PAYING OUR WAY

ESTIMATING MARGINAL SOCIAL COSTS OF FREIGHT TRANSPORTATION

NEW TRB REPORT

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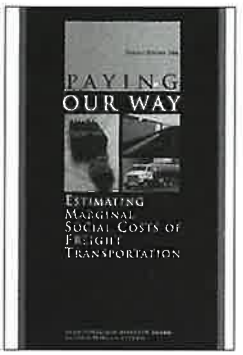
Eight hypothetical case studies developed by a National Research Council committee demonstrate that methods exist to gauge social costs and the extent to which shippers and carriers of surface freight pay them. The methods laid out in Special Report 246, *Paying Our Way: Estimating Marginal Social Costs of Freight Transportation,* recently published by the Transportation Research Board, provide the federal government with a road map for making reliable assessments of subsidies, which are key to designing tax and regulatory policies that promote better use of the nation's transportation system. The study, sponsored by the National Cooperative Highway Research Program, the Federal Highway Administration, the Federal Railroad Administration, the Maritime Administration, and the National Research Council's Transportation Research Board, focused on subsidies.



Special Report 246, *Paying Our Way: Estimating Marginal Social Costs of Freight Transportation,* is available from the Transportation Research Board (see page 40 for ordering information).

SOCIAL COSTS

A longstanding public policy question is whether shippers and carriers of surface freight pay for the social costs of the transportation services they use. Some costs, such as the construction and operation of roads and ports by public agencies, are borne by government and are paid for, at least in part, by fees and taxes. Other costs, such as those associated with the health effects of air pollution and with traffic delays caused by accidents and breakdowns, are borne by the general public and reduced in part through regulation. The social cost of a freight transportation activity is the sum of all the costs, whether borne initially by the shipper, carrier, government, or public. The portions of these costs that are not paid for by shippers and carriers are referred to as subsidies.

Each of the hypothetical cases developed to gauge social costs involves a single movement of a commodity by truck, rail, or barge or a combination of these over a specified route. In studying the subsidies, users' fees, and taxes for each case study, the committee found that estimates are highly sensitive to the specific circumstances of each shipment, such as the mode, route, time of day, and traffic conditions. To develop a reliable means of measuring subsidies of freight transport, the committee calculated the "marginal subsidy"—the difference between the price a freight user would pay for one additional freight movement and the added social cost of the movement. If the taxes or fees paid for each shipment equal the costs the shipment imposes on others, then the shipment is paying its way. If the taxes are less than these costs, the shipment is being subsidized by the amount of the shortfall. Although preliminary at best, the estimates developed in the case studies imply that freight carriers are not fully paying their way when all social costs are included in the calculation.

EFFECTS OF REDUCING SUBSIDIES

According to the report of the TRB study committee, reducing subsidies may induce beneficial changes in transportation practices, lowering the cost of freight transportation to society as a whole. Shippers and carriers would be more likely to use transportation services responsibly and efficiently if they paid the social costs of freight shipments. Without subsidies, carriers and shippers would rethink decisions concerning vehicle and equipment specifications, fuel economy, selection of modes, routes and times of travel, and many other operating factors in order to reduce their costs.

Many observers have assumed that policies aimed at reducing subsidies would necessarily benefit some freight modes over others. However, the committee's preliminary estimates did not reveal great differences, in most cases, among the subsidies for trucks, rails, and barges as percentages of the prices freight shippers pay. In addition, if shippers and carriers were paying for social costs, they might be able to modify their operations in many ways—from maintaining engines better to using safer, less congested routes—instead of switching transport modes to reduce these costs.

Recommendations

In the evaluation of highway and waterway user-fee policy and transportation investment proposals, the committee recommended that the U.S. Department of Transportation, the state transportation departments, and the U.S. Army Corps of Engineers consider how changes in fees could affect the economic benefit the nation derives from its transportation system. The U.S. Department of Transportation periodically conducts evaluations of highway user fees, but it focuses on whether taxes appear to be equitable or fair, and not on how taxes affect efficiency. The committee further recommended that the Corps of Engineers consider congestion pricing as an alternative to capacity expansion in its planning for the inland waterway system. However, the committee observed that penalizing beneficial uses of roads or waterways by charging inappropriate fees can cause as much economic harm as subsidizing nonbeneficial uses. Therefore, the committee warned against simplistic approaches to the reform of user fees.

The committee added that research is needed to fill some gaps in knowledge, especially concerning the safety risks of truck traffic; air quality effects of changes in freight volume on a road, waterway, or rail line; health effects of diesel particulates; costs from traffic delays caused by accidents and breakdowns; and highway maintenance costs. The committee recommended that DOT conduct an expanded analysis to estimate subsidies in U.S. surface freight transportation. It also recommended that this analysis be constructed from many estimates for individual shipments, similar to those in the committee's case studies.

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