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SURFACE TRANSPORTATION

Strategies Are Available for Making Existing Road Infrastructure Perform Better

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Highlights

Highlights of GAO-07-920, a report to the Ranking Member, Committee on Environment and Public Works, U.S. Senate

Why GAO Did This Study

For the past several decades, the capacity of the nation's road network has not grown fast enough to keep pace with demand. The increasing congestion is apparent to millions of commuters and freight operators. Although road building is perhaps the most familiar antidote, Congress, the Department of Transportation (DOT), and transportation research have emphasized the need to more efficiently use the existing infrastructure as a means to control congestion.

GAO was asked to examine various issues associated with increasing the efficient use of existing infrastructure. This report examines the following questions: (1) What factors inhibit the efficient use of the existing infrastructure of roads and highways? (2) What techniques have been developed for making the current infrastructure more efficient and what is known about the results? (3) How have local decision makers implemented these techniques? (4) What strategies exist for increasing the use of such techniques? To address these questions, GAO reviewed existing studies, examined efforts in five states, and sought transportation officials' views, among other things.

GAO is not making recommendations in this report. In commenting on a draft of this report, DOT provided technical clarifications, which we incorporated as appropriate.

www.gao.gov/cgi-bin/getrpt?GAO-07-920.

To view the full product, including the scope and methodology, click on the link above. For more information, contact JayEtta Z. Hecker at (202) 512-2834 or heckerj@gao.gov.

What GAO Found

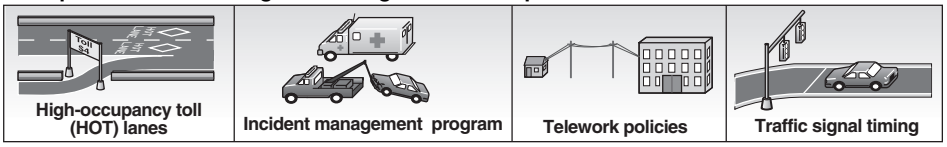
Three broad factors inhibit efficient use of existing roads. First, many were not designed and built to meet today's traffic volumes, and their operation has not changed sufficiently to better meet current volumes. Second, the federal and state revenue-raising structure does not provide incentives for drivers to use roads efficiently because it does not capture all the costs involved in using roads at time of peak demand. Third, information about which investments produce the highest estimated social benefits is limited when decisions are made about how to address congestion.

Two types of techniques have been developed for making current roads more efficient. One *enhances capacity* through better operations and use of technology, such as timing traffic signals to improve traffic flow. The other *influences behavior* about when and where to drive, through such specific means as flexible work schedules, and charging drivers tolls to use roads during peak hours. Research suggests that these techniques are most effective when tailored to the particular situation and used in combination.

In the states GAO reviewed, officials chose varying techniques but tended to implement them with a similar three-pronged approach: (1) changing planning and related processes to give these techniques more priority, (2) developing creative mechanisms to fund them, and (3) collaborating with multiple stakeholders to put them in place. Officials said many of the techniques, while helpful, provided only marginal benefits, because several persistent challenges prevented greater use. These challenges ranged from resolving jurisdictional authority to finding alternative funding sources.

Although many strategies exist for making greater use of these techniques, they vary depending on the level of government involved. Three strategies cut across all levels of government: (1) considering how the private sector can be used in managing existing road infrastructure, (2) expanding the user-pay concept for managing demand and generating revenue for transportation investments, and (3) measuring results and managing with them in mind. Several other strategies, such as applying techniques on a regional basis and integrating transportation planning more fully with land-use planning, relate primarily to state and local governments. Strategies at the federal level, where participation in transportation projects relates primarily to financial assistance and policies affecting system performance and safety, includes linking federal funding to performance, increasing flexibility for states and localities, and placing additional focus on projects with national benefits.

Examples of Various Congestion Mitigation Techniques



Source: GAO.