

need for more simplified and responsive techniques in the short term.

Although the planning process is taking on a broader scope and shifts in policy are occurring, many issues and questions of a more detailed and technical nature still need to be considered. We will need to look more closely at what has been termed the traditional travel-forecasting process. With a much wider latitude of analysis possible to study a wider set of problems, the old standard four-step process may need to be overhauled. Will more special-purpose analysis methods be needed? What will be the technical planning needs of urbanized areas beyond the near-term planning for major reconstruction and system management? What methods will support the direction of policy movement in the urban transportation planning process in the longer term? Are these methods available and what needs to be improved? How can they be improved? What is the role of long-range planning? What will be the likely changes in life-style over the next 10 years and what will be the impact on urban transportation needs? What is the role of behavior analysis in urban travel demand estimation? What is the relationship between attitudinal and perceived variables and objective variables? Can they be used? Do they improve forecasts? Is it worth it? How can they be made part of the on-line planning process?

In short, you have your work cut out for you. We are entering a new period that deals with new issues and new challenges. We need answers and solutions to deal with these issues. The planning community will have to adapt to new policies and we need strategies that are workable and practical to help that adaptation.

The product of this conference should be clear, concise guidance on good practice in urban transportation planning in the 1980s and recommendations on where the need exists for development of specific practical procedures.

## Panel Remarks

LEE H. BOWSER, Pennsylvania Department of Transportation

In an era of severely limited resources, top-level management must be intimately involved in the programming process. To be effective, in a management sense, the programming, budgeting, and authorization processes must be closely integrated. This becomes even more critical as the nation shifts from new highway construction to transportation system management.

Pennsylvania's traditional approach to transportation programming was based on a county-by-county allocation of anticipated resources. These county-by-county allocations drove the capital program development process. Noncapital program development was scattered among various organizational units within the Pennsylvania Department of Transportation (PennDOT). Other than the 12-year forecast of available federal aid, there was almost a complete lack of financial planning. State funds were provided through bond financing.

These conditions and an indication of serious concern by the Pennsylvania Assembly about PennDOT's ability to carry out its appropriate role led the department to reconsider and restructure its operation to be more effective in the areas of development and management. In a bold organization restructuring, PennDOT shifted from its traditional

allocation approach of transportation programming to an integrated organizational approach. This restructuring was accompanied by a parallel realignment of fiscal and systems management functions. Program priorities as well as key program decisions are now made through the Program Management Committee chaired by the Secretary and made up of the department's nine top managers. Programs are developed by the newly created Center for Program Development and Management, which develops and presents options to the Program Management Committee. Fiscal implications are analyzed by the Fiscal and Systems Management Center. The entire process is monitored and managed through computerized management information systems maintained through the Fiscal and Systems Management Center.

In summary, the key to successful program development in Pennsylvania has been the department's ability to bring together programming and budget functions at the very top level of management. Information and monitoring systems have been instituted that allow top management to be involved not only in decisionmaking but also in monitoring implementation. This is accomplished by active involvement of metropolitan and county planning organizations in the program development process and continuous liaison with the General Assembly. The department's integrated organizational approach to programming has enabled Pennsylvania, within 20 months, to nearly double the amount of federal aid obligated to more than half a billion dollars. During this same period the department focused limited resources toward restoration of its extensive existing highway system.

Finally, open, effective programming has been one of the key contributing factors to rebuilding the department's credibility with the General Assembly. Two years ago a disenchanted General Assembly considered legislation to dissolve PennDOT. For the first time in a decade, the General Assembly as a body understands and endorses the department's program, believes that it will actually be accomplished, and because of this has provided the revenues to finance it.

GORDON A. SHUNK, North Central Texas Council of Governments

The crux of the most important issue before us today, and certainly for several more years and probably for many years thereafter, is how to cope with constraints on urban interaction. The list of constraints is endless, but it is headed by limitations of funding, available land, human tolerance (both physical and emotional), and natural resources. These constraints are increasingly affecting our ability to move people, to transport goods, and to effect many more types of interaction. The problem is worse in urban areas because more people and activity are located there, but it is also important in rural areas and for intercity activities.

The most important advantages we have in this situation are intellectual creativity and the human will to overcome. It is time, and this conference is an appropriate point of departure, to begin refocusing on the problems caused by these constraints and to develop creative ways to apply old and new technology to these situations. This does not mean that we should develop new tools, for too often we look for a new method to solve an old problem. We need to make better use of techniques we now have to solve the real problems. This reflects constraints on both funds and time available to solve these problems. The charge to us all is to better understand both existing situations and technology in order to attain the best fit of solution to problem.