Washington State Department of Transportation

Washington Transportation Plan

System Preservation

Emerging Directions

- Asset preservation or “fix it first” has emerged as a major issue for the WTP: “Pay me now, or pay me more—lots more—later.”
- Big ticket state highway preservation needs include replacement of the Alaskan Way Viaduct, the SR 520 floating bridge, and concrete interstate pavements. In addition, regular state highway preservation programs (such as unstable slopes, drainage systems, electrical systems, and others) need to be augmented.
- Local roadway preservation shortfalls are affecting system performance and need to be addressed.
- Stable funding for transit and ferries is needed to enable fleet and terminal asset management strategies to work.
- An approach for prioritizing general aviation pavement rehabilitation needs is needed as is continued emphasis on protecting airports from land use encroachment.
- A policy defining the state role in and a strategy for short line rail preservation is needed.

Alaskan Way Viaduct, Seattle

The Washington State Transportation Commission and the Washington State Department of Transportation are in the process of updating the Washington Transportation Plan. This long range plan is based on data analysis and is focused on ten issues: System Preservation, System Efficiencies, Safety, Transportation Access, Bottlenecks and Chokepoints, Economy and Jobs, Moving Freight, Future Visions, Health and Environment and Funding and Governance. This plan will shape future transportation budget proposals.

For more on this topic: **www.wsdot.wa.gov/planning/wtp**

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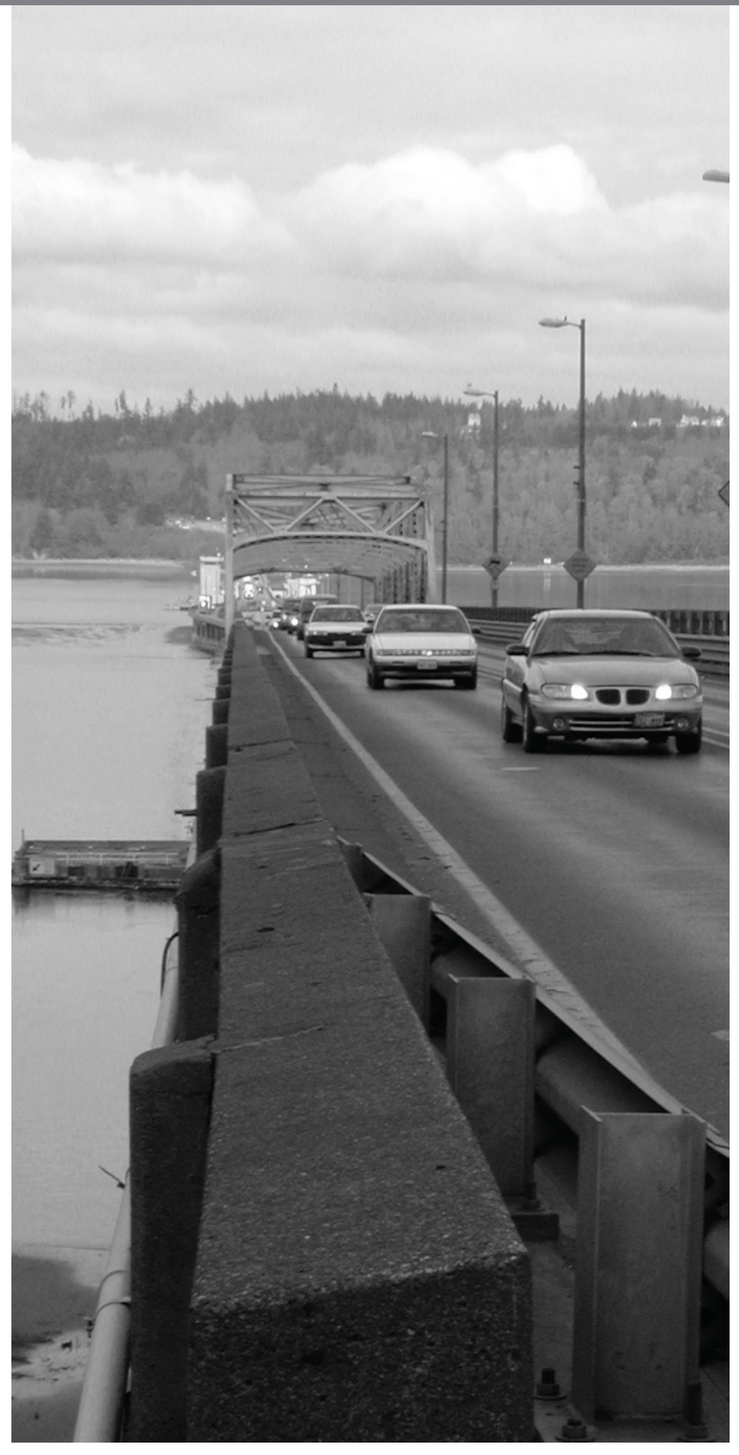
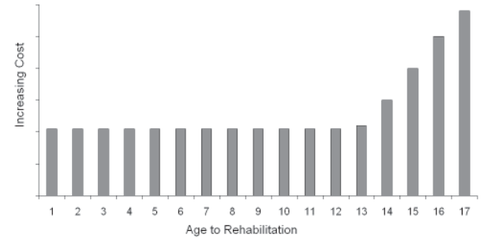


What will it take to make sure that the elements of the transportation system that we take for granted today will still be in place when we need them in two, six, or twenty years?

The Importance of Preservation

There is no more fundamental transportation capital investment than system preservation—keeping the physical infrastructure in good condition. As transportation facilities age and are used, a regular schedule of rehabilitation, reconstruction, and replacement is needed to keep the system usable. Timing is important: if preservation investment is deferred, costs increase dramatically, leading to the saying “Pay me now, or pay me more—lots more—later.”

Asphalt Rehabilitation on State Highways (Cost per lane mile)



“Asset management” is a term that describes a proactive approach to investing in preservation at the right time to optimize condition. Asset management includes having comprehensive inventories of transportation facilities; a system for measuring and reporting system condition; predictive condition models that anticipate rehabilitation or replacement needs; and an investment program that ensures that the right investments are made at the right time. WSDOT’s pavement management system, which includes a history of pavement performance from the 1970s is a good example of asset management. This system has been adapted for use by local governments in managing their pavement investments.

In 2002 and 2003, the Legislature reinforced this state’s commitment to asset management. Legislation specifically required maintenance and preservation to be included in state plans for highways, ferries, and rail, and required cities, counties, and transit agencies to manage and report system condition. These requirements will help ensure that more consistent condition information will exist in the future about all transportation assets.

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Washington State Transportation Commission

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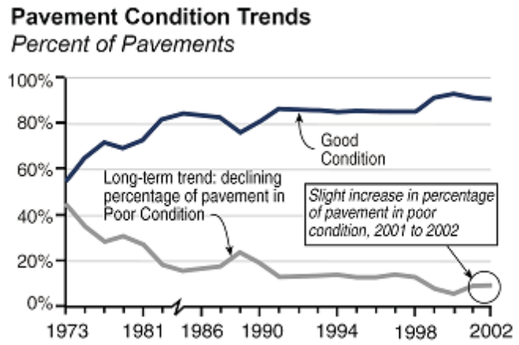
What are we finding?

On State Highway Pavements:
WSDOT has made progress on asphalt and chip seal pavements, improving conditions and achieving lowest life cycle cost investment.



Source: WSDOT Materials Lab.

Concrete pavements are an emerging need: they are disproportionately represented in future poor pavement miles. The current funding allocations are adequate to cover asphalt and chip seal repaving needs, but fall far short of funding concrete rehabilitation needs.

Concrete Pavements in Poor condition on Washington State Highways in 2003

On State Highway Bridges:
A comprehensive bridge inventory exists, and WSDOT has made good progress on bridge rehabilitation, but aging bridges represent a growing need. Two big ticket bridge preservation needs include replacement of the Alaskan Way Viaduct and the SR 520 floating bridge, which are unfunded and represent a shortfall of several billion dollars. Bridges that are structurally sound, but have width and geometry deficiencies, are another emerging concern. Some of these bridges are among our oldest, and have narrow lanes and narrow or no shoulders and poor pedestrian access, Modernizing these width and geometry challenged bridges could cost an additional $1.4 billion which is now unfunded.

Tacoma Narrows Bridge (suspender cables)

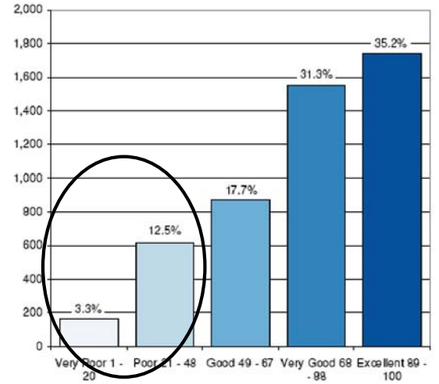
US 101 Mud Bay (Olympia) concrete column deterioration

SR 99 George Washington Bridge, Seattle

Other State Highway needs include shortfalls in unstable slope work; rest area preservation; and potentially large shortfalls in preserving drainage structures and electrical systems, pending complete inventories.

On Local Roadways:
Local governments face large shortfalls in preserving their pavements and bridges, with local transportation funding being squeezed by revenue reductions, growing needs of local government services and competing expansion needs. Recently compiled data indicate that sixteen percent of city roadway pavements are in poor or very poor condition with indications that, at current funding levels, this number will grow. Additional data on preservation needs of local roadways is being developed.

City Roadway Condition (Lane miles)

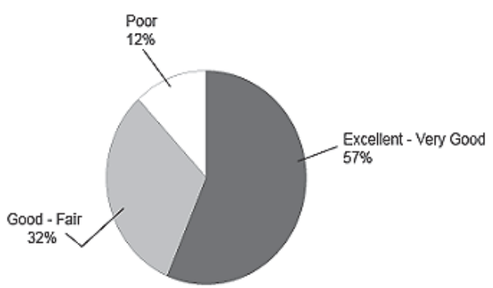


On Washington State Ferries:
Current funding assumptions for the next ten years show the Washington State Ferries meeting targets for both vessel and terminal preservation, including the replacement of four 1927 vessels. Further vessel replacement beyond the 10 year period is an outstanding and unfunded issue.

On Local Ferries:
There are four county-operated ferries in Washington which have needs for vessel and terminal assets. Need estimates are being compiled.

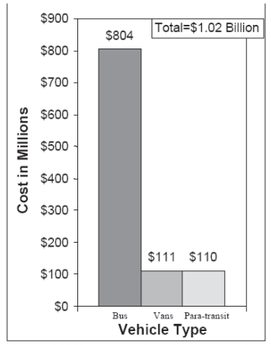
On General Aviation Airports:
A shortfall exists in paving, lighting, and navigation aids. An inventory is being updated. An important issue for airports is the need to preserve the airport sites themselves and their operations from encroachment by inappropriate land use development.

Airport Pavement Conditions, 2000



On Public Transit Systems:
An inventory is being developed on transit asset preservation needs. Issues include funding stability for bus fleet replacement strategies; increasing costs for preservation of service levels; park and ride lot preservation needs; and operating needs, especially for expensive demand response service, competing with other transit priorities including preservation.

10-Year Cycle of Bus Fleet Replacement
Cost in Millions for Current Fleets*



Source: WSDOT Summary of Public Transportation – 2002 and King County Metro average estimates for vehicle cost.

**Programmatic estimate to give an order of magnitude of vehicle replacement needs. Better information forthcoming as asset inventories and plans are received.*

On Railroads:
Short line railroads are mostly owned by private operators, making information on system condition difficult to compile. Indications are that short line rail tracks are facing large rehabilitation needs, and may be at least partly unfunded. Worsening track conditions could lead to further abandonment.

Railroad	Miles in Washington
Puget Sound and Pacific	149
Tacoma Rail Mountain Division	132
Lewis and Clark	14
Toppenish Simcoe and Western	21
Cascade and Columbia River	137
Royal Slope	26
Tri-Cities and Olympia	50
Columbia Basin	86
Palouse River and Coulee City/Blue Mountain	400
Camas Prairie	69
Mount Vernon Terminal	2
Yakima Valley Transportation	11
Ballard Terminal	3
Columbia and Cowlitz	8
Port of Chehalis	10
Tacoma Rail (Port operations)	32
Meeker Southern	5