RESEARCH ADMINISTRATION
Bureau of Field Services
Michigan Department of Transportation

Research Spotlight

Valuing Michigan's rest areas: A cost-benefit approach

Rest areas and welcome centers are well-supported by travelers, providing them with needed relief and rest opportunities during trips. But operating and maintaining these facilities can be costly, leading some to question whether all facilities produce enough value to remain open. MDOT initiated this study to capture the range of benefits provided by rest areas and the potential impacts of any closures. The goal was to support informed decision-making within the agency.

This MDOT rest area on North I-75 in Grayling provides restrooms, space for pet exercise and picnicking, drinking water and jug refills, tourist information, vending machines and phones.

Problem

Recent economic challenges have caused MDOT to reassess the value of operating and maintaining the state's 81 rest areas and welcome centers, especially those located near commercial service centers, gas stations and fast food restaurants. In particular, MDOT wanted to determine the impacts associated with rest area closure, including roadway safety, travel diversion and tourism, with respect to the annual operating, routine maintenance and construction cost savings.

Approach

Researchers set out to determine the value of rest areas to users and to MDOT. By establishing the functional and

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Project Information

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COST SHARING: 20% MDOT, 80% FHWA through the SPR, Part II, Program

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> *"This study showed that there will be clear costs associated with closing rest areas that need to be weighed against potential savings in operations and maintenance costs."*
>
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economic value of individual rest areas and the system as a whole along with the costs to maintain or close rest areas, researchers would be able to provide MDOT with a methodology for balancing operations and maintenance costs with potential closure costs.

Research

To begin, researchers created an inventory of MDOT's existing rest areas and alternative commercial service facilities, including gas stations, fast-food restaurants and truck stops. Once they knew what options were available to travelers, they focused on establishing usage trends and determining how satisfied users were with their options.

Through face-to-face interviews with rest area and commercial facility users, researchers were able to document why users selected one type of facility over another and how they valued the services used when making a stop, thereby providing a measure of the comfort and convenience provided by rest areas. Researchers then conducted phone interviews with truck stop managers and nighttime truck parking utilization surveys to determine parking capacity issues along major trucking routes.

Researchers also documented benefits beyond comfort and convenience, such as boosting tourism (through the welcome centers), reducing travel time and vehicle operating costs (by not requiring travelers to seek alternative facilities) and avoiding fatigue-related crashes.

An economic analysis of all benefits and costs (operations, maintenance and amortized construction costs) of rest areas determined the benefit/cost ratio for the rest areas.

Results

The study demonstrated that individual MDOT rest areas and welcome centers are economically viable and contribute to a reduction in fatigue-related crashes. The systemwide benefits in 2011 totaled $90.1 million compared to total costs of $19.4 million, relating to a benefit/cost ratio of 4.64. Facilities with the highest economic value were rest areas on non-access controlled rural roadways in the Upper Peninsula (due to crash reductions); large, heavily used welcome centers in the Lower Peninsula (due to tourism benefits); and heavily used rest areas in the Lower Peninsula (due to comfort and convenience benefits).

These findings represent a snapshot of rest area value based on current data and assumptions, and form the basis for prioritizing rest areas, forecasting future use, and planning for additions or closures.

To support MDOT's application of the methodology developed, researchers created an Excel tool that administrators, policymakers and technical staff can use to evaluate the potential economic and functional impacts of adding or removing rest areas in different locations around the state.

Value

The costs of operating and maintaining rest areas remain a challenge, but the value demonstrated in this study is prompting MDOT to seek out new and creative ways to support these costs. MDOT will incorporate the results of this research into the 2012 Strategic Plan and will use the Excel tool in future planning. In short, the results will help MDOT make decisions about the future of rest areas based on accurately weighing the costs and benefits.

Research Administration

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The final report will be available online soon at
www.michigan.gov/mdot/0,4616,7-151-9622_11045_24249---,00.html.

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