

Ridesharing

COMES OF AGE

JOHN E. HIRTEN

It has become increasingly clear that the United States can no longer build its way out of congestion. The need for an increased emphasis on managing regional transportation systems means that transportation demand management is not limited to the responsibility of employers to reduce work trips or provide commuting options to comply with air quality regulations. Instead, TDM is a comprehensive set of strategies for managing systemwide transportation demands by influencing mode choices and time of travel (Figure 1).

During the past 15 years, regional ridesharing agencies such as RIDES for Bay Area Commuters in San Francisco, California, have played an important role in bridging the gap between public and private efforts to improve air quality. These agencies are now in a position to demonstrate leadership in emphasizing TDM and ridesharing as essential tools to reduce congestion, enhance mobility, and save energy, in addition to addressing environmental concerns.

To date, regional rideshare agencies have developed innovative and successful approaches to reduce trips and shift mode choice. For example, ridesharing has become the second most prevalent commute mode in the Bay Area. Approximately 579,000, or 19.3 percent, of the region's 3 million commuters regularly carpool or vanpool to work. This percentage has increased 6 percent since 1990. Furthermore, RIDES currently has an active data base listing more than 34,000 commuters in search of new ridesharing opportunities. This demonstrates significant interest by the commuting public in alternatives to driving alone.

According to Don Pickerel, director of the Volpe Transportation Research Center for the Department of Transportation in Cambridge, Massachusetts, "The empty seats in commuters' cars are our most

dramatic source of additional transit capacity." By his reckoning, an increase from the current 1.1 to 1.6 persons per car at rush hour would defer thousands of miles of highway construction and consequently save billions of dollars. Although it is unlikely that rideshare programs by themselves can achieve this increase in persons per vehicle, addressing several policy issues would encourage more ridesharing and provide significant disincentives to driving alone.

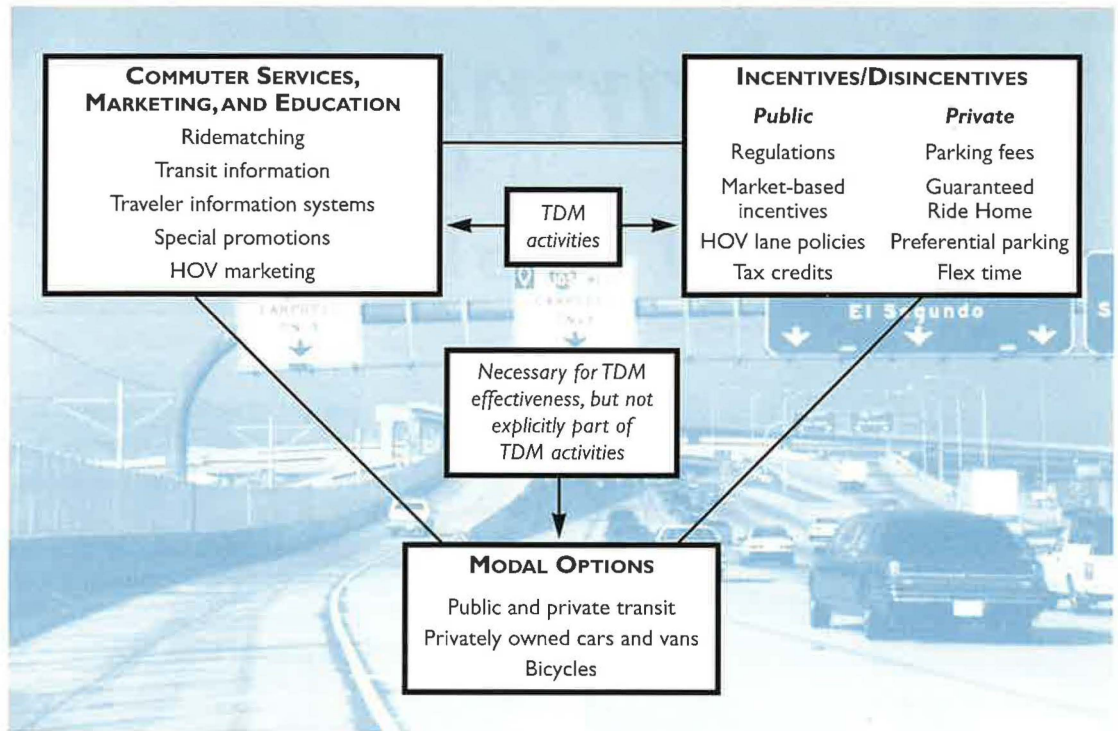
For example, the price of a gallon of gas in real dollars is lower today than in 1981. RIDES research indicates that people are responsive to increases in the cost of gasoline; for example, whenever the cost of gas rose during the 1980s, RIDES received an increased number of requests for ridesharing information. If Congress increased the gas tax to reflect the true cost of driving, gasoline would cost several dollars a gallon, according to the World Resources Institute.

A second measure would involve changes in the tax law that allows employers to deduct the cost of providing parking for their employees. RIDES research shows a significant correlation between access to free parking and the tendency to drive to work alone. The 1995 RIDES Commute Profile found that 69.5 percent of Bay Area commuters with access to free parking drive alone. The drive-alone rate is only 39.1 percent at work-sites where free parking is unavailable.

In most cases, the process of inducing individuals to vanpool, carpool, or use public transit is less expensive than adding lanes, double-decking bridges or highways, installing electronic control systems, or investing in other infrastructure improvements. RIDES estimates that placing one person in a carpool or vanpool costs approximately \$180. Once these minimum public funds have been spent to place an individual in a carpool

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FIGURE 1
Transportation demand
management triad.



or vanpool, all subsequent costs over the average 3.5 years that the individual continues to ride-share are borne by the riders themselves or their employers.

The Intermodal Surface Transportation Efficiency Act's provisions for planning, systems management, and major investment analysis have required transportation officials to gather more comprehensive and multimodal data about the fiscal and environmental limitations on continued capital expansion of urban transportation systems. In addition, ISTEAs public participation requirements recognize the need to communicate this information to transportation consumers so they can make an informed decision. By illustrating the real costs and impacts of driving alone and of major construction, such information will help lower the expectations of single-occupant drivers who believe we can, and should, build infrastructure solutions to their personal commute problems. At the same time, it must be communicated to the public that ridesharing and ridematching systems are effective, easy to use, and can be implemented almost immediately. There is evidence that many commuters are interested in seeking alternatives to driving alone—alternatives that will save money and time and get them to work unfrazzled. They need to know there is real public support for these alternatives by transportation officials.

TOOL FOR SYSTEM MANAGEMENT

If one accepts the definition of TDM as the practice of modifying travel behavior through policies, programs, and actions designed to reduce the daily number of vehicle trips, then it can be recognized as a major element in systems management. Ridesharing and TDM should be evaluated accordingly as principal components of any regional transportation systems management plan.

This is beginning to happen in the San Francisco Bay Area through the formation of the Bay Area Transportation Partnership. The Partnership was initiated by the region's metropolitan planning organization—the Metropolitan Transportation Commission—in conjunction with the passage of ISTEAs. The MTC Partnership consists of the top officials from 36 major transportation-related agencies, including RIDES, to form a strategic alliance for resolving intermodal and interagency differences, and to expedite comprehensive solutions to the region's transportation needs. The Partnership has promoted the development of systems management plans for key corridors in the Bay Area. High-occupancy vehicle lanes, ridesharing, support for existing transit service, and public information about these services are vital elements of the system operations plans for relieving congestion in these corridors.

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BACK TO THE FUTURE

Important Advanced Driving Simulators Developed in 1960s

The article on driving simulators in the July–August 1995 issue of *TR News* (“Brief History of Driving Simulators,” *TR News* 179, page 26) makes no mention of the two major driving simulators developed for use by the U.S. Public Health Service in an extensive research program from 1966 to 1973. I was director of the laboratory responsible for this program, which was initially called the Driving Research Laboratory but later renamed the Injury Control Research Laboratory when its mission was expanded into other areas of domestic and industrial accident prevention. Federal budget cuts led to the closing of the laboratory in 1973.

The two driving simulators used by PHS represented state-of-the-art technology for that time. They were also the most sophisticated facilities that had yet been developed for the study of driver behavior and vehicle collision avoidance. In addition to technical journals, these devices gained the attention of the general media.

Numerous other publications featured stories about these simulators and our research program, especially from 1967 to 1969. Clearly, a balanced history of driving simulators requires additional research than was reflected in the July–August 1995 article.

—Robert K. McKelvey, former director
Injury Control Research Laboratory
Victoria, Australia.

EDITOR’S NOTE: Walter J. Diewald, senior program officer, Transportation Research Board, responds: The two driving simulators Robert McKelvey describes were part-task, terrain model simulators that used partial car bodies for the driver subjects, miniature reproductions of the road and surrounding environment, and an optical system. One simulator used a direct optical viewing system with an endless moving belt system for the roadway, and the other used a stationary terrain model with a closed-circuit television system mounted on a movable gantry. These two simulators represented state-of-the-art technology for that time. It is unfortunate that a more central source of information on the history of driving simulators was not available when the article in *TR News* was prepared.

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RIDES participates in a special TDM task force convened by the Partnership to examine the range of TDM activities proposed and undertaken by various agencies in the area. The Task Force recommended that MTC coordinate regionwide TDM activities and manage funding for the existing ridesharing program as part of MTC’s Overall Work Program. Now that the TDM/rideshare program is an integral part of the region’s transportation planning and programming, it is given more consideration as an element of the overall system.

RIDES, a private, nonprofit corporation, is demonstrating that administering a regional TDM/ridesharing program under contract to a public agency such as MTC can work well. This arrangement is flexible, responsive to changing demands, and accountable to the regional transportation planning agency. This responsiveness has earned the program its place as a key instrument to help manage the regional transportation system. Transportation officials, politicians, and the public must continue to be educated about the potential and cost-effectiveness of TDM and rideshare programs to help relieve congestion, conserve energy, enhance mobility, and improve air quality.