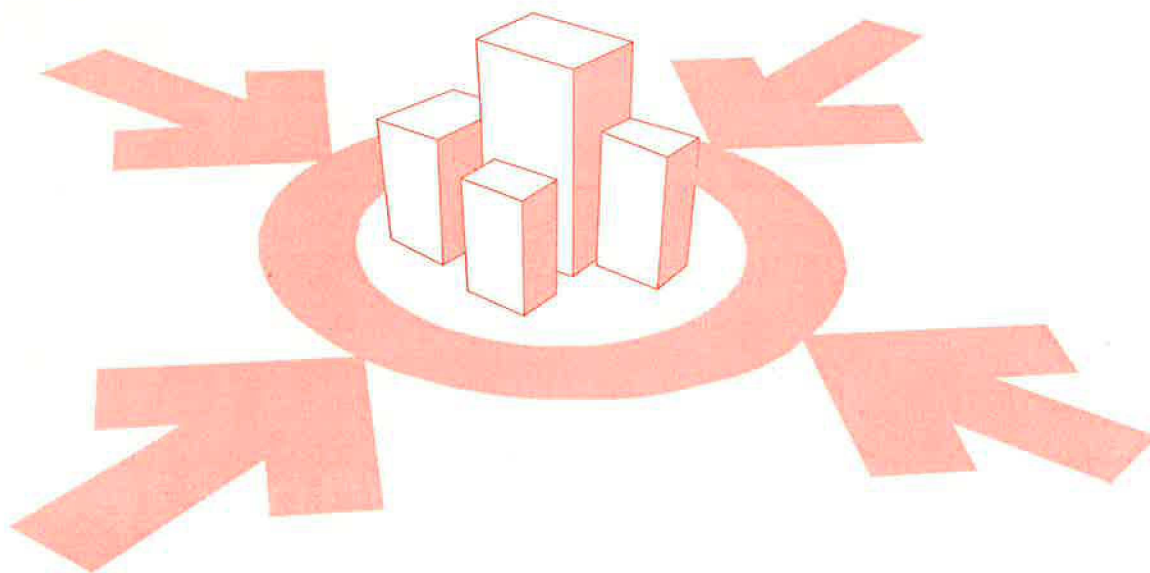


**TRANSPORTATION RESEARCH CIRCULAR
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Conference on Major Investment Studies in Transportation (MIS)



February 25 – 28, 1996
Holiday Inn Golden Gateway
San Francisco, California

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**CONFERENCE ON
MAJOR INVESTMENT STUDIES
IN TRANSPORTATION (MIS)**

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CONFERENCE ON MAJOR INVESTMENT STUDIES IN TRANSPORTATION (MIS)

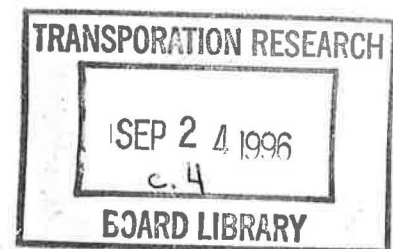
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Federal Highway Administration

Conference Proceedings

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SUMMARY

Purpose and scope

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have issued joint planning regulations in response to the requirements set forth in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The new joint planning regulations described in the Final Rule of Metropolitan Planning of October 1993 included provisions for major investment studies (MIS) where there are high-cost and high-impact transportation alternatives being considered. Prior to these joint regulations, the Federal Highway and Transit Administrations had significantly different procedures for major improvements, notably FTA's requirements for an Alternatives Analysis and FHWA's highway corridor planning procedures. The purpose of a major investment study is to evaluate all the alternative reasonable transportation improvement strategies to address transportation problems within a corridor or subarea. Through the metropolitan planning process, including MIS, a solution is reached that meets transportation needs, environmental and community goals, and financial constraints.

MIS regulations have now been in effect for more than two years, and the FHWA and FTA thought it was timely to bring together practitioners who were performing major investment studies to decide how well the process is working and whether improvements were needed. The Transportation Research Board was asked to convene a conference of State and local planning practitioners involved in MIS activities. The conference focused on four topic areas:

- 1) policy issues;
- 2) the relation of MIS to the overall planning and project development process;
- 3) management and institutional issues affecting MIS; and
- 4) the transportation decision process for the MIS.

Technical issues, data collection, and analysis techniques used in the MIS process were not a focus at the conference, although technical topics were raised in the context of the four topic areas.

The conference did not make an assessment of transportation planning at the state or metropolitan level. Other TRB conferences have focused on improvements needed in transportation planning, including the conference on Moving Urban America—TRB Special Report 237, and the conference on Institutional Aspects of Metropolitan Transportation Planning—Transportation Research Circular 430. NCHRP Synthesis "Procedures MPOs use in Development of Plans and Programs under ISTEA," also focused on needed improvements in the planning process.

Themes of the conference

At the end of the workshop deliberations, the three co-chairs of the conference, Allen D. Biehler, Nancy Houston, and Les Sterman, presented their views of the themes of the conference:

- **MIS is a problem-solving tool that adds value to the planning process and leads to better decisions.**

An MIS is a useful technique, because it focuses at the outset on defining problems to be solved, then builds a process to reach a consensus on appropriate solutions. The process focuses on building consensus by involving local communities and interests early and often. Local involvement includes identifying a broad range of alternatives and a comprehensive evaluation of those alternatives so decisions address problems, needs, and objectives. It adds value by ensuring that a broad range of alternatives is considered, by evaluating those alternatives comprehensively, and by offering an opportunity to streamline the overall planning and project development process.

- **The MIS process reflects the objectives of ISTEA.**

The metropolitan planning process prescribed by ISTEA focuses on improving mobility, achieving intermodalism, encouraging innovation, allowing flexibility, improving air quality, using new technologies, involving the public in decision-making, and coordinating transportation investments with land use, the environment, and other community

interests. These guiding principles are fully consistent with the MIS process as spelled out in Federal rules.

- **The MIS process embraces the philosophy of inclusive decision-making.**

Federal guidelines emphasize that an MIS must be collaborative and involve not only decision-makers but also those persons and agencies affected by transportation investment decisions. The intent is to bring all affected parties together early in the process and continue their involvement throughout the study to reach consensus on the best solutions to transportation problems.

- **MIS guidance is sufficiently flexible but not yet universally understood.**

It is apparent that additional understanding is needed at the Federal, State, and local levels to recognize the flexibility allowed in the MIS process. There is no "one size fits all" approach to how an MIS must be done, and the Federal rules do not specify one. Too often, government officials fall back on old practices and try to fit them to the MIS model. Continued education and more experience with the MIS process will lead to gradual but positive changes in the state of the practice.

- **Collaborative relationships at all levels of government and across transportation modes have improved but still need work.**

For the MIS process to work as intended, there must be strong collaborative working relationships among MPOs, States, transit agencies, and non-transportation agencies. To fully recognize the flexible, problem-solving intent of MIS and the flexible funding provisions of ISTEA, partnerships must exist that work across modal and institutional barriers. While steady progress is being made in building these relationships across the country, it will take many years to overcome the history and tradition of existing institutional relationships.

- **The relationship between MIS and NEPA needs further clarification.**

Current practice and regulations allow MIS to be an integral component of the NEPA process. There continues to be concern over the practical and legal implications of this relationship. There is some doubt that decisions made in the MIS process can

withstand legal challenges related to NEPA. Further Federal clarification of the MIS/NEPA relationship is needed. A MIS narrows the transportation alternatives, without having to provide for all the details of an EIS. Subsequent EIS scoping may reintroduce alternatives previously discarded by the MIS. Major investment studies should be completed prior to environmental statements and should focus on the key impacts and advantages and disadvantages of a broad range of major transportation improvement alternatives in a corridor.

- **MIS studies and results need to be more fully integrated into the metropolitan transportation planning process.**

Long-range transportation plans should identify corridors for MIS studies. The decisions resulting from an MIS should be incorporated as updates to long-range plans and—at the appropriate time—made a part of the TIP, STIP, and other local planning documents, where applicable.

- **MIS information and experience need to be shared nationwide.**

A significant benefit from major investment studies comes from the sharing of information and experience among States, MPOs, transit agencies, interest groups, and citizens. FHWA and FTA have been publishing summaries about MIS experiences and should continue to do so in the future. State and local agencies should share their experiences with FHWA and FTA, so the information may be published nationwide. The Internet should also be used as a medium to communicate MIS information.

- **Local elected officials are central to the success of an MIS.**

Elected officials often have the responsibility to make decisions in the MIS process. It is important to involve them continuously in the MIS process to build a foundation for informed decisions.

- **An MIS must make reasonable financial assumptions, but this should not stifle flexibility and innovation.**

While an MIS must consider financial constraints, this should not preclude any solution to the identified problems. Financial planning should be an integral part of analyzing alternative solutions.

However, financial constraints should not automatically limit alternatives early in the study. A financial plan should be prepared as part of the major investment study clearly identifying the revenue and cost assumptions. The plan should be flexible and innovative, extending beyond existing resources and including the consideration of financial constraints in the development of regional transportation systems. Federal guidance on this latter point is desirable.

Structure of report

To address the four major topic areas, prepared remarks were presented and panel discussions were conducted for each issue. Afterward, the conferees divided into workshops to discuss the issues and share case study experiences relating to MIS. This summary presents principal points of discussion at the conference, including highlights of the panel discussions and workshop deliberations.

Policy issues

- **Conferees supported the policies of ISTEA and MIS:** They identified specific success stories and general improvements in planning that have resulted from performing MIS. They also discussed difficulties they are encountering with the MIS process and made suggestions for improvements. The conference themes outlined above emerged, in part, from a discussion of the following policy issues.
- **Trends affecting transportation:** The conference began with an overview of trends and public policies that affect transportation planning and development strategies. Traffic is growing faster than can be accommodated within fiscal and environmental limitations. Dispersed development is increasing. The market share for transit is not increasing. The public favors minimization of the role of government and decreased government spending. The criteria for public expenditures on transportation will be cost-effectiveness and performance of the total transportation system. In light of existing trends and policies, the MIS challenge is to do more with less.
- **MIS policy objectives:** The MIS process was designed to overcome perceived deficiencies in pre-ISTEA decision making about transportation. The objectives of the process are to:

- ▶ Provide a streamlined process for identifying and solving transportation problems;
- ▶ Consider multimodal alternatives, where appropriate;
- ▶ Connect the regional planning process with the development of discrete projects;
- ▶ Incorporate consideration of environmental factors early in the decision making process;
- ▶ Assess transportation proposals in relation to total system performance;
- ▶ Consider a broad range of evaluation criteria, including safety, economic development and urban form, as well as mobility; and
- ▶ Foster public involvement and collaboration among all the affected parties in an effort to seek consensus.

Major Investment Studies, as one speaker stated, are an “attempt to get people back to good planning principles.” The ultimate goal is to assist those who make transportation decisions.

- **MIS successes:** Transportation planning considers life-cycle costing, including necessary costs of rehabilitation and reconstruction, and has addressed in depth the environmental impacts of transportation system plans, including impacts on wetlands, primary environmental corridors, air pollutant emissions, and energy consumption. However, there have been a number of instances when state and local planners have concluded that a MIS led to an end product superior to what they would have expected from their pre-MIS planning process. Some of these successful MIS demonstrate exceptional multimodal problem-solving. Some are exemplary examples of interagency collaboration, while others illustrate the positive benefits of public involvement.
- Some conferees noted that the environmental community is more engaged in transportation planning and that environmental issues receive earlier and increased attention under the MIS approach. They observed also that the MIS process removes the perception of a policy bias toward a highway solution.
- **Improving the MIS process:** While conferees supported the policies underlying ISTEA and MIS,

they questioned some aspects of MIS implementation. Conference participants identified the following major policy areas which are affecting full attainment of MIS objectives:

- ▶ The transportation community will fully understand and accept the MIS process only if they understand and accept the policy objectives underlying that approach. This requires further education about and experience with MIS. Several conference speakers remarked that the MIS process is new and still evolving.
- ▶ The MIS is viewed by some as a time-consuming, open-ended process. Obtaining consensus from stakeholders with opposing viewpoints is an inherently slow activity.
- ▶ FTA and FHWA roles in the planning process have changed under the MIS approach and adjustment has not always been smooth.
- ▶ ISTEA and MIS reflect a transition from the previous interstate/programming paradigm to a multimodal/planning paradigm. The MIS process includes consideration of all the social, economic, environmental and fiscal constraints that affect a transportation solution. It has been difficult to apply the new approach to projects already in the pipeline. In some instances, it appears that the MIS has little effect on the pipeline project, and is just pro forma.
- ▶ Many corridors in metropolitan areas have been studied in the past. Those conducting a MIS must overcome preconceived notions about the right solution to the transportation problem the MIS is addressing.
- ▶ Better coordination with resource agencies, particularly NEPA/404 agencies, is essential in the MIS process. This coordination may need to be formalized administratively or legislatively to attain productive institutional relationships. FHWA and FTA must educate and engage the resource agencies.
- ▶ There are questions about when an MIS should be conducted. Support from the MPO, the affected jurisdiction and the implementation agencies is a prerequisite. Funding issues and procedures have to be considered in the timing of MIS.

- ▶ The level of detail required for a MIS varies from case to case. A MIS considers a range of conceptual alternatives, so the analysis of alternatives need not be at the level required for specific project development or preliminary engineering. Yet, because of previous habits, agencies may be uncomfortable with lesser levels of detail.
- ▶ The roles of future corridor preservation and right-of-way purchase in MIS require clarification.
- ▶ ITS and other telecommunication systems should be considered as alternatives in the MIS and long-range planning process.
- ▶ A MIS needs to consider interim affordable solutions.
- ▶ Traditional highway evaluation criteria have focused on vehicle congestion, while transit has emphasized ridership. MIS require development of broader mobility and accessibility measures to evaluate multimodal alternatives.
- ▶ There is a need for examination and greater definition of how to effect the crucial linkage between corridor-level MIS and regional-level plan and policy decisions.

Planning issues

- **The boundaries of an MIS need to be established early in the process.** These include not only transportation corridor limits but also economic, geographic, financial, environmental, and social boundaries of the study. These boundaries should also include consideration of environmental justice and the needs of the economically and socially disadvantaged.
- **The timing of an MIS is tied to broader planning concerns.** Major investment studies are costly in terms of time and money and should not be initiated until strategic questions regarding where they fit into the planning process have been addressed.
- **MIS is a logical and integral part of the long-range planning process.** Financial resources for the implementation of the MIS have to be allocated. Ideally, the transportation planning process should be a seamless process from the Long-range

Plan, to the Transportation Improvement Program (TIP), and then to specific project development. MIS is part of Metropolitan Planning Organization (MPO) plan development and refinement. The MIS may lead to amending the Regional Transportation Plan (RTP). In project development the process flows from a long range areawide system plan through major investment studies and transportation improvement programs to specific project development. Individual segment condition and performance data must be explicitly considered in the preparation of the transportation system plan and in preparation of the transportation improvement programs. Such analysis will identify the corridors where consideration of major investments are needed.

- **Level of service is no longer the only factor in determining transportation investments.** Under an MIS, community goals are merged with mobility needs, broadly defined to include not only level of service but also travel time and other measures of mobility and accessibility. These needs are then fit within the total system of financial and air quality conformity constraints, and the corridor transportation development is melded into the overall transportation plan for the region.
- **The first issue to be resolved in an MIS is defining the stakeholders who are concerned with corridor development.**
 - ▶ Which stakeholders are included as partners and participants in the study substantially affects the goals, scope, and issues to be addressed. As the list of participants is broadened, so are the concerns and issues to be addressed. One of the primary objectives of an MIS is to involve a very wide range of participation. This will improve the end product and may help to prevent future legal and political challenges to the recommended strategies resulting from the MIS. Four broad categories of participants need to be included in an MIS:
 - 1) the transportation providers who control the financial resources;
 - 2) those who are responsible for reviewing, approving, and issuing permits for construction projects;
 - 3) concerned environmental and other public interest groups; and
 - 4) the public/businesses that will be affected by the transportation improvement.
 - ▶ A multiplicity of governmental units exists within an MPO. Multiple governments may also be involved in a corridor where an MIS will be undertaken. It is important that these decision-makers be included in the deliberations. They should be involved at the very start of the process to assure that the MIS will address their concerns and result in a proposed strategy they can endorse.
- **Seven steps in the MIS process:** While the scope and structure of an MIS is to be arrived at by mutual consent of the participants, a suggested process might contain seven steps:
 - 1) Define the purpose and need for the MIS (i.e., the transportation problems to be solved);
 - 2) Identify alternative transportation solutions and/or combinations of solutions;
 - 3) Determine the impacts of each alternative, including financial alternatives and impacts;
 - 4) Identify and compare the transportation and mobility impacts of the identified alternatives;
 - 5) Evaluate the economic, financial equity, environmental, social, and community impacts of each alternative;
 - 6) Compare and evaluate each alternative and development strategy; and
 - 7) Obtain a community consensus on the selected strategies and an agreement by decision-makers to endorse the agreed-on solution.
- **Goals and objectives, along with measures of performance, need to be established at the beginning of an MIS.**
 - ▶ The goals and objectives of an MIS are defined by the partners to the study. They include what the partners expect from the study, how to measure the goals, and ways to cross-modally evaluate alternatives being considered. Cross-modal performance comparisons are difficult, because the traditional performance measures are not the same for each mode. In making modal comparisons, the analysis should contain the total life cycle costs, including investment, operating, maintenance costs, and what costs

will be paid for by users of the system and by the public. It should also include long-term comprehensive benefits.

- **Transportation and land use are closely inter-related and must be integrated in an MIS.**
 - ▶ One question to be addressed by an MIS is whether it is possible to integrate land use development and transportation strategy within the corridor. Land use models may not be the best way to forecast land development for an MIS. Use of expert panels on land development may be helpful. There is a need to closely integrate transportation and land use planning in a major investment study. Such integration must take place at the areawide systems planning level. Regions with adopted land use plans are in the best position to effect the needed integration.
 - ▶ It is important to have an integrated land use and transportation plan for the corridor in order to purchase right-of-way or provide for zoning protection for future rights-of-way.
 - ▶ Environmental justice issues are still not adequately addressed.

Management and institutional issues

- Major investment studies try to minimize modal bias in transportation strategies. An MIS is a major step toward assuring a level playing field between highway and transit alternatives.
- **One of the first steps in the development of an MIS is to establish the funding sources for the study.** In addition to State Planning and Research funds, MPO planning funds, and transit planning funds, other sources of funds for an MIS should be considered. National Highway System, Surface Transportation Program, Congestion Management/Air Quality, and other Federal funding may be used for an MIS. Additional commercial and private-sector funding should be investigated.
- **An accepted leader/champion is often needed to assure that an MIS reaches consensus.**
 - ▶ Any study participant can be the leader of an MIS provided all partners to the study accept such leadership. It was suggested that an MPO

might be the logical leader of some MISs, since it would be presumed to be independent and not modally biased. As such, the MPO would be responsible for:

- 1) Assuring that all parties needed for the study are represented;
 - 2) Providing the leadership to assure that the study moves ahead to a conclusion;
 - 3) Maintaining modal neutrality; and
 - 4) Assuring that the study provides a realistic evaluation of institutional capabilities and is responsive to the political entities and other decision-makers who must approve the strategy recommended by the study.
- ▶ A factor in determining a leader for the study is the availability of staff to manage the study.
 - ▶ A major issue is the appropriate role of consultants in an MIS study, what their role in the management of the process should be, and who will oversee consultant activities. Some conference participants expressed fear that if MIS guidelines are not established, the experience of consultants in MIS studies will in itself set the process and how it is managed.
- **It may be difficult to get resource and permitting agencies involved in an MIS process.** EPA and other resource agencies, whose review and approval are usually at the project level, may not dedicate the resources to participate in a corridor MIS. These agencies' objectives may not be the same as the action-driven, product-oriented objectives of transportation agencies. Limited agency staff and lack of travel funds may make it difficult for such agencies to participate in an MIS. In addition, resource agencies may find it difficult to participate when there may be a number of studies in progress at the same time. In similar fashion, FTA regional offices may not have the staff and travel funds to effectively participate in all major investment studies in their areas. Other communication processes, such as teleconferencing, need to be examined as a way to bring these agencies in as partners to the study. Additional solutions include adopting the process used in obtaining 404 National Environmental Policy Act (NEPA) permits and providing subsidies and staff exchange. Legal vulnerability issues also need to be addressed.

- **An MIS process must be both understandable and acceptable to the partners in the study, to the public, and to other stakeholders.**
 - ▶ Strong, collaborative institutional relationships are needed to make the MIS process most effective.
 - ▶ If it is not understood and accepted by the public and stakeholders, an MIS will be politically opposed and legally challenged. The public and resource agencies, as well as the MPO, State DOT, and transit agencies need to be educated on how to develop a clear definition of the problem to be addressed by the MIS. It is imperative that the participants know what their roles are in the process and who makes decisions regarding the selection of solutions from among the alternatives.
 - ▶ A clear distinction must be made that an MIS is a process for determining the transportation strategies to be pursued within a corridor or subarea, not a project location study.
- **Citizens and other stakeholders need to be involved in an MIS from its very inception.**
 - ▶ One of the objectives of the MIS process is to get early and comprehensive public involvement. To obtain appropriate public involvement in an MIS process, four essential elements are needed:
 - 1) the process should provide a continuing education program for all parties;
 - 2) opportunities must be provided for citizens and the private sector to give their ideas and recommendations throughout the course of the study;
 - 3) citizens and business interests must be involved in the decision-making; and
 - 4) constant two-way communication is a must.
 - ▶ Citizens should clearly understand what role they will play in the process, and how their input will be considered. They also need to have continuous information on the status and development of an MIS and how different strategies will affect their interests.
- **A continuing education process is needed for decision-makers, the public, and the other stakeholders in an MIS process.** Recognizing that the participants in an MIS may change during the life of the study, the educational program for MIS needs to be a continuing activity throughout the study. The program must be designed to fit the needs of the public and not be couched in technical jargon or incomprehensible methodology.
- **It is important to get EPA and other resource and permitting agencies involved early.** Substantial confusion remains about the relationship between MIS and the NEPA process. Decisions resulting from an MIS need to have standing under NEPA to avoid duplication of effort.
- **The study process needs to define what a successful MIS is.**
 - ▶ A way to formally evaluate an MIS process and results needs to be established. This includes self-evaluation by participants and perhaps by an outside peer review.
 - ▶ For an MIS to be successful, it must be accepted by the decision-makers. Where there is no consensus on an acceptable strategy, provision must be made for majority and dissenting opinions. An indecisive conclusion to a study may be frustrating, but it may indicate that stakeholders within the study corridor are not ready to make a decision.
 - ▶ If the accepted transportation strategy is too costly or extensive to be completed in a single project, it may require staged development. Accordingly, multiple projects should be identified. In future years, the situation may change and the remaining staged projects not be built.

Decision-making issues

- **A formal sign-off by the partners to an MIS may be a visible way to bring it to closure.**
 - ▶ Sometimes it is difficult to know when an MIS has fulfilled its goals and objectives. Achieving a solution that is politically acceptable to all governments and agencies involved has been a major problem throughout the history of the urban transportation planning process. While consensus may be more easily achieved in an MIS study, constant changes of elected and

appointed officials may make an MIS outdated. It may take six or more years from the completion of an MIS to actual contract letting, and other permitting processes may lead to amendment and updating of an MIS.

■ **The definition of consensus varies with the complexity and location of the corridor.**

- ▶ Throughout an MIS, there is a need to define who the decision-makers are and when they are willing to make a decision. Are they willing to sign off at the identified milestones in the study or only with the final strategy? How are irreconcilable differences in stakeholders goals and objectives handled? How are ways to express disagreement provided? How do you reconcile that one group may benefit at a cost to another, and that there may not be a win-win solution? These are all questions that must be addressed in attempting to reach consensus.
- ▶ Decision-makers may find it difficult to merge different modal criteria and performance measures to arrive at a final transportation strategy, especially if they result in solutions that require different funding and matching requirements. The question remains of how to measure cost effectiveness of different transportation strategies.
- ▶ An indispensable part of MIS is answering the question: Are we measuring the right things?

■ **The decision-making process in an MIS and the major decision points during it need to be clearly defined.**

- ▶ The several levels of decision-making need different levels of detail of information. At the

beginning of a study, it is important to ask decision-makers what information they need and what questions they want answered.

- ▶ The decision-making process is viewed differently by the various partners to an MIS. Transportation agencies are product-oriented agencies whose aim is to implement a program through the delivery of transportation projects. The resource and permitting agencies have a mission to protect the environment and prevent further diminution in the quality of life. Their orientation is to prevent environmentally harmful acts and mitigate unacceptable environmental impacts. Citizen groups may be concerned with other critical issues such as jobs, crime, economic development, taxes, and neighborhood stability. These issues are partially related to transportation, but they are much larger and encompass social and political issues that cannot be resolved through corridor transportation development strategies of an MIS alone. As a result, even with a comprehensive MIS, it may be difficult to obtain a politically viable consensus.
- ▶ Involving the public in a MIS is a challenge. A distinction exists between true public involvement in the MIS and dissemination of information concerning the MIS to the public.
- ▶ The achievement of unanimous consent in our society is extremely difficult and unlikely and realistically should not be expected. It must be accepted that with respect to the kinds of major projects which warrant the conduct of a major investment study, there will probably be dissent on many recommended alternatives—that can only be resolved in the normal political decision making process.

PLENARY SESSION—Opening Forum: Overview of the Major Investment Process

Overview of ISTEA and MIS

John Horsley, U.S. Department of Transportation

We see a number of trend lines in transportation, especially in metropolitan America. These are as follows:

- The traffic on our highways doubled over the last 20 years, and it looks like it is going to double again over the next 30 years.
- Traffic is growing faster than we can build capacity to keep up with it, and we cannot build our way out of the problem. One community after another, especially the larger metropolitan centers, is recognizing that we cannot just build our way out with the traffic growth that has taken place.
- The pattern of exurban, suburban development that is taking place and the trend lines of dispersed development are increasing.
- Commutes to work are getting longer.
- More people are traveling alone in their cars.
- The market share for transit is not increasing.

A specific example of a region that attempted to deal with these modern realities is the Washington, D.C., metropolitan area. The area's long-range transportation plan was completed in 1994. To its credit, the Washington Council of Governments came up with a plan that met every Federal requirement and was financially constrained and realistic. It conformed to Clean Air Act requirements. It considered ISTEA's 15 planning elements and involved more citizens than had ever been involved in the process before.

As the plan explains in its introductory paragraph, the only problem is that it does not meet the region's need. This is what the plan said: The growth in people and jobs expected in the region during the next 25 years will produce a corresponding increase in traffic that will outstrip the relatively modest highway improvements

proposed in the plan. Yet, although congestion will increase dramatically, it will be expected to grow even worse without some of the facilities and strategies proposed in the plan. The good news is that the ISTEA planning process delivered a fiscally-constrained plan that was more sensitive to getting a handle on and solving the problems of air pollution. It involved citizens better than ever before. It included all of the good 15 planning factors. But what citizens are asking us for is solutions that work. I think that is the challenge of the MIS process.

There is a documented need to double investment in transportation. We are spending \$40 billion as a nation on transportation. We need to increase it by \$17 billion to maintain what we have. We need to double it to add the capacity the country truly needs. The fiscal constraint that is going to be the reality at least for the next decade is going to be the imperative from voters that "you cannot tax us anymore. We are taxed out. It is all we can do to keep our families together. Do not ask us to spend more." This public is going to impose a ceiling on the resources available to us. So, the lesson is that even if we had the resources necessary, adding capacity alone is not going to solve the transportation problems of our regions because traffic is far outstripping what any capacity addition could provide.

The second challenge is that significant new resources will not be on the table. We will be lucky to hang on to the market share of the Federal, State, and local transportation resources we have right now, because voters are not going to approve more taxes. We are not going to have more resources. So the challenge then is to do more with less. That is the MIS challenge.

"We have to shift our planning process from project programming to an emphasis on system performance."

Four factors for success

Four factors are needed to make a success of the MIS process that will achieve the challenge of solving problems with the resources available. *We have to shift our planning process from project programming to an emphasis on system performance.* Rather than looking

at improving capacity, project by project, we have to look at the entire system and not just think in terms of adding capacity to it. In some cases, adding capacity is what we need, but, in many cases, the need is to improve the performance of the system already in place. So the shift in planning is from project programming to strategies to improve system performance.

I have observed that *you are months ahead in the planning process if you build community consensus* rather than do a beautiful job of planning and engineering but leave the public out until the end. Then you may have to loop back and start all over. So, factor in the necessity of building community consensus from day one and involve the community in what you are trying to achieve. You will be able to execute the process faster, and it will not blow up on you as often.

Thirdly, in this day and age you cannot consider transportation mode by mode. *You have to factor in all of the modes when you are looking at solutions.* You just cannot balkanize anymore. We have to remove the barriers between modal consideration and have them all considered in any transportation strategy.

Another thing is that the voter revolt is not just about big government; it is against *bad* government. Citizens are losing their tolerance for waste, and they are also losing their tolerance for delay. They want practical solutions. They want to see that the planning process is adding value to the process and not just inserting obstacles to decision-making. What they are going to require from us, as a discipline, is to be part of the solution—and not part of the problem.

We can make the case for MIS because of its approach to consensus building, multi-modal involvement, and orientation to improving system performance. The MIS is part of the solution and not the problem.

Of the several good major investment studies, the one in Pocatello, Idaho, shaved six months off the process by community consensus building throughout the MIS process. Another one, in Miami, for the corridor between the Miami airport and the cruise terminals, had a complex array of players and challenges that were addressed to improve the capacity on this incredibly congested corridor. Miami is probably the cruise ship capital of the world, and most people going on cruises arrive in Miami by airplane. Miami is trying to devise a way to get them efficiently to and from the airport and the seaport, to get them on their cruise ships and off to the beautiful Caribbean.

The MIS study has included the Federal agencies up front and has obtained a signed agreement of involvement from about six different Federal agencies, including the Federal Highway, Transit, Aviation, and Rail Administrations, and the Coast Guard. By including Federal agencies and involving them as part of the solution, you will not have them playing “gotcha” at the end of the process.

Another good MIS example is the U.S. Route 301 corridor in Maryland. The corridor encompasses a rapidly growing suburban area to the east of Washington, D.C. Seventy-six different organizations are on the MIS task force, working on a multimodal solution.

Overview of the ISTEA debate

I will conclude my presentation with an overview of the ISTEA debate and what is happening. The two biggest battles coming up this next year regarding ISTEA are going to be the funding levels and the donor/donee battle. In 1991, the promise of ISTEA was to increase transportation resources by 30 percent. That was a tremendous accomplishment. The challenge for the next ISTEA will be financing a transportation program during a period of fiscal constraint.

In 1993, the President proposed a transportation program at a level of \$279 billion for the next seven years. In 1994, he said we have to move towards a balanced budget and reduced this level further to \$260 billion. Congress, in its long-term seven-year budget in the balanced budget proposal, has proposed reducing further—down to \$245 billion a year.

The proposed budget does not say explicitly where the reduction of \$32 billion will come from in the transportation budget or what mode will be hardest hit. How much will come from highways or transit is not known, but if you look at the other major programs in the U.S. DOT—i.e., the Coast Guard and Federal Aviation Administration Air Traffic Control—it is unlikely that those two agencies are going to suffer significant cuts. So, if there is to be a \$7 billion annual budget reduction, it does not look good for highways or transit. Now, the good news: We have increased transportation investment for the past three years by \$2 billion a year over the previous levels for highways and for transit. The question is whether we can maintain this level of expenditure in the future.

The donor/donee battle is going to be worse in the next ISTEA. Florida's Senator Mack has already put in a bill that, except for sustaining maintenance of the interstate,

would turn all of those Federal air, highway, and transit resources back to the States.

Another major item for consideration in the next ISTEA is flexibility of funds. The States, at their national meeting in October, said they can do a better job of programming these resources. They do not think that MPOs in areas below a million people should be allocating Federal aid funds. They have sent a shot across the bows of the localities and the MPOs. We will see how the battle goes over where the decisions are going to be made—at the State capitals or retained at the MPOs.

Many transit agencies and many cities have said they do not receive a fair share of the votes of the MPOs, and we want the next legislation to intervene and deal with that. The future of the C-MAC Program is open to debate, and the future of the Enhancement Program is being debated.

Two casualties of the last year are the Unified Transportation Infrastructure Investment Program and the major reorganization of the USDOT. The UTIP is no more. In response to the 1994 elections, the Secretary proposed a dramatic reorganization of the U.S. Department of Transportation. While the reorganization has not occurred, there have been some organizational changes, including streamlining of the Coast Guard, approval of procurement, and personnel reform in the Federal Aviation Administration.

We are looking for ways to merge highways and transit—especially field offices—so that we have offices working in better convenience and programmatic collaboration, so that maybe you will have fewer offices to deal with.

The philosophy you are going to see coming out of the U.S. DOT is that we think ISTEA laid out some major advances over the previous approach. We think those advances have made an incredibly positive difference. We want to build the next version of ISTEA on this version of ISTEA. There are many principles passed in 1991 that we want to fight for and retain. Our approach is going to be to build on the advances that were made in ISTEA—and not go back.

Historical Context: Emphasizing Problem-solving

Sheldon Edner, Federal Highway Administration

It is my job to tell you a little bit about where we came from and where we are going with MIS. Don Emerson will follow with some things we are hearing about from around the country and then talk about the future. This conference, more than anything else, represents an opportunity for the community of transportation professionals, and those individuals concerned about what is happening in transportation, to share experiences and raise the tough questions on what we need to do regarding MIS.

I can tell you from personal experience, having spent the last two years going around the country trying to explain the concept of major investment studies, that it is not easy to explain. We have emphasized that “no one size fits all.” That there is no checklist. That there is no Federal approval of major investment studies. So what is it that we do not approve? It does not have a standard form, and you do not have a checklist for it.

Pre-ISTEA issues

As a point of departure, let me observe that we did not start out just to define a major investment study. The major investment study exists in its own right driven in part and supported by ISTEA. But there were a number of issues before ISTEA. Of concern to many of us was how we made transportation decisions. It had to do, in large measure, with the whole concept of planning and project development linkage. For many people around the country, the concept of planning has been programming. Let's get the project built. Worry about the other justifications and the fine points later on. We will staple it into the plan at some point. We all know that we need it, on what basis we can justify it, and we can explain it to anybody else who may be open to question, but we all know we need it.

In large measure, the MIS process focuses on how to do a better job of connecting the planning process with project development in a way that provides a better rationale, explanation, and basis for sustaining those investments. We are looking for better explanations for why and how to make choices—not between good and bad, but between two goods. How to figure out where to find the money and for what it can be best used.

The MIS process provides an opportunity to deal with these questions early in terms of planning. It also tends to rectify one of the things that existed pre-ISTEA—that projects were generated in apparent isolation from all other projects with little regard to how to fit them together and how they relate to the overall system. Project development does not look at the consequences for other projects. Project development looks at individual projects.

Another concern that predated ISTEA is the adequacy of “purpose and need” statements. One of the perennial problems has been how to explain the purpose and need of an improvement. Where does it come from and why? This issue was troubling to environmental specialists and advocates. It was difficult to explain why a project was needed and should be built. Opponents would say, “This is a bad idea,” and we would not have a good answer for them. Project development was based on looking at the answers after the fact. We already knew what we were going to build. Now, let’s explain it. Let’s justify it.

Better statements of purpose and need have nothing directly to do with ISTEA. They were an issue and a concern that existed prior to it.

Another pre-existing condition is that planning and project development organizations, and particularly project sponsors, do not always talk to one another. We have found that one of the most difficult tasks in understanding the major investment study concept is getting people to collaborate. Do you mean we have to work with one another? We have to talk? We have to share our activities with someone else? That is not a new problem. ISTEA did not create that problem, and ISTEA will not fix that problem. In large measure, the issue of collaboration is one of the most fundamental issues that the major investment study is struggling with, and it predated ISTEA.

Also, project development has been used for justification, not problem-solving. We had an idea, we had a solution. We had to justify why it was the solution. But we did not address the problem of looking at what it is we are trying to do, why are we trying to do it, and what our options are. The major investment study is a problem-solving exercise. It is a method for making

choices between alternative modes, maybe even combining modes, to solve a problem in a most efficient and effective way. That is not something new. It existed before ISTEA. MIS provides a way to evaluate options and look at them in a broader context, not justify pre-determined outcomes.

“In large measure, the MIS process focuses on how to do a better job of connecting the planning process with project development in a way that provides a better rationale, explanation, and basis for sustaining... investments.”

System performance is a key factor. Pre-ISTEA, individual projects could stand on their own merits without having to raise too many questions on the overall performance or connectivity of the rest of the transportation system. Many times, improvements were made only to create other

problems, without anticipating what those problems might be or planning for them effectively. Again, this problem predated ISTEA.

Last but not least, an issue that existed before ISTEA is the issue of how to consider the multi-dimensional aspects of problems we are trying to solve, even beyond transportation mobility.

Transportation planning organizations have had a strong tradition of being able to create good transportation models. Such modeling may be outdated, but it has been a solid foundation of planning in many respects. It does not take into account, however, all the dimensions of all the issues we need to look at in terms of deciding what investments to make.

In many cases around the country, we have heard the transportation modeling process has not been sensitive to some of the other issues that need to be addressed. We have not used an approach that would solve transportation problems involving more than simple mobility. We need to look beyond mobility to figure out how to deal with safety, economic development, and urban form. Many policies and strategies, like congestion pricing, do not lend themselves to modeling techniques.

With MIS, we are beginning to utilize a series of interrelated tools on a corridor level that will provide an opportunity to address these and other questions.

Some other issues predate ISTEA. Pre-ISTEA, there were concerns with detail, rigid processes, and methodologies that were over-done or inadequate, depending on the circumstances. In fact, in evaluating alternatives at

the project development level, the level of detail was often too fine and the methodology too complicated. As a result, we sometimes over-analyzed issues.

We also confronted doing the analysis of alternatives after the fact. The NEPA process, as solid as it has been, is still a late-breaking opportunity to look at alternatives when, in some cases, you have 10 and 20 years of political support for a particular outcome. The NEPA approach is also a legalistic, as opposed to a problem-solving and decision-oriented, approach.

In many cases, the whole process of project development and programming was driven by the sources of funds that were available, rather than the best way to solve the problem. The fact that highway dollars could be spent only on highways was an answer in and of itself. Funding flexibility is slow in coming. Yet more than \$2 billion of ISTEA funds has been moved from highway to transit programs.

Another point that predates ISTEA is the issue of cost. Fiscal constraint is often considered one of the benchmarks of what ISTEA did for transportation planning. Many people would say that as part of the planning process, fiscal constraint considerations were even more important than the factors to be considered in transportation planning. The idea behind ISTEA is to develop a fiscally-constrained investment program by evaluating all the transportation alternatives and strategies reasonably available. The focus tends to be on the revenue side.

Project cost estimates have generally been based on a rough calculation that may be 5 to 10 years out-of-date and is probably predicated on very little detailed analysis. Yet, that is the kind of situation that has plagued decision-makers in the past. For highways, this problem has been solved through the cost reimbursement aspects of the program. If you ran over your costs, you just took it from the next year's apportionment. As long as the costs were eligible, we kept drawing down from the future. We may no longer be able to do that.

On the transit side, full funding agreements at least provided some sense of certainty. However, how we are going to be able to obtain the information we need to ensure that funding constraints and fiscal constraints work is a question that predates ISTEA and is even more important under ISTEA.

These pre-ISTEA concerns demonstrate that, in the ideal sense, the planning process should proceed from the identification of a problem through the consideration of alternatives, to a phased implementation of a solution—instead of coming up with the answer and then worrying about the problem.

Through the MIS process, we are attempting to reflect this ideal process. We are also trying to focus on some issues required under ISTEA, such as multimodalism, flexibility of funding, early evaluation of alternatives, public involvement, the Clean Air Act and the issues that it poses, greater focus on State and local decision-making, and the role of the Federal Government as a partner. The Federal Highway and Transit Administrations have a joint responsibility, under ISTEA, for administering the program. The MIS process reinforces and supports this joint approach.

Last but not least under ISTEA, Section 134 mandates that the Federal Transit Administration conform its environmental analysis requirements to the Federal Highway Administration's approach.

These points I have just outlined are elements in the ISTEA legislation that help create the overall justification for the major investment study.

Customizing the MIS process

We are repeatedly asked the question of where ISTEA mandates major investment studies. We have tended to point to the fact that the law creates a context that directs the flexible, multimodal, cost-sensitive, diverse approach to solving transportation problems. What we have attempted to do from a Federal point of view is provide a supportive environment in which state and local decision-makers are provided the opportunity to develop the tools necessary to do that without an intrusive Federal presence. That, perhaps more than anything else, is one of the most difficult factors we face in terms of dealing with an MIS concept.

We have tried to custom tailor this process. We have tried to do it in a way that says, "One size does *not* fit all." From the Federal Highway point of view, we have a strong tradition of having a manual to show us how to do things. Many of you suspected that we had a manual on how to do the major investment studies. We do not. Some of you are convinced that buried in the basement of the DOT building, there is one that we are going to drag out and say "gotcha" when we get down to taking a look at the final stages of the major investment

study process. But that is not true. We have gone out of our way to avoid doing that.

In fact, I have a copy, the only existing copy, of the *Major Investment Study Desk Reference*. I make the point about it being a “desk reference” because, until a week and a half ago, it was the reference manual. We dropped the word manual. We are so concerned about this, in an attempt to avoid the one-size-fits-all notion, that we are trying to make sure that we do not imply, by any stretch of the imagination, that there is a “manual.”

So we have a desk reference. It will be available soon. In fact, the reason it is the only existing copy is that it is that close to publication.

The point of the matter is that we are trying very hard to allow to you create a decision process that meets your needs most effectively.

From my point of view, the most compelling reason for justifying an MIS is that it meets your needs, not that it meets anybody at the Federal level's needs. If a major investment study can help you make decisions more effectively, if it serves your purposes more effectively, if it helps you make the difficult choices that you all face more effectively, then those are the most compelling reasons for a major investment study.

We have tried to identify some basic principles to help you do these studies. They are tied to problem-solving and consideration of alternatives early in the planning process. They are built around collaboration. They are tied to integrating planning and environmental analysis early. They encourage proactive public involvement and are built around the principle of “No one size fits all.”

MIS Successes and Challenges

Donald J. Emerson, Chief of Analysis Division, Federal Transit Administration

Introduction

This conference comes at an opportune time. The major investment study (MIS) requirement of the FTA/FHWA metropolitan planning regulations has been in place for just over two years, and the time has come to share experiences and assess the impact. This is also a good time to consider the direction of future Federal, State, and local activities.

My remarks will provide an overview of the national MIS experience to date. I will indicate how well the goals of MIS are being achieved and identify six challenges that remain. I will conclude with a summary of ongoing FTA/FHWA activities.

Success stories

The previous speaker, Sheldon Edner, identified several goals that FHWA and FTA had in mind when the MIS requirement was written into the regulation. Four predominant goals are:

- consideration of multimodal alternatives to solve transportation problems;
- collaboration between Federal, State, and regional agencies;
- use of a broad array of evaluation criteria to support decision-making; and
- public involvement.

As FTA and FHWA observe the state of the practice across the country, we see good progress toward these goals. FTA and FHWA have prepared a portfolio of MIS case studies to document some of the most noteworthy success stories.

The Miami East–West Corridor MIS, now nearing completion, is a good example of multimodal problem-solving. The study corridor included suburban development west of Miami, the Miami airport, downtown Miami, the seaport, and Miami Beach. Among the alternatives the MIS has considered are highway widening, HOV lanes, several heavy rail alternatives, a light rail line, bus service improvements, an intermodal terminal adjacent to the airport (with TriRail commuter rail service and possibly high-speed rail), and an airport people mover. Virtually every agency in the U.S. DOT has been involved, along with their State and local counterparts, with Florida DOT as the lead agency.

Two other examples of multimodal MISs are the Route 78 study outside Atlanta and the Route 301 MIS in Maryland. Both of these looked at public policy options such as land use, in addition to alternative highway facilities, transit facilities, and multimodal packages.

An excellent example of interagency collaboration can be found in Denver, where three separate MISs are evaluating highway and transit alternatives. Each study is being managed by a different agency—Colorado DOT is managing the southeast corridor MIS, the Regional Transit District is managing the west corridor MIS, and the Denver Regional Council of Governments is managing the east corridor MIS. An MIS coordinating committee, composed of representatives of the agencies and their consultants, meets monthly to keep each agency involved in each study. A technical procedures manual has been developed for use in all three studies to help ensure that local officials are presented with comparable cost, benefit, and impact data at the end of the studies.

The Woodrow Wilson Bridge study in the Washington, D.C., metropolitan area is one of several good examples of effective public involvement in an MIS. A multi-jurisdictional coordination committee of elected officials and senior government executives is directing the study. The public involvement program included the hiring of a facilitator, creation of citizen working groups, town hall meetings, and establishment of a Study and Design Center for information exchange and workshops.

In each of these cases, the MIS requirement has changed the planning process, and the State and local planners we talk to are happy with the result. We find that the planning process now has a far greater impact on decision-making and the selection of the transportation investments and strategies to be pursued. Decision-making at the planning stage now pays more attention to alternatives, their impacts, and their costs—which traditionally have been assessed only in project development. Highway and transit solutions are now being planned and developed together, which should lead to more integrated metropolitan transportation systems. With greater public involvement and interagency collaboration, there is every reason to expect that the decisions emanating from an MIS will find greater support and be implemented more quickly and with less controversy.

At least two other signs of progress are worth noting. First, when the National Transit Institute's three-day MIS training course was first offered just over a year ago, many class participants arrived with questions on the procedural aspects of MIS. The early courses were dominated by "who," "what," "where," "when," and "why" questions. Now, class participants arrive with a much better understanding of the MIS concept and procedures. Participants ask technical questions and are interested in hearing about good examples from other parts of the country.

Second, the General Accounting Office recently completed a review of the MIS process. GAO found growing acceptance of the MIS concept and concluded that better decisions will result.

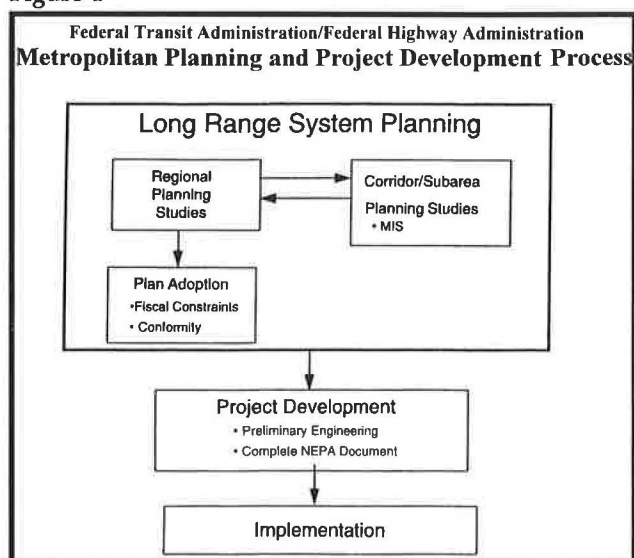
Six challenges

Although these signs are encouraging, I would like to identify six challenges that remain, in the hope that you will address them during the conference. By grappling with these challenges, we can further integrate MIS into planning and project development, creating a single, seamless process.

Challenge 1: Broadening the understanding of the MIS process

FTA and FHWA designed MIS as an integral part of the planning process, with the intent to help bring about better decisions on what major facilities and supporting strategies to include in a metropolitan transportation plan. MIS is similar in many ways to corridor, subarea, or feasibility studies that many agencies have performed in the past, but MIS is perhaps more comprehensive in terms of the alternatives and evaluation criteria considered. MIS should be done before decisions as project concept and scope are made. Despite extensive training and guidance, however, MIS is still perceived by some to be an added step that follows planning and precedes project development. That was not our intent at all. (See Figure 1.)

Figure 1

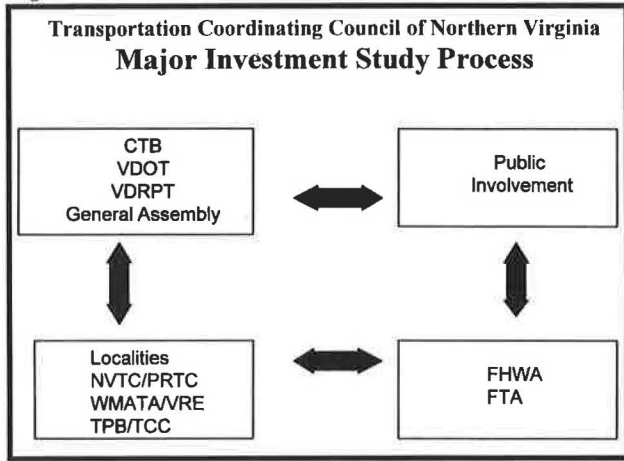


Some have taken the view that MIS is redundant with the NEPA process. We do not see it that way. With

MIS, FTA and FHWA have tried to integrate the planning and NEPA processes in a way that leads to

saw MIS as one more Federal requirement and had been so involved in the details of the studies that he never understood that they were intended to be for his benefit.

Figure 2



better investment decisions and streamlines the overall planning and project development process. If the MIS process is done well, decisions made in planning should not need to be revisited in project development.

Challenge 2: Adjusting to new institutional relationships

MIS not only changes planning and project development procedures, it also changes long-standing relationships among and within agencies. Decisions on the concept and scope of a project now involve not only the implementing agency but also the MPO, transportation agencies concerned with other modes, and organizations interested in other issues like the environment, housing, and urban development. Some implementing agencies are still uncomfortable with this sharing of decision-making responsibility.

Some planners and local officials are still struggling to understand what MIS is.

Within state DOTs, the planning and environmental staffs are often located in separate units. Bringing environmental considerations into the planning phase means that these units need to work together more effectively than ever before. Planners need to learn about NEPA and Section 4(f). Environmental specialists need to get involved with MPOs.

Figure 2 above shows how the MIS process is perceived by State and local officials in northern Virginia. The chart portrays a collaborative process, but a process in which decisions never get made and no one is in charge. Not long ago I spoke to a member of Virginia's Commonwealth Transportation Board (CTB). The CTB makes transportation policy decisions within Virginia, and this particular CTB member chairs the policy committee for one MIS and is involved in several others. I asked his opinion of the MIS process, and if he thought MIS would lead to better decisions by policy makers like himself. He responded that he had not thought about MIS in that way. He

Figure 3

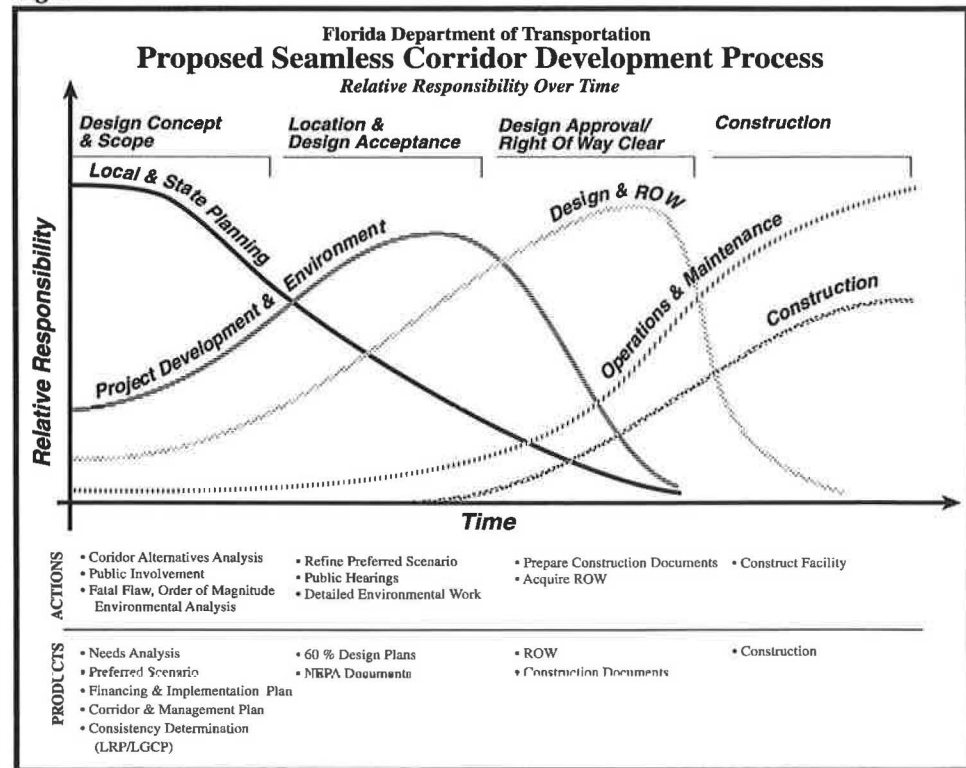


Figure 3 shows how planning, environmental, and engineering staff can be involved at different stages. At the planning stage, planners assume the lead responsibility, but project development and environmental specialists become increasingly involved. Design and right-of-way personnel also play a role. As a project emerges from planning, the project development and environmental staffs take over the lead responsibility, but the planners also take part. Design and right-of-way start to play a larger role, and operations and maintenance personnel also become involved. A similar sharing of responsibility continues through design, right-of-way acquisition, and construction.

When NTI's MIS course was first presented, it quickly became apparent that people from different backgrounds use the same words to mean different things. To a planner, the word "corridor" tends to suggest a rather large geographic area, containing both trip origins and destinations. Project development and design specialists tended to view a corridor narrowly—perhaps as an area no wider than the right-of-way and no longer than a construction contract. To someone with a highway background, preliminary engineering meant the development of engineering drawings during project development. To a transit person, PE referred to a particular stage that follows planning and that includes engineering, environmental, and financial studies. We found we had to define these words early in the course to make sure that participants could understand each other. Similar definitional differences undoubtedly hinder collaboration among and within agencies.

One term that people continue to stumble over is the word "project." We define a "project" as something that has emerged from the planning process. Prior to the decisions that occur in planning, there is no "project" but only a problem or a series of alternatives or options. It has been hard for some to get used to this notion.

Challenge 3: Involving resource agencies

Environmental resource agencies need to be involved in MIS to help ensure that environmental factors are adequately considered in planning and that planning-level decisions are not overturned on environmental grounds during project development. Unfortunately, transportation agencies have had difficulty bringing environmental agencies to the table. When invited to become involved in planning, environmental agencies often respond that they lack the staff time to become engaged that early. They may choose to wait until there is more detailed information available in project development.

This is unfortunate for both the environmental and the transportation agencies. Historically, resource agencies have been advocates for a broader look at transportation alternatives. MIS gives them the opportunity they have been seeking. If environmental agencies wait until project development to suggest new alternatives, they may find that the best opportunity to consider new options has passed them by.

Florida DOT overcame this problem in the I-4 Corridor MIS in Orlando by establishing an Environmental Advisory Group. The advisory group included the Florida Department of Environmental Protection, the Corps of Engineers, several water management districts, the Florida Game and Fish Department, and interested park rangers. The group looked for fatal flaws in the alternatives, helped develop measures of effectiveness to be used in selection of a preferred concept and scope, and identified issues needing further attention in the subsequent project development phase. According to Florida DOT, the group tended to initially focus on detailed alignment issues but eventually adjusted to a broader planning level of detail. Florida DOT credits the 1000 Friends of Florida, an environmental advocacy organization, with getting the Environmental Advisory Group involved and making sure the process worked. The group met four times officially but became so interested in the exercise that it also met informally on its own.

Challenge 4: Determining the appropriate level of detail

One of the principal advantages of the MIS process is that it allows modal and capacity decisions to be made in planning, based on a level of information suitable to the planning stage. Project development can then focus on design options within the project concept selected in planning. This permits a broader look at alternatives while streamlining the overall planning and project development process.

FHWA and FTA have urged transportation planners engaged in MIS to consider the kinds of information needed to reach a decision on project concept and scope. We have explained that, in most cases, the project development level of detail is not needed for the decisions that flow out of MIS.

Nevertheless, we find that many MISs are being done at the project development or preliminary engineering level of detail. Agencies seem to be accustomed to looking at alternatives in the traditional level of detail, but now they are adding more alternatives. As a result, we are

hearing a concern that MIS is costing too much and taking too long. There seems to be room to gain efficiency by reducing the level of detail.

Challenge 5: Developing better methods for evaluating multimodal alternatives

Highway agencies have traditionally used measures of vehicle congestion to evaluate highway alternatives. This has typically led to selection of an alternative that meets some level of service standard or that does the most to relieve vehicular congestion without undue adverse impact. Transit agencies have tended to evaluate alternatives on the basis of transit measures such as increases in transit ridership. Neither the highway nor the transit approach works well for evaluating alternatives across modes or for evaluating multimodal packages of strategies.

FHWA and FTA are starting to see progress toward the use of broader, multimodal mobility and accessibility measures to evaluate alternatives. Travel time savings, for example, is one transportation measure that is being more widely used. Non-transportation measures such as environmental impacts and land use are often addressed. FHWA and FTA are looking for good examples to share with the industry.

Challenge 6: Relating MIS to the regional context

One of the fundamental principles underlying MIS is that concept and scope decisions must emerge from a corridor-level analysis of transportation problems and the options for solving them. Region-wide planning can identify problems and set overall policy. But there are simply too many alternatives, including possible combinations and permutations available at the regional scale to make informed choices on the number of highway lanes to be provided on a particular facility or the optimal transit technology for a specific application.

Nevertheless, if the transportation system is to perform satisfactorily as a whole, decisions on individual corridors should not be made in isolation from the regional context. At some point, corridor-level studies need to be brought back to the regional level and decisions made in the best overall interests of the region. Corridor-level decisions must also fit within the fiscal and air-quality constraints that apply to the region as a whole. Without an overall regional decision-making strategy, the first MIS completed may lay claim to all

available resources, regardless of whether that is the best outcome for the region.

During the conference, I hope there will be some discussion on such issues as:

- How have metropolitan areas developed regional decision-making strategies that incorporate the results of MIS into the regional plan? What are the elements of these strategies?
- In a region with overlapping corridors, how are the corridor boundaries delineated? If a corridor is oriented east-west, how should an MIS in the corridor deal with north-south travel passing through or within the study area?
- If simultaneous MISs are underway in corridors A and B, what network should be assumed in corridor A for the MIS in corridor B?
- If different MIS procedures are used in different corridors of a region, will the public and/or decision-makers become confused or suspicious, making it more difficult to achieve consensus?

Current FHWA and FTA activities

Before closing, let me list for you some of the activities FTA and FHWA have undertaken to help State and local agencies understand and carry out the MIS process. We would be interested to hear your reaction to these and suggestions for what FTA and FHWA should do next. Activities to date include:

- A "question and answer" paper distributed in August 1994.
- A National Transit Institute training course. Fourteen three-day sessions have been held, and eight more are planned before the end of June 1996.
- A national teleconference held in May 1995.
- A series of one-day briefings and seminars.
- The portfolio of success stories referenced earlier.
- Publication of an MIS Desk Reference with information on best professional practice in various technical areas. A draft of the desk reference is now available, and we would welcome comments before the final reference is published next June.

- Expanded technical assistance will be available in 1996.
- A series of detailed case studies is being initiated to assess the impact of MIS on planning and decision-making.
- A test and evaluation of alternative procedures will be performed during 1996 and 1997, starting in Federal Region 9.
- The FHWA/FTA environmental regulation (23 CFR 771) is being revised. A Notice of Proposed Rule-making should appear during the spring of 1996.

Closing

FHWA and FTA recognize many changes that need to occur for major investment studies to become a routine part of planning and project development, and that change is difficult and takes time. But we believe that the changes inherent in MIS will prove worthwhile. MIS will lead to better decisions because decision-makers will be presented with more choices and will have a better understanding of the implications of those choices. MIS should lead to more supportable, better-supported decisions, because alternatives will have been evaluated in a public process with broad agency involvement. MIS should also streamline the planning and project development process, because planning-level decisions will occur in planning, based on planning level of detail.

This conference gives you an opportunity to share experiences with your counterparts from around the country. There are lots of good stories—both the successes and examples that were less than successful—that need to be told and given widespread exposure so all can learn how to improve the process.

I have identified six challenges. Let us hear the issues from your perspective, and how you think they can be addressed. How is the process working? Where is there a need for additional training? technical assistance? guidance? research? Together through this conference, we can develop an action agenda to address the highest priority needs.

PLENARY SESSION—Panel Discussion: Policy Issues Relating to MIS

Is MIS in the Spirit of ISTEA?

*Larry D. Dahms, Metropolitan Transportation
Commission*

The major investment study first has to be in context. The question has been raised whether MIS is in the proper spirit of ISTEA. What is the proper spirit of ISTEA? That is not an easy question to answer because ISTEA has, in effect, been a transitional piece of legislation. ISTEA is stimulating new ideas and new processes. It also funds the remaining commitments of the interstate era and continues the New Starts Program. We are still in a transition period and still building some very large, very expensive projects.

While there is an admonishment in ISTEA to have budget-constrained plans and TIPS, the ISTEA authorization is at one level while the appropriation has been at a much lower level. In anticipation and consistent with the idea of budget constraints, the emphasis is on management system integration. The ITS technology is there to help us do that, and there is much more flexibility in ISTEA than we had before.

It seems to me the MIS is first of all an answer to alternatives analysis on the transit side. It was intended to bring the discipline of alternatives analysis to a larger range of our decisions and yet be somewhat less than the prescriptiveness of the alternatives analysis.

It is interesting to me that one of the questions is, "Is it too prescriptive?" In the field, it may seem to be too prescriptive. In our case, we do not view it as having been too prescriptive. It is in fact the lack of prescriptiveness that has been the problem here.

We are one of the participants as an MPO. The MIS feeds into the regional transportation plan, which is our responsibility. In this region, immediately after the passage of ISTEA, we created the so-called Bay Area partnership. Some 30 public agencies at the Federal, State, regional, and local levels undertook to write our own guidance about what an MIS should be, because we had that TIP full of projects.

One of the questions was how many of those projects already in the TIP needed to be subject to this new

guidance. We were going to have to answer those questions to our partners right away. When we got through that process and answered the questions to almost everyone's satisfaction, we decided we need to add a little guidance. We saw that the compelling questions were, "When are you ever finished?" and "When do you get approval for the MIS?" FTA and FHWA were not forthcoming about saying we can sign off the MIS as approved. We needed to have some answer; therefore, we actually changed our own writeup. Now the State, the MPO, FTA, and FHWA will jointly sign and say your MIS is complete and satisfies the process.

Relationship between MIS and NEPA

The crux of the problem is the relationship between NEPA and MIS. The problems come up when the MIS is done prior to entering into a formal NEPA process. One implied benefit of the MIS is that you can narrow all the alternatives without all the hassles of an Environmental Impact Statement. However, the subsequent scoping that has to be done as part of the EIS process could very well reintroduce alternatives that were previously discarded by the MIS. Thus, there is some debate as to whether an MIS achieves anything. Perhaps doing a MIS as part of the EIS is the only way to go. That is the central question that still needs to be answered at the Federal level.

MIS and alternatives analysis

The MIS seems to be an improvement over the alternatives analysis. But we have not yet resolved exactly how it fits and when you can get a sign-off on the full environmental analysis. Irrespective of what might be said in the field offices, as long as the court is there, those who do not feel satisfied will resort to NEPA litigation. The MIS is not going to be a substitute—at least I don't know if anyone has had a court test yet—but until we have had court tests no one at FTA or FHWA can answer the question. So if there is a weak link in the chain, that is it.

The impacts of MIS

Has the MIS process had a major impact in our own region? Yes and no. Yes, in the sense that it has ratified the importance of our partnership and we are able to

work through the MIS process. We have two projects underway that are subject to MIS. So in that sense, it has been important and had an impact. In terms of how it has influenced our decisions so far, however, it has not had much impact. It is one more attempt to get people back to good planning principles. If good planning principles are already being used, then MIS is not necessarily going to have a lot more impact.

You have to view it in context. Are you looking at decisions between some large highway project and some other large highway project; or between some large highway project and some transit project? Are you looking at a situation where you are still trying to fund the old commitments and are not building any new ones anyway? Then you should not expect a whole lot of impact from MIS in this time frame.

Are MIS goals being achieved?

What has been accomplished, and what are we trying to achieve? We have moved away from the practice of subjecting only transit projects to the onerous FTA alternatives analysis, while highway projects had a quicker and less costly NEPA process. This reinforced the perception of policy bias towards a highway solution. The MIS is supportive in helping to level the playing field between transit and highways. The criticism now is that both modes are being subjected to the old FTA process. That has not quite been the case since the process, to date, has not been as onerous as alternatives analysis.

The MIS process has not been too prescriptive. But to a degree, there's the rub. Since no one can say absolutely when an MIS is done, everyone is paranoid that FHWA and FTA have created this open-ended process, giving project opponents another avenue to delay or stop a project.

In our region, while the partnership has worked up to a point, FTA and FHWA have not necessarily been fully on board with the collaborative process. For several major investment studies, FTA and FHWA have been unwilling to act as full partners to make the decisions. On several occasions, FTA asked us to make an

independent determination that the MIS was done correctly and stated that it would not make a determination until after we had done so. The acceptance of MIS guidance by the partnership has slowly brought FHWA and FTA around. So those problems appear to have been transitional.

The sign-off problem is still somewhat problematic. We have attempted to solve it by having the MPO, State, FHWA, and FTA sign off under the partnership agreement. Whether this accomplishes the desired objective is still to be determined.

Is the process consistent with the intent of ISTEA? Largely yes, but not just in the sense of a transit versus highway project choice. In our case, we have one major MIS currently underway and have just started another one. The one currently underway is an I-80 corridor analysis from the Bay Bridge on the East Bay side running up towards Sacramento. It focuses on a number of both operational and institutional strategies. The corridor happens to be where the last of our interstate money is being spent. We are developing an HOV lane that is going to provide a queue bypass across the bridge. It will be one of the best HOV corridors in the country. It will be for both car pools and buses. Unfortunately, we probably will not have the money to buy the buses or operate the buses that would run in the corridor.

We have had four years of experience with ISTEA. In 1997, Congress must decide whether to reauthorize it.

Just as ISTEA is in a transitional stage, we are all learning how to be partners, and the Federal modal administrations are learning to be partners with us. Just as ISTEA is formative and transitional, so MIS is formative and transitional. We should not expect too much of it yet. We need to have confidence that if we stick with it and move ahead, the process has great promise.

The fact is that, just as ISTEA has flexibility, so there is flexibility in the MIS process. That is demonstrated by the fact that people tell you it is too prescriptive, and I tell you that it is *not* too prescriptive. We were able to do with it what we wanted to do with it. It was the lack of prescriptiveness related to NEPA that is the missing link. There we need some prescriptiveness, and we need it in law because, if we do not get it into a law, we are

"...people will tell you [MIS] is too prescriptive, and I tell you it is not too prescriptive. We were able to do with it what we wanted to do with it. It was the lack of prescriptiveness related to NEPA that is the missing link."

going to be subject to lawsuits that may undermine the so-called benefits of MIS.

The Adventure of MIS

William W. Millar, Port Authority of Allegheny County, Pennsylvania

I am going to try to show why major investment studies are a dashing and bold adventure. I will talk about our experience with MIS, which comes out of the transit experience, the alternatives analysis experience. We are now leading one MIS and participating in a second.

MIS in Allegheny County

We are trying to get transportation improvements done but also to carry out national policy, as identified by ISTEA, that says, "The National Intermodal Surface Transportation System shall consist of all forms of transportation in a unified, interconnected manner to reduce energy consumption and air pollution while promoting economic development." That is our national policy. I am just foolish enough to believe that if Congress said it and the President signed it, that is indeed what we ought to do. In Southwestern Pennsylvania, we take seriously our obligation to meet that national policy. Of course, we emphasize the words "economic development." That is a big issue in our community, where we had the dubious distinction of losing the largest number of jobs and the greatest amount of population of any major metropolitan area in the country between 1980 and 1990. So economic development is a big issue, and there are many people in our community who view MIS as an impediment to building transportation projects; i.e., road projects that will bring jobs to our community.

I do not agree with that position. I think the MIS process ultimately will help bring us the economic development and jobs our community desperately needs.

One observation some of you have heard me make about America is that we love to judge everything much too soon. Here we are more than two years since the Federal government issued MIS regulations, and what do we have? A conference to say how well MIS is working. Like any new process, we are not very good at it yet—at least we are not in Pittsburgh—but we are getting better at it.

The MIS debate

In considering MIS, we have to be honest about what the debate is. Is it about MIS or is it about changing ISTEA? Do we believe in the national policy goals stated in ISTEA, or don't we? If we do, then major investment studies are a natural flow and a logical progression from those national policy goals. If we do not, then there is no way to convince you that MIS is worthwhile.

Fundamentally, MIS is like everything else: It is what you make of it. If we use it as a valuable thing, it will be a valuable thing. If we see it as yet another impediment to getting things done, it will be another impediment to getting things done.

A major investment study really is a means of reaching consensus on cost-effective transportation improvements that meet a region's goals and objectives. It is a process. To that degree, calling it a major investment study misleads, because what is important is the process we go through and its ability to bring people together. The ability to form consensus on what the problems are, find solutions, and then ultimately select the way we go forward is really the value of the MIS. The ability to bring people together is the key. It is important because, under ISTEA for the first time, we are required to make trade-offs. We want to be in a position to say that within the corridor the issue is not just a highway improvement but both a transportation and economic development problem, so we want to look at different ways of designing solutions to meet those needs. You simply cannot do that if the traditional highway people are doing their project development process, and the traditional transit people are doing their aid process and other processes that led to transit projects.

The public says, "We want transportation investments, but we want them done in an environmentally safe and cost-effective way." In public life, cost-effectiveness is in the eye of the beholder. It is clear that MIS provides us an opportunity to involve the public, learn from its ideas, incorporate them into our plans, and get the community's buy-in very early in the planning process.

These are the things that MIS is all about. It is the importance of MIS, and it is fundamentally rooted. You either believe in ISTEA, or you do not. There is no gray area. If you do believe in it, then ISTEA, what the MIS process represents, is the logical outcome.

The Pittsburgh experience

Pittsburgh, so far, is having a positive experience with MIS. Its predecessor was really alternatives analysis. We did our alternatives analysis in a way consistent with the right way to do major investment studies: very early involvement of all potential stakeholders, working very carefully with a variety of agencies to come together on what the solution is, and then moving ahead to implement a project.

Our airport busway project is a classic example. The Port Authority's concept was a busway. It was a fairly simple concept, in our minds. Much credit must be given to the Pennsylvania Department of Transportation. Rather than ignoring it, as perhaps they might have, they asked themselves, how can this transit project help us to ultimately solve the transportation problems in the area? A joint partnership team was formed that involved our Regional Planning Commission, the Port Authority, PennDOT (both the district office and the central office), FTA, FHWA, local transportation planners, and other interested parties in a process that fundamentally changed the concept from a very simple busway to the airport into a Wabash HOV facility. It is a facility that will have much higher usage by the public, and it will give back much greater benefits because of that particular collaboration.

We were doing all this in the 1990–92 time frame when ISTEA was new. We did not know what all it meant. The Department did not know what all it meant. But we learned from each other and helped teach FTA and FHWA and gave them an opportunity to learn to work together and with us.

We ultimately obtained a sign-off on the environmental impact statement from both FTA and FHWA—which is certainly not the norm. It helped all of us who were new to the process work together.

Through that process we made significant changes to our project. The project is under construction now, and is much stronger for that effort. It did not come cheaply, and it was not easy. Our budget for the AA and DEIS grew to over \$2 million for a project that is eight miles in length. As big as those numbers may sound to some of you for that kind of effort, it is

resulting in a \$326 million investment. That is a pretty small price to pay.

We are now involved in two other major investment studies in Pittsburgh. One we call our “spine line” study, on which we are working with the regional planning commission. Our involvement in the second is simply as an agency participant; we are working with the Pennsylvania Turnpike Commission and Southwestern Pennsylvania Regional Planning on the Mon Valley Expressway. These two major investment studies show the difference in the new way of doing things. With the “spine line” study, we started out with a fairly simple, albeit expensive, concept to extend the light rail subway over to the north side of Pittsburgh, and then out to the east end where the universities and much of the medical community are located.

“Do we believe in the national policy goals stated in ISTEA, or don't we? If we do, then major investment studies are a natural flow and a logical progression from those national policy goals.”

We are a year into that particular study, and it is evolving. I cannot tell you what the outcome will be. It is a real credit to the MIS process, but it has made things very confusing. It has become harder and harder to explain the study to elected officials. It is

harder and harder to explain it to the interest groups who either did or did not want the subway. I doubt if the MIS will be completed this year. You cannot force an end to these studies, because they end in consensus and, right now, there is no consensus in sight.

The other MIS is one of those projects that has been on the books forever, called the Mon Valley Expressway. It is a 60-mile highway link between downtown Pittsburgh and Interstate 68, which is actually in West Virginia. Many people would agree that, if there is a need for capacity improvement in the area, a highway project is the probable solution—that is, if you accept the basic principle that something needs to be done. However, the northern 20 percent of the corridor is in the urbanized area and goes right into the heart of Pittsburgh. The highway project is proposed to go to downtown Pittsburgh, but the planners cannot find a way to get it into Pittsburgh.

Yet a number of things have tended to reinforce the Mon Valley Expressway as a highway project. For example, congestion mitigation studies are required. This has caused the backers to put a lot of effort into rationalizing this as an SOV facility. They already had

a commitment to the highway project, prior to the MIS. In fact, all the data has been developed and already says that this is going to require an SOV facility.

We need to think through the relationship between congestion management studies and MIS. Which comes first, and which influences the other? In this case, although the solution is predetermined by what many people want anyhow, it certainly has raised questions as to the validity of the alternatives analysis. It will be interesting to see how all of that turns out.

Issues to be addressed

Let me summarize by emphasizing a couple of points. Major investment studies, as we are doing them in Pittsburgh, advance the goals of ISTEA. The value of MIS is a big question. But to use an analogy: At the end of this rainbow called MIS, there may not be a pot of gold. That is something we need to talk about, and it will have profound effects on how many of these studies get done, when they get done, and what reputation they have when they are done. Major investment studies are going to get blamed for stopping projects, and that is not the issue. Does MIS offer a real opportunity for broad intermodal options to be considered, or is it merely a cover for a predetermined solution?

On balance, major investment studies are a good thing. So far, they have proven to be very costly, and they do take too long. However, when you are building political consensus, as we must in modern America, you must accept that it takes the time that it takes. I am not optimistic that we can do a lot to solve that problem.

There is a critical question about the detail that should be required in the analysis at each step of the MIS process. Our "spine line" MIS, for example, has a \$2 million budget, which is a pretty large amount of money to put into a study.

I think the regulations allow for enough flexibility. But we are so used to being told how to do things that we are still cowering. MIS is flexible. Use the flexibility. Help your elected officials understand that there is flexibility to it. It is there for the taking if you want it.

Again, MIS, is just two years old. Let's give it a little time to grow. It is serving an important purpose.

To FHWA/FTA, I would say, "Keep it flexible." We need to work with the field offices to make sure they get it, too. FTA wants to participate, but it simply does not

have the staff to do so. That needs to be addressed.

What is going to happen after we have done a number of major investment studies and find the money is not there to build the projects? My prediction is that MIS will get blamed when that was not the problem in the first place.

Major Investment Studies: Is the Vision Being Achieved? Can It Be? Should It Be?

Neil J. Pederson, Maryland State Highway Administration

I come from Maryland, where we have 16 MIS studies underway. They run the full gamut from projects that were underway in the environmental impact study process at the time that the regulation came out, and had relatively minor retrofit issues, through several very large projects that were well along in the EIS process. They include new major investment studies in which we have a transit lead, some in which we have a highway lead, and some in which we are truly doing multimodal corridor studies. They range in size from one that is a 1.1-mile, two-lane bypass of a small hamlet in the most rural reaches of the Washington metropolitan area, up to the U.S. 301 study, which is a 50-mile-long multimodal corridor study with a 76-member task force that is not just advising us but actually guiding the study and making the decisions during the study process for us.

Though I support the MIS process and the principles behind it, I feel an obligation to at least raise some questions I have heard within the AASHTO community. I have entitled my presentation "Major Investment Studies: Is the Vision Being Achieved? Can It Be? Should It Be?"

Some major questions

Should we even have requirements to do major investment studies? My conclusion is that the intention was right, but the execution needs improvement. If the view being taken is that we are primarily doing them to meet Federal requirements, then we are doomed to failure. If we are doing them because it is good transportation planning, then that is what we ought to be doing. That requires flexibility, particularly on the part of our Federal partners, FHWA and FTA. Unless we satisfy them on the MIS requirements, we will not get

NEPA approval. At the Federal field office level, the view continues that we have to satisfy FTA and FHWA, and they are, de facto, giving approval for major investment studies. Many, particularly within the AASHTO community, are still not convinced that MIS requirements are needed or appropriate.

What changes have occurred as a result of MIS requirements? Our experience within Maryland has been that there indeed is earlier involvement by a broader range of stakeholders. There is a wider consideration of potential solutions and a better tie between systems planning and project development. A lot of these activities were underway within Maryland even before the MIS requirement came out. Some of our most innovative MIS studies were those that were well underway before the requirement came out.

What was the original intent of the MIS rule? We have heard quite a bit about that. I will not repeat the specific requirements, but this really leads into a follow-up question: Has the intent of the MIS rule been achieved? My conclusion, based upon what I am observing both within Maryland and among my colleagues in other States, is that there clearly has been movement in the right direction.

The learning curve has been steep. There have been a lot of bumps in the road and a lot of difficulties encountered. I hope we can learn from those lessons.

One thing I am concerned about is that very few corridors in our major metropolitan areas have not already been studied at some point in some way. Those involved in MISs enter them with preconceived notions about the right solution. It is very difficult for many participants to take a more objective view, to really consider how to approach a problem and solve it, and understand the full range of solutions. Preconceived notions are one of the biggest challenges we face.

Are better decisions being made as a result of MIS requirements? In those studies that were well underway within Maryland, I do not think that, as a result of MIS requirements, we are really ending up with a different decision than we would

have otherwise. However, with those studies that were not underway, particularly the truly multimodal corridor studies, I think the MIS approach will end up with different answers.

Have major investment studies served as a vehicle to improve the environmental quality of transportation planning decisions? The observation I would make is that, in the past, the environmental community, particularly the environmental agencies, was not engaged in the transportation planning process. Environmental issues really were not at the forefront in terms of the decisions being made within the transportation planning process. It was not until we got into the project development process that they were addressed.

To the extent that we have been able to successfully engage the environmental community, the agencies, and the advocacy groups within the MIS process, I am encouraged that we really are getting much more consideration of environmental issues in the transportation planning process. The key though, is getting that involvement in a significant way, particularly on the part of agencies. We have been pretty successful in getting advocacy groups involved earlier in the process. We have not been as successful at getting environmental agencies meaningfully involved earlier.

The final point I would make under this particular question is that—and I think this is a key to the ultimate success of the MIS process—we have to recognize that mobility goals and environmental goals are not mutually exclusive. In fact, they do not have to compete and should be mutually supportive. If we take that approach towards the mobility versus environment debate, we will end up with far greater chances of success in the MIS process.

“To the extent that we have been able to successfully engage the environmental community, the agencies, and the advocacy groups within the MIS process...we really are getting much more consideration of environmental issues in the transportation planning process. The key...is getting that involvement in a significant way...”

What should be the relative role of MPOs and the implementing agencies in major investment studies? The major conclusion I reach is that we must be partners. If we do not take a partnership approach between the MPOs and the implementing agencies, it becomes a turf battle, and the MIS process is doomed.

Most importantly, we need flexibility. One model does not fit all metropolitan areas. The relative roles really should be determined by the issues, the range of potential alternatives, the capabilities of the agencies, the ability to complete the study in a timely manner.

When should major investment studies be undertaken? This is a really an important point. Too many have been undertaken before their time and end up being exercises in futility. They should only be undertaken when an existing or future need has been identified. There must be support among the MPO, the affected local jurisdictions, and the implementing agencies to undertake the study. And either one of the following two conditions must exist: There is a reasonable expectation that a major improvement can be implemented in the foreseeable future, *or* there are significant right-of-way preservation issues. If you do not have these, then your study probably is going to be an exercise in futility.

Are major investment studies a cost-effective use of scarce public resources? This is the question John Horsley addressed in terms of the taxpayer/voter revolt going on right now. Voters want to make sure they are getting value for the money being spent. We need to make sure that we are setting up our processes in such a way that the answer to this is "yes," or the MIS requirements are doomed to failure.

Within Maryland, I see too many examples of doing studies and spending money on developing detailed information that is not relevant to the decisions that are ultimately made. We have to ensure that our processes are set up in ways that are not duplicative and/or redundant, and the information being developed is truly the information needed for the decisions being made.

Are MIS requirements slowing down planning and project development? So far, unfortunately, the answer is "yes." We had better figure out ways, as a transportation planning community, to make that answer "no," or there is going to be a lot of criticism leveled against the MIS requirements.

Are MIS requirements too prescriptive? I give a lot of credit to Sheldon Edner, Don Emerson, and others in the Washington offices of FHWA and FTA in terms of trying to develop a flexible process. Unfortunately, because of the way it has been executed at the field level, flexibility has really not come through. The main issue associated with this question is not what the intent was or what is coming out of the Washington office, it is what is happening in the field within both FHWA and

FTA. A lot of the problem is that although flexibility has been provided, there are no checklists or detailed manuals provided. Therefore, people tend to fall back on what they are used to—what their old paradigms tell them to do. To the field office people, the paradigms are either the prescriptive NEPA requirements of FHWA or the prescriptive alternatives analysis requirements of FTA. Unfortunately, that is the reality we face.

What should FHWA's and FTA's role be in major investment studies? The reality is that there is still the mentality of regulator and critic, as opposed to partner, in trying to help us through this process. As long as that role ends up being regulator and critic, you are going to get a lot of the type of resistance you hear within the AASHTO community right now. One specific example is the U.S. 301 study in Maryland. We have been making a tremendous number of innovations, not just in the public involvement side, but also in relationship to the land use side and the treatment of the environment. One thing we tried to do was get all stakeholders involved in the very beginning to define the process.

The most significant stakeholder we were not able to get involved in the two-and-a-half years of the study and *still* have not been able to get involved in the study is the FTA. At the same time, FTA is out on the stump using this as a model project for the MIS process. It is absolutely critical that the resources be made available within the Federal agencies for them to participate, and that the commitment be made in the Federal agencies that they truly are partners in this process.

Have participants been able to adapt to changes resulting from MIS requirements? This has been one of the biggest challenges. Because people fall back on their paradigms—not just FTA and FHWA people but also the environmental resource agencies with which we deal—they have been resistant to the new paradigm. They are not used to dealing at the broader level of major investment studies. We have spent a lot of time and energy addressing that particular issue. It has also been a problem for those of us within State DOTs, MPOs, and the implementing agencies to operate in this new and different world.

Are MIS requirements and practice consistent with current policies encouraging de-evolution? The fact of the matter is that the way the MIS requirements have been administered in the field, the answer to this, unfortunately, is "no." There has been too much micro-management. Again, this is one of the challenges from a policy standpoint.

What changes should be made to MIS requirements and practice from a policy perspective? Each of us involved in MIS—Federal partners, those in state DOTs, MPOs, transit agencies, consultants—ought to think about the following questions in any decisions being made regarding the process:

- Is this consistent with the spirit and intent of ISTEA?
- Is this a cost-effective use of scarce public resources?
- Does this result in better decision-making?
- Will this result in better decisions?
- Is value being added as a result of this requirement or expenditure of money?

In summary, I would like to make several points. Prescriptive requirements by FHWA/FTA should be kept to an absolute minimum. Flexibility should be allowed to permit what works best in local circumstances to be implemented. FHWA and FTA, particularly at the field office level, need to become true partners in the process rather than regulators and critics.

Let me go back to the three questions in the title of my presentation. Is the vision being achieved? Partially, but we have a long way to go. Can the vision be achieved? I hope so, but we must ensure that we will get maximum value for the major expenditures that we make in transportation. Should the vision be achieved? Notwithstanding what many of my colleagues in AASHTO may feel, I feel it should be, but there need to be some changes made to the way it is being executed.

PLENARY SESSION—Panel Discussion: Planning Context for MIS

Relationship of the MIS to the Planning Process and the RTP

Dan Lamers, North Central Texas Council of Governments

I want to talk about some of the details we get into when we try to fit major investment studies into the planning process and the relationship of those major investment studies to the regional transportation plan. You will see that in the Dallas–Fort Worth area, it is part of one big process so that you can't separate the regional transportation plan from the major investment studies. They are all part of the same planning process.

Before you can consider this relationship, you have to look at the overall staged transportation planning process, which has three parts. First, the regional transportation plan looks at issues from a system level, not maximizing the benefits in any particular corridor but fitting everything together at the system level. (See Figure 1.)

Figure 1

OVERVIEW OF STAGED PLANNING PROCESS			
	Number of Alternatives	Public Involvement	Project Detail
Regional Transportation Plan	Many, especially regarding various modes	General, system level (conducted by MPO)	System level, focus on mode & capacity (not on specific locations)
Major Investment Study	Fewer (especially modes), with more emphasis on location concerns (alignments, stations)	More extensive, corridor level (conducted by transportation provider)	Feasibility level, focus on community, mobility, cost, & fatal flaw environmental impacts
Environmental Assessment/Environmental Impact Statement	Locally Preferred Alternative—1, possibly 2 alternatives with concentration on design & environment	Most extensive, project level (conducted by transportation provider)	Engineering level, additional detail on engineering, cost, & environmental impacts

Next, the major investment study focuses on the corridor level and gets into more detail on the specific issues around any particular corridor.

Third, the environmental process analyzes the impacts of the decisions made at the system, corridor, and project levels. This is an integrated decision-making process that goes from system level down to project development without duplicating efforts. Some factors we think are important in this three-fold process are analysis of alternatives, a public involvement process, and information detail needed for public involvement at the project, corridor, and system levels. The level of detail increases as you work from the system to the corridor and then to the project level.

The number of alternatives considered at each level is in reverse proportion. At the system level, you look at more alternatives, particularly modal alternatives where you are trying to decide from a system level what types of modes seem to work better in various corridors. Those of you familiar with transportation modeling or travel demand forecasting know that when you are talking particularly about transit alternatives, you really have to do that at the system level. You cannot really isolate system-wide decisions at the corridor level,

because they have such far-reaching impacts.

We use system planning to look at the various modal alternatives. These are then refined by major investment studies at the corridor level, where we may start looking at some various options around a particular mode.

The major investment studies thus fit into the middle of the whole planning process. The MIS does two things: It refines the information provided by the existing regional transportation plan, and it

provides information to modify that plan. It also provides the necessary information to further define specific projects to be included in a transportation improvement program and eventually implement it with specific projects.

MIS is not a stand-alone item. It is very much in the middle of the planning process. It is not the beginning or the end but a way to get from the system level to the project level.

Two things should be kept in mind when you talk about major investment studies. One is that it is a design concept that primarily serves as a conformity place holder to ensure that when you get through with the whole process, you don't end up with something that violates your conformity requirements. You want to make sure at least in your regional transportation plan that you have a conformity place holder so that when you do the major investment study you do not have to totally reevaluate the conformity requirements.

The second is the financial implications. It is one of the most important evaluations included in major investment studies. Your regional transportation plan should have a financial placeholder so that when you finish the major investment study you are not interrupted in implementing the strategies because of lack of funding.

Currently in the Dallas-Fort Worth area, we have different planning horizons, depending on where we are in that process. We have our Mobility 2010 Plan Update, which is our regional transportation plan. This plan was developed in 1993, and it has a year 2010 planning horizon. All our major investment studies now have a 2020 planning horizon.

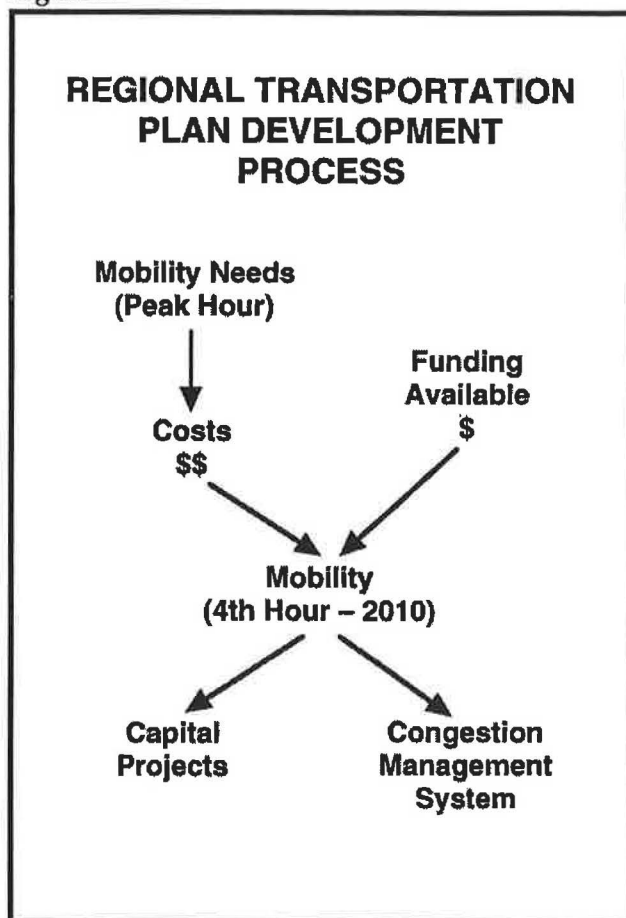
That will do two things: The 2010 plan is our current plan, so the results of the MIS will have to provide information to update the current plan at the 2010 planning horizon. It will also reach out further into the future and have a 2020 planning horizon in order to provide information to a subsequent regional transportation plan. The MIS is, therefore, not a static type of a study but contains two future time lines.

Before you can really talk about our major investment studies, you have to understand our regional financial constraint process. There have been two ways to set financial constraints. One is what I call the traditional way, where funding is based on needs. You determine what your level of service target is for your urban area, you identify a slate of projects that meets that level of service, and then you add up how much money it takes to construct those projects and try to find the money.

Ours is a little different. Under the financially constrained methodology, you determine how much money you have to spend. Then you determine what level of service you can afford to provide to the region. Next,

you identify the projects required to meet that level of service. Finally, you add up what the dollar amount of those projects is, and if it exceeds the assumed amount of resources you established at the beginning, you redefine your LOS and reevaluate your list of proposed projects. Thus you try to get a balance between your predicted resources and the eventual projects to be programmed. (See Figure 2.)

Figure 2



You start out by identifying what you need from a peak-hour or a needs standpoint. For example, what do I need to satisfy level of service C in the peak hour? You add up the costs, you look at the funding available. They don't match. You then pick a different hour of the day when you think you can satisfy your desired LOS.

In our regional transportation plan, the way we deal with financial constraint is to choose level of service D. We will pick an hour of the day when we can afford to satisfy level of service D and then leave the congestion management system to try to pick up the congestion for the other hours.

In our case, we settled on the fourth hour. We believe that we have enough funding available to meet level of service D for the fourth-highest hour of the day. What this does is spread money across the region and prevent policy-makers from being pushed into a decision of having to pick and choose projects, taking them on and off the plan. It spreads the money across the region so that all corridors and all areas get some relief, but not for its peak hour. In that way we found that it can stretch the money a little bit farther.

In a major investment study, because of these different planning horizons, you have a different problem. Remember, there are two things you want to do with a major investment study. One is to provide information to the plan that you are currently working under and the other is to provide information to a future plan that you haven't yet developed. Therefore, the MIS recommendations have to be flexible enough to do both.

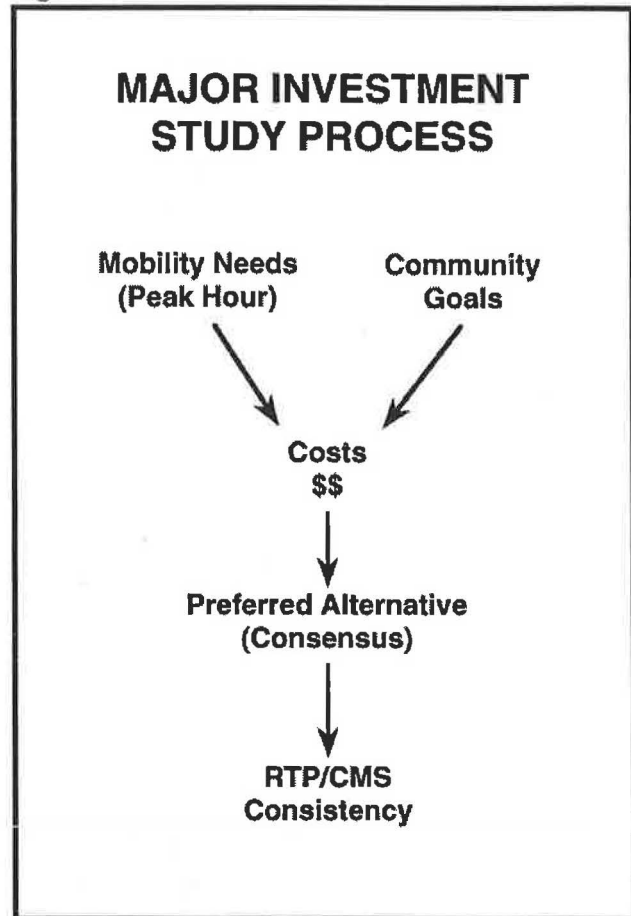
So we feel the best way to do that is to look at the peak-hour needs. What are the problems in the corridor? To answer that question you must look at the community's goals while keeping in mind the system planning process. The more detailed you get in the system planning process, the more you start looking at public involvement, the more you start looking at community goals or corridor goals.

In a major investment study, you need to identify technical requirements and community desires and how both relate to costs. Often, when you start adding what the community wants on top of what technically you need, you end up with a project that far exceeds available resources. (See Figure 3.)

This is how we develop a preferred alternative. It is a true consensus process. It does not represent what we used to call a "technically preferred alternative." It is what we now call the "locally preferred alternative." It has some technical merit to it, but you may have had to give up a little bit of what is best technically in order to achieve consensus from the local community.

The next step is to try to fit that consensus alternative into your regional transportation plan and your congestion management system. Two options are available for doing this: One is that you simply amend your regional transportation plan. You make the case that you have gone through the major investment study process, and you have identified a strategic set of projects that are consistent with the regional goals.

Figure 3



That, of course, means you have to update your financial plan. More often than not, you end up with a project that is more costly than the placeholder you set in your regional transportation plan. Redoing the financial plan puts elected officials in a tough situation, because they have to figure out what to take off the plan in order to meet the financial constraints. That is not a very popular idea, so we try to use a different approach, which is staged construction.

In staged construction, you define the locally preferred alternative for a year past what your original plan was and maybe even beyond the planning horizon you think your future plan will encompass. You stage the development of the locally preferred alternative in order to achieve two things. One is to fit it into the financial placeholder you had in your original plan so you do not violate the financial implications of your original plan.

The second thing is to divide the locally preferred alternative into stages in a way that the first or second stage can fit within the financial placeholder you already

have. This may require you to amend the design concept in your original plan a little. Depending on the magnitude of that change, you may have to go back into conformity and redo your conformity analysis, but that may be easier than having to find more money.

The major investment study and the regional transportation plan are inextricably linked in a way that makes them almost seamless. You have allowed the community to achieve what it wanted—and that is to eventually construct a project that meets its needs—and you have satisfied your financial constraints by staging development in a way that meets the needs of elected officials and of your financial constraints.

This is an integrated process where one piece cannot stand alone. Major investment studies and regional transportation plans are linked together, and you just cannot separate them. If you try to do so, I think you end up with a lot of problems.

MIS: Key Planning Context Issues

Neil J. Pederson, Maryland State Highway Administration

I am going to use somewhat the same format as in my earlier presentation. Therefore, once again, I will pose 15 questions. Let me run through these very quickly, and then we will discuss each briefly.

1. How do major investment studies relate to the long-range plan process?
2. How do major investment studies relate to congestion management systems?
3. What is the relationship of major investment studies to conformity?
4. How do we integrate land use issues into major investment studies?
5. What changes have occurred in the MPO planning process as a result of MIS requirements?
6. Have we been able to successfully integrate MIS and NEPA requirements?
7. Can environmental issues be adequately addressed to make corridor-level decisions?
8. How have environmental agencies reacted to MIS requirements?
9. How do we get other agencies involved that do not have adequate staff resources and the desire to become involved?
10. How do we effectively engage the public in the MIS process?

11. Have we created duplicative processes?
12. What has been the experience with retrofit projects to date?
13. Are we missing an opportunity to use major investment studies as means to enable corridor preservation actions? It is a little bit off the subject, but it is important.
14. What requirements are being imposed that do not make sense?
15. What changes should be made to MIS, NEPA/404, metropolitan planning, the congestion management system, conformity, or public involvement requirements to address problems experienced to date?

1. How do major investment studies relate to the long-range plan process?

Beginning with the relationship to the long-range plan process, major investment studies should come out of the long-range plan process—theoretically, at least. It would be interesting to know how many truly did come out of the long-range plan process and how many were projects already identified that we are now trying to retrofit with a new requirement.

What we have discovered in both of our major metropolitan areas is that we use MIS as a basis for identifying the mode and design concepts for major improvements to be included in the long-range plan. Where it is not obvious what the major concept is, we show it in the long-range plan as a study corridor. That may be the most effective way of keeping some of the bias out of the long-range plan in terms of what the solution is going to be until the MIS has actually taken place.

Because it costs so much to make amendments to the long-range plan, particularly in terms of conformity requirements, we may be in such a position that we have no choice but to make certain assumptions in the long-range plan, particularly each time we do a new conformity analysis.

A major point is that after considering the long-range plan, financial constraint discourages completion of an MIS when funding has not been identified. Yet, project development needs to be well along in order to secure funding. Our experience with our General Assembly has been that we really cannot raise the revenues we need until projects are well into the project development process. Elected officials in our State are elected for four-year terms, and they are not about to vote for something that is a long time out in the future, particularly if they have to raise revenues for it. They

want something that can be delivered within a year or two. This means we need to be pretty far along in the project development process before they are willing to take the risk of raising revenues.

This creates a dilemma, particularly from a financial constraint standpoint. How far do we need to be bringing projects along in the process before we can actually identify the revenues?

2. How do major investment studies relate to congestion management systems?

Our experience in Maryland has been that a lot of the same types of studies and issues are being addressed by our congestion management system and by our major investment studies. And although the NHS bill made management systems optional, not everyone realizes that within non-attainment TMAs you are still required to have a congestion management system, notwithstanding NHS legislation, unless there has been a liberalized interpretation I am not aware of at this point.

We are proceeding forward and trying to integrate our congestion management system with major investment studies as much as possible. In fact, we use our major investment studies as the basis for making congestion management system decisions within many of the corridors where we have major investment studies underway.

3. What is the relationship of major investment studies to conformity?

An MIS must determine a project's design concept and scope in sufficient detail to meet the requirements of the conformity regulation. Conformity requires a discipline within the planning community in terms of being pretty specific as to what the concept and scope of project is going to be. To a certain extent, conformity, where it is an issue, has almost forced us to have a greater level of rigor and detail in our major investment studies than we might have done otherwise.

The selected strategy must be included in a conforming plan and TIP before a final environmental document can be completed. In order to be able to get NEPA approval, you have to have conformity and be within financial constraints. In order to have conformity, you are supposed to have a financially constrained network on which to do the conforming analysis. Yet we usually have to get through the NEPA process before we consider raising the revenues to be able to fund the projects.

This creates, to a certain extent, a catch-22.

4. How do we integrate land use issues into major investment studies?

This has been probably the biggest challenge we have had in the largest MIS studies underway. The U.S. 301 study has progressed furthest in considering this issue.

In most of the United States, with the notable exception of Oregon, land use decisions are the responsibility of local government and not usually under the control of agencies responsible for major investment studies even if they are the implementing agencies or MPOs.

In order to successfully address land use issues, local jurisdictions that have land use control must be partners in the MIS study. We have certainly learned that as we have tried to address land use issues in our MIS studies.

There are two sides to the land use issue: We need to look at what effect changes in land use might have on the various transportation options. And we need to look at what effect the various transportation options may have on changes in land use. You really are not adequately addressing the land use issue unless you look at both sides. We came to realize that particularly within the U.S. 301 corridor study. It ended up effectively doubling the amount of work we had to do in order to address the land use issue, however.

The other thing we discovered was that land use models are not really the best way in many cases to try to get at this issue. What we did in the U.S. 301 study was put together a panel of experts in real estate and land development within the Washington metropolitan area. They served as an expert panel to advise us, based upon their knowledge of the real estate market within the area, on what we could realistically expect to result from transportation options that were being considered.

We made some pretty bold assumptions in terms of changes in land use, particularly in terms of concentrating development around certain growth nodes. We then tried to determine how this would affect the transportation options we were considering. We gave our expert panel a set of ground rules we wanted them to follow. The very first thing they said to us was that they could not follow the ground rule of starting from the MPO land use numbers.

Land use numbers from the MPO called for fairly significant growth within the Washington, D.C., urban

core. They said that was not going to happen, and we would have to use different land use numbers for our forecasts. We found that the use of expert panels gave us insights that we might not have gotten by using our traditional process.

5. What changes have occurred in the MPO planning process as a result of MIS requirements?

Clearly there is more engagement on the part of the implementing agencies in the MPO process. This is true with both the highway and the transit agencies. There has also been more engagement by the MPO in some types of issues that previously had been the domain of NEPA studies. Linkage between NEPA and the MPO planning process really is occurring much more significantly than it had previously.

6. Have we been able to successfully integrate MIS and NEPA requirements?

In Maryland, we do not really look at MIS Option One versus Option Two. I think it is a mistake to do an MIS that is separate from the NEPA process. If we do that, we will almost guarantee that we will have to go back and revisit the issues.

We have to have an integrated process. In Maryland, we have tried to address as many MIS issues as possible during the first half of the NEPA process and narrow down the range of options and alternatives. We try to get the buy-in of the agencies that we deal with through the NEPA 404 process on such issues as sign-off on need and sign-off on the narrowing of the alternatives. Only if we successfully do that can we avoid the problem of having to revisit all those issues again in the detailed NEPA documents.

7. Can environmental issues be adequately addressed to make corridor-level decisions?

This is one of the tough issues the environmental agencies have to deal with. Some environmental impact issues really only can be dealt with in very detailed studies. A few of them are archaeology, new waves analysis, water quality and, to a certain extent, wetlands. The environmental agencies have a very, very tough time dealing with the broader level of detail that we use in MIS. This is particularly true for single-functional agencies that have those disciplines that really only can

be dealt with at a greater level of detail.

Within the 50-mile-long U.S. 301 corridor study, the Maryland state historic preservation agency is having a very tough time with the fact that we can't afford to get into a 50-mile-long, five-mile wide, detailed archaeology analysis for six different alternatives. They expect archaeology to be an issue.

That is a particularly tough problem in those single-functional agencies. We have to try to do as good a job as we can to develop macro-level environmental impact measures that are appropriate and that will be acceptable to those agencies.

8. How have environmental agencies reacted to MIS requirements?

Getting the engagement and commitment of the environmental agencies is the biggest challenge we have faced thus far in major investment studies. These agencies wait until the NEPA study to become engaged in MIS studies, because they are afraid they will have to sign off and make commitments they are not willing to make without that greater level of detail.

9. How do we get other agencies involved that do not have adequate staff resources but still desire to become involved?

Many agencies, particularly the environmental resource agencies, local governments, and other State agencies, are downsizing now. Staff resources are spread extremely thin, and to ask these agencies to become more committed and more involved in a process when they are having staff reductions becomes very difficult. We have to be innovative in terms of how we manage that.

Within Maryland, we hold monthly interagency meetings where all of the agencies that we deal with on any of the transportation studies all come together in a single, day-long meeting. We have actually used that meeting both for MIS purposes and NEPA purposes, and the MPOs participate through those meetings, because we cannot get the environmental agencies to come to meetings at the MPO itself.

I think there is a particular obligation on the part of FHWA and FTA to both educate and engage other Federal agencies. I particularly emphasize education so that the management level as well as the field staff level within those agencies have an understanding of what

MIS is all about and are committed to the concept.

10. How do we effectively engage the public in MIS projects?

We have perhaps the greatest opportunity to be innovative in the public participation process. Public involvement is one of the biggest changes happening within the transportation planning profession, and it ultimately could be one of the absolute keys to the success of major investment studies. We must have the public involved throughout the process, helping us define it and being committed to it, as opposed to reacting to something that comes out at the end of it. You almost always guarantee a higher likelihood of negative reaction if people have to react to something as opposed to being engaged with the process of developing it. But such participation requires unbelievable resources and commitment on the part of the agencies sponsoring an MIS study.

Our U.S. 301 corridor study is a \$4 million study. Probably between \$1 million to \$1.5 million of that has been spent on public involvement alone.

11. Have we created duplicative processes?

If we have, we may end up dooming the MIS process. We must figure out how we are going to integrate a congestion management system and NEPA/404 requirements with our major investment studies.

12. What has been the experience with retrofit projects to date?

I have been very discouraged that we have not had the flexibility I really expected, based upon what first came out about retrofit projects.

13. Are we missing an opportunity to use major investment studies as a means to enable corridor preservation actions to occur?

One of the hallmarks of good planning is that we end up making decisions that will preserve rights-of-way that are available for public works improvements that will be made in the future. However, under current Federal regulations you need NEPA approval to expend Federal funds for rights-of-way. There are certain exceptions pretty far along in the NEPA process for protective

buying and for hardship buying of rights-of-way.

I would like to see changes in FIIWA and FTA regulations that would permit us to use MIS as the basis for protective buying of right-of-way.

14. What requirements are being imposed that do not make sense?

One of the questions I ask myself is whether I am being asked by our Federal partners to do things I don't really view as adding value to the process. Are these activities being done just because of bureaucratic requirements? I hope all of us, both those of us in sponsoring agencies and their Federal partners, will ask ourselves as we make decisions associated with major investment studies: Are those activities really adding value? If they are not, then we should not be doing them.

15. What changes should be made to MIS/NEPA 404, metropolitan planning, congestion management systems, conformity, and public involvement requirements in order to address problems experienced to date?

First, Federal agencies should be required to accept decisions made in the MIS process without being able to require their being revisited in subsequent NEPA 404 studies. If a product comes out of an MIS, it should be able to obtain conformity and NEPA 404 approval, even if funding is not identified. I recognize that there are a lot of people in this room who don't share the same views towards fiscal constraint as we do in Maryland. We believe that we need to be able to move projects through the planning process and through the project development process before we try to secure the financial resources we need for the projects.

Use of Federal funds for right-of-way preservation should be permitted based on an alternative being selected in a major investment study.

Finally, we need to revisit the issue of the threshold and characteristics of a project that is subject to MIS requirements. Is an MIS needed for a two-lane bypass project that is 1.1 miles long, around a small, historic hamlet by the name of Brookeville? Its claim to fame was that it was the capital of the U.S. for a day during the War of 1812 when James Madison had to escape the burning of Washington. It is on a principal arterial and has 8,000 ADT a day going the center of this

hamlet. That amount of traffic has an impact on it.

We are not going to increase the capacity of the corridor. It will be two-lane construction that will tie into two lanes both north and south. It is being done purely for quality of life reasons within that historic hamlet. However, we have not yet been able to successfully convince FHWA and FTA that we should not be subject to MIS requirements. That type of project really is not what MIS is all about, and we really ought to be focusing our efforts and resources rather than having to document to FHWA and FTA to why we should not have to do an MIS for that type of study.

Collaborative Planning in the Griffin Line Corridor MIS

David J. Vozzolo, Greater Hartford Transit District

The Griffin Line Corridor MIS has been the subject of numerous papers and presentations for TRB, APTA, and APA, primarily focusing on the innovative approach taken in coordinating transit, land use, economic and community development planning. This presentation focuses on the overall planning context of the Griffin Line MIS. Since its inception, long before the initiation of the MIS, the Griffin Line has been part of a locally driven collaborative planning process.

The Greater Hartford Transit District (GHTD) has been lead agency on the Griffin Line project, representing the City of Hartford, other member municipalities, and the business community. GHTD is not the transit operating agency in the Hartford region. It is an umbrella agency with policy oversight and project development responsibilities, which also operates paratransit, privatized commuter bus operations, and other services in the region. GHTD has absolutely no funding or taxing authority on its own. It is my understanding that the Griffin Line MIS is the first time in Connecticut that an independent entity other than ConnDOT has been lead agency in a major corridor investment analysis.

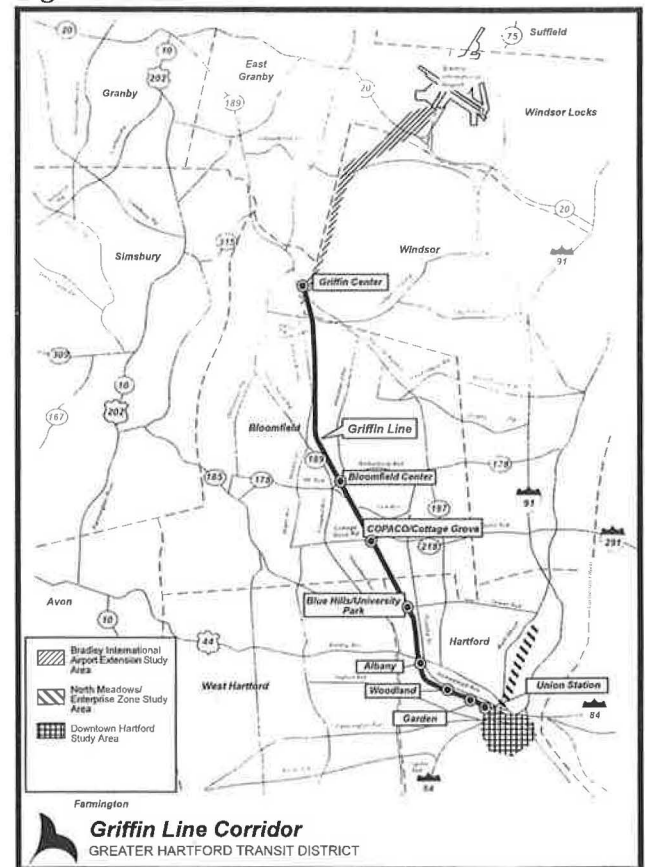
Project Background

Hartford is a region of approximately one million people, located midway between New York and Boston. Like most cities, there is a network of old, mostly abandoned rail freight lines that radiate from downtown to suburban areas throughout the region. Eight to ten years ago, the Capitol Region Council of Governments

(CRCOG) and GHTD conducted a series of feasibility studies to identify those corridors that might be converted to transitways or fixed guideway systems. The Griffin Line corridor was selected as the first corridor to be extensively studied. In some ways, the Griffin Line MIS runs counter to the FTA/FHWA preferred model in which a problem is identified and alternatives are evaluated to address the problem. The Griffin Line corridor was identified as a desired "transit project" well before initiation of the MIS process.

The Griffin Line Corridor (see Figure 1) extends approximately 15 miles from Downtown Hartford to Bradley International Airport, and includes the municipalities of Hartford, Bloomfield, Windsor, East Granby and Windsor Locks, Connecticut. The initial 9-mile segment from Union Station in Hartford to the Griffin Center Office Park includes 8.5 miles of abandoned rail right-of-way already owned by the State of Connecticut. The Griffin Line serves several major residential, employment, educational, health care, cultural, and institutional centers.

Figure 1



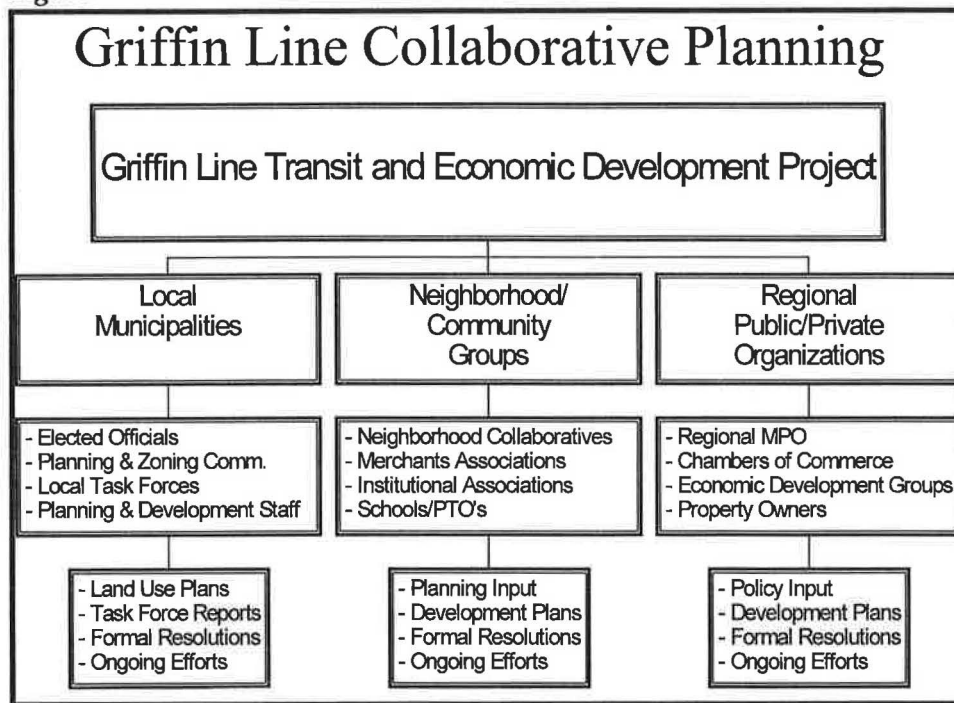
Since 1988, the Griffin Line Transit and Economic Development Project has planned for coordinated transit, land use, and economic and community devel-

opment initiatives in the corridor. The Griffin Line Corridor Major Investment Study was completed in May 1995 by the GHTD, CRCOG, and Bechtel Corporation as prime consultant.

Collaborative Planning Process

Broad-based community involvement has been a long-standing hallmark of coordinated transit and land use planning efforts in the Griffin Line corridor. The collaborative planning process (see Figure 2) has included local municipalities, neighborhood and community groups, and regional public and private organizations. Hundreds of public meetings have been conducted, ranging from briefings for interested neighborhood and civic groups, to community meetings conducted by local task forces and advisory committees, to formal public hearings in front of local and regional elected officials.

Figure 2



Local task forces identified potential station stops and prepared conceptual development plans through a series of public, community-based planning meetings leading to formal approval by local planning and zoning commissions, and town councils. Questions raised at local task forces addressing land use and community development as well as transit plans include: How do you want to see your community grow? What would you like to see happen or not happen around potential transit station areas? Sometimes, what the community did *not*

want to see happen was even more significant or important to learn than what they *wanted* to see happen.

These local task force meetings and station area planning workshops were very good forums for getting the issues out on the table early in the process. However, this process can lead to difficulties as well. For example, since the project was still so early in the planning stages, it was often difficult to provide the specific, technical answers that were expected at community meetings. In addition, one should be warned that such a collaborative, community-driven process requires an extraordinary level of resources and commitment. As a small regional agency, it became very difficult for GHTD to keep up with the demands of this process.

However, the collaborative process was invaluable for the MIS and the project. The Griffin Line now has many "stakeholders" at the local municipal, community, and regional levels. Local Task Force activities culminated in formal resolutions acted on by local planning and zoning commissions, city/town councils, and other entities. State, regional, and local officials took significant formal actions in support of the Griffin Line Project. In 1993, the Connecticut General Assembly and Governor adopted Special Act 93-15 designating the Griffin Line as a *pilot mass transit and economic development corridor*. The following year, the Griffin Line was selected as one of the City of Hartford's *priority economic development projects* at the Hartford Economic Summit, sponsored by the Mayor and City Council.

MIS and Evaluation of Alternatives

The Griffin Line MIS presents a comprehensive evaluation of bus and light rail transit alternatives in terms of impacts on improving mobility (particularly for the transit-dependent), fostering economic and community development, long-term environmental and energy benefits. It includes an assessment of cost effectiveness and financial feasibility. The MIS incorporates addi-

tional emphasis on land use, economic, and community development impacts, since these issues are such a unique and significant feature of the project.

While the MIS addressed the standard analyses related to demand forecasting, cost estimation, and environmental assessment, additional emphasis was directed toward land use, economic, and community development impacts. In addition, an independent economic impact analysis was completed by University of Connecticut. It is interesting to note that the locally driven collaborative process we followed probably led to an increased level of detail in many of the technical analyses completed in the MIS. The project's extensive interaction with local task forces and community groups created high local expectations regarding the extent of information to be produced in the study.

The evaluation of transportation alternatives completed in the MIS followed the standard evaluation process, including effectiveness (goals achievement), efficiency (cost effectiveness), equity considerations, and trade-off analysis. However, perhaps most significant in the local evaluation process were several key issues that reflected the local, community-driven focus of the transit and economic development project, including:

- transit dependent mobility and accessibility;
- economic and community development;
- local land use policies and transit-oriented development;
- long-term transit system build-out and network;
- long-term environmental conditions.

The Federal MIS process proved to be extremely flexible in enabling GHTD and CRCOG to incorporate these critical, locally driven issues to play a key role in the evaluation of alternatives. The consideration of cumulative transportation and mobility, economic and community development, and environmental impacts, as well as the analysis of alternative policies and operating assumptions, is consistent with Federal policy on major investment studies and with local and regional guidance provided throughout the project.

Local and Regional Selection of Light Rail Alternative

In July 1995, CRCOG, the designated metropolitan planning organization in the region, formally selected the Light Rail alternative and directed GHTD to complete a detailed financing and implementation plan. The CRCOG Policy Board, consisting of the chief elected officials of the 29 member municipalities in the region, voted unanimously in favor of light rail, follow-

ing the unanimous recommendation of the CRCOG Transportation Committee. CRCOG took actions following detailed review of the MIS findings, and formal recommendations from the City of Hartford, the Town of Bloomfield, and a broad spectrum of community, civic, and business organizations.

The selected light rail investment focuses on the initial nine mile segment from Union Station in Hartford to Griffin Center in Bloomfield, for a total capital cost of \$176 million. However, extensions are planned to include service in Downtown Hartford and to connect to Bradley International Airport.

The link between transit investment and sound land use, economic, and community development played a significant role in the region's decision to select light rail. The CRCOG resolution states that *"the Griffin Line would contribute to the achievement of important State and regional goals, including mobility improvements for urban and suburban residents, economic and community development, and sound land use, air quality, and energy policies."*

The Hartford City Council resolution selecting light rail as the locally preferred alternative states, *"The economic and community development impacts of the Griffin Line are as important as the improvements in transit."* The Bloomfield Town Planning and Zoning Commission *"sees the light rail alternative as the best way to promote the Town's long-range community and economic development goals,"* and continued its commitment to implement pro-active growth management policies and zoning regulations to direct new development to light rail station areas while preserving open space in other parts of town.

Next Steps: Griffin Line Financing and Implementation Plan

In July 1995, CRCOG also endorsed the Greater Hartford Transit District's initiative to establish a Task Force of Federal, State, local, and private-sector officials to develop a detailed plan to finance and implement the light rail service. Since October 1995, Eileen Kraus, the Chair of Fleet Bank Connecticut, has been serving as Chair of the Griffin Line Financing and Implementation Task Force. The recommended financing structure is scheduled for completion in May 1996.

In addition, GHTD continues to work closely with corridor municipalities, community organizations, and the private sector on station area land use planning, economic, and community development initiatives.

WORKSHOPS: Policy Issues and Planning Context

Group 1 Workshop Summary

Wayne Kober, Chair

Policy issues

- It is important to define the purpose of MIS and convey the message and vision. The purpose is to solve transportation problems—not provide a justification for funds. The MIS must be useful for local decision-making.
- The MIS process should include economic cost/benefit analysis, intermodal considerations, analysis of secondary impacts, a merger of evaluation criteria, and a process for organizing participants.
- Participants in an MIS should include public agencies, the private sector, the decision-makers, and the community.
- The objective is to arrive at a consensus of all parties involved in the process.
- The new transportation paradigm includes cultural change, different political processes, consideration of costs (including social costs), adaptation to fiscal constraints, and evaluation of secondary impacts.
- The requirements for information at the micro-scale and macro-scale need to be blended.
- Resource management should be pro-active rather than reactive.

Planning context

- There must be a flexible relationship between MIS & land use planning to adapt to regional conditions. This includes proactive land use planning, integration of land use plans and transportation development, adequate public facilities through such approaches as developer exactions, and community visioning (visual preference survey) during an MIS.

- Financial constraints affect MIS, which will require consideration of staged improvements, financial engineering, and conflicts between NEPA, CAA, & MIS/financial constraints.
- MIS and NEPA requirements need to be integrated in the level of detail required, conveyance of information to the public, and differences in participating agency cultures.

Discussion

It is very important at the beginning of an MIS to make the purpose clear and to convey your message and your vision. An MIS looks at solving transportation problems and not at justifying funding. Unfortunately, for pipeline projects the primary concern has been using the MIS to justify projects that are already underway.

An MIS is a good way to consider the economic and cost-benefits analysis of a project and to weave in intermodal considerations and consider secondary impacts. This also included considering land use and what is going to happen to land development after the facility is built. There should be a merger of evaluation criteria—for example, the NEPA, the joint planning regulations, and the Clean Air Act criteria. You need to put everything on the table, so you can look at it all at once. We would like to have flexible standards, look at cost effectiveness, try to make the process as efficient as you can make it and then really measure the right things.

One of the most challenging things is organizing citizen participants, because most of these people are not used to working together. We have to make sure we get everybody who is concerned involved in the process. We need to know who the decision-makers are. It has to be clear who the lead agencies are and who is going to make the decisions. What is consensus? Who is the public? They may go beyond the community and may include the users of the facility that come from outside the community.

There is a new transportation paradigm. We are moving from the interstate transportation planning paradigm to an ISTEA paradigm. This is causing a lot of change, including cultural change within the DOT,

within the MPO, and with the numerous stakeholders. We can't ignore the political process. If we do, when we get to the end of a planning process, we are not going to have the support we need.

What are the costs of the proposed improvement, including the social cost? A lot of the costs of these projects go beyond just the construction cost. Workshop participants suggested the concept of gain sharing. It is value-added management, trying to determine if you can make everybody a winner. Some States have limitations on their ability to raise revenue for a project, and local jurisdictions may have an even bigger problem in finding needed resources.

There was a substantial discussion about microscale data requirements for NEPA justification and how to blend the MIS and NEPA into a seamless process.

Integration of MIS and NEPA is important. The level of detail required for the MIS and for NEPA is a major concern. This includes conveying information to the public. One of the difficulties with the NEPA process is the thousand-page EIS that the public does not understand or have time to read. We are going to have to find a way to visually show people this information so they can understand it.

An MIS should be proactive and designed to figure out what the major impacts of the project are and how to deal with them. For example, if the MPO is in a non-attainment area, then in addition to the corridor development, the goal is to bring the area into air quality attainment. That is proactive resource management. You are not just measuring how to achieve clean air mandates. You are trying to make the project improve air quality.

The big issue is the relationship between MIS and land use planning—not the MIS-NEPA relationship. Flexibility is needed to adapt to regional conditions. Proactive versus reactive land use planning is needed. A fundamental question is: Are you doing your planning before you come up with a project, or are you doing your project and then developing the planning for it?

You have to give real consideration to land use plans in an MIS. Developer exactions may need to be considered so that developers pay for some of that growth with the profits they make in developing land.

There is a need for community visioning. Visual preference survey techniques that include various scenarios to show the public what their vision could be for their

area have proved helpful to communities in charting their future.

Staging project development over 10–20 years because of fiscal constraints needs to be considered in an MIS.

The transportation paradigm we have been in for a long time is the programming paradigm—getting the project built. The new planning paradigm must now include social, economic, environmental quality, and fiscal constraints, and these—not the project—will define the transportation solution.

The last item discussed was agency culture. We must get planners to better understand design constraints and designers to understand community requirements. The traditional compartmentalized organization of transportation agencies has to change so that planners understand design parameters for the development of corridors, and designers—in turn—can better develop a design concept that will fit the community vision and fiscal and environmental constraints.

Group 2 Workshop Summary

John Fuller, Chair

Policy issues and planning context combined

- There needs to be greater commitment to inter-agency coordination and stakeholder involvement in MIS.
- Partnering agreements, financing for stakeholder participation, and a model MIS are helpful in developing a MIS.
- The roles and interrelationships between MIS and planning need to be better defined.
- It may be advantageous to use the most efficient/effective player as MIS lead.
- More and better tools, technology transfer, and research are needed for MIS.
- It is important to evaluate an MIS process and its results by using self-evaluation and peer review.

- Reasons for including or excluding a project from an MIS need to be better defined.
- MIS should provide a way to come to closure on alternative solutions that are proposed.
- Barriers to fund the best projects need to be removed, including corridor preservation.
- To achieve consensus, the MPO processes need to be strengthened.
- There needs to be a realistic schedule and decision-making process developed when an MIS is initiated.
- Federal staff accessibility (both FHWA and FTA) is vitally needed for an MIS.
- Public involvement feedback is needed to enhance project credibility.
- Multimodal freight and passenger alternatives should be integrated into the MIS and into local/state plans.

Discussion

In this presentation, we have blended together our discussions from both the planning and the policy workshops. So among those key issues are, first, how does one determine when an MIS is to be done? Secondly, what are some of the boundaries to an MIS? For example, if one of the purposes of producing an MIS is to identify how transport can support other goals such as economic development, what are the economic boundaries of the area that are to be considered? What about geographic, financial, environmental, and social boundaries?

Can we improve the efficiency with which an MIS is done? Certainly, one ought to be producing as efficient and effective an MIS as possible. Perhaps some studies are overly expensive compared to what they produce. Can we involve stakeholders fully in the MIS process and improve it by doing so?

Is the product of the MIS the very best project that can be produced? Can we make sure that the process is one that doesn't have bias so that we can be more definitely assured that the selected strategy is the best?

Is some prescription for the MIS process needed? Perhaps there might be more non-prescriptive guidance in the process. What about the relationships between the various planning processes that are performed in an urban area or by a State? These need to be related to the MIS. There needs to be understanding of what all the processes are and the interaction between the MIS and the comprehensive plan, the transportation plan, the TIP, etc. There is great need for feedback throughout all these planning processes.

Greater commitment to achieving coordination of agencies and involving stakeholders in the MIS process is needed. Some local guidelines for MIS might be useful. Partnering arrangements, much as has been done in highway projects, might be useful in preparing an MIS.

There may be some opportunities for stakeholder financing of the projects to come out of an MIS.

It is important to better define the role of the MIS in planning. How does the MIS fit into the transportation plan? When there is a new MIS, how does it relate to the other projects that are in a TIP?

We thought it desirable to use the most efficient and effective player in the process as the MIS lead. For example, some States have been relying upon the MPOs and increasing the MPO staff and capabilities in order to use them as lead agencies in an MIS.

There is a need for more and better tools in technology transfer and research that could be performed and shared in the MIS process.

Evaluation of the MIS results and the way in which those results were achieved are very important. Evaluation may take various forms such as self-evaluations and a peer review process. It is logical to exclude some projects from MIS, but it is important to have a rational process set up to determine which projects require an MIS and which do not.

The MIS should provide closure to extensive additional alternatives but, at the same time, be very inclusive in the first place in order that closure can take place.

Once the project is determined, it is desirable to try to remove all barriers to the funding and achieve the best solution. It might be appropriate to include corridor preservation for the future as well as implementation of the current projects.

It is important to have consensus throughout the entire MPO planning processes.

The decision to undertake an MIS is one that has to be realistic. It has to be at a time when it is truly possible to follow through with funded projects.

Accessibility to Federal staff as one produces the MIS is extremely important.

The public involvement that occurs in an MIS is key to its success, and a great deal of feedback is required to proceed beyond an MIS and actually enhance credibility for the project that results from the MIS process.

Evaluation methods and techniques, at all levels in the process, are needed to make sure that passenger and freight alternatives are investigated and are integrated into the MIS.

Group 3 Workshop Summary

David Vozzolo, Chair

Policy issues

- The purpose of MIS is to achieve national and multiple local goals and objectives through a cost-effective decision-making process that will provide sustainable transportation in terms of energy use, environment, and land use.
- MIS is a consensus-building process.
- ITS infrastructure and other telecommunications systems should be considered as alternatives in the MIS and long-range planning processes.
- Fiscal constraints will affect the selection of intermodal alternatives. An MIS needs to consider interim affordable solutions.
- The NEPA and MIS processes need to be reconciled. Resource and permit agencies need to be integrated into the MIS.

Planning context

- Long-range planning and related studies should be used to identify corridors for conducting

major investment studies.

- Get away from pipeline projects to identify needs within the corridor.
- Financial constraint is a key consideration. Life-cycle costing should be used for both transit and highway analysis, including operating and maintenance costs.
- The MIS may be used to educate local officials to get commitments and support for integrating land use development with transportation improvements.
- Difficulties in gaining local and regional consensus must be considered in an MIS.
- The FTA and FHWA policy on analysis of alternative land use scenarios in MIS needs to be clarified.
- An MIS should develop a set of alternatives with variable land uses and associated risks to demonstrate that the preferred alternative will work under variable land use scenarios.
- The MIS collaborative process should be used to encourage local governments to purchase right-of-way for corridor preservation.
- The "information highway" and ITS should be included in long-range planning and MIS.

Discussion

Group Three focused on discussion of the issues and, therefore, did not come up with a set of suggestions. The objectives of MIS are to meet multiple goals and objectives at the national and local level. Such a process should provide cost-effective decision-making and lead toward sustainable transportation in terms of the broad variety of objectives that are in ISTEA.

The MIS should be a consensus-building process rather than just a technical exercise.

MIS and the long-range planning process should consider the new ITS technology and infrastructure, as well as other telecommunications systems, as alternatives. Information systems and telecommunications may have substantial impacts on urban development and travel behavior in the next century.

Fiscal constraint is a major issue that must be considered, since it will affect the selection of alternatives and dominate the MIS evaluation criteria.

The NEPA and MIS processes need to be integrated. Resource and permitting agencies should be involved in the MIS process very early. This involvement should be formalized through either administrative or legislative solutions. However, it was noted that legislative or legal solutions were going to be very difficult, if not impossible, to achieve. Therefore, it makes more sense to move toward some kind of administrative agreement.

The MIS has to be fully integrated with the long-range planning process and result from that process. The long-range process should identify corridors that would then require MIS. Pipeline projects that automatically lead into project development remain a problem. The question continues to be raised about how they relate to the MIS process.

Life-cycle costing should be used in all MISs. If a highway project is being considered, the evaluation should include operating and maintenance costs and not just capital costs. There is a cost estimate of up-front capital investments in transit projects, but there is also an appraisal of ongoing operating and maintenance costs.

In addition to it being a part of the technical analysis, the transportation/land use interconnection might be used in the MIS to educate local officials on how to get commitments and support on integrating land use and development decisions into transportation alternatives.

There was a discussion about the use of retrospective studies or "before and after studies" on land use in connection with an MIS. Not a great deal of information is available to describe the impact of transportation investments on land use and development.

A clarification of Federal policy on how to analyze alternative land use scenarios is needed. When looking at baseline land use projections, as well as alternative scenarios, clarification is needed on what would be acceptable.

The MIS collaborative process could be used to encourage local governments to purchase right-of-way for either highways or transit, to preserve it for future development, especially in high-growth areas.

The "information highway" and the ITS infrastructure

should be included in the long-range transportation plan and MIS decisions.

Group 4 Workshop Summary

Julie Hoover, Chair

Policy issues

- The MIS process should be multimodal, comprehensive, flexible, participatory, and collaborative.
- In an MIS, the decisions should be local and result from consensus.
- The need for flexibility in the MIS process is reaffirmed.
- There should a level field for all alternatives and options considered through the elimination of funding biases, different matching ratios, resolving the conflict between LRP regulations and conformity, and providing sufficient staff from Federal agencies.
- Some Federal agency staff, DOTs, and resource agencies are finding it difficult to accept their new roles and still are concerned more with consistency than flexibility in the MIS process.
- The MIS process is new, and we are not very good at implementing it yet, although we are improving. More time for evaluation is needed. The fiscal environment is unlikely to change, so something similar to an MIS will be needed. A strong statement confirming the value of both MIS and its emphasis on public involvement should be issued.

Planning context

- NEPA-MIS relationships have suffered because of lack of resource agency involvement. One solution is to adopt the procedures used for 404/NEPA processes, where resource agencies pledge to sign off at every step. If they do not do so, they lose their right to comment later. Other possibilities are to provide resource agencies with subsidies, shared-funded positions, or staff exchange.

- MIS is subject to possible legal vulnerability, and Federal guidance and assurances are needed to protect the process, especially in the area of NEPA requirements. Legal protections for a “planning EIS” versus a “project EIS” are also needed.
- Technical issues that should be addressed in an MIS include environmental justice, community impacts, and equity. Also, economic development goals and needs should often be a starting point, and intermodal evaluation tools are needed for screening and evaluation. Targeted research would help cure all these deficiencies.

Discussion

The MIS process is multi-modal, comprehensive, flexible, participatory, and collaborative. Major investment studies take substantial time to complete and can be costly and complex. However, this situation is not derived from anything inherent in the regulations but rather is based on local decisions as to what to include in the study and how to conduct it. It is justified by local agencies in order to achieve the consensus at the end of the MIS.

While ISTEA and the MIS regulations have reduced the bias among modes, disparities still need to be addressed. Funding biases and different matching ratios need to be reconsidered. There is some conflict between the long-range planning regulations and conformity requirements. There is also a sharp imbalance between the larger number of FHWA staff, both field and central office, available for MIS input, and the number of similar staff available at FTA.

Finally, the MIS regulations are not overly prescriptive, but they are also being implemented in stringent ways by regional offices of FHWA, FTA, DOTs, and some resource agencies that are averse to risk and concerned with consistency. Also, many of these staff people have not yet been trained about the new MIS procedures.

The process used at both the Federal and local levels for the 404 NEPA agreements might be applied to an MIS. This agreement process brings everybody to the table at the very beginning and gets a signed agreement. If the resource agencies do not provide input at the different milestones by the drop-dead date, then they do not have a chance to have input anymore, and they can't require that the process be redone. However, many resource agencies are significantly under-funded, and solutions

need to be provided to make it possible for resource agency staff to participate in the MIS. Arizona DOT apparently has established some precedence in providing subsidies to resource agencies such as the Forest Service. In other instances, there have been shared-funded positions or even staff exchanges. The issue seems to be that the transportation planning agencies have the money, but the resource agencies do not always have the staff or travel funds to adequately participate in an MIS.

Legal vulnerability is also an issue in the NEPA–MIS relationship. Federal guidance may be forthcoming. A Notice of Proposed Rulemaking, it is hoped, will help provide Federal assurances for the MIS process.

Environmental justice—assuring equity in the treatment of economically and socially disadvantaged people—is important to consider in MIS. Public involvement is a start to address some environmental justice issues. More case studies and greater awareness are needed.

Group 5 Workshop Summary

Jim Bednar, Chair

Policy issues

- The MIS process should be “flexibly prescriptive.” General guiding principles are needed, but flexibility is also needed within them.
- Should the MIS concept be used on other than Federally-funded projects?
- The FHWA/FTA environmental regulations need better definition on the relationship between MIS and NEPA.
- A clear definition of the appropriate parties in the collaborative process is needed. There should be more than those currently prescribed; e.g., resource and regulatory agencies.
- A clearly defined link is needed between the long-range plan, MIS, and other documents.
- Intermodal and multimodal alternatives need to be addressed in MIS in a manner that eliminates modal bias.

Planning context

- MIS should explore the land use/transportation interrelationships and the extent that MIS can guide local land use decisions.
- Alternatives should include all modes to avoid bias in determining strategies, but there should be provisions to quickly eliminate strategies that make no sense.
- The MIS and NEPA processes should be integrated into a seamless planning and project development process, with minimal need to revisit the process.
- MIS is a subset of the transportation planning process. How do you define only those problems to be solved within the context of MIS?
- An MIS must ensure that the planning process meets community and stakeholder needs and environmental justice, at least for the corridor and subarea being studied in the MIS.
- Throughout the process, it is important to evaluate the appropriate level of analysis and detail level and the money and effort to arrive at design concept and scope.
- Emphasis should be put on better education of the collaborative parties and study managers so they understand their roles and responsibilities.

Discussion

There was considerable discussion about a prescriptive versus non-prescriptive process. The group agreed that what was needed was "prescriptive flexibility" so that in areas where more prescription is needed, it would be available, yet there would be flexibility in applying it.

The FHWA-FTA environmental regulations need to better define the MIS-NEPA relationship and the appropriate participatory and collaborative process.

MIS needs to include analysis of intermodal and multimodal alternatives. A major ingredient in such analysis is defining performance measures for the linkages and intermodal/multimodal alternatives.

The question of to what extent MIS can guide local land use, including local elected officials' opinions, continues to be very hotly contested. Another question is: Should

MIS apply only to Federally funded projects?

In the planning context, the question continued to be raised as to what extent we should allow an MIS to dictate land use. Some things belong in regional planning agencies and some should be addressed by an MIS, but to what extent we should allow an MIS to dictate land use decisions was disputed.

How do we justify alternatives limitation and avoid modal bias and predetermined strategies? We talked a lot about pipeline. We all know that plans exist. We can't ignore what they are. So, from a planning context, how do we design that process to ensure that we don't build in a modal bias because of those existing plans?

Integration of an MIS with environmental principles should result in a seamless commitment through planning and project development. We don't want to go through and finish either the planning process or an MIS, only to have to revisit issues when we know we have already been there once. How do we design the process better so that we know we can convince people that once we have decided, made a decision, we don't have to revisit it in the next step.

What are the problems to solve using the MIS as a subset of the transportation planning process? Here there was discussion about overuse or underuse of the MIS process. What problems are we trying to solve? What problems should be solved in the regional plan versus on a corridor or subarea basis?

How do we ensure that the planning process, including the MIS, meets community and stakeholder needs/environmental justice? Again, that is a performance measure. How do we really know that we are being effective in the planning process? How do we really know we are meeting community needs?

Throughout the process, what is an appropriate analysis detail level? It should be decision-driven. How much money do we invest on that appropriate level of detail? How do we ensure a collaboration, and how do we put the word "collaboration" back into the collaborative process and ensure that everybody is an equal partner?

This discussion probably took place in a lot of the groups, that at some times there seems there is not exactly total equality among the partners in the collaborative process, and it appears that somebody has a bigger hammer than somebody else.

Last of all, we did get to one recommendation: Better

education of the collaborators and study managers so that we understand clearly the roles and responsibilities.

Group 6 Workshop Summary

George Scheuernstuhl, Chair

Policy issues

- MIS should have legal status as part of the NEPA process.
- An MIS has a limited shelf life, which affects its application.
- Formalizing the local approval process is suggested as a way to “close” an MIS.

Planning issues

- MIS is part of the planning process. It is to be done selectively, when there is value to be added.
- Management systems help identify the need to do an MIS.
- The MIS should be designed to address all Federal requirements at a broad level of detail.
- An MIS can trigger the need to review the comprehensive transportation plan.
- The goal of MIS is to build consensus.

Discussion

With respect to policy issues, there were three major considerations. First, it is very important that MIS have legal status as part of the NEPA process. To make sure that MIS decisions can be used in a NEPA document, it is very important to formalize that relationship.

Second, it is important to recognize that an MIS has a limited shelf life, particularly if it is to be used as part of Option Two. Care must be given to the timing of an MIS so that the effort will not have to be repeated later. If the study is done too early, it may not lead to initiation of a project. All the resources that were put into that decision-making effort would be lost. Decision-makers may change by the time the study is ready for implementation support.

It is really hard to get a project started, and it is also equally hard to get it stopped. Therefore, there needs to be some way to formally close the MIS process—perhaps by a formal signing of an agreement among the partners that the project is closed and that they accept the recommendations of that particular study.

With respect to planning context, there was agreement that MIS generally should emanate from the planning process. However, some exceptions will occur along the line, in which case the MIS can be generated from a particular issue that happens to arise but wasn't considered in the planning process.

The MIS should be done selectively, and it should be done when there is some value to be added. Decisions should also be made collaboratively.

Every project is not an MIS project. We have limited resources to do these studies. An MIS is a major undertaking, and it is important to carefully consider what projects are really appropriate for an MIS.

Management systems, when and if they are ever completed, could help to identify the need to do an MIS. In fact, the management systems could be very helpful in reaching a decision on the particular alternative, especially if there is good input from, say, a pavement management system, a safety management system, and/or a congestion management system. Such input might help with the decision, particularly given the information that those systems can provide.

MIS should be designed to address all Federal requirements through the process but perhaps at a broader level of detail than for a project.

Also, the group recognized that an MIS can trigger the need to review the comprehensive, long-range plan. The MIS emanates from the plan but, having gone through the MIS, it may then become necessary to change that plan after more detailed analysis.

Lastly, it is important to understand that the MIS goal is to build consensus and that consensus has two parts. One is consensus on what the problem is. Sometimes there is not consensus on what the real problem is in a particular corridor. The second consensus is on what the recommended improvement might be.

PLENARY SESSION—Panel Discussion: Management and Institutional Issues of MIS

MIS: What's in a Name?

Hank Dittmar, Surface Transportation Policy Project

There is discussion about the name, major investment studies, MIS. Should we change it? MIS is pretty good as an acronym because it makes you think about management information systems. I finally captured the meat of the MIS process and came up with “Muddling our way Into Solutions.” That characterizes where we have gone so far and begins to frame the whole issue of institutional and management problems.

We are the implementers of MIS, the people who are hired to work on it, the people who are responsible for overseeing it, and the Federal agencies who oversee the process. All of us approach this as a job of overseeing a process and delivering a product. However, citizen groups, businesses, elected officials who don't serve on MPOs, those who are in the areas of a corridor study, and resource and permitting agencies come to the table for an MIS effort because what you are proposing to do in delivering the product, be it a study or a project, could affect them. It could affect their quality of life if they are citizens, the quality of life of their constituents if they are elected officials. It could affect—either positively or negatively—their ability to make a profit and pay their workers if they are businesses. It could impair or help their separate professional missions if they are water resources agencies or air quality agencies.

These groups have different reasons for getting involved, compared to the reasons we come together to do an MIS, whether we are from a transit agency, a State DOT, or an MPO. The recommendations we come up with as a result of an MIS are largely recommendations about meeting our goals in terms of delivering a transportation product. If we want to achieve some of the goals we have defined as important, we have to think about how we help people achieve *their* goals.

Implications of the process

Mobility and environmental goals are not incompatible but may be seen that way unless you start early in the process and acknowledge the legitimacy of the goals of all stakeholders.

First, this implies building a process that acknowledges and embraces the legitimacy of the goals of other participants in the process. It implies something very important about the process, which is ownership by the stakeholders in the process at every stage. That implies participatory decision-making rather than professionally delivered information or sales pieces. It means incorporating the implementing agencies and the permitting agencies, as well as citizen groups and affected business people, into the process in a formal advisory role. It is essential to begin the consultation process by formally going out and seeking representatives of the affected communities and doing so in a way that creates an open and legitimate process that engages communities in an advisory role and brings the stages of the project before them for their evaluation.

Secondly, agencies need to understand that when they ask people to become involved, they are asking them to commit resources. Resources are an important problem in terms of getting a legitimate process that involves both institutions and a broader base of people.

The resource question can be tackled in several ways. For the resource and permitting agencies, perhaps funds in the study budget could be set aside to compensate staff and pay their travel costs to participate in the MIS study. A similar action may be necessary for citizen groups. We have been criticized roundly by some for a project on which we worked with FTA to actually provide planning funds to citizen groups in some metropolitan areas to enable them to understand the dynamics of the transportation system and come together with the MPO and the State. The criticism hasn't really looked at what those groups have done—which is not to sue anybody over projects or stop projects but actually to begin to get involved in developing projects and ideas that they want to move into the planning and programming process. That is a positive outcome.

The investment of money in finding ways early in the process to give citizen groups the resources to understand the transportation system and how it works, and thereby become educated to your process, is an excellent way to begin. The right questions can then be asked early in the project to satisfy citizen groups, non-governmental organizations, and implementing institutions.

The third thing it implies about the process is that early involvement needs to take place in selecting and narrowing the alternatives you will consider.

The fourth is to ensure that an advisory committee sign-off is built in as part of closing the process. This assures that you actually go back to people after you talk to them and get some concurrence on the results.

What does this legitimacy imply about decision-making? If you are going to involve institutions that are not there to help you deliver a project, you have to understand that for them “no project” is an acceptable answer. You have to be willing to consider whether “no project” is an acceptable answer for yourselves. There is the need to acknowledge, discuss, and debate that question up front and do it openly.

About decision-making, it is important to think about structuring the alternatives you look at in such a way that they incorporate and reflect people’s objectives from the outset. People come to the table with concerns about quality of life. Are there ways you can incorporate flexible design standards, open space set-asides, and calming in areas near the project? That buys you a lot of faith from people, and it gets you out of always having the public demand mitigation measures. Mitigation is an adversarial approach. You are saying, we are doing something bad, and now let’s come back and sort of “band-aid” and redress it. If you can include quality of life as an integral part of the solution, it is better than looking like you are tossing bones to angry citizens.

Furthermore, in decision-making, one really needs to think about who is doing the study and how they are seen by the audience with whom they are working. Is the agency or team seen as people who can make neutral, unbiased decisions? It is important to strategize among the collaborators in the metropolitan planning process to make sure they see a balance in the approach. If you are hiring consultant help, make sure they are a balanced team and a team that is willing to consider all alternatives and will reach out to do that. The whole question of neutrality is vital for involving permitting agencies and the public, because their first perception is that you are coming in to deliver a solution that you have already decided.

“We want to frame goals collaboratively with our partners and set forth achievable measures that we can look at and talk about even if they are qualitative.”

MIS as a tool for managing the system

If you want people to own the results, all stakeholders have to buy into the process from the outset. We need to look at the MIS as a management tool, as a tool for managing the metropolitan transportation system. We are emerging into a time where new major investments are the exception rather than the rule. The rule now is maintaining and managing an existing infrastructure and providing limited additions to the infrastructure to allow it to operate and perform at maximum efficiency. The MIS needs to be seen contextually as a tool for managing the system and not just as a tool for project approval. The management question is how the MIS helps you deliver on those goals and objectives.

STPP has done focus groups and held a lot of discussion with members of the public about metropolitan and suburban transportation in the last year. We hear a high level of dissatisfaction about transportation. It really comes down to a public attitude of “They are always digging up our roads or building on our freeways or building on our transit systems. When they get done, it is just as bad as it was before they redid it. And now they are coming back and want to do it again! Why are they are always working on it, but it is never fixed?”

MIS must be a tool for answering people’s questions of how these improvements are going to make their lives better in terms of time saved, quality of life, getting to the store, getting the kids to the soccer game, or to wherever it is that people are going.

It is important to go beyond capacity issues, to include safety, economic development and urban quality of life and access for citizens that don’t currently have access to jobs or opportunity. We want to frame goals collaboratively with our partners and set forth achievable measures we can

look at and talk about even if they are qualitative.

Another thing management must not forget is how actions proposed in a specific corridor of an MIS relate to the transportation system as a whole. All too often, we do not go back through the process and say, “How does this affect trip-making in other parts of the region?” We often don’t look at how this affects access to other systems, whether it is the social service system or employment nodes within the region.

Finally, the MIS is a management opportunity to communicate with a broad group of the public. It is hard to get people involved in a long-range plan and, as planners, we think the long-range plan should solve everything. People don't show up until the problem comes down their street, so you need to look at MIS as an instrument for communicating broad goals and objectives and being relevant to people, and not use it as just another planning tool.

MIS: "Warts" and "Beauty Marks"

Ysela Llort, Florida Department of Transportation

The decisions we are making are not just about investments. They are about how to make decisions—and that is a different perspective.

The one thing MIS has done for us is bring transportation decision-making into the public arena. In the past, a lot of people believed transportation decisions were made by planners in dark rooms. Somehow transportation projects appeared as spontaneous apparitions in the transportation program. All this has changed. MISs are now open forums where the process is collaborative and decisions are by consensus.

The intent of MIS

Let's talk a little bit about the intent of MIS. The best investment strategy is not just to find the best mobility and accessibility solution. The decision-makers and the decision-making arena have expanded so tremendously that it is difficult to define "best" when everybody uses different criteria and has different goals and objectives.

Achieving consensus, determining the financing and staging, and assessing the investment strategy are major time consumers in an MIS. In Florida, it has taken us about three years to get through an MIS, and we cannot yet tell whether those are three years that have shortened the process in the long term, or whether it has simply added three more years.

One thing we know for sure is that in this day of consensus-building through an open process, we don't think it is ever going to get shorter. And frankly, we are comfortable with that. We are more concerned about getting the consensus and making the right decisions than we are about making a decision quickly.

One criticism of MIS is that the outcome may not be doable, and that is okay because that is a decision the community makes. Another criticism is that perhaps it is just another study we are using as a last resort. Is the MIS one study in a long line of studies?

We know there are a lot of warts and beauty marks in this process. (See Figures 1 and 2.) The issue of modal favoritism continues to be one wart. Who should convene the process? Should it be the MPO? Is an MPO modal-neutral? Can a transportation agency be modal-neutral? Should we worry about modal neutrality, or should we worry more about the ability to administer a wholesome process?

Figure 1

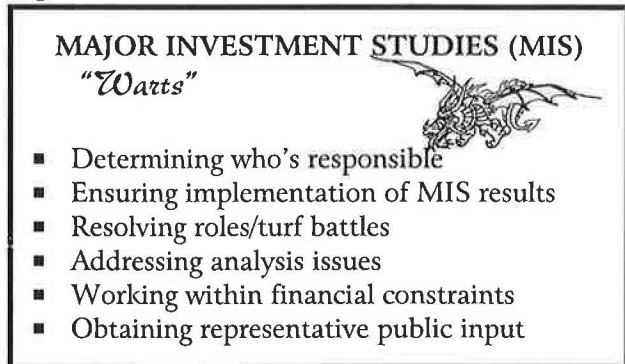


One of the difficulties we all face, particularly with politician term limits and a very mobile community, is that the people who are here today are not here tomorrow. Since our process takes such a long time, there needs to be a continuing way to keep people involved. MIS is not about taking a one-time shot. It is about maintaining a consensus in a decision in a public arena and resolving the roles and turf battles. The issues of MIS and the problems of MIS are not technical. They are organizational, and they are consensual.

MIS has thrust us into working in teams, which has brought about an interesting issue of how to work on other non-MIS projects and decisions. Are we going to reorganize our whole planning and decision-making process or have a separate process for MIS than we do for other projects? We know that somehow we have got to lace the department's entire range of planning and environmental activities together.

How do we de-mystify transportation planning so that local elected officials can become actively engaged in a planning process that is meaningful to them? This is

Figure 2



more important when you are trying to deal with citizens, because they are not only interested in transportation, they are also interested in education, public safety, and numerous other issues. If we make transportation planning too complex, we will lose them.

In Florida, we think that the strength of the MIS process is the fact that we focus on financing. One of the warts of this whole process has been that none of us are really well-equipped to handle public input. The old traditional method of citizen involvement simply does not work. In Florida, we have spent a lot of time and effort evaluating our public input process, and we know that we cannot continue to get the public to attend transportation meetings one by one, because we are stretching the time limits that special interest groups and the public have to devote to such activities. We need to find a better way to get to their involvement and input.

This might mean using joint sessions with PTAs, PTOs, and others who have a very good grassroots way of getting to local municipalities and local residential areas.

One of the beauty marks is that State and local agencies are working together, and that has been an amazing institutional development. We have spent a lot of time learning about each other's processes and learning about what is important to each other. In Florida, within the MIS process, we have memoranda of understanding that we put together with all participants. Those memoranda set forth what the groups have agreed to regarding the study scope, their involvement, timing, responsiveness of each agency, and what is expected of them in terms of being able to review information and get it back to the group. That has been most helpful.

Developing multi-modal alternatives is a great beauty mark. This is one of the things we do in a systemic way and include in the system plan.

The great beauty mark is realizing that the business community is key to implementing transportation projects in a time when you have few resources. We have become more and more involved in marketing to the business community. By marketing, we mean sharing information, analysis, outcomes, and alternatives. This is how we will be able to improve transportation in the future because the business community certainly is interested in economic development.

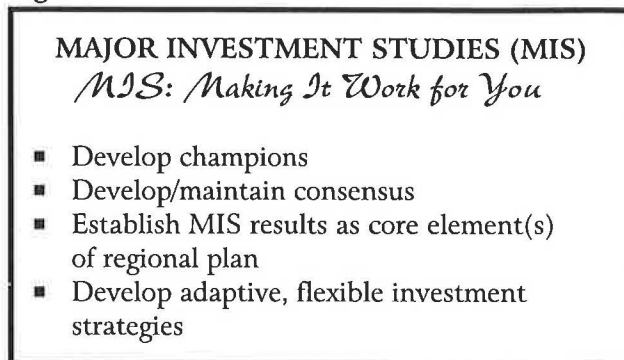
Developing advocacy groups for an MIS is important. Getting more people involved does not always result in getting needed support for a decision. Even then you may lose the support because the situation has changed.

Making MIS work within existing processes

So how do we make MIS work within the institutional management processes we already have in place? (See Figure 3.) We think everybody needs to develop champions for MIS. It doesn't have to be the institution that manages the administrative process itself. The champion can be a local business person. It can certainly be one of the agencies involved. But it needs to be someone with very high credibility within the community and someone willing to devote the time to make sure that the MIS can become a reality.

We must be concerned not only with *developing* consensus but also with *keeping* consensus. How do we keep consensus? What type of superstructure do we need to maintain the drive behind the MIS? How do we maintain the consensus as we move through these uncertain economic times?

Figure 3



Definitely the MIS must be a core element of the regional plan. We must simplify and tie in the two processes. We must find a better way of talking about

these processes and what they mean when we present them to the community. Then the public can understand what it is that we have been trying to do.

Finally, we must develop and adopt a flexible investment strategy. A project is not going to come to fruition for five or six years. In that time, the financing situation might have changed.

Major investment studies are not truly all that new in Florida, and the commitment to this process did not start with MIS. It started with what we call our master planning process. However, the master planning process was definitely more inclined to look at just interstate corridors, and the public participation aspect of them was not very comprehensive. Therefore, we have had problems with projects in the pipeline. We have had to go back and figure out what the differences are between the old master planning process and the MIS.

In the last 10 years, we have spent about \$35 million on both the master planning and the MIS processes. When you have \$35 million riding on such processes, you had better figure out a way to have them give you sufficient value added—because if you do not, the public will be after you.

So we are very serious that the way to achieve good value added to the planning process is to move from the old technocratic approach to transportation planning into this new, inclusive, collaborative, flexible method of doing business with the community.

MIS: Lessons to Be Learned

Les Stermann, East-West Gateway Coordinating Council

While I am a transportation planner by training and experience, my role now is primarily administrative. I report to a group of chief local elected officials: the mayor of St. Louis, who is our vice-chair; the county executive of St. Louis County; and their counterparts throughout an eight-county region. These individuals do not care much about many of the technical and procedural details we will talk about at this conference. They want to know how and when they will get the information they need to make decisions. There is a tremendous amount of pressure on me and the people who work for me to produce that information fast and accurately and get it in front of decision-makers as soon as possible. Since we have a number of critical MISs in progress, I have become almost obsessed with the time-

liness and responsiveness of the process. I would like to tell you about some things we are doing to try to improve that process. I hope there will be some lessons others can draw from it.

One thing we have all agreed on is that a good MIS requires collaboration. Sometimes we call it partnership. Sometimes we define collaboration as “holding a meeting.” Since the passage of ISTEA, we have done a lot of collaboration by almost any definition. True partnership calls for some real changes in the way our institutions and levels of government relate. We need to re-engineer these relationships.

There is the continuing frustration that we hear from at the national level about our inability to get things done. We are having trouble getting to the end of the planning process, making decisions, and generally accomplishing the goals our constituents expect from us. In the MIS context, there are complaints about the cost and time involved, the cumbersome nature of the process, and the fact that, even within our organizations, planners and designers do not seem to relate.

All of these things are symptoms of difficulties in the collaborative process. Our relationships must really be re-engineered from what they have been over the last 30 and 40 years if we are going to truly make MIS work.

The St. Louis experience

Let me tell you about some experiences in St. Louis that lead us to that conclusion. St. Louis is a large metropolitan area of about 2.5 million people, 8 counties, and 230 municipalities. We stretch over two States, Missouri and Illinois. About 80 percent of our population is in Missouri. We are divided into two Federal regions. We encompass a very old center city, mature suburbs, rapidly growing newer suburbs, and rural areas. Our area is truly a test of whether the collaborative decision-making process envisioned by ISTEA can really work.

I want to talk mostly about our relationship with the Missouri Highway and Transportation Department as an example of fundamental change in a collaborative relationship brought about by ISTEA, and about some of the difficulties and strains involved in fundamental re-engineering of relationships between institutions. It is a good case study.

Our relationship with the Missouri Highway and Transportation Department—which, quite candidly, was never one of mutual admiration—became one of open

conflict after ISTEAs. In fact, we came to a point shortly after its passage when we refused to program some major projects proposed by the MHTD in the St. Louis metropolitan area. This, needless to say, created great divisiveness between our organization and the State Highway Commission, which oversees the Department.

Sometimes that kind of conflict breeds cooperation and understanding, though it was hard to recognize such an opportunity at the time. As we picked up the pieces and reexamined our relationship, we and the MHTD agreed that if the projects the Department advocated were to move forward in any way, they must result from an investment analysis. This action came right after the Notice of Proposed Rulemaking on planning was issued.

What we did was develop guidelines for investment studies that were the forerunners of MIS, and we actually adopted those guidelines as part of our TIP to assure local officials that, prior to a project being programmed, there would be adequate opportunity for analysis and input. Everyone then knew what work needed to be done to move a project forward.

Unfortunately, based on our experiences with those early studies, we and the MHTD came away very unsatisfied. Here are a few reasons why we felt that way:

1. Neither the consultants we used to do much of this work nor the staff of our implementing agencies understood the meaning and fundamental importance of problem statements. The MIS is fundamentally a problem-solving effort, and if we can't state what the problem is, we cannot do an effective analysis. We continue to struggle with that concept. The key to doing a good MIS is to develop a good problem statement and scope at the outset.
2. Many people traditionally involved in design and planning misunderstood how to seek and respond to public input. Public involvement was constantly confused with public information. Public information is getting the glossy brochure out, producing fancy slides, taking the road show to shopping centers, and handing brochures out to people. That is public information; that is not public involvement.

"The major investment study is fundamentally a problem-solving effort, and if we can't state what the problem is, we cannot do an effective analysis. ...The key to doing a good MIS is to develop a good problem statement and scope at the outset."

3. Planners and designers from traditional unimodal backgrounds seemed unable to fairly define, let alone evaluate, multi-modal transportation alternatives. We seemed constantly in the process of setting up false comparisons from one alternative analysis to the next, proposing in some cases ridiculous alternatives solely for the purposes of satisfying the definition of an MIS.
4. The studies cost far more than anticipated and, unfortunately, when we reached the end, the outcome seemed no different than the one originally sought by the implementing agency. The problems of modal bias, the skewing of results—all of those factors affected the outcome. With each succeeding study, we had a new set of consultants or a new set of staff people, each trying to figure out what was really needed in an investment study. While we believed that we were clear on our scope and intent and our honest desire for change, in most cases we simply fell back on the traditional models of location studies and EISs.
5. The public was confused about how decisions were to be made. They did not understand who finally decides whether something is going to get built. Among ourselves, we pointed fingers at each other. We generated scores of meetings, but while we were *talking* to each other across the meeting table, we did not seem to be *working* with each other.

The bottom line was that we insisted on fitting MIS into the mold of "what we always do." No matter what we asked consultants or staff to do, they came back with a *location study*. Someone in an earlier presentation called it a "familiar paradigm." Reflecting back, we decided we were doing exactly what the public and elected officials told us *not* to do: build in another layer of studies that did little to

improve the quality of decisions.

Conclusions to be drawn

Based on this experience, we and the staff of the MHTD simultaneously came to a number of important conclusions. First, certain tasks are simply best done in a unified manner by in-house staff. Public involvement is

foremost among those tasks. MISs deal directly with meeting the needs of our customers. If we don't understand what our customers think and what they want, we had better find out, because it is fundamental to the ongoing success of our agencies. We must develop effective, ongoing relationships with our elected officials, our public, and special interest groups, rather than reinvent those relationships for each MIS using a different consultant using a different technique. Lacking such relationships, we are doomed to failure.

Another element best done by in-house staff is the development of problem statements. Problem statements need to emerge from the long-range plan. Unlike a lot of other regions, when we in St. Louis identify corridors in the long-range plan, we do not identify any mode or alignment as a "place holder," because we think that builds bias into the subsequent MIS. Our strategy is to identify a set of transportation problems that cause us to identify a corridor for study. With a good long-range plan, it should then be fairly easy to craft a good problem statement to start off the MIS.

Activities such as demand estimation should not be done uniquely for each study either, especially when, as in St. Louis, there are multiple MISs underway simultaneously. There should be only one set of demand estimates and related assumptions for the region.

Financial capacity analysis is yet another activity that needs to be done region-wide, so that potential projects will fit into a common financial plan consistent with the region's long-range plan.

In short, multiple MISs should relate to each other on a system-wide basis by having some of these common elements done in one place, not many places.

Second, we concluded that the process could not really be fulfilled as we envisioned it without acknowledgment of flexible funding. We are kidding ourselves if we think we can make this process work without real flexibility in funding. It is like sending a child into a toy store with instructions that "you can have anything that you want in this toy store as long as it does not cost more than a nickel." That limits your choices, and that is what we have been doing in many of these studies.

Two weeks ago we entered into a memorandum of understanding with the MHTD to address these issues. It does several important things. First, it creates a transportation corridor improvement group (TCIG) that is jointly staffed by MPO employees and employees of the implementing agencies—in this case the Missouri Highway and Transportation Department. Ultimately, other implementing agencies will sign on and contribute staff. We have set aside space in our office for these people to work together. This group will manage all the major investment studies that are active in the region.

The TCIG will be responsible for scoping, problem definition, public involvement, financial planning, and demand estimation. It will be able to reach into each of

our agencies to utilize staff resources where necessary to carry out those tasks. We are putting people side by side and blurring the lines between organizations so that staff members are jointly responsible for getting the best job done. This helps keep our joint staff focused on doing the

best MIS and not feeling responsible, in the way they were before, to a single mode or special interests. Their only interest now is in doing a fair job. While this, in effect, is what the MPO was created to do, we found that this new model was necessary to build trust in the MIS process and assure adequate financing of and participation in that process.

Secondly, the agreement provides for a fully cooperative project programming process using procedures, processes, and criteria that come right from our long-range plan. In doing so, it commits everyone to the full flexibility and use of funds, with one major caveat: For any sponsoring agency to access flexible funds, it needs to fully subscribe to the principles of cooperative planning.

Specific principles of the St. Louis memorandum of understanding

Some specific planning principles outlined in the MOU include (and these come directly from the agreement):

1. The transportation system should contribute to regionally desired outcomes of mobility, economic growth, fiscal and environmental responsibility, social and economic well-being, sustainability, and safety.

"We must rethink traditional relationships between disciplines and institutions if we are going to effectively carry out the major investment study process."

2. The customer is at the center of the decision-making process; hence, all plans involve a high degree of customer participation and information.
3. The performance of the multi-modal transportation system will be maximized by basing decisions on community objectives and related system performance measures.
4. All relevant transportation and non-transportation agencies must be involved in the planning process.
5. Clearly and precisely defined problems are critical to the development of appropriate and effective transportation solutions.
6. Consistent, careful devaluation of the full range of multi-modal transportation alternatives will ensure choices of optimum solutions to those problems.”

Of course, we also adopted standards for administrative cooperation to bring this about.

That will give you an idea of what we signed up for.

Looking back on this, who would have thought that two organizations that, a year ago, were at each other's throats, could come together in this kind of agreement? It is really pretty remarkable. For us in the St. Louis area, this is simply testimony to our shared deep frustration about our inability to get things done.

We know this kind of arrangement may not work every place. In fact, it may not work in St. Louis. It is one thing to sign a piece of paper; it is quite another to carry it out—which requires skill and competence and good will. The lesson here is that we must rethink traditional relationships between disciplines and institutions if MISs are to succeed.

Since major investment studies are simply good planning practice, why did we need a regulation to force us to implement such a practice? It is because of some of the institutional calluses that we have built up and the defense mechanisms we have in place, some of which we have joked about in our discussions during this conference. We too often fail to confront our institutional barriers. Yet, we are going to have to overcome those barriers that continue to divide us if we are going to effectively carry out the MIS process.

PLENARY SESSION—Panel Discussion: Decision-making Process of MIS

Informing and Involving Decision-makers

Brigid Haynes-Cherin, San Francisco County
Transportation Authority

We are involved in the MIS process in the Bayshore Corridor, which runs out to the airport in the south part of the county, where there is economic development potential. It is a low-income corridor. Transportation improvements offer an opportunity to revitalize the neighborhood without pushing out the residents who already live there.

We have finished the MIS process based on work we did before the MIS rules came out. Most of the money for the Bayshore corridor project will come from our half-cent sales tax, and that is how it is shown in the regional transportation plan. We want to make sure we will be eligible for any Federal money that becomes available, so we are going through a Federal environmental impact document. The MIS process will make sure we have done everything that is needed.

How do we inform and involve decision-makers? The problem is that the term "decision-makers" has never been defined. Sometimes "decision-maker" sounds like it's the citizen, sometimes it sounds like it's

the business community, sometimes it sounds like it is other interest groups, sometimes it sounds like it is the resource group because they give you that 401 permit, or sometimes it sounds like it is the elected officials whom we tend to traditionally think of as the decision-makers. You have to have each one of those groups involved in the decision-making process. It also gets down to what kind of decision is being made. Is it being made by a resource agency? Is it being made by the MPO to put something into the long-range plan?

We have to give the process more time, especially since our MIS is taking three years in some areas. We are only just getting through it now. We have not had time to see whether it will be implemented. If not, why not? What have been the problems? How do you hold a

consensus together? We need time to make these new processes work.

Does the process take away flexibility? I don't think you can give a yes-or-no answer, but intuitively the answer is "no." There's nothing inherent in the process that would take away flexibility. What you're doing is putting information on the table. That information isn't always wanted, but you need to have it if you're going to have a reasonable decision-making process that takes into account the needs and interests of a variety of groups. Often, participants bring their own concerns to the table, which sometimes cuts down on flexibility. We all know that often alternatives get cut out of the process right up front because someone says they are never going to work. We have to keep an open mind and make sure we are willing to put all the facts and information on the table.

Is the new required interagency collaboration working? Is it improving decisions? These are really the same question. If it's not improving the decisions, then it's not working. As a side remark, I hope this means that we have rehabilitated the word "collaborator," because

otherwise we are doomed to failure if we call this a collaborative process.

We have had staff-to-staff coordination. People are talking in a way that they have never been talking

before. Issues are being put on the table. However, we don't have the information-sharing going on at the elected-official level that we were assuming there was. That is true for interest groups as well. It is very hard to stand up and say, this person represents the elected community, this person represents the private-interest group, this person represents business. There is no one opinion that's out there, no one person who represents all of the group's opinion. The challenge is to make sure all the right people are at the table at the right time. Sometimes they do not want the information you are giving them, but you have to make sure it is there.

Can citizens influence the outcome of MIS? If they haven't changed the decisions and haven't influenced the outcome, then we are certainly not going to

"We have to keep an open mind and make sure we are willing to put all the facts and information on the table."

continue to have them come to the table. One of the main values in our involvement with the citizen group in the Bayshore Corridor was that they brought to the table an alternative we hadn't considered. The community was saying, "We do not want large platform structures out in the community. They are very disruptive and create some safety hazards. We would rather use low-floor platforms." The issue there became whether we could fit both a low-floor and a high-floor technology into our existing MUNY tunnel. We are still looking at that issue. There is a great deal of potential in what the citizens put on the table.

What can be done to facilitate access for citizens to the process? We have developed a travel analysis database, which takes all the data we have on level of service, land use by parcel, bus ridership, and bus routes and puts the information on a computer using GIS. We want to take computers out to the community, where the public can sit down and do analysis of its own. People can see and understand what happens if you put your station here, how much walk-on you can get in one place versus another. This tool doesn't give you an inherent answer but does have the ability to visualize what is happening and what it means for the community.

You have to have people involved, and you have to know what the decision-making process entails. That dynamic needs to be understood. Another dynamic is that if you're seeking Federal funds, there's a Federal agency involved in that decision. If you're going for a permit, there's a Federal agency involved. That needs to be explained to elected officials as well, so there's a good understanding by everyone of how the decision gets made and what it means once it is made.

Developing 20/20 Vision for the Year 2020

*John V. Blain, Jr., Texas Department of Transportation
(retired)*

The 1991 Federal ISTEA created new rules and regulations for Transportation Planners and Providers that have significantly increased the responsibility for decision-makers in their consideration of where and how to commit resources for transportation investments.

As transportation planning and design professionals, most of us are beginning to look at the year "2020" as our planning horizon year, and everyone in this room involved in this activity is expecting to exercise 20/20

vision in developing the most cost-effective decision-maker consensus and environmentally acceptable Transportation Plan for the year 2020.

The major investment process provides transportation planners with the opportunity to perform micro-transportation planning for corridors in a systematic manner and allows decision-makers of Federal, State, and local governments as well as the general public and stakeholders of many organizations a second chance for "20/20" vision if the target was missed in a specific corridor during the Transportation Plan process for horizon year 2020. Mr. Lamers from our Dallas-Fort Worth Metropolitan Planning Organization has given you an overview of the D-FW MPO process; therefore, I will not dwell on the details of the process but will attempt to furnish you with a review of concerns many of us as transportation planners and project implementors have as we begin to develop and, in some cases, come to closure on numerous major investment studies in the D-FW Metroplex. I believe these concerns are common to many other major urbanized areas of over 200,000 population in non-attainment areas.

The D-FW Mobility 2010 Plan is scheduled for update completion by the MPO by Fall 1996. (See Figure 1.) Some major investment studies scheduled for various corridors will be completed; however, many will *not* be. Therefore, the 2020 plan produced for consideration of the decision-makers of the area, including the governing body of the MPO, will primarily be based on macro-planning analysis, with the micro-analysis completed on a few corridors and several still in progress.

Other than for the environmental issue associated with air quality conformity (D-FW is currently in moderate non-attainment status), the macro-planning process will not be able to totally address environmental issues associated with corridors that have incomplete MIS studies. This does not mean that a flaw exists in our methodology, but an issue needs to be recognized by decision-makers as part of our revised transportation planning process. Our MPO in the D-FW transportation planning process has recognized this issue in its process for many years prior to the MIS requirement and accomplished the micro-planning by performing sub-area studies and utilizing work performed by the transportation providers under feasibility studies and the NEPA procedure; i.e., environmental assessments and environmental impact statements.

A summation of my comments about this process would be to draw an analogy to firing a new rifle on a range. The sights would need to be adjusted for variation in the

Figure 1

MOBILITY 2010 PLAN UPDATE FINANCIALLY CONSTRAINED RECOMMENDATIONS	
Mode/program	Cost (\$ billions, 1993)
Congestion management system	\$1.0
HOV system	\$1.2
Rail facilities	\$2.1
Freeways/toll roads	\$6.7
Arterial streets	\$2.1
Bicycle/pedestrian facilities, transportation enhancements	\$0.3
Roadway maintenance/transit	\$1.8
TOTAL	\$15.2

manufacture of the rifle (the MIS process) to cause the bullet to hit the bull's-eye of the target (the final transportation plan).

Next, I would like to address what is in all probability the most difficult 20/20 vision issue that faces decision-makers today in every area of the U.S., and that is financial constraint in the transportation planning process. The D-FW current 2010 Transportation Plan is a financially constrained plan based on decision-makers' best estimates in 1993 for 17 years. With the Federal funding for transportation under discussion by the U.S. Congress/Administration as a balanced budget item, among other programs, obviously our 1993 revenue estimates could be far off target.

As Mr. Lamers told you earlier, because of financial constraints the decision-makers had to use the fourth highest hour of the day in lieu of the traditional and accepted thirtieth highest hour of the year as a traffic volume for a study of level of service parameters for uniformity region-wide. This procedure provided a reduction in congestion levels for the 4.5 million people in the D-FW region, from the "do nothing" to the recommended 2010 plan.

These congestion levels mean that unless you are, as a peak-hour traveler, willing to ride a bus, carpool and use a high-occupancy vehicle lane, or use the planned rail

system, your peak-hour ride in the D-FW Metroplex in the congested area as a single-occupant vehicle operator is not going to be much fun in the era of the years 2000 to 2010 and beyond. I would remind you that the fourth highest hour of the day in the D-FW Metroplex is close to the highest non-peak hour.

As an SOV operator in the peak hour, you cannot forget level of service. Obviously, transportation planners in the D-FW area and decision-makers have come to realize that because of financing and other issues, we are not going to be able to build our way out of congestion for the single-occupant vehicle operator, not only in the 2010 Transportation Plan adopted in 1993, but also most probably in the 2020 Plan currently under study.

The D-FW area is experiencing the same opposition to major revisions in major transportation facilities as many other areas of the U.S. from well-meaning citizens who have the often-quoted frame of mind called "NOT IN MY BACKYARD." This is prevalent not only in the D-FW area in the automobile/bus side, but also in the rail and airport sides. In summary, where does this leave decision-makers, Federal Transit and Highway, State DOTs, Turnpike Authorities, Local Transit Agencies, Cities and Counties, and Metropolitan Planning Organizations composed of members from all local governments as well as State and local transportation providers as they attempt to create a 20/20 vision transportation plan for the year 2020?

For the D-FW 2010 Plan, the D-FW MPO had to acknowledge that only \$6.7 million of the total \$15.2 billion plan could be used for SOV improvements that in many instances for the system would only provide acceptable levels of service in the highest non-peak period of the normal work day. Obviously, this means congestion management must be used to tweak the portions of the system that cannot be improved, as all major urbanized areas of the U.S. are considering.

However, these were factored into the congestion analysis I presented. I believe the 2020 Plan currently being considered will not significantly improve the congestion levels projected for the 2010 Plan for the freeway system. And, although not discussed previously, not much improvement for the thoroughfare system can be accomplished outside of maintaining the

status quo. This could mean Draconian solutions may have to be considered by decision-makers for implementation such as congestion pricing for the SOV in the peak hour to further encourage HOV, bus, or rail usage; restriction of parking spaces by the private sector for employees; employer assistance for housing of employees closer to the workplace; telecommuting; restriction of movement for freight operation on highway facilities during peak hours; and perhaps taking a long look at how we allow trucks to operate on the freeway system; i.e., dedicated truck lanes, etc.

The whole issue of planning integrated freight operations in the D-FW 4.5 million population Metroplex needs to be and is being looked at by the MPO as a part of the 2010 and 2020 plan to ensure truck, rail, and air freight issues are addressed, as well as possibly considering the political implications of change. Obviously, decision-makers at local governmental levels as well as at the State level are going to have "severe nervousness" about the Draconian alternatives I have touched on, but with financing issues the way they are, we may have to face the challenge of change. This may require some changes in Federal and State laws to allow some changes to occur if they are adopted. In final summary of financing, transportation financing in Texas over the past 20 years has progressively received a smaller percentage of available public financing than other programs, and if the trend continues, transportation planners and providers are not going to be able to develop planning and implement projects to build us out of the congestion we have to plan for SOV drivers.

The last topic I would like to bring to your attention before closing is the organization Texas Department of Transportation, the City of Dallas, and the County of Dallas in cooperation with the MPO have created for a major investment study for a project located in Dallas along the Trinity River Corridor to involve decision-makers and the public as well as other interested stakeholders. Obviously, with the complex issues in this corridor, a few of which are flood control, aesthetic impact on downtown Dallas and Stemmons (IH 35E) corridor, park and recreational issues, freeway crossroads for the Dallas Metroplex, and a multi-modal corridor (freight, commuter rail, light rail, and HOV), consensus-building as a part of the MIS process is paramount.

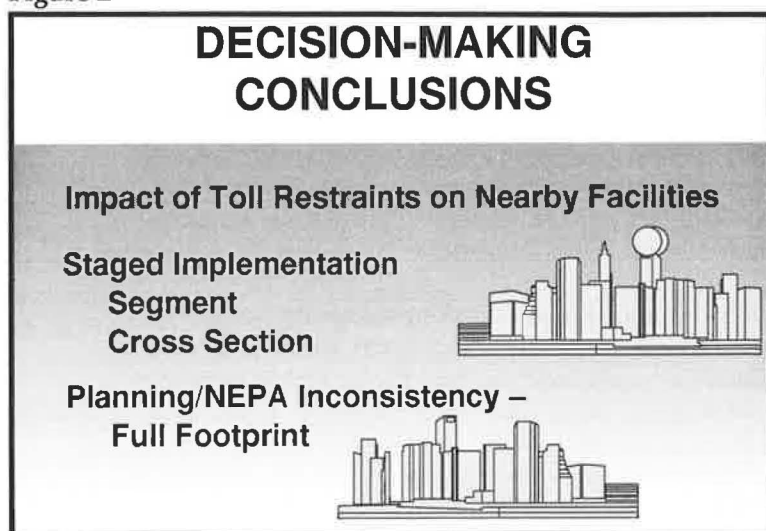
The organization proposed for the MIS to be considered for adoption through a public meeting process will be a

policy work group, a community advisory work group, and a staff support work group. A study process has been designed in accordance with procedures outlined and approved by the MPO to accomplish the MIS with a total involvement of decision-makers, stakeholders, and the general public. Utilizing this process, we hope to give decision-makers a consensus solution with a financial restraint.

In closing, because of financial restraints this corridor must be considered either wholly or in part as a toll road facility—which, in the Dallas Metroplex, because of the parallel freeway facilities, means a toll restraint in volume of about 50% of traffic that might be anticipated on the facility if constructed as a free (wholly tax-supported) highway facility. Adjustment of traffic demand on adjacent and connecting transportation facilities must be recycled into the total transportation plan system of 2010 and projected 2020 plan system once the MIS is completed.

Other corridors are being considered as toll facilities, and if this project or any of the others are selected as toll facilities, wholly or in part, the transportation plan will have to be reviewed. (See Figure 2.)

Figure 2



Second, due to the significant cost of Trinity Parkway, staging of improvements by both segment and cross-section construction may be required. Recent Federal interpretations of inclusion of transportation facility footprints (ultimate design) indicate they cannot be included in the transportation plan until they can be supported by the financial plan. This has placed decision-makers in an awkward position of not being able to present the true transportation plan for the future to the

public in the planning document; i.e., beyond 2020 and in the NEPA document for environmental clearance.

If this obstacle is not removed in the Federal process, the MIS may be the only planning document where this fact can be recorded. This procedure does not provide clearance for the purchase of right-of-way or ancillary elements to be designed in the initial construction to conform with the ultimate footprint proposed for the facility. This is an issue that needs to be addressed if decision-makers are to be considered candid and honest by the stakeholders and the public.

Finally, and in closing, thank you for allowing me to present my thoughts to you about the MIS procedure. I hope my comments have given you some insight into some problems that will be with us in the years between now and 2020 and beyond, as we all try to exercise 20/20 vision in our transportation planning process.

Involving Elected Officials in the Decision-making

Stephen J. Del Giudice, Metropolitan Washington Council of Governments

How do we inform and involve decision-makers? We have to first come to terms with what we mean by decision-makers. My assumption was that we were talking primarily about elected officials and that we were going to somehow involve them in the public participation process. The public involvement process must take place early and often.

Does the process take away decision-making flexibility? Yes and no. If you are from the old school of elected officials, the philosophy is, "Just tell me how to get what I want done." That takes away flexibility. If you have a different approach to the decision-making process and recognize the new realities of consensus decision-making, it probably gives you more flexibility.

Because I am not a member of an agency, the concept of interagency collaboration is a difficult one. I see a lot of collaboration. Is it working? We do not know, because no MIS has come to completion.

Is it improving our decision-making process? I would say most definitely, and that may represent some of the bias that I have about the participation process.

Have citizens influenced the outcome? I have served on

one MIS, and it definitely has been influenced by citizens. Citizens actually contribute to the decisions we make, not the ultimate decisions necessarily, but decision-making as part of work groups.

Getting things done

Why can't we get things done? We did not get things done before major investment studies were put in place. To blame MIS for the failure to get things done is inappropriate. Our failure to get things done has a lot more to do with a period of extreme public skepticism about everything, fiscal responsibility, and elected officials' responsibility. As an elected official living under an imposed two-term limit, I am out of office in 1998.

The MIS was put in place because it is the only way we can address public skepticism and convince the public that spending money for new facilities is worthwhile.

Conflict of authority

The fundamental paradigm we all struggle to address is the problem of the conflict between Federal and State authority over transportation and the traditional authority that Federal and State officials have had over transportation money and funding, as well as the dysfunction that exists between them and local government officials who have control over land use. The MIS process, we hope, provides a forum to address those issues.

There is the traditional notion of the role of State and local authority over these issues, state control over transportation, State governments being the appropriate depository of transportation authority, and local governments being the appropriate depository of control of land use. Frankly, it's not really a new issue.

The role of regionalism

The new tool in the twentieth century may be the notion of regionalism and the development of regional government, even though that is a very new notion and one that has not really gained tremendous support among the populace.

There is another issue coming to the fore. It grows out of the problems we are having with fiscal scarcity. We have grown used to the era where transportation developed as a public entitlement. Perhaps we are now moving toward thinking of transportation as a private utility. Especially as resources get scarcer and scarcer and we start moving towards private toll roads, are we

in fact introducing a new model that is going to raise all sorts of other issues in terms of access and equity?

With regard to public skepticism, are we moving from an era of representative democracy to one of public democracy? In popular democracy, elected officials are subject to term limits, and public spending is subject to referendum. The public demands access to the table and the decision-making process. If it is not willing to pay, whether through taxes or tolls or some other mechanism, we're not going to make any decisions.

Face-to-face with reality

Lots of realities confront the MIS model. That is what makes it hard, especially because this model is only two years old and not many people have done it or taken it to the final step. But elected officials with one term want the road that was planned before they even got into office completed before they have to go back and face the electorate. There is the confrontation between the planner-driven model and the political and economic development realities. We forget that this is a free-market economy, at least theoretically. It's a capitalist society. The developer comes into the community or the region and puts a whole lot of money on the table and says, "I want to develop this land now. Build me the transportation I need." The developers are not a part of the planning process necessarily, but they, too, are decision-makers. It's their capital, and development is what we want. Sometimes they call the shots on when it happens and how it happens. That confounds the whole planning process.

What should we try to achieve in terms of MIS? The MIS is an attempt to bring popular democracy into the decision-making process—an attempt to reach out to the public and involve them in the process. Many elected officials will resist it, but the fact of the matter is elected officials do not want to make decisions unless the public is involved in the process and supports the results. Frankly, it's too risky to do otherwise.

The other part of the equation is that if we expect the public to pay for it, we have to involve it in the process. We have to bring citizens to the table and make them feel they are stakeholders. But elected officials don't want you to go out into their communities and start messing around with public participation processes if they don't know

about it and are not involved in the process. The public participation process cannot work unless it includes the elected officials who know what is going on in their home districts and who will ultimately make the decisions.

The MIS can serve a very significant function as an educational tool. It provides a significant opportunity to educate public officials and the public about the problems we face in transportation and in the decision-making we have to do. The public, in my estimation, does not understand that the future of transit is going to demand an economic sustainability. You have got to get out there and engage the public in the debate if you want transit. MIS is the opportunity to bring those people to the table, involve them in the process, make them stakeholders, and work with them.

MIS as a process will bridge the gap between local and State officials in terms of control of land use and transportation and the dichotomy that exists. It also will connect both of those to environmental, socioeconomic, financial, equity, and access issues.

Case in point: Woodrow Wilson Bridge Corridor Study

Our Woodrow Wilson Bridge Corridor Study is an FHWA project. It is a failed facility, and it is falling apart. In 1989/90, an FHWA proposal was rejected by the public. Just about that time, the new MIS process was beginning. We made a decision to use the MIS approach in preliminary stages. The creation of a steering committee that included FHWA officials, the National Park Service, representatives from local government, the City of Alexandria, Fairfax County in Virginia, and Prince Georges County in Maryland was critical. The Committee also included representatives from both Maryland and Virginia State Highway Administrations, as well as the District of Columbia, and the Mayor's Office and the City Council for the District of Columbia.

"...elected officials do not want to make decisions unless the public is involved in the process and supports the results."

The approach was to have the steering committee bring all decision-makers to the table and involve them in the process and, at the same time, start with a bottom-up approach by public outreach. There were town meetings and public outreach efforts. The public was actually involved in the process of deciding what issues and concerns would be addressed by the work groups. Then

they selected work groups and technical staff to start helping to make decisions and move through the decision-making process. These work groups include, for example, an interchange task force. There are a number of significant interchanges on either side of this bridge. Whatever we do with the facility we put in place, it will have tremendous impact on the interchanges. We have members of the public who are engineers working on these task forces, so when State engineers come in with plans for the interchanges, we have citizens who are also professional engineers and have the ability to say, "No, there is another alternative you have not looked at." The public is influencing the decision-making process and is part of the process for making recommendations.

The steering committee takes back the information to the local governments and to the other State officials in the form of progress reports. We have taken advantage of our cable TV access to make sure the public is getting informed about what is being done.

How well has this worked? We are moving towards a final alternative but have not made a decision. We are confident about the direction we have gone, because we have such a tremendous level of citizen participation and involvement of all elected officials as well as the other stakeholders along the way.

WORKSHOPS: Management and Institutional Issues and Decision Making

Group 1 Workshop Summary

Wayne Kober, Chair

Management and Institutional issues

- New and continuous training programs are needed for participants in an MIS.
- Institutional responsiveness may be maintained and enhanced by retooling, team building, task sharing, and subagency creation.
- There is a need for greater flexibility in the interpretation of regulations and legislation and in the use of funds in order to fit geographic and political differences.

Decision-making

- It is important to define and agree upon the decision-making process at the beginning of the MIS.
- The MIS process will only continue if it provides value-added benefits and delivers cost-effective solutions.
- Identify the information decision-makers need.

Discussion

A lot of people are going to need training in order to participate effectively in a Major Investment Study. This will require new and continuous training programs for people in order to give them a tool box of needed skills.

Agencies performing the MIS will need to maintain and enhance institutional responsiveness to assure that they are sensitive to what the customer is really looking for. This may require retooling, team-building, task-sharing, and facilitating people and groups that are learning to work together. Creation of a subagency, where staff from several agencies are pulled together to form a separate ad hoc organization to work on an MIS problem, may be an option to consider.

Another issue raised repeatedly was the need for flexibility in the interpretation of regulations and legislation and in the use of federal funds.

One of the themes that kept reoccurring was the need to identify and involve the decision-makers, the MPO, the DOT, the FHWA, the FTA, and citizens in the MIS. At the start of the MIS process, there has to be a clear understanding and agreement on what the decision-making process is going to be. Flow charts may be helpful in defining who makes the decision at interim steps and at the end of the process.

The concept of value-added benefits should be part of the MIS process. Everyone is doing value-added management these days. Part of the concern in the AASHTO community is that MIS is not adding value to the process. MIS must also deliver cost-effective solutions. The MIS cannot propose solutions that are grandiose and cost too much.

The MIS process involves identifying the informational needs of decision-makers. We cannot afford to give decision-makers too much information overload. We have to figure out what they need and want and package it very clearly and concisely so that the decision-makers throughout the process can focus on their concerns.

Group 2 Workshop Summary

John Fuller, Chair

Management and decision-making issues combined and ranked in order of priority

- It is imperative to get stakeholders to buy into the MIS process, in scope and appropriateness.
- The roles and interrelationships of the MIS and NEPA requirements need to be clarified.
- It is important to recognize that existing policies influence the need to do an MIS or limit the alternatives to be considered.
- The MIS should provide decision-making

agencies a process by which to approve study recommendations.

- Land-use and quality-of-life issues need to be included in MIS.
- It is important to get early and frequent involvement of elected official and public groups in the MIS.
- The roles of MIS participants and elected officials need to be clearly defined and communicated to all parties involved in the MIS.
- Agreements with resource agencies at State/local/national levels (similar to NEPA/404) need to be developed.
- In undertaking an MIS, it is important to be mindful of how MIS relates to the LRP.
- In-depth screening may eliminate the need to do an MIS.
- Non-participatory agencies should self-certify the MIS process.
- Stakeholder training courses and MIS support groups are valuable tools in the process.

Discussion

The issues were ranked in order of importance:

1. It is important to get the stakeholders to buy in very early to the scope and appropriateness of the MIS. If we can get such a buy-in at the very earliest stages, then the study is likely to be reasonably successful.
2. The roles of the MIS versus NEPA need to be very well defined and clarified.
3. Existing policies, whether they are at the State or local level, and/or whether they're politically driven, are going to limit both the need to do an MIS and also the kinds of alternatives that can be considered. The reality of these pre-existing policies must be recognized.
4. Decision-making agencies should require a process sign-off by participants—not a sign-off on the product but a sign-off on the agreement to the process.

5. Include land use, quality of life, and environmental justice in MIS. Greater recognition of these types of issues in MIS was seen as very desirable.
6. Early, frequent involvement of public officials and of public groups is important. This was seen as an iterative process that cannot be initiated too soon.
7. One should clarify and communicate the roles of the participants in the MIS versus the roles of elected officials. This is a further elaboration of number 6.
8. There should be agreements with resource agencies and with Federal, State, and local agencies that might be similar to some of the agreements that have been produced for NEPA and 404 processes.
9. There should be interaction between the MIS and the long-range plan and recycling; throughout the process these two should relate to one another.
10. If we were to have in-depth screening, we might eliminate the need to do certain MISs.
11. Agencies that are not involved in the MIS but must provide regulatory approval or other types of involvement should self-certify the MIS process.
12. Stakeholder training is needed for an effective MIS.

Group 3 Workshop Summary

David Vozzolo, Chair

Management and institutional issues

- Consensus-building and public involvement considerations in an MIS include public involvement versus public information; shelf life of the study; responsibility for developing the problem statement; resource agency involvement; public involvement techniques; developing goals, objectives, and performance measures; defining consensus and ways to express disagreement; identification of a lead agency; and empowering groups in the decision-making process.

- Managing the MIS process includes consideration that it involves an open-ended time frame; that the study group should be inclusive and proactive; that the size of the group should be flexible and represent a mix of technical, citizen, and public involvement viewpoints; that there should be constant feedback at decision points; that an educational program be provided to bring everyone to a common understanding of the process; and that there be sufficient support staff for the study.
- MIS project management includes consideration of client/consultant relationships; use of in-house staff and consultants; and needed level of detail for specific steps in the process.
- Training programs for the MIS should include discussion on how to build consensus and manage the process, and the relation of MIS to the planning process.

Decision-making

- Elements needed in the MIS decision-making process include up-front definition of the decision-making process and key decision points; interim decision points that may aid the process of reaching final actions; key resource people; training to educate decision-makers on evaluation measures; methods to make inter-modal evaluation; definition of the levels of decision-making and detail needed; and the role of elected officials in public participation.
- Questions that need to be considered in developing evaluation measures and decision-making tools include tools that the public and decision-makers can understand; questions that decision-makers want answered; sensitivity and risk analysis; market and preference surveys; and recognition of the dissatisfaction with demand modeling and other traditional planning tools.

Discussion

Many of the management and institutional issues have already been discussed. We will just highlight a few that may be unique to our group.

In consensus-building, there is a distinction between public involvement and public information.

The need to define consensus early in the process is very important. This means that all players in this consensus-building process know how to express their disagreement and how to resolve these differences throughout the process.

Managing this collaborative consensus-building process is going to be very open-ended. As agencies try to pull together this MIS group, they should be very inclusive and proactive and identify the various organizations in the community that need to be involved.

As you engage all these groups of people to participate at the various levels (the community level and up to the elected official level), from a project management perspective this may increase the risk of problems and possible failure. Accordingly, it is important the MIS managers accept a process that can shoot off in different and unexpected directions.

Regarding project management, we must decide what tasks should be addressed by in-house staff and what tasks should be addressed by consultant staff.

Addressing training needs is very important, especially on how to build consensus and how to manage the process. In addition, very few of us, whether we be professionals or decision-makers or the public, really understand the planning process.

Some key points are getting the policy makers and the decision-makers involved at decision points throughout the process. This will help later on in reaching the final decision at the end of the process, since they will be more aware of the entire process and the resolution of the issues that lead up to the final decision.

Decision-makers should be asked at the beginning what questions they want answered.

There is clearly a dissatisfaction with demand modeling and other traditional planning analysis techniques. While there was no agreement, there was a discussion that maybe we need to use more sensitivity analyses and risk analyses in demand modeling and also utilize financing and a variety of other evaluation criteria that we have previously used.

Group 4 Workshop Summary

Julie Hoover, Chair

Management and institutional issues

- Land use/transportation relationships need far greater emphasis. Major investment studies need mechanisms to involve planning directors and other responsive land use officials. These might include direct funding and/or representation on advisory and decision-making bodies. Also, regions should cultivate champions for visioning, and MIS outcomes should be fed back into general plans.
- Interagency collaboration is vital to MIS, and there needs to be widespread access to data, subsidized participation when needed, and utilization of written sign-ons and sign-offs by participating agencies in the study.
- DOTs or other MIS sponsors should consider providing funding where needed to assure that resource agencies and other needed groups are able to participate in the MIS.

Decision-making

- The MIS should define the decision-making process and let the public know who is making the decisions at each milestone.
- Methods and approaches to involving the public should be tailored to each situation: one size does *not* fit all.
- Elected officials must be involved in each milestone decision point, since they will have to make the final decision. This is a way to keep them participating throughout the study.
- There are three essential elements in public involvement: education, providing opportunities for expressing ideas, and involving the public in the study solutions.
- A federal clearinghouse is needed to provide generic information on MIS for public participants. Services could include training materials, information on technical processes used in the studies, case examples of successes, and budget information such as percentages and dollars allocated to this element in other MISs.

- More information is needed on how the MIS relates to the planning process and the use of place holders in the TIP.

Discussion

Regarding interagency collaboration in the MIS, there needs to be widespread access and sharing of data that planning and resource agencies develop. Where agencies cannot afford to send people to all of the MIS meetings, they should still be kept informed of activities and asked to consider written sign-offs at key points throughout the process. Probably FHWA and FTA would not be able to sign off on an Option One MIS. That may be a key difference between an Option One and an Option Two MIS that we had never thought about before.

Cost-sharing with other participating agencies to assure their participation should be considered by the sponsoring agency of the MIS.

There is a lot of confusion about the MIS decision-making process. The process and the key participants should be clearly identified and made known to everybody, including the public, at the outset.

The approaches used for obtaining involvement of public officials need to be varied to meet the local environment. One size doesn't fit all.

There are three essential parts to public involvement: education of the public, giving the public the opportunity to contribute ideas, and making sure they're involved in synthesizing solutions.

One of our major recommendations was for a Federal public involvement MIS clearinghouse. Many agencies wish to do a better job in public involvement and do not wish to waste valuable resources "reinventing the wheel" each time. A few examples of what information the clearinghouse might provide include a generic MIS brochure, techniques, education and training materials, case studies of successful MIS processes, and cost information. Perhaps such material could be put on the Internet. Then it could be adapted to local needs.

Finally, we discussed whether the Federal government should require MIS sponsors to have public input into the design of their public involvement programs. While all thought this was a good idea that would lead to more effective programs, the group felt that the USDOT was not disposed to offer more prescription right now.

There was considerable confusion on how the MIS related to the planning process and to the TIP. The process is really not well understood—nor is the use of place holders in the TIP. More information is needed on the relation of MIS to the total planning process.

Group 5 Workshop Summary

Jim Bednar, Chair

Management and institutional issues

- Performance measures should be derived from regional goals and objectives.
- An MIS must accommodate local and other major independent interest groups and must involve decision-makers in the MIS.
- An MIS must include a realistic evaluation of institutional capacity (financial, political, etc.) to implement the preferred strategy.
- It is critical, at the beginning of an MIS, to understand the roles and responsibilities of various institutions (public, policy, technical, private).

Decision-making

- It important to develop a quality process early in MIS. Such a process would include public involvement (citizens and stakeholders); inter-agency coordination; elected official involvement, especially at decision milestones; and specificity of the advisory or decision-making roles. The process should define involvement techniques, comprehensiveness of the study, expectations, media strategies, etc.
- Criteria for the decision-making process, including defining goals, objectives, and trade-offs, need to be established at the beginning of the MIS.

Discussion

As one of the collaborative parties in the MIS, the MPO has a different perspective. Because of its independence and its ability to bring all the players together, it should take a leadership position. The question was raised

whether it should play an advocacy role or a neutral leadership role in the MIS collaborative process.

There needs to be flexibility both in funding and in the prescriptiveness of the MIS process.

The participants in an MIS need to be held accountable for their participation. It is very difficult to force somebody to collaborate. If they do not want to participate positively in the process, it is impossible for them to do so.

Performance measures in the MIS should incorporate regional goals and objectives and there should be some uniformity and consistency in the evaluations so that there is an equitable approach among multiple jurisdictions.

The MIS must accommodate local and other major independent agencies that have autonomy over land use and that must deal with large developers wanting major changes in land use.

The MIS must include a realistic evaluation of the financial and political capacity to implement a preferred strategy.

Regarding decision-making, one big issue was how to address uncertainty. There needs to be confidence in the information being provided.

Criteria need to be established at the beginning of the MIS—criteria that are tied to the goals and objectives and also appropriate for the decisions that you're expecting to make as a result of that process.

Group 6 Workshop Summary

George Scheuernstuhl, Chair

Management and institutional issues

- Any study participant can be a lead agency, but all parties must be involved.
- All major participants (including the private sector) must be able to make decisions for their agencies regarding the study.
- The study structure should provide for policy and technical input from all agencies.

- **Federal guidance and technical assistance must be consistent across regions and modes.**
- **A coordinating group is needed to address multiple MIS issues.**

Decision-making

- **There must be a process for systematic development of “informed consent.”**
- **The public participation process must be designed with a (large) appropriate range of techniques.**
- **The MIS process needs to assure that there is adequate input on all phases of the study, education of the participants in the process, and support for the final results.**
- **Performance standards for the process are needed that respond to citizen needs and to the needs of professionals using the study.**

Discussion

Any agency involved in the process could be the lead agency. It is really a matter of the particular uniqueness of the study, location, funding, and a number of issues. The key requirement is that all parties must be involved as partners in the process.

The participants in the study need to be identified, including their authority to make decisions for their agencies. It is important that the participants be able to make decisions for their agencies and represent the views of their agencies. You do not want to find yourself in a position at the end of the study where you thought you had the views of an agency, and you find out that you really did not.

The study structure was also important. It must make provision for both policy and technical input.

The role of the Federal government in the MIS is to provide guidance and technical assistance, but such guidance must be consistent across regions and modes.

There needs to be some form of coordinating group to coordinate multiple MIS issues, particularly in instances where corridors interrelate with each other.

Decision-making can be described as the systematic development of informed consent. We have to be able to design the manner in which we're going to approach the development of the decision. We need to make sure that information is disseminated appropriately, so people can understand what is going on and be able to respond and give input. After the participant has heard all the information and had the opportunity to participate, it is hoped his/her consent will be forthcoming.

We want to be able to design public participation with an appropriate and large range of techniques to meet specific needs and situations.

Throughout the process, it is important to assure that there is adequate opportunity for participant input and a continuing education process so that everyone understands the study. Throughout the study, support for the results must be developed.

There was considerable discussion around the concern for developing performance standards. How is success defined by the various participants? Information generated by the study must satisfy both the professional and the public needs, which may be very different. What citizens want from a study may be difficult to quantify. And when we say citizens, that broad term includes public officials.

It is very critical that the decision-making process be defined, so people know where they can provide input and how they can access that process.

APPENDIX 1

Major Investment Studies — A Value-Added Approach

Lisa G. Nungesser, Parsons Brinckerhoff Quade and Douglas, Inc.

With the final rule-making on Major Investment Studies out since October 28, 1993, we are already in the early throngs and gnashing of the re-authorization of the Intermodal Surface Transportation Efficiency Act (ISTEA). Major Investment Studies (MISs) in transportation, as outlined in ISTEA and defined in federal rule-making, are being scrutinized and, in some arenas, criticized. The purpose of this paper is to present Major Investment Studies as being good business and sound planning because they provide a value-added approach to planning and capital investment decision making on transportation improvements.

With the demand for transportation capital and operating funds far outstripping supply and tough tradeoffs being made among needed transportation corridor improvements, Major Investment Studies offer a sound and rational approach to this process. Contrary to popular belief, MISs do not make communities consider inappropriate transportation investment alternatives for their areas. For example, the guidelines and the National Environmental Policy Act do not force a community to study a rail option if it is not an appropriate solution to a defined transportation problem. However, MISs do ask that a broad array of publics, agencies, and transportation providers come to the table to discuss what constitutes reasonable transportation alternatives for solving a transportation problem.

The MIS process is a paradigm shift in the thinking about corridor and subarea transportation solutions. The process involves a clear statement of need(s) which may lead to a differentiation among the travel markets to be served. Thus, alternatives may well look very different from previous highway or transit project alternatives. Consideration of express lanes for interstate trucks and buses, of through-travelers versus commuters and local users, and of rail transit commuters versus single-occupant vehicles can all affect the way we define solutions to the needs, evaluate alternatives, and make investment decisions. This new

way is the root of some criticism levied at MIS as a process.

During the Transportation Research Board's conference on Major Investment Studies in Transportation on February 25 to 28, 1996 in San Francisco, many eloquent speakers provided keen insight into the issue of MISs. William W. Millar, general manager of the Port Authority of Allegheny County (Pennsylvania), observed that Americans tend to evaluate and examine actions too soon. Exit polls, Monday morning quarterbacking, etc., are a few examples. State DOTs have taken over 30 years to structure excellent organizations and institutional relationships to develop the interstate highway system, among the world's best. ISTEA has called for a new or at least modified mission for DOTs, regional planning agencies (Metropolitan Planning Organizations), and local transportation providers. This new mission is but a few years old and such paradigm shifts can be painful; however, implementing the shift does not mean MISs are not working or worthwhile.

Agencies undertaking management of or participation in an MIS should be commended. The early collaboration and broad participation of a number of participants can be initially awkward and communication tenuous. Because the staffs involved usually have regularized relationships and must often forge new ones, it takes time for trust and a give-and-take business style to develop. Numerous agencies at the state and local levels have already recognized (some grudgingly) the goodwill early dialog can generate in the community.

The MIS process can be confusing. This is especially true with the Option 1 MIS where the environmental and engineering data requirements are designed to allow an early evaluation among alternatives as well as a winnowing down of the set of options. Agency staff has grown accustomed to a level of specificity when developing or reviewing environmental documents that may be unnecessary for an MIS. This misunderstanding and set of expectations can cause extra and unneeded expense in undertaking an MIS. But it does not need to do this. Changes in the way of doing business take time and education among all participants.

At the university and continuing education levels, engineering curricula still focus on "doing" projects, not on deliberating problems and on managing decision

making. Little, if any, emphasis on communication and public involvement is given. Moreover, the level of information engineering graduates expect to have rarely reflects the planning level of detail required by MISs. Consideration should be given to revamping traditional engineering programs to reflect these realities. The Interstate Era has been over for awhile now.

The early integration into a corridor study of various publics, a myriad of transportation providers, and economic development-type participants does raise germane issues early. But how many highway and transportation projects have encountered serious delays or been stopped because not all of the players were at the table when reasonable alternative solutions could have been cost-effectively considered? We can all name key debacles in most states across the country.

Other criticisms of the process are that MISs are expensive and take too long to do. Depending on the scope and complexity of the transportation problems being addressed, the MIS can or cannot be expensive and can or cannot take time. If the problem is clearly defined and the key agency and community agrees to the set of options under consideration, the MIS may require no more than adding a few agency and community meetings to the transportation planning process. However, in those areas where several solutions appear promising, or where the financing for improvements may not yet be in place, consensus-building and winnowing may take more time. Even so, many believe the total time for project development—from planning through construction—is actually shortened since the process fleshes out conflicts early and considers financing options before substantial amounts of time and resources are expended on a non-doable project. The verdict is still out on this and it merits research as the MIS experience grows.

Compliance with the National Environmental Policy Act (NEPA) takes time—more or less of it depending upon the likely significance of potential impacts of an action being considered. The MIS process can streamline things by integrating the decision making and planning with the NEPA process. In fact, both the MIS Option 1 and Option 2 (where an environmental assessment or environmental impact statement is performed) are a part of the NEPA process. The MIS is tied to getting the “design concept and scope” into the regional transportation plan once there has been appropriate involvement on the part of the public and agencies along with consideration of likely environmental impacts. If the MIS is an Option 2, the time expended is due to the NEPA process, not the MIS per se. These points should be kept in mind because they underscore the need for additional education.

In summary, MISs add value to the traditional undertaking of corridor transportation studies. By focusing early attention on problem definition and by airing a wide variety of transportation, community, and environmental concerns early in the planning process, the Major Investment Study offers a rational and sound approach to transportation decision making at the local and regional level. With time, the effectiveness of the MIS process will be more accurately determined. Two and one-half years is not enough time to evaluate the impact of MISs on the project development process; however, by getting a wide variety of publics involved early in the process, by defining issues early and broadly, and by tailoring alternative transportation solutions to local and regional problems, MISs do offer a value-added approach to decision making.

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