership on neighborhood greenways is also high. While a majority of neighborhood greenways are meeting PBOT’s recommended guidelines for automobile speed and volume, some of the key older greenways are not meeting PBOT’s recommended guidelines for automobile speed and volume (including SE Clinton, SE Lincoln-Harrison, and NE Tillamook-Hancock). Nearly all segments of neighborhood greenways built after 2008 are meeting PBOT’s guidelines. These more recent neighborhood greenways took advantage of improved engineering tools and more stringent performance guidelines than neighborhood greenways built from 1988 to 2007.

82nd Avenue of Roses and Greenways

While 82nd Avenue is not a greenway, two neighborhood greenways cross 82nd Avenue of Roses. They include Mill Street, and Tillamook Street which approaches 82nd Avenue, but does not continue as a greenway on the west side of 82nd Avenue.

The closest parallel north-south greenway routes include 86th Avenue south of I-84 to Clinton Street, and 53rd Avenue from Hancock Street to Lincoln Street.

Powell-Division High Capacity Transit Plan (Portland Action Plan and Transit Acton Plan)

Author: City of Portland

Date: 2015

The Powell-Division Transit and Development Project is a partnership of the cities of Gresham and Portland, Multnomah County, the Oregon Department of Transportation, TriMet and Metro to link Portland to Gresham via high capacity transit. The Action Plans within the Transit and Development Project create a vision and actionable strategy for key places (often future station areas) within the project alignment.

The Portland Local Action Plan is a companion plan to support the Powell-Division Transit and Development Project. This plan focuses on the land use concepts and community development actions for the Powell-Division transit corridor within the City of Portland. The transportation goals entail people having safe and convenient transportation options- including efficient and frequent high capacity transit service that enhances current local transit service.

The Transit Action Plan includes the recommendations of the Steering Committee based on the technical work and public engagement. The plan identifies a preferred near-term high capacity transit solution for the corridor, including a unanimous recommendation to use 82nd Avenue as a north-south crossover route.

Projects and area designs included in the Portland Action Plan and the Transit Action Plan pertaining to 82nd Avenue include:

Portland Action Plan 82nd Avenue/ Jade District Opportunity Area Concept-

The study area reaches from SE Stark Street to SE Powell Boulevard. The concept plan recommends pedestrian-oriented streetscape enhancements, along with intersection and crossing improvements at each major cross street. The entire alignment is a recommended focus area for redevelopment. Division Street, Powell Boulevard, and 82nd Avenue north of Brooklyn Street are each recommended for new or improved pedestrian and/ or bicycle connections.

Transit Project Design and Development Actions:

- Jade District Connectivity: Scope and design an urban design and multimodal transportation analysis of the multi-dwelling residential area between Division Street, Powell Boulevard, 82nd Avenue and I-205, with the goal of increasing connectivity and safety.
- Transportation System Plan (TSP) Policy: Policy for Powell Blvd between 54th and 82nd Avenues from a Transit Access Street to a Major Transit Priority Street, if transit alignment includes Powell Boulevard in this area.
- 82nd Avenue safety improvements at Division Street and other locations (ODOT).

Vestal Safe Routes to Schools Plan

Author: Portland Bureau of Transportation

Date: December 2006

The Portland Bureau of Transportation undertook a safe routes to schools study for Vestal Elementary School, located on NE 82nd Avenue. To assess the conditions of access to the schools, project staff conducted two site

visits to walk the area with school representatives, parents and kids. They listened to safety concerns, identified barriers, and noted where inconvenient access may keep children and their parents from walking to the school.

Walking or bicycling to Vestal Elementary is challenging due to its location between several major city streets with high traffic volumes (Glisan Street to the north, 82nd Avenue to the east, and East Burnside Street to the south). Concerns about access to the school were categorized by safety, convenience, and miscellaneous concerns. Following the identification of concerns, project engineers identified solutions for improving access to the school.

Concerns relating to 82nd Avenue include:

- Vehicle congestion on 82nd Avenue
- Poor or missing pedestrian or bike paths on 82nd Avenue (between Glisan Street and Couch Street, from Pacific Street to Glisan Street)
- Visibility issues at corners of 82nd Avenue and Everett and Davis Streets
- Beacons on 82nd Avenue are mounted too high
- Maintenance of existing school crosswalk markings
- Review placement and condition of school warning signs

Solutions relating to 82nd Avenue include:

- Construct a six to eight foot sidewalk separated from the curb by four feet on NE 82nd Avenue. This would require an easement of four feet as current ROW does not have the space.
- Relocating a fence on east side 82nd Avenue to expand sidewalk between Pacific to Glisan Street.
- Removal of sign at corner of NW 82nd and Everett to improve sight distance and visibility.
- Supplement or replace turn restriction signs at 82nd Avenue and Everett Street.
- Investigate roadside improvements at NE 82nd Avenue and Davis Street, including potential curb extensions.
- Lower the height of beacon at 82nd Avenue and Everett Street.