

MCLOUGHLIN BOULEVARD INVESTMENTS STRATEGY



**Serving Communities with Safer Walking,
Biking, and Transit Connections**

JULY 2023



DRAFT

ACKNOWLEDGMENTS

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The Oregon State Highway Commission paid \$468.50 for a right-of-way along Johnson Creek to build the "super highway" known today as McLoughlin Boulevard. —City of Milwaukie, Office of the City Recorder



1937 - McLoughlin Blvd, Oregon 99E, looking south from the SE Bybee Boulevard overpass. Source: Oregon State Archives

INTRODUCTION

The Super Highway

When the State of Oregon built McLoughlin Boulevard in 1937, it envisioned a modern super highway. This high-speed miracle route would sweep Oregon's new motorists through acres of pasture and farmland north to Washington and south to California.

What the highway's designers didn't envision were the streets, homes, and businesses that would one day replace those vast, empty fields.

Navigating a divided neighborhood

As the community surrounding McLoughlin has grown and changed, the highway has not. The more people there are in the area, the more conflicts arise between motorists and people on foot or riding bikes.

McLoughlin is the main north-south route through an area hemmed in by the Willamette River to the west and Kellogg Creek to the east. Taking a trip to the grocery store, school, library, or laundromat and back home likely means using McLoughlin, no matter how people get around.

Many people walk or bike on McLoughlin, despite sidewalk gaps and presence of high-speed cars and trucks. People who need to reach jobs and opportunities outside the area often depend on the Line 33 bus route and the MAX Orange Line, which ends on McLoughlin at the Park Avenue MAX Station.



Sadly, there have been seven fatal crashes in the past five years on the stretch of McLoughlin between Milwaukie and Oregon City. All seven involved a pedestrian or wheelchair user. Every day, people walking, biking and taking transit use facilities that feel unsafe in an environment built for cars and trucks.

What would make it better?

How can we make McLoughlin safer for the people who live, walk, and bike along it daily? How will we make sure we're ready when new funding opportunities arise? These questions guided the creation of this plan. Many of the improvements McLoughlin needs to prepare for future growth and change are not yet funded, but ODOT has made some important recent improvements. More improvements are on the horizon that will make it safer for kids to get to school, for people to get to work, and for everyone to thrive within a better-connected community.

5,970 people
travel by transit through
the corridor each day



Source: T2020 Corridor: McLoughlin/OR99E (Metro)

Our focus area

This study examined a 4.5-mile stretch of McLoughlin Boulevard between Milwaukie and Oregon City that serves unincorporated Clackamas County, Gladstone, the unincorporated communities of Jennings Lodge and Oak Grove, and nearby Milwaukie and Oregon City. Businesses front the roadway and neighborhoods, schools, libraries, parks, and other community destinations are found nearby.

The Trolley Trail—a regional multi-use trail—crosses McLoughlin at the Jennings Avenue traffic signal. The Park Avenue MAX Station and TriMet bus stops on McLoughlin also draw substantial foot and cycling traffic.

This area is home to many lower-income families, Hispanic people, people of color, and/or young and elderly people. Many have limited English proficiency, live with a disability, live in crowded households, or do not have access to a car. People in these groups are more likely to depend on walking, bicycling, or transit to get around.



2023 – Crosswalks see heavy use at the intersection of McLoughlin Boulevard and Park Avenue. Adjacent to the Park Avenue MAX Station.

Where people go: important destinations in our focus area



What are considered key destinations?

- Grocery stores or major retail stores
- Schools
- Parks
- Libraries
- Government offices such as post office or city hall

- Study Corridor
- Schools
- MAX Station
- MAX Orange Line
- Trolley Trail
- Key Destination

SAFETY ON MCMCLOUGHLIN



From 2016 to 2020, there were

666

reported crashes on this **4.5-mile stretch of McLoughlin Boulevard.**

There were seven fatal crashes, each with one fatality. All of those killed were people walking or using a wheelchair.



ALL 38

PEDESTRIAN CRASHES and

ALL 15

BICYCLE CRASHES resulted in an **injury or fatality for the pedestrian or bicyclist.**



Several locations are missing sidewalks on either side of the road. In some places people have to walk long distances to cross McLoughlin at a crosswalk with a traffic signal or other safety enhancement. These safer crossings are a third of a mile apart on average today, meaning it can take someone over 6 extra minutes to walk to a safe crossing and backtrack to continue their journey.



People of all ages and abilities rely on walking and biking on and across McLoughlin daily.



Several sections of McLoughlin are missing sidewalks. Bicyclists often ride on the sidewalks, where they exist, or facing traffic because they do not feel safe in the standard bike lanes.

Cyclists ride mostly in standard bike lanes or buffered bike lanes with no vertical separation. These bike lanes disappear at many intersections, replaced by a right-turn lane for cars. Many people bike on the sidewalks or facing traffic in the bicycle lanes because they do not feel safe.

While many people live on or near McLoughlin, its entire length is a high-stress environment for people bicycling. No section is considered comfortable for people of all ages and abilities.

The McLoughlin Investment Strategy includes numerous walking and biking projects to fill gaps and improve safety and comfort. Creating safe places for people to walk and bike along McLoughlin Boulevard will increase safety for these vulnerable users and make it safer to access transit..



Crashes Along the Corridor

There were 53 crashes from 2016-2020 involving people walking and biking on the corridor. Crashes affecting pedestrians and cyclists have happened at key intersections, like Park Avenue and Jennings Avenue, but are also dispersed throughout the corridor. Many crashes occur in locations where people need to cross without an enhanced crossing.

53 **CRASHES**
from 2016-2020
involving people walking and
biking on the corridor.

-  Pedestrian Related Fatality
-  Pedestrian Related Severe Injury
-  Bicycle Related Severe Injury
-  Pedestrian Related Moderate Injury
-  Bicycle Related Moderate Injury
-  Pedestrian Related Minor Injury
-  Bicycle Related Minor Injury





The project team collected input from a range of community members at destinations along the corridor including a grocery store, food bank, and the Oak Lodge library.

Potential Improvements

| | | | |
|---|--|---|--|
| <p>Pedestrian Crossing Improvements</p> | | <p>Speed Management Treatments</p> | |
| <p>Bike Lane Improvements</p> | | <p>Safety at Signalized Intersections</p> | |
| <p>Transit Speed Improvements</p> | | <p>Location Specific Treatments: Jennings Ave (Trolley Trail)</p> | |
| <p>Add Missing Sidewalks</p> | | <p>Location Specific Treatments: Clackamas River Bridge</p> | |

Public Input for Potential Improvements

PUBLIC INPUT

Making McLoughlin safer and more accessible for people walking, biking, and using mobility devices could take many forms. Listening to community members, business owners, and local organizations helped ODOT decide which improvements to focus on making over the next 10 years, and which ones should be made soonest.

Who Participated?

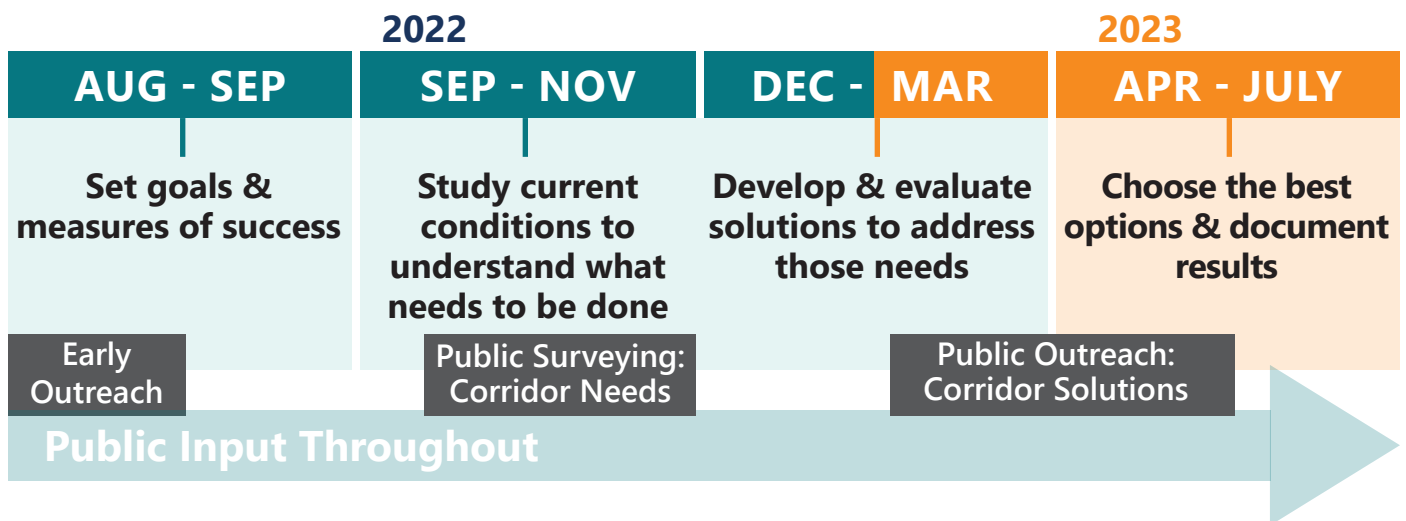
ODOT reached out to the community in many different ways throughout the study. It was important to capture multiple perspectives, including those of people of color, non-English speakers, and people with disabilities.

Community Sounding Board

The Community Sounding Board, an advisory group for this study, provided valuable input on the needs of people living along the corridor, including how to reach, how to reach out to different parts of the community, and community priorities.

Members of this group include representatives from the Jennings Lodge CPO, Oak Grove Community Council, North Clackamas School District, Safe Routes to School, Friends of the Trolley Trail, Park Avenue CAC, and ADA and walking and biking advocates.

There have been two Community Sounding Board meetings and a third is scheduled for summer 2023, once this draft plan is published.



Other Outreach

- In summer 2022**, project staff tabled at the Oak Grove Festival (formerly the Trolley Trail Fest) to inform the public about the project, hand out an information sheet, answer questions, and gather contact information for those interested.
- In fall 2022**, the team went to the community for input about their experiences on the corridor. Online surveys were available in both English and Spanish from October 17 to November 1, 2022. There were 88 responses in English and five responses in Spanish. The project team also surveyed 61 people walking, biking, and accessing transit in person at key locations along McLoughlin. In total, there were 154 survey participants.
- In spring 2023**, the team held drop-in and walk-up events at the Oak Lodge Public Library, Grocery Outlet, and Good Roots Community Church's Food Bank to capture a range of community member experiences getting around and what improvements they would prefer along the corridor. Project staff spoke to approximately 80 people. An accompanying online open house saw 248 participants. These events were advertised through fact sheet mailers and printed fliers, on social media, and on Spanish-language radio.

ESTRATEGIAS DE INVERSIÓN EN MCGLOUGHLIN



El Departamento de Transportación de Oregon está indagando en cómo mejorar la seguridad en el transporte a lo largo de 5 millas de McLoughlin Boulevard, desde el sur del Milwaukie hasta Clackamas River.

Con este esfuerzo, nosotros:

- Identificaremos cómo mejorar la seguridad en el transporte de peatones, ciclistas y personas que usan monopatines y sillas de ruedas, y cómo mejorar el acceso al transporte público durante los próximos 10 años.
- Les preguntaremos a los usuarios de la carretera y a los residentes de los barrios adyacentes sobre las soluciones de transporte que son más importantes para ellos.
- Planearemos cómo darle cabida a esos proyectos dentro de los proyectos programados para el futuro o identificaremos otras fuentes de recursos para su ejecución.

Después de escuchar a los residentes y usuarios de la comunidad a lo largo de McLoughlin Boulevard, el ODOT decidirá cuáles mejoras hacer y cuáles mejoras deben hacerse más prontamente.



| 2022 | | 2023 | |
|-------------------------------------|--|---|---|
| AGO - SEP | SEP - NOV | DIC - MAR | ABR - JUN |
| Establecer metas y medidas de éxito | Estudiar las condiciones actuales para comprender que debe hacerse | Desarrollar y evaluar soluciones para abordar tales necesidades | Elegir las mejores opciones y documentar los resultados |

¿QUÉ ES UNA ESTRATEGIA DE INVERSIÓN?

Un esfuerzo para identificar las mejoras de seguridad vial que puedan tener el mayor impacto en la comunidad y que le permitan al ODOT identificar las oportunidades de financiación futuras para la ejecución de los proyectos prioritarios.

SUS SUGERENCIAS SON BIENVENIDAS A LO LARGO DEL PROYECTO:

CONTACTO DEL PROYECTO

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SITIO WEB DEL PROYECTO
 TinyURL.com/ODOTMcLoughlinStrategy





The factsheet on the opposite page was used throughout the project to share information and provide community members with a contact for sending ongoing input. Above, community members share feedback on proposed solutions.

WE HEARD YOU!

It's dangerous to cross between any of the major traffic signals, so it would be great to have flashing lights anywhere the bus stops are between the traffic lights.



The cars totally own that road—it is not safe for anyone outside of a car.

As a driver I'm frequently concerned for pedestrian safety.

Concord and McLoughlin is a very dangerous intersection.

“

The intersection of Arlington, River Road and McLoughlin needs to be straightened to give drivers better guidance about traffic direction. Too many cars turn left from Arlington in front of oncoming traffic from River Road. This also makes it dangerous for pedestrians, who have to watch out for those cars.

”

This road is so dangerous—it's so hard to cross at many streets.

Sometimes I see pedestrians almost hit by cars turning left. I jog and bike the trolley trail too and I say a prayer when I cross here!

“

Jennings and McLoughlin Blvd is very dangerous. There are no sidewalks and the car lots fill up the sides of the streets with parked cars, so the only option is walking out in traffic.

”

Connecting the Trolley Trail across McLoughlin at Jennings is really important. We ride through our with trikes and there is not enough room at any corner at this intersection to feel safe while crossing.

Jennings and McLoughlin is terrible. I've seen two accidents happen right in front of me in 10 years.

Pedestrians need safe crosswalks with lights to signal drivers. It's not always easy seeing them.



The cars drive so fast—way over the speed limit—so it's terrifying to walk on that street and there's no way I would ride a bike on it. It would be like riding a bike on a freeway.

We need additional safe pedestrian crossings like the ones that were recently installed. Well lighted to improve visibility.

Arlington! Drivers heading west out of Gladstone constantly run through that red light. So many accidents and near misses there.

SE Park by the MAX and north to downtown Milwaukie. The apartments on the east side have many pedestrians/bikes/dogwalkers who are focused on catching the next bus/train.



There is no marked, let alone signaled, way to cross 99E between Park and Courtney. And it is a very long walk (with no sidewalk in places) in this stretch to get to a spot where you can cross.





PROJECT PROCESS



Establish project goals and identify land use context

- Early community outreach at the Oak Grove Festival



Corridor understanding and safety assessment

- Public event 1
- Previously identified needs and projects
- Safety analysis
- Crossing assessment
- Road Safety Audit Lite: focused multi-day site visits and work sessions to identify needs and early solutions



Solutions development

- Motor vehicle operations analysis



Evaluation -> key projects

- Public event 2



Funding assessment and implementation plan

- Public Outreach Event 2
- Funding sources
- Leverage opportunities



Final McLoughlin Boulevard Investment Strategy



WE'RE MAKING PROGRESS!

Because of the conditions described in this report, improving the McLoughlin Boulevard corridor is a priority for the region and state. ODOT has already begun to make important changes.

Recent improvements

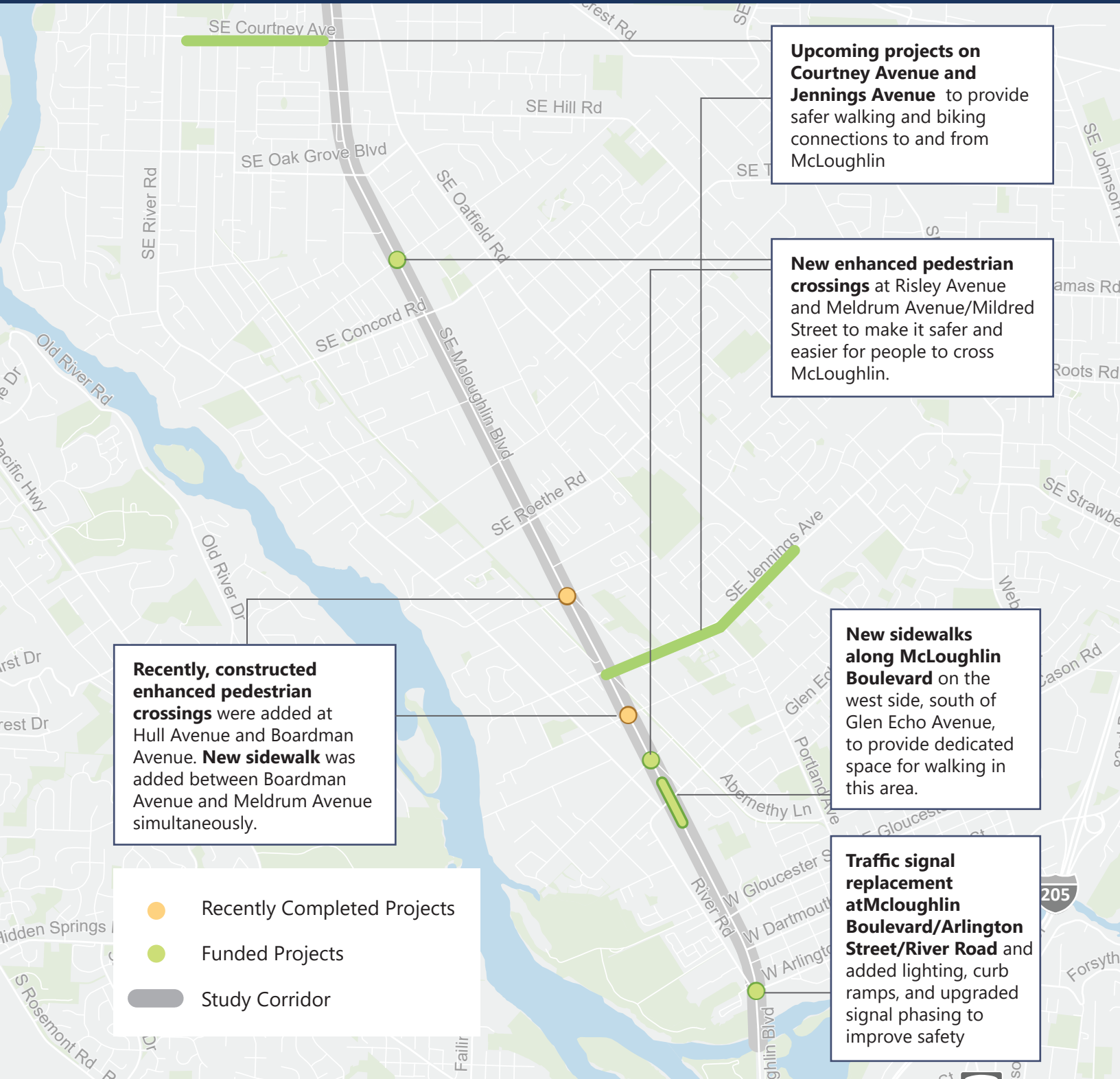
- **Enhanced pedestrian crossings** with rectangular rapid flashing beacons (RRFBs) were added at Hull Avenue and Boardman Avenue to make it safer and easier for people walking and biking to cross.
- **New ADA** ramps along the corridor fill previous accessibility gaps.
- **Signal improvements**, including leading pedestrian intervals and protected left turns, have been implemented to make it safer for people crossing at signalized intersections.
- **Buffered bike lanes** were added at the southern section of the corridor, south of Roethe Road, making it safer and more comfortable to bike on that stretch.
- **Sidewalk infill** was completed between Boardman Avenue and Meldrum Avenue to give people dedicated space to walk.



New RRFBs were added at Boardman and Hull.

Improvements ahead

Let's rewrite the first sentence this way. "ODOT's upcoming 2024-27 Statewide Transportation Improvement Program includes state- and federally-funded transportation projects in Oregon. The upcoming draft 2024-2027 STIP includes multiple projects along this section of McLoughlin, including:



New ADA ramps and signal improvements to improve safety have been added recently; similar signal and curb ramp upgrades may be added in the future as part of ongoing ODOT programs.



A buffered bike lane near SE Hull Avenue along McLoughlin Boulevard

FUTURE INVESTMENTS FOR A SAFER MCLOUGHLIN

When identifying projects, it's important to get the most-needed improvements in place first. Not only will this help the community, it will put McLoughlin in a stronger position for upcoming funding opportunities. This investment strategy was also set up to help ODOT see where needed improvements can leverage other planned and funded projects in the area, making the most of available funds.

Recommended key investments

The project team collaborated with the community to draw up a long list of potential near-term pedestrian, bicycle, and transit improvement needs. The project team used this input and a number of evaluation criteria to identify priority projects. Evaluation criteria included project feasibility, community support/equity, pedestrian safety and comfort, bicyclist safety and comfort, and quality of transit service and access. Through the evaluation process, several high-priority initiatives rose to the top.

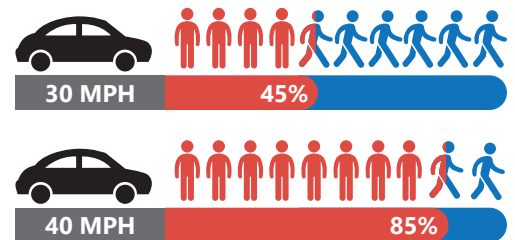
Recommended key investments

- **SAFER CROSSINGS**—Enhanced pedestrian crossings at Silver Springs Road, Maple Street, Holly Farm, and Dartmouth Street would provide direct connectivity to transit stops and other significant destinations and reduce the distance people need to walk to comfortably cross McLoughlin Boulevard.
- **SLOWER SPEEDS**—A group of improvements focused on speed management can slow speeds and improve safety for everyone. This initiative includes speed feedback signs, lane narrowing, and medians where possible.
- **SAFER WALKING**—Adding sidewalk at a critical location, southwest of Courtney Avenue, would reduce the need to walk in traffic. The longer list includes more projects that close gaps in the sidewalk network.
- **SAFER TROLLEY TRAIL CROSSING**—The existing Trolley Trail crossing at Jennings Avenue is uncomfortable and challenging to navigate. Improvements may include a diagonal bike crossing, formalized trail connections to the intersection, enhanced crosswalk striping, and wayfinding.
- **SAFER CYCLING AND FASTER TRANSIT**—Comfortable and consistent bike lanes along the entire corridor are a pressing need. This includes buffered or separated bike lanes, where possible, restriping intersections to provide a consistent bike lane, narrowing travel lanes to make space for people biking and encourage slower speeds, and installing queue jumps—dedicated lanes and signal phases that allow buses a head start—at four key intersections.

SLOWER SPEEDS ARE SAFER SPEEDS

The speed limit on McLoughlin Boulevard is **40 MPH**. Recent ODOT guidance suggests that based on the context, a speed of **30 – 35 MPH** is more appropriate.

Struck at 30 MPH, 55% of pedestrians survive the crash. At 40 MPH only 15% of pedestrians survive a crash.



Slowing speeds is critical to creating a safe system, and the Investment Strategy's speed management treatments should set ODOT up to be able to reduce the speed limit in the future.



VISION FOR THE FUTURE

The builders of the McLoughlin “super highway” envisioned a kind of freedom no one in Oregon had experienced before. Today, we envision another kind of freedom—the freedom to navigate your neighborhood on foot, get to work on the train or bus, or ride your bike to school without worrying about getting where you are going safely.



APPENDIX A



McLoughlin Boulevard Investments Strategy Draft Project List

Color Key

| | | | |
|--------|----------------|---------------|---------------------|
| Funded | Key Investment | High Priority | Low/Medium Priority |
|--------|----------------|---------------|---------------------|

| ID | Project Name | Extent 1 | Extent 2 | Description | Priority (H/M/L) | Level of Effort (H/M/L) | Cost | Corresponding Projects |
|--------------------------|---|----------|----------|---|------------------|-------------------------|------|------------------------|
| Crossing Projects | | | | | | | | |
| C1 | Silver Springs Road Enhanced Crossing | MP 7.04 | MP 7.04 | Add an enhanced crossing treatment on the south side of Silver Springs Road to improve pedestrian safety and comfort when crossing McLoughlin Avenue. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | H | M | \$\$ | |
| C2 | Holly Avenue Enhanced Crossing | MP 7.25 | MP 7.25 | Add an enhanced crossing treatment north of Holly Avenue near the TriMet bus stop to improve pedestrian safety and comfort when crossing McLoughlin Avenue. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | H | M | \$\$ | |
| C3 | Maple Street Enhanced Crossing | MP 7.70 | MP 7.70 | Add an enhanced crossing treatment to improve pedestrian safety and comfort when crossing McLoughlin Avenue. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | H | M | \$\$ | |
| C4 | Dartmouth Street Enhanced Crossing | MP 10.89 | MP 10.89 | Install an enhanced crossing treatment to improve pedestrian safety and comfort when crossing McLoughlin Avenue. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | H | M | \$\$ | |
| C5 | McLoughlin Avenue/Meldrum Avenue/Mildred Street Enhanced Crossing | MP 10.14 | MP 10.14 | Add an enhanced crossing treatment to improve pedestrian safety and comfort when crossing McLoughlin Avenue. Investigate closing off Mildred Street. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | H | H | \$\$ | |
| C6 | Risley Avenue Enhanced Crossing | MP 8.21 | MP 8.21 | Signalize the intersection or add enhanced crossing to improve pedestrian safety and comfort when crossing McLoughlin Avenue. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | H | M | \$\$ | |
| C7 | Silverleaf Lane Enhanced Crossing | MP 8.10 | MP 8.10 | Add an enhanced crossing treatment to improve pedestrian safety and comfort when crossing McLoughlin Avenue. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | H | M | \$\$ | |
| C8 | Holly Farm Midblock Enhanced Crossing | MP 8.60 | MP 8.60 | Add an enhanced crossing midblock at the existing pedestrian median island to improve pedestrian safety and comfort when crossing McLoughlin Avenue. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | H | M | \$\$ | |
| C9 | Ina Avenue Enhanced Crossing | MP 9.40 | MP 9.40 | Add an enhanced crossing treatment to improve pedestrian safety and comfort when crossing McLoughlin Avenue. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | H | M | \$\$ | |

| | | | | | | | | |
|-----|---|----------|----------|---|---|---|------|--|
| C10 | Glen Echo Avenue to Gloucester Street Enhanced Crossing | MP 10.30 | MP 10.75 | Add an enhanced crossing treatment at the TriMet stops near MP 10.6 to improve pedestrian safety and comfort when crossing McLoughlin Avenue. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | H | M | \$\$ | |
| C11 | Chestnut Street Enhanced Crossing | MP 7.58 | MP 7.58 | Add an enhanced crossing treatment to improve pedestrian safety and comfort when crossing McLoughlin Avenue. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | H | M | \$\$ | |
| C12 | Lakewood Drive Enhanced Crossing | MP 6.57 | MP 6.57 | Add an enhanced crossing treatment to connect to the bus stop, likely including advanced flashers due to sight distance. Refer to the ODOT Traffic Manual for recommended enhanced treatments. | M | M | \$\$ | |
| C13 | Boardman Avenue Enhanced Crossing | MP 9.51 | MP 9.51 | Evaluate potential enhancements to existing pedestrian crossing at Boardman Avenue to promote driver yielding and encourage pedestrians to cross at this location. Refer to the ODOT Traffic Manual for recommended additional enhanced treatments. | L | L | \$ | |
| C14 | Hull Avenue Enhanced Crossing | MP 9.97 | MP 9.97 | Evaluate potential enhancements to existing pedestrian crossing at Hull Avenue to promote driver yielding and encourage pedestrians to cross at this location. Refer to the ODOT Traffic Manual for recommended additional enhanced treatments. | L | L | \$ | |

Speed Management Projects

| | | | | | | | | |
|-----|---|----------|----------|---|---|---|------|---------------|
| SM1 | Narrow Lane Widths to Encourage Slower Speeds | MP 6.70 | MP 11.20 | Restripe corridor to provide 11' travel lanes and provide extra space for bike lane buffers along the entire corridor; hydroblast (lower cost) or grind and overlay (higher cost) to remove past lane-line skip striping. Add vertical separation in the buffer for protected bike lanes (ex: Tuff-Curb) when possible to more effectively reduce speeds. | H | M | \$\$ | BL1, BL2, BL5 |
| SM2 | Speed Feedback Signs | - | | Install speed feedback signs at strategic locations. | H | L | \$ | |
| SM3 | Reduce Speed Limit | - | | After speed management treatments have been implemented (especially speed feedback signs and lane narrowing), conduct a speed study with the intention of lowering the speed limit on McLoughlin Boulevard to 35 mph to improve safety for all users, better match the corridor context, and reduce transit delay by allowing in-lane boardings and alightings. | H | M | \$ | |
| SM4 | Planted Medians | MP 6.70 | MP 6.87 | Add a landscape median just north of Park Avenue to manage speeds at the entrance to the corridor. Plantings should accommodate sight distance at the crossing and intersection at Lakewood Dr. | M | L | \$ | |
| SM5 | City of Gladstone Automated Enforcement | MP 10.43 | MP 11.20 | Implement automated speed enforcement (would require partnership with local police). | L | M | \$ | |

Sidewalk Projects

| | | | | | | | | |
|-----|--|----------|----------|--|---|---|--------|--|
| SW1 | Glen Echo Avenue Sidewalk Infill | MP 10.23 | MP 10.39 | Fill in the sidewalk and define driveways on the west side of McLoughlin Boulevard south of the signal at Glen Echo Avenue to improve multimodal safety and comfort. | H | H | \$\$ | |
| SW2 | Courtney Avenue Sidewalk Infill | MP 7.41 | MP 7.63 | Fill in the west side sidewalk gap south of Courtney Avenue to improve pedestrian safety and comfort. | H | H | \$\$\$ | |
| SW3 | Roethe Road Sidewalk Infill | MP 9.08 | MP 9.15 | Fill in the east side sidewalk gap north of Roethe Road to improve pedestrian safety and comfort. | M | H | \$\$ | |
| SW4 | Jennings Avenue Sidewalk Infill | MP 9.85 | MP 9.93 | Fill in the east side sidewalk gap north of Jennings Avenue to improve pedestrian safety and comfort. | L | M | \$ | Clackamas County Jennings Avenue Improvement Project |
| SW5 | Sidewalks - Widen with Landscape Buffers | | | Provide consistent sidewalks and a landscape buffer along the corridor, where possible. | L | H | \$\$\$ | |

Bike Lane Projects

| | | | | | | | | |
|---|--|----------|----------|---|---|---|--------|--|
| BL1 | Buffered Bike Lanes | | | Restripe corridor to provide 11' travel lanes and buffered bike lanes along the entire corridor; hydroblast to remove past lane-line skip striping. Provide green skip striping at key conflict points. During striping, include queue jump treatments at Courtney Avenue, Oak Grove Boulevard, Concord Road, and Roethe Road. | H | M | \$\$ | |
| BL2 | Buffered or Protected Bike Lanes - Remove Right-Turn Lanes | | | Remove existing right-turn lanes at intersections to provide continuous bike lanes to and through the intersections. | H | L | \$ | |
| BL3 | Bike-friendly Stormwater Inlet Grates | | | Provide bike-friendly stormwater inlet grates: grates that are at street level, not depressed, with bicycle friendly design (not bars parallel to direction of travel). | H | L | \$ | |
| BL4 | Separated Bike Lanes | | | Restripe corridor adding a buffer and vertical separation in the buffer for protected bike lanes (ex: Tuff-Curb) where driveways do not exist; hydroblast to remove existing striping. | H | M | \$\$\$ | |
| BL5 | Green Skip Striping Through Intersections and at Access Points | | | Provide high visibility green skip striping at intersections and evaluate need for bike boxes to support left turns onto and from side streets. Side streets with bicycle facilities should be prioritized for the addition of bike boxes and bike left turn queue boxes. | M | L | \$ | |
| BL6 | Sidewalk Level Separated Bike Lanes | | | Long-term, construct raised or curb-separated bike lanes along the corridor to provide safety and comfort for cyclists. | L | M | \$\$\$ | |
| Trolley Trail Connection Projects | | | | | | | | |
| TT1 | Trolley Trail Sidewalk Connections | MP 9.76 | MP 9.80 | Formalize the sidewalk connections for two-way biking and walking travel from the intersection to the Trolley Trail. Consider right turn lane removal or narrowing to facilitate these connections and reduce pedestrian and bicycle exposure. | H | L | \$ | Clackamas County Jennings Avenue Improvement Project |
| TT2 | Trolley Trail - Bike Signal | MP 9.76 | MP 9.80 | Install a diagonal bike signal to provide a direct route across the intersection for connectivity to the Trolley Trail. | H | L | \$ | Clackamas County Jennings Avenue Improvement Project |
| TT3 | Trolley Trail Crosswalk Striping | MP 9.76 | MP 9.80 | Add enhanced crosswalk striping to all legs of the intersection to emphasize trail connection. | H | L | \$ | Clackamas County Jennings Avenue Improvement Project |
| TT4 | Trolley Trail - Protected Intersection | MP 9.76 | MP 9.80 | Add protected intersection treatments to improve safety and comfort of people walking and biking through the Jennings Avenue intersection. | M | H | \$\$\$ | Clackamas County Jennings Avenue Improvement Project |
| TT5 | Trolley Trail Wayfinding | MP 9.76 | MP 9.80 | Improve wayfinding to the Trolley Trail consistent with the region's guidelines for regional trail signage. | M | L | \$ | Clackamas County Jennings Avenue Improvement Project |
| Arlington Street to Clackamas River Projects | | | | | | | | |
| ACR1 | McLoughlin Avenue/Arlington Street/River Road Signal and Curbs | MP 11.02 | MP 11.02 | Replace existing traffic signal, install new curb ramps, add illumination, and revisit the traffic signal operations taking into account the community needs that may include side street left-turn phasing or no right turn on red. | H | H | \$\$\$ | |
| ACR2 | Arlington Street/River Road Pedestrian Exposure | MP 11.02 | MP 11.02 | Revisit the traffic signal operations to evaluate opportunities to reduce pedestrian exposure by removing the northbound right turn lane, implementing no right turn on red treatments eastbound, and providing protected left turn phasing. | H | M | \$\$ | |
| ACR3 | Clackamas River to Arlington Street Multi-use Path | MP 11.10 | MP 11.30 | Improve safety for people biking northbound over the bridge by removing the conflict with right turning vehicles just north of the bridge. Either remove the right turn lanes and provide a curbtight protected bicycle lane or add a multi-use path from the Clackamas River Bridge to the intersection with Arlington Street and remove the curbcut from the sidewalk just north of the bridge. | H | H | \$\$ | |

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| ACR4 | Clackamas River Bridge Illumination | MP 11.10 | MP 11.30 | Add pedestrian scale lighting on bridge to improve pedestrian and bicyclist safety, security, and comfort. | H | M | \$\$ | |
| ACR5 | Clackamas River Bridge Multi-use Path | MP 11.10 | MP 11.30 | Remove northbound bike ramp north of the Clackamas River Bridge to reduce biking and driving conflicts at the beginning of the right turn lane. | M | L | \$ | |
| ACR6 | Clackamas River Bridge Bike Ramp | MP 11.10 | MP 11.30 | Add extra delineation for the bike ramp onto the bridge and additional signage to indicate that bicyclists may use the sidewalk. | M | L | \$ | |
| ACR7 | Clackamas River Bridge Signage | MP 11.10 | MP 11.30 | Add actuated flashing "Bikes on Bridge" beacon with loop detectors to indicate when a bicyclist will be in the travel lane across the bridge. | M | M | \$ | |
| ACR8 | Clackamas River Bridge Parallel Facility | MP 11.20 | MP 11.20 | Widen the existing bridge or provide new parallel structure for bike/ped upgrades | L | H | \$\$\$ | |
| Illumination Projects | | | | | | | | |
| I1 | Illumination | | | Improve lighting along the corridor, especially on the east side of McLoughlin Boulevard north of Park Avenue, at intersections (including Holly Avenue) and pedestrian crossings, within Gladstone, and along the Clackamas River Bridge. | H | M | \$\$\$ | ARC4 |
| Park Avenue Projects | | | | | | | | |
| PA1 | Park Avenue - Raised SBR Right Turn Lane Raised Crosswalk | MP 6.87 | MP 6.87 | Add a raised pedestrian crossing across the southbound right-turn lane. | M | M | \$ | |
| PA2 | Park Avenue Northbound Right Turn Lane Evaluation | MP 6.87 | MP 6.87 | Consider removal for the northbound right turn lane to shorten crossing distances and pedestrian exposure to provide improved pedestrian access to the Park Avenue MAX Station. | M | L | \$ | |
| Transit Projects | | | | | | | | |
| T1 | Courtney Avenue Transit Queue Jump | MP 7.41 | MP 7.41 | Add northbound and southbound transit queue jumps to reduce delay for transit vehicles and improve transit reliability along the corridor. | M | L | \$ | |
| T2 | Oak Grove Boulevard Transit Queue Jump | MP 7.88 | MP 7.88 | Northbound and southbound transit queue jumps to reduce delay for transit vehicles and improve transit reliability along the corridor. | M | L | \$ | |
| T3 | Concord Road Transit Queue Jump | MP 8.42 | MP 8.42 | Northbound and southbound transit queue jumps to reduce delay for transit vehicles and improve transit reliability along the corridor. | M | L | \$ | |
| T4 | Roethe Road Transit Queue Jump | MP 9.22 | MP 9.22 | Northbound and southbound transit queue jumps to reduce delay for transit vehicles and improve transit reliability along the corridor. | M | L | \$ | |
| T5 | Jennings Avenue to Arlington Boulevard BAT Lanes | MP 9.80 | MP 11.02 | Southbound Business Access and Transit (BAT) lane with raised bikeway | L | H | \$\$\$ | |
| T6 | Transit Signal Priority | | | Add transit signal priority to reduce transit delay and improve transit reliability along the corridor | M | H | \$\$\$ | |
| T7 | Transit Bus Shelters | | | Evaluate and add bus shelters along the corridor at high use locations | H | M | \$\$ | |
| T8 | Park Avenue Park & Ride | MP 6.87 | MP 6.87 | Add two levels of parking to the Park and Ride parking lot | L | H | \$\$\$ | |
| T9 | Park Avenue Station - Pedestrian Overcrossing | MP 6.87 | MP 6.87 | Add new pedestrian overcrossing with elevator system from the parking structure across Park Avenue to allow pedestrians to cross Park (west leg) without waiting for the signal. | L | H | \$\$\$ | |
| Signal Upgrade Projects | | | | | | | | |
| SU1 | Pedestrian Crossing Times | | | Reevaluate pedestrian signal crossing time at signalized intersections, especially at Park Avenue, to provide sufficient time for pedestrians to cross. | H | L | \$ | |

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| SU2 | Glen Echo Avenue Pedestrian Crossing Improvements | MP 10.30 | MP 10.30 | Evaluate the addition of leading pedestrian intervals at Glen Echo Avenue to increase the visibility of crossing pedestrians. | H | L | \$ | |
| SU3 | Jennings Avenue Signal Rebuild | MP 9.80 | MP 9.80 | Add protected left turns for the sidestreets, evaluate a leading pedestrian phase for east-west crossings, protected/permissive phasing, and install a flashing yellow arrow with pedestrian logic. | H | M | \$\$ | |
| SU4 | Signal Backplates | | | Install reflective backplates to improve the visibility of signals. | H | L | \$ | |
| SU5 | Gloucester Street Pedestrian Crossing Improvements | MP 10.68 | MP 10.85 | Evaluate the signal at Gloucester Street for the addition of a leading pedestrian interval and illumination to improve multimodal safety and comfort. | H | M | \$ | |
| SU6 | Vineyard Road Signal Phasing | MP 8.66 | MP 8.82 | Consider split phasing, leading pedestrian intervals, and/or restriping to provide protected left turns from the sidestreet at Vineyard Road to improve pedestrian safety. | M | L | \$ | |
| SU7 | Glen Echo Avenue Protected Left Turns | MP 10.30 | MP 10.30 | Restripe the side streets and add protected left turns. | M | M | \$\$ | |
| SU8 | Gloucester Street Protected Left Turns | MP 10.75 | MP 10.75 | Restripe the side streets and add protected left turns. | M | M | \$\$ | |
| Access Management Projects | | | | | | | | |
| AM1 | Holly Avenue Access | MP 7.31 | MP 7.49 | Restrict left turns from Holly Avenue to improve multimodal safety | L | L | \$ | |
| AM2 | Sidewalks - Delineate Driveways | | | Define and delineate driveways to reduce pedestrian and bicycle exposure when crossing driveways and reduce conflict points for all modes | L | M | \$\$ | |
| AM3 | Develop Access Management Plan | | | Develop an access management plan to identify opportunities to minimize the number of potential conflict points due to driveways and accesses along the corridor. Define and clear the public right-of-way for transportation users. | L | L | \$ | |
| Other Projects | | | | | | | | |
| O1 | Arista Drive Curb Ramp | MP 9.76 | MP 9.76 | Reconstruct curb ramp to reorient and relocate storm drain. | M | L | \$ | |
| O2 | Roethe Road Stormwater Management | MP 9.22 | MP 9.22 | Construct stormwater improvements at the intersection to prevent existing water pooling. | M | M | \$ | |



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