
CHAPTER 4

WYDOT's new asset management system calls for a shift from district to statewide priorities

Even with the addition of General Funds that allow spending flexibility, WYDOT has identified more needs than it has the funding to meet. To improve decision-making, the agency is moving to a new data management approach. This approach, called asset management, will link numerous databases to enhance analysis and decision-making. While asset management shows promise, we believe the new system's usefulness will be limited if it is used only to improve decisions made within districts. WYDOT needs to inject a system-wide view into the process of prioritizing and selecting projects.

WYDOT is data rich

WYDOT maintains three major data systems on each mile of road in the state system: pavement, bridge, and safety. It also tracks other road information such as the history of construction and maintenance, traffic volumes, and crash history. Staff use this data when determining needs and prioritizing projects, as described in Chapter 3.

Data is maintained in individual data sets that are not linked.

We identified two challenges WYDOT faces in using the data effectively. First, different kinds of data are maintained in individual data sets, such that information in one database is not necessarily compatible with or easily linked to another. Second, project selection decisions are made by district staff, whose focus tends to be less on statewide needs than on needs in their individual districts.

Managing the abundance of data is challenging

WYDOT's siloed information is an obstacle to staff who need to draw information from multiple sources when setting priorities or assessing the effects a particular project might have on other projects. For example, pavement *management* data does not contain essential information about some pavement-related

maintenance activities. Because no one report integrates information from all WYDOT data sources about a given section of road, district staff must obtain numerous reports to evaluate present needs.

District staff search through numerous paper reports.

One district engineer explained that over time, each program's solution has been to develop additional databases, flow charts, or ranking procedures. However, such efforts did not coordinate with existing information systems, and information silos developed. On road tours, district staff carry and search through numerous reports, each containing critical but not integrated data. Another district engineer described the challenges of sorting through information and coordinating it as being the most difficult part of the job, adding that WYDOT is "data rich and information poor."

Districts set their own priorities

WYDOT's current management style gives districts responsibility for prioritizing their projects. This organizational arrangement has a reasonable basis, as district engineers are the most aware of the day-to-day road conditions and local needs. They drive the highways, work with road crews, and deal with maintenance, traffic, weather, signage, and right-of-way issues; they are also face-to-face with the public when problems develop.

Data limitations reinforce a district-level focus.

The district focus was a logical approach to setting priorities when data limitations constrained staff from looking beyond a district-level view. However, as WYDOT implements a new information management approach, taking a statewide view will become both possible and imperative.

WYDOT is developing an asset management system to integrate information

The agency is in the final stages of implementing an asset management approach to integrate information from multiple databases. It will allow staff to consider business practices and economic theory as well as engineering data and principles when analyzing projects or combinations of projects. It will provide

information to help answer system-level questions such as:

- If WYDOT intends to spend \$20 million on a single project, will project A or project B result in greater improvement to the system as a whole?
- When WYDOT receives a \$190 million appropriation, what combination of projects will generate the greatest improvement to the system as a whole?
- What would be the benefits and costs of concentrating funding on I-80, versus distributing it around the state?

WYDOT officials say they look forward to using asset management to answer questions about funding levels and pavement and traffic issues. Soon, they say, they may be able to answer in a week questions that used to take months of research.

Asset management should be fully operational by the end of 2008.

To move to asset management, WYDOT is updating individual data systems: the financial system is ready to tie with road condition information; changes are being made to pavement, bridge, and safety systems; and linking of the individual data systems is under development. Implementation is occurring in stages, with the entire system expected to be operational by the end of 2008.

Asset management will fix only part of the problem

The asset management system will assist staff in performing statewide analysis, but by itself, cannot change a system that is used to relying on priorities set at the district level. Unless WYDOT changes procedures so project selection is based at least in part on a broader view of road and highway needs statewide, the new system's usefulness may be limited.

District autonomy leads to differences

Districts take different approaches to prioritizing needs and selecting projects. While all five districts rank the importance of present need projects, we found differences in how they do so.

Priorities differ by district.

For example, some rank all present needs as being high-priority, while others recognize certain projects as having less urgency due to traffic volumes on those roads. Also, when the Legislature appropriated General Funds to WYDOT in 2006, agency officials directed district engineers to use the money on state highways that had limited eligibility for federal funding. However, districts allocated the funds based on their priorities and project readiness, regardless of funding eligibility.

Wyoming is not the only state looking for new ways to be efficient

Neighboring states' systems for selecting and funding the right highway projects range from centralized to decentralized approaches. Nebraska and Colorado use formulas allocating funding to different types of roads or functions. Montana and South Dakota use performance metrics or pavement rankings to guide their decisions. Utah allocates a lump sum for pavement projects around the state, but prioritizes capacity-related projects centrally.

Other states rely on both asset management with engineering judgment.

Among neighboring states, Utah has an asset management system, and Montana and Nebraska are in the process of developing theirs. States approach asset management in different ways, with some allowing for more advanced analysis than others. In neighboring states that are implementing asset management, district-level engineering judgment remains an important part of the process in Idaho, Montana, Nebraska, and in Utah (for pavement projects). The same can be true under Wyoming's asset management system.

Asset management will give WYDOT an advanced tool to integrate information for analytical and management purposes. As WYDOT and the Transportation Commission implement and come to rely on asset management, it will be important that they have policies in support of a system-level approach to decision-making, and that they encourage district decisions consistent with that view.

Recommendation: WYDOT should revise policies and re-orient the district focus to support a system-level project selection approach.

It appears Wyoming's federal funding for highways may remain flat or decrease while inflation continues to increase. As a steward of the public trust, WYDOT will need to make ever-harder decisions to ensure it gets maximum value for each dollar. As a Federal Highway Administration report on the future of highway decisions and funding stated, "The bottom line is that States ... will need to focus on the critical, be able to justify what they are doing, and be responsible for the results."

Moving to a statewide focus will require several changes.

WYDOT's new asset management system shows promise of improving the agency's ability to analyze data to ensure it is making the best decisions. WYDOT officials are confident that their asset management approach will provide both the tool and the impetus to move toward a statewide view. However, a new approach to data management will not necessarily lead to improved decision-making unless the agency takes other steps as well.

WYDOT and the Transportation Commission need a method to balance the competing interests of districts and guide the allocation of resources. They also need to ensure that the agency's organizational structure fosters a system-level approach to project selection. Changing how resources are allocated will involve a possibly painful culture shift. Yet without this shift, the usefulness of WYDOT's wealth of data and the value of the new asset management system may well be limited.