

US 97 AT REED MARKET ROAD SAFETY & OPERATIONS STUDY

BEND MPO POLICY BOARD MEETING
SEPTEMBER 15, 2023

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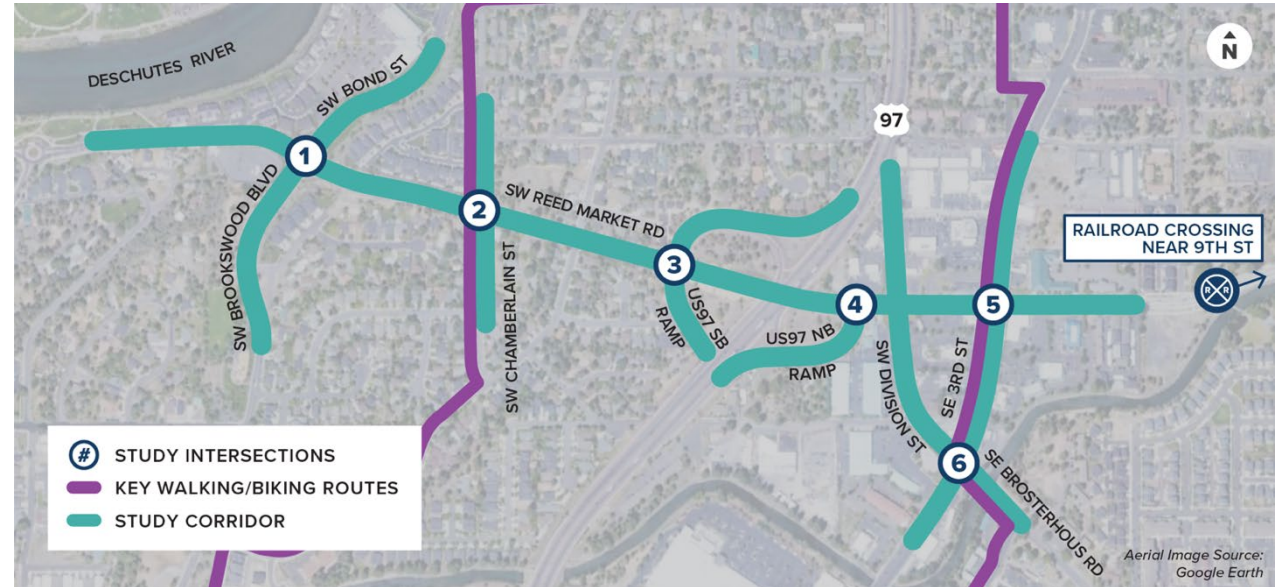
AGENDA

- Project Background and Purpose
- Process and Public Involvement
- Preferred Alternatives
- Next Steps



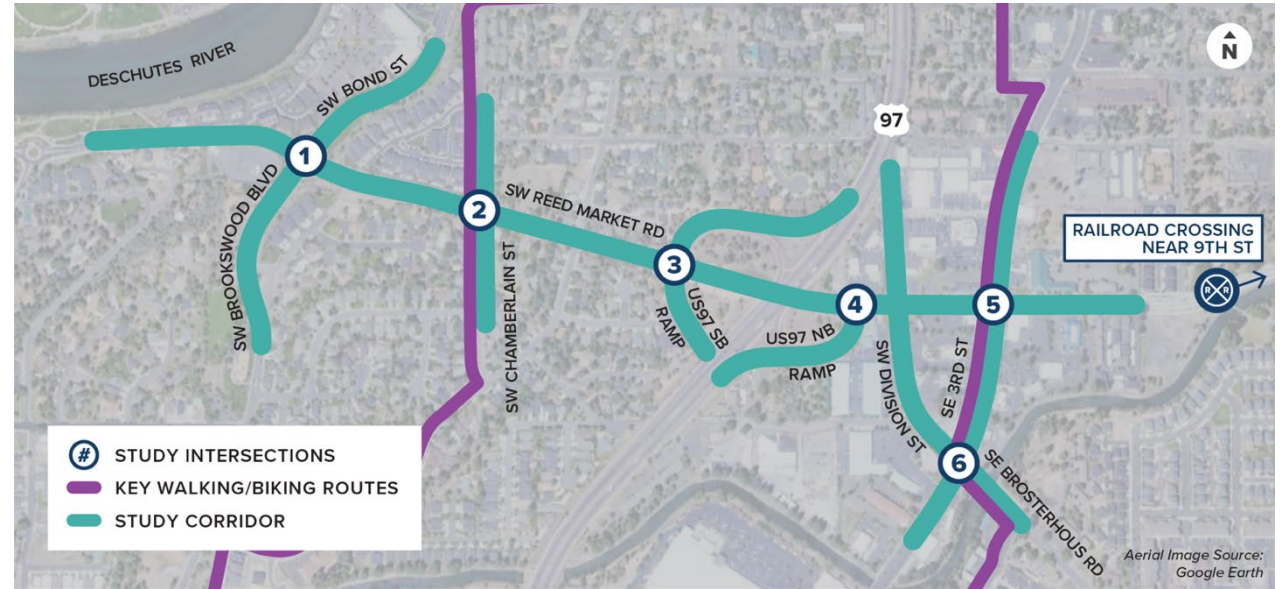
PROJECT BACKGROUND

- Bend TSP/MTP and US 97 Parkway Plan identified Reed Market Road as a critical transportation system bottleneck with several safety deficiencies
- Both studies identified types of solutions for consideration and funding was committed for improvements
- Further refinement of solution concepts was needed to advance projects to engineering design



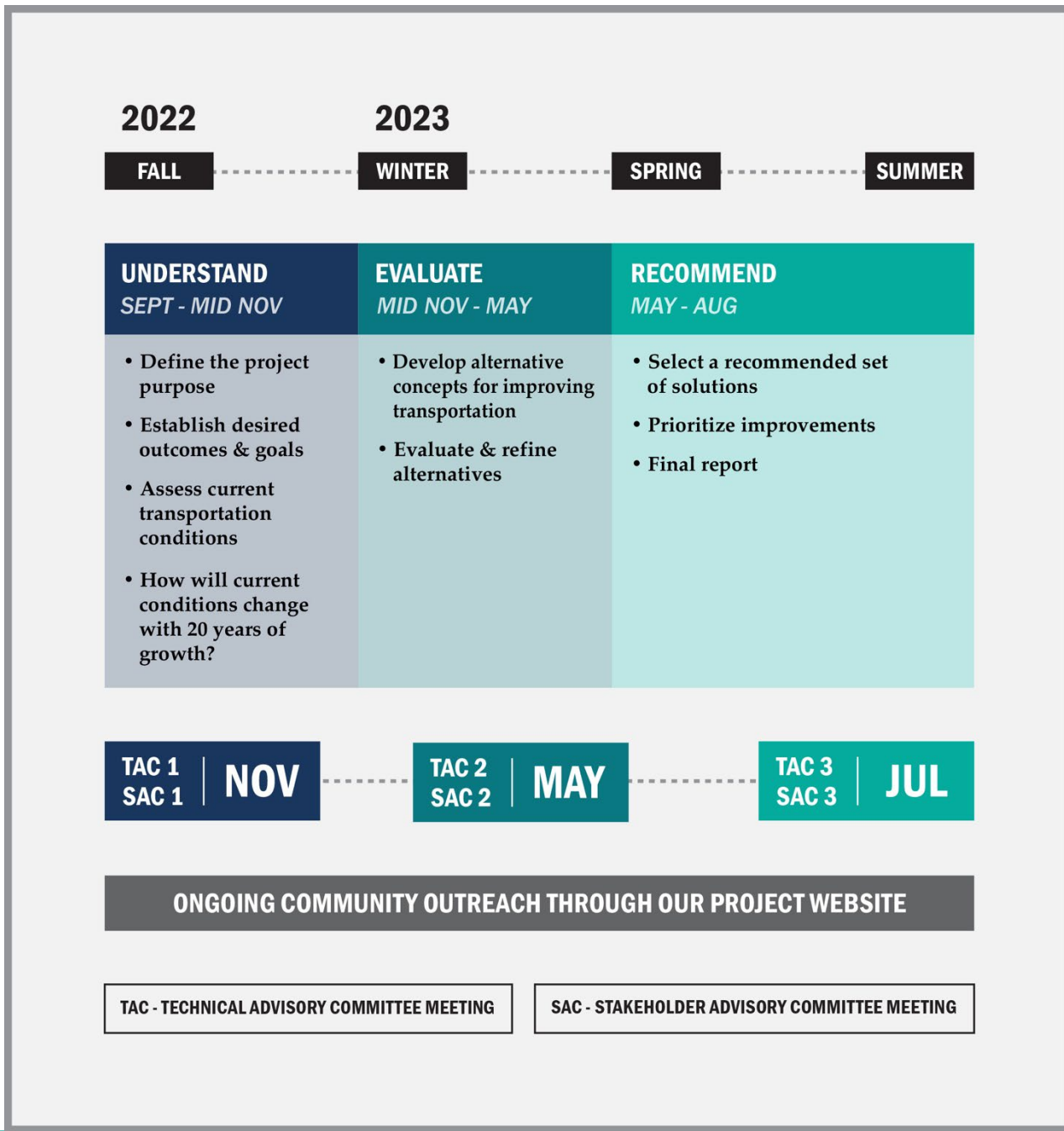
PROJECT PURPOSE

- Refine a set of complementary operational and safety improvement projects in the Reed Market Road study corridor that closely align with available funding.
- Develop planning-level concepts and updated cost estimates.
- Align existing project funding with proposed project costs and identify potential funding gaps.



PROJECT PROCESS

- 12-month project duration, began September 2022
- Guided by joint ODOT, City, MPO management team
- Review and recommendations at milestones from a Technical Advisory Committee and Stakeholder Advisory Committee




PUBLIC INVOLVEMENT

- Stakeholder Advisory Committee included representatives from:
 - Old Farm District, Larkspur, and Southern Crossing Neighborhood Associations
 - Bend Transportation Bond Oversight Committee
 - Bend Bikes
 - Bend Accessibility Advisory Committee
 - Central Oregon Irrigation District
 - Central Oregon FUSE
 - Bend Business Advocate
- Postcard mailed to area business and residents, directing them to follow our project website
- ODOT project manager visited area businesses
- Future design phases will include further public involvement

U.S. 97 at Reed Market Road Operations and Safety Study

Reed Market Road corridor improvements for safer, more efficient travel for our community



Study Overview


The Oregon Department of Transportation and the City of Bend are studying improvements to the U.S. 97 at Reed Market Road corridor, a vital and heavily used corridor that connects our community and keeps our economy moving.

Recent planning studies recommended conceptual improvements to address congestion and safety issues. We are now refining those concepts to provide direction for upcoming design phases, at which time there will be more opportunities for public input.

This effort began fall 2022 and completion is expected summer 2023.

Study Area

The study area centers on SW Reed Market Road from SW Brookwood Boulevard/SW Bond Street to SE 4th Street in Bend.



① REED MARKET ROAD & BROOKWOOD BOULEVARD/BOND STREET

② REED MARKET ROAD & US 97 SOUTHBOUND

③ REED MARKET ROAD & US 97 NORTHBOUND

④ REED MARKET ROAD & DIVISION STREET

⑤ REED MARKET ROAD & 3RD STREET

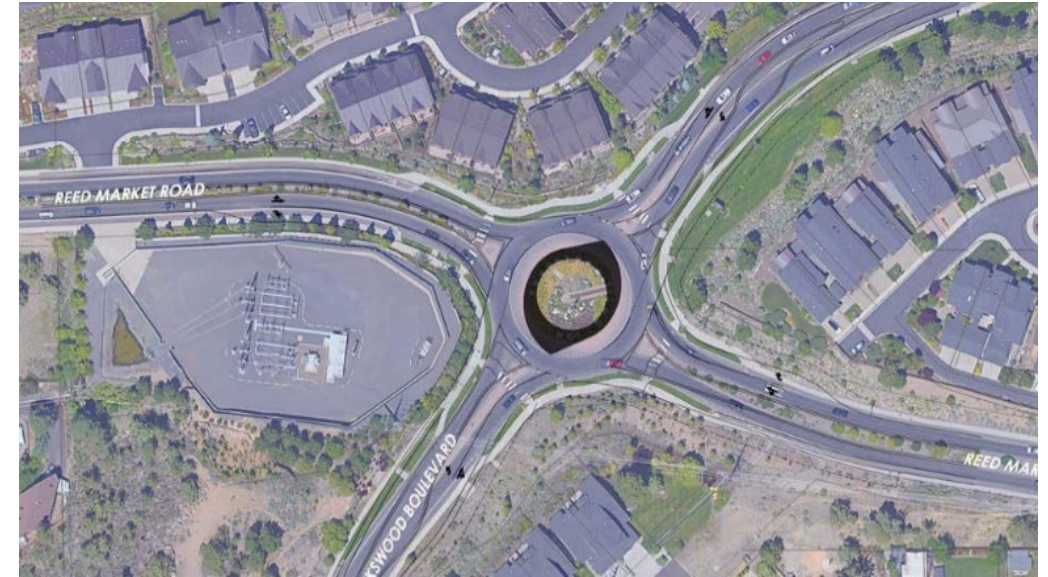
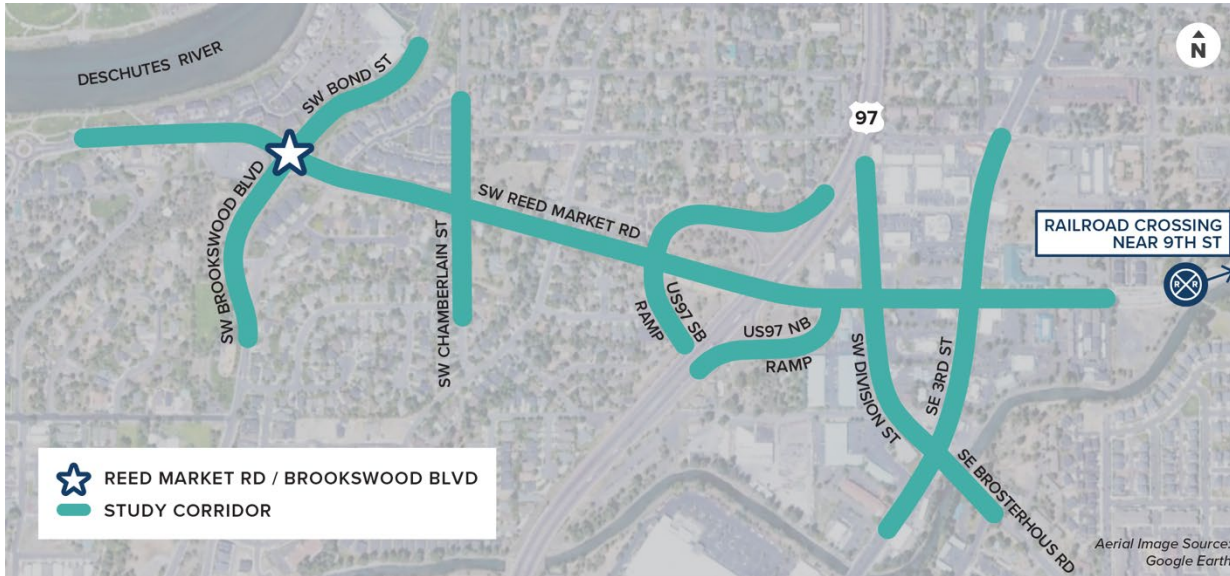
⑥ 3RD STREET & BROSTERHAUS ROAD

Stay Informed

Scan the QR code to visit the study website and learn more about the study, or go to tinyurl.com/US97ReedMarket.

✉ Cody.Franz@odot.oregon.gov

PREFERRED ALTERNATIVES



INTERSECTION	RECOMMENDATION	ESTIMATED COST
REED MARKET RD & BROOKSWOOD BLVD/ BOND ST	Phase 1: Widen to partial multilane roundabout.	\$4 Million
	Phase 2 (unfunded): Add metering signals to balance long vehicle queues	\$700,000

PREFERRED ALTERNATIVES

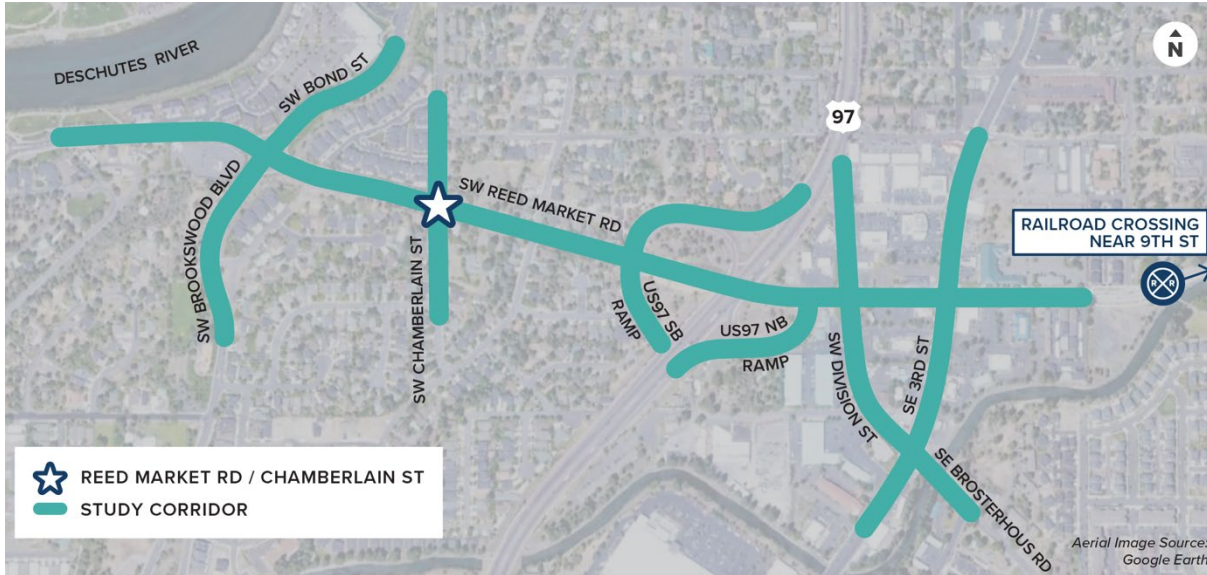
BENEFITS

- Overall delays are reduced by over 80%
- Reduces westbound queues and keeps them from blocking the US 97 interchange
- Meters could incorporate emergency vehicle preemption
- Enhanced crossings with Rectangular Rapid Flashing Beacons (RRFB) on entrance legs

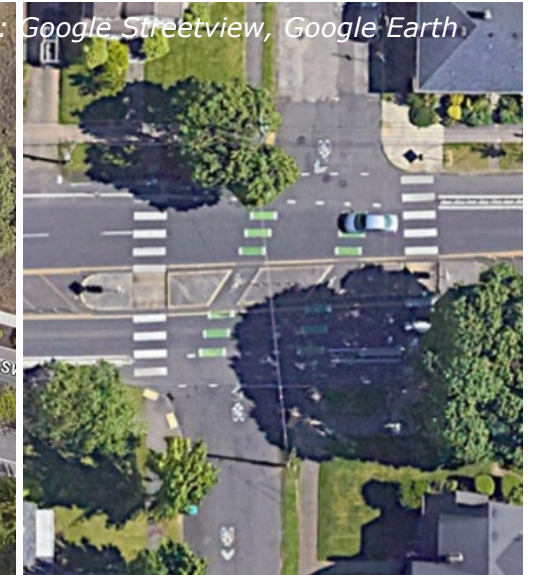


REED MARKET RD & BROOKSWOOD BLVD/ BOND ST

PREFERRED ALTERNATIVES



Existing



After (Example of Similar Configuration)

INTERSECTION	RECOMMENDATION	ESTIMATED COST
<p>REED MARKET RD & CHAMBERLAIN ST</p>	<ul style="list-style-type: none"> • New pedestrian and bicycle crossings with median cutouts • Enhance lighting and remove vegetation to improve visibility • Add wayfinding and warning signs • Preserve space for future bus stops along Reed Market Road 	<p><\$250,000</p>

PREFERRED ALTERNATIVES

BENEFITS

- Improved comfort and safety for people walking and biking on this Chamberlain St. Key Route crossing

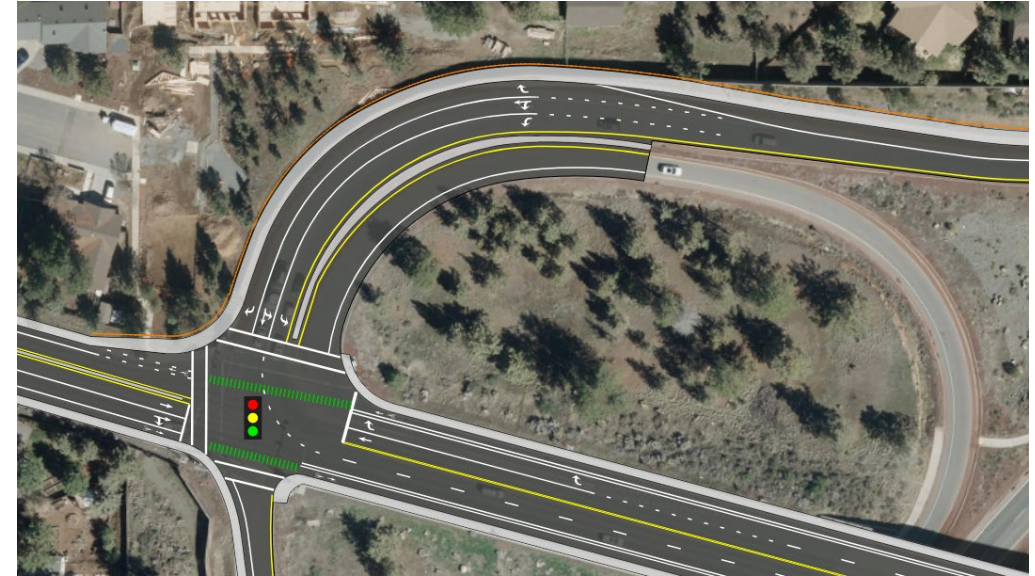
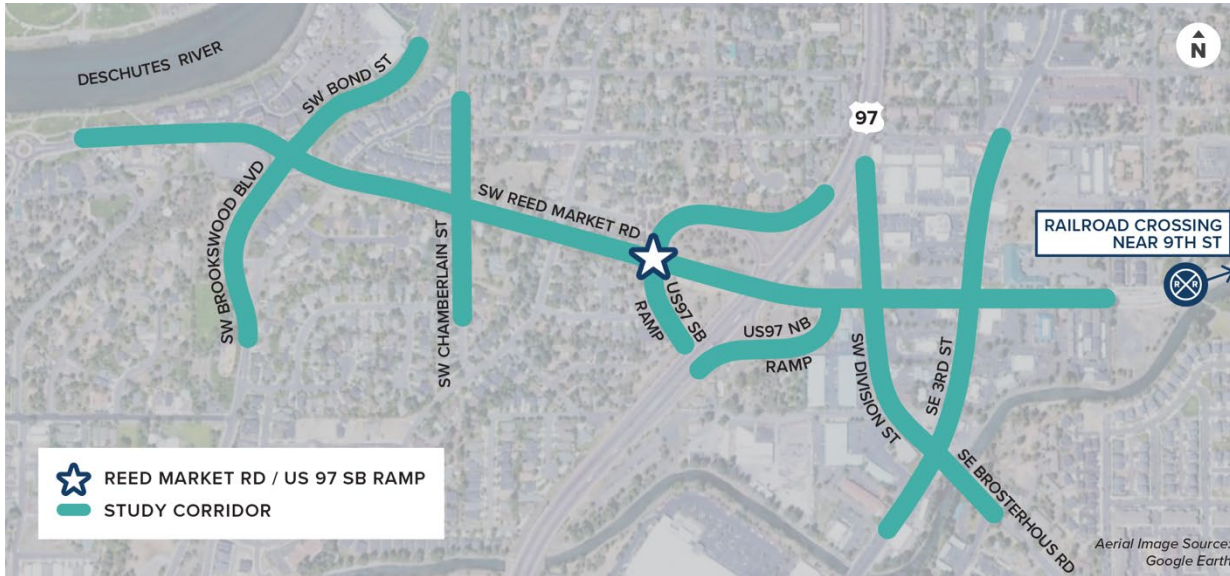


Existing

After (Example of Similar Configuration)

REED MARKET RD & CHAMBERLAIN ST

PREFERRED ALTERNATIVES

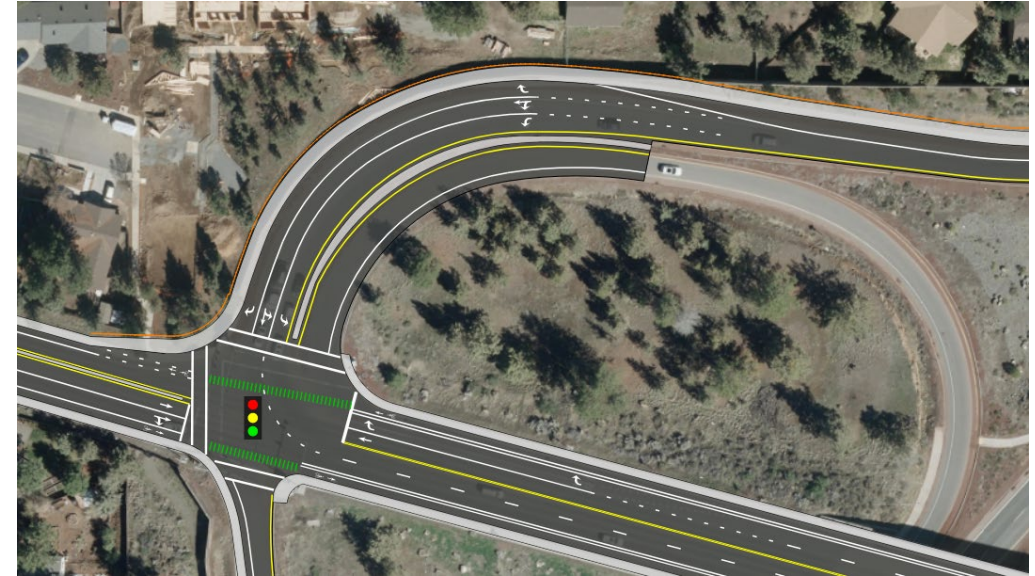


INTERSECTION	RECOMMENDATION	ESTIMATED COST
REED MARKET RD & US 97 SOUTHBOUND RAMPS	<ul style="list-style-type: none"> • Construct a southbound right turn lane • Improve westbound bicycle safety by shifting the bike lane adjacent to the curb and adding a bike signal at the intersection 	\$5.7 Million

PREFERRED ALTERNATIVES

BENEFITS

- Risk of queues spilling back to the US 97 mainline is significantly reduced
- Reduces conflicts between people biking and right turning vehicles



REED MARKET RD & US 97 SOUTHBOUND RAMPS

PREFERRED ALTERNATIVES



INTERSECTION	RECOMMENDATION	ESTIMATED COST
<p>REED MARKET RD & US 97 NORTHBOUND RAMPS</p>	<p>Phase 1:</p> <ul style="list-style-type: none"> • Construct a traffic signal with bike signal. • Convert Division St to right-in and right-out only. • Consider access modifications at the north end of Division St to increase the acceleration distance onto US 97. <hr/> <p>Phase 2:</p> <ul style="list-style-type: none"> • Separate the northbound entrance ramp from Division Street and align the new entrance ramp with the Reed Market Road/US 97 northbound ramp signalized intersection. 	<p>\$4 Million</p> <hr/> <p>\$9.4 Million (total, includes Phase 1)</p>

PREFERRED ALTERNATIVES

BENEFITS

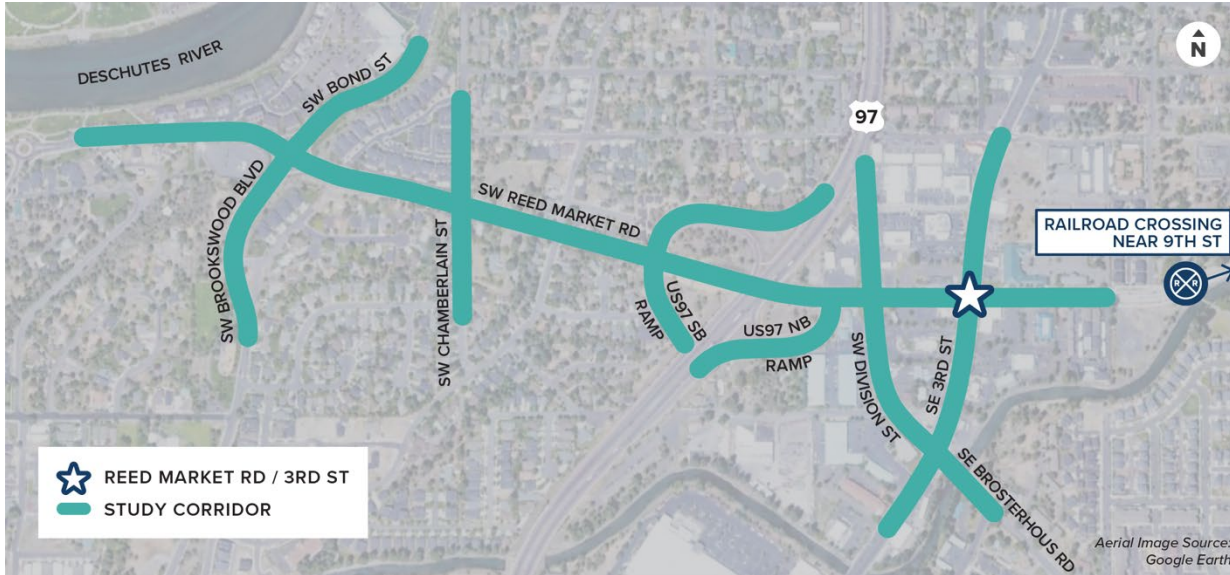
- Traffic signal enhances safety for people walking and biking and reduces high-severity angle crashes by 67%
- Division St right-in/right-out restrictions reduce conflict points and could reduce overall crashes by 45%
- Traffic signal reduces overall delay by as much as 86%
- Phase 2 ramp realignment would improve acceleration distance and eliminate access conflicts on the ramp



REED MARKET RD &
US 97 NORTHBOUND RAMPS



PREFERRED ALTERNATIVES



INTERSECTION	RECOMMENDATION	ESTIMATED COST
REED MARKET RD & 3RD STREET	Construct a protected intersection with added eastbound and westbound left turn lanes.	\$10.3 Million

PREFERRED ALTERNATIVES

BENEFITS

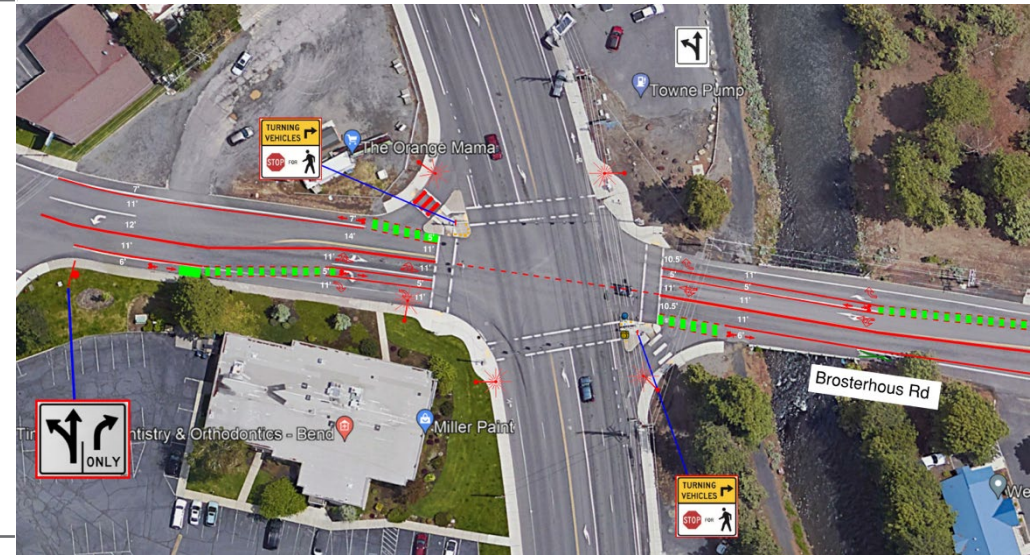
- Slows right turning traffic, reduces pedestrian crossing distances, and provides protected bicycle crossings on the 3rd St Key Route
- Signal timing adjustments to enhance safety could reduce crashes involving people walking and biking by over 35%
- Added left turns lanes reduce overall delay by nearly 60%



REED MARKET RD & 3RD ST

PREFERRED ALTERNATIVES

INTERSECTION	RECOMMENDATION	ESTIMATED COST
<p>3RD ST & BROSTERHOUS RD</p>	<p>Phase 1:</p> <ul style="list-style-type: none"> • Restripe bike lanes to reduce conflicts. • Improve the eastbound right turn lane striping and signing. • Install lighting and reflectors. • Change signal timing to remove conflicts for eastbound and westbound left turns. • Redirect people walking and biking on the canal trail to use the traffic signal to cross Brosterhaus Rd. 	<p>\$130,000</p>
	<p>Phase 2 (unfunded):</p> <ul style="list-style-type: none"> • Protected intersection with protected eastbound and westbound left turns and an eastbound right turn lane. 	<p>No cost estimate available</p>



PREFERRED ALTERNATIVES

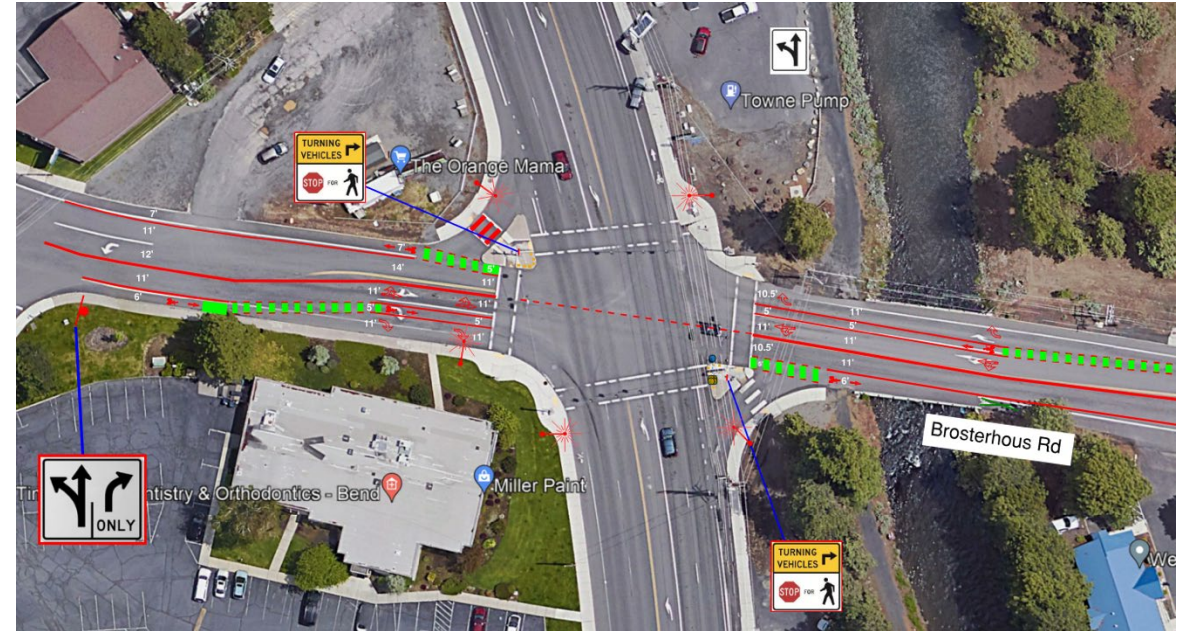
BENEFITS

Phase 1:

- Split-phase reduces number of pedestrian and bicycle conflict points with left turning vehicles.
- Improved lighting increases pedestrian and bicycle visibility and comfort.
- Canal trail realignment encourages crossing at signalized intersection

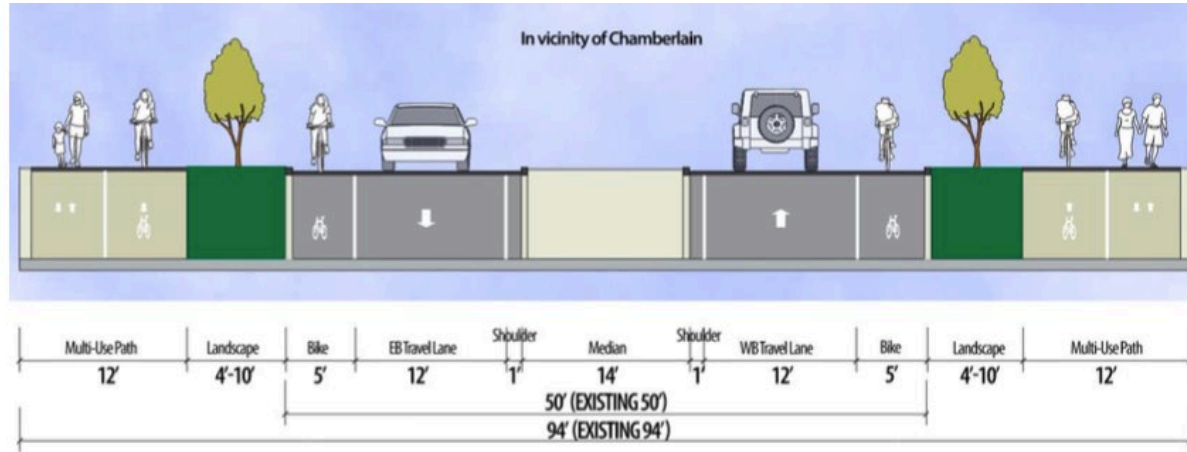
Phase 2:

- Slows right-turning traffic, reduces pedestrian crossing distances, and protects bicycle crossings at this high-traffic intersection on the 3rd Street Key Route.
- Reduces left-turning crashes by up to 99 percent.
- Reduces eastbound vehicle queues and keeps them from spilling back to Reed Market Road.

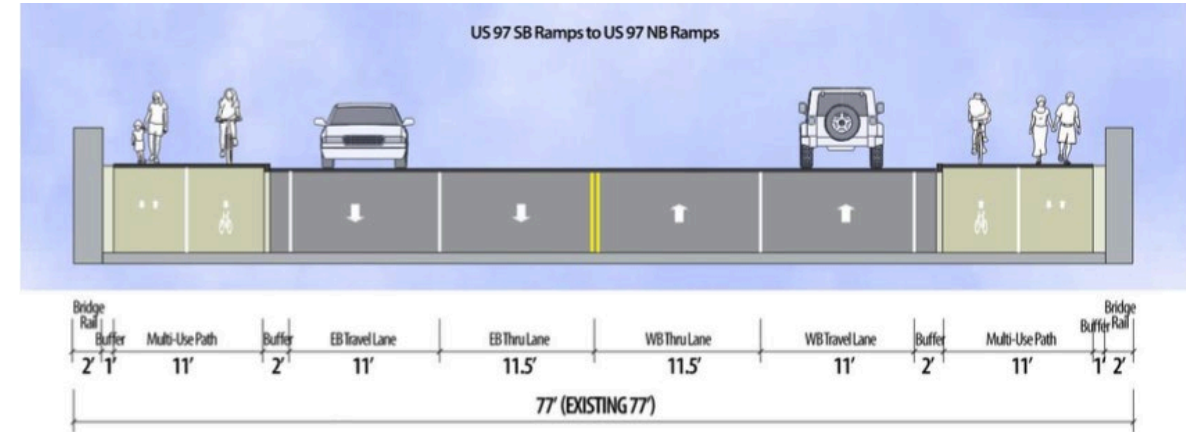


3RD ST & BROSTERHOUS RD

PREFERRED ALTERNATIVES



Vicinity of Chamberlain Street



US 97 Southbound Ramps to US 97 Northbound Ramps

While there is no planned or funded project to improve the Reed Market Road corridor between the intersections, long-term recommendations are identified in this study that largely consist of replacing the on-street bike lanes with multi-use paths.

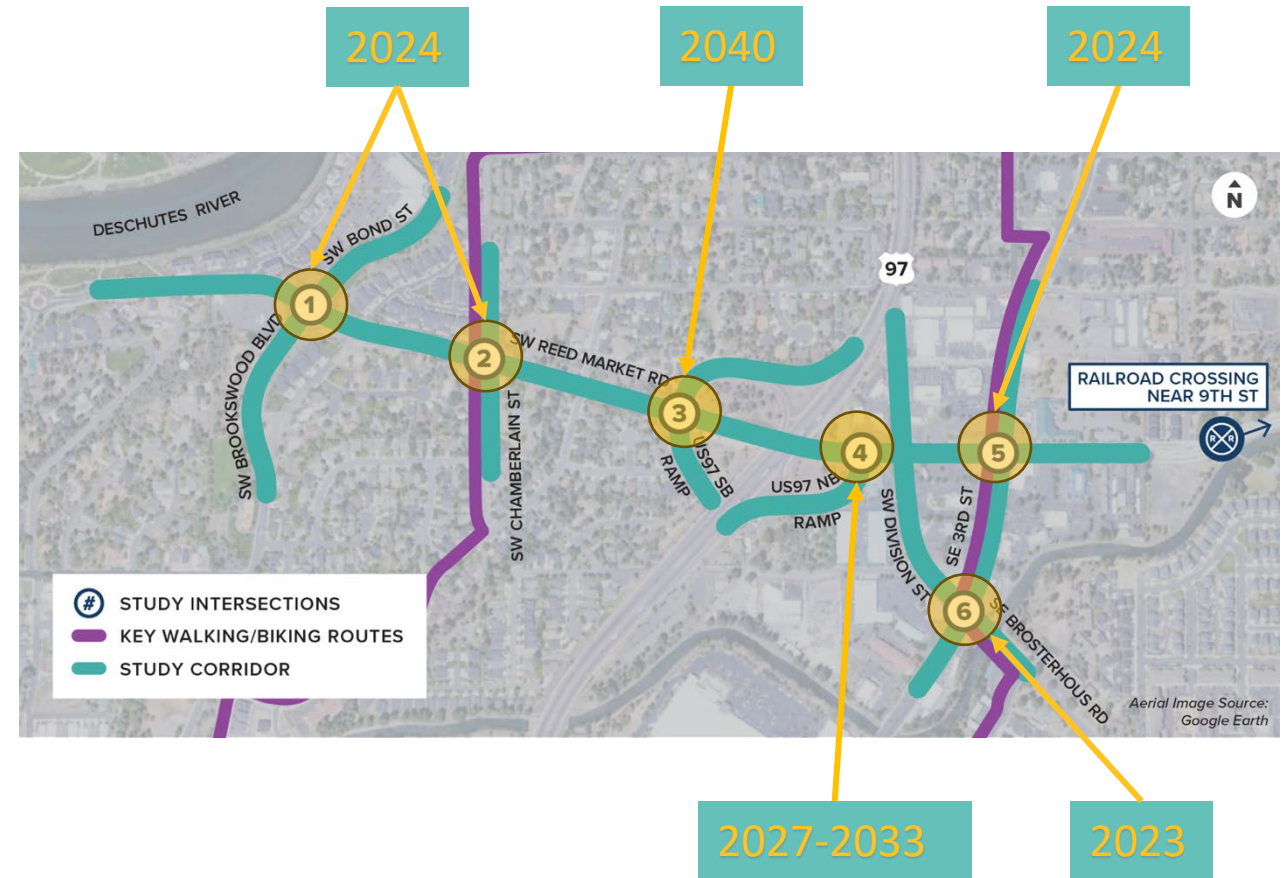
PREFERRED ALTERNATIVES

SYSTEMWIDE BENEFITS

- Three street crossings on Key Routes will be improved, making it safer to walk and bike and easier to access transit service.
- Shorter vehicle queues and a new traffic signal will significantly improve safety for all users, especially people walking and biking.
- The number of vehicle hours of delay experienced during the peak afternoon two-hour period on an average weekday will decrease by about 60 percent.

NEXT STEPS

- Advance projects to engineering design and construction as funding becomes available
- 3rd St/Brosterhous Rd signal timing safety improvements could be completed before end of 2023
- City projects could advance to design as early as 2024
- ODOT has not yet committed funding for US 97 interchange projects
 - US 97 northbound ramp project: seek funding for construction in future STIP cycles
 - US 97 southbound ramp project: closer to 2040



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