



Joint Legislative Audit and Review Committee

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Washington State Department of Transportation Highways and Rail Programs Report 98-2

In 1997, ESSB 6061 mandated a performance audit of specific issues affecting the Highways and Rail Programs of the Washington State Department of Transportation (WSDOT). This audit, conducted by Cambridge Systematics, Inc., under contract to the Joint Legislative Audit and Review Committee (JLARC), addressed 15 questions in four areas: (1) WSDOT's highway capital construction and maintenance programs; (2) the delivery of highway projects and services; (3) the impact of the state prevailing wage law and environmental regulations on highway program costs; and (4) the adequacy of information provided by WSDOT on its rail program, focusing on the Grain Train Project and on passenger rail.

The study found the Department overall to be a professional, well-managed organization, which has taken steps in several areas in recent years to improve its operational effectiveness. Further improvements in how the construction and maintenance programs are managed and performed were identified by the study, with target savings of \$12 million per biennium. The audit produced 26 recommendations.

The Washington State DOT

WSDOT manages a biennial budget of almost \$2.5 billion. This study found the Department overall to be well managed and of high professional caliber. It has taken several steps in recent years to improve management of its highway programs: e.g., in the expanded use of modern management tools for capital programming of preservation projects, implementation of a management accountability process in maintenance, and significant strides in implementing cost-saving proposals in the environmental area. WSDOT has just successfully completed the DuPont South Interchange, for which construction time to completion was cut in half as compared to a typical schedule.

Highway Program Costs

Highway capital program costs per system mile are higher in Washington than in states with comparably sized networks. This comparative standing is due to: 1) the composition of the highway program, which emphasizes new construction and reconstruction in urban areas in lieu of rehabilitation; 2) heavier than average use of urban highways; and 3) a rate of construction price inflation that was more than double the national average in 1987-1995. Highway maintenance costs are below the national average.

The study made several recommendations to improve procedures and coordination between the capital and maintenance programs during program development.

Delivery of Projects and Services

WSDOT management of its construction program produces results comparable to those of other states in the percentage of cost and time overruns. However, the study found that the Department could reduce the number of avoidable, no-value-added change orders, with target savings of \$6 million per biennium.

The study considered the cost-effectiveness of staging project work in highway corridors over several biennia, rather than performing it all at once. The study found that staging is the economically preferred approach if there is modest or no congestion due to project work zones. If work zone congestion is severe, it is more economical to perform the work as a single project in as short a period as feasible.

The study also found that WSDOT's practices in scheduling and managing work zones are comparable to those in other states, that it has tailored practices to the unique demands of the Puget Sound Region, and that work zone safety performance is better in Washington than in many other states, based upon published data. WSDOT places a priority on highway safety in work zones, and has proactively achieved several improvements through the work of its Work Zone Safety Task Force.

Target savings of an additional \$6 million per biennium may be gained from undertaking pilot projects of innovations such as managed competition in the maintenance program. However, the audit recommends that new legislation be passed first to provide the Department the explicit authority to apply state

forces and public or private sector contractors more flexibly to normal maintenance work.

State Prevailing Wage Law

The impact of the state prevailing wage law on highway program costs was analyzed relative to the federal Davis-Bacon Act. The audit found that the state prevailing wage law has little additional effect on highway program costs.

Costs of Environmental Compliance

The study found that compliance with environmental regulations may add 10 percent to the cost of the highway program overall, but the percentage cost increase is much more variable by project. The study found that the Department has already implemented several cost-saving proposals from prior studies of environmental costs, but the study also recommended that two remaining issues receive renewed attention:

- The legislature should budget funds to seed the Wetlands Bank.
- WSDOT should speed the implementation of an environmental cost system.

Rail Program

WSDOT can improve the information provided to the legislature and the Transportation Commission on its rail program. Current estimates of the benefits of the Grain Train Project are flawed and should be replaced by a comprehensive benefit-cost analysis. Information on passenger rail actions is adequate, but its communication should be improved in format, level of detail, and frequency.

Summary of Recommendations

1. WSDOT should reduce avoidable construction change orders, with a target savings of \$6 million per biennium.
2. WSDOT should undertake a pilot project of managed competition in 25 percent of its maintenance program, with target savings of \$6 million per biennium initially (requires authorizing legislation).
3. WSDOT should strengthen its financial and management system capabilities and procedures.
4. WSDOT should continue positive steps already taken in other areas of the highway program, and consider alternative approaches to coordinating capital programs and maintenance.
5. In the rail program, WSDOT should perform a comprehensive benefit-cost analysis of the Grain Train Project, and provide improved summary information on the passenger rail program.
6. The legislature should budget funds for the Wetlands Bank.