

# ODOT Funding Package Resource Library

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## **Preservation versus Maintenance: Understanding how we manage & fund our highway system**

Our highway system is comprised of pavement, bridges and culverts – as well as signal systems, signs, illumination and sidewalks. Managing and maintaining the functionality of these assets is a critical part of our Maintenance & Operations teams’ work and preserving these assets is the foundation of our capital improvement program – the projects we design and construct statewide. Our highway assets include over 2,700 bridges, 7,300 road miles of highway, 25,000 culverts and 1,400 signals – in addition to sidewalks, lighting, signs and electronics.

The Maintenance Program tackles routine, daily activities and preventative maintenance issues as they arise to keep the highway system open, functional, and safe for travelers. The Preservation Program repairs and replaces assets to ensure long-term performance of the system through larger scale construction projects. As described in our [Needs Report](#), the current funding for both maintenance and preservation does not adequately address the needs of our aging transportation infrastructure.

Balancing the work of the Maintenance and Preservation Programs is critical to the stewardship of our system. We need to fund preservation of the system and maintenance of the system in a way that addresses replacing and repairing assets on a reasonable timeline and provides the required maintenance of those assets throughout their lifecycles.

### **Maintenance Program Funding**

The Maintenance Program aims to provide the day-to-day tasks needed to keep the system in good working order. These activities are generally recurring, and primarily focus on the roadway or structure surface. Maintenance Program funding covers routine and preventive maintenance work.

**Routine maintenance** activities are delivered as daily work in response to an event or season, or to address short-term operational needs.

**Preventive maintenance** is a planned strategy of cost-effective treatments that protects an asset and helps reduce future deterioration. The goal of preventive maintenance is to protect and delay deterioration of an asset’s surface.

Examples of the work this program delivers:

- Patch potholes to restore the pavement surface and prevent further damage to the structure. (Routine)
- Rebuild and reshape shoulders to correct rutting and erosion and restore proper drainage. (Routine)
- Seal cracked and damaged pavement to help waterproof the surface, improve friction, and give life to weathered surfaces. (Preventive)

- Wash and clean bridge decks or entire bridge to prevent the structure from degrading due to exposure to bird guano, chemicals and weather. (Routine)
- Clean joints and bridge bearings removing accumulated debris and grime to protect against deterioration. (Routine)
- Bridge joint replacement. (Preventive)
- Concrete pier repair to address localized deterioration. (Preventive)
- Remove debris and sediment from culvert interiors and inlets. (Routine)
- Repair a sinkhole or dip in the roadway due to drainage issue. (Preventive)

We complete this work through our Maintenance & Operations budget funded by the State Highway Fund. In Maintenance, funds are primarily allocated as follows:

- The work associated with the day-to-day assignments of maintenance teams is cyclic or seasonal in nature. This budget is allocated to individual maintenance sections across the state.
- Work that is reactive and in response to unanticipated events is funded from a region or statewide budget. It is common for this type of work to exceed the available funding and in some cases this work is reimbursable through emergency relief funds. Work of this type may be completed by ODOT maintenance teams or contractors depending on resource availability.
- The tools, materials and supplies for all of this work comes from our statewide Maintenance & Operations Branch.

### **Preservation Program Funding**

The Preservation Program aims to preserve the existing transportation network – which includes bringing the existing system up to new federal safety standards as well as replacing structures at the end of their service life. Preservation Program funding is used for preservation, rehabilitation and reconstruction work, as described below.

**Preservation activities** sustain the integrity of an asset, slowing the deterioration to keep it in a state of good repair.

**Rehabilitation** begins when the asset’s condition deteriorates beyond maintenance. It involves major repairs and strengthening to return it to a state of good repair. A rehabilitation project can extend the life of the asset and allows for another period where needs can be addressed with a combination of maintenance and preservation. This work also includes bringing existing structures up to new federal standards.

**Reconstruction** replaces structures and roadways at the end of their service life, when it’s not cost-effective to continue rehabilitation. When the roadway has multiple, major condition issues affecting the entire asset – not just with the surface, but also with the base structure – and is no longer able to support current and future system needs.

Examples of this work include:

- Diamond grinding to smooth out worn and rutted concrete pavement surfaces. (Preservation)
- Deep pavement removal and repaving. (Rehabilitation)
- Replacing older bridge rails that don't meet modern safety standards. (Rehabilitation)
- Replacing bridge deck to address damage to the concrete driving surface. (Rehabilitation)
- Paint removal and replacement on bridge structures to protect steel surface. (Preservation)
- Surface-application of cathodic protection for coastal bridges. (Preservation)
- Replacing bridges. (Reconstruction)
- Installing culvert liners to mitigate damaged culverts. (Rehabilitation)
- Replace collapsing or decomposing culverts. (Reconstruction)

We fund Preservation Program work with the State Transportation Improvement Program (STIP) and these projects typically take two or more years to design and then one or more years to construct. Design is completed by both ODOT personnel and outsourced to consultants, depending on workload. Construction is completed by construction contractors.

The Preservation Program also allocates some funds to deliver single-function, preservation-type projects through ODOT maintenance. Work of this type may be completed by ODOT maintenance teams or contractors depending on resource availability.

### **Funding the Gap between Maintenance and Preservation**

Current funding for the Preservation Program does not adequately fund preservation, rehabilitation and reconstruction for the design lives of our assets. For example, bridges are typically designed and constructed for 100-year life spans, however the current Preservation Program funding for bridges results in 900-year life cycles. If a bridge needs to last 900 years instead of 100 years, we will need to clean it, paint it, repair joints, upgrade bridge rails and replace the bridge deck many, many times over its life – and will need Maintenance and Preservation funds allocated accordingly. At this time, we are funded to replace about three bridges per year – and in the meantime the older bridges demand increased and more costly maintenance.

Unfortunately, current funding for maintenance does not adequately address the wear and tear of these longer rehabilitation and replacement cycles. As a result of the funding gap, we are seeing pavement, bridge and culvert conditions rapidly deteriorating – and consequent impacts to the safety and operations of the highway system.

The funding requested and described in the [Needs Report](#) for these two programs is intended to close this gap.

