

## SUMMARY AND CONCLUSIONS

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### *Presentation of Conference Findings*

#### **The Development of State and MPO Work Programs**

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George V. Wickstrom

The main purpose of collecting data is to support the decision-making process. The complexity of the planning/decision-making process is evidenced by the multiplicity of characteristics that require attention and integration in the process, such as:

- **Multiple Issues**—in the past, it was very much a single issue of focus; today it is a range of issues that must be addressed.
- **Multiple Options**—current practice dictates dealing with many different options simultaneously, TSM, TDM, HOV lanes, freeways, transit, etc.
- **Time Scales**—no longer planning for just a 20-year horizon as much more attention is being given to the short range.
- **Process is Cyclic**—it is no longer a linear process. It used to be four steps; land use, trip assignments, analysis, and results. The process now has to take into account the impacts of facilities on land use, on accessibility, and further deal with feedback loops in the process.
- **Focus is on Change**—but many areas are reasonably stable. The question is do we need a complex data information system for areas that are not changing? Does the same scale of analysis apply to new facilities and old?
- **Level of Detail**—the process must deal with more strata and detail which places tremendous demands on the data collection process and in the planning/decision-making process. Indices and methods of presenting information to the lay person that are understandable must be developed.
- **Participation**—the process can be characterized as dealing with different and diverse viewpoints. It is not only the geographical area of impact, but also the people impacted by transportation decisions. Attention must be given to the users/consumers of the systems. The process must satisfy a lot of

people, citizens, businesspeople, politicians, executives. There are many decision makers, requiring that one anticipate the data needs that will satisfy all of the decision makers. It is essential to agree on the inputs to a planning/decision-making process and the outputs.

The basic elements in a planning/decision-making process consist of the "old" measures and the "new" measures. The "old" measures are demand, supply, and system performance. The "new" measures include, access and mobility, impacts and the quality of life, costs and trade-offs, and financing and values. The same basic data items can be used for many elements of a planning decision-making process.

The data needs to be organized such that the geography maintained on the basic records are satisfactory for an EIS evaluation. In many cases, too much work and too many decisions were based on routes that will never be built because of wetlands or other environmental issues.

- **Research**—the issue of sample size is important. What is the benefit-cost of more data items and more accurate data? With a finite amount of resources, how much should be allocated to a data program?

The issue of new and emerging technology also needs to be addressed. The issues of remote sensing, AVI, the use of secondary source data often lack a user-friendly organizational structure of data. There needs to be further use and evaluation of secondary source data, such as Census, land use, private sector data, environmental data, and GIS systems.

Neil J. Pedersen

It is key in terms of conclusions of this conference to note that the major purpose of planning is to provide the decision maker with the information that is needed to make good program decisions.

An important element of both the Clean Air Act and ISTEA is that the institutional environment for decision-making is changing at the state and metropolitan level. One important element to consider is who are those decision makers? To whom are we providing the information for decisions to ultimately be made?

If decision makers are the major consumers of the

planning process, transportation planners must recognize that:

- There is a need to find effective approaches in determining the specific data needs of decision makers.
- The nature of decisions has changed. Trade-off analysis must be made that cross the modes including operational decisions versus capital decisions. Decisions are not strictly transportation decisions, they must be made within a quality of life context and considering both social costs and benefits. Planners must be reeducated to listen to those that are served and to work to satisfy their informational needs. This relates to the issue of total quality management—listening to your customer, find out what their needs are, and adapt your processes and systems to meet those needs.
- Communication skills are very important. Planners must learn to more effectively communicate data so that it is more useful to the customers.

A need exists to develop a comprehensive data collection and analysis plan that includes:

- Zero-based approach to looking at our data collection/analysis plan to determine if all of the data collected and analysis done is necessary? Are there more efficient ways of operating this effort?
- The data collection and analysis should be customer driven and extend beyond a single year. A longer range program is needed so that each year's program is established and evaluated in the context of a five- to six- year program.
- Identification of resources, and more importantly, the opportunities in addressing interagency coordination and duplication of effort. Significant to note is that the steering committee that structured the conference felt it would be possible to identify separate work programs for state DOTs and MPOs. However, each workshop independently reached the conclusion that you can not clearly differentiate between a state DOT work program and a MPO work program; they really need to be done in a cooperative partnership manner.

This cooperative partnership effort should include:

- A jointly-developed work program.
- Communication between state, MPO, and local governmental staffs about the types of data that each is collecting and on what frequency.
- A flexible work program that would recognize the agencies staff capability, institutional arrangements, and pressures of other work. Some agencies that have flexible staff ceilings can hire at a given time in order to achieve short term goals. Consideration should be given to capabilities of various state DOTs and MPOs. States also need the flexibility to allocate staff among various projects.

The new ISTEA of 1991 gives the states and MPOs no choice but to work in a cooperative mode with joint authority. This law is structured so that cooperation must be achieved.

There is a definite need to address precision and accuracy requirements. Issues will be driven by the requirements of the federal officials in U.S. DOT and EPA. There will be a need to invest time and energy in educating officials about these issues.

The data collection management challenges are in the area of:

- Quality control;
- Effective use of limited resources;
- Use of technology;
- Effective use of sampling and statistical analysis; and
- Staffing issues.

It is difficult to determine how the states and MPOs can possibly collect all the data that is required by law. It will be necessary to develop improved systems for managing and processing data. One of the serious management problems will be how a state can staff the projects with current reduction-in-force programs currently in operation in many states. Training, by necessity, will be a long-term investment. The use of high tech equipment issues will dominate the decision process as a strategy to cut personnel costs.

The analysis challenges are:

- Transportation Planning Models—the current transportation planning model set does not deal

with the problems that are being asked by the policy makers. How does the profession acquire a set of new procedures?

- Perceived Data Needs—satisfying the policy makers with the proper data will be very difficult. The problem is, "How should the analyst address the data needs of the customer and keep the costs within reason."
- New Data Requirements—what are the new types of information that will be required to respond to the needs of the customers?
- Staff Experience—considering the fact that many valuable staff analysts have been lost to the profession over the last ten years, there are significant issues of current staff training and skills development.
- Manual of Procedures—need to develop guidance and procedures manuals.
- Training—training requirements; provide training courses; develop course structure, outlines and details.

- Information Sharing Systems—establish an information sharing system that will allow the states and MPOs to communicate with each other with either newsletters or experience-based papers. Under the current system, experience shared through papers lack timeliness because of the significant time between the writing of the papers and having them made available to others. The most significant value derived from a conference like this is in the area of information sharing.

It was generally agreed that it was a successful conference, because it made the participants think about the complex task of designing data programs for their states and MPOs.

The real measure of success is what the participants do when they arrive back at their jobs. This will be answered at the next conference.

Overall, it was concluded that states and MPOs will be looking to the federal government for further guidance.

## CONFERENCE RESEARCH RECOMMENDATIONS

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Arthur B. Sosslau  
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As part of the workshop activities and discussion at the concluding session of the conference, a number of recommendations were made regarding research needs related to data and collection activities. The recommendations are listed in three primary areas:

### Analysis, Models, and Measurements

- Enhance the predictive ability of models and procedures to meet current requirements for planning based on air quality requirements and provisions of the ISTEA of 1991. Determine reasonable accuracy and precision levels of the data needed to apply the models in a cost-effective manner within the limits of current "best" practices.
- Quantify the impact of incidents (breakdowns, accidents, etc.) which cause a substantial amount

of highway delay. Determine the factors that are common amongst the various random incidents in the past as a first attempt to predict the magnitude of future incidents.

- Determine the performance measures that portray the quality of life aspects of the transportation system. An example might be the ability of inner city people to travel to the suburbs for employment. Transportation should provide equal access to opportunities for all citizens.
- Develop a nationally coordinated approach to ascertain the degree of change in the performance of the network that could be expected from various levels of success of the various traffic demand management techniques being advocated.

### Surveys and Data Collections

- Develop more cost-effective data collection methods that provide a greater accuracy as