INTRODUCTION

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On September 17, 1975, the Urban Mass Transportation Administration and the Federal Highway Administration issued a series of joint regulations embodying a concept known as transportation system management or TSM. These federal regulations recognized that fiscal and nonrenewable natural resources are declining while the travel demands of the American public are continuing to increase. However many urban areas have a significant investment in existing transportation facilities and resources—an investment that may not be fully used. Therefore, the regulations require urban areas to more fully use their existing infrastructure and capacity before they seek federal assistance for the development of additional facilities.

The TSM concept articulated by the regulations was clearer in theory than it was in implementation; the joint regulations have given rise to a number of significant procedural, substantive, and political questions at all levels of government. At the Conference on Transportation System Management, conducted by the Transportation Research Board at the request of the Urban Mass Transportation Administration and the Federal Highway Administration, more than 400 people from throughout the United States discussed, debated, decried, and learned about these regulations and their significant implications.

Criticisms of the TSM requirements arose out of several different perspectives and at a number of operational levels. First a number of critics doubted not the soundness of the normative principle but rather the possibility of its actual application in an urban area, given the large number and kind of governmental units involved. This criticism reflected a not unjustified skepticism about the ability of one series of federal regulations to bring order and stability to a complex set of metropolitan relations that had defied the determined efforts of other federal and state agencies in the past. In particular, many professionals were concerned that the regulations mandated a role for metropolitan planning organizations (MPOs) that they had neither the resources nor the authority to carry out. They were critical of the U.S. Department of Transportation (DOT) for giving new time-consuming responsibilities to MPOs without giving them additional resources to carry out those responsibilities. In addition, since most MPOs were voluntary organizations only representing the local units of government that for the most part would carry out the actual implementation of TSM actions, many MPOs were worried that they could not devise a TSM plan that would both meet the transportation department's standards and be undertaken by the many governmental units in their regions. Should the MPO's TSM plan not be implemented, many MPOs were afraid the region would be penalized.

Other criticisms charged uncertainty and ambiguity in the language of the regulations themselves and in their interpretation by different DOT units. The regulations did not make it clear whether the long list of TSM actions contained there was a shopping list from which a locality might choose appropriate activities or whether every urban area must undertake every suggested action or justify their failure to do so. Planners were uncertain whether the TSM regulations required certain conservation activities as a procedural prerequisite to applying for federal capital assistance or whether TSM conservation measures were intended as a substitute for planned or even programmed capital expansion. Other terms in the regulations seemed unclear and did not appear to apply equally to UMTA- and FHWA-funded projects. The ambiguity in the language employed was heightened by what many professionals perceived as differences in interpretation and emphasis by officials of UMTA and officials of the FHWA.

Another perspective on the TSM regulations was that of traffic engineering professionals, who maintained that many of the TSM elements under consideration had been part of sound traffic management programs for decades and did not represent either new local options or new approaches to transportation problems. These critics noted that all of those TSM actions that would be readily accepted by the public already had wide operational experience; the only TSM techniques that did not have wide exposure were those that involved severe automobile disincentives or imposed high penalties on automobile drivers. These critics questioned the wisdom of approaching TSM as an innovative concept to be handled at a regional level by an MPO or regional planning organization when actual experience with the individual TSM elements resided at the local and at the state level in traffic and transportation departments. Some critics questioned whether an

MPO had any greater authority or ability to implement controversial TSM actions than local traffic departments had in the past.

Public involvement and political acceptance of potentially controversial TSM elements were significant concerns of many professionals grappling with the TSM regulations. Operational experience with such techniques showed a mixed record; Portland and the Twin Cities area, for example, had great success with such measures, while the preferential lane on the Santa Monica freeway in Los Angeles seemed to illustrate the worst possible consequences of such actions. There was even a mixed record with a far more coercive approach than the TSM regulations provided, that of the transportation control plans of the U.S. Environmental Protection Agency. Philadelphia and Pittsburgh failed to implement EPA-mandated measures, while Boston and Seattle were successful in doing so.

Some of these problems had already been addressed by DOT officials before the conference; the "shopping list" of potential TSM activities had been identified as just that and demoted to the Appendix of the revised regulations, some ambiguities in the language of the regulations were straightened out, and some perceived inconsistencies in the intentions of FHWA and UMTA were explained. The role sought for the MPO was also more clearly described, but the "bottom-up" model of the regional generation of TSM plans raised as many questions as it settled. In addition many of the other concerns described above had not yet been clarified, and the knowledge of the clarifications and modifications that had taken place was not widespread. Therefore, the conference was needed as a forum in which substantive data and official information could be provided and where the serious airing of controversies could take place.

The conference was structured to address three objectives: to provide the latest information on DOT policies and requirements, to provide the latest information on experiences with the actual implementation of a range of individual TSM actions, and to examine the emphasis of the regulations on a regional or metropolitan planning perspective. The conference program committee felt that one way to achieve all three objectives was to highlight throughout the entire structure of the conference urban areas that had had or were having success in implementing TSM actions. Because there was so much information to impart to participants, the committee established five plenary sessions. A series of small evening workshops allowed participants to interact with one another on a more personal basis and to delve more deeply into explicit topics or specific TSM actions. Papers on each of the major topics were commissioned and appear in this volume. Also included are reports of the workshop discussions and the case studies of the cities in which TSM actions have been or are being implemented.

SUMMARY AND FINDINGS

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During the 3½-day conference, three major issues arose continually in the substantive and informational presentations as well as during the discussions of the implementation of individual TSM actions: TSM as a planning process and the role of metropolitan planning organizations in that process, perceived conflict between short-term and long-range transportation objectives, and public involvement and acceptance of TSM actions.

TSM AS A PLANNING PROCESS

During the course of the conference, UMTA officials stressed their view that TSM is a process involving a systematic perspective on the needs and the resources of an urban area. It is not "product" oriented nor a program consisting of discrete components or TSM elements. UMTA Administrator Patricelli stressed that TSM is a process involving both planning and implementation in a unitary urban transportation system; Associate Administrator Orski described TSM as a "planning concept" that ties together the network of existing facilities and resources into a single urban transportation system. Other U.S. Department of Transportation (DOT) officials also implied that, consistent with a unitary system approach, the TSM regulations required attention to the full range of environmental, energy, social, economic, and aesthetic components of the urban transportation network.

In answer to criticisms about the inability of metropolitan planning organizations (MPOs) to bring about this unified transportation system, DOT officials suggested that the appropriate role for an MPO was, as a sort of broker, coordinating the various TSM actions suggested by the MPO's local units of government and local elected officials and at the same time suggesting other appropriate TSM actions to those localities. This approach, which came to be identified as "bottom-up," implied that those local officials who would eventually implement TSM actions should be the ones to determine the region's TSM plan. This view seemed to remove the implication that an MPO must formulate a sensible TSM plan for its region and then force localities to implement the actions contained in it. But the suggested bottom-up approach raised serious questions for many transportation professionals. One concern was how well a unitary urban transportation system could be achieved by aggregating ad hoc and marginal responses to local problems at the local level. Another concern was how active MPOs could be in inducing localities to consider relevant TSM actions and in coordinating and rationalizing local TSM responses to urban transportation problems.

Superimposed on this last set of issues was an understandable concern with not what was possible for an MPO to do but rather what UMTA and the FHWA expected MPOs to do. This concern was shared by MPOs, academics, traffic engineering professionals, and local elected officials, although the reasons for their concerns were often different. One speaker noted that in many ways TSM regulations are just another integration requirement in a long list of DOT integration requirements and that the successful planning and implementation of many TSM actions in a metropolitan area could depend in part on how strongly DOT chose to enforce this new planning requirement. Some regional representatives at the conference despaired of introducing controversial TSM actions without strong federal incentives or sanctions or both.

Other participants raised questions of how well TSM plans could meet the goal of addressing environmental and energy problems if DOT did not require coordination between TSM plans (and planners) and regional and state environmental and energy conservation plans.

Many participants also raised the issue of institutional difficulties encountered in a metropolitan area. In his concluding statement, conference chairman Thomas B. Deen said that institutional variables required DOT to be flexible in its enforcement of the TSM requirements and to be careful in specifying a rigid set of structural or substantive requirements for all urban areas. Deen noted that MPOs and regional agencies that had had some success in the past in planning and implementing creative TSM actions were having the least problem with the concept embodied in the new regulations. In general, MPOs and councils of government that had good working relations among local, state, and regional transportation professionals and between pro-

fessionals and local elected officials were far more successful in formulating innovative concepts. Those MPOs that lacked such cooperative mechanisms found the TSM regulations to be the most threatening. Unfortunately such observations also leave DOT faced with the problem of specifying planning mechanisms for those areas that have been unable to develop them themselves.

SHORT-TERM VERSUS LONG-RANGE OBJECTIVES

A number of conference speakers noted the need to more fully integrate the short-range TSM planning process with planning for the future or for major capital investments. This integration was sought in large part to resolve the controversy over whether TSM actions were intended as an accompaniment or as a substitute for capital expenditures, an issue that has not really been resolved in most urban areas.

Several discussions centered on the danger that long-range needs might be ignored because of the recent enthusiasm for TSM actions. As one participant noted, this emphasis on TSM actions might provide first-aid for problems requiring surgery. Since some TSM actions are not short-term, are not cheap, and are not easy to implement, it might be possible for an urban area to use up all available funds on TSM projects and not have enough money to address its longer term needs. One critic warned of the danger to the entire transportation network if such a situation forced urban areas to "live off" and use up past capital investments.

John Kain, the Harvard University economist, and others present at the conference have noted that, since TSM activities can be highly significant and have extreme and measurable environmental and economic impacts, they must not be treated lightly. Some critics have noted that actual experience shows that lengthy delays, skyrocketing costs, public outcries, and increased traffic congestion have been associated with TSM actions as well as with major capital improvements. There was a general consensus that many TSM activities have been treated lightly in the past, and the real relation and impact of such activities on longer range transportation plans and systems have been ignored. Because TSM activities are often extremely significant, most participants found that it is crucial that those planning such actions interact with those involved in long-range planning and programming of capital investments in the transportation system.

PUBLIC INVOLVEMENT AND ACCEPTANCE OF TSM ACTIONS

Many of the suggested TSM actions clearly had the potential to be highly controversial because they imposed significant penalties on automobile drivers or restrained traffic in ways the public was unused to. Operating experience has shown that severe public protest over actions like preemption of a lane of the Santa Monica Freeway for use as a high-occupancy vehicle lane could cause disruptive public and political protest. But many participants and speakers at the conference pointed out that it was hard to obtain meaningful, official, and public acceptance of even noncontroversial TSM actions because they were too small to generate much interest or support.

One speaker noted that transportation projects in the past generally had clear-cut support from one or more segments of society; he questioned just who provided a constituency for the kind of TSM actions being considered. Participants suggested that both controversial and noncontroversial TSM actions require a strong constituency to initiate the action and to defend it against its critics. Conference discussions, however, centered on how difficult it is to generate a positive interest either in low-profile actions that did not provide direct benefits to the public (such as new jobs) and had no dramatic impact or in controversial actions whose benefits were perceived as too abstract or external to most individuals.

One concern of many participants was that almost all TSM elements were viewed benignly at their inception. Public hearings could be held, press conferences called, and many public statements made about a forthcoming TSM action but rarely did this type of activity unearth any meaningful opposition from the public or elected officials. Once the project was implemented, however, strong opposition or just strong resistance could and often did develop from those directly affected by the measure or their local elected representatives or both. Participants were concerned because, in the absence of a constituency or strong support for a TSM action, minor protests or resistance could halt the implementation of even noncontroversial measures.

Some participants viewed this problem as simply one of poor communication between professionals and the public; some speakers suggested that planners in MPOs and other relevant public agencies had not sought visibility for their activities in the past and did not know how to use the media effectively. Other participants, however, suggested that the poor communication channels were between transportation professionals and elected public officials. Both sets of participants suggested ways to improve these communication networks at the local level.

The problem of creating a real constituency for either a controversial or an uninteresting TSM action seems to go beyond the need to improve communication and media relations. Most conference participants felt that professionals in MPOs should take significant responsibility for involving the public and all concerned public officials in the design, publication, and implementation of TSM activities. Several participants noted that planners should also work with affected interests like the business community to try to generate concern and support for the activities of the MPO.

The problem of how to handle controversy when it does arise unexpectedly was another major discussion topic. Speakers pointed out how bewildering such protests can be and how difficult they are to anticipate or handle. Other participants pointed out that it might be the responsibility of planners to see that the TSM project design could not and did not generate unexpected controversy and that contingency plans existed for those potential conflict situations that had been identified in advance.

All of the discussions seemed to imply an active and significant role for transportation professionals in state, local, and regional agencies. MPOs in particular were called on to devise good TSM actions, recognize possible sources of support and opposition, encourage the former and diffuse the latter, and at the same time maintain good communication networks with the media, the public at large, affected interests, local elected officials, and other local planning professionals! Conference chairman Deen suggested that TSM planners ought to have a better feeling for the pulse of the public, not pushing controversial items when it is obvious that they will not be accepted but preparing the groundwork to achieve their acceptance, and recognizing potential public acceptance when it is achieved. In Deen's word, "We cannot be smarter than the public, but we cannot be dumber than they are either."

SUMMARY

The 3½ days of discussion, debate, and communication answered some questions, resolved some debates, and strongly suggested some issues in need of further clarification. Two key issues stand out.

1. The first issue is a question of the appropriate role for a planning professional in an MPO and the appropriate role for the MPO given its authority and resources. Planners and their agencies have the responsibility for a lengthy list of tasks in the TSM process including devising and designing TSM actions, coordinating and rationalizing local TSM activities, educating the public and local elected officials to the virtues of TSM, creating support and constituencies for planned activities, anticipating and defusing conflicts and controversies, coordinating TSM planning and long-term planning so that one does not conflict with the other, and making sure that a region's FHWA and UMTA funds are never in jeopardy. Given an MPO's voluntary organization and limited resources, such responsibilities seem unrealistic in the absence of strong DOT support and assistance.

2. The second issue arises out of a frustation felt by many conference participants when hearing case histories of both successful and unsuccessful TSM actions. Basically there seems to be little way at this time of determining not what Los Angeles did wrong and Portland did right but more important how "wrong" and "right" can be identified before a project is begun. Most of the successful case histories presented to the conference were remarkably unselfconscious; planners from Madison, Minneapolis, Seattle, and Portland had a hard time explaining what they did right and an even harder time in understanding what everybody else did wrong. Planners from cities with failures had spent far more time analyzing the underlying workings of the complex transportation system than had planners from cities where things went well. The result is that, while we know a great deal about how to make things go wrong, we know far less about how to make things go right.

The TSM conference was a worthwhile educational experience for all participants from MPO planners to DOT officials. A number of serious anxieties were allayed and some problems have come closer to solution because of their being openly and frankly aired at this conference. But it would be a mistake to gloss over the remaining anxieties felt by transportation professionals or planners and a serious error in judgment to ignore the significant issues that have been raised but unresolved by this conference. It is to be hoped that this conference has given DOT policy makers a clear idea of the real problems and concerns with the TSM regulations at the local level and has, at the same time, given local planners and policy makers a better idea of the opportunities that TSM can offer.