

ODOT Transportation Funding Needs Analysis

Preservation Program

Total annual funding need: \$980 million

ODOT's Preservation Program repairs and replaces existing bridge, pavement, culvert, and signal infrastructure to ensure long term performance. Many of these assets (such as bridges) were constructed over the last century and are reaching the end of their service life. Preserving these assets to a "State of Good Repair" results in active life-cycle management of each asset. This program is currently federally funded at \$270 million (when adjusted for inflation).

As ODOT is currently funded, bridges, pavement, culverts and signals are deteriorating faster than we can repair and replace them. For example, with current funding it would take us about 50 years to pave all the roads in the state system, well outside our needed paving cycle. Current funding will also force us to stop all non-interstate paving after 2027.

Similarly, under current funding levels we are able to replace approximately 3 bridges per year; for 2,773 bridges on the state system that results in a roughly 900-year bridge replacement cycle at current funding levels. Bridges are typically constructed for 50-to-100-year life spans. Failure to adequately preserve this infrastructure means the assets become potential liabilities. The present federal funding represents about 22% of the funds needed to preserve these assets to a State of Good Repair. To reach 100% State of Good Repair, \$1.25 billion per year in total investment is needed. For bridges alone, \$1.25 billion would replace about 1% (27 total) and rehabilitate about 3% (81 total) of our bridges annually, across all routes, assuring the bridge life cycle across our system is 100 years instead of 900 years. For pavement preservation, investing in the State of Good Repair preserves safe, smooth conditions for higher speed routes and prevents a backlog of roads in the worst condition.

For traffic signal systems, obsolete equipment and electronics needs regular replacement to prevent system failures and reduce downtime to maintain operational safety. Culvert investments rely on a combination of investment in maintenance and operations as well as preservation. The goal is to reduce culvert failures, decrease the number of culverts beyond their design life, and provide replacements that address climate resiliency.

ODOT needs an additional \$980 million annually — beyond the expected federal funding — to preserve our bridges, pavement, culverts, and signals. This includes an additional \$485 million for bridges, \$330 million for pavement, \$55 million for signals, and \$110 million for culverts. This does not include bridges that fall in the mega-project scale (due to cost, technical complexity, environmental permitting, community impact, etc.) which would include end of life replacement for bridges on major river crossings (e.g. I-5 Boone Bridge over the Willamette River) and historic

coastal bridges. Roughly 5% of ODOT’s bridges fall into this latter category and would require separate funding.

Preservation Additional Need per year:	\$980,000,000
Bridge	\$485,000,000
Pavement	\$330,000,000
Signals	\$55,000,000
Culverts	\$110,000,000

Bridge (\$485 million annually)

ODOT maintains an inventory of 2,773 bridges across the state. Based on the large number of bridges in service that were built prior to or during the Interstate Era, Oregon’s bridges are expected to fall below the desired state of good repair between 2025 and 2030. Due to historic lack of funding for a sustainable replacement program, there is a significant backlog of work to address before reaching a more sustainable program. The backlog of needed bridge replacements needs to be addressed over a span of decades such that we don’t recreate another bow wave of bridges at the end of their service lives. With the growing population of bridges in fair condition deteriorating into poor condition, a significant and prolonged investment in new bridge construction will be required to return the system to a state of good repair. The desired state of good repair would include an inventory of about:

- Not more than 3% poor bridges (80-100 bridges) that could be maintained with the Major Bridge Maintenance process. It is reasonable to expect some population of poor bridges as it is not always cost effective to repair a poor bridge as the source of the poor rating, like deck condition, may be something that does not present mobility and/or safety issues.
- 10% good bridges (about 250-300 bridges) that would need only routine maintenance.
- 87% fair bridges (about 2,400 bridges). The fair condition bridges would require the most attention, however, with proactive preservation and rehabilitation the system could be managed.

The funding level needed to meet these conditions is an additional \$485 million annually. With this funding, the Bridge Program would be able to complete more bridge replacements and address the backlog of deferred work.

Pavement (\$330 million annually)

ODOT maintains the pavement on roughly 7,350 centerline miles of Oregon state highways to prevent them from becoming a threat to safe travel, from costing more to rebuild, and from having a negative effect on the state’s economy. Compared with past spending, the current Pavement program is already operating at a level which will result in declining pavement conditions in the future. This will have dramatic impacts to the ability to maintain pavement except for a few key routes. Because of its significance to the economy and movement of freight, and because there are severe financial penalties for not meeting minimum federal pavement condition standards on the interstate, interstate funding levels cannot be reduced any further. This will mean fewer pavement

preservation projects off the interstate. The desired state of good repair would include an inventory of:

- >95% of Interstate pavement in fair or better condition and a paving cycle time of 13-16 years.
- 90% of Fix-It Priority routes in fair or better condition and a paving cycle time of 16-20 years.
- 90% of all other routes in fair or better condition and a paving cycle time of 20-25 years.

The funding level needed to meet these conditions is an additional \$330 million annually. With this funding, pavement conditions will be improved to meet state performance targets across all highways. Lower volume and urban highways that are in poor or very poor condition will be rehabilitated. This strategy would save millions of dollars in maintenance and rehabilitations costs and provide the lowest vehicle operation and freight costs.

Signals (\$55 million annually)

ODOT maintains 1,480 traffic signals across the state. Currently 25% of ODOT's signals are in poor or very poor condition, and conditions are declining. Traffic signals are critical to safely and efficiently operate the transportation system. The impact of declining conditions is shifting of costs to the maintenance program. Aging signal infrastructure impacts the reliability of equipment and increases maintenance expenditures to keep equipment functioning and directly impacts mobility, safety, and the experience of system users. The desired state of good repair would:

- Systematically replace all features.
- Maintain signals in good or better condition.
- Provide the best possible reduction in down time.
- Greatly improve the mean time between failures.
- Decrease service and repair costs as obsolete equipment is replaced.

The funding level needed to meet these conditions is an additional \$55 million annually. In addition to the signal inventory, ODOT also operates and maintains over 1,000 ITS features (variable message signs, TripCheck cameras, weather stations, etc.). While these features are relatively new and in good operating condition, future funding will be needed to replace them as they approach the end of service life.

Culverts (\$110 million annually)

The percentage of culvert failures are significantly on the rise each year bringing environmental and economic hardships to Oregon's local communities. These failures result in catastrophic washouts or sinkholes in the roadway to major landslides, especially along coastal routes. With slightly over 51 percent of the culvert inspection and inventory completed, up to 29 percent of ODOT's culverts rated thus far are identified in critical need of repair or replacement. Current culvert funding is not keeping pace with the steep deterioration rate. As culvert conditions deteriorate, low-cost renewal options become less viable and complete replacement becomes

necessary at higher cost. The replacement cycle for ODOT's culverts based on current funding is 1,310 years. Most of our existing culverts were designed for a 50-year service life. The desired state of good repair would:

- Replace or repair all culverts currently in critical and poor condition over the next 50 years.
- This does not include culvert infrastructure deterioration. Future funding will need to be increased to preserve the inventory at a fair or better condition.

The funding level needed to meet these conditions is an additional \$110 million annually. With this funding, the large backlog of culverts passed their design life will be addressed. Culvert failures will be reduced which will keep roads open to communities. Culvert replacements will address climate and resiliency goals.