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STATEWIDE TRANSPORTATION PLANNING: MONITORING

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Committee on Statewide Multimodal Transportation Planning

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CHAIRMAN'S COMMENTS

The Transportation Research Board's 62nd Annual Meeting will feature conference sesssions sponsored by two A1D03 subcommittees: the Committee on Productivity in Statewide Transportation Planning and the Committee on Transportation System Monitoring and Evaluation. Speakers and presiding officers are identified below:

1. CONFERENCE SESSION ON TRANSPORTATION SYSTEM MONITORING AND EVALUATION TECHNIQUES: Arne L. Gausmann, Wisconsin Department of Transportation, presiding; 1985 Arizona Transportation Needs Study: Metamorphosis of a Process, Thomas Webster, Arizona Department of Transportation; Monitoring and Surveillance of Transportation Systems: The Washington Experience, Robert S. Nielsen, Washington State Department of Transportation; Management by Performance, Harvey Haack, Pennsylvania Department of Transportation; Transportation Energy and Related Data Collection at the State and Substate Level, K. W. Peter Koeppel, New York State Department of Transportation; and Concept of Key Indicators, Isaac Shafran, Maryland Department of Transportation.

2. CONFERENCE SESSION ON PRODUCTIVITY IN STATEWIDE TRANSPORTATION PLANNING: Harvey R. Atchison, Director, Division of Transportation Planning, Colorado Department of Highways, presiding; Transportation Planning for the 80s -- A Case Study from Pennsylvania, Harvey Haack, Pennsylvania Department of Transportation; The Development of Michigan's Statewide Strategic Transportation Modeling System, Richard E. Esch, Manager, Planning Procedures Section, Michigan Department of Transportation; PYPSCAN: A Tool for Management Productivity, Jim McManus, Chief, PYPSCAN Branch, California Department of Transportation; Transportation Planning in Iowa -- Reacting to Change, Ian MacGillivray, Director, Planning and Research Division, Iowa Department of Transportation; and Wisconsin State Highways -- Responding to an Uncertain Future, George Gunderson, Chief, Statewide Systems Planning Section, Wisconsin Department of Transportation.

In addition, Committee A1D03 will, at its regular meeting, offer an opportunity for papers to be delivered in summary form. Interest in making such presentations appears to be significantly greater than last year. We shall reserve a minimum of 1.5 hours for such presentations and exchanges that are one of the best means available for information dissemination -- a key function of TRB activities.

Roger L. Creighton
Chairman, Committee on
Statewide Transportation
Planning

MONITORING EFFORTS PROVE USEFUL IN A WIDE VARIETY OF WAYS

Although massive data-collection efforts can no longer be financially justified in most instances, the need for adequate data and information has not ceased--for forecasting, for understanding, for monitoring, for program development...The focus of this issue of the Statewide Transportation Planning Newsletter is on monitoring methods, activities, and uses, for once data and information are assembled, it is important that they be used effectively by as many groups, programs, and agencies as possible. "Effective use of resources" is a phrase that applies to transportation monitoring activities as well as to the use of transportation facilities.

LEGISLATIVE MONITORING PROGRESSED BY ARIZONA DOT

The State Policy Branch is a recently formed team of two professional planners operating as a staff function within the Transportation Planning Division of the Arizona Department of Transportation. The primary responsibility of this policy planning function is to provide accurate issue identification and analysis to decisionmakers. The Branch has an internal analytical function requiring legislative expertise and an external liaison function requiring political astuteness. Two recent reports detail how such a Branch can and should monitor the legislative-political process in pursuing its objectives.

The recently completed "Environmental Analysis of the State Policy Branch" pointed out that the Legislative Branch and staff should be of primary concern to the State Policy Branch since its goals are highly vulnerable to legislative action. Also of major significance were regulatory agencies and the Executive Branch and staff. In each case, increased active liaison and interactive participation were recommended between the State Policy Branch and other participants.

In assessing "Programmatic Considerations in the Legislative Planning Process" an outline of activities and steps to assure better rapport and success in the legislative arena was pursued. The generalized process of some 17 steps includes such activities as identifying appropriate and necessary lobbying methods to support legislative proposals and negotiating within the political framework to attain the "best possible" solution.

CONTACT: Ron McCready, Policy and Research Section, Transportation Planning Division, Arizona Department of Transportation, 206 South Seventeenth Avenue, Phoenix, AZ 85007, telephone 602-261-7251.

COMPUTER-AIDED DESIGN AND DRAFTING SYSTEM FOR WASHINGTON DOT

The Washington State Department of Transportation will be operating a Computer-Aided Design and Drafting (CADD) system in 1983. Approved in August, the implementation plan is well under way and final specifications for the system are scheduled for completion by the end of 1982.

The main thrust of this computerized digital data storage and automated drafting capability will be in the production or roadway and bridge plan sheets, Digital planimetric and topographic data originating on the photogrammetric plotters will be used throughout the roadway design process.

The Washington DOT's cartographic program will be adapted to CADD and a computerized Geographic Information System will digitize basic map data from USGS 1:24,000 quadrangles and augment related transportation information provided by the Public Transportation and Planning Division.

CONTACT: Lee W. Eason II, Engineering Systems, Washington State Department of Transportation, Highway Administration Building, Olympia, WA 98504, telephone 206-753-5636.

WASHINGTON STATE STUDIES TRANSIT PERFORMANCE

The Washington State Transportation Center at the University of Washington is currently evaluating measures to monitor transit system performance. An interim draft report has been submitted to the Washington State DOT. A final report is expected soon.

The university study is addressing (a) transit performance criteria as related to the size and scale of various operators, (b) the development of relevant service planning and evaluation guidelines for classes of transit that would reflect local needs and resources, and (c) the usefulness of a system's self-evaluation including its costs.

CONTACT: George L. Smith, Manager, Public Transportation Office, Public Transportation and Planning Division, Washington State Department of Transportation, Highway Administration Building, Olympia, WA 98504, telephone 206-545-2481.

"KEY INDICATORS" REPORTED QUARTERLY AT MARYLAND DOT

The Maryland Department of Transportation develops quarterly reports of "key indicators" to monitor economic, energy, and transportation trends. National and statewide trends of the indicators are monitored by both top management and the transportation planning staff as part of a formal periodic review of trends that may affect the Department's operations.

The quarterly reports are produced within 60 days of the end of each quarter and display information for the latest quarter compared with last year, the previous quarter compared with last year, and year-to-date information compared with the previous year. Similar annual comparisons, covering a five-year period, are used in the State Report on Transportation, a report widely distributed to the General Assembly and other public officials.

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.

SOUTH DAKOTA HIGHWAY PRIORITIZATION REQUIRES ADEQUATE MONITORING

As elsewhere, South Dakota identified a need to rank highway segments for resurfacing or reconstruction on a statewide basis. To provide the information necessary to do this, detailed data on the geometrics and numerous criteria were collected for the 9033 miles of highway on the state trunk highway system. The following description of their prioritization process provides an indication of the need, depth, and breadth of their monitoring efforts:

"In order to make uniform comparisons of one highway segment to another, we have developed a ranking process which ranks each highway segment in relation to all other highway segments on the state trunk highway system. The ranking values are determined by assigning points for each element evaluated. By totaling the points for all elements, we determine the total ranking value for the highway segment. These values are placed in sequential order and assigned state ranking values. This process does not consider the geometric attributes such as grades, curves, sight distance, shoulders, etc., because they do not apply to resurfacing. In order to rank a mix of resurfacing and reconstruction projects in terms of when they should be improved, it is essential that we consider only those elements that apply to both types of improvement. However, those elements pertaining to geometrics could be considered if only reconstruction type projects are ranked. It is also possible to consider added elements or change the weight of any of the elements if deemed appropriate. One must recognize that this process is to determine the ranking order that improvements should be made, not the type of improvement.

"Those elements used in the ranking process are listed below in the order of their influence on the ranking:

1. Surface Condition - All elements inspected in the field and reported in the sufficiency rating report which pertain to the surface condition are used to assign the value for each highway segment. These values are then weighted by traffic volume.

2. Rideability - Data used to determine the value for this item are taken from roughometer readings. Roughometer is a mechanical measurement of the roughness of the surface. These values are then weighted by the functional classification of the highway.

3. Remaining Surface Life - This item is determined by use of present serviceability rating (PSR) equivalents which are measurements accepted for universal use by the Federal Highway Administration. These PSR values are composed of selected elements from the sufficiency field survey combined with the roughometer data. This item compliments items 1 and 2 above as-well-as blend any contrasting data. These values are also weighted by functional classification.

NOTE FROM CIRCULAR EDITOR

This is the second report from the A1D03 committee and represents considerable progress and success in sharing information on statewide planning. We all appreciate the cooperation of our contributors in continuing this activity.

This issue focuses on two topics--the 62nd Annual Meeting and statewide transportation monitoring efforts. I would like to continue to identify particular topics around which to organize future issues, and would appreciate whatever suggestions you have in that regard as well as your continued contributions of summaries, reports, abstracts, or excerpts for publication.

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4. Drainage Adequacy - Conditions that permit water to stand on the surface of the highway are considered under this item. Highways with depressions that hold water are assigned less value than those with a good crown and even slope.
5. Surface Thickness - Values are assigned for ranking purposes in direct relationship to the surface thickness.

6. Surface Maintenance - Values are assigned in direct relationship to the average surface maintenance costs over the past three years.

7. Roadway Strength - The values assigned to this item are determined from dynaflect tests. The dynaflect is a machine which applies a mass weight to a restricted area of the roadway. A set of sensors placed strategically around the pressure point reads the deflection, thus the strength of the highway segment. These values are weighted by traffic volumes.

8. Current Traffic and Number of Trucks - For these two items, ranking values are assigned in relation to the volume of traffic over 250 and trucks over 50 per day.

"The weighting as referred to above serves to rank those highways with higher functional classification and more traffic volume ahead of the lower class less used highways when all else are equal.

"The results of this process are structured around three accent attributes. The first accent is on condition which places the highway segment in ranking order based on the relative condition of all elements considered. The second accent is on traffic volumes. This accent places highway segments with higher traffic volume ahead of segments that are in slightly worse condition but have lower traffic volumes. The third accent is on functional classification. This accent will advance highway segment on higher-class highways ahead of those segments on lower-class highways with slightly higher ranking based on the first two accents."

CONTACT: Dean Schofield or Wallace Larsen, Office of Transportation Systems Development and Statistics, South Dakota Department of Transportation, Pierre, SD 57501.

HIGHWAY SYSTEM LEVEL OF DEVELOPMENT PLAN FOR WASHINGTON STATE

An innovative approach to assist in achieving the optimum use of available highway revenues is the Highway System Level of Development Plan adopted by the Washington State Department of Transportation. Each segment of the State Highway System has been designated to have one of the following long-range development objectives: (1) Design Standards Level, (2) 3R Standards Level, or (3) Maintain Structural Integrity and Operational Safety Level. Maintenance, TSM, and 3R techniques are applicable at all levels of development as interim measures to extend the use of the facility before major reconstruction or improvements are required. Increased cost savings are achieved by monitoring project planning and development through the programming process to ensure that project improvements are consistent with the assigned level of development.

CONTACT: Wayne T. Gruen, Manager, Transportation Planning, Public Transportation and Planning Division, Washington State Department of Transportation, Highway Administration Building, Olympia, WA 98504, telephone 206-753-3231.

REPORTS AVAILABLE

Year 2000 Transportation System Development Plan (July 1982, Chicago Area Transportation Study, 300 W. Adams Street, Chicago, IL 60606) provides a retrospective of urban transportation planning in the northeastern Illinois region; identifies the issues and goals that guide the planning process including population, socioeconomic, and financial forecasts; describes the methodology and development of public transportation and highway alternative networks; explains the technical evaluation of network alternatives and review through a public participation process within the context of comprehensive regional planning analysis and evaluation; and finally, presents the process through which the Year 2000 Plan was adopted.

Road User and Property Taxes on Selected Motor Vehicles--1982 (1982, Highway Statistic Division, Office of Highway Planning, Federal Highway Administration) provides basic information for 1982 from each state on road-user taxes and property taxes levied on a selected group of vehicles. The intent is neither to weigh the merits of any of the taxes being reviewed nor to recommend any tax policy, but to supply the means to measure and compare the annual payments that would be made for each of 15 carefully selected vehicles in each state. By arranging these payments in a uniform manner, a useful research and planning tool is made available to highway administrators, legislators, and others who are concerned with highways and with vehicles and their use. The taxation information included for the vehicles, which range from a motorcycle to an 80,000-lb truck-trailer combination is contained in (1) tables that show highway user and total taxes paid to each state, (2) bar charts in which states are ranked by highway-user and total taxes paid, and (3) maps that show ranges of highway-user and total taxes paid to each state.

1982 Report on Transit Operating Performance in New York State (1982, New York State Department of Transportation, Transit Division, Albany, NY 12232) represents the first time the state Department of Transportation has prepared a separate report on the performance of the transit operations participating in the State Operating Assistance Program. In previous years, a more abbreviated analysis was contained in a chapter of the Annual Report on the entire Statewide Transit Operating Assistance Program. The purposes of the report is to (1) document the recent trends and current levels of operating performance among the major transit systems in New York State in greater depth than has been done to date, (2) advance the understanding of performance problems, and (3) identify where efforts to improve transit performance should be concentrated. The report relies both on self comparisons through time series (trend) data and peer comparisons among operators of similar types of service. Emphasis has been placed on trend analysis in the report as being the more reliable and useful indicator of potential performance problems in the short term. Peer comparisons are also a useful evaluation tool in both developing an understanding of local differences in performance and in diagnosing priority areas for follow-up. However, it is important to recognize that performance differences identified by peer comparisons may only indicate differences in local factors outside of transit management and/or local policy control.