

Current Practices, Implementation Issues, and Integrating Travel Demand Management Strategies

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It is a pleasure to have the opportunity to summarize the three resource papers: *TDM Evaluation: Current Practice and Emerging Issues* by Eric N. Schreffler; *Implementation Issues and Barriers* by Katherine L. Gerwig; and *Integrating Transportation Demand Management Strategies* by Michael Replogle and Hank Dittmar. These three papers, on evaluating, implementing, and integrating TDM, relate well with each other. In discussing the three papers, I would like to note their common themes, as well as the ties to major elements of the Intermodal Surface Transportation Efficiency Act (ISTEA). I would further like to present some ideas for your consideration over the next day and a half.

Eric Schreffler's paper on evaluation and current TDM practices discusses a wide range of issues. The major focus is on what is being evaluated, how is it being evaluated, and who is conducting the evaluation. It also examines future improvements in the evaluation process and identifies specific ideas for further research. Kathy Gerwig's paper on implementation issues addresses the roles, responsibilities, and interactions among the different groups developing TDM programs. It examines the future of TDM related to these issues and discusses whether the concept of trip reduction through employers yields the results that have been estimated and hoped for. The paper by Mike Replogle and Hank Dittmar on the integration of TDM provides a broad view of TDM in the transportation planning and investment process. They discuss the need to consider TDM early in the planning process, rather than after the fact as a mitigation strategy. The paper examines the need for comprehensive evaluative tools and addresses the trade-offs and cost-benefits of various transportation investments, including TDM, pricing, and

other strategies. Finally, the paper presents ideas for consideration by federal, state, and local agencies related to advancing TDM.

The paper by Eric Schreffler on TDM evaluation practices begins by noting that the ISTEA and the 1990 Clean Air Act Amendments require a thorough understanding of the impacts and effectiveness of different TDM strategies. Although TDM has been around for at least 20 years, little solid empirical evidence exists on the effectiveness of many strategies. This may cause some problems for advancing the state-of-the-practice, as TDM may be perceived as a soft set of strategies lacking hard evidence on their impacts. Schreffler stresses the need to conduct rigorous evaluations of proposed strategies through systematic and on-going programs.

The paper discusses the distinctions between monitoring TDM programs for effectiveness and compliance purposes and evaluating TDM projects for research needs. Monitoring tends to be compliance-oriented, focusing on self-reporting by project sponsors or employers who are trying to comply with a regulatory program. Thus, monitoring looks at what has happened. Research and evaluation of the cost-effectiveness of TDM strategies examines not only what happened, but why it happened, and the costs associated with making it happen. Research needs are further complicated by requirements for extensive data, evaluation tools, longitudinal studies, and on-going monitoring. Schreffler stresses that research is essential for multimodal and intermodal planning to support the systems approach to transportation planning, including examining trade-offs between alternative investments.

The paper examines the various groups currently involved in evaluating TDM programs. These include regulators, implementors, researchers, and professional organizations. Each of these groups have different perspectives and needs. The regulators are interested primarily in compliance. The implementors—who include the private sector, transportation management associations (TMAs), and other groups funding the different programs—are interested in the cost-effectiveness of the various TDM strategies. Researchers want to examine the full range of issues associated with planning and implementing different strategies and analyzing the results.

Although the private sector wants and needs information on effectiveness, they do not always have the means to collect and analyze evaluative information. This may result in the private sector wanting information which the public sector has, but is unable to provide. It is

difficult for decision-makers to allocate funding for transportation control measures (TCMs) and TDM strategies without good information on the effectiveness of different techniques.

Schreffler identifies balancing research needs with regulatory reporting as a key issue. Integrating rigorous methods with experience-based instincts is one way of accomplishing this. He suggests that TDM professionals need quantitative measures rather than just anecdotal information. The management systems requirements of the ISTEA also support the need for more rigorous evaluation measures. TDM professionals need to identify the kind of data necessary for comprehensive evaluations and the costs associated with rigorous evaluations.

Schreffler suggests that future evaluation measures should focus on vehicle trip, net trip, and vehicle miles of travel (VMT) reductions. Identifying the most appropriate evaluation measures to use with different TDM strategies will be important. For example, Los Angeles is currently examining how to estimate the impacts of strategies such as park-and-ride lots, which require people to drive their cars in order to connect with transit. Determining techniques to accurately measure the emission reduction potential of these programs and projects is difficult. Schreffler suggests that the issue of cost-per-trip-reduced needs to be considered, examining all costs and benefits related to both the demand management strategies and the other modal investments that may be under consideration.

The paper examines various shortcomings in the current modeling process. These will need to be addressed to meet many of the ISTEA requirements. Schreffler suggests that major improvements are needed in the current modeling capabilities, particularly related to modeling demand management strategies. The ability of present regional models to do this appears to be very limited.

Schreffler also emphasizes the need for improving the dissemination of information on TDM programs. In the two years since the passage of the ISTEA, a good deal of time and money has been spent examining the issues of multimodal planning, performance measure development, and demand management programs. Better methods and mechanisms are needed to help ensure the timely dissemination of this and other information to all groups interested in TDM.

Schreffler notes that evaluations are often viewed as a threat or punishment by TDM implementors. Rather than looking at evaluations in a negative light, implementors

should be strongly supporting and encouraging good evaluations. It will be difficult, if not impossible, to integrate TDM into the mainstream of transportation planning and decision-making unless an objective examination is made of the effectiveness of programs and strategies. When compared with other modes on a level playing field, demand management strategies appear to be cost-effective alternatives.

In closing, Schreffler cites three priorities for evaluating TDM programs. The first relates to integrating data needs. Factors he suggests for consideration include the use of employee surveys to derive evaluation data, improving other data collection instruments, and balancing the types of data provided by implementors with their usefulness for evaluative purposes. The second priority focuses on tailoring the results of evaluative exercises to the user's needs. The last priority is a more detailed examination of TDM cost-effectiveness and how trade-offs are made between competing projects.

Kathy Gerwig has been responsible for implementing TDM programs with private sector groups over the years. Thus, she provides an excellent perspective in her paper on implementation issues and barriers on the needs and problems associated with TDM in the private sector. It is important for those of us working in the public sector to understand this perspective so that we can better target TDM programs and policies. This paper examines the use of employer-based work trip reduction programs which have been a major focus of TDM strategies to date. It also outlines the need to look seriously and aggressively at non-work trips, which comprise a majority of trips today.

The paper addresses a variety of issues associated with funding demand management programs. Gerwig suggests that the private sector is currently being asked to pay for TDM programs. The public sector, which is requiring these programs, is often not providing adequate information on the cost-effectiveness of different strategies to help the private sector develop and implement effective programs. She also identifies some of the benefits realized by the private sector from TDM strategies. These include enhancing customer accessibility to businesses, reducing unproductive time workers spend in traffic congestion, and the potential for reducing the costs of building and maintaining parking facilities. In order to realize many of these benefits, however, TDM strategies need to be large-scale, region-wide programs.

The paper further discusses the need to balance economic growth and environmental objectives. Gerwig

discusses some of the labor union issues that may influence the ability of private businesses to implement TDM programs and suggests ways to address these. She also discusses market-based TDM approaches, including parking pricing. Gerwig stresses the need to ensure that adequate alternatives to single-occupant vehicle travel are provided to participants. These must be attractive and viable options. She notes the potential for public policy conflicts when different levels of governments mandate different programs. One example of this is the congestion management program mandates in California and the Congestion Management System requirements contained in the ISTEA. The paper suggests that conflicting programs should be examined and eliminated and duplication of efforts should be addressed.

Gerwig also discusses the importance of education in TDM. Gerwig notes that TDM implementors, particularly those involved with employer-based programs, can be used to help educate society on travel choices and travel behavior options. Thus, one of the benefits of employer-based programs relates to their educational value. Employer-based programs also help broaden the transportation planning process, which is one of the objectives of the ISTEA. Opening the process up to public interest groups, the public, environmental groups, and others will help carry out some of the mandates of the ISTEA.

Finally, Gerwig suggests that more interaction is needed between decision makers, technical staff members, and private sector implementors. Establishing stronger partnerships and working relationships among these groups would further benefit TDM and would support the objectives of the ISTEA. Individuals in the private sector responsible for implementing TDM programs have much to share with their public sector counterparts. Thus, she notes that all groups would benefit from greater interaction and sharing of information.

The paper by Mike Replogle and Hank Dittmar addresses integrating TDM into the ongoing transportation planning process. The paper points out that transportation systems management (TSM) and TDM strategies have traditionally had a short-term focus, which may result in overlooking long-term opportunities to shape travel demand. The authors suggest that TDM should be part of the on-going focus of the Congestion Management Systems required in the ISTEA. Further, they indicate the potential of TDM to help boost the productivity of transportation investments and to strengthen the economic performance of the country. The paper discusses the need to integrate TDM into all aspects of transportation and

community planning. Rather than being considered as an after-the-fact mitigation strategy, TDM should be included in the initial stages of the planning process.

As pointed out in other papers, the authors identify the need for better resources, better tools, and better data to support the implementation and evaluation of TDM. They note that the ISTEA provides some of the resources necessary to accomplish this and allows greater flexibility in the use of funds. Further, they note that additional data is available in many areas that could be used to improve the transportation planning process.

Replogle and Dittmar suggest that TDM must encompass a broad range of strategies and must focus on all types of trips. Currently, most TDM programs address only work trips. They suggest that non-work trips, short trips, urban design issues, land use issues, and new technologies all need to be considered in the development of TDM measures. All of these issues should be addressed in the strategic agenda from this symposium.

The paper identifies a number of lessons that can be learned from past activities. Many of these relate to the experience with different programs during the 1970s. For example, the authors suggest that the California Congestion Management Program and the use of performance measures based on level-of-service standards promotes new road capacity and ignores system performance. This may be counter to the ISTEA objectives focusing on systems analysis and systems performance measures. They also summarize the experience with different aspects of the on-going Montgomery County, Maryland program.

Replogle and Dittmar suggest that the ISTEA provides an opportunity—through the Congestion Management Program—to evaluate system performance, to examine investment options using a fully allocated cost benefit analysis structure, to consider secondary impacts of alternatives, and to analyze induced and latent demand. To accomplish this however, much more work will be needed in the development of analytical tools and procedures to level the playing field for consideration of the different transportation strategies and investments. Institutional barriers, including the need for education and training within the transportation profession, are also discussed. Further, the authors note the failure to consider land use, urban design, and pricing policies in the transportation planning process.

The paper discusses the importance of understanding the context in which demand management strategies are implemented and the influence of external factors on the results. The authors point out that the existing environmental conditions are critical. For example, the options made available to commuters in employer-based programs are important to the success of a program. Transit, carpooling, pedestrian access, and other factors will all impact the effectiveness of a program. The paper suggests that more information is needed to help employers in various parts of the country respond to requirements to implement Employee Commute Options (ECO) programs.

Replogle and Dittmar discuss the need to take a comprehensive view of TDM and to understand the limits of the traditional focus on employer-based peak-period work trips. They also suggest that a long term view is needed to integrate TDM strategies into the overall transportation planning process. Issues related to cultural change and overcoming entrenched interests will need to be addressed in this effort. I would like to suggest another issue that needs to be considered; the "pipeline problem." In most regions, there is a long list of pipeline of approved highway and roadway projects ready to be built and transit projects ready to be constructed. Very few demand management and TSM type projects are currently in the project selection and project programming pipeline. If TDM is to be a major part of the process, it is critical that projects get into the pipeline.

The authors suggest agendas for federal, state, and local governments, MPOs, and transit agencies to help advance TDM. Action items discussed include the release of conformity rules, the parking cash-out option and changes to the IRS code, and IVHS. I think that TDM professionals need to find ways to emphasize the demand management attributes of IVHS and make sure that IVHS investments are not counterproductive to the objectives of encouraging a greater mode shift from single-occupant vehicles to HOVs. The paper further suggests that more champions for TDM are also needed at all levels, as well as greater coordination and cooperation among agencies at the federal, state, and local levels.

State initiatives suggested by Replogle and Dittmar include pay-as-you-drive insurance, HOV take-a-lane proposals using smart card technologies, and priority for TCM implementation. They also recommend that Congestion Management Systems incorporate growth management strategies. Finally, at the MPO level they suggest a need for improved modeling and monitoring capabilities, enhanced plans and approaches, education

programs for the public, and the evaluation of alternative growth and development scenarios as part of the on-going transportation planning process.

In closing, I think each of these three papers provides a great deal of information that should be of help to you over the next two days and should be of use to all groups interested in TDM. Further, I think we have a great opportunity to help set the course for the future of TDM at this symposium. The vision of the ISTEA and the flexible funding it offers provides a great avenue to implement a wide range of innovative programs that are responsive to the needs of each individual area.

TDM Evaluation: Current Practice and Emerging Issues

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Mr. Kuzmyak elaborated on a few points in the resource paper written by Eric Schreffler, also from Comsis Corporation, Inc. Most of his comments focused on the importance of conducting good evaluations to help advance both the practice of TDM and research needs. He noted that the paper contends that it will be difficult to move TDM forward into practical planning and decision-making without better data on the cost and effectiveness of different TDM strategies. Mr. Kuzmyak made the following points related to the issues surrounding data collection and the evaluation of TDM programs.

- Although major advances have been made in developing tools for forecasting the impacts of alternative TDM strategies, there is still much that needs to be done to improve these techniques. A few good examples of historical databases on the impacts of TDM strategies exist, but program monitoring and evaluation have generally not been priorities for the TDM community. Many evaluations still focus on relatively simplistic approaches that may not examine the full impacts and influence of the programs. Further, many TDM programs focus on the more traditional strategies such as transit and ridesharing. Less consideration has been given to developing evaluation capabilities for congestion pricing, land use planning techniques, and telecommuting and compressed work weeks.
- Even with the more traditional employer-based TDM programs, it is still difficult to ascertain with a high degree of confidence the impacts particular incentives will have in different situations. Despite the empirical