

CIRCULAR

Transportation Research Board, National Academy of Sciences, 2101 Constitution Avenue, N.W., Washington, DC 20418

TRANSPORTATION SYSTEM PLANNING



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Committee on Statewide Multimodal Transportation Planning

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CHAIRMAN'S COMMENTS

At its meeting of January 1983, the Committee on Statewide Transportation Planning agreed upon certain areas of priority work for the 1983-1984 year. To implement action on these, four subgroups have acted as follows:

1. Surveillance and Monitoring.

Isaac Shafran of the Maryland Department of Transportation has prepared (and Arne Gausmann of the Wisconsin Department of Transportation has reviewed) an excellent discussion draft on this subject, with the objective of having it reviewed by the Committee in January 1984 and by any other persons reading this Research Circular. This statement will be transmitted to all state transportation agencies for information purposes.

2. The Role of Strategic Planning in the Program of a State Transportation Agency.

This paper, prepared by the undersigned and reviewed by Carol Keck of the New York State Department of Transportation, is a discussion draft. It also is prepared for review by the Committee and other interested persons, following the same process as described above.

3. Productivity in Transportation Planning.

Harvey Atchison, Chairman of the Subcommittee on Planning Productivity, is arranging for a Conference Session at the January 1984 meeting of TRB to discuss this subject, and ultimately to prepare an information statement upon it, similar to those described above.

4. Role of Transportation Development in State and Regional Economy.

Professor Kumares Sinha, Head of Transportation and Urban Engineering at Purdue University, has been active in seeking papers on this important subject for presentation at the January 1984 meeting of TRB.

This will be my last year as Chairman of the Committee on Statewide Transportation Planning -- whose new number, incidentally, will be Committee AIH01. The new Chairman will be Harvey Atchison, and I am delighted that the work of our group will be carried on by such a capable person. My thanks go to all the members of our committee; it has been a challenge and a pleasure to work with this first-rate group.

Roger L. Creighton
Chairman, Committee on
Statewide Transportation
Planning

SURVEILLANCE AND MONITORING IN STATEWIDE TRANSPORTATION PLANNING

Monitoring and surveillance activities are one of the most important, yet difficult, elements of Statewide Transportation Planning. It is possible, although expensive, to establish comprehensive data collection efforts that produce reams of data, yet it is more difficult to establish an organized, clearly understood, and cost-effective process that produces relevant

information in a timely manner to satisfy a variety of planning information needs. The purpose of this article is to define the surveillance/monitoring function in a state transportation planning agency and to present some of the important attributes of a comprehensive but cost effective approach to this function.

Definition - Surveillance and monitoring in statewide transportation planning includes the activities of the planning staffs of state transportation agencies to collect, assemble, and analyze data concerning the condition, performance, usage, and cost of transportation facilities and services in the state, both public and private, as well as socioeconomic energy, technological, regulatory, financial and other external factors that affect transportation demand and supply.

Purpose - Surveillance and monitoring activities are undertaken by state transportation planning agencies to be able to measure how well the transportation system is performing, how it is changing, how it is being affected by external factors, and in -- particular -- to consider the implications of the available information on the agency's decision-making process, such as in the preparation of the agency's plans and programs. One recently emphasized aspect of surveillance/monitoring is the need for planning staffs to use available information and indicators to provide an early warning of future potential problems.

Types of surveillance/monitoring activities - There are three major types of efforts:

The continuing data collection activities, generally viewed as an essential part of the agency's operation to obtain weekly, monthly, and/or other periodic operating statistics, such as permanent traffic count stations, transit ridership, accident data, etc.

The special periodic studies involving more detailed data collection and/or analysis for a certain period of time or geographic area to address a specific problem or issue, such as an origin/destination study, the collection of facility condition data, etc.

The continuing monitoring of readily available data (or "key indicators") from a variety of national, state, local, and private sources to establish and monitor realistic priority objectives for the transportation system and to keep track of how it is being affected by external factors.

In general, most agencies carry out all three types of activities, but the emphasis on each will depend on the maturity of the planning effort, budget levels, and priorities.

Evaluation/Selection of Surveillance/Monitoring Activities - "Continuing" data collection activities should be selected based on the following criteria:

- o Uses - Have specific uses of the information been identified? Is information to be collected to be used by the agency? by others? how often? Are uses increasing or decreasing recently?

- o Historical perspective - When was data collection started? Would changes create potential distortions or eliminate the availability of a valuable historical trend line?
- o Federal and/or state requirements - Is data collected required by federal government? Is it required under state legislation?
- o Cost - What is the cost involved? Does data collection require full-time staff or can data be collected by staff also available for other purposes?

"Specific periodic surveys" should be conducted as part of analyses carried out to study a specific problem or issue. Such special surveys should be undertaken only after ascertaining that available data from continuing agency activities or from other sources are not adequate to reach informed decisions or to monitor the problem or issue being addressed.

The selection of "Key Indicators" to be monitored regularly involves the identification of a limited number of relevant data items (typically no more than 20 to 30) with the following essential characteristics:

- o Availability - The key indicators selected should be available from continuing data collection efforts or other sources and not specifically collected for this monitoring function. Ideally, these are data items that are either collected regularly as part of an agency's operating procedures or published by federal, other state, local or private organizations.
- o Frequency of reporting - Only indicators available regularly, preferably on a monthly basis, should be selected. Items that are only available on an annual or periodic basis should be avoided.
- o Timeliness - To be useful, the key indicators must be available on a timely basis. Therefore, only items that generally become available less than 45 days after the end of a reporting period should be used. Timeliness is particularly important, since the usefulness of an indicator to management in the organization decreases rapidly if the information provided is not current.
- o Accuracy - In the selection of key indicators, those that involve estimating procedures should be avoided. Generally, only information on which there is not much question as to its accuracy should be included.
- o Cost - In the case of available indicators involving outside sources, the cost to the organization must be considered.

Audience - Surveillance and monitoring activities should be carried out first and foremost to satisfy the internal needs of the state transportation agency, and in particular, top management requirements for information. Other audience groups include:

Elected officials
Federal agencies
Staffs of the state transportation agencies
Other state agencies
Local and regional planning agencies
Private organizations
Media and general public

Uses of the Information - The data collected or assembled as part of an agency's surveillance and monitoring efforts can be used for the following:

- o Trend analysis to assist in issue identification, plan evaluation, and setting of goals and objectives
- o Publication in plan and program documents
- o Publication of special statistical reports
- o Input into special issue analysis
- o Measuring performance compared to adopted goals and objectives
- o Forecasting based on historical information and relationships developed from available data
- o Publication in other reports such as an agency's Annual Report, financial reports, bond prospectuses
- o Development of periodic news releases to keep elected officials, media, and the general public aware of transportation trends
- o Development of Special Reports for Legislative Committees and ad hoc groups established to study specific problem areas

Frequency and timeliness - All data collection activities should produce releasable information as soon as possible after completion of the data collection effort, typically no more than 6 months after a field survey is complete. Continuing data collection activities should be reviewed periodically (at least every 2 years) to evaluate the appropriateness of collecting the same data, or making any changes in methodologies or data items.

Key indicator information used in monitoring performance compared to adopted goals and objectives should be collected and distributed internally through the organization at least on a quarterly basis and preferably on a monthly basis. In addition, at least annually a report should be developed for external distribution covering the most important trends and implications, as well as summary data.

Key indicator reports should be released as soon as possible after the end of the reporting period, e.g., monthly reports should generally be available 15 days after the end of the month and annual reports should be released no later than three months after the end of the year.

Products - The surveillance and monitoring efforts should be documented through the following types of products:

1. Methodology reports, produced periodically to document data collection procedures, survey designs, etc.
2. Monthly, quarterly and/or Annual Key Indicator Reports summarizing the most relevant data on transportation system condition and performance, as well as other external factors affecting transportation in the state.

3. Statistical reports, containing detailed data and/or graphics on various information collected by the agency, and
4. Special reports documenting results of special surveys.

Summary - Surveillance and monitoring should be one of the key aspects of a statewide transportation planning process. It should consist of several types of activities, depending on the needs of the organization and the status of the planning process. To assure relevance and cost-effectiveness, surveillance and monitoring activities should be prioritized at least annually. Emphasis, however, should be placed on monitoring the most important variables or characteristics that are closely related to the highest priority goals and objectives of the statewide plan. Continuity of the surveillance/monitoring efforts should also be maintained to the extent practical.

CONTACT: Isaac Shafran, Manager, Plan Development, Office of Transportation Planning, Maryland Department of Transportation, P.O. Box 8755, BWI Airport, MD 21240, telephone 301-859-7340.

THE ROLE OF STRATEGIC PLANNING IN THE PROGRAM OF A STATE TRANSPORTATION AGENCY

Introduction

Sooner or later, most state transportation agencies seek to articulate their strategic plans and the policies that guide their programs. Such plans and policies may be developed after a long period of study and participation by the public, the legislature, and the major bureaus of a transportation agency. Alternatively, they may be developed informally as the result of brief, but still thoughtful, consultation with a key legislative committee and the top echelon of state transportation agency executives.

Because the preparation of a strategic plan and policy statement serves a number of useful purposes, the TRB Committee on Statewide Transportation Planning encourages state transportation agencies to include this activity in their work programs.

Strategic Planning Defined

Strategic Planning is a term whose meaning is likely to change over time, as circumstances change. Transportation agencies in different states may develop their own definitions to respond to their circumstances. Nevertheless, despite a need for flexibility, there are three elements implicit in the term that must be recognized if the process and product of strategic planning is to be valid. These elements are listed and discussed below.

1. Futurism. "Strategy" has a connotation of a future which is as far ahead as can reasonably and honestly be seen -- relative to the length of its future is what most differentiates strategy from tactics.
2. A goal or objective. Strategy must have an objective -- that which is to be attained. In transportation, this objective has both (a) physical and (b) level-of-service dimensions. For example, in 1956 the national goal of building an Interstate highway system was set, primarily a physical objective. Today the emphasis may be more on service, but the physical reality of systems still exists.

3. Means. Strategy is also concerned with the means by which the objective(s) are reached. Means may include (a) an agenda of action items, or (b) general guidelines or policies about how both action items and guidelines may be provided.

A strategic plan for transportation in a given state may be shorter or longer in its view ahead, may set different objectives, and may recommend different means of attaining its goals. However, it should deal explicitly with all of these elements.

NOTE FROM CIRCULAR EDITOR

This issue highlights multimodal efforts in a variety of areas and states. Statewide strategic planning and the monitoring and surveillance activities necessary for its success must be undertaken in a multidisciplinary and multimodal atmosphere. Such efforts are not widespread and in our search for material for this issue we received numerous examples of studies and analyses which were multimodal only to the extent of having to address alternative modes and impacts in the environmental impact analysis. Additional contributions for inclusion in future newsletters would be appreciated.

* * *

The New York State Department of Transportation is currently updating its Statewide Master Plan for Transportation. As the "managing editor" of that effort, my time is devoted to addressing many multimodal issues. As a prelude to the Department's efforts, a Legislative Commission on Critical Transportation Choices held a series of four hearings entitled "The 1973 Statewide Master Plan for Transportation: Time for an Update?" Over 50 groups and agencies testified, all supporting the need for Statewide transportation planning and suggesting both general and specific approaches for the "Update." This information has provided us with up front information on the expectations of these groups and agencies and is expected to facilitate future acceptance of the Plan. Thank you for your support of the newsletter efforts -- please direct your comments, suggestions, or articles to me: Carol A. Keck, NYSDOT Planning Division, Building 4, Room 209, State Campus, 1220 Washington Avenue, Albany, NY 12232.

The Policy Statement

Policy statements published by transportation agencies seem, in practice, to be subsets of strategic plans. They deal mainly with (a) non-physical goals/objectives and (b) general means by which objectives can be attained. As stated in NCHRP Synthesis of Highway Practice 95, the content of policy statements concerns decision regarding:

- o Allocation of resources -- principally, the amount and distribution of financial resources to and within the transportation sector, but also including broad allocations of human resources (personnel time).
- o Regulation -- setting the "rules of the game" regarding who does what and under what conditions.
- o Institutional arrangements -- which government and public corporations have responsibilities for different transportation activities.

- o Shared policies -- policies that mutually relate transportation to other sectors of the state, such as housing, land use, energy, and the environment.

Purpose

There are a number of purposes that are served by having a strategic plan and also by the process by which the plan is prepared.

- o The development of a strategic plan or policy statement, especially if it contains statements on revenue needs and broad spending allocations, becomes a means by which agreement can be reached between the executive and legislative branches of government, and which then expresses a Legislature's approval of the directions in which a transportation agency is proceeding.
- o The strategic plan demonstrates to the general public that a transportation agency has thought out its program in response to recognized issues and constraints, and knows where it is going.
- o The occasion of the preparation of a strategic plan provides the opportunity to obtain inputs from the general public and key interest groups regarding issues and means for solving problems.
- o The preparation of a strategic plan is a means by which all the departments and bureaus of a transportation agency can be brought together to provide their inputs, to thrash out differences, and to achieve an internal consensus both on objectives and means for attaining them.

In contrast, the lack of a strategic plan or a published policy statement suggests that a transportation agency may be drifting, or simply reacting to events as they come along, and this in turn may lead to poor relations with the Legislature and the public. Lack of internal agreement on directions to be taken may lead to different bureaus working at cross purposes, and this can be a significant problem when better coordination between the modes is required.

Process of Preparation

The time and effort devoted to the preparation of a strategic plan or a policy statement will vary substantially depending upon how a state defines the content of its strategic plan or policy statement. Where the plan is of longer range and includes physical systems, then a 2-year effort may be needed. This would be appropriate where major changes or expansions of systems are contemplated. On the other hand, if systems are expected to be static and attention is focused on policies regarding means, then 1 year or less of work may be adequate.

Policy statements ought to be reviewed and, if necessary, revised at 2-year intervals.

Policy formation must be supported by a behind-the-scenes, continuing, technical process of planning, including surveillance, monitoring, and early warning, that will provide the quantitative estimates of the impacts of alternative policies (such as reduced maintenance) upon the condition and productivity of the state's transportation system.

A participatory process of preparation is recommended. At the least, this should involve close contact between the executive and legislative

branches and between the departments or bureaus within the transportation agency.

Style

An examination of three states' policy statements (cited in NCHRP Synthesis 95) suggests that certain qualities of presentation are important to effectiveness.

1. Brevity. Long statements will not be read with the attention that a very short statement will get, and it will probably be more difficult to get agreement on a long statement.
2. Relevance. The connection between policies and the actions that will implement those policies must be apparent. If possible, examples of actions in support of each policy should be cited.
3. Change. Changes in policies should be identified, especially where they mark responsiveness to new issues as they emerge.
4. Comprehensiveness. Adequate coverage of the modes and current issues should be provided.

Approvals

Strategy and policy, to be meaningful, must be based on the authority to carry them out. Therefore, some level of official approval of such plans or statements must exist. In the case of transportation, the approval should come from both the legislative and executive branches.

Conclusion

Strategic planning, supported by a regular program of preparing and publishing policy statements, is a key part in the sound management of a transportation agency and the cultivation of public acceptance of its program.

SOME MODAL EFFORTS WITH MULTIMODAL FACETS

Almost every modal effort undertaken at the state level has some facet of multimodalism involved -- even if it is only to recognize that a highway design must allow for use by buses. Many such efforts, however, also involve more evaluation and assessments of the potential for alternative modes, impacts on other modes, or the active integration of other modal concepts into a true multimodal approach. The following are some short notes on a number of these efforts currently underway.

FLORIDA: The Orlando Southwest Corridor Study was designed to assess the need for and feasibility of a special access transit system connecting four major activity modes including the airport, Florida Center/International Drive, downtown Orlando, and major tourist attractions. It included consideration of a general alignment, determination of the number of and approximate locations for transit stations, and consideration of the most appropriate technology -- bus, light rail, monorail, heavy rail, etc. Analyses of potential management structures and the full spectrum of financing alternatives -- from 100 percent public funding to 100 percent private funding -- were included.

NEW YORK: The Rapid Transit Corridor Concepts Study (RTCCS) completed by the MPO in the Buffalo region assessed in which, if any, of the urbanized area's principal travel corridors major transit improve-

ments were worthy of further consideration. The RTCCS identified six major corridors for evaluation and used both objective and subjective criteria for assessing the "potential" for transit in each corridor, as well as its impact on the region as a whole. Levels of transit service which might be considered were identified by utilizing modal characteristics of conventional (existing) bus, express bus, light rail, and heavy/commuter rail systems in each corridor. The RTCCS prioritized the six corridors for further study by the regional transit authority and the State DOT.

MINNESOTA: Cooperation between the States of Minnesota and North Dakota and the Burlington Northern has resulted in coordinated physical improvements and train scheduling at several railroad and highway grade crossings. Strategies to minimize unit coal train and automobile conflicts at-grade rail-highway crossings in six urban areas have been developed.

FLORIDA: An economic impact study of the Port of Palm Beach highlighted the need to distinguish, or at least recognize, the difference between the port industry and port-dependent firms and their associated impacts. "While there are undoubtedly some port-dependent activities tied to and unable to survive without a specific port, it is necessary to attempt to assess the importance of a port to its users so that the amount of dependent activity can be appropriately allocated. Even a firm which customarily ships all of its output through the local port might consider only 10 percent of its sales actually dependent on the particular port; the remaining 90 percent of its business could be handled through other ports or via alternative modes of transportation."

MASTER PLAN UPDATES: The States of New York and Wisconsin have recently begun efforts to update earlier Statewide Transportation Master Plans ... information on these and other such efforts would be appreciated for future newsletter issues.

MINNESOTA STUDY ON GRAIN MOVEMENTS AIMED AT DEVELOPING BETTER MANAGEMENT STRATEGIES

While railroads have played a large role in the shipment of bulk commodities such as coal and grain, the role of the truck in this area seems to be increasing. What is actually happening in terms of this apparent modal shift? What are some of the impacts associated with it? Minnesota is examining some of these questions in order to better manage overall movements on the transportation system and preserve and protect existing transportation investments. While by no means a summary of their existing work, the following excerpts should serve to indicate some of the complex issues involved.

Trucking: The major development in the Upper Midwest county elevator-to-terminal elevator movement in the 70's was the increased utilization of trucks. This trend was particularly apparent in the shipment of grain to the Twin Cities. Although railcar shortages and branchline abandonments worked against the railroad industry, they were not the only reasons the trucking industry grew in importance. A study by the University of Minnesota comparing single-car rail rates and truck rates for corn from each county seat to the Twin Cities found: (1) in most of the state, the rail rate was equal to or less than the truck rate; (2) in 1973, immediately after the jump in fuel price, rail rates were generally lower than

single-car rail rates. Although railroads were the predominant carrier for shipments to Duluth/Superior in every year in the 70's, the relative share carried by trucks increased to 49 percent of the much larger volume in 1979.

Railroads: Although railroads lost ground to trucks in hauling grain to the Twin Cities and Duluth/Superior in the 70's, railroads continue to be the predominant mode for certain grains moving into these two markets. This is due to factors such as the length of the shipment, transit privileges, and favorable proportional rates to markets in the east. Railroads continue to have a rate advantage over trucks for most grain originating in Montana and the Dakotas.

Prospects: The new rate-making flexibility (provided by the Staggers Act) will make the railroads more competitive with truck-barge competition. One rate-making freedom allows railroads the freedom to raise rates to a maximum rate based on a percentage of the variable cost of service, providing they do not exercise market dominance for the commodity. Another provision allows railroads the freedom to raise rates to a maximum rate based on a percentage of the variable cost of service, providing they do not exercise market dominance for the commodity. Another provision allows railroads the freedom to reduce rates to meet truck and barge competition, or as long as their variable costs are covered.

Perhaps of greater significance to the trucking industry (than the Motor Carrier Act of 1980) in the 80's will be the continued development of the large subterminal elevators in the countryside and the growing problem of highway, bridge, and rural road maintenance.

The emergence of the large subterminal elevators and increasing yields means more grain is being gathered in fewer points. Grain must come a longer distance, suggesting that an increasing share of grain truck movements will take place over local roads. The consequences of this development work two ways. First, truckers may benefit by a more consistent flow of local traffic and spend less time in the long lines which have been a major problem in the Twin Cities and Duluth/Superior. Second, the added traffic on the highways, rural roads, and bridges will place an additional burden on a system already facing serious problems. Financing the maintenance of our highways, rural roads, and bridges will be a major issue in the 80's.

CONTACT: John Sene, Traffic and Commodities Studies Section, Minnesota Department of Transportation, St. Paul, Minnesota 55155, telephone 612-296-1602.

FLORIDA STUDIES URBAN CORRIDOR NEEDS

Urban corridor needs are most often evaluated as a result of regional (MPO) studies which seek to identify and prioritize area needs for the purposes of future project programming. The State of Florida recently undertook a statewide assessment of urban corridor needs and scheduled their future study and project implementation in a comprehensive program to address the identified needs.

Realizing that the state's urban corridors serve as the backbone of the urban transportation systems, the Florida DOT sought to identify and document the needs to attain an "acceptable" Level of Service for the most critically congested urban corridors through an Urban Corridor Needs Study.

Operational rating data identified approximately 93 corridors comprising 5,429 urban lane miles

with Level of Service "D" or less. Interdisciplinary District Study Teams identified 24 of these corridors for initial study. Twenty of the initial 24, and 70 of the 93 corridors are in urbanized areas with over 200,000 population and most of the remaining corridors are in urbanized areas with 50,000 to 200,000 population. The initial 24 corridors are distributed statewide and were considered representative major urban corridors.

Study guidelines emphasized the application of "Low Cost" transportation systems management (TSM) improvements, but while those are a cost-effective approach to increasing the quality of person throughput, it was recognized that some critical urban corridors are congested to a point where TSM solutions alone may not address the immediate transportation needs. Narrow bridges, segments of reduced laneage, and other physical barriers present congestion bottlenecks that can only be addressed through "High Cost" reconstruction improvements.

Corridor packages for the initial 24 corridors document the mix of "Low Cost" and "High Cost" improvements necessary to attain an "acceptable" Level of Service for the corridors. The "Low Cost" improvements are recommended for funding in the first 3 years of a 10-year program. To pave the way for the needed "High Cost" reconstruction in the 5- to 10-year time frame, the bulk of the preliminary engineering is also recommended for programming in the first 3 years. Costs for right-of-way acquisition and public transportation improvements to increase the potential for commuter transit ridership throughout the 93 corridors by 3 percent are fairly evenly distributed over the 10 years.

The study process envisions that about 20 additional corridors will be studied for the next 4 years to allow a serial progression of preliminary engineering and implementations for the needed improvements.

CONTACT: Mr. Warren Merrell, Division of Planning, Florida DOT, Haydon Burns Building, Tallahassee, Florida 32302-8064, telephone 904-488-8541.

WISCONSIN USES MULTIMODAL INTERCITY PASSENGER MODEL

Most models that forecast future travel patterns are developed primarily to help assess a particular mode's needs or potential in future years. And most such models also are applicable for planning at substate levels such as urbanized or small urban areas. At those substate levels of transportation planning, the proportion of nonauto travel of the total is generally relatively small; dissecting the nonauto travel into even smaller modal pieces is not practical. However, if intercity travel is considered as a whole, the segregation of travel into modal pieces does appear both practical and useful. The Wisconsin approach follows:

As part of the development of Wisconsin's State Highway Plan it was necessary to analyze the potential shift to other modes and the resulting impact on highway travel demand. Thus a computerized model was developed to forecast intercity passenger travel demand in the 13 major transportation corridors identified for the State Highway mode (rail, intercity bus, air, and auto) and by trip purpose (recreation, personal business, and business). Forecasted auto trips were assigned to as many as three alternate highway routes within each corridor, based on minimum travel times.

The model did not attempt to forecast all traffic on a particular highway, but only the longer intercity trips that might be capable of shifting to another mode. Therefore, only trip interchanges

between certain cities in each corridor were modeled. The cities included in the analysis were those urban places over 5,000 population.

The Passenger Travel Demand Model forecasted intercity trips based on past information on trip origin and destinations and forecasts of population growth in each of the urban places. The forecasted intercity trips were then adjusted consistent with elasticities of demand for each travel mode developed from a user preference survey. The user preference survey consisted of six different questionnaires mailed out with drivers license renewal notices to 4,000 people in the summer of 1979. The six questionnaires were used to ascertain what propensity people have to switch from their autos to other modes or to not make the trip at all, under varying conditions of gasoline availability, gasoline costs, and other mode cost, scheduling, and availability.

Various directional travel matrices were developed as input to the Passenger Travel Demand Mode. Frequency, time, and cost data were required for each mode for the base year and the two forecast years (1990 and 2000) for four scenarios. Person-trip tables by purpose were also required for each mode for the base year.

In addition to its application in the State Highway Plan, the Model has been used in a recently completed Rail Passenger Services Study. That Study evaluated potential new rail passenger routes in Wisconsin as well as analyzed current Amtrak service. The Model was used to estimate ridership under two different scenarios. It is intended that the Model will also be used in the update to the State Airport System Plan currently under way.

CONTACT: George Gunderson, Bureau of System Planning, Wisconsin DOT, P.O. Box 7913, Madison, Wisconsin 53707, telephone 608-266-2972.

MINNESOTA STUDY RESULTS IN HIGHWAY/TRANSIT PROPOSALS

The "scoping process" required for all major transportation improvement studies often results in the identification of alternative-mode strategies different from that originally envisioned. Usually, however, the ultimate analysis performed concentrates on one modal alternative as the one most likely to result in the best project alternative. In Minnesota, the results of the scoping and DEIS were truly multimodal, as shown by this brief summary of the DEIS.

The proposed action consists of roadway and transit service improvements in the 55 corridor in Minneapolis, Minnesota, located southeast of the Minneapolis CBD. The proposed roadway improvement involves the reconstruction of some 5.3 miles of highway to a four-lane divided at-grade roadway and an additional 0.4 miles to a four-lane divided access-controlled roadway. Transit service would be upgraded in the corridor. The five alternatives analyzed in the DEIS were the result of a scoping process that analyzed 120 transit and roadway alternatives. The proposed roadway improvement is the same for the four build alternatives; they differ in the type of transit improvement proposed.

The four build alternatives can be summarized as: (1) four-lane arterial with HOV lane at grade; (2) four-lane arterial with HOV lane grade-separated; (3) four-lane arterial with transit (bus) improvements; and (4) four-lane arterial with LRT partially at-grade. It was estimated that all of the four build alternatives would have a significant beneficial impact on transportation within and through the corridors. The proposed roadway improvements would alleviate current congestion and delay and the

increased capacity would decrease the distance traveled for many trips, according to the analysis. Transit accessibility was estimated to increase the most under the LRT alternative.

CONTACT: Rob Morast, Minnesota DOT, Golden Valley District Office, c/o Minnesota DOT, St. Paul, Minnesota 55155, telephone 612-545-3761.

MULTIMODAL CONSIDERATIONS AND TRADE-OFFS

At the Annual Meeting in January, Carl Hennum gave the Committee "A Perspective on Provincial Highways as an Integral Part of the Total Transportation Network and Services." The following thoughts from that presentation by no means cover its entire scope, but they do provide some food-for-thought when making multimodal decision.

Why do we need to take a new perspective on the multimodal aspects of transportation? There are growing restraints on the funds available for transportation initiatives; there is increased and limited public funds; and all modes are facing increased difficulties in meeting costs from "operating" revenues. There is, therefore, an increased need to take advantage of the unique characteristics of each mode in the development of an efficient, integrated transportation system.

Under any economic conditions it is unwise to fund services on totally unimodal bases and to use funds from the same purse to improve every mode to compete in the same market without an application of the unique and complementary characteristics of each mode, their wasteful competition aspects, and the beneficial levels of competition. Some of the common questions asked are: Why do we continue to

expand our highway networks while promoting public transportation? Why do we encourage auto travel (through further highway investments) while promoting energy conservation? Why are we pressing for expansion and improvement of rail passenger services when we continue to improve the road infrastructure in the same corridors? Have all the alternatives to highway improvements really been fully explored?

Multimodal considerations and trade-offs must recognize both "technical" transportation and policy environment considerations. Technical research is not usually the predominant factor in the adoption of a particular modal emphasis, although it may provide general background in a systemwide context and more direction in particular, confined circumstances. The allocation of resources among modes is usually a matter of policy adoption at the highest level although it is sometimes affected by policies of other jurisdictions. Three basic policy considerations can be summarized as meeting demand, managing demand, and modifying demand. Because the future is uncertain, the policy environment is complex, but provides opportunities for the guidance of modal development and the relative position of modes in the transportation market. Expected economic trends and socio-demographic changes are not--on their own--expected to dictate needs for fundamental shifts in modal emphasis, and there is considerable user capability to adapt to both external influences and modal conditions in order to preserve current life-styles.

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