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# CIRCULAR

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

## TRANSPORTATION INFORMATION SYSTEMS

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### Committee on Transportation Information Systems and Data Requirements

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### Note About the Contents

This Circular is published by the Committee on Transportation Data and Information Systems (AIC03) of the Transportation Research Board (TRB) to serve as a forum and resource for providers and users of information for transportation planning and research. This Circular serves as a continuation of the newsletter published between 1977 and 1982 by the Transportation Special Interest Group (SIG) of the Urban and Regional Information Systems Association (URISA). Short features, commentary, and announcements of interest to members and friends of both groups are welcomed, and should be forwarded to the Committee's Secretary, Rolf R. Schmitt, at the Federal Highway Administration, HPP-12, Washington, D.C. 20590.

This Circular includes descriptions of activities scheduled by the Committee on Transportation Data and Information Systems for the TRB's Annual Meeting in January, 1984, and a summary of related activities at the 1983 meetings of URISA and the Transportation Research Forum (TRF). This Circular also includes a guide to compendiums of transportation data sources and systems which was prepared by the Committee on Transportation Data of TRF's Washington Chapter. All material in this Circular was compiled by Rolf R. Schmitt.

#### INTRODUCTION

The TRB Committee on Transportation Data and Information Systems (AIC03) is currently exploring a wide range of questions, including:

- o How can the private sector and regional agencies replace declining Federal sources of data on interregional commodity flows and urban transportation planning?
- o What can be expected from the current Census of Transportation, and what should be done to improve the Census in 1987?
- o How can transportation planners make the most of products from the 1980 Census, and what should be done by State and local agencies to prepare for the 1990 Census?
- o What kinds of passenger travel and tourism data are being collected, and do they meet the information needs of public and private organizations?

These questions will be addressed during TRB's Annual Meeting in two regular sessions and four scheduled meetings of the Committee and its subcommittees. The preliminary agendas are described in this Circular. All interested persons are encouraged to attend these activities, which will take place during the week of January 16, 1983, at the Shoreham Hotel in Washington, D.C.

The questions being raised by the Committee are a continuation of discussions held last August during URISA'83 and last November at the 25th national meeting of the Transportation Research Forum. Highlights of these discussions are reported in this Circular.

As part of its role as a forum to discuss technical and policy issues related to information resources for transportation planning and research, the Committee on Transportation Data and Information Systems attempts to monitor the availability of those resources. Toward this end,

the guide to compendiums of transportation data sources and systems by the Committee on Transportation Data of TRF's Washington Chapter is reprinted at the end of this Circular.

#### CALL FOR VOLUNTEERS

Most activities of the Committee on Transportation Data and Information Systems are carried out by its three subcommittees. Subcommittee membership is open to anyone who is willing to work with the subcommittee chairman, and all three subcommittees are in need of volunteers to help organize meetings, help with publications, and join in the discussion. Interested persons are encouraged to contact the appropriate subcommittee chairman, whose address is included in this Circular with the subcommittee's preliminary agenda.

#### COMMITTEE-SPONSORED ACTIVITIES AT THE TRB ANNUAL MEETING

The Committee on Transportation Data and Information Systems is pursuing its varied interests through five scheduled activities at the TRB Annual Meeting. All room locations are in the Shoreham Hotel in Washington, D.C.

Monday, January 16:

8:00 PM: Meeting of the Subcommittee on Urban Transportation Data and Information Systems in Suite 263.

Tuesday, January 17:

9:00 AM: Meeting of the Subcommittee on Information Resources for Freight Transportation in Suite 163.

2:00 PM: Meeting of the Subcommittee on Information Resources for Passenger Travel and Tourism in Suite 763.

Wednesday, January 18:

9:00 AM: Session on "The Role of Private Vendors in Supplying Commodity Flow Data" in the Diplomat Room.

2:30 PM: Session on "Supporting MPO Data Activities Through User Charges" in the Diplomat Room.

8:00 PM: Meeting of the full committee in Suite 263.

The preliminary agenda for each activity follows.

#### Committee on Transportation Data and Information Systems

Committee ALC03 has relegated most of its specific program activities to its three subcommittees, leaving the meeting of the full committee for discussion of generic issues such as:

- o Institutional mechanisms for monitoring information resources and for providing user feedback.
- o Prospects for and problems of private financing of public data collection, processing, and dissemination.
- o Methods for establishing the costs, benefits, and prices of public information.
- o Consequences of new technology for the effectiveness and costs of data collection and access, for privacy, and for the future demand for transportation data.

The meeting agenda will also include an evaluation of the committee's activities to date and plans and assignments for the future.

#### Subcommittee on Urban Transportation Data and Information Systems

Subcommittee ALC03(1) is interested in all aspects of the collection and use of data for urban transportation planning. The subcommittee organized the TRB-cosponsored sessions at URISA'83, described elsewhere in this Circular, and is sponsoring the session on MPO data activities and user charges. Arthur B. Sosslau is Chairman of the subcommittee, and can be reached at COMSIS Corporation, 11501 Georgia Ave., Wheaton, MD 20902. James J. McDonnell of the Federal Highway Administration serves as the subcommittee's Secretary.

The tentative agenda of the subcommittee meeting includes:

- o A discussion of the Urban Transportation Planning Package by experienced users, highlighting both successes and problems in applying the special tabulations of Census data in the Package to urban transportation planning research.
- o An abridged presentation of "A Data Base Management System for the Transportation Improvement Program: Development, Monitoring, and Analysis" by Elizabeth A. Harper and Donald P. Kopec of the Chicago Area Transportation Study.
- o A discussion of planned subcommittee activities and publications, including a

mid-year conference on "Transportation and the Decennial Census". This meeting would serve primarily to bring together high officials from the Census Bureau and data users from the transportation community to discuss user evaluations of products from the 1980 Census, and to define needs and develop recommendations concerning the 1990 Census.

Supporting MPO Data Activities Through User Charges. This session is a panel discussion on the problems faced by Metropolitan Planning Organizations (MPO's) in their emerging roles as information vendors. This session is a continuation of the very lively discussions held during URISA'83 on integrating the Urban Transportation Planning Package into other saleable data resources. The panel will examine various ways in which MPO's price and deliver their information resources. Much of the discussion will examine ways of reconciling the different needs of outside clients versus internal users of the agency's data and services. The panel might also consider the ways in which the new urban transportation planning regulations affect the ability or desirability of MPO's to act as information brokers. Robert T. Dunphy of the Metropolitan Washington Council of Governments will moderate the panel, which will include representatives of the Baltimore Regional Planning Council, the Southeast Michigan Council of Governments, the Southern California Association of Governments, the North Central Texas Council of Governments, and other regional agencies.

#### Subcommittee on Information Resources for Freight Transportation

Subcommittee ALC03(2) is chaired by W. Bruce Allen, who can be reached at the Public Policy and Management Department, The Wharton School, University of Pennsylvania, Philadelphia, PA 19104. The subcommittee has been formed to examine the collection and use of information on freight transportation. The subcommittee currently emphasizes data on interregional commodity flows and related activities, but is likely to expand its interests as its membership increases.

In addition to organizing the session on private vendors of commodity flow data, the subcommittee is holding a meeting to discuss:

- o The current status of the Commodity Transportation Survey and the Truck Inventory and Use Survey.
- o Plans for the Nationwide Truck Activity and Commodity Flow Survey, and opportunities for input by subcommittee members.
- o Possible activities and individual assignments for 1984.

Private Sources of Commodity Flow and Vehicle Activity Data. Who uses or needs data on commodity flows and vehicle activity? Can private vendors replace public data resources that are declining with budget cuts and deregulation? What are the similarities and differences among the various data products now available from private and public sources? How will the products of private vendors be affected by declining public

data resources? These questions will be the focus of an innovative panel discussion organized by the Subcommittee on Information Resources for Freight Transportation.

Bruce Allen will moderate two-panels-in-one. The first will include David Anderson, Pat Webster, and Paul Roberts, who will raise generic issues. The second panel will include private vendors, who will describe their products and answer questions from the first panel and the audience. The invited vendors include Gerald Kraft of Charles River Associates, Peter Stump of Data Resources, Inc., Jack Faucett of Jack Faucett Associates, Alain L. Kornhauser of A.L.K. Associates, and Don Ainsworth of Reebie Associates. This will be a rare opportunity to learn about the range of services which are offered by the private sector for commodity flow estimation and display.

Subcommittee on Information Resources for Passenger Travel and Tourism

Subcommittee ALC03(3) is interested in the collection and use of information for passenger transportation and tourism. Robert N. Tap chairs the subcommittee, and can be reached at the Transportation Systems Center, DTS-55, Kendall Square, Cambridge, MA 02142. Douglas C. Frechtling of the U.S. Travel Data Center serves as the subcommittee's Secretary.

The subcommittee's preliminary agenda includes:

- o A summary of a method for displaying traffic count data, from the paper on "Presentations of Alternative Demand Data Summaries" by Michel Van Aerde and Sam Yagar of the University of Waterloo.
- o An update on the current status of the Nationwide Personal Transportation Survey.
- o A discussion of the Transportation System Center's activities in international air passenger data, and recent changes wrought by the Immigration and Naturalization Service.
- o A summary of current programs by the U.S. Travel Data Center.
- o A discussion of the demise of the National Travel Survey and its implications for future public data collection activities.
- o A discussion of future subcommittee activities and assignments.

#### INSIGHTS ON CENSUS PACKAGE AT URISA'83

The Transportation Research Board cosponsored a workshop and two sessions on the Urban Transportation Planning Package at the 1983 Annual Meeting of the Urban and Regional Information Systems Association in Atlanta. The Package is a set of special tabulations from the 1980 Census, and has been described in previous editions of the URISA Transportation SIG Newsletter and TR News. While the Package and its uses will be described in an extensive Transportation Research Record in 1984, some of the major insights from the URISA'83 sessions are highlighted here for the many metropolitan areas that are now receiving the Package.

The value of the Package was demonstrated by Philip Fulton's presentation of a simple method for estimating daytime populations. He used tabulations from the Package to show the tremendous differences in workplace and resident populations of two census tracts in downtown Atlanta. These differences included absolute numbers as well as 'distributions by age, sex, race, occupations, and industry.

The discussion of Fulton's straightforward method included a major caveat for all analyses which combine responses to different questions from the 1980 Census. While all questions on the long form were asked to approximately one-sixth of the nation's households, the place of work question was tabulated for only half of the returned long forms. The resulting use of different expansion factors can result in illogical results from combining population characteristics for small units of geography. The moral is to watch for negative numbers when subtracting one tabulation from another for a specific tract or zone.

One of the major improvements to the Package over its 1970 edition is the inclusion of a sophisticated method for allocating nonresponses to places of work. However, the allocations and reported places of work are tabulated for zones or tracts ONLY within the areas covered by the GBF-DIME files which were used for the 1980 Census.

One of the more common questions raised by users of the Package was anticipated in a presentation by Michael Clarke of COMSIS, who discussed the problems of tape compatibility. The Package includes software at the beginning of the tape which may need modification to run on the user's hardware. Users who encounter problems should call the Federal Highway Administration's Planning Procedures Branch at (202) 426-0150 for assistance.

While the URISA'83 sessions uncovered some minor caveats and problems, they also indicated the tremendous potential of the Package as a major information resource for transportation and other realms of planning in metropolitan areas. There is even a version of the Package for jurisdictions which achieved metropolitan status as a consequence of the 1980 Census. For further information on the Package, read the forthcoming Record entitled Census Data and Urban Transportation Planning in the 1980's, contact Philip N. Fulton, Population Division, U.S. Bureau of the Census, Washington, D.C. 20233 (telephone 301-763-3850), or contact James J. McDonnell, Federal Highway Administration, HPP-24, Washington, D.C. 20590 (telephone 202-426-0150).

#### DATA ISSUES RAISED AT TRF NATIONAL MEETING

Many of the issues being discussed by the TRB Committee on Transportation Data and Information Systems were raised in the 25th National Meeting of the Transportation Research Forum (TRF) and concurrent mini-conferences sponsored by TRB. These meetings were held on November 2-5, 1983, across the Potomac from Washington, D.C.

While several of the TRF sessions dealt specifically with transportation data needs, some of the most interesting discussions emerged from sessions on deregulation. The discussion could be summarized in three questions and answers.

- o Can the private sector generate the information it needs for a properly functioning marketplace? The answer is

probably yes, at least for large and innovative carriers and shippers, although the information may take a very different form from that which originated through public agencies and reports to regulatory bodies. Much of the information will come from the computerization of shipping documents, and through the merging of shipping records with billing data, contracts, and other internal information. The role of private vendors of transportation data is not clear if a trend toward self-generation of information resources continues for marketing and pricing.

- o Will small shippers and carriers be able to obtain adequate information to compete effectively in a free marketplace? The answer is a less confident yes, given that small businesses will be more dependent on the development of information services by other firms. The ability of private vendors of data to respond to the needs of small businesses is not clear. One panelist speculated that rate bureaus may change their role from collective ratemakers to information brokers for small shippers and carriers.
- o Will the public sector be able to meet its information requirements through the suggested trends in the private sector? The answer is a probable no, even though the discussants generally recognize the need for data to support informed public decisionmaking.

One of the more optimistic views of future public data resources came from David L. Penick, who is Chief of the Waterborne Commerce Statistics Center of the U.S. Army Corps of Engineers (3545 I-10 Service Road, Metairie, LA 70002). His Center collects a complete enumeration of commodity flow data for domestic water traffic to support analyses of investment and user charge policies by the Corps. The U.S. Departments of Transportation and Energy, State transportation agencies, and private companies are also users of the data. Only aggregated data are released outside the Federal Government to protect the confidentiality of individual vessel movements. The Center is improving the timeliness of its data by releasing preliminary data for each quarter rather than waiting until the year's end.

The truck-stop survey developed by the Association of American Railroads and now run by Charles River Associates was described as one private sector response to filling a public data gap. The utility of this survey to public and private organizations will be discussed with other private data activities in the session on "The Role of Private Vendors in Supplying Commodity Flow Data," which is described elsewhere in this Circular.

One of the sessions examined international transportation data. Panelists described complexities of developing consensus among nations on transportation terms and measures, and reviewed the diverse statistical publications which are assembled by agencies of the United Nations. Some emerging problems were also noted with the passenger flow data being collected on flights which cross the borders of the United States. These problems will be discussed during

the meeting of the TRB Subcommittee on Information Resources for Passenger Travel and Tourism, which is described elsewhere in this Circular.

The proceedings of the TRF meetings are being published in two volumes. For further information, write to Transportation Research Forum, P.O. Box AA, Northfield, NJ 08225. The proceedings of the TRB sessions which were part of the TRF program will be published by TRB in future Circulars or Records, which will be announced in TR News.

#### A GUIDE TO COMPILATIONS OF TRANSPORTATION DATA SOURCES AND SYSTEMS

Committee on Transportation Data, Washington Chapter, Transportation Research Forum

Discussions of information resources for transportation planning, marketing, and research frequently raise the need to inventory and coordinate the many and diverse sources of transportation data. Several inventories already exist, but are for the most part neither widely publicized nor maintained on a consistent, comprehensive basis. As a first step in improving transportation data resources, the following inventory of recent compilations of transportation data sources and systems has been prepared by the Committee on Transportation Data of the Washington Chapter, Transportation Research Forum (TRF). This inventory was distributed at TRF's 25th National Meeting, and is reprinted here in its entirety.

This guide appears to emphasize Federal information sources. The bias only reflects the substantial dependence of the transportation community on Federal or federally funded data collection activities. Many of these activities are changing as a consequence of budget cuts, deregulation, and other factors. As a consequence, the need to continue inventorying data resources remains as strong as ever. This guide will hopefully encourage and provide suggested formats for future efforts by public and private organizations to prepare compendiums of transportation information sources and systems.

The Committee on Transportation Data plans to publish future editions of this guide. Comments and additions are welcomed, and should be sent to Mr. Jack Ventura, TRF Washington Chapter, P.O. Box 7346, Washington, D.C. 20044.

#### National Freight Transportation Resources Directory, Forthcoming

This compilation is being assembled by Gati Grundmanis of the Division of Planning and Budget, Wisconsin Department of Transportation (P.O. Box 7913, Madison, WI 53707). Entries will include publications, data bases, models, and other information resources for freight planning and research. Entries will be drawn from Federal agencies, trade associations, consultants, publishing companies, universities, and other sources. A glossary of freight transportation terms will also be included.

#### Sources and Uses of Marketing Information for Motor Carriers, Forthcoming

This book by Wesley Kriebel will be published by the ATA Foundation (1616 P Street, N.W., Washington, D.C. 20036). Chapters of the book explain: why motor carriers need marketing



information, what kinds of information are needed to assess potential motor carrier markets; basic concepts of data collection and use; and public and private sources of information. The sources include general economic and business information as well as transportation data.

Inventory of DOT Statistical Information Systems, August, 1983

This 65-page report (No. DOT-TSC-RSPA-83-7) is available from the Center for Transportation Information, Transportation Systems Center, Kendall Square, Cambridge, MA 02142, and enumerates the U.S. Department of Transportation's ongoing information systems, major data files and surveys, and published reports which include substantial amounts of data. Entries are organized by the Department's modal administrations.

Principal Federal Statistical Programs, April, 1983

The Office of Information and Regulatory Affairs of the Office of Management and Budget (Washington, D.C. 20503) has published this special report on statistical activities related to the budget of the U.S. Government. The report summarizes major statistical policy initiatives and programs throughout the Federal Government, including those in transportation.

Compilation and Analysis of Truck Data, March, 1983

This 97-page report has been prepared by the Association of American Railroads by DNS Associates, 1129 20th Street, N.W., Washington, D.C. 20036, and is an update of the "Freight Data Requirements..." report of 1977, listed below. Entries for each data source include abstracts and key words, relevant items in the data base, the coding scheme or units for each item, and sponsoring organization (almost all of which are Federal agencies).

Transportation Data Sources and Services, December, 1980

This 10-page report is a supplement to Identification of Transportation Data Needs and Measures for the Facilitation of Data Flows, prepared by the Transportation Research Board and published by the Transportation Systems Center, Kendall Square, Cambridge, MA 02142, in March, 1981. The supplement contains 61 references to public and private organizations which publish transportation data. Descriptions of each organization's specific information programs are cursory to nonexistent. Federal agencies and national trade associations are the most thoroughly represented, and all modes of passenger and freight transportation are covered.

TRANSGUIDE: A Guide to Sources of Freight Transportation Information, 1980

This 381-page book is published by Reebie Associates, P.O. Box 1436, Greenwich, CT 06830. Each information source is listed with a brief synopsis, extensive ordering information, and cross references to sponsors and publishers. Information sources are generally organized by mode and by sponsoring organization, and cover all modes of freight transportation.

Federal Information Sources and Systems, 1980

This 1,178-page directory by the U.S. General Accounting Office (Report No. PAD-80-50) describes the purposes, inputs, outputs, sponsors, and budget authorities for data collection and dissemination activities throughout the Federal Government. Transportation data activities can be found under a wide variety of agencies. Entries are organized by agency, by oversight committee, by authorizing legislation, and by budget function. The 1983 DOT inventory listed above was prepared for the next edition of this directory.

Statistical Reporter, February, 1980

Issue number 80-5 of this monthly publication by the U.S. Office of Federal Statistical Policy and Standards includes an update of the transportation chapter in the 1978 Framework...for the 1980s report listed below. Statistical Reporter, which covered statistical policy issues and Federal programs for the collection and dissemination of data, was discontinued in 1981.

Maritime Information Sources: A Guide to Current Data, August, 1979

This 109-page report by the Maritime Transportation Research Board and the Transportation Research Board, National Research Council, 2101 Constitution Ave., N.W., Washington, D.C. 20418, is an update of the December, 1978 edition listed below.

A Compendium of Federal Transportation Policies and Programs, March 1979

This 420-page document is Special Report No. 6 of the National Transportation Policy Study Commission, and is available through the National Technical Information Service. While the compendium is not designed specifically for data sources, many of the entries include many reporting requirements, data collection programs, and other Federal programs and policies which affect transportation data resources. Entries are organized by agency.

Maritime Information Sources: A Guide to Current Statistical Data, December, 1978

This 257-page report was prepared for the Office of Naval Research by the Maritime Transportation Research Board, National Research Council, 2101 Constitution Ave., N.W., Washington, D.C. 20418. Entries are organized by subject, and include brief synopses and ordering information for a wide spectrum of maritime data which are in the public domain.

A Framework for Planning U.S. Federal Statistics for the 1980's, July, 1978

This 408-page compendium of data collection activities and statistical policy issues was published by the Office of Federal Statistical Policy and Standards while it was in the U.S. Department of Commerce. Data activities covering all modes are included in the transportation chapter.

Freight Data Requirements for Statewide  
Transportation Systems Planning: User's Manual,  
1977

This 155-page report by the National Cooperative Highway Research Program (Report No. 178) is available through the Transportation Research Board, National Research Council, 2101 Constitution Ave., N.W., Washington, D.C. 20418. Data sources for statewide freight transportation planning are listed with abstracts and keywords, relevant items in the data base, the coding scheme or units for each item, and sponsoring

organization (almost all of which are Federal agencies.)

Transportation Information, May, 1969

No inventory of compendiums would be complete without the "Red Book", a 244-page report on data programs and statistical policies by the Secretary of Transportation to the Committee on Appropriations of the U.S. House of Representatives. Many of the issues raised in this book are even more pressing today.