National Park Service
U.S. Department of the Interior

Federal Lands Transportation Program Fact Sheet

Transportation Asset Management

Access to and within the National Park System has been a defining experience for generations of visitors.

The National Park Service (NPS) coordinates the planning and implementation of transportation systems that improve the visitor experience and care for national parks by:

- Preserving natural and cultural resources.
- Enhancing visitor safety and security.
- Protecting plant and animal species.
- Reducing congestion.
- Decreasing pollution.

NPS is committed to being a leader in pursuing strategies that can help make park units more enjoyable, cleaner, quieter,and more sustainable for present and future generations.

For more information, visit nps.gov/transportation

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The National Park Service is committed to practicing sound asset management in the stewardship of its transportation assets, which include 5,500 miles of paved roads and 1,442 bridges.

Twin Tunnel #1 viewed from the South Portal of Tunnel #2, Blue Ridge Parkway (NPS Photo)

Transportation Asset Management

Transportation Asset Management is a strategic framework for making cost-effective decisions about allocating resources (funding and personnel) and managing infrastructure (physical assets such as roads, equipment, and buildings). It is based on a process of monitoring the physical condition of assets, predicting deterioration over time, and providing information on how to invest in a comprehensive and deliberate manner to maintain or enhance the performance of assets over their useful life. The goals of a transportation asset management program are to minimize the life-cycle costs for managing and maintaining transportation assets, including pavements, bridges, tunnels, rails, and roadside features.

The National Park Service (NPS) uses asset management tools and practices in managing its road and bridge network. By gathering information on asset location, condition, deterioration, and possible fixes, asset management practices enable NPS to anticipate and prioritize maintenance and replacement needs based on given budgets. Cost and benefit information allows the use of engineering and economic tools to determine the best actions to take from the standpoint of lowest costs to NPS, continued protection of resources, and greatest benefit to park visitors.

The NPS proposes to improve its existing transportation system to an acceptable condition by 2020, requiring a substantial increase in funds. NPS is requesting $570 million a year in order to bring its paved road network up to a pavement condition rating (PCR) of 85 — which is the lowest PCR the network can have and still be in acceptable condition — and an additional $120 million a year to maintain its network of bridges in their existing acceptable condition. Funding shorter than this will increase the life-cycle costs of the facility. Industry standards tell us this is the minimum 6-year budget to practice optimal and sound asset management.

A bridge on the Natchez Trace Parkway (NPS Photo)

Management Systems

With 5,500 miles of paved roads and 1,442 bridges, the NPS pavement and bridge network represents a sizable portion of both the NPS's total asset base and its deferred maintenance obligations. The replacement value of this transportation infrastructure is more than $37 billion; the deferred maintenance in roads and bridges is estimated at $6.1 billion. In accordance with Title 23 CFR and in conjunction with the Federal Highway Administration (FHWA), NPS has completed initial implementation of a Pavement Management System (PMS) and a Bridge Management System (BMS) and has the ability to computer model paved road and bridge networks.

The PMS application, a product of Stantec LTD in Canada, is known as the Highway Pavement Management Application. It factors nine climatic zones, identifies 21 different surface treatments, and is currently used by the states of Kansas, New Jersey, and Arizona. The BMS, known as Pontis, is used by 47 states and models up to 160 different bridge features (for example steel girders, concrete decking, etc.) and has up to ten treatments for each feature. FHWA maintains the pavement and bridge models and uses them to optimize improvement investments and to assist with the prioritization and scheduling of projects.

Management systems have the ability to provide different information at different levels. For the next transportation reauthorization bill, these systems were used to determine the budget needed for the NPS transportation network to meet an acceptable performance target. Industry has shown that care of assets throughout the life-cycle of the facility saves tax dollars, provides safer travel, and reduces vehicle operating costs.

Working on the George Washington Parkway (NPS Photo)

As roads and bridges deteriorate from age, use, and environment, the costs to maintain these systems increase, as more invasive treatments are often required. Reconstruction and replacement of roads can be more than five times as costly as pavement resurfacing treatments; bridges cost even more. Less expensive treatments can be completed in shorter periods, often allowing visitor traffic back onto a roadway in a shorter period of time and lessening the economic impacts to businesses in neighboring gateway communities.