Our strategy
The ODOT bridge management strategy was developed under the direction of the Highway Leadership Team in response to funding levels below the amount needed to sustain conditions and in recognition of the significant number of bridges reaching the end of their service life over the next several decades. ODOT developed a unique measure only used in Oregon to reflect the aging bridge population and the specific types of bridges constructed here over time. Bridges “not distressed” means the bridges have not been identified by the Oregon Bridge Management System as having freight mobility, deterioration, safety or serviceability needs and have not been rated as Structurally Deficient based on the Federal Highway Administration criteria. The Bridge Program strategies include:

- protecting high-value coastal, historic, major river crossings and border structures; using practical design and funding only basic bridge rehabilitation projects and replacing high risk bridges; giving priority to maintaining the highest priority freight corridors; using preventive maintenance to extend the useful life of good and fair condition bridges; developing triage approaches to mitigate the lack of seismic resilience; addressing significant structural problems on all bridges to protect public safety; and monitoring the health of selected bridges to safely extend their useful life.

About the target
The target for “not distressed” bridges is established by assessing the impact of program funding targets approved by the Oregon Transportation Commission, deterioration rates of our aging structures and considering the historic performance of the Bridge Program in addressing needs in twelve categories.

How we are doing and Projected Conditions
The improvement in the percent “not distressed” measure since 2007 is largely due to the OTIA III State Bridge Delivery Program. We have been able to meet and maintain the bridge performance measure for the last six years at the State Bridge Program funding level, as shown, with only a slight drop from 2017 to 2018 (79.1% to 79.0%). The minimal change can be attributed in part to improved rail conditions.

Fact
New funding as a result of HB 2017 is expected to slow the decline of the percent of not distressed bridges; but not stop the decline.
from retrofits and replacements on 17 bridges where rail was the only deficiency. The rail improvements offset other bridges that became distressed in 2018. A recently completed analysis shows that over the next ten years the new HB 2017 funding is expected to slow the decline of the % not distressed bridges but not stop the decline. The result is primarily due to the aging bridge inventory and a long history of underfunding in the Bridge Program that precluded systematic replacement of deteriorated bridges. This is captured in the performance measure as Low Service Life and more bridges projected to become structurally deficient.

New Federal measures are being tracked and reported as required in MAP-21 including percentage of NHS bridges in poor condition and percentage of NHS bridges in good condition. ODOT has a low percentage of NHS poor bridges, but also a low percentage of NHS good bridges. In the last twenty years, the percentage of good bridges has dropped by more than 40% resulting in a large population of fair bridges. In comparison to other western states, Oregon has the largest percentage of fair bridges as shown in the figure. In contrast, we have among the lowest percentage of poor bridge conditions.

Factors affecting results and what needs to be done
A sustainable bridge program includes bridges in various conditions with planned maintenance, preservation, and replacements. The large population of fair bridges will continue to challenge the Bridge Program to address major rehabilitation and maintenance needs while also funding timely preservation treatments to optimize structure service life. With a disproportionate number of aging bridges in fair condition, available funding will only be able to address the most critical needs with few bridge replacements. Although Oregon bridges are generally considered safe (if load restrictions signs are obeyed), there are a large number of bridges whose service lives have been extended beyond a normal time period because of inadequate funding. The performance of those bridges is unreliable, have a high risk of continued deterioration and demand vigilance and dedication by inspectors and maintenance personnel to maintain safe conditions. Those critical and near-critical conditions have grown at an increasing rate. There is real concern that current staff will not be able to keep on top of these serious issues. Unpredictable failures are possible that will result in delays, detours and unplanned high cost emergency repairs.

About the data
Each state reports bridge condition for bridges included in the National Bridge Inventory, using standard criteria which are established by FHWA. The FHWA does not report data based on ownership, but does report deficient bridge data for all National Highway System bridges within states.

Contact information
Bruce Johnson
Bridge Engineering Section
ODOT Highway Division
503-986-3344

Data source
A snapshot of the bridge inventory is taken each April. Data in the snapshot is consistent with the annual NBI submittal required by FHWA. The snapshot provides a convenient and consistent reference point each year.