

**Agenda
Mid-Willamette Valley Area
Commission on Transportation
(MWACT)**

At the MWVCOG, we are taking extra precautions to protect against the COVID-19 by implementing additional cleaning protocols and social distancing practices. At this time, we are not hosting MWACT meetings in person. **We are requesting all MWACT members, local staff, and the public to participate via Zoom**. If participating via Zoom (using a computer or by phone) is not an option, please contact our offices (at 503-588-6177) **24 hours before the meeting begins**.

For MWACT members – Please RVSP (e-mail to lomoore@mwvcog.org), so we can best prepare for the MWACT meeting.

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Trouble Connecting? Contact Karen Odenthal at 503-798-5584 or
Mike Jaffe at 503-540-1606

Date: Thursday, April 7, 2022
Time: 3:30 p.m.
Place: Online meeting of MWACT

Times listed below are approximate. Agenda items may be considered at any time or in any order per discretion of the MWACT Chair and/or member of the Commission, in order for the Commission to conduct the business of the Commission efficiently. Persons wishing to be present for a particular item are advised to arrive prior to the scheduled beginning of the meeting in order to avoid missing the presentation of items of interest.

The Mid-Willamette Valley Area Commission on Transportation is pleased to comply with the Americans with Disabilities Act (ADA). If you need special accommodations including a sign language interpreter to attend this meeting, a complete agenda packet, or additional information, please contact Lori Moore at (503) 540-1609 or send e-mail to lomoore@mwvcog.org at least 72 hours prior to the meeting. Alternate formats available upon request. Thank you.

3:30 p.m. Item 1. Call MWACT Meeting To Order Ken Woods, Jr., MWACT Chair

Welcome and Introductions
Approval of January 6, 2022 Meeting Summary
Approval of February 3, 2022 Meeting Summary
Public Comment
Comments from the Legislative Delegation
OTC Comments
Commission Discussion/Area Updates

3:40 p.m. Item 2. OTC Commissioner Julie Brown..... Julie Brown, OTC

This is an opportunity for discussion of transportation priority projects and issues between Commissioner Brown and MWACT members.

As a reference, the most recent letter (dated 12/22/21) from MWACT to the OTC regarding MWACT priority projects and the use of the federal funds from the Infrastructure Investment and Jobs Act (IIJA) is ***attached***.

Action: Discussion item.

4:10 p.m. Item 3. Report on OTC Decisions for IIJA Flexible Funds..... Mike Jaffe, MWVCOG

At their March 10, 2022, meeting, Oregon Transportation Commission (OTC) members took additional public comment about the Infrastructure Investment and Jobs Act (IIJA) funds to be received by Oregon between 2022 to 2026. This was followed by OTC discussion about the allocation of the **\$412 million in flexible funds** from IIJA; increasing the funding for Business and Workforce Development; supplementing the \$52 million from IIJA for electric vehicle charging infrastructure formula funding with other federal, state, and private sources; and using some of the IIJA funds and other funds for an Innovative Mobility Pilot Program (proposed program description ***attached***).

Based on that discussion, ODOT developed the ***attached*** staff memorandum that contains a recommended allocation of the \$412 million in flexible funds. A one-page summary illustrating the proposed allocation of the entire \$1.2 billion in IIJA funds (both the flexible funds and dedicated programs) is also ***attached***. The OTC will be asked to review this recommendation and decide on a final allocation at the March 30, 2022, meeting. [We will give MWACT members an update on that decision].

The ODOT staff memorandum also contains a proposal of how to allocate the additional IIJA bridge funds between state bridges and local bridges. On page 3 of the ODOT staff memorandum, it is mentioned that ODOT would use some of ODOT's share of IIJA bridge funds on four significant state bridges including the **Center Street Bridge (Salem) Seismic Retrofit**. The staff memorandum recommends that the OTC allow for public comment on this proposal and decision at the May OTC meeting.

Action: Information and discussion.

4:30 p.m. Item 4. Construction Projects in the MWACT Area ... Vidal Francis, ODOT

A presentation of the construction projects in the MWACT area.

Action: Information item.

**5:00 p.m. Item 5. Climate Change Adaptation and Resilience Roadmap..... Katherine Silva
Adaptation Program Manager
ODOT Climate Office**

ODOT's *Climate Change Adaptation and Resilience Roadmap* (expected 2022) will serve as the agency's operational plan for climate resilience. The plan will provide clear guidance to streamline climate change adaptation decisions. It is a necessary step in preparing our transportation system and personnel for more frequent and more intense hazardous weather events each season.

This presentation will also cover the vulnerability/risk assessment for the MWACT area in terms of past incidents and future projections for natural hazards (wildfires, flooding, landslides, etc.) stemming from climate and weather conditions changing.

The ODOT Climate Office is seeking suggestions from ACTs on strategies that should be prioritized or lessons learned by local jurisdictions about recent hazardous weather events that could be shared with ODOT. **See the first page of the attachment for more about this requested feedback from ACTs.**

Action: Discussion and feedback on climate change adaptation strategies for the transportation system.

5:25 p.m. Item 6. Other Business..... Ken Woods, Jr., MWACT Chair

- **Next MWACT Meeting – to be determined.**

5:30 p.m. Item 7. Adjournment Ken Woods, Jr., MWACT Chair

Meeting Summary

Mid-Willamette Valley Area Commission on Transportation (MWACT)
MWVCOG Virtual Meeting
100 High St. SE, Suite 200
Salem, OR 97301
Thursday, February 3, 2022

**This meeting was a call-in meeting with people attending via Zoom.
Attendance is listed as follows:**

MWACT Members Present

Cathy Clark, 2021 Vice Chair, Keizer Mayor
Ian Davidson, SAMTD Board of Directors
Kathy Hadley, Polk County Private Sector
Tom Hammer, Yamhill County Private Sector
Anna Henson, ODOT Region 2
Scott Hill, 99W/18/47 Corridor, McMinnville Mayor
Casey Kulla, Yamhill County Board of Commissioners
Jim Lewis, Salem City Council
Lyle Mordhorst, Polk County Board of Commissioners
Jim Sears, 99E/213 Corridor, Silverton City Council
Della Seney, Hwy. 22E Corridor, Aumsville City Council
Cynthia Thompson, YCTA
Ken Woods, Jr., 2021 Chair, Dallas City Council

MWACT Members Absent

Danielle Bethell, Marion County Board of Commissioners
Michael Langley, Confederated Tribes of the Grand Ronde
Walt Perry, I-5 Corridor, Jefferson City Council
Mitch Teal, Marion County Private Sector

Others Present

David Anzur, Oregon Independence Railroad
Cooper Brown, ODOT Assistant Director for Operations
Dan Fricke, ODOT Region 2
Mike Jaffe, MWVCOG-MWACT/SKATS Staff
Karen Odenthal, MWVCOG/SKATS Staff
Mark Bernard, ODOT Region 2 Public Transit Representative
Janet Toman, MWVCOG-MWACT/SKATS Staff

Agenda Item 1. Call to Order – 3:30pm - Introductions

Chair Ken Woods, Jr., called the meeting to order at 3:32 p.m.

Summary of January 6, 2022:

The summaries of the January 6, 2022, and February 3, 2022, meetings will be submitted for approval in the April 7, 2022, meeting agenda packet.

Public Comment:

There were no comments from the public.

Comments from the Legislative Delegation:

There were no comments from the legislative delegation.

OTC Comments:

There were no comments from the Oregon Transportation Commission (OTC) members.

Commission Discussion/Area Updates:

Anna Henson with ODOT said that their construction manager will attend a meeting in April or May to discuss the construction projects within the MWACT boundaries. She has been answering legislative questions regarding their projects. Anna shared that there will be a recruitment for an Area 3 Manager.

Agenda Item 2. Election of Officers; select Steering Committee

Ken Woods, Jr., and Cathy Clark were re-elected chair and vice chair of MWACT, respectively.

Agenda Item 3. Oregon IIJA Flexible Fund Scenarios

Cooper Brown, ODOT Assistant Director for Operations, gave an update on the federal *Infrastructure Investment and Jobs Act* (IIJA) and where the funds will go. He also reviewed major themes gleaned from public comments. It was significantly clear that safety is a high priority to the public.

Mr. Brown noted that pavement conditions are likely to continue to decline with funding being unable to keep up with needs. Referencing Operations and Maintenance, there are

sufficient funds for projects; however, as revenue from gas tax continues to decline, it becomes increasingly challenging to have enough to fund operations and maintenance.

USDOT will be awarding competitive grant funds. ODOT anticipates that if the state is successful in applying for the grant funds, the state could receive approximately \$1.2 billion of these flexible-use funds. Mr. Brown noted that ODOT staff provided members of the Oregon Transportation Commission (OTC) funding scenarios related to the following categories of projects: Fix-it, Public/Active Transportation, Enhance Highway, and a balanced approach to transportation improvement. \$40 million in other funding streams could leverage \$160 million in federal funds.

Mr. Brown announced that the OTC will host another special meeting in two weeks. Mr. Brown encouraged MWACT members to provide input related to how to allocate funds. He noted that comments could also be made via ODOT's website.

Vice Chair Cathy Clark expressed surprise that some members of the public are in support of removing Fix-it funds from consideration. She commented that good pavement condition impacts several modes of transportation including transit. All income levels should have access to well-maintained facilities.

Ian Davidson, SAMTD, expressed surprise and disappointment that the funding scenarios presented to the OTC do not include funding for public transportation. Scott Hill noted that Yamhill County's priority would be funding scenario 3 along with completion of projects.

Commission discussion focused on safety issues at intersections and on highways, merge lane issues and speeds, and how to leverage funds to achieve the maximum benefit. Mr. Brown responded to comment made by Kathy Hadley regarding addressing short- and long-term solutions and changes that are likely to be needed to tackle them.

Commissioner Lyle Mordhorst commented that he sees scenario 3 as the most balanced approach. He is concerned about the impact of bottlenecks. Many areas of the state have sub-par bridges which could have a negative impact on dealing with emergency conditions. He advocates for solutions to be inclusive and equitable. He emphasized safety.

Commissioner Casey Kulla requested information related to ADA ramps and the funds budgeted for them. Mr. Brown reported that there are 7,700 ramps that must be completed in 2022. He will forward additional information to Commissioner Kulla.

Councilor Jim Lewis commented that he would prefer for funds be directly allocated to MWACT, SKATS and cities. Local jurisdictions are aware of the needs in their areas. He favors a hybrid between Scenarios 1 and 3 as most beneficial.

Cynthia Thompson YCTA commented on transit funding including local match issues. Mr. Brown offered to research her concerns and to provide the information to her.

Agenda Item 4. Connect Oregon

Dan Fricke reminded everyone that the ConnectOregon program provides funding for aviation, marine, and rail projects. There are two applications from the MWACT area that were submitted for the current round of ConnectOregon funding:

- Rehab Oregon Independence Railroad Project
- Northwest Passage Willamette Valley Rail Trestle Improvement Project

MWACT members reviewed and discussed the two projects. Kathy Hadley noted that the Independence project been successful in attracting people to want to live there. Additional support was expressed for the Independence Railroad project. Anna Henson announced that the project is anticipated to take about 4,500 truck trips off Oregon highways. Dan Fricke reported that 108,000 one-way truck trips would be removed from area highways by the Northwest Passage project.

Dan Fricke noted that the final report is to be completed by March and to include the ranking of 14 projects in Region 2.

Agenda Item 5. STIF/STF Rulemaking

Mark Bernard, ODOT, provided an overview of the comparison between STF and STIF.¹ STF funds are flexible, reliable, and continuing. STIF funds are dedicated to improving, or expanding, public transportation of all trip types. Mr. Bernard noted that the two programs were combined as a result of the passage of Senate Bill 1601. The purpose of SB 1601 is to increase efficiency and funding reliability.

Agenda Item 6. Other Business

The next MWACT meeting will be April 7, 2022.

The OTC will have an IJA Special Meeting on March 30, 2022. It is anticipated that the OTC will decide how to distribute the federal funds. Testimony can be made during the February 17, 2022, IJA Special meeting.

Chair Ken Woods adjourned the meeting at 5:22 p.m.

¹ STF – Special Transportation Fund; STIF – Statewide Transportation Improvement Fund

Draft **Summary** **Draft**

Mid-Willamette Valley Area Commission on Transportation (MWACT)
MWVCOG Virtual Meeting
100 High St. SE, Suite 200
Salem, OR 97301
Thursday, January 6, 2022

**This meeting was a call-in meeting with people attending via Zoom.
Attendance is listed as follows:**

MWACT Members Present

Cathy Clark, 2021 Vice Chair, Keizer Mayor
Ian Davidson, SAMTD Board of Directors
Kathy Hadley, Polk County Private Sector
Tom Hammer, Yamhill County Private Sector
Anna Henson, ODOT Region 2
Scott Hill, 99W/18/47 Corridor, McMinnville Mayor
Casey Kulla, Yamhill County Board of Commissioners
Michael Langley, Confederated Tribes of the Grand Ronde
Jim Lewis, Salem City Council
Lyle Mordhorst, Polk County Board of Commissioners
Walt Perry, I-5 Corridor, Jefferson City Council
Jim Sears, 99E/213 Corridor, Silverton City Council
Della Seney, Hwy. 22E Corridor, Aumsville City Council
Mitch Teal, Marion County Private Sector
Cynthia Thompson, YCTA
Ken Woods, Jr., 2021 Chair, Dallas City Council

MWACT Members Absent

Danielle Bethell, Marion County Board of Commissioners

Others Present

Kelly Amador
Keith Blair, ODOT
Shari Burnell
Ed Chamberland, David Evans & Assoc.
Steve Dickey, SAMTD
Kristine Evertz, Summit Strategies
Dan Fricke, ODOT Region 2
Mike Jaffe, MWVCOG-MWACT/SKATS Staff
Lori Moore, MWVCOG-MWACT/SKATS Staff

Karen Odenthal, MWVCOG/SKATS Staff
Dorothy Upton, ODOT
Andrew Walker, ODOT
Julie Warncke, Salem Public Works
Cory Zielsdorf

Agenda Item 1. Call to Order – 3:30 p.m. – Introductions

Chair Ken Woods, Jr., called the meeting to order at 3:32 p.m.

Summary of December 2, 2021: The summary of the December 2, 2021 meeting was approved as submitted by consensus of the MWACT members present online.

Public Comment: There were no comments from the public.

Comments from the Legislative Delegation: There were no comments from the legislative delegation.

OTC Comments: There were no comments from the Oregon Transportation Commission (OTC) members.

Commission Discussion/Area Updates:

Scott Hill emphasized the importance of the Newberg-Dundee Transportation project to the region. A project update is scheduled for later in today's meeting.

Anna Henson, ODOT, reported that the 150 percent Enhance Scoping list is out. It is anticipated that the final list for the FY 2024-2027 STIP will be completed in March.

Agenda Item 2. Speed Zone Study and Safety

As requested by MWACT members in 2021, ODOT staff provided an overview of the process for setting and revising speed zones in Oregon according to our statutes, rules, and policies, as well as processes and timelines.

Speed limits for the different types of facilities for all jurisdictions are set by Oregon Law. There are various ways that speeds may be set including emergency and temporary speed zones. Emergency speed zones may be set as the result of natural or other disasters and remain in place up to 120 days. Temporary speed zones may be set for work zones or special events.

Designation of some speed zones on local roads including gravel roads may be ceded to local jurisdictions and adopted by local ordinances. These roads are done individually and may not be on arterials.

MWACT members discussed the connection between city and county speeds and how they need to interface to reduce safety problems. One of the most effective safety solutions is the design of the road/facility.

Agenda Item 3. Interstate-5 @ Aurora/Donald Interchange Update

MWACT members were reminded that the total cost of this project is anticipated to be \$76 million. Currently, available funding for the project totals approximately \$50 million. Therefore, ODOT has decided to split the project into phases. Phase 1 will occur in two parts. Phase 1a is scheduled to go to construction in 2022 at a cost of \$11 million. K & E Excavating has been awarded this phase of the project. Phase 1b is anticipated to be released for bid in 2022 or 2023. The determination of when to release the project to bid is dependent on the amount of funding ODOT is able to secure for the project. If sufficient funding isn't found for completion of the Phase 1b, ODOT will construct what they can and defer completion of the project until funding is available.

Agenda Item 4. Newberg-Dundee Bypass Update

An update related to the status of the Newberg-Dundee project was provided, which included a reminder that Phase 1 of the project opened for traffic in 2018. Approximately \$10.5 million was saved from the Phase 1 budget that was applied to selective right-of-way purchases for Phase 2. Design work for Phase 2 was provided in House Bill 2017. House Bill 5006 in 2021 provided \$32 million in funds toward the construction of Phase 2A.

Commission members were informed that a **public Virtual Event** is scheduled for 6:00 p.m. on January 27, 2022. Advance registration for the event is required at:

<https://www.oregon.gov/odot/projects/pages/project-details.aspx?project=19909>

Information related to Phase 2 of the project will be available at the virtual event along with an opportunity to ask questions of the project team.

Agenda Item 5. IIJA Funds and OTC

Dan Fricke reminded MWACT members that ODOT staff provided information regarding the funds that Oregon will receive from the federal Infrastructure Investment and Jobs Act (IIJA). ODOT hosted a webinar on December 7, 2021, related to IIJA funds in order to receive feedback and questions from the public. MWACT members approved the submission of a letter to the OTC containing their comments and priorities. Prioritization of legacy projects such as Newberg-Dundee among others was recommended for inclusion

in the letter. Support for fixing facilities before they need to be replaced; public transportation, especially in rural areas, and safety investments are to be emphasized also.

The OTC will meet on January 20, 2022, to review and evaluate funding scenarios related to how to use flexible funds. The schedule for additional OTC meetings related to funding issues was included on the agenda cover sheet.

Councilor Jim Lewis asked about the process to re-start the Willamette River Crossing project. Dan Fricke responded that the NEPA¹ process would need to start over as the process previously concluded with a No-Build Record of Decision. It would also be necessary to seek Federal Highway Administration (FHWA) approval.

Agenda Item 6. Other Business

The next virtual MWACT meeting is scheduled for 3:30 p.m. on Thursday, February 3, 2022. Officers for the year will be elected at this meeting. Additional topics include review of 2 ConnectOregon projects, Draft STIF/STF rulemaking, and an update on the Oregon Transportation Commission's (OTC) decision process for IJA funds. The Oregon Transportation Commission (OTC) has scheduled the following dates for discussion of this topic and to receive public input/comments:

- January 20, 2022
- February 17, 2022 (special meeting on IJA)
- March 10, 2022
- March 30, 2022 (special meeting on IJA)

Chair Ken Woods adjourned the meeting at 5:15 p.m.

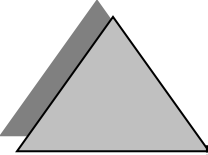
¹ NEPA - National Environmental Policy Act - Environmental impacts are required to be assessed prior to making decisions regarding actions to be taken for proposed improvements. The process incorporates evaluating the impacts of social and economic decisions and includes public involvement opportunities.

Agenda Item 2

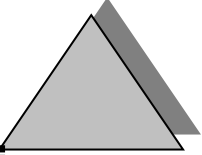
**OTC Commissioner Julie
Brown**

**Mid-Willamette Valley Area
Commission on Transportation
(MWACT)**

April 7, 2022



Mid-Willamette Valley Area Commission on Transportation



A local advisory body chartered by the Oregon Transportation Commission

Chair
Councilor Ken Woods, Jr.
City of Dallas

Vice Chair
Mayor Cathy Clark
City of Keizer

December 22, 2021

Chair Robert Van Brocklin and Commissioners
Oregon Transportation Commission
355 Capitol Street NE, MS #11
Salem, OR 97301-3871

SUBJECT: MWACT Comments/Recommendations for Use of IIJA Flexible Funds

Chair Van Brocklin and Commissioners:

The Mid-Willamette Valley Area Commission on Transportation (MWACT) is vitally interested and supportive of the state's goals of advancing a multi-modal transportation system. Roads and transportation facilities that serve regional destinations, such as the Oregon Coast and Central Oregon pass through our three-county area, so we must deal with regional and pass-through traffic as well as addressing our local transportation needs. We were, and continue to be supportive of the themes established by the OTC for the 2024-2027 Statewide Transportation Improvement Program (STIP) which include increased funding for public and active transportation, support for Fix-it investments, and support for Enhance Highway investments.

Your Commission will be considering various options for allocating funds made available by the IIJA. You have asked for input from various stakeholders - including the state's Area Commissions on Transportation - on priorities for how these new federal transportation funds should be spent. Specifically, you have asked MWACT to address three questions, the recommendations from each will help inform the development of scenarios by ODOT and your Commission. Our input on your questions follows.

"Given the investments already made in the STIP and the federal infrastructure bill, how should the OTC allocate flexible funding to best advance the OTC/ODOT Strategic Action Plan and the state's transportation goals?"

MWACT has, on several occasions provided the OTC with our project priorities – projects that are already included in the STIP and advance the goals of the Strategic Action Plan. These projects include:

- **I-5/Aurora-Donald Interchange Reconstruction** – the importance of this project in advancing state goals is demonstrated by its inclusion in the HB 2017 – Keep Oregon Moving legislation. This project will improve freight mobility and safety in the I-5 corridor. It is currently only partially funded and providing the additional funding to construct the final solution, a Diverging Diamond Interchange, results in reduced impacts to the community, and will be a significant benefit.

- **OR 22W/OR 51 Interchange** – this intersection in Polk County, which is also inside the boundary of the Salem-Keizer metropolitan area, is an identified in top 5% of safety issues in ODOT's Safety Priority Index System (SPIS). Much previous planning work has been completed by ODOT that establishes the need to replace this intersection with an interchange and design of an interchange is currently underway. Construction of this interchange will improve mobility and safety on this major statewide highway and freight route that connects the central Willamette Valley with the Oregon Coast. ODOT has funding currently to develop a solution at this location but there is no funding available for right-of-way acquisition or construction.
- **Newberg-Dundee Bypass** – MWACT appreciates past efforts by the legislature, OTC, and ODOT to complete Phase 1 of the Bypass and funds for partial development of Phase 2. The Bypass is an important connection that will improve freight mobility but will also be a significant benefit to Newberg and Dundee as reduced traffic will benefit economic development, traffic safety, and access in these downtown areas.
- **OR 18/Valley Junction to Fort Hill** – this project will address congestion and safety issues on this major state highway and freight route that connect the Willamette Valley to the Oregon Coast including the Confederated Tribes of Grand Ronde's Spirit Mountain Casino. Improvements in this section of highway will have the added benefit of decreasing traffic on Grand Ronde Road between OR 18 and OR 22. This road serves tribal facilities and housing for the Grand Ronde Community, including schools.
- **New Salem Bridge** – congestion on the bridges serving Salem are a local and regional problem. Both existing bridges need significant repairs and it is anticipated that the Marion Street Bridge would not withstand a significant seismic event. MWACT and the community are grateful to the OTC and ODOT for committing funding for a seismic retrofit of the Center Street Bridge however, even with that investment, the region is vulnerable. Completion of an additional Willamette River crossing, in addition to improving congestion, would provide system redundancy for local and regional traffic.

As stated above, the OTC and ODOT have shown their historic commitment to these "legacy" projects by their inclusion in the STIP. MWACT believes a commitment needs to be made to complete projects that have been identified as ongoing priorities that address multi-modal, safety, and mobility issues.

"Do the priorities expressed in 2020 – particularly strong support for public and active transportation and Fix-it – remain? Or have these priorities changed in some ways?"

MWACT has always expressed support for public transportation and Fix-it. In our area, provision of public transportation in rural areas is especially important. Services provided by Cherriots Regional and Yamhill County Transit Area provide important connections to the small cities and rural areas of our three county area. This is especially important for disadvantaged communities in our area that need access to medical, shopping, or other services.

MWACT also recognizes the critical need to support Fix-it programs that keep the system safe and in good operational condition. Pavement improvement, repairing or replacing aging bridges, landslide mitigation, etc. are all important functions that keep our multi-modal transportation system operating.

*Chair Robert Van Brocklin and Commissioners
Oregon Transportation Commission
December 22, 2021
Page*

MWACT supports needed investments to complete identified safety improvements on state highways in our area -- such as OR 99E and OR 219 -- that continue to have fatal and serious injury crashes.

"What are the specific priorities for investment of funds in public and active transportation?"

As stated above, MWACT strongly supports public transportation that provides services to our smaller communities and rural areas. We also support investments directed toward the Salem Area Mass Transit District (aka -- Cherriots) which provides public transit in the Salem-Keizer metropolitan area.

MWACT is also supportive of active transportation as a way to reduce congestion and decrease greenhouse gas emissions. Programs such as Safe Routes to Schools and prioritization of projects that support active transportation and improve safety and access for children is important.

Thank you for the opportunity to provide input on this important process that will help address transportation needs statewide and in our area. We look forward to further discussions with the OTC and ODOT staff as investment scenarios for the IIJA funds are refined and provided for additional comments.

Sincerely,

A handwritten signature in dark ink, appearing to read "Ken Woods, Jr.", with a stylized, cursive script.

Ken Woods, Jr.
MWACT Chair

cc: MWACT members
Travis Brouwer
Cooper Brown
Mac Lynde
Sonny Chickering
Anna Henson

Agenda Item 3

Report on OTC Decisions for IIJA Flexible Funds

**Mid-Willamette Valley Area
Commission on Transportation
(MWACT)**

April 7, 2022



Oregon

Kate Brown, Governor

Oregon Transportation Commission

Office of the Director, MS 11

355 Capitol St NE

Salem, OR 97301-3871

DATE: March 22, 2022

TO: Oregon Transportation Commission

FROM: Kristopher W. Strickler
Director

SUBJECT: **Agenda Item A** – Approval of Infrastructure Investment and Jobs Act Funding

Requested Action:

Approve allocation of IIJA flexible funds.

Background:

The Infrastructure Investment and Jobs Act of 2021 will provide Oregon about \$1.2 billion in additional federal highway and transit formula funding, as well as opportunities to apply for billions of dollars in competitive grants from the U.S. Department of Transportation. Of this formula funding, approximately \$412 million is flexible and can be used for a variety of purposes.

At its March 2022 regular meeting, the Commission discussed [ODOT's proposal for investment of IIJA flexible highway funds](#) and provided the following input.

- Commissioners supported the proposed allocations for ADA Accessibility, Local Climate Planning, Match for Competitive Grants, and Operations & Maintenance.
- Commissioners wanted to provide additional funding for Business & Workforce Development.
- ODOT should develop a proposal for an Innovative Mobility Pilot Program for grants to improve transportation options.
- ODOT should develop a hybrid scenario that focuses on Fix-It and Public and Active Transportation, based on specific proposals provided in the meeting.
- ODOT should develop a proposal for supplementing electric vehicle charging infrastructure formula funding with other federal, state and private sources.
- ODOT should develop a plan to aggressively pursue federal competitive grant funding.

Flexible Highway Funding

Based on the discussion and direction provided in the March 10 meeting, ODOT proposes the Commission consider the following consensus hybrid scenario for allocation of \$412 million of flexible funding. This proposal keeps the off-the-top allocations for four programs while increasing funding for Business & Workforce Development. Funding for the new Innovative Mobility Pilot Program is set at \$5 million, with an additional \$5 million coming from funds outside the IIJA, for a total base funding of \$10 million. Funding for other programs are based on the numbers suggested by Commissioners Brown and Smith.

Program Area	Funding (Millions)
Enhance Highway	\$50
Fix-It	\$75
Great Streets	\$50
Safe Routes to School	\$30
Innovative Mobility Pilot	\$5
Local Climate Planning	\$15
Maintenance & Operations	\$40
ADA	\$100
Match for Competitive Grants	\$40
Business & Workforce Development	\$7
Total	\$412

At this funding level for Enhance Highway, ODOT would focus on projects that need additional funding to complete the totality of a project, including US 97 Bend North Corridor and the I-5 Aurora-Donald interchange.

Innovative Mobility Pilot Program

Based on direction from Commissioner Simpson, ODOT proposes using \$5 million in IIJA flexible highway funding and \$5 million from the Transportation Operating Fund for an Innovative Mobility Pilot Program (IMPP). The IMPP will provide grants to community-based organizations and government agencies for innovative public and active transportation programs and projects that enhance sustainable and equitable mobility.

Dedicating both federal funds and state funds will allow ODOT to assign the appropriate fund types to recipients. For example, many governmental entities are familiar with the strings that come with federal funds, while community-based organizations might struggle to meet all federal requirements but could more effectively use state dollars.

Bridge Funding

ODOT has long shared federal funding with cities and counties by providing a set percentage of federal highway program funds to the Local Bridge Program. With the IIJA's infusion of \$268.2 million in special one-time bridge funding, ODOT has worked with the League of Oregon Cities and the Association of Oregon Counties to develop a proposal to fairly split these funds between ODOT and local governments based on need.

ODOT developed a proposal for a needs-based allocation of funding that uses a traditional measure of need (total deck area of bridges in poor condition) as a base and then adjusts that to account for a number of factors, including:

- the higher traffic volume of bridges on the state highway system;
- the higher cost of rehabilitating and replacing large bridges, which are primarily owned by ODOT;
- the priority placed in federal law on bridges on the National Highway System; and
- the need to follow an asset management strategy that prevents bridges in fair condition from falling into poor condition rather than just fixing poor bridges.

Under this proposed allocation, the Local Bridge Program will receive a total of \$110.7 million in additional funding over the course of the IIJA (federal FY 2022-2026). This consists of approximately \$34.7 million in base federal funding and \$76 million in IIJA Special Bridge funding. The Local Bridge Program is currently funded at \$133,624,660 over this period, so this represents an increase of 82.9%. Local governments will receive 36.5% of total IIJA bridge funding of \$302.9 million. This will allow local governments to make significant improvements to local bridges.

Bridge Funding 2022-2026

	Local	ODOT
Pre-IIJA	\$ 133,624,660	\$ 569,204,585
Additional IIJA	\$ 110,710,273	\$ 192,198,017
Total	\$ 244,334,933	\$ 761,402,602
Increase	82.9%	33.8%
Percent of IIJA Bridge*	36.5%	63.5%

*Includes IIJA Special Bridge and Local Bridge share of base IIJA funding.

ODOT will receive \$192.2 million in additional IIJA Special Bridge funding over the 2022-2026 period. This will supplement the existing State Bridge Program, which currently receives no federal funding and is funded exclusively through ODOT's portion of HB 2017 State Highway Fund revenue. This will increase State Bridge Program funding by 33.8%. The additional investment will allow ODOT to replace a few more bridges and make important investments to preserve existing bridges. ODOT is considering the following investments:

- I-405 Freemont Bridge - West Ramp Painting
- Columbia Slough Bridge Replacement (Portland)
- Center Street Bridge (Salem) Seismic Retrofit
- US97 South Central Oregon Bridge Overlays

To allow for an opportunity for public input on this proposed bridge funding allocation, ODOT will return in May for Commission action on directing the IIJA Special Bridge funding.

Electric Vehicle Charging Funding

The OTC directed ODOT to develop a plan to supplement the \$52 million in EV charging formula grant funding with money from other federal, state and private sources.

Using a variety of funding sources, ODOT proposes a commitment of over \$100 million in total dedicated EV charging funding. The funding sources to support such increased investments will include funding required to match federal formula funds, Transportation Operating Fund resources, some Carbon Reduction Program dollars, and other state and federal sources. These additional funds will nearly double the federal formula funds for expansion of electric vehicle charging infrastructure within and outside federally designated corridors. In addition ODOT will actively pursue federal discretionary grants, and is well-positioned to bring in even more investments to help make Oregon the lead state in transportation electrification infrastructure investments. An investment of over \$100 million in electric vehicle charging infrastructure will help to propel the market and transition to electric micromobility, medium- and heavy-duty vehicles, and electric cars and trucks, as well as to further achievement towards Oregon's climate goals.

Attachments:

- Attachment 01 – Infrastructure Investment and Jobs Act STIP Update Public Input Summary
- Attachment 02 – Written public comments submitted to the Commission
- Attachment 03 – IJJA Directed and Flexible Funding Summary
- Attachment 04 – Innovative Mobility Pilot Program

Infrastructure Investment and Jobs Act Investments in the Statewide Transportation Improvement Program

All figures are estimates of additional funding provided under the IIJA and cover the six years of the 2021-2024 and 2024-2027 Statewide Transportation Improvement Program (federal FY 2022-2027). Flexible Funds are specific amounts approved by the Oregon Transportation Commission. Dedicated Program funding levels will depend on actual funding appropriated by Congress and apportioned by the Federal Highway Administration. FY 2027 funding is estimated conservatively due to the expiration of the IIJA in FY 2026.

Program	Amount in Millions
<i>Flexible Funds</i>	
Enhance Highway	\$50
Fix-It	\$75
Great Streets	\$50
Safe Routes to School	\$30
Innovative Mobility Pilot	\$5
Local Climate Planning	\$15
Maintenance & Operations	\$40
ADA Accessibility	\$100
Match for Federal Competitive Grants	\$40
Business & Workforce Development	\$7
<i>Dedicated Programs</i>	
National Electric Vehicle Infrastructure	\$52
Carbon Reduction Program	\$85
State Bridge	\$192
Local Bridge	\$111
PROTECT	\$100
All Roads Transportation Safety	\$67
Community Paths/Transportation Alternatives	\$39
Congestion Mitigation & Air Quality Improvement (CMAQ)	\$11
Surface Transportation Block Grant (city/county/small MPO)	\$36
Surface Transportation Block Grant (large MPO)	\$38
MPO Planning	\$7
Public Transportation	\$222

Innovative Mobility Pilot Program, DRAFT

March 23, 2022

Background

The Oregon Transportation Commission has directed ODOT to develop a pilot Innovative Mobility Program that will provide grants to community-based organizations and government agencies for innovative public and active transportation programs and projects that will enhance sustainable and equitable mobility.

The Innovative Mobility Pilot Program (IMPP) would significantly expand ODOT's ability to leverage private and other public funds through partnerships with certified non-profits, local agencies, transit agencies, metropolitan planning organizations, and tribes to meet a broad range of community needs that make it easier for people to walk, roll, bike, share rides, vanpool, and take public transportation to meet daily travel needs. This program would complement and significantly expand the scope and funding of ODOT's current [Transportation Options program](#) (\$5.5 million in the 2021-2024 Statewide Transportation Improvement Program).

Funding

ODOT anticipates dedicating \$10-20 Million over 3 years to the IMPP, with \$5-10 million from IIJA federal highway flexible funds and an additional \$5-10 million from other sources of state funding, such as the Transportation Operating Fund. The use of state funds expands project and recipient eligibility and simplifies access to and use of funding for recipients who may struggle with the strings attached to federal funds.

ODOT's Proposed Program Approach

Innovative Mobility Competitive Grants

Grants may be awarded on a rolling basis as well as through an annual competitive cycle. At least \$3 million will be available through an "Immediate Opportunities" fund that will allow planning and project applications to receive funding at any time.

The annual competitive grant program will include extensive outreach and technical assistance to ensure potential applicants are aware of the funds and how they can be used. Award recommendations will be made by a selection committee, comprised of at least one member of the Oregon Transportation Commission, ODOT staff and representatives from outside the Agency including members of ODOT advisory committees, community based organizations, local agencies, and others. The Commission will approve program criteria and all grant awards. The program will be evaluated and refined to ensure it is achieving program goals and is accessible.

The Innovative Mobility grant program approach goals will include:

- Collaborate with marginalized groups and organizations that serve these communities to develop and deliver innovative multimodal transportation efforts and projects that serve marginalized groups.
- Build capacity with community-based organizations to successfully apply for and deliver transportation options programs and services.
- Build community trust with ODOT, establish, and maintain personal relationships and networks, especially in communities where historically ODOT has struggled to engage.
- Utilize public funds to leverage other public and private sector investments.
- Provide jobs and job access for members of marginalized communities.

Project selection criteria will include:

- Provide or encourage use of multimodal transportation options, with a focus on marginalized communities who lack strong multimodal access.
- Support equitable solutions and transportation options for those impacted by congestion pricing.
- Increase mode share for non-single occupancy vehicle transportation options and reduce Vehicle Miles Traveled (VMT), and related Greenhouse Gas (GHG) Emissions.

Program Structure and Eligible Activities

The funds are proposed to be allocated as follows:

- Innovative Mobility Competitive Grants (\$5-10 million)
 - Targeted marketing to promote carpools near affordable housing locations
 - Electric bike lending library for low income communities
 - Multimodal transportation wallet for low income (eg., bus pass, bike share membership, and car sharing membership)
 - Travel training and encouragement programs (all modes)
 - Bicycle safety gear, skills and safety training, and bike racks
 - Houseless persons pedestrian and bicycle safety and security outreach
 - Incentive programs
 - Other types of services that make it safer and easier for all people, particularly communities of color and people experiencing low wages, to make trips necessary for daily life
- ODOT Convened and Partner Delivered Programs (\$5-10 million)
 - Vanpool Subsidy (Urban and Rural Programs): \$2-4 million. Incubate and launch expanded urban vanpool, including focus on mitigating impacts of tolling in Portland Metro/Clackamas County Area.
 - Transportation Management Association(s): \$1 million. Incubate and launch Transportation Management Associations, focusing first on the Portland Metro/Clackamas County Area to mitigate the impacts of congestion pricing.
 - Electric and Pedal Bikeshare Capital and Planning: \$2-5 Million. Incubate and launch pedal and electric bikeshare systems.

Both program areas would focus a portion of the funds on tolling mitigation for the I-205 Toll Project.

ODOT and Partner Delivered Programs

Vanpools

ODOT will work with large and small urban transit providers to implement a vanpool program for commuter vans that begin, end or pass through the Portland Metropolitan Area, to mitigate the impacts of congestion pricing. Vanpool programs around the country provide a subsidy to increase affordability and uptake of vanpools, and subsequently reduce VMT, SOV trips and GHG emissions.

The rural vanpool program could improve job access to areas like Bend/Redmond, La Pine, Medford, Hermiston, Roseburg, and others where high housing costs force low wage workers to live long distances from jobs. ODOT would develop a statewide program and contract with a vendor to manage a vanpool program in non-urban areas of Oregon.

Transportation Management Associations

The Portland Metropolitan Area lacks sufficient coverage of transportation options service delivery, with Clackamas and East Multnomah County being most underserved. ODOT will work with Metro and other regional partners to expand existing and/or create new TMAs, which will also mitigate congestion pricing. While TMAs traditionally serve employers and address commute related solutions, application of additional and more flexible funding could also be targeted at equity-based solutions.

Interoperable Bikeshare

ODOT would contract with a micromobility management nonprofit to create a bikeshare system that serves urban areas such as Eugene/Springfield, Corvallis, Salem/Keizer, and other interested communities. Under this scenario, ODOT would purchase electric bikes and hire a non-profit to manage a multi-city bikeshare system. The economies of scale created by the shared system would allow greater purchasing power for equipment, insurance, and operations costs. These funds would cover capital costs and planning. Programs would be started only with local partners that commit to fund ongoing operations through some combination of fares, private sponsors, and local funds.

Agenda Item 5

Climate Change Adaptation and Resilience Roadmap

**Mid-Willamette Valley Area
Commission on Transportation
(MWACT)**

April 7, 2022

CLIMATE CHANGE ADAPTATION & RESILIENCE ROADMAP

EXPLORING & DEVELOPING POTENTIAL STRATEGIES FOR ADOPTION & IMPLEMENTATION IN OREGON

ODOT's Climate Change Adaptation and Resilience Roadmap (expected 2022) will serve as the agency's operational plan for climate resilience. The plan will provide clear guidance to streamline climate change adaptation decisions relevant to ODOT business-lines and disciplines, and is a necessary step in preparing our transportation system and personnel for more frequent and more intense hazardous weather events each season. This work is a critical component of our ODOT's policy priorities established in the Strategic Action Plan and satisfies part of the charge from Governor Brown, outlined in Executive Order 20-04 (2020).

Since August 2020, ODOT along with our ICF consultant team, have completed a desktop study of the transportation system's climate resilience, a climate change risk analysis of critical corridors, and gathered information from each region and across disciplines about specific climate resilience strengths and weaknesses. The desktop risk assessment findings, risk mapping, and internal lessons learned will inform adaptation strategy identification and development to ensure the plan is actionable and designed to build resilience into the Oregon Transportation system.

Request for ACT Suggestions/Input

We are seeking suggestions for strategies we should explore to address challenges from natural hazards.

1. Based on the presentation, are there specific hazards you feel we should prioritize strategies around?
2. Has your organization engaged in resilience planning, identified solutions, and/or deployed climate resilience strategies or actions?

Resilience-building is already common and can take many forms, for example:

- Monitoring for early detection of slides, floods, etc.
- Emergency management/planning for extreme events
- Communications regarding road closures and detours
- Coordinate with different entities during events (e.g. wildfires)
- Adjustments to engineering/planning to make infrastructure more resilient
- Planning for quick response when disruptions do happen

3. Are there lessons learned from recent events that you feel we should be aware of?
 - a. What has worked well?
 - b. What needs improvement?
4. Do you have suggestions on others we should reach out to/engage with on strategy identification – particularly regarding leveraging resources and coordination around extreme events?

Contacts:

[Kat Silva](#), ODOT Climate Office, Adaptation Program Manager
[Paris Edwards](#), ODOT Climate Office, Climate Specialist

FACT SHEET

Climate Change Impacts and Coastal Erosion in Oregon



Hazard Overview

ODOT Regions 2 and 3 have large stretches of highway running along the Pacific coast, primarily Highway 101. Sections of these roads are at-risk to coastal erosion processes, include wave erosion, weathering of rock, groundwater seepage, and surface runoff. Coastal erosion can undermine the integrity of the roadways, resulting in frequent and costly repairs. Climate change will likely increase risks from coastal erosion due to rising sea levels, more intense winter storms, more intense rainfall events, and increased wave height.

Quick Facts: Beverly Beach Section of US-101



One Meter

Average annual rate of coastal erosion since 1960s



\$200,000

Average annual costs to maintain Beverly Beach portion of US-101 in years without a major erosion event

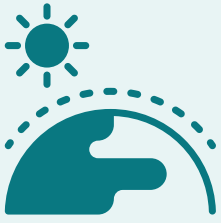


\$41 Million

2016 estimate to make Beverly Beach and similar areas more resilient to coastal erosion

Impacts and Consequences on Transportation

- Damage to roadway often gradual, but requires frequent repairs
- Sudden and large-scale slides are less common, but do occur
- Travel delays and disruptions while repairs are made
- Traffic delays can be particularly problematic for emergency services, and can also impact tourism economies
- Ongoing nature of repairs in problem spots creates a costly drain on annual budgets



How will climate change affect coastal erosion in Oregon?

Climate factors that contribute to coastal erosion are expected to increase in frequency or severity in the future.

Rising sea levels can increase erosion of the bluffs on which highways are built. So, even if the highway is not flooded by sea level rise, the associated erosion could compromise the integrity of the highways. Sea level rise also affects flooding and erosion in estuaries that feed into the ocean, so even highways not immediately adjacent to the coast could be affected.

Climate change will bring more intense rainfall events, whose runoff can contribute to loosening soils. More intense storms, particularly winter storms, can bring greater wave action that erodes coastal cliffs.

Moreover, El Niño events are expected to increase in intensity and frequency, which may bring larger waves, storm surge, and temporarily raised sea levels of 4-12 inches, which will also increase erosion along coastal areas.

A spatial analysis conducted by ODOT indicates that by the end of the century, nearly 90 miles of highways could be within the flood zones during a 1-in-100 coastal flood event. However, many more miles of coastal highway are potentially at risk from coastal erosion that will be exacerbated by sea level rise. Thus, while stretches of coastal highways may not be actually flooded because of sea level rise—due in part to higher elevation along cliffs—they are still at-risk due to erosion processes. Thus, it will be important to understand not just how sea level will rise, but also how erosion will increase.

Making Oregon's Highway System More Resilient to Coastal Erosion

Strategies to Minimize Impacts

- Engineering and nature-based solutions focused on protecting and reinforcing the beach area, including cobble beaches, jetties, piles, riprap, and Mechanically Stabilized Earth (MSE) with planted terraces or structural features.
- Improve water runoff control.
- Realignment may be appropriate in some areas, although it is often difficult and costly.

Strategies to Minimize Consequences

- Ensuring robust event-response to quickly repair problem areas with minimal disruption to passenger and freight travel.
- Proactive repair/maintenance to be conducted at times that minimize impacts on tourism or community access.
- More robust study of erosion processes. Sea level rise tells only part of the risk story.





Adaptation Barriers to Overcome

- Limited detour options in many areas along coast.
- Extensiveness of coastal erosion risk. While it may be possible to achieve longer-term stabilization for a given area, the high cost to fix just one location can make it difficult to make similar fixes to all problem areas.
- High capital costs may provide long-term cost benefits through avoided annual repairs, but are often too expensive for a given budget cycle and single location.



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FHWA and ODOT. Green Infrastructure Techniques for Resilience of the Oregon Coast Highway. Green-Infrastructure-Study.pdf (oregon.gov)

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ODOT-sponsored analysis of climate change projections and interviews with ODOT staff

FACT SHEET

Climate Change Impacts and Inland Flooding in Oregon



Hazard Overview

Inland flooding is a widespread and common occurrence across Oregon, with locations in all 36 counties identified by the National Flood Insurance Program as “flood prone.” Floods can cause temporary travel disruptions, damage the roads, and also bring safety risks to passengers. Flood events are expected to increase in frequency and intensity due to more intense rainfall events and the shifting of precipitation from snow to rain.

Flood Highlight: February 2020 Pendleton Floods (Region 5)



6 Days

Length of time long stretches of I-84 were closed



3-6 inches

Amount of rain that fell in days preceding the floods. This rain was on top of previous snow and snow melt, and occurred during a period already experiencing more than average precipitation

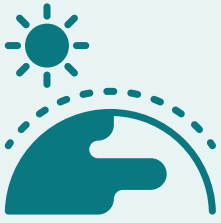


\$17 Million

Funds requested by ODOT from FHWA to cover costs of flood-related damage in the region

Impacts and Consequences on Transportation

- Multiple flood events can occur simultaneously, complicating detours and repairs
- Significant costs related to: debris removal, levee repair, guardrail and post repair, culvert clearing, shoulder repair, vertical wall repair, bridge replacements, and reinforcements where highway structural integrity compromised
- Floods can be small, affecting small areas for a few hours; or large, affecting multiple large areas for days or weeks
- Short- or longer-term traffic disruptions for passengers and freight
- Potential accessibility issues for a community if sufficient alternative routes are not available
- Impacts on local economy if tourism or freight is greatly disrupted



How will climate change affect inland flooding in Oregon?

Flood risk in all ODOT regions will likely increase in the future, due to an increase in intense precipitation events and shifting rainfall patterns that will make winter months wetter.

Moreover, due to increasing temperatures, more winter precipitation may fall as rain rather than snow. Since snow takes time to melt, runoff is more gradual. A shift toward more rain could contribute to flooding conditions in some areas.

The anticipated increase in wildfire events may also contribute to more flood events, as burn scars can allow for faster runoff of precipitation, and also contribute to debris flows that can clog culverts.

Flooding may increase in intensity or frequency in areas already prone to flooding. Flooding may also occur in areas that historically have not experienced much flood activity.

Currently, "high water" incidents on ODOT highways occur most frequently in Regions 1, 2, and 3, but events occur to some extent across almost all highways in all Regions.



Making Oregon's Highway System More Resilient to Flooding

Site-specific Strategies

- Improved drainage in problem areas.
- Designing new infrastructure based on projected future rainfall patterns, instead of based on historical rainfall.
- Immediately after wildfire events, develop strategy for reducing runoff and debris-flow risks. Actions could range from upsizing specific culverts, increased cleaning of culverts, or enhanced flood-response planning.
- Ensuring effective monitoring, communication, and response plans for floods are in place, particularly for areas where flood events may become a new threat in the future.
- Incorporating flexible design in physical structures, so that retrofits can be easily done if/when needed.

System-wide Strategies

- Ensuring funding and repair policies can accommodate adaptive upgrades, rather than just repairing to status quo.
- Prioritizing critical, at-risk flood areas for proactive upgrades.
- Improved/additional funding strategies to allow for more upgrades in problem areas.
- Seizing opportunities for upgrades, such as when a culvert needs to be replaced anyway, or when a new structure is being built.



Adaptation Barriers to Overcome

- Multiple flood events often happen at once, straining the ability to effectively respond.
- Funding mechanisms do not always encourage proactive adaptation, but rather focus on repairs.
- Costs to adapt a given culvert/bridge/drainage area may be feasible, but may become prohibitive when looking across a large area.
- Designing for future rainfall events can be difficult, since there are not established best practices for doing so.



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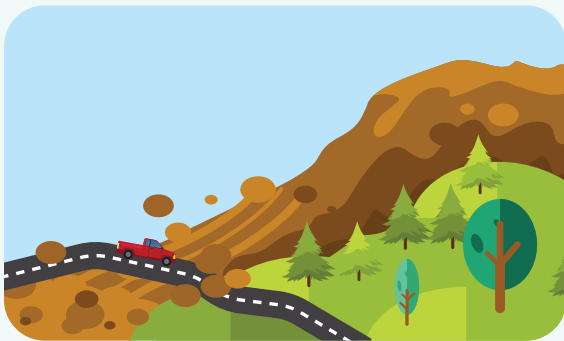
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ODOT-sponsored analysis of climate change projections and interviews with ODOT staff

FACT SHEET

Climate Change Impacts and Landslides in Oregon



Hazard Overview

Landslides are a chronic problem throughout Oregon, particularly in the western region of the state and in areas with steep slopes. On average, ODOT incurs about \$4.5 million in costs each year due to landslides. Some landslide events are small and more quickly fixed, but major slides occur as well. Certain roadway segments are particularly prone to slides and need frequent repairs. Landslides can also result in major impacts to travel and on communities due to road closures, particularly in areas of Oregon with few good alternate routes. Landslide risk in Oregon is expected to increase in the future due to increased wildfire, extreme precipitation events, drought events, and sea level rise—all of which can destabilize slopes.

Quick Facts: 2019 Hooskanaden Landslide (Region 3)



One-Quarter Mile

Approximate length of US-101 that shifted



2 Weeks

Length of time US-101 was closed



\$220,000-\$440,000

Estimated daily costs in time and operating costs, due to delayed traffic and commodity deliveries

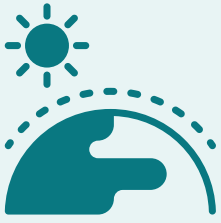


\$100 Million

Estimated cost to fully stabilize the slope

Impacts and Consequences on Transportation

- Short- and longer-term road closures
- Costly detours, particularly in instances where nearby similar routes are lacking
- Disruption of freight shipping and passenger travel
- Repeated repairs in landslide-prone areas
- Extensive and costly repairs for major slides
- Safety concerns for workers and travelers
- Impacts to nearby communities and local economies due to accessibility issues



How will Climate Change affect Landslides in Oregon?

Landslide risk is expected to increase in the future due to anticipated changes in climate factors that can destabilize slopes.

Projections indicate that extreme precipitation events may increase in frequency and intensity. This is particularly true during the winter months when, due to rising temperatures, more precipitation may fall as rain rather than snow in some areas. Heavy rain events occurring after drier summers, or after droughts—both of which are projected to increase in the future—can be particularly destabilizing.

Wildfire risk is also expected to increase throughout the state, creating looser soils. The combination of heavy precipitation following wildfire can be particularly conducive to slide events.

Sea level rise and more severe coastal storm events could increase coastal erosion, increasing the risk of slides in coastal areas.

Landslides are particularly a problem for ODOT's system in the western parts of the states, in Regions 1 through 3. These are also the areas where extreme precipitation is anticipated to increase most notably. Wildfire is expected to increase in all ODOT regions, including Regions 1-3.

There is also notable landslide activity in the northern parts of Regions 4 and 5, although slides do occur in the southern parts of those regions too. Extreme precipitation events are anticipated to increase in these regions as well, although to a lesser degree than in the western part of the state. Wildfire risk is expected to increase in these regions too, particularly in the southeastern areas, perhaps making landslides a bigger risk in those parts than has traditionally been the case.

Making Oregon's Highway System More Resilient to Landslides

Location-Specific

- Engineering solutions focused on managing surface water runoff and stabilizing slopes, including:
 - Improving culverts, channels, and other drainage measures
 - Landslide dewatering methods
 - Retaining walls, ground anchors, shear piles, and other structural solutions
 - Shoreline armoring to mitigate coastal erosion
 - Bridges, realignment, and other solutions to completely bypass problem areas

Many of these solutions are very expensive, however.

- Improved/expanded monitoring, including use of lower-cost technology such as remote monitoring.
- Continued/improved maintenance and visual monitoring to quickly identify and repair small-scale events before they become more problematic.

System-Wide

- Ensuring supplies/equipment stockpiled or otherwise accessible, given lack of good alternate routes and inability of some routes to handle truck traffic.
- Improving approaches to funding to enable deployment of high-capital cost, but still cost-effective, measures. These approaches may include leveraging other funding sources, partnerships with other agencies/communities, or adjusting the way ODOT considers budgets to allow for a longer-term look at costs and benefits.
- Developing a strategic approach to allow for "right-sizing" adaptation. In some cases, significant improvements can be made without full-scale stabilization. Slides might not be prevented entirely, but reduced in frequency or severity.
- Creating a system-wide strategy to prioritize locations and level of response.
- Improving response-planning to minimize impacts on a community.



Adaptation Barriers to Overcome

- Limited detour options in some areas, which not only affects passenger freight travel, but can make response and repairs more challenging.
- High capital costs of solutions make it difficult to fund projects within any single budget cycle—even when the project is cost-effective in the long run.
- High cost of even studying locations to determine appropriate solutions.



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ODOT-sponsored analysis of climate change projections and interviews with ODOT staff.

FACT SHEET

Climate Change Impacts and Winter Storms in Oregon



Hazard Overview

Intense winter storms can have severe consequences for public health and safety and cause widespread infrastructure damages. ODOT strives to maintain safe transportation routes, improve emergency accessibility in poor weather conditions, and repair damaged infrastructure after critical needs are addressed, but severe storms can strain their ability to do so. Winter storms may occur more frequently in the future, although there is a lot of uncertainty regarding how those storms may change and the associated impacts on transportation.

Recent Notable Winter Storms Resulting in Significant Traffic Disruptions and Vehicle Crashes

February 2014

Snowfall + freezing rain across most of the state

3-6 inches of snow in low elevation areas, up to 3 feet in the Cascades

December 2016-January 2017

Multiple rain and snow storms in Portland region resulted in major disruptions to travel, declaration of State of Emergency

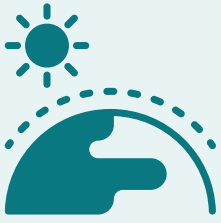
Bend and Malheur County received over 3 feet of snow

February 2019

Record-breaking 24-hour snow accumulation in Central Oregon

Impacts and Consequences on Transportation

- Potentially major traffic disruptions
- Stranded passengers
- Stranded and abandoned vehicles that block roadways
- Vehicle crashes and passenger injuries and fatalities
- Difficulties for emergency vehicles, utility repairs, and other essential vehicles to navigate congested roadways or access some areas
- Extensive tree damage from winds, ice, and heavy snow, which can block roads, take down electric lines, and even fall on cars
- Costs associated with removing snow, ice, downed trees, and stranded vehicles from roadways
- Power outages, often from downed trees, that affect traffic signals
- Flooding, landslides, erosion issues following storms



How will climate change affect winter storms in Oregon?

The exact effects that climate change will have on winter storms is difficult to project, particularly for a given location. However, overall, winter storms are expected to increase in severity and frequency.

Climate models predict increased climate variability in Oregon, meaning that some winters may be more mild, but other winters could more extreme storms. Winter precipitation is expected to increase, which, depending on whether it falls as rain or snow or ice, could contribute to more damaging winter storms. The wind events that occur during these storms—coupled with the accumulation of snow or ice on trees—can contribute to extensive tree damage.

Temperatures are expected to increase, which may cause some winter precipitation to fall more as rain than snow in some places. However, warmer winter temperatures can also create more hazardous conditions. For example, snow and freezing rain combinations, or roadway snow that thaws and then refreezes as ice, can create dangerous roadway conditions. Storm events that include combinations of precipitation, snow, and ice in particular seem to result in significant tree damage, which can block roads and take down power lines. This was the case during the February 2019 and 2021 winter storms.



Making Oregon's Highway System More Resilient to Winter Storms

Strategies to Mitigate Immediate Impacts

- Exploration of more widespread use of salt or other substances to reduce icy conditions.
- Effective monitoring and closing of roadways unsafe to travel.
- Coordination with other state and local agencies involved in emergency response.
- Alerts and best practices communicated with citizens, employers, schools, and communities to discourage travel during certain periods (e.g. encouraging employers to send workers home early, or work from home, to avoid heavy traffic during events).
- Winter driving safety education and encouragement of vehicles more equipped for winter weather.
- Improved communication of how routes are prioritized for clearing, or of current conditions of roads, so that drivers can make informed decisions when choosing routes and whether or not to travel at all.
- Increased availability of snow clearing equipment, such as snowplows, in areas where expedient snow removal is an issue.

Strategies to Reduce Longer-term Consequences

- Process for debriefing after events to continually improve planning and response.
- Sharing of lessons learned across ODOT regions and with other states.
- Improved, comprehensive cost-tracking to better capture full costs of events, including roadway repairs made after the event, e.g. pothole filling. It can be difficult to tie certain repairs to a specific event, but cost tracking methods could be developed to help capture these post-event costs. Improved cost estimation can be used to demonstrate the value of more investment in impact mitigation measures.
- Coordination with communities and better impact tracking to understand the full cost of the storms, including economic and social impacts. More comprehensive cost accounting can be used to demonstrate value of increased investments, as well as cost-sharing approaches with communities and other agencies.



Adaptation Barriers to Overcome

- Impacts can vary considerably depending on exact nature of an event and even timing. For example, a severe snow event occurring during rush hour can have more dramatic impacts on traffic and stranded vehicles than one occurring during low traffic volume. It can be difficult to prepare for every exact situation.
- Interconnectedness of roadways managed by different entities. A community could still experience impacts if local roads are not cleared even if ODOT-managed ones are.
- Drivers may underestimate snow and ice-related hazards, causing stranded vehicles and accidents that in turn inhibit the ability of plows and other vehicles to clear the roads.



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ODOT-sponsored analysis of climate change projections and interviews with ODOT staff

FACT SHEET

Climate Change Impacts and Wildfires in Oregon



Hazard Overview

Wildfires are a chronic problem in Oregon, and recent events indicate this risk is reaching historic levels of impact. Wildfires can cause road closures and extensive damage to roadway infrastructure, impose logistical challenges to evacuation routes, and threaten human safety through both the fires themselves and the associated air quality impacts. The frequency and extent of wildfires is expected to increase across the state.

Recent Notable Wildfires



2015 Canyon Complex Fire

110,000 acres burned
Approximately \$5M in costs to ODOT



2017 Eagle Creek Fire

48,000 acres burned
Approximately \$20 Million in costs to ODOT



September 2020 Fires

Over 1 million acres burned
Costs could exceed \$1 Billion

Impacts and Consequences on Transportation

- Evacuations, including in densely populated urban areas
- Short- and longer-term road closures
- Potential threats to evacuations due to fallen trees and other immediate fire-related impacts
- Disruption of freight shipping and individual travel
- Widespread destruction of hardware (e.g. guardrails, traffic control devices)
- Damaged bridge and pavement
- Costs for extensive tree and debris removal and slope stabilization
- Increased future risk for landslides and debris flows

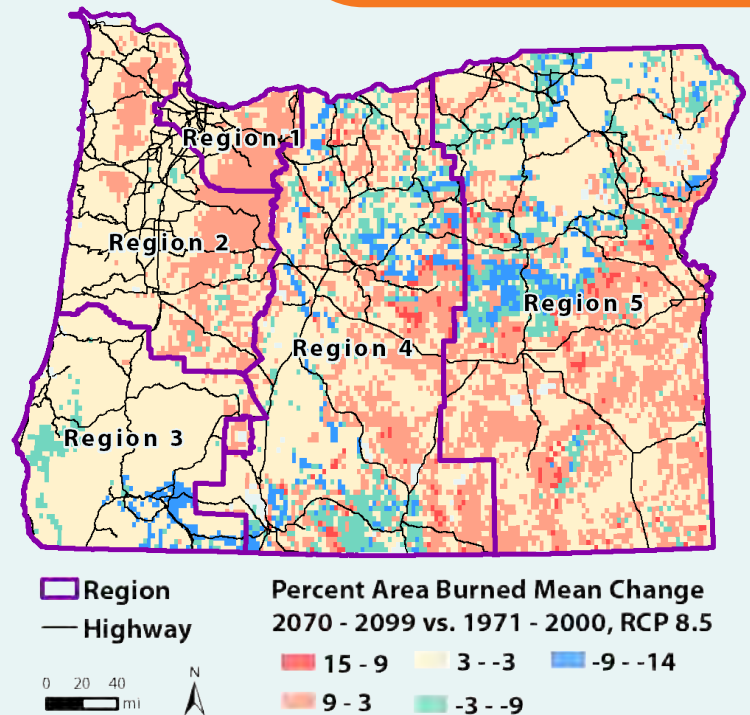


How will climate change affect wildfires in Oregon?

The wildfire season in Oregon is expected to become longer, and fires may occur more frequently, more extensively, and more severely.

This increase in activity is expected to occur across Oregon. The biggest increases are projected in the eastern part of the state, but even the wetter (and more populous) region west of Cascades will likely see increases, as demonstrated by the Eagle Creek fire in 2017 and the 2020 fire season.

Projected increase of area burned by end of century, under RCP 8.5.



Making Oregon's Highway System More Resilient to Wildfire

Strategies to Mitigate Immediate Impacts

ODOT plays a critical role in evacuating residents and maintaining access for emergency personnel. As wildfire events increase, ODOT will need to maintain and improve plans for:

- Detour planning and communication
- Effective communication with emergency responders
- Effective monitoring and closing of roadways unsafe to travel
- Coordination with other state and local agencies involved in wildfire emergency response

Fortifying a highway against a large wildfire is difficult. However, potential physical measures could include:

- Use of fire-resistant materials for hardware such as traffic control devices and guardrail posts
- Increased vegetation management and erosion control in critical areas
- Proactive tree removal along certain routes, as the impacts from fallen trees can be widespread and significant

Strategies to Reduce Longer-term Consequences

For wildfire, ODOT should focus on ensuring effective and rapid recovery from wildfires. After an event, ODOT may need to conduct:

- Extensive tree and debris removal
- Stabilization of slopes
- Repair and restriping of roads
- Replacement of signs, traffic signals, and other hardware
- Increased culvert maintenance after an event
- Identification of areas at higher risk of slides after an event, and potential increased monitoring of those sites

To ensure effective and rapid response, ODOT may consider:

- Ensuring materials are sufficiently stockpiled for repairs, and strategically located to ensure access following large-scale events
- Increased investment in equipment and staffing to increase speed of clearing trees and other debris
- More holistic cost tracking that captures both direct and indirect costs, including costs of downstream impacts like future slides or culvert maintenance
- Process for debriefing after events to continually improve planning and response
- Sharing of lessons learned across ODOT regions and with other states
- Continual evaluation of health & safety measures for workers



Adaptation Barriers to Overcome

- Unlike hazards such as landslides that tend to be concentrated in specific locations when an event occurs, large portions of the highway system can be affected by a single wildfire event.
- Strategies discussed above would need to be applied to the entire ODOT highway system, since wildfire is a potential hazard everywhere. The costs could be substantial. Prioritization of upgrades and changes in some locations may be necessary, based on risk.
- Besides costs, the amount of time to clear fallen trees, stabilize slopes, and repair guardrails along potentially hundreds of miles of roadway means that some highway segments could be closed for months.
- Budgeting cycles and timing can make proactive, but expensive, changes difficult. Federal aid often comes after the fact.
- Multiple, large wildfire events occurring at the same time strains ODOT's ability to respond.



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