

Insight



A More Comprehensive Approach to Transportation Project Selection and Performance Assessment

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Summary

Given current budgetary restrictions for infrastructure investment, numerous state surface transportation projects are in competition for federal funds. Current national goals and performance measures have helped to provide state departments of transportation (DOTs) and Metropolitan Planning Organizations (MPOs) guidance in their transportation planning process. However, the existing planning and assessment process of state DOTs does not incentivize transportation project selection that is most effective and cost efficient. Current performance measures also lack assessment of performance areas such as economic development that are critical to understanding transportation investment performance.

This paper examines two pieces of legislation, the Moving Ahead for Progress in the 21st Century Act (MAP-21) passed in 2012 and the Fixing America's Surface Transportation Act (FAST) passed in 2015 to identify existing guidelines and requirements for the selection of surface transportation projects and the performance measurement of implemented projects. The following recommendations are given to improve the planning and selection of surface transportation projects for investment and improve the way DOTs measure the performance of selected projects:

1. The U.S. Department of Transportation (USDOT) should require state DOTs and MPOs to perform economic analysis and incorporate regional priorities as part of state and regional transportation improvement plans.
2. Performance assessment and reporting should be expanded to include performance areas beyond those currently established. Reporting should be accessible to the community to increase transparency and accountability.

Introduction

America's infrastructure is in a tight spot. Our nation's deteriorating infrastructure has created an immediate need for investment to repair and improve America's infrastructure. Investing in our infrastructure aids America's ability to compete in the global economy and ensure our country is built for the future. However, decades of underinvestment and current budgetary stringency limits such investments. It is essential that limited resources be thoughtfully allocated to transportation projects that have the greatest returns. This starts with calculated project selection and comprehensive performance measurement.

MAP-21 and the FAST Act

Currently, there is no set formula for choosing which transportation projects are implemented. MPOs are required annually to develop and update their Transportation Improvement Program (TIP), a list of regionally significant infrastructure projects that intend to use Federal Highway Administration (FHWA) or Federal Transportation Association (FTA) funds, in addition to non-federally funded projects that are consistent with the objectives outlined by the MPO. Each state DOT then compiles all the TIPs within the state into a statewide transportation improvement program (STIP). Projects included on STIPs are eligible for federal funding and selected on criteria specific to certain programs.

Projects that are included on TIPs and STIPs need to meet few requirements. MAP-21 and the FAST Act require states and MPOs link transportation priorities and investments to the following national performance goals: safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery days. In addition to laying out goals of performance, MAP-21 and the FAST Act establishes the measures for evaluating performance, specifies the data to be used to calculate the measures, and then sets target requirements for meeting goals. However, the process established by MAP-21 and the FAST Act does not always result in TIP projects that are beneficial and effective.

In addition, all TIP projects must be “fiscally constrained.” Financial constraint is satisfied by including a financial plan in TIPs that demonstrates which projects can be implemented using current revenue sources and which projects are to be implemented using *proposed revenue sources*. These vague requirements and broad guidelines for which projects should be included in TIPs and STIPs fails to ensure project selection that will efficiently meet national and regional transportation priorities. Because the process for planning and selecting projects for TIPs fails to encourage the use of economic analysis to weigh the cost and benefits of projects, TIPs and STIPs can include projects with high costs and minimal benefits. Inconsistent selection processes across states leaves TIPs and STIPs vulnerable to political debate focused on preference rather than calculated analysis.

A More Comprehensive Selection Process

Under MAP-21 and the FAST Act, the selection of projects for TIPs by state DOTs and MPOs is inconsistent. Some states’ use selection formulas that focus on engineering factors, such as level of service, while others use a planning committee for the selection process. While MAP-21 and the FAST Act have required states and MPOs to refocus projects benefits on meeting national goals, there are no requirements for analyzing project costs or identifying regional needs. Such a process fails to consider the indirect benefits of transportation projects and dismisses public input. To ensure limited funding is going to projects that have the greatest returns, state and regional TIPs should include economic analyses that consider the economic impacts of such projects, as well as public involvement.

The selection process applied by Kansas’ Department of Transportation (KDOT) provides a comprehensive and inclusive analysis of transportation projects. KDOT shifted from an engineering-based only selection process to one that incorporates engineering factors, regional priorities, and potential economic impact criteria. Proposed projects are scored based on how well a project addresses relevant criteria. The included economic analysis is

conducted with transportation modeling software that estimates impacts such as projected congestion relief, and time-travel savings that would result for the project's implementation. The software then places different weights on certain criteria depending on the classification of the project, finally providing each project with a score. KDOT's model identifies projects with greater economic impact with ease. This creates greater transparency of the process and the methodology behind it helps to reduce political influence on the decision-making process.

Expanding Performance Measurement and Reporting

While MAP-21 elevated the assessment of transportation investments, the USDOT could do more to ensure proper measurement of transportation investment performance. Current performance measures require states assess the conditions of pavements on the National Highway System (NHS), bridges carrying the NHS, and pavements in the Interstate System; assess the performance of the NHS via freight movement on the Interstate System, traffic congestion, and on road mobile source emissions; and assess the number of fatalities and serious injuries on all public roads. The limited number of national performance measures established by MAP-21 and the FAST Act encourage states to track the performance of transportation investments only related to the set national goals. To reliably measure the impacts of Federal funding investments and gain greater insight for future investments the USDOT should adopt a more holistic set of measures for measuring the performance of surface transportation investments. Secondary effects such as improved public health, community livability, and economic development should be included in performance measures to estimate the indirect effects of transportation investments.

Some state DOTs have begun implement performance measures beyond those required of them. Florida's Department of Transportation (FDOT) includes measures of pedestrian and bicycle accessibility, economic return on investment, and projects completed on time and within budget, in addition to performance measures require by the MAP-21 and the FAST Act. These assessments are released by FDOT each year in a transportation performance report that is available to the public. FDOT's assessment on performance areas not established by MAP-21 or the FAST Act help to understand both the direct and indirect benefits of transportation investment.

Recommendations

First, the DOT should require or incentivize states and MPOs to include economic analyses and strengthen public participation in their project selection process. Funding should be invested in projects that lead to long-term competitiveness, productivity, and innovation, but how do we determine which projects will achieve these goals without economic analysis and public feedback? Currently, many transportation decisions are made without the use of analysis, leaving the process vulnerable to political control. A more comprehensive selection process would force policymakers to base transportation investment decisions on evidence instead of politics. The addition of economic analysis and community engagement to the selection process would increase the likelihood that projects that provide the greatest returns for America are on TIPs, while fostering greater transparency and accountability.

Secondly, states and MPOs should not restrict their transportation goals and performance analysis to the limited

list established by MAP-21 and the FAST Act. MAP-21 and the FAST Act include performance measures for states to use to assess the conditions of infrastructure, congestion issues, and safety. Although these performance measures are vital to the continued performance of our nation's infrastructure, the list of performance measures leaves out other performance areas that should guide transportation planning and assessment. State DOTs and MPOs should be encouraged to assess the performance of infrastructure in areas that are not included such as access to jobs, accessibility, and quality. The USDOT could support these efforts by providing these states and MPOs with assistance in measuring these additional performance areas. Further assessment in these areas will help to identify areas for future infrastructure investment and determine which investments have additional indirect benefits.

Conclusion

MAP-21 and the FAST Act have significantly altered the way states and MPOs plan, select, and measure the performance of transportation investments. Prior to MAP-21, state DOTs and MPOs were not required to measure performance, or assess progress towards national goals. Although MAP-21 and the FAST Act have made great strides in transportation planning, these laws are only a foundation for truly effective transportation investment selection and performance assessment. To ensure that limited transportation funding is allocated to transportation projects that provide the greatest benefit for the American people, USDOT should continue to develop national goals and performance measures to ensure transportation investments will help to grow our nation's economic and social fabric.