NEW TRB SPECIAL REPORT

Equity of Evolving Transportation Finance Mechanisms

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This article summarizes the conclusions and recommendations of the study committee.

Transportation plays a key role in the functioning of the nation's economy and in determining people's ability to participate fully in society. As traditional sources of funding for the nation's surface transportation system fail to keep pace with demand, proposals for a variety of other funding mechanisms have proliferated, often based on tolling and road use metering—that is, road pricing. As with all transportation policies, these alternative funding mechanisms raise questions about equity.

Because the equity issues associated with surface transportation are complex, and practical experience with emerging finance mechanisms is limited, the Transportation Research Board's Executive Committee requested the National Research Council of the National Academies to appoint a Committee on Equity Implications of Evolving Transportation Finance Mechanisms (see box, page 34).

In Special Report 303, *Equity of Evolving Transportation Finance Mechanisms,* the study committee concludes that broad generalizations about the fairness of high-occupancy toll lanes, cordon tolls, and other evolving mechanisms oversimplify the reality and are misleading. The fairness of a given type of finance mechanism depends on how it is structured, what transportation alternatives are offered to users, and which aspects of equity are deemed most important.

Issues of Equity

Society increasingly is concerned about issues of equity—notably, who pays for and who benefits from publicly delivered services such as health care, education, and transportation. Transportation influences how people get to work or school, to medical appointments, to the grocery store, and to a variety of social activities and therefore is central in determining who is able to participate fully in society.

Ways of raising the revenues to sustain and renew the nation's surface transportation system have attracted attention, in part because the costs to operate and maintain the road system exceed the revenues flowing into the Highway Trust Fund. Policy makers are exploring alternative finance mechanisms, raising questions about related equity issues.

PHOTO: TRANSPORTATION CORRIDOR AGENCIES

SR-261 Toll Road in Orange County, California. Emerging funding mechanisms for transportation such as road pricing have raised issues related to equity.

The goal of Special Report 303 is to provide guidance about equity issues to public officials responsible for deciding how to fund transportation programs and projects. The report addresses policy makers and their advisers at all levels of government who are considering new finance mechanisms.

Lessons Learned

The most important lesson from the committee's work is that broad generalizations about the fairness of high-occupancy toll lanes, cordon tolls, and other evolving mechanisms oversimplify the reality and are misleading. The fairness of a given type of finance mechanism depends on how it is structured, what transportation alternatives are offered to users, and which aspects of equity are deemed most important. Drawing reliable conclusions about the equity of a particular type of finance mechanism without delving into the details is not possible.

Public policy makers should pay attention to the defining characteristics of all finance proposals, particularly the ways in which the revenues are collected and used, because the fairness of many transportation finance mechanisms depends on application-specific details. Moreover, the equity implications of transportation finance mechanisms are not always what they seem initially.

New transportation finance policies motivate people to find ways of avoiding or passing on additional charges. For example, individuals may change their travel behavior to avoid paying a new tax or fee or to take advantage of new travel options, and businesses may pass on new charges by raising prices to their customers. Determining who wins and who loses as a result of behavioral changes and their consequences is complicated, and the answers rarely are clear-cut.

Comparing financing proposals against current funding mechanisms is important. If the current mechanism is inequitable, a key question for policy makers is "how does an alternative funding method change the equity picture?"

Informing Decisions

To inform decisions about equity issues, researchers need to gather fine-grained data on personal travel and freight movements and to develop models that can simulate relevant travel behaviors. Analysts then can use these tools to explore questions about how travelers and businesses may modify their use of the transportation system in response to changes in prices and services and about the consequences of these responses—recognizing the uncertainties inherent in travel forecasting models.

Determining what constitutes an equitable transportation finance policy entails the recognition that equity has multiple dimensions, some of which may be contradictory. Policy makers need to consider a variety of factors in distinguishing what is equitable in a given situation. Good data and analytical tools; knowledge gained through research; carefully crafted, situation-specific analyses; and meaningful interactions with all stakeholders can help policy makers to compare the equity of alternative mechanisms and to craft policies that will enhance equity.

PHOTO: CALTRANS DISTRICT 11

The I-15 Express Lanes in San Diego were completed in January 2012 and include accommodations for bus rapid transit services.


Photo: Tage Olsin

The first toll station for congestion pricing in Stockholm, Sweden, began operation in 2006. Cordon tolls and other finance mechanisms involve a variety of factors affecting assessments of fairness.

Recommendations

For Public Policy Makers

Public policy makers should engage their constituents and stakeholders early and repeatedly in discussions of proposed transportation finance mechanisms. Public policy makers and their staff should ensure that appropriate data, analytical results, and communication strategies are used to address equity explicitly from the outset of a program or project. Specific tasks include the following:

- Assessing the likely impacts of financing strategies;
- Gathering lessons learned elsewhere, to inform discussions;
- Developing outreach programs and educational materials; and
- Exploring possible remedies for inequities.

For Researchers and Analysts

Researchers and analysts should conduct scientifically rigorous before-and-after and cross-sectional studies to measure the equity implications of evolving financing mechanisms and provide a robust basis for future decision making. These studies should

- Track short- and long-term behavioral shifts in response to the evolving mechanisms,
- Conduct verifiable analyses to ensure the validity and transferability of results, and
- Avoid preconceived notions and oversimplification.

Research could provide useful insights into the equity implications of transportation finance mechanisms by investigating such questions as the following:

- How do members of different socioeconomic groups systematically alter their behavior to avoid or reduce payments, either in the short or long term? Short-term changes could include changing routes or time of travel, or both; using public transit instead of driving; or forgoing a trip. Long-term changes—over a period of years—could include changing home, job, or business locations or choosing to stop working or to travel less.
- Do the consequences of any of these behavioral changes have direct and material equity impacts on the people involved, including the range of costs that they may incur—for example, longer commutes, limited job benefits, or more expensive rents or mortgages?
- Do the consequences of any of these behavioral changes have indirect or independent equity impacts on other stakeholders? For example, do behavioral changes in response to new taxes or fees change the competitiveness of certain retail, housing, land, or labor markets, possibly accompanied by a spatial rearrangement of jobs? Do the behavioral changes improve health outcomes by reducing environmental pollutants, noise, or other negative externalities? If they do, what are the equity effects?
- What are the behavioral responses to the remedies intended to address inequities in transportation

Committee on Equity Implications of Evolving Transportation Finance Mechanisms

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finance and services? How effective are the remedial actions or programs? Have efforts to mitigate the perceived inequities of a finance policy ever worsened the actual equity outcomes?

As practical experience is gained with newer transportation finance mechanisms, researchers and analysts in the United States should take advantage of opportunities to capture lessons learned abroad. In developing and implementing advanced travel behavior and land use models for a variety of applications, researchers and analysts should ensure that the models incorporate features needed to inform equity analyses of transportation finance policies. In particular, models need to reflect the variability of the value of time—that the willingness to pay to save time varies from person to person and for the same person in different situations.

For Federal Agencies

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) should ensure that equity assessments integrated into project and program evaluations are effective and meaningful. FHWA and FTA should clarify and publicize that equity assessments are eligible expenses of the federal aid program.

The U.S. Department of Transportation's Office of Policy and the Research and Innovative Technology Administration should support and direct a collaborative effort to build a knowledge base for decision support that includes the following:

◆ A program of scientifically rigorous before-and-after and cross-sectional studies to assess the equity outcomes of road pricing and other evolving transportation finance mechanisms as they are implemented in the United States, and

◆ An ongoing effort to gather lessons learned about equity implications from the implementation of such mechanisms abroad.

For States and FTA

The American Association of State Highway and Transportation Officials and FTA should support activities under the National Cooperative Highway Research Program and the Transit Cooperative Research Program to develop information, guidance, and analysis tools for state departments of transportation and others to use in studying and understanding the equity implications of evolving transportation finance mechanisms. These activities should include the development of a handbook describing recommended procedures for conducting equity analyses of transportation finance policies.

Photo © Transport for London 2005

Research can explore questions of traveler behavior in congestion pricing zones—how members of different socioeconomic groups change their behavior to avoid payments, such as using public transportation in London's congestion charge zone.

Managing the Complexity

The equity implications of transportation finance mechanisms are complex, often controversial, and important in decision making. Policy makers addressing equity issues need to understand the issues involved. They also need to recognize that the complexity of the issues can be managed—though not eliminated—by systematically considering the ways in which burdens and benefits are distributed across society and institutions. Such an approach involves the following:

◆ Considering the ways in which people and organizations respond to—and sometimes shift—new transportation charges;

◆ Taking into account the distribution of the benefits from the use of the funds collected;

◆ Weighing the equity concerns about new ways to pay for transportation against those raised by the methods now in use;

◆ Exploring and assessing possible remedies to inequities; and

◆ Working closely with stakeholders to find solutions that are feasible, effective, and acceptable.

The knowledge and tools to accomplish these tasks are emerging, but investment in research and development is needed to provide more effective support for decisions about new finance mechanisms. In the meantime, much can be done to support transportation systems and to make informed decisions about paying for them.

Acknowledgment

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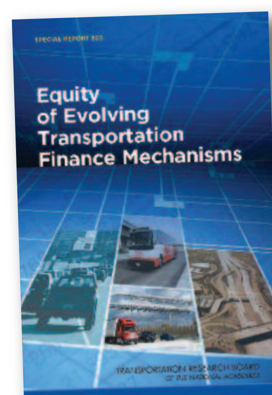

Special Report 303, *Equity of Evolving Transportation Finance Mechanisms*, is available from the TRB online bookstore, www.trb.org/bookstore; to view the book online,go to http://onlinepubs.trb.org/onlinepubs/sr/sr303.pdf.