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**UNITED STATES - CANADA
TRANSPORTATION STATISTICS INTERCHANGE MEETING**

November 18 - 19, 1991

MINUTES OF MEETING

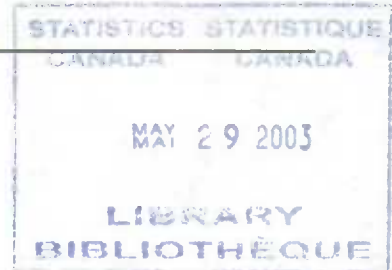
**Statistics Canada
OTTAWA, CANADA**



UNITED STATES - CANADA
TRANSPORTATION STATISTICS INTERCHANGE

MEETING No. 1, November 18 - 19, 1991

Statistics Canada
Jean Talon Building, 13th Floor Boardroom
OTTAWA, CANADA



MINUTES OF MEETING

1. Opening Remarks

The first meeting to discuss the interchange of transportation statistics between the U.S.A. and Canada was hosted by Statistics Canada on November 18th and 19th, 1991.

David Dodds (Director, Transportation Division) welcomed the participants to the first of a series of interchange meetings on US-Canada transportation statistics. He outlined the general representation at the meeting. A list of the participants is available in ATTACHMENT A. With reference to the proposed Agenda (ATTACHMENT B), Mr. Dodds suggested that the interchange meetings should be an informal forum for discussion of the topics and issues.

2. U.S. Bureau of Census

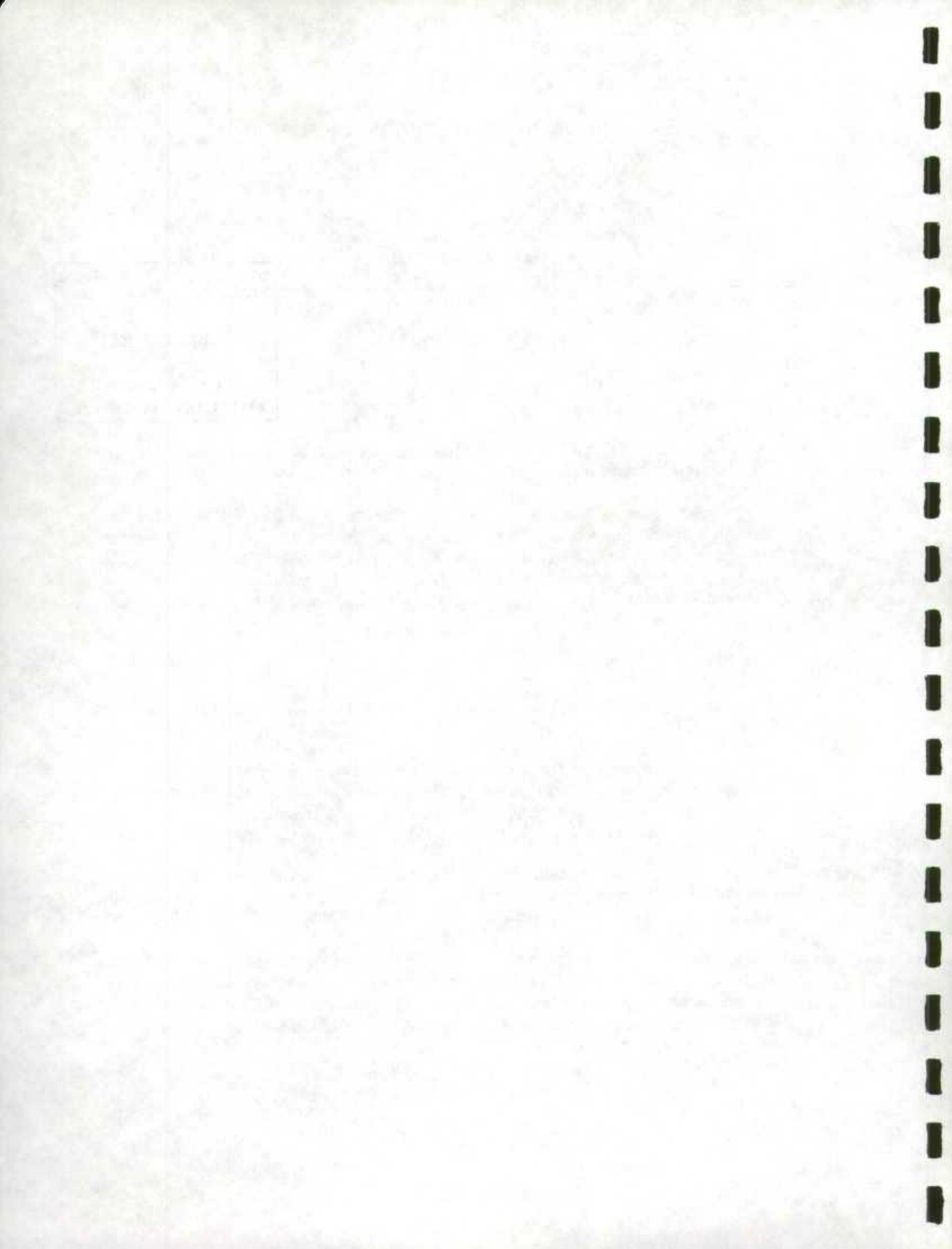
Jim Aanestad (U.S. Bureau of Census) addressed the topic of general transportation data needs in the United States.

The growing demand for new U.S. transportation data was highlighted. Both U.S. and Canada are experiencing changing conditions in the economy, such as reduced resources and budget constraints; there is uncertainty of what data are available; there is a need for new transportation data in the U.S.; and, there is a broad demand for new service industry data.

Interest by Congress resulted in a study on data gaps and needs on transportation. The major gap identified was trucking. Data users were contacted and expressed the need for detailed data rather than aggregated data in order to understand the changes in the industry today.

The Bureau of the Census and the U.S. Department of Transportation are planning to work together on resolving the statistical issues on trucking. For this reason, a Memorandum of Understanding between Census and Transport (similar to the MOU between Statistics Canada/Transport Canada/National Transportation Agency of Canada) has been drafted.

For further information, contact Jim Aanestad at (301) 763-7347.



3. U.S. Department of Transportation - Current Situation

Rolf Schmitt (U.S. Department of Transportation) highlighted the current situation in DOT with respect to U.S. transportation data. DOT covers a broad strategic level of transportation and data are seen as important to policy makers. However, much of these data are 10 years old.

There is a growing need to know what is going on across the border (i.e. Canada) and to understand the issues in order to resolve them with some confidence. The Highway Reauthorization Bill includes provision for a Bureau of Transportation within DOT to collect information not previously available. \$80 million has been authorized for the new Bureau.

For further information, contact Rolf Schmitt at (202) 366-9258.

4. 1992 Census of Transportation, Communications, and Utilities

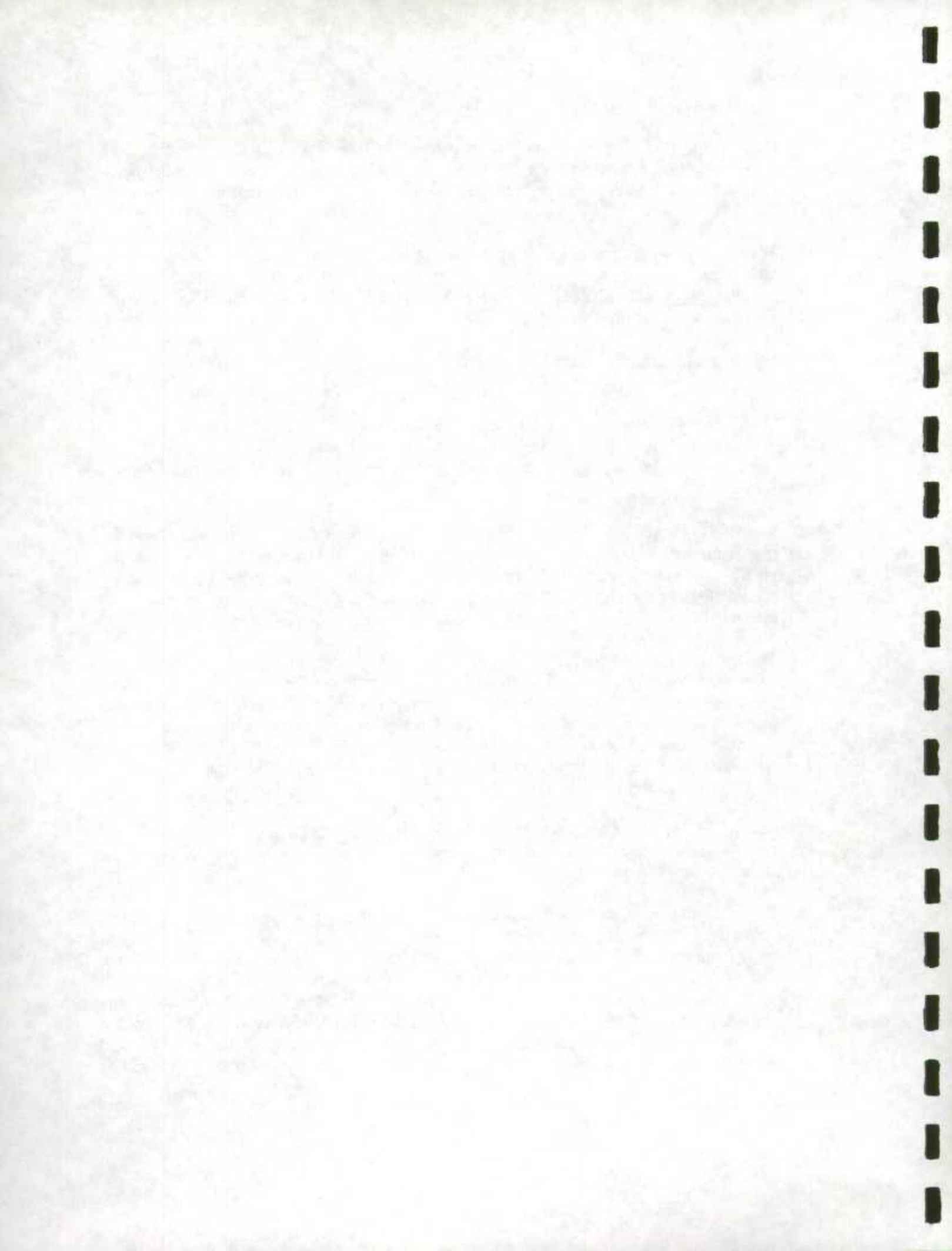
Dennis Shoemaker highlighted the plans for the survey to be conducted by the Census Bureau.

The 1987 Census of Transportation (*part of the Economic Censuses*), accounted for approximately 150,000 establishments. It covered employer locations in the motor freight, public warehousing, water transportation, and transportation service industries. The major changes to the program for 1992 are the expansion in industry scope, the development of an interactive analytical system, and the introduction of a consolidated report.

The Census, now titled the 1992 Census of Transportation, Communications and Utilities, will include the above areas as well as the highway transportation of passengers (*buses, taxicabs, and commuter rail*), air transportation (*except large certificated passenger air carriers*), and pipelines for transportation areas. The expansion also includes coverage of communications (*telephone, telegraph, radio and television broadcasting, cable television, and communications services*) and utilities (*electric and gas utilities and sanitary services*). This expansion includes about 80,000 establishments.

An on-line interactive analytical system is planned for the 1992 census. This system will provide for individual record editing, review, and correction as well as the review of numerous summary tabulations.

Consolidated reports, rather than establishment reports, for the pipeline companies, telephone and telegraph companies, and electric and gas utilities will be used for 1992. Through response to the Census Bureau Recordkeeping Practices Survey and Census of Transportation, Communications, and Utilities - 1989 Pretest, it was found that these industries were often unable to provide detailed data at the establishment or physical location level. The consolidated report will request data for an industry by subsidiary (as defined by the Employer Identification number used by subsidiaries in filing with other government agencies) by State. Consolidated data for revenue, payroll, employment, revenue sources, etc. will be



requested. Additionally, data for payroll and employment will be requested for all locations under the subsidiary in the given State.

For further detail on DOT's Major Transportation Statistics Programs, refer to **ATTACHMENT C**.

More information on the Census Bureau's Transportation Statistics, is available in a 9-page summary in **ATTACHMENT D** or contact Dennis Shoemaker at (301) 763-2662.

5. Commodity Flow Survey

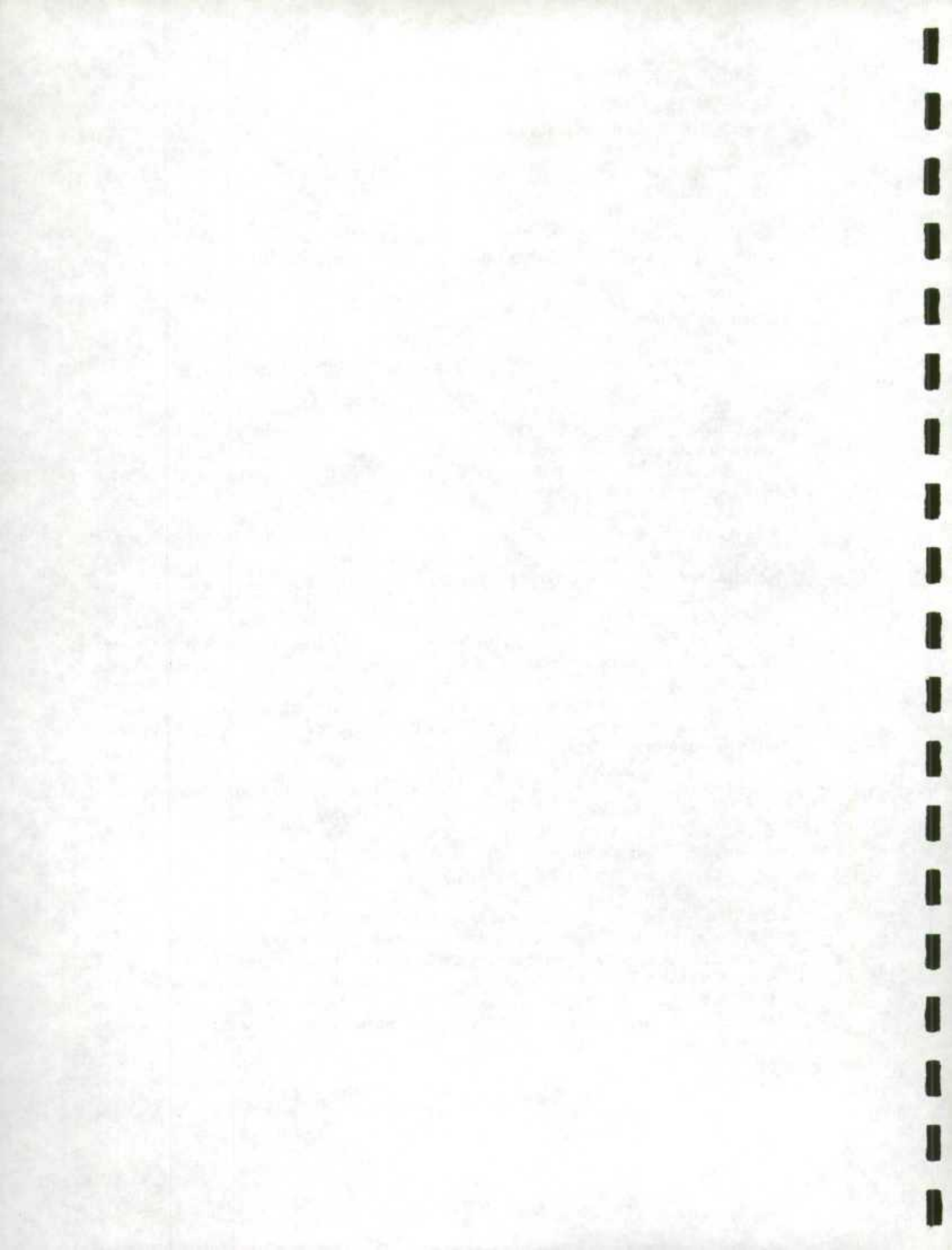
Jim Aanestad and Rolf Schmitt outlined the expanded Commodity Flow Survey

The Bureau of the Census and the U.S. Department of Transportation are planning a jointly sponsored Commodity Flow Survey (CFS) covering the 1993 calendar year. The CFS will restore a data program on commodity flows that was collected as part of the quinquennial economic censuses between 1963 and 1977. This new CFS has incorporated some important methodology changes that will improve the reliability and reportability of the data. The DOT has identified commodity flow data as a primary data need for informed decision making. The distance of the shipment by each mode used will be calculated based on the 5-digit ZIP codes of the origin and destination. A geographically coded multimodal network and sophisticated network simulation models will assign distances by mode..

The 1993 CFS will select a sample of some 200,000 establishments (20,000 establishments were sampled in 1987) classified in manufacturing, minerals, wholesale plus selected service and retail industries. Each of these selected establishments will report a sample of their individual shipments for a two week period in each of the four quarters of 1993. Information collected for these shipments includes the weight, value, origin, destination, modes of transportation, and type of commodity. This will provide a total sample of 20 to 24 million individual shipments.

Publication is planned for 1995 with a dual emphasis. Primary publication will provide origin and destination data at the 3-digit STCC level for 89 National Transportation Analysis Regions (NTARS). In addition, state level O-D will be produced. The Census, with DOT support, hopes to maintain micro data bases of the CFS for future special tabulations of aggregate data that incorporates confidentiality provisions.

The CFS will ask for the (*domestic or foreign*) destinations of the shipment, as well as the location of exit from the U.S. for exports. Isolated movements by manufacturers or wholesalers that directly import to their establishment would not be covered until the finished goods were shipped from their establishment. While the CFS sample size may be too small to estimate outgoing transborder commodity flows with adequate reliability, the Census Bureau may be able to link statistically, the CFS file with its universe data on exports to provide new insight on transborder flows.



Refer to **ATTACHMENT E** for further detail on the 1993 Commodity Flow Survey or contact Jim Aanestad (301) 763-7347 or Rolf Schmitt (202) 366-9258.

6. U.S. Trucking Surveys - Status and Plans

Bill Bostic (U.S. Bureau of the Census) manages two data collection programs involving the physical and operational characteristics of the United States truck population. Previously he supervised the processing of the Bureau's annual motor freight transportation and warehousing survey.

The Census Bureau's "Truck Inventory and Use Survey" (TIUS), is a component of the congressionally mandated quinquennial Census of Transportation.

The other truck characteristics data collection program is the Nationwide Truck Activity and Commodity Survey (NTACS). This program is funded by the U.S. Department of Transportation (DOT), and the Census Bureau is its contractor for data collection and processing operations. Tabulations are generated by DOT's other outside contractor, the Oak Ridge National Laboratory.

Survey profiles of each program, including the Motor Freight Transportation and Warehousing Survey were included in the handouts distributed at the meeting.

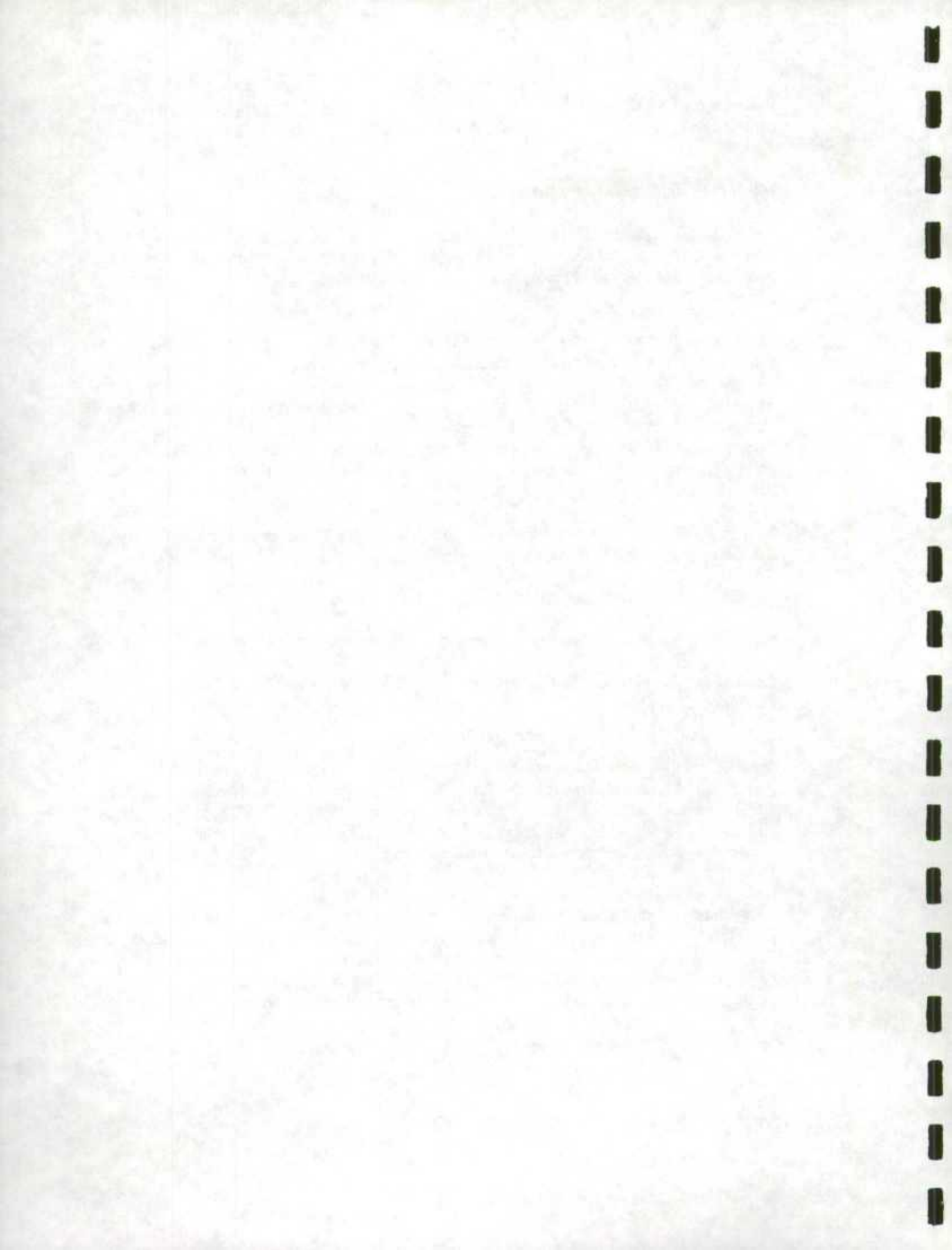
Highlights of the surveys are as follows:

6.1 "Motor Freight Transportation and Warehousing Survey" (WATS)

Response to this survey is mandatory. WATS is a major component of the Census Bureau's current services programs.

The survey was introduced in 1985 and expanded the following year as part of a broad-based multi-year program to expand coverage and improve statistics for service-related industries. A new sample will be introduced for the 1991 survey. The sample size will increase from 1,500 cases to about 3,000. In addition, some definitional revisions as well as new data items will be introduced. This enhancement will enable the publication of additional revenue and expense breakouts for the trucking and warehousing industries, and trucking statistics at a finer degree of industry detail.

Deregulation seriously reduced the amount of data for the trucking industry as programs that previously met both regulatory and general purpose statistical requirements were curtailed. The WATS presently is the only statistical program that measure annually the universe of employer firms providing for-hire trucking and public warehousing activities. These measures provide a reliable statistical basis for the development of the Gross National Product (GNP), productivity, and price measurements, and the formation of government policy.



In addition, the Census Bureau uses the results of this survey along with other factors in determining the content of future economic Census questionnaires in the quinquennial Census of Transportation program.

The WATS sample is selected every 5 years, at which time most small- and medium-sized firms are replaced in the sample by new businesses. The 1991 WATS is the first year of the most recent sample selection.

While the largest firms will continue to be canvassed, nearly all of the small- and medium-sized firms from the old sample have been replaced by new panel members.

Current and previous year data are requested only for the first year of the new sample (to provide a link with the existing data series). In subsequent years, only current year data are requested.

The Census Bureau works with individual companies that desire to report electronically, or to set up a customized reporting arrangement tailored to the company's needs. However, a mail survey offers the best general method for collecting the data while keeping the response burden to a minimum, because the WATS requires that respondents provide limited financial information in a consolidated report.

Initial mailout is usually scheduled in March. Data collection processing is conducted through July, and edit tabulation and review is conducted through October and results are generally released in November.

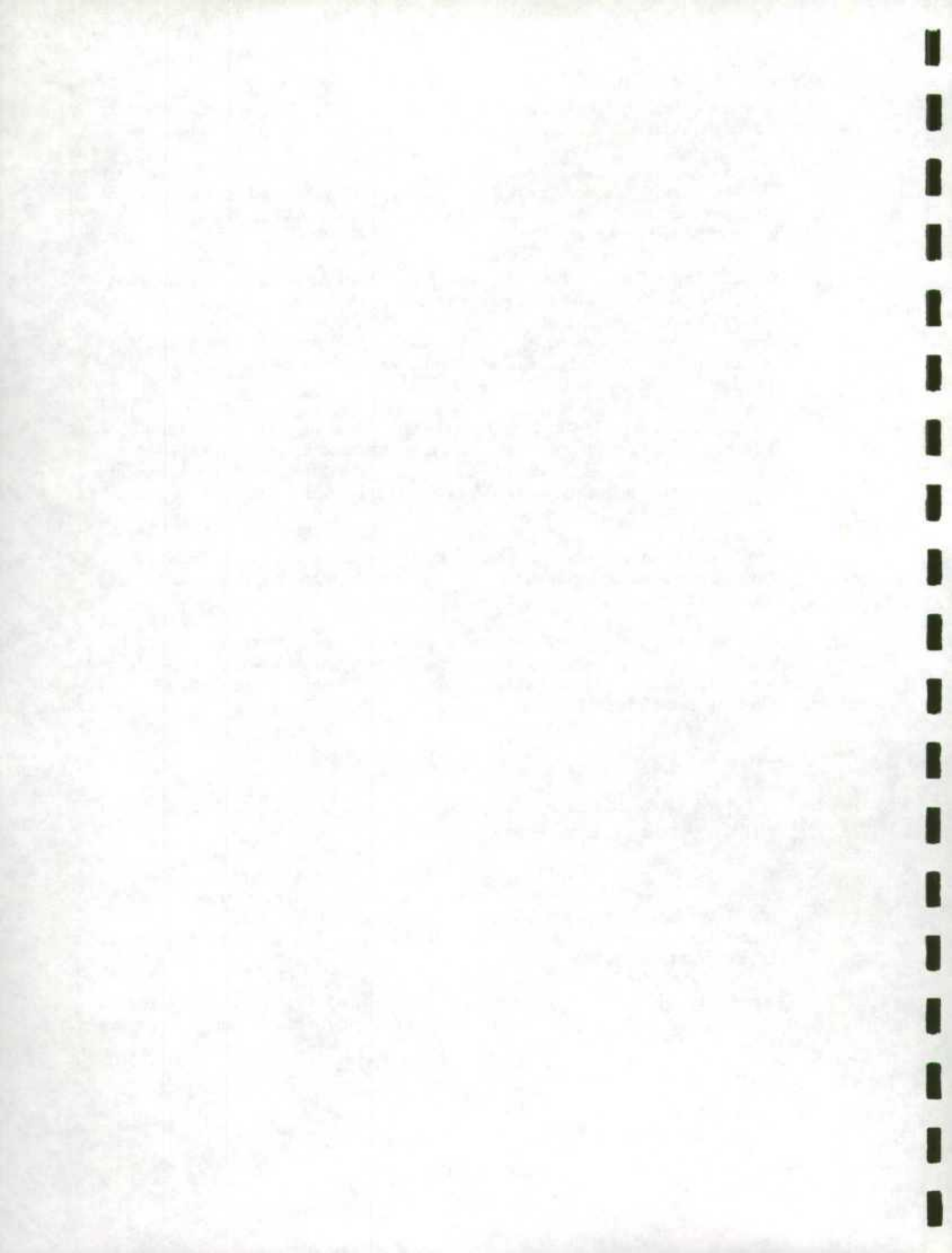
Published results from the 1990 program are scheduled to go to the printer by the end of November. A press release is also scheduled for release before the end of November. Results are also released electronically through the Census Bureau's CENDATA and Electronic Bulletin Board Networks.

6.2 "Truck Inventory and Use Survey" (TIUS)

The TIUS provides essential information for government, industry, business, and the general public. Users and uses of these data are listed in the TIUS survey profile.

This data collection is required by law under Title 13, United States Code (USC). Title 13, United States Code, assures respondents' reports to the Census Bureau are confidential by law. They may be seen only by sworn Census Bureau employees and may be used only for statistical purposes. The law also provides that copies retained in respondents' files are immune from legal process.

A new sample is selected every 5 years and the data content undergoes a thorough evaluation balancing data user/needs with respondents ability to report the data with minimum burden.



Drafts of the proposed questionnaires that were submitted to the Office of Management and Budget for 1992 survey approval by the end of January 1992, were circulated at the meeting.

Separate questionnaires for small trucks, the TC-9501 for pickups and vans, and the TC-9502 for all other trucks including truck tractors will be used for this data collection.

After conducting an evaluation of the 1987 program, including several data users forums and personal interviews with prospective 1992 respondents and non-respondents from the 1987 program, several improvements are being made for the 1992 program to reduce respondent burden and improve response, data quality, and the timeliness of releasing results.

The 1992 questionnaires will be a booklet format and utilize check boxes with ranges where some specific responses had been previously requested.

Another effort to reduce respondent burden is the utilization of toll-free assistance between 8 a.m. and 8 p.m. (EST) for respondents that have questions about completing the report. TIUS has a unique sample base including owners of company trucks, independent owner operators, and private resident owners, nationwide.

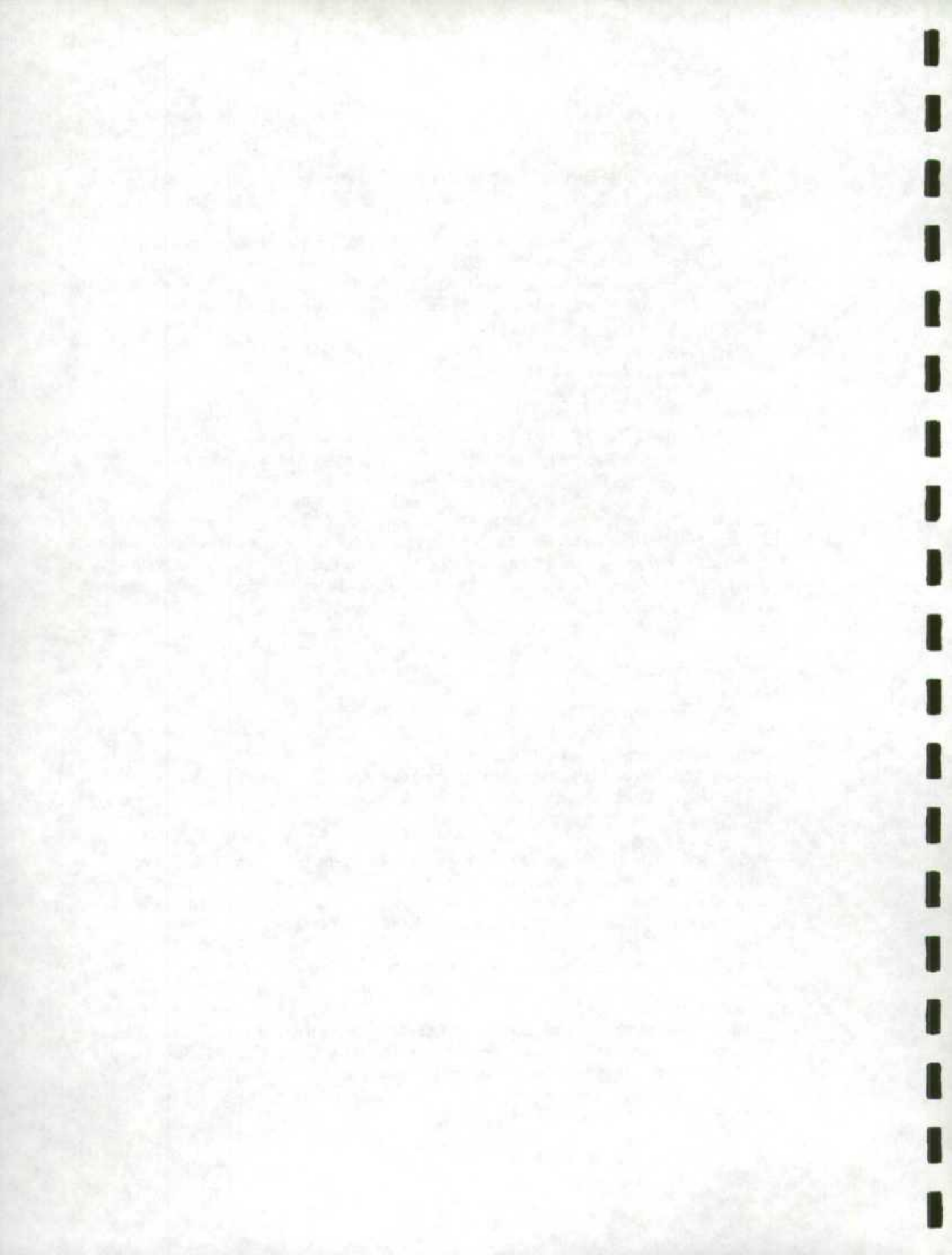
The number of data items on the small truck questionnaire (TC-9501) has been reduced by almost 30 percent in the number of data items asked from 1987. The development of this proposed short form was possible because of the homogeneous characteristics of the trucks in this segment. Some previously asked questions relating only to the large truck strata were deleted.

The 1992 program will utilize administrative data from other sources to further reduce respondent burden.

Several improvements will be introduced for data collection processing including a screening unit and centralized reporting for large corporate multi-truck owners. Previously all questionnaires were sent to the registered address location. An automated system for checking-in mailed back report forms and tracking data collection processing in state sequence will be used for timely identification of receipts and processing, thus minimizing unnecessary follow-up contacts with respondents.

Also to be included in the mailing piece will be a first time colour graphic informational brochure on light and heavy truck statistics from previous data collections to encourage response and promote the TIUS program. These improvements will enable the Census Bureau to publish data approximately 12 months ahead of the 1987 program.

Census publications, summarized physical and operational vehicular statistics for the United States and for each state including the District of Columbia. (Copies of the 1987 TIUS geographical publications and the U.S. summary were circulated at the meeting.) The Bureau also releases a public use tape that contains unaggregated microdata information for each truck for which data are collected. The records on the public use tape are modified to avoid the disclosure of a sampled vehicle or operating company.



6.3 Nationwide Truck Activity and Commodity Survey (NTACS)

The 1989 NTACS was a follow-on survey to the Census Bureau's 1989 TIUS. This survey was designed to provide information on commodity movement by truck and information on other trucking activities for all trucks. (The two questionnaires used for the program were circulated at the meeting). The NTACS-1 was used for short-haul commodity-carrying and non-commodity-carrying vehicles and the NTACS-2 questionnaire was used for long-haul commodity-carrying vehicles.

The objective of the NTACS was to measure the 1989 characteristics of commodity-carrying trucks and activity of all trucks registered on July 1, 1987, as identified in the 1987 TIUS program.

The Census Bureau created a preliminary microdata tape that contained individual responses of trucks from the 1989 NTACS and matching records from the 1987 TIUS. This preliminary tape was subjected to Census Bureau disclosure analysis and review by its Microdata Review Panel and forwarded to the Oak Ridge National Laboratories for imputation and preparations for a public use tape as requested by the Department of Transportation (DOT).

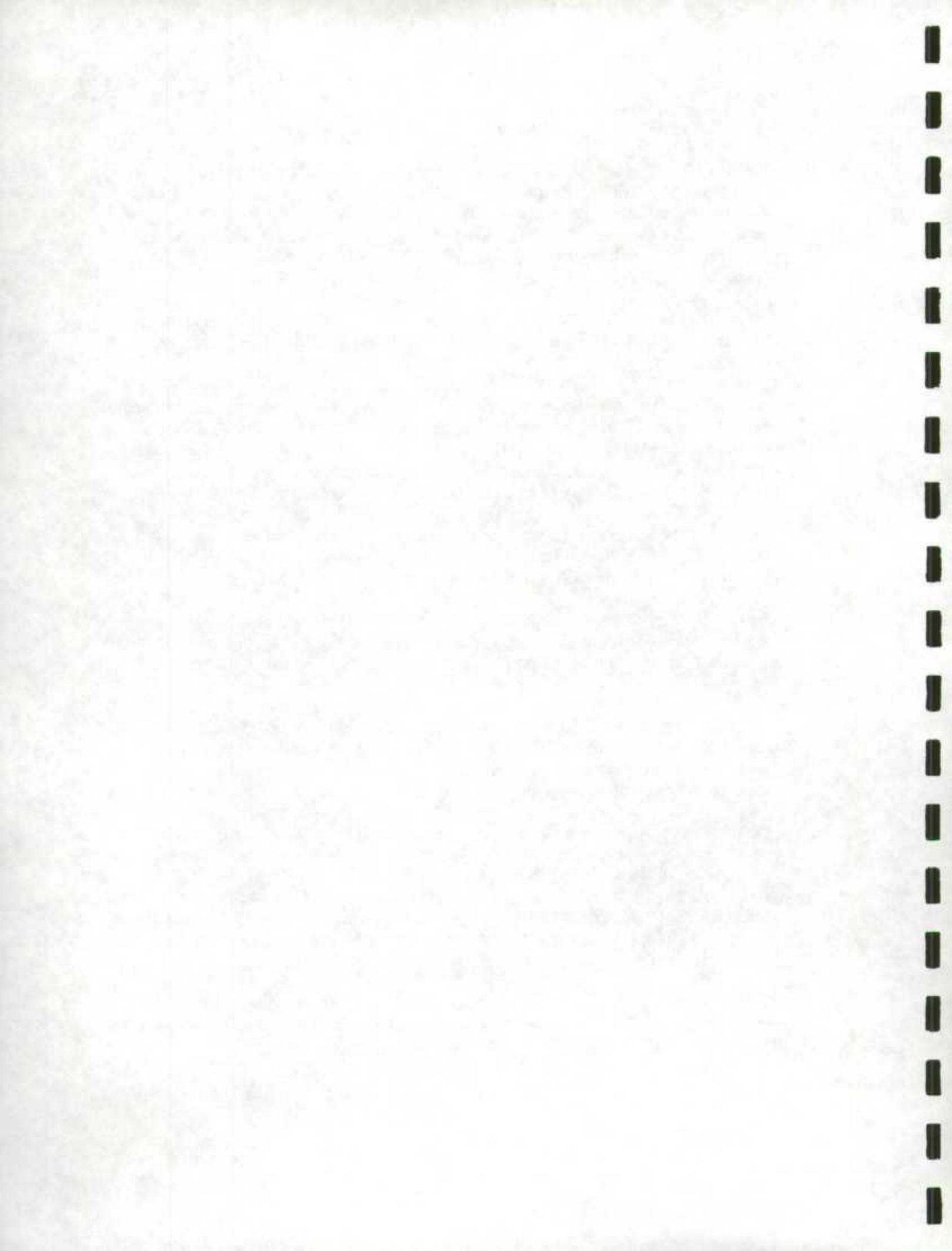
Responses were edited for reasonableness and consistency through clerical screening and a computer edit. The physical characteristics of the selected vehicles were compared with those attributes reported in the 1987 TIUS.

The Census Bureau was not responsible for imputing total-non-response or data item non-response. The Department of Transportation (DOT) and the Oak Ridge National Laboratory are currently standardizing and incorporating imputation results on the preliminary microdata file.

The Census Bureau and DOT representatives recognized during the design and development stages and from the results of the pretest that this data collection would be an exploratory process which would attempt to study new and changing conditions that had not been measured in any previous program.

A number of important observations were made that will help the Census Bureau and DOT improve response and data quality for the 1984 program. In preparation for the 1994 program, an evaluation of the 1989 program is taking place for data content and data collection and processing operations. Additional contacts with trade groups, TIUS participants, and DOT specialists will improve questionnaire design and respondent reportability. These steps will be part of a process to balance data user needs and respondent ability to report quality data on a timely basis.

For further detail on how DOT utilize the results from WATS and how they will utilize the results from the 1989 NTACS and integrate them into the results of the 1987 TIUS, please refer to ATTACHMENT F (by Rolf Schmitt) or contact Bill Bostic at (301) 763-2735.



7. Canadian Trucking Statistics Program

7.1 Overview

Jim Cain (Transportation Division, Statistics Canada) presented an overview of the statistical program on trucking at Statistics Canada. He suggested that reference should be made to the "1991 Catalogue of Publications and Services" of the Transportation Division for further detail on the availability of statistical outputs for the various modes of transport.

The transportation statistical program is funded through a joint arrangement with Transport Canada, the National Transportation Agency of Canada and the provinces/territories, by over \$1 million. Aggregated data on trucking are collected under the Statistics Act, involving Canadian Domiciled Carriers, including financial and operating statistics and commodity origin and destination statistics.

In the future, it is hoped that the program will be extended to the U.S. domiciled carriers operating in Canada (see 8.4).

For further detail, refer to **ATTACHMENT G** or contact Jim Cain at (613) 951- 0518.

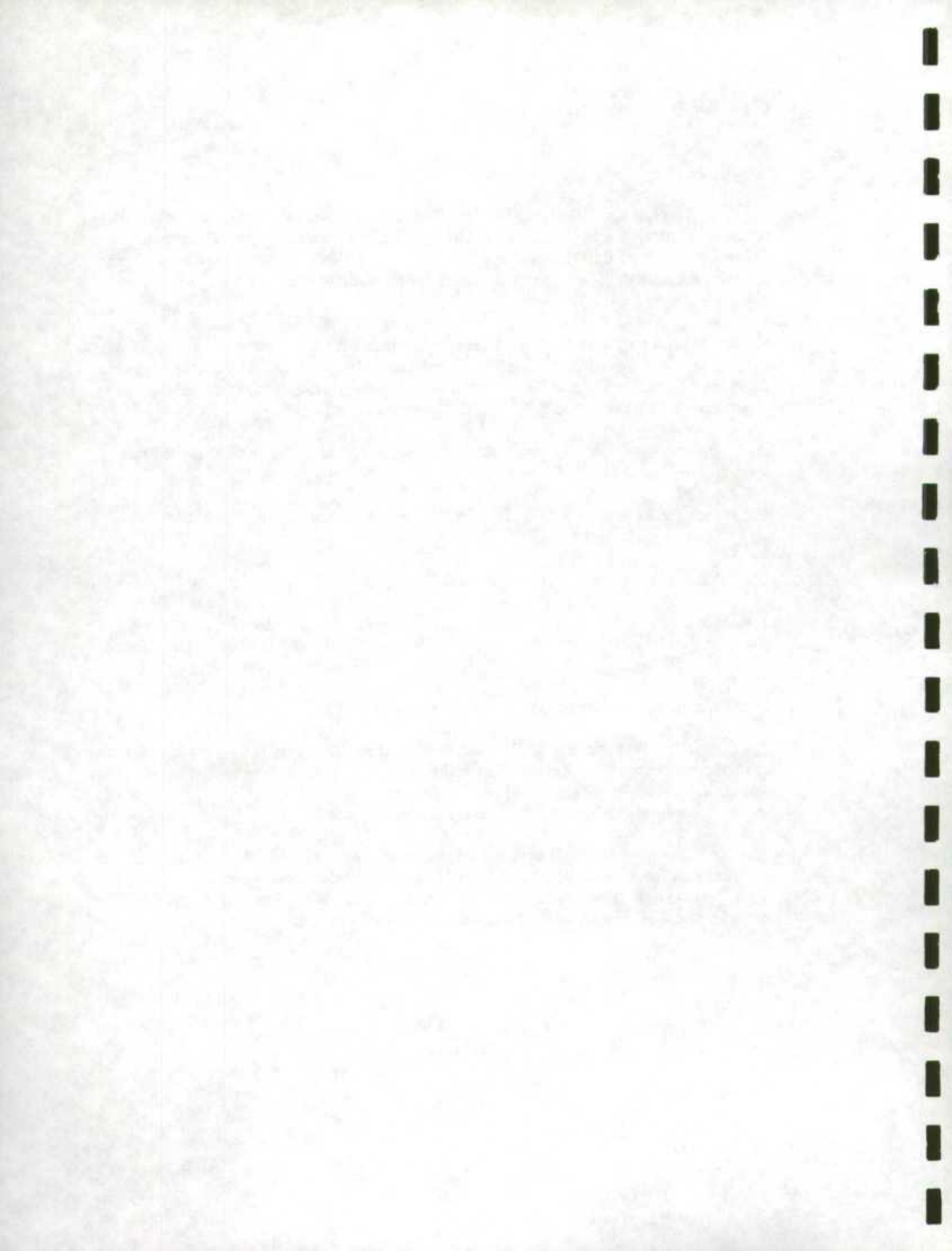
7.2 Motor Carriers of Freight Surveys

Andrea Mathieson (Transportation Division, Statistics Canada) described the coverage, processing and dissemination of the annual (AMCF) and quarterly (QMCF) Motor Carriers of Freight surveys.

In summary, the objectives of these surveys are as follows:

- . to measure for-hire and private Canadian-domiciled trucking activity
- . to collect information on the financial health of trucking industry
- . to identify and measure activity of owner/operators
- . to collect information on employment, equipment and other inputs.

The surveys follow the statistical framework of the System of National Accounts. The reporting unit for the survey is the Canadian-domiciled for-hire trucking establishment. The QMCF universe is restricted to those Canadian-domiciled carriers earning over \$1 million annually and AMCF are those carriers earning \$25,000 and over.



a) Annual Motor Carrier Freight (AMCF)

The AMCF questionnaires vary in length and complexity with the type and size of the motor carrier operation being surveyed. Major financial items collected are: area of operation; balance sheet; operating revenues and expenses; equipment and distance travelled and, employment. Results are published in "**Trucking In Canada**" (Catalogue 53-222).

The structure of the survey is as follows:

Level I - is a census collecting full detail from carriers earning over \$5 million annually. Approx. 350 questionnaires are mailed out/back, with telephone follow-up.

Level II - is a census collecting less detail (no expenses by function) from carriers earning \$1 million to \$5 million annually. Approximately 1,300 questionnaires are mailed out/back with telephone follow-up.

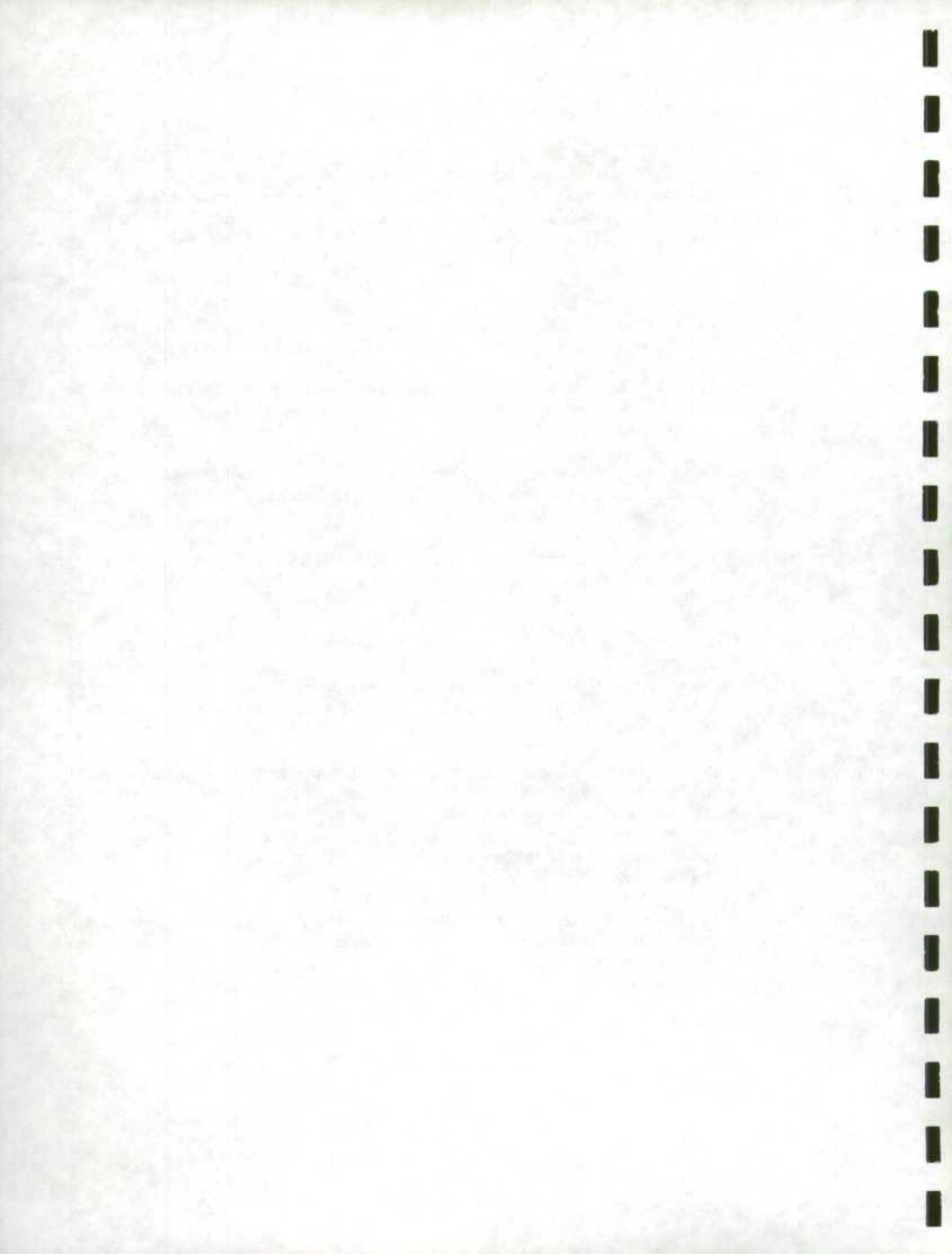
Level III - is a sample survey using administrative files (tax data and an "other characteristics" questionnaire collected by mail/telephone) to obtain financial data from approximately 5,000 establishments earning \$25,000 to \$1 million annually.

Level IV - is a census of approximately 2,000 private trucking firms with expenses exceeding \$1 million annually. No balance sheet or revenues are collected from this group.

The AMCF has recently gone through a conceptual and operational redesign. Major objectives include: a) identification and unduplication of owner/operators; b) modernization of collection and processing techniques; c) reduction of response burden; and d) coverage of all trucking activity. These revisions take effect for the reference period 1990.

Response burden will be reduced through the implementation of the generalized edits and imputation, which will require fewer call-backs. The use of administrative files to obtain Level III financial data will reduce the response burden on these smaller trucking companies. Computer-assisted telephone interview technology (which permits simultaneous data collection and verification) for Level III will also require few call-backs.

The fourth objective has yet to be fully realized. Some data gaps which still exist in the coverage of trucking activity, will be addressed in the future. They are private trucking firms with expenses less than \$1 million annually, and couriers.



b) Quarterly Motor Carrier Freight (QMCF)

The QMCF, which was initiated in 1988, is conducted four times per year, with preliminary results available 10 - 12 weeks after the reference quarter for the top 50 companies. The quarters are based on the calendar year. Data are collected by FAX or telephone.

The QMCF is a sample survey, with a total sample size of about 450. The top 50 operations with annual earnings of over \$25 million are kept in the sample as "specified" units. The remaining 400 are sampled by province and Standard Industrial Classification code.

Principal statistics published are split between general freight and specialized carriers. The main variables collected are: domestic and international revenue; and, major expense items (salaries and wages; owner/operator expense; and, fuel).

Results are reconciled with the Freight Carriers' Association of Canada, for selected member carriers.

For a sample of the questionnaires used for the AMCF and the QMCF or further information, refer to **ATTACHMENT H**, or contact Andrea Mathieson at (613) 951-2493.

7.3 For-hire Trucking Survey (TOD)

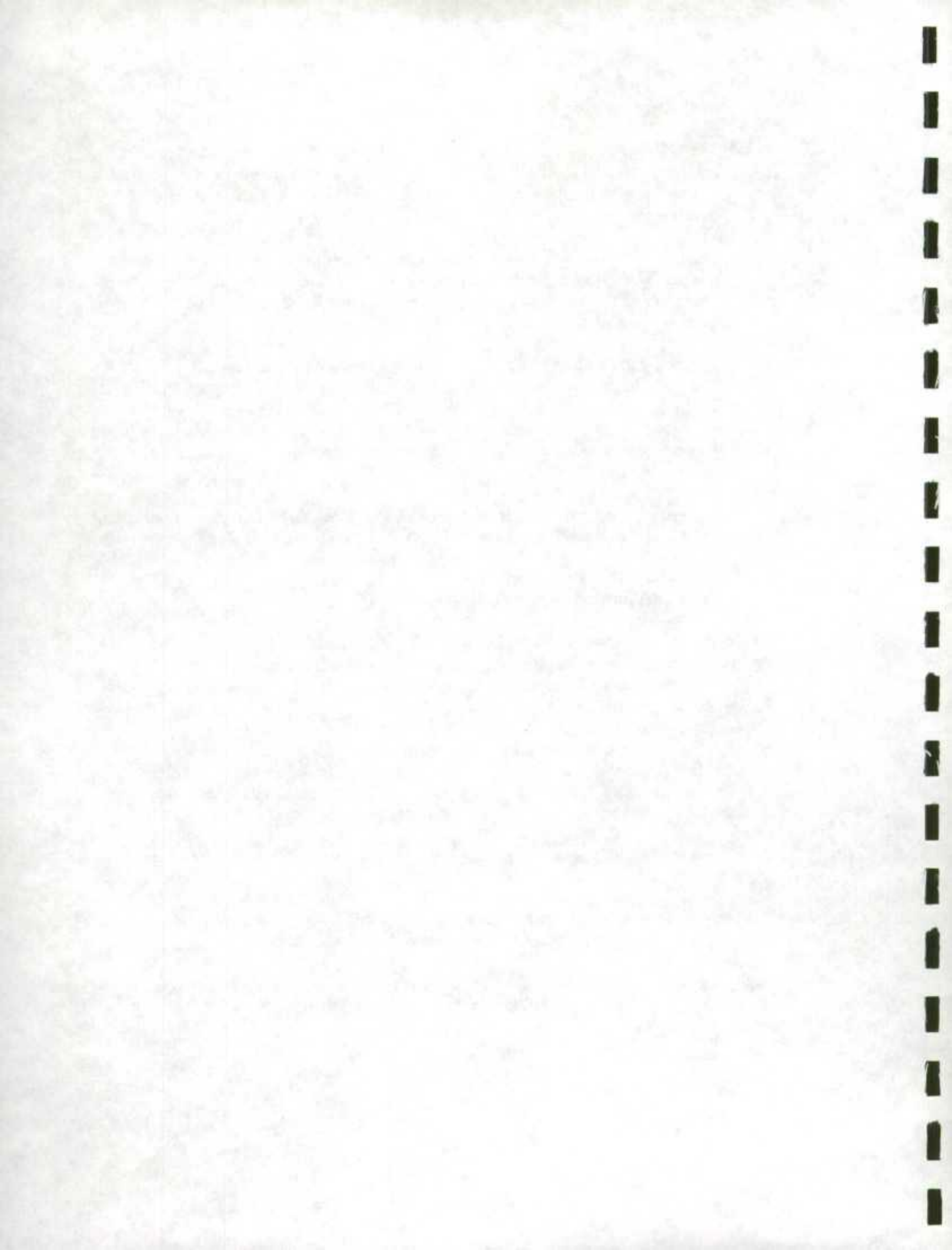
Kathie Davidson (Transportation Division, Statistics Canada) gave an overview of the objectives, survey frame, stratification, sampling strategy and outputs for the For-hire Trucking Survey (also known as the "Trucking Origin and Destination Survey" (TOD). Survey results are published in "**Trucking In Canada**" (Catalogue 53-222).

The objective of the survey is to measure the output of the Canadian for-hire trucking industry by providing estimates of domestic intercity commodity movements. This survey complements the results of the Motor Carriers of Freight and Household Goods survey which provides information about the industry's input variables (such as labour and capital).

Output variables include tonnes transported, commodities carried, revenues generated, and origins and destinations of shipments.

The survey universe consists of all shipments transported by for-hire trucking firms which earned \$1 million or more annually from domestic intercity trucking.

Beginning with the 1989 reference year, the survey is conducted on a quarterly basis for Level I (carriers earning \$12 million or more) and Level II (carriers earning between \$1 million and \$12 million).



For a copy of the questionnaire used by the Regional Offices to transcribe the data or further details refer to ATTACHMENT I, or contact Kathie Davidson at (613) 951-8779.

7.4 U.S. Domiciled Carriers Operating In Canada

Jim Cain gave an overview of the work carried out this past year on U.S. Domiciled Carriers Operating in Canada.

At the present time, a list of 3,000 U.S. domiciled carriers operating in Canada has been developed from provincial registration files, Statistics Canada's transborder survey and international trade 'customs' data. However, the quality of the list needs to be assessed, however, and, to allow sampling, measures of size are needed.

Discussions have taken place with Russell Capelle of the American Trucking Association concerning obtaining frame data from the ICC, TTS Blue Book and other sources to be able to weight the U.S. domiciled carriers that operate in the transborder market. Advice was sought from the US delegates on other possible strategies.

For further information, refer to ATTACHMENT J or contact Jim Cain at (613) 951-0518.

8. Roadside Surveys and Transborder Surveys

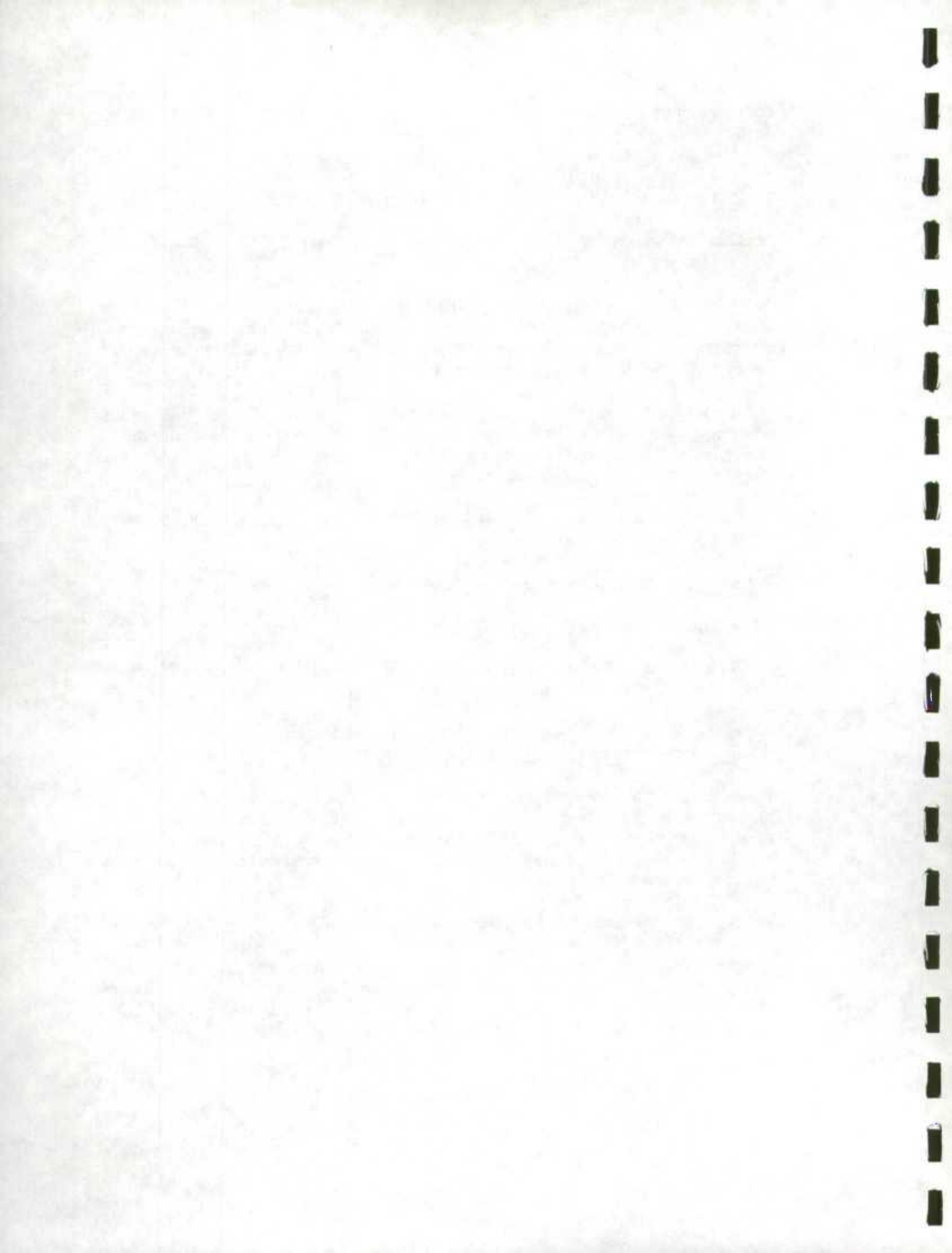
8.1 Ontario Roadside Surveys

Bill Raney (Ontario Ministry of Transportation) gave an overview of the Roadside Surveys carried out in Ontario, the results and future steps.

A major roadside survey is conducted every 5 years; the last major survey was in 1988. Smaller surveys were carried out in 1987 and 1990.

Roadside surveys serve various purposes: to supplement data obtained from other sources on trucking activity (i.e. Statistics Canada surveys); to collect information not available from other sources; to provide data on trends in trucking activity; and, to answer questions such as what share of the market is carried by Canadian versus U.S. carriers, how are goods moved (*i.e. what type of equipment is needed*), etc.

Roadside surveys are conducted at weigh stations on major highways. For the major survey conducted in 1988, 19,000 drivers were interviewed in four seasonal 24-hour surveys in each direction to obtain the impact of seasonality. The results of the 1990 5-day 24-hours a day survey were used to analyze variations by time of day and by day of week. Two factors were examined in the 1988 and 1990 surveys -- a) do truck volumes vary by timing-related factors and, b) do truck activity characteristics vary independently of volumes.



The type of data collected (*where, who, what, how and when*) was highlighted. Mr. Raney explained that the 'how' component was new in the 1988 roadside survey. 'How' covered data collected for the following items:

- . is trailer empty or loaded
- . tractor/trailer or straight truck
- . body/trailer style
- . if van, is it refrigerated
- . gross vehicle weight
- . number of axles
- . axle configuration
- . energy saving devices

Results of the study revealed the following information: a) there are significant variations in both traffic volumes and traffic characteristics by time of day; b) there are significant variations in traffic volumes by day of week and by season; and, c) although there are some variations in traffic characteristics by day of week and by season (*usually in 5% range*), the information can be very useful to monitor trends.

Bill noted that due to the limitations of roadside surveys, the information should be used with caution.

Approval is being sought to carry out the following future work:

- . to develop an appropriate data base for valid trend analysis
- . to develop a database for inspection stations
- . to increase the reliability of analysis if the timing of the survey could be held constant over several years
- . to conduct full surveys of several representative locations throughout the province to develop provincial indicators
- . to explore potential to collect data electronically.

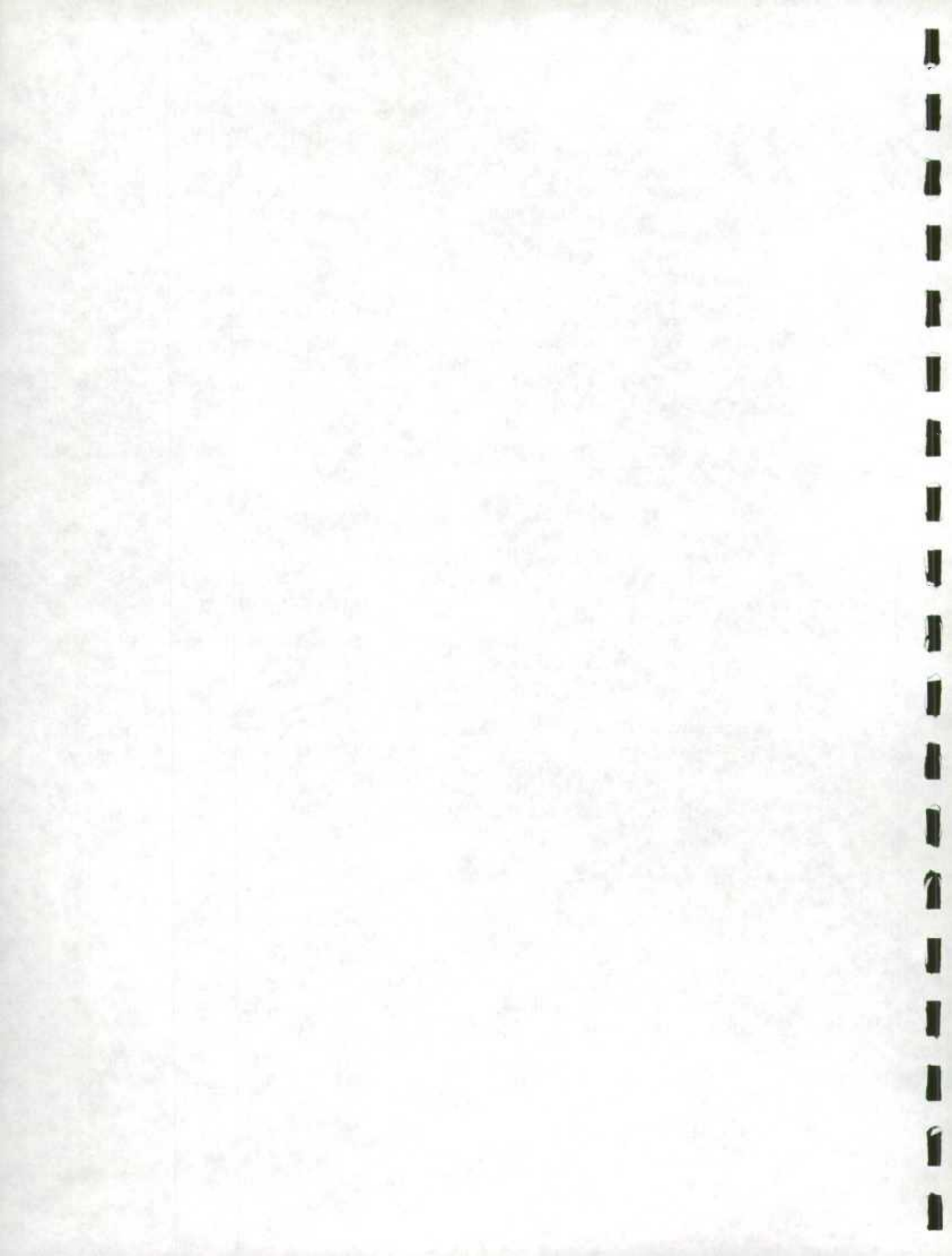
To accomplish the above work, a recommendation was tabled at the 1991 annual meeting of the Federal-Provincial Committee on Transportation Statistics to establish a working group to coordinate survey efforts and to conduct further research on roadside methodology.

For further information, refer to **ATTACHMENT K** or contact Bill Raney at (416) 235-4062.

8.2 Quebec Commercial Vehicle Survey (roadside survey)

Donald Fallu (Quebec Ministry of Transportation) gave an outline of the survey objectives, methodology and conclusions drawn in the 1989 Quebec Commercial Vehicle Survey.

This roadside survey was undertaken in 1989 to fill gaps in the knowledge of the trucking industry to assist the Quebec Ministry in policy, regulation and planning matters.



The survey objectives were to: a) collect information on economic characteristics of the trucking industry related to drivers and carriers, the loads, the goods movement; b) collect information on technical characteristics of the vehicles and their loads; and, c) establish a profile for both the extraprovincial and intraprovincial segments of trucking activities with a special emphases on interregional trucking inside Quebec.

The roadside survey was conducted between May 23, 1989 and June 20, 1989 at 72 locations during 6 or 12 hour survey periods for each location on the Quebec road system. Four different questionnaires were used to interview 2,929 drivers.

Information was collected on: the vehicle configuration, body style, number of axles, distance between axles and features; driver and carrier by carrier type, vehicle base, provincial/state of registration, driver's age and experience, employment category, annual distance driven, number of working and driving hours (*daily and weekly*); the load by main commodity carried, space utilization, load weight, gross vehicle weight (available at weight scales) and dangerous goods; movements i.e. origin and destination, intermodal link and trip length.

Goods data were obtained on over-all characteristics related to the drivers, carriers, vehicles and loads. However, there was limited capacity of disaggregating data due to the sample size. Less reliable results were obtained for the characteristics closely linked to the survey's locations and periods of time, (*e.g. information related to truck movements and traffic patterns*).

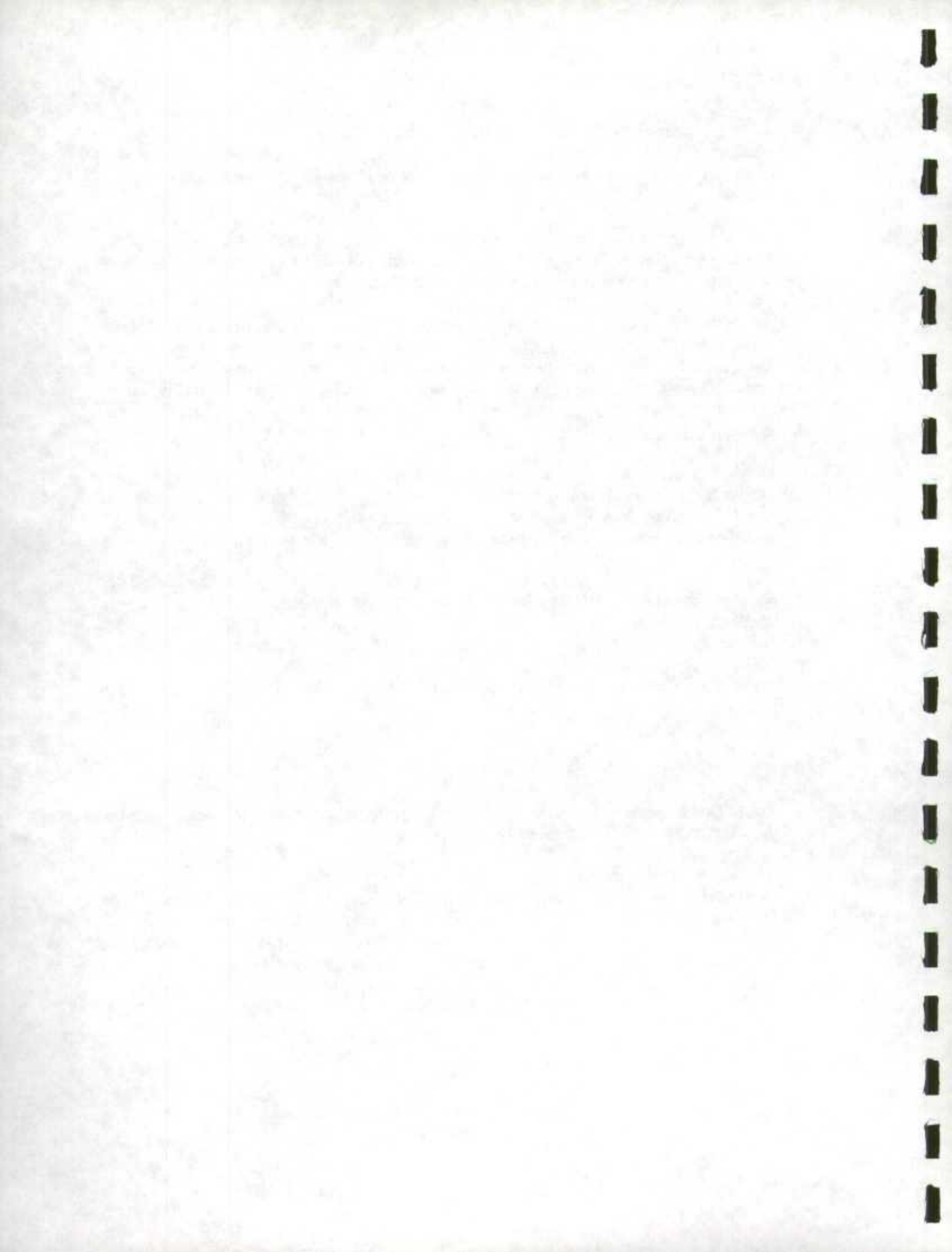
Some observations and problems were encountered in processing the information. Load weight information declared by the driver was often not consistent with the gross weight obtained from weigh scales. Better data can be obtained from the Waybill. It was pointed out that a similar problem was encountered in the Ontario roadside survey.

For further information, refer to **ATTACHMENT L** or contact Donald Fallu at (418) 643-2717.

8.3 Transborder Trucking Survey

David Dodds spoke on the "Transborder Trucking Survey" carried out by Statistics Canada for Transport Canada on transborder competitiveness.

Enormous cooperation was given by Customs Officers during the survey of all inbound commercial truck traffic during February 4, 1991 to March 15, 1991 period. In view of the high cost per sampled unit that would be incurred by including border points and times with very low traffic volumes in the sampled population, the smallest points that together accounted for no more than 10% of the traffic volume in each sampling statum were excluded. In other words, the sampled population comprised 90% of traffic entering the highest volume location. Outbound traffic was included by asking inbound traffic about the relevant outbound traffic.



The sample design was a stratified 2-stage design with 6-hour stints at a specific location (border entry point) as the first stage sampling unit and count/observation of all inbound trucks as the second. Stratification was essentially by region, with one interview team assigned to each stratum:

Stratum 1: Atlantic Provinces	Stratum 5: Prairie Provinces
Stratum 2: Québec	Stratum 6: British Columbia
Stratum 3: Southwestern Ontario	
Stratum 4: Other Ontario	

The sample allocation to each of these strata was 30 six-hour stints over the six week interview period. These 30 stints were selected with probability proportional to expected number of inbound trucks, the objective being to ensure overall selection probabilities that would be approximately equal over all selected trucks within a stratum.

A total of 13,475 drivers were interviewed over the six week period. Of this number, 290 records were considered unusable and a further 450 records represented vehicles in transit from one U.S. point to another or from one Canadian point to another. In summary, the usable sample size is based on 12,735 interviews.

Major findings of the survey were highlighted. Based on the results, roughly 62% of the 255,000 estimated transborder movements (*either into or out of Canada*) were carried out by Canadian-based carriers.

For further detail on the survey results (*i.e. the movements, market share, capacity utilization*) and the survey questionnaire, refer to ATTACHMENT M or contact David Dodds (613) 951-8704.

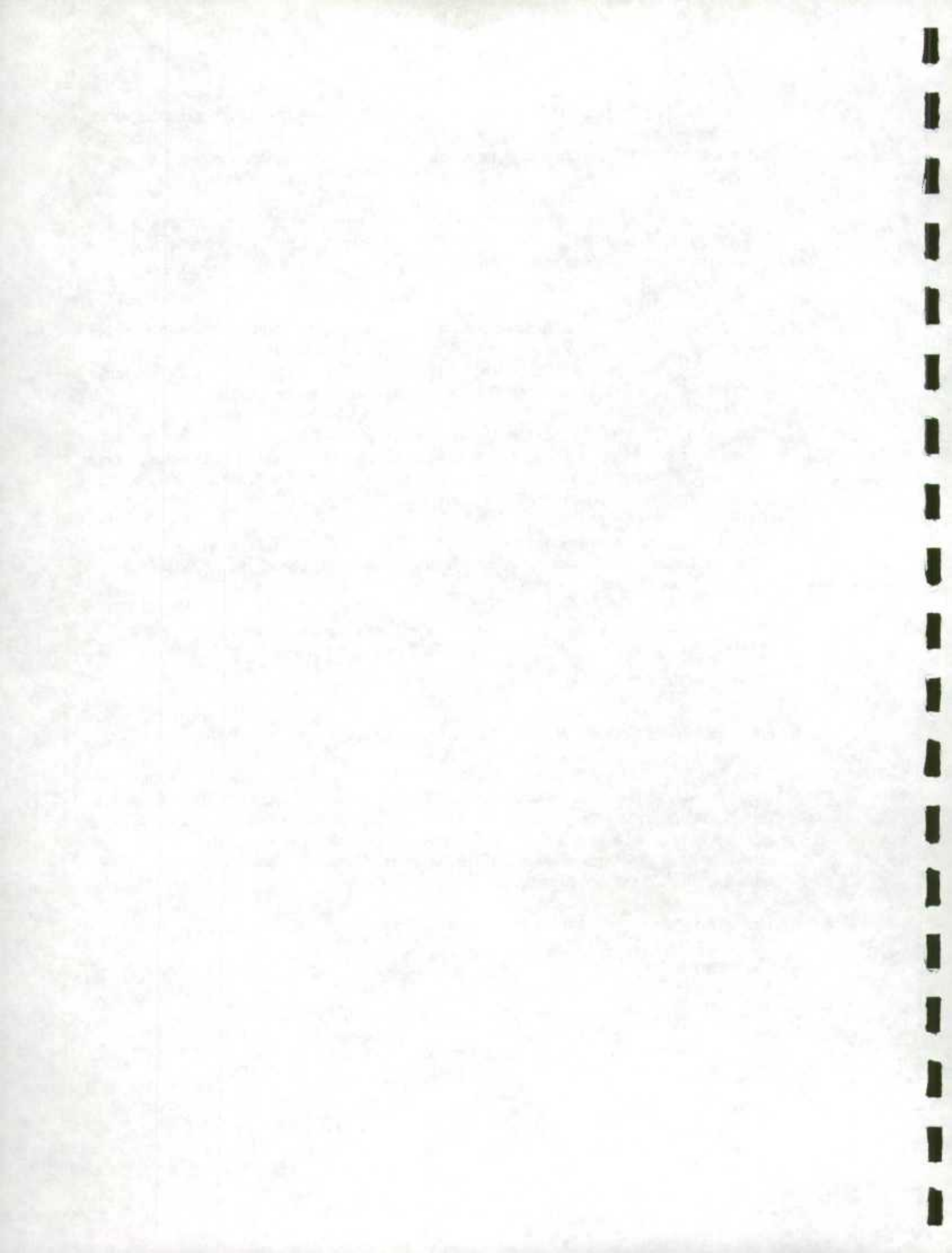
8.4 Roadside Survey by The National Transportation Agency (NTA)

Emile DiSanza (National Transportation Agency of Canada) gave an overview on the one-week National Roadside Survey conducted by CCMTA (Canadian Council of Motor Transport Administrators) during the period June 17-23, 1991. It was the first national survey of this type since 1974. This survey compliments the Transborder Trucking Survey which was carried out by Statistics Canada. It was a joint Federal-Provincial endeavour, using infrastructure that was already in place.

The data objectives were similar to those of the Ontario and Quebec transborder studies.

The survey focused on:

- a) tractor trailer units; and,
- b) extra provincial movements between the provinces/territories and, between Canada and the U.S.A.



The survey structure involved driver interviews and a visual profile of all traffic through 30 sites across Canada.

Highlights of the survey were summarized as follows:

- . over 20,000 interviews conducted were in-scope
- . 78% were for-hire operations
- . company drivers accounted for 65%
- . owner operators accounted for 31%

For further detail, refer to **ATTACHMENT N** or contact Emile DiSanza at (819) 997-5771.

8.5 Transborder Transportation

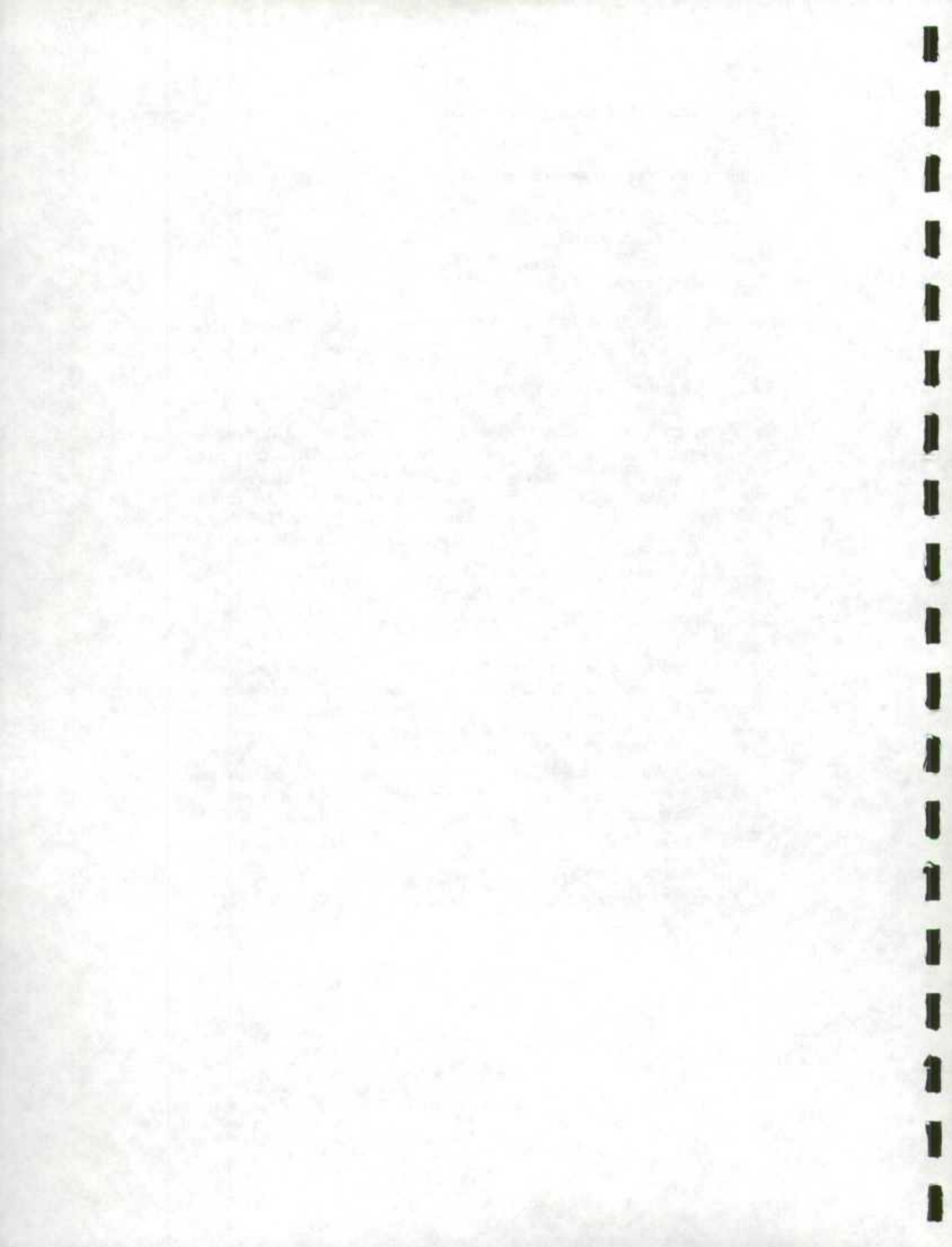
Out of the presentations given on transborder transportation, a discussion evolved on the need for more information on revenues on shipments between Canada and the U.S. for Balance of Payments purposes (*i.e. the value of the transport service*). Statistics Canada is currently collecting this information for Canadian domiciled carriers. The U.S. delegates said they would test the feasibility of obtaining similar information from the U.S. carriers and report on the specifics at the spring meeting of this Committee which will be held in Washington, D.C.

9. Continued Production of International Trade Data

Claude Graziadei (International Trade Division, Statistics Canada) gave an overview of the International Trade Division's "Alternate Data Sources Project". The objective of the Project is to develop a strategy that will allow for the continued production of international trade data in a situation of significantly reduced or non-existent Customs documentation.

The project involves consultation with Customs and Excise through participation in committees and working groups under Customs 2000, interface with users and respondents, the development of frames for the import, export and carrier universes and a study on profiles and exports.

Refer to **ATTACHMENT O** for further detail concerning considerations and a workplan for 1991/92 and 1992/93 or contact Claude Graziadei at (613) 951-2485.



10. Foreign Trade Programs

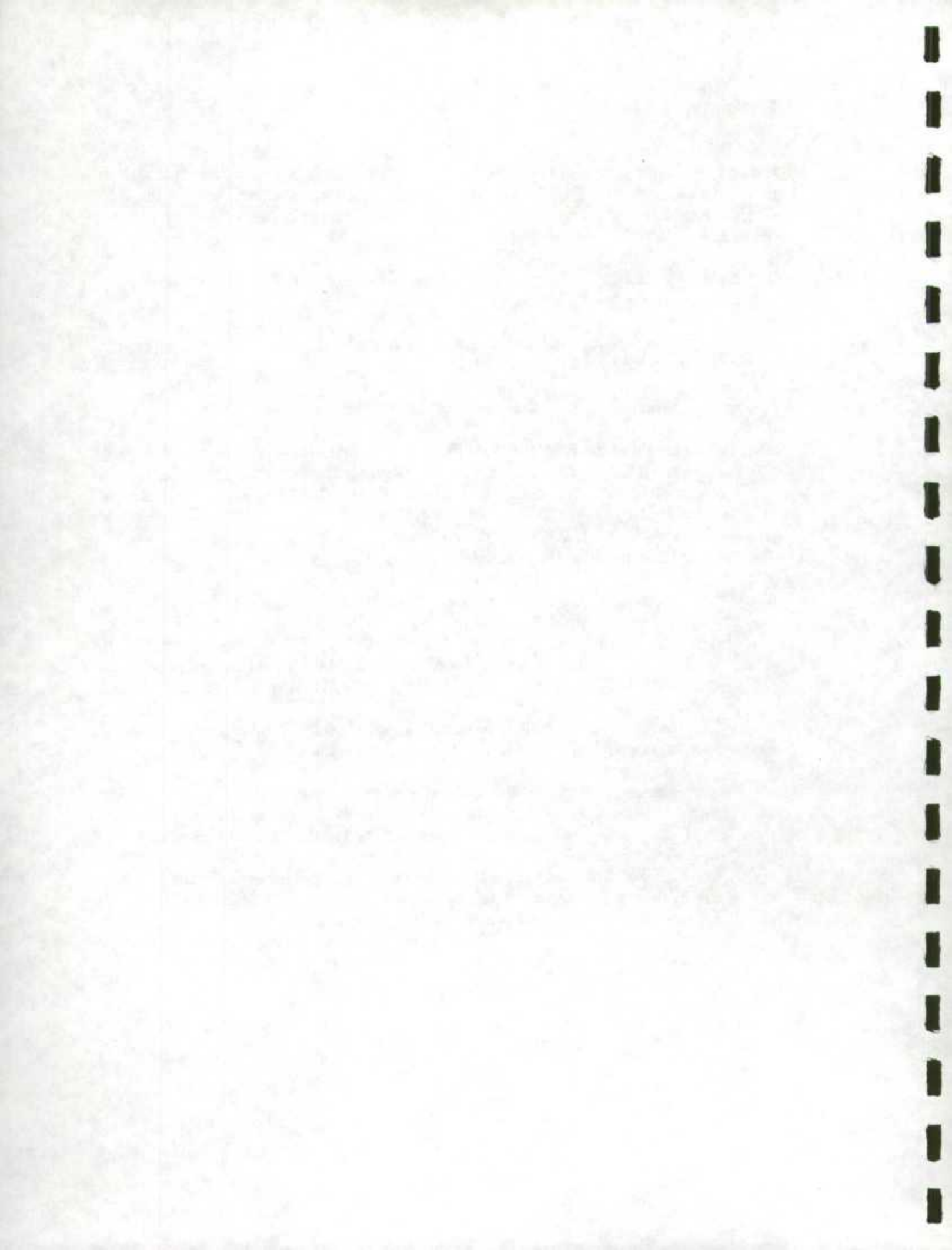
Mike Farrell (Foreign Trade Division, U.S. Census Bureau) distributed copies of a paper he had presented at the Bureau of the Census 1990 Annual Research Conference entitled "**Origin of Merchandise Exports Data**". The paper includes a history of all the programs the U.S. Census Bureau has conducted on a reimbursable basis on the origin of exports and the destination of imports.

The Shipper's Export Declaration (SED) was revised in 1986 to collect geographic information on three bases --

- i) the addition of the 2-digit state abbreviation to obtain data on "the state where the export journey began"
- ii) the addition of the 5-digit ZIP code of the exporter
- iii) the addition of the Employer Identification (EI) number.
The EI is the number that the Internal Revenue Service uses to record payroll withholding and is the control number for the Census Bureau Economic Censuses and current surveys.

The status of these initiatives is summarized as follows.

- a) The information on state of origin of movement is now available from Census on magnetic tape on a reimbursable basis or is available through the U.S. Commerce department's National Trade Data Bank on CD-ROM. The "as reported" data available through the Census reimbursable program are adjusted and are provided to the NTDB by the Massachusetts Institute for Social and Economic Research (MISER).
- b) ZIP code data were tabulated for the first quarter of 1986 and received favourable reaction but no funds are available for further research.
- c) A modest amount of funds was received from the International Trade Administration to create tabulations of "small exporters". All of the 9.7 million SED's filed during 1987 that reported valid EI numbers were matched to the 5.8 million establishments in the 1987 Economic Census files to identify exporters and create an Exporter Data Base (EDB). The data base includes name, address, geographic information, f.o.b. export value and employment data by 4-digit establishment classification (SIC) for all exporters and quantity, f.a.s. value, method of shipment, origin and destination by 7-digit commodity classification (Schedule B). The data base also includes information on Enterprises that own the exporting locations. A sample of a table derived from the data base was circulated at the meeting.



Efforts to collect data on the destination of imports have been less successful. On January 1, the U.S. Customs service agreed to begin requesting the importer to provide this information effective July 1, 1991. Census began to receive the information October 7, 1991. They plan to tabulate and analyze the information to find out exactly what is being reported.

For a copy of the "Origin of Merchandise Exports Data" paper presented at the 1990 Annual research Conference March 18-21, 1990, please refer to **ATTACHMENT P** or contact Mike Farrell at (301) 763-2700.

11. Origin and Destination Data For Manufacturing and Wholesale Industries

Ken Young (Industry Division, Statistics Canada) and Ben Marois (International Trade Division, Statistics Canada) highlighted the Survey of Manufacturers and the Survey of Wholesalers conducted by Statistics Canada to obtain origin and destination data.

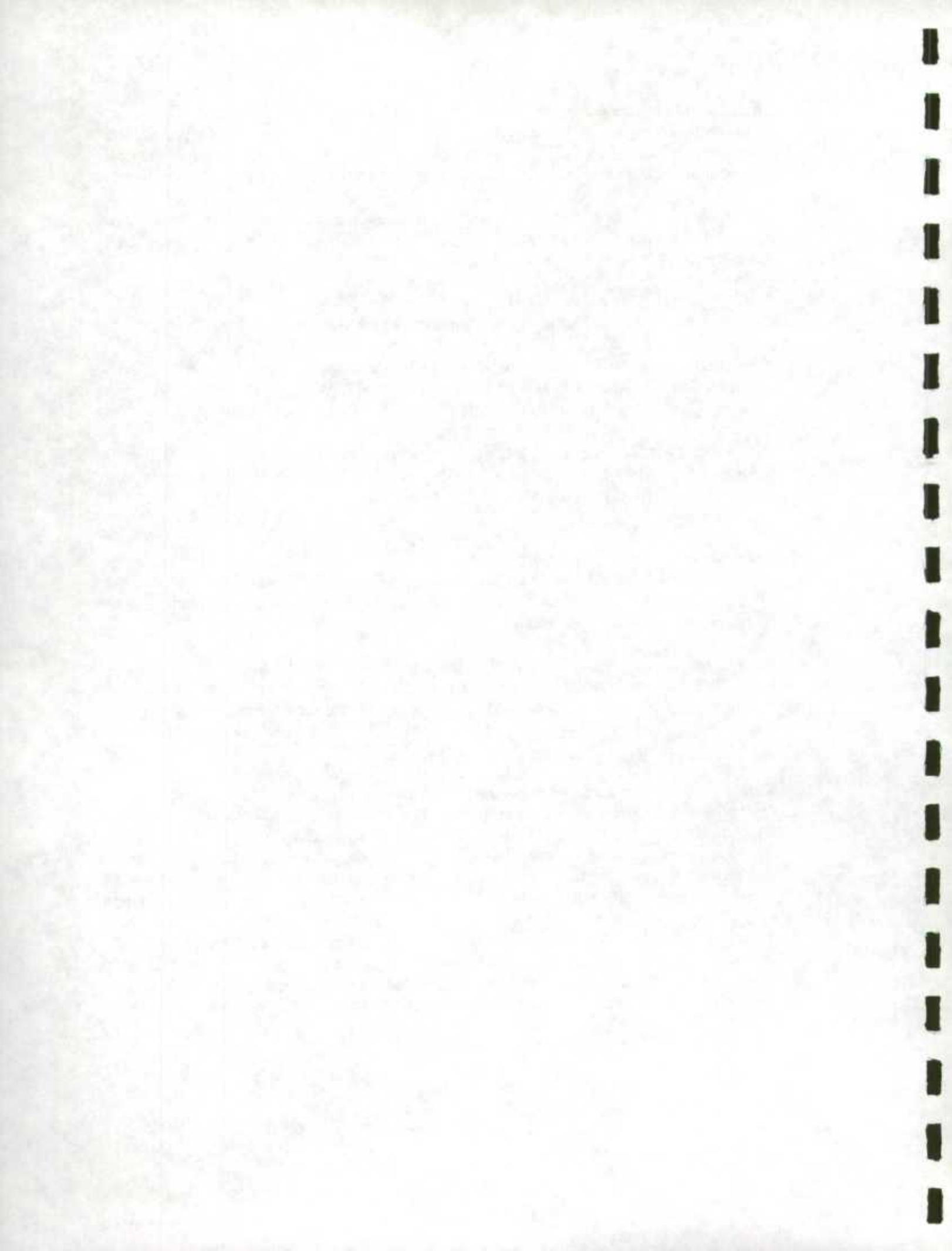
Both surveys produce data at the establishment level, measured in dollars, and classified by industry. The data are most useful for studies which relate the destinations data to other characteristics of the establishment, or which require flow data at a fairly high level of aggregation.

Examples of the first type of use are studies which relate establishment productivity to flow patterns, and studies of the incidence of exporting by firm size. Examples of the second type of use are studies of the degree of east-west integration of the Canadian economy, and the production of provincial input-output tables.

It noted that requirements for destination data classified by detailed commodities, or valued in physical units, or providing information on the mode of transportation used, cannot easily be satisfied by this type of survey. The main reason is that such information is either not available at all in producing establishment records, or is only available at the cost of a very large respondent burden.

These surveys use what is referred to as the "first destination" concept. This means that respondents are asked to report the destination of a shipment or sale as the physical point at which title changes, as opposed to the ultimate destination, which they may or may not know. This concept is necessary both to facilitate reporting and to enable the data to be integrated via provincial input-output tables. However, it means that the data published by the individual surveys does not provide what most users really want, which is final destination.

This type of survey has been conducted for both manufacturing and wholesaling. The manufacturing version is simpler, because the origin of goods is simply the location of the establishment. The wholesaling survey collects separate vectors of origins and destinations. The mapping of the origin vector to the destination vector must be imputed.



Contact Ken Young (613-951-3501) for further information on the "Survey of Manufacturers" and Ben Marois (613-951-7259) for details on the "Survey of Wholesalers". See ATTACHMENT Q for copies of the survey questionnaires.

12. Integration of Transportation Trade Data With Input/Output

Claude Simard (Input/Output Division, Statistics Canada) summarized the integration of the interprovincial and international provincial trade flows to measure the value of physical movement of goods and services from the point of absorption to destination.

The 1974 - 1989 data estimates are not comparable. Shipment data are obtained from producers while the carrier is the source for transportation data.

Characteristics of the data sources were highlighted as follows:

- a) first versus final destination;
- b) commodity classification (reconcile production with absorption);
- c) valuation (volume); and
- d) coverage.

It was pointed out that the adaptability of the HS Commodity System with transportation is a problem.

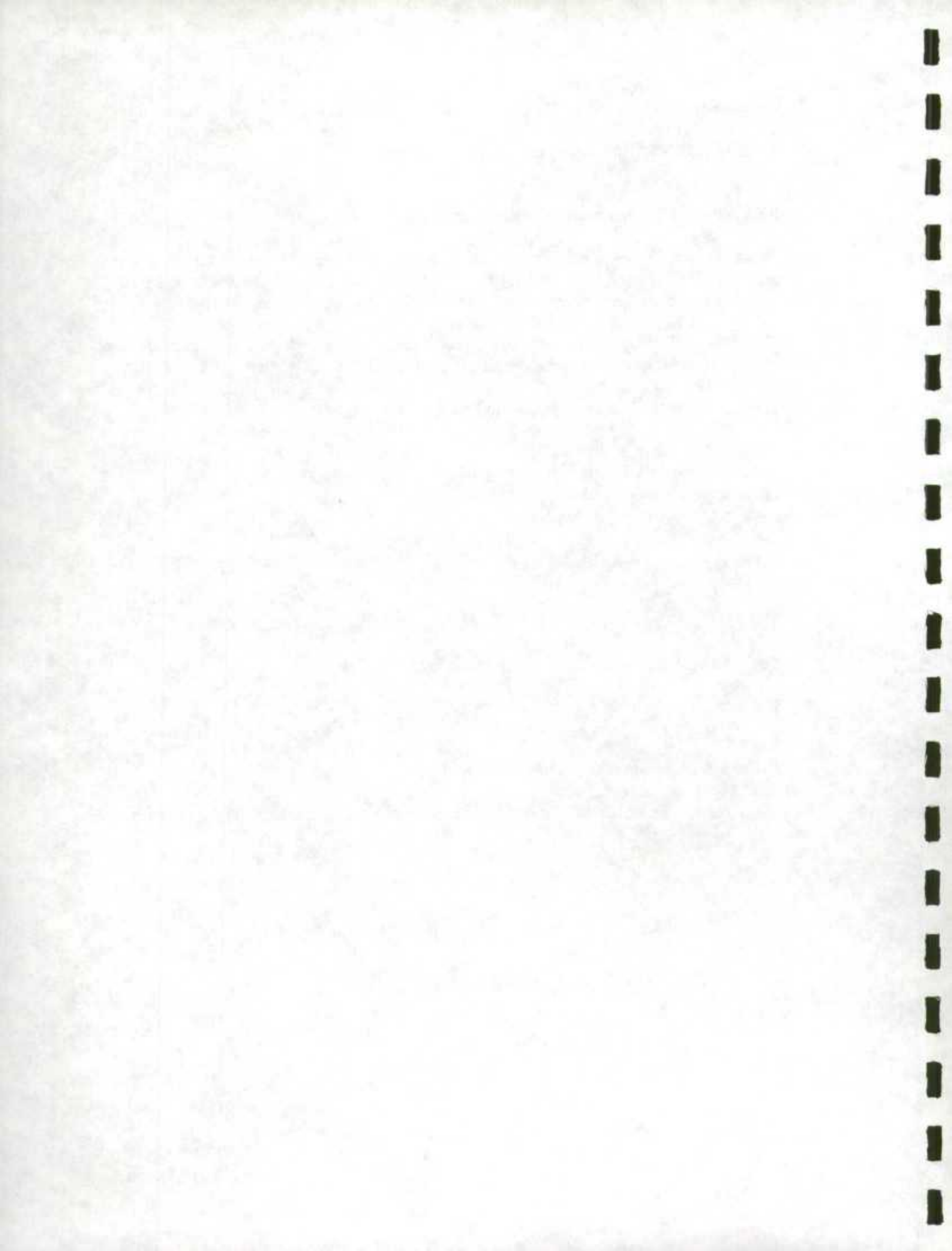
The 1974-1989 estimates provide a flavour for reconciling production with absorption data.

The future plans are to initiate a "Wholesale Trade '92 Origin and Destination Survey".

For further information, contact Claude Simard at (613) 851-8907.

13. Other Documentation Distributed at the Meeting

Available in ATTACHMENT R, is a copy of other documentation distributed at the meeting.



14. Closing Remarks and Future Sessions

David Dodds summarized the 1 1/2 day meeting as follows:

- . discussions were very useful and interesting
- . as a first step, the discussion will be restricted to trucking but, in future they will be expanded to other modes of transport
- . benefits resulting from the discussions:
 - it is a forum to find out what statistical programs are being conducted by the U.S. and vice versa. This complement exchanges of information that are in place at the federal and provincial level with the "Federal/Provincial Committee on Transportation Statistics" and, in the U.S., similar such meetings and conferences.

Future Sessions/Agenda

It was agreed that the Committee should meet every six months, alternating between Ottawa and Washington, D.C.

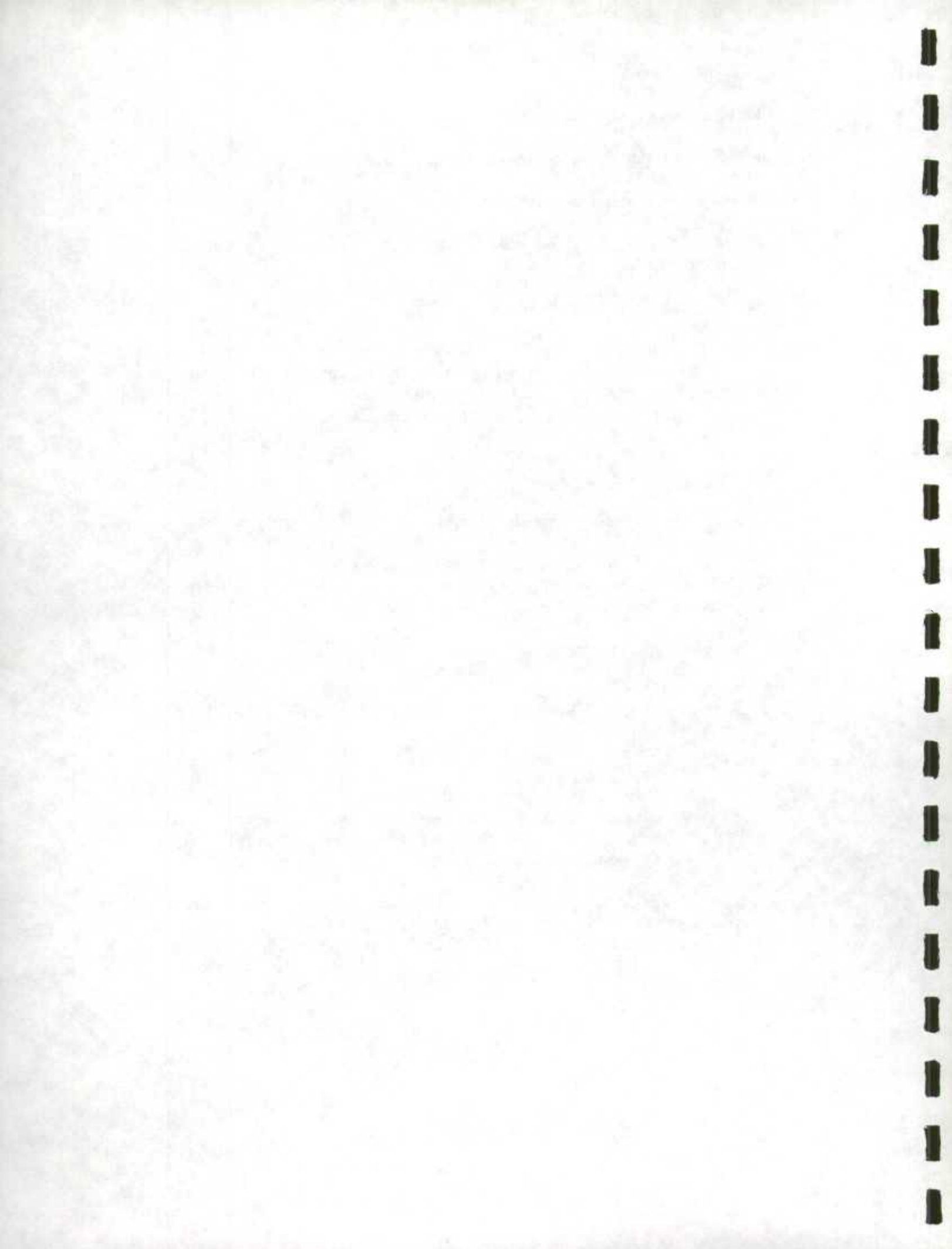
The following topics were suggested for a proposed agenda for a two day meeting in Washington in April/May 1992.

- i) an update on the programs described at this meeting
(1/2 page handout in advance of the meeting)
- ii) address issues carried over from one meeting to another on:
 - a) transborder freight
 - b) the measurement of transportation in '92 Census of Transportation (by D. Shoemaker)
 - c) classification assignment of the unit
 - d) clarify (via FAX) the definition of "transportation" prior to the next meeting.
(At the present time, the U.S., Canadian and Mexican definitions are all different).
 - e) expand the exchange of information on passenger transportation

On behalf of the U.S. delegates, Jim Aanestad thanked Statistics Canada for hosting the first interchange meeting. In particular, he thanked David Dodds for the social evening and hospitality at his home on November 18, 1991 and, Audrey Kealey for recording notes of the meeting.

The meeting adjourned at 12:30 p.m.

Attachments



ATTACHMENTS

- A. List of participants
- B. Agenda
- C. DOT's Major Transportation Statistical Programs
- D. Census Bureau's Transportation Statistics
- E. 1993 Commodity Flow Survey
- F. Business Division - Economic surveys and Censuses Survey Profile:
 - . Truck Inventory and Use Survey (TIUS)
 - . Nationwide Truck Activity and Commodity Survey (NTACS)
 - . Motor Freight Transportation and Warehousing Survey (WATS)

- G. Statistics Canada - Transportation Overview
- H. Transportation Division - Trucking Surveys
- I. Overview of the For-hire Trucking Survey (TOD)
- J. US Domiciled Carriers Operating In Canada
- K. Road-Side Surveys (Ontario)
- L. 1989 Québec Commercial Vehicle Survey
- M. Transborder Trucking Survey
- N. National Roadside Survey
- O. International Trade Division - Alternate Data Sources Project
- P. 1990 Annual Research Conference March 18-21, 1990 Proceedings: Origin of Merchandise Exports Data

- Q. Questionnaires:
 - . Annual Survey of Manufacturers: Destination of Shipments
 - . Origin and Destination Survey of Goods of Merchandising Establishments

- R. Other Documentation Available at the Meeting
 - . Transborder Freight in the U.S. Balance of Payments Accounts
 - . 1993 surveys for which funding is requested in fiscal year 1994:
 - . Transportation Services Survey
 - . Charter, Rural, and Intercity Bus Survey (CRIBS)
 - . Data for U.S. National Transportation Decision Making: Problems and Prospects (by Rolf R. Schmitt)

Continued

U.S. Bureau of Labor Statistics - Producer Price Index:

- . Transportation Sector Coverage in the Producer Price Index
- . "The Producer Price Index: An introduction to its derivation and uses"
- . Chapter 16. Producer Prices
- . Table 5. Producer price indexes for the net output of selected industries and their products

U.S. Department of Commerce, Bureau of the Census

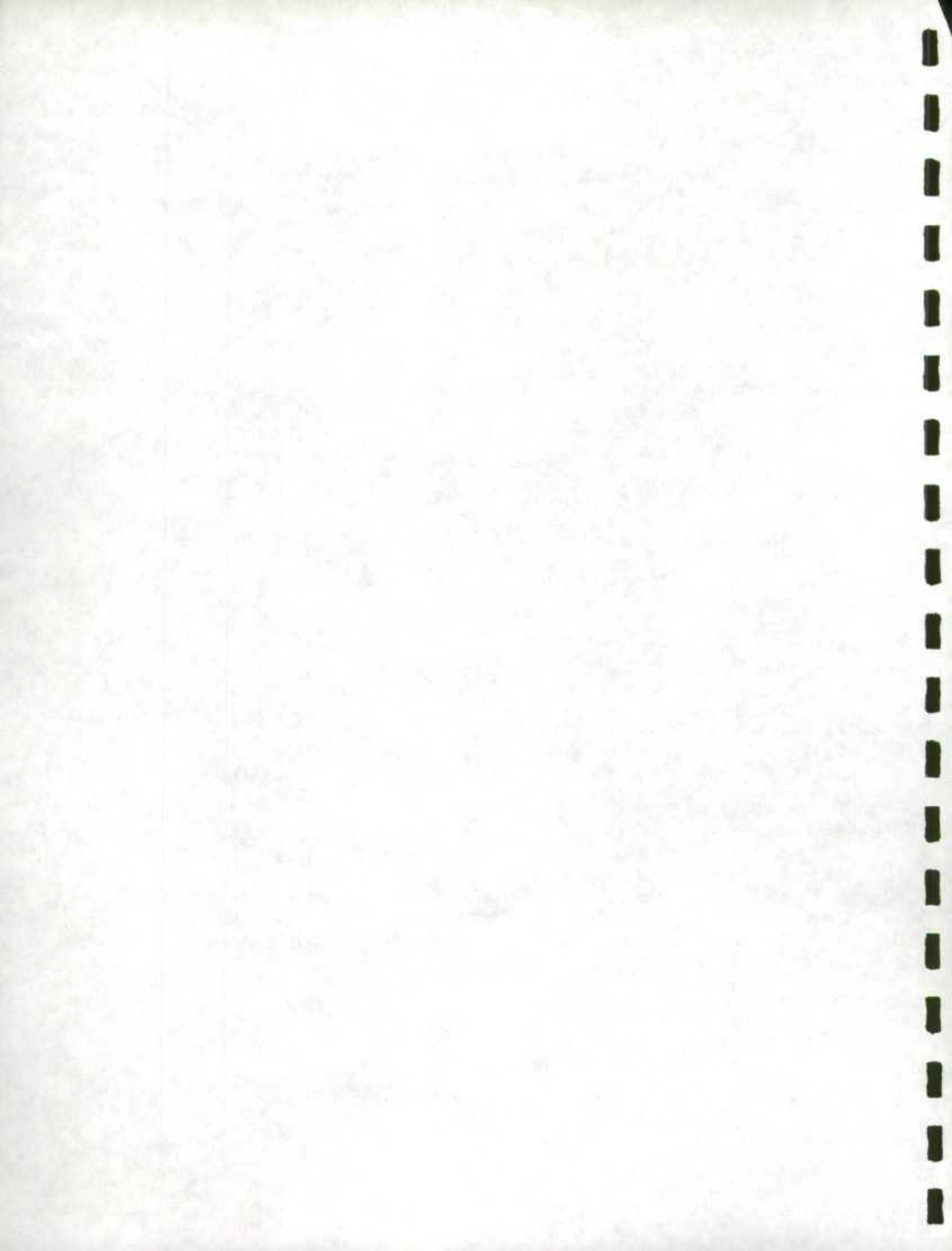
- . Inventory of Economic Surveys - Survey Profile: Census of Transportation, Communications, and Utilities Communications
- . 1992 Census of Transportation, Communications, and Utilities - Scope Expansion
- . 1987 Census of Transportation - Water Transportation Covering letter (CB-4400)
- . 1987 Census of Transportation Industries - Instructions (CB-I(T-1))
- . 1987 Census of Transportation brochure (EC-B-11)
- . 1987 Census of Transportation - Motor Freight Transportation and Public Warehousing (CB-4200)
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Highway Passenger Transportation (CB-4100X)
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Air Transportation (CB-4500X)
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Pipelines (CB-4600(X))
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Telephone and Telegraph Communications (CB-4801(X))
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Radio, Television, and Cable Television Broadcasting (CB-4802(X))
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Electric, Gas, Water, and Sanitary Services (CB-4900(X))
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Evaluation Supplement (CB-2(E)(X))

**UNITED STATES - CANADA
TRANSPORTATION STATISTICS INTERCHANGE MEETING**

List of Participants

		<u>Telephone</u>	<u>FAX</u>
United States			
U.S. Bureau of Census	Jim Aanestad	(301) 763-7347	(301) 763-2829
	Bill Bostic	(301) 763-2735	(301) 763-2829
	Dennis Shoemaker	(301) 763-2662	(301) 763-2829
	Mike Farrell	(301) 763-2700	(301) 763-4171
U.S. Dept. of Commerce	Anthony DiLullo	(202) 523-0621	(202) 523-7533
U.S. Dept. of Transportation	Rolf Schmitt	(202) 366-9258	(202) 366-9626
Canada			
National Transportation Agency of Canada	Roger Roy	(819) 953-5772	(819) 953-5562
	Emile Di Sanza	(819) 953-5771	(819) 953-5562
Ministère des Transports du Québec	Donald Fallu	(418) 643-2717	(418) 643-1369
	Jean Galarnreau	(418) 643-2014	(418) 643-1369
Ministry of Transportation - Ontario	Greg Little	(416) 235-3617	(416) 235-4850
	Bill Raney	(416) 235-4062	(416) 235-4932
Transport Canada	Richard Hinchcliff	(613) 991-6482	(613) 993-5146
	Andrew Mozes	(613) 991-6477	(613) 993-5146
	Ted Rudback	(613) 998-0684	(613) 993-3280

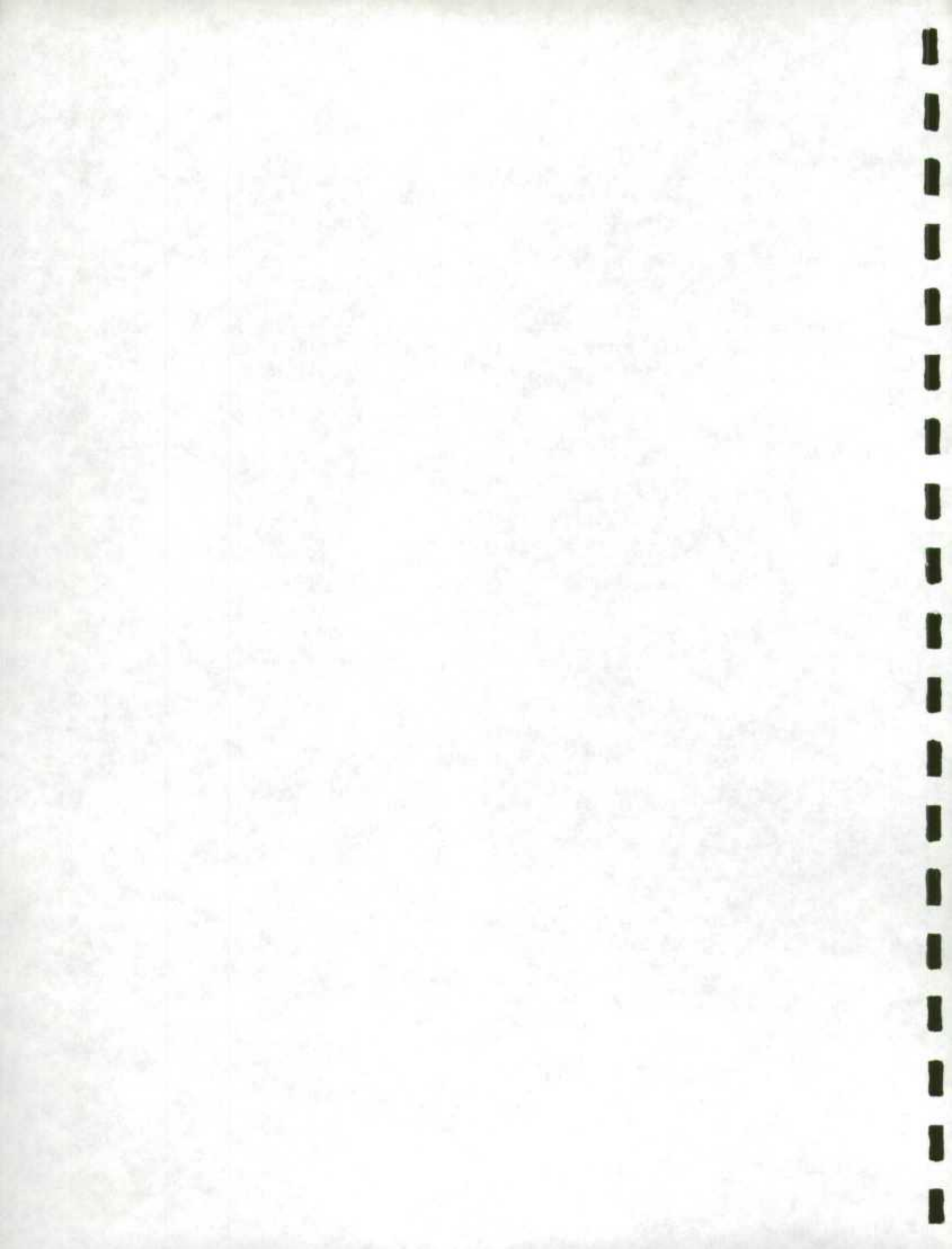
(Continued)



ATTACHMENT A
(Concluded)

Statistics Canada:

Balance of Payments	Lucie Laliberté	(613) 951-9055	(613) 951-9031
	Hugh Henderson	(613) 951-9049	(613) 951-9031
Industry Division	Brian Nemes	(613) 951-2530	(613) 951-3522
	Ken Young	(613) 951-3501	(613) 951-3522
International Trade Division	Claude Graziadei	(613) 951-2485	(613) 951-0117
	Ben Marois	(613) 951-7259	(613) 951-3522
	Steven Mozes	(613) 951-0234	(613) 951-0117
Input/Output Division	Claude Simard	(613) 951-8907	(613) 951-0489
Transportation Division	Jim Cain	(613) 951-0518	(613) 951-0579
	Raymond Cantin	(613) 951-2432	(613) 951-0579
	David Dodds	(613) 951-8704	(613) 951-0579
	Kathie Davidson	(613) 951-8779	(613) 951-0579
	Audrey Kealey	(613) 951-2498	(613) 951-0579
	Andrea Mathieson	(613) 951-2493	(613) 951-0579
	John Nicoletta	(613) 951-0520	(613) 951-0579



UNITED STATES - CANADA
TRANSPORTATION STATISTICS INTERCHANGE

Ottawa, November 18-19, 1991

Location: Jean Talon Building, Tunney's Pasture
13th floor Boardroom (located along the East Wall)

Proposed Agenda

Monday, November 18

9:30 Introductions
 Opening Remarks

9:45 United States

- o 1992 Census of Transportation - Current Planning Status
- o U.S. Transportation Data - Current Situation
- o Commodity Flow Survey - Status and Transborder Interests

Coffee Break

11:00 o Truck Inventory and Use Survey - Status and Plans
 o Foreign Trade Division - Programs and New Operations

12:15 Lunch - Executive Dining Room

1:15 Canada

- o Trucking Statistics Program - Current Situation
- o Coverage of U.S. Companies Operating in Canada

Coffee Break

2:45 o Roadside Survey and Transborder Survey
 o Origin and Destination data for Manufacturing and Wholesale Industries
 o Free Trade/Regulatory Reform: Transport-related impact

Tuesday, November 19

9:00

Canada (cont'd)

o Inter-provincial Flows

Both

o Future Joint Programs

- Administrative Records

- Research, Common Definitions, EDI

- Impact of Freight Forwarders/Brokers

o Organization of Future Exchanges

12:00

Closing Remarks
Adjournment

2.0 Major Transportation Statistical Programs

2.1 Summary of Agency Programs/Databases

DOT's major modal and multimodal data programs include the following:

National Highway Traffic Safety Administration (NHTSA)

NHTSA uses a number of databases to carry out its mandate to reduce traffic crashes and the deaths and injuries that result from them.

The two primary NHTSA accident databases are the National accident Sampling System (NASS) and the Fatal Accident Reporting System (FARS). NASS has two parts: the Crashworthiness Data System (CDS) which is used to provide accurate and detailed information on the crashworthiness, or occupant protection of passenger cars, light trucks and vans; and the General Estimates System which uses data from a statistical sample of police reported traffic crashes to make estimates of the general state of traffic safety. FARS is a census of all fatal motor vehicle crashes in the United States since 1975.

Another major database is the National Driver Register (NDR) which allows States to share information on drivers with poor records in one State who may be applying for a driver's license in another State.

Federal Highway Administration (FHWA)

The data collected by FHWA from the States through the Highway Performance Monitoring System (HPMS) enable the agency to administer its programs, promulgate policy on highway design and performance, forecast future activity and monitor the safety of the nation's trucking industry.

Detail on the characteristics and use of trucks is provided by the quinquennial *Truck Inventory and Use Survey* (TIUS) and the *Nationwide Truck Activity and Commodity Survey* (NTACS) which are prepared for FHWA by the Bureau of the Census. The *Nationwide Personal Transportation Survey* (NPTS) provides detailed data on automobiles and other personal vehicles that are based at households.

The FHWA integrates the data from the TIUS, NTACS, NPTS, and HPMS in its annual *Highway Statistics*, its Highway Traffic Forecasting System, and other tabulation and modeling systems.

Data on highway revenues and expenditures by other levels of government are reported annually by the States under the *Guide to Reporting Highway Statistics*, and quinquennially through the Census of Governments by the Bureau of the Census.

The FHWA's Office of Motor Carriers (OMC) maintains a census of 200,000 interstate carriers and hazardous materials shippers and keeps extensive safety related data including safety fitness ratings, and roadside inspection, accident and enforcement information.

Federal Aviation Administration (FAA)

The FAA's Air Carrier Activity Information System is being used in examining airport expansion and passenger facility charges, important aspects of the NTP.

Data are used in forecasting, airport design, staffing standards, establishing controller grade levels, identifying potential safety issues, controlling the use of navigable airspace, research, development and installation of air navigation facilities, developing and implementing programs and regulations to control aircraft noise, and other environmental effects. The FAA also administers grant programs for the improvement of public use airports for meeting safety and capacity needs.

Office of the Secretary (OST)

The Office of the Secretary collects, publishes and analyzes statistical data in support of its activities. Statistical activities include monitoring competition in the airline and maritime industries, monitoring on-time performance of major air carriers, development of legislative proposals, responding to Congressional requests for information and special studies, developing policy on transportation issues, supporting international negotiations on aviation matters, and issuing regulations on aviation consumer issues.

Research and Special Programs Administration (RSPA)

The RSPA's data collection activities include aviation economic data, hazardous materials transportation, pipeline safety, transportation emergency preparedness, safety training, and multimodal transportation issues, and data required to conduct the research and development programs conducted at the RSPA's Volpe National Transportation Systems Center (VNTSC).

A major initiative of RSPA has been the computerization of the international airline tariff filing system. This project is estimated to save about 4.5 million person-hours of reporting burden in the airline industry, or an estimated \$40 million in industry costs. Other activities include a joint project with the Immigration and Naturalization Service and the Customs Bureau on measuring and improving the flow of arriving international passengers at U.S. airports.

RSPA/VNTSC's Center for Transportation Information serves as Executive Secretary to the Federal Interagency Transportation Statistics Committee, and the DOT's Transportation Data Coordinating Committee (TDCC), and serves as a focal point for the coordination of transportation information requirements and for the dissemination of information to users.

Urban Mass Transportation Administration (UMTA)

Section 15 of the Urban Mass Transportation Act of 1964 assists in meeting the needs for information on which to base planning for public transportation services and to make public sector investment decisions at all levels of government. Data are used to apportion funds to urbanized areas of 200,000 or more inhabitants.

Maritime Administration (MARAD)

The data systems of the Maritime Administration are used to support its mission to aid in the development, promotion, and operation of the U.S. merchant marine, and in organizing emergency ship operations. MARAD operates a subsidy program whereby it pays the differences between certain costs of operating ships under the U.S. flag and foreign competitive flags on essential services, and between the costs of constructing ships in U.S. and foreign shipyards. It operates a War Risk Insurance Program and maintains a National Defense Reserve Fleet of Government-owned ships. MARAD also maintains a special computerized database developed from the Bureau of the Census' Foreign Trade Data, which is used to analyze trade routes and markets served by U.S. flag ships.

United States Coast Guard (USCG)

Data collection activities in the United States Coast Guard support its multiple responsibilities of search and rescue, maritime law enforcement, vessel inspection, personnel licensing, environmental response, port safety and security, traffic management, aids to navigation, recreational boating safety, and military readiness.

The continuing development of the Coast Guard's environmental and port safety programs has resulted in improved sources of information on marine pollution and vessel casualties. These databases are of interest in developing programs aimed at reducing the likelihood of spills of hazardous materials and reducing maritime navigational risks.

Federal Railroad Administration (FRA)

In support of its missions in rail safety, financial assistance programs, and research and development, the FRA collects a range of data from the States and railroads.

Information on grade crossings includes items such as identification number, railroad, railroad division, subdivision, and milepost. Accident and safety data form the basis of many of the FRA's data collection efforts.

Saint Lawrence Seaway Development Corporation (SLSDC)

Statistical activities of the Saint Lawrence Seaway Development Corporation, a wholly Government-owned enterprise, are used to support its responsibilities for the development, operation, and maintenance of the Seaway between the port of Montreal and Lake Erie, within U.S. boundaries. It is involved with data collection efforts specific to the Seaway, and is interested in the flow of passengers and cargo, traffic control, aids to navigation, and safety.

Additional agency statistical programs and databases include:

National Transportation Safety Board (NTSB)

The NTSB maintains the official U.S. census of civil aviation accidents in its Aviation Accident Database. This database contains comprehensive data on all aviation accidents occurring in the United States or involving U.S. registered aircraft since 1962. The data system is segmented into physically separate databases for the 1962-1981 period, 1982, and the 1983-present period, corresponding to somewhat different data collection procedures and data elements.

The NTSB also maintains databases of certain surface transportation accidents investigated by its staff of headquarters and field investigators.

Federal Maritime Commission (FMC)

The FMC's statistical database contains data on tariffs (rate schedules) which are filed by common carriers in foreign and domestic offshore trades of the U.S. Currently, these data are available only in paper format. The FMC is in the process of automating these data and expects the automated system will be operational in FY92.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers collects, processes, manages, and disseminates a variety of statistical data relating to foreign and domestic waterborne commerce, vessel and port facility descriptions, and navigation lockage.

The reports include annual statistical tabulations of domestic and foreign commodity movements on U.S. waterways and within ports, annual directory of operating domestic vessels, periodic revisions of ports facility descriptions, and quarterly detailed statistics for each Corps of Engineers operation lock. Information is provided in published reports and on data tapes.

Department of Agriculture (USDA)

In cooperation with the U.S. Army Corps of Engineers, the USDA monitors the volume of major grains and oilseeds transported by barge along the Mississippi River System. Each week the USDA collects data pertaining to the number of ocean-going bulk grain vessels departing the U.S. from the Gulf of Mexico. The information collected includes the number of vessels presently loading grain, the number of vessels that have passed inspection and waiting to load grain, the number of vessels loaded in the last seven days, and the number of vessels expected to arrive in the next ten days. This information assists analysts in examining trends in the U.S. grain export market. The information is published weekly in the report *Grain Transportation*.

Bureau of Labor Statistics (BLS)

The Bureau of Labor Statistics is the principal Federal data-gathering agency in the broad field of labor economics. Most of the major programs produce data that has transportation sector detail provided through the use of the Statistical Industrial Classification (SIC).

Transportation sector detail available in BLS programs include industry employment and payroll; labor compensation and labor productivity indexes for railroads, trucks, and air; quarterly data on household expenditure levels for various transportation needs such as vehicle purchases, vehicle maintenance, and airline travel; and price changes for public, private, and international transportation services.

Department of Commerce, Bureau of Census

The Bureau of Census data collection activities include detail on the characteristics and operational use of trucks provided quinquennially in the *Truck Inventory and Use Survey*, and the *Nationwide Truck Activity and Commodity Survey*.

Data on the number of transportation establishments, employment, payroll and revenue are reported quinquennially in the *Selected Transportation Industries*. Operating revenues and expenses of freight equipment and data on employment and payroll for various transportation industries are reported annually in the *Motor Freight Transportation and Warehousing Survey* and the *County Business Patterns*.

Plans are currently underway with the DOT to produce the *Commodity Flow Survey* for 1993 which will measure the origin, destination, weight, value, and mode of transportation for commodity shipments.

Department of Commerce, Bureau of Economic Analysis (BEA)

Information on transportation-related commodities--goods, services, and structures--are important components of BEA's national, international, and regional economic accounts programs. These accounts present data on the output of these commodities--in both dollar value and physical quantities; the inputs used to produce this output--labor, fixed investment, and other goods and services; and the purchasers of this output--households, governments, foreigners, and businesses. All of this detail is presented annually.

Federal Emergency Management Agency (FEMA)

The FEMA is working, under a Memorandum of Understanding, with DoD and DOT to develop databases and computerized systems for network analysis pertaining to highway, rail, water and air modes of transportation. In the future, work will extend to include pipelines.

FEMA will work jointly with DOT to provide an ability to assess effects of damage caused by natural and man made hazards on the transportation networks. These derivative statistical programs will support analysis of the consequences of subsequent interruptions and permit decision makers to determine appropriate restoration measures.

General Services Administration (GSA)

The GSA plans, develops, directs, and executes Government-wide management, regulatory, and analysis responsibilities for the transportation of freight, household goods, mail, passenger travel and aviation programs. GSA issues Government-wide regulations, initiates, coordinates, and implements costs reduction programs. GSA maintains close liaison with other agencies and the transportation industry to ensure coordination of operations and to seek innovative methods that will further enhance Federal programs.

GSA also manages the Interagency Fleet Management System on agency-owned vehicles (domestic and foreign fleets) and vehicles that are commercially leased (domestic fleet). In addition, GSA issues the Federal Travel Regulations covering Federal employee travel rules and allowances, relocation entitlement, and other related issues.

U.S. Postal Service

The U.S. Postal Service has a variety of systems to assist in managing transportation of mail between major mail facilities. The data collected are used for the certification of payments to carriers, statistical analysis of performance service requirements, to verify information on highway and Postal Vehicle Service traffic, and to schedule the movement of mail between Postal facilities.

Department of Defense, Military Traffic Management Command (MTMC)

MTMC maintains several major databases on DoD freight and passenger traffic. The data collected include paid freight Government Bill of Lading (GBL) information, paid domestic and international household goods GBLs and claims, DoD passenger traffic of commercial domestic and international travel, data on non-Government Travel Requests DoD international passenger traffic by individuals, passenger group movement procurements for Continental United States (CONUS) group travel, and international shipments originating or terminating in CONUS or the Caribbean.

Department of Energy

The Department of Energy's Energy Information Administration (EIA) collects data on energy consumption by energy type for the transportation sector. This information is provided monthly in the *Monthly Energy Review*.

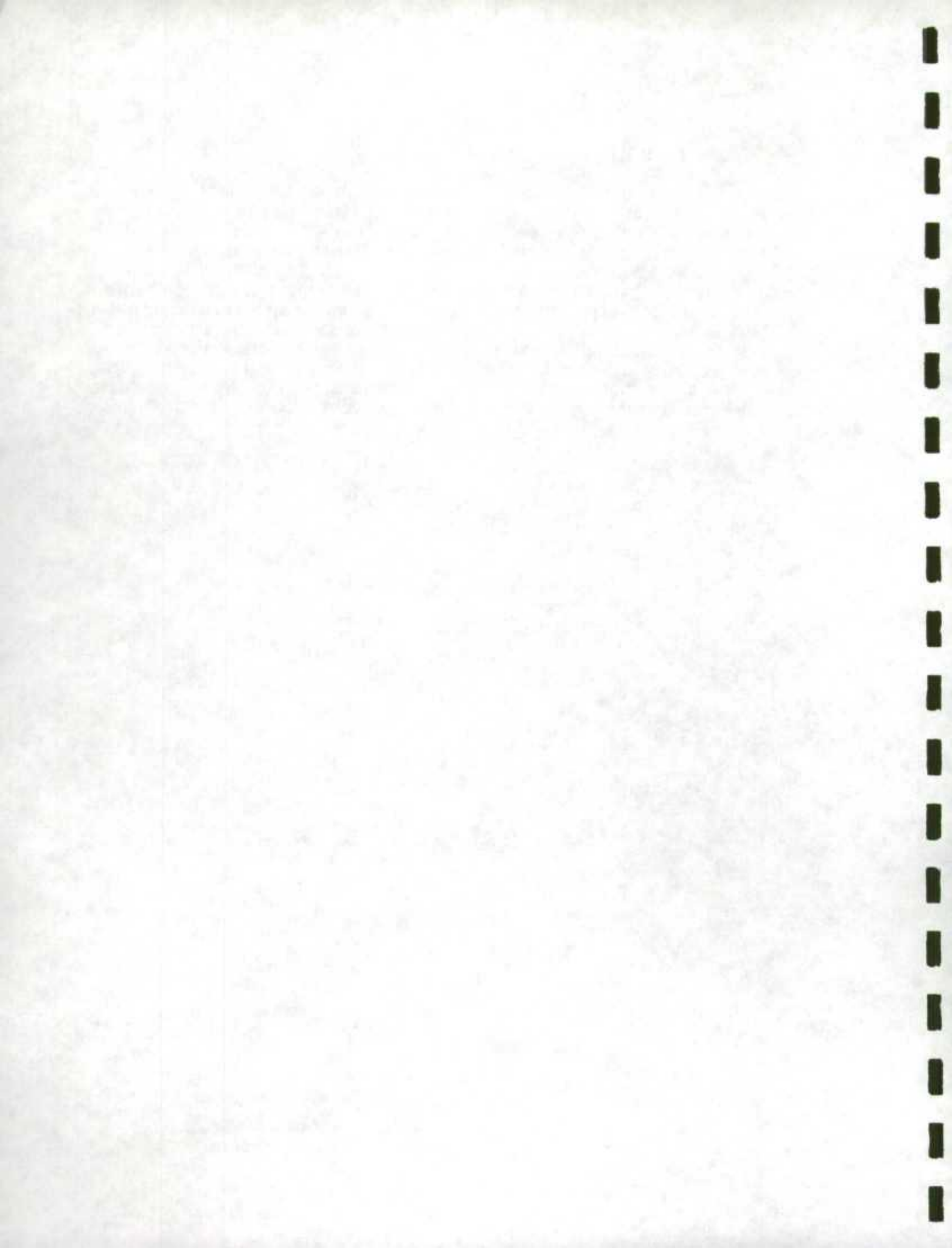
Annual statistics from 1960 on transportation energy consumption by type, including individual petroleum products, are provided by State in the *State Energy Data Report*. Also, the *State Energy Price and Expenditure Report* provides price and expenditure estimates annually at the State level since 1970 for energy consumed in the transportation sector.

Detailed analytic data on energy consumption, vehicle-miles traveled, miles per gallon, expenditures, and fuel prices for personal-use household vehicles are available every three years from the *Residential Transportation Energy Consumption Survey*.

Office of the U.S. Trade Representative

The Office of the U.S. Trade Representative chairs the Interagency Task Force on Services Trade Data. This task force was established in 1982 to review existing U.S. statistics on international trade in services, including transportation, and to examine the specific needs of data users.

Functions of the task force are: 1. plan the development of a comprehensive data collection and reporting system, including improvements in existing data; 2. coordinate the work of the various U.S. agencies with an interest in data; 3. coordinate with the private sector to develop needed information and to assess the feasibility, cost, and burden of collecting the data; 4. identify technical, legal, administrative, and financial problems arising from the data improvement program; and, 5. recommend ways of resolving these problems.



CENSUS BUREAU'S TRANSPORTATION STATISTICS

I. OVERVIEW

Over the years, the Census Bureau has conducted a limited number of transportation statistics programs and currently is significantly expanding transportation industry statistics to meet increased data user needs. This is due to technological and structural changes and growth, plus the effects of deregulation that caused the loss of statistical information. Transportation programs can be described as existing programs, approved/budgeted programs under development, future planned expansion yet unfunded, and proposed joint agency projects.

II. DATA COLLECTION MANDATE

The Bureau of the Census is required by law to collect and publish general purpose data on the state of the economy and the population via censuses and sample surveys. The majority of data are used directly by other agencies as input to their programs or to supplement other data collections to meet very specialized needs such as price indexes, productivity measures, and economic development. This data collection authorization covers all sectors of the economy, except when a regulatory organization requires data collection to complete its' own mission. Duplicative data collection is not allowed and therefore regulatory data is often used for general economic and policy decisions. The Bureau is authorized to, and does, serve as data collecting and compiling agent for other government agencies.

III. EXISTING PROGRAMSQuinquennial Economic Census Programs

The Census of Transportation, conducted for the years 1987 and 1992, consists of two parts: establishment-based universe statistics for selected transportation industries and the Truck Inventory and Use Survey (TIUS).

1987 and 1992 Statistics of Transportation Establishments

The transportation establishment statistics correspond to those collected for other kinds of business in the other economic censuses. They provide general financial and employment data and number of establishments. They cover only three of the eight major groups in the transportation-related part of the Standard Industrial Classification (SIC) system.

- 42 Trucking and Warehousing
- 44 Water Transportation
- 47 Transportation Services

For many of the industries in the transportation census (for example, trucking), the establishments have activities, workers, and equipment that may move from place to place. For the census, an establishment is a relatively permanent office, shop, station, terminal, or warehouse. Census figures for states and metropolitan areas reflect permanent establishment location and not necessarily the location where the trucking or other activities take place.

The establishment counted in the Census of Transportation offers services to the general public or to other business enterprises. Establishments that furnish similar services (for example, warehousing) only to other establishments of the same company are classified as auxiliary to the other units of the company that they serve. Data for auxiliaries are presented in a report issued as part of the 1987 Enterprise Statistics series, but not in the Census of Transportation. The census excludes firms without paid employees. Thus, for example, many independent truckers are not included in the 1987 establishment statistics.

Truck Inventory and Use Survey 1982, 1987, 1992

The Truck Inventory and Use Survey (TIUS), taken every 5 years as part of the economic censuses program, reports on the physical characteristics and operational use of the Nation's private and commercial trucks. Unlike other economic censuses programs, the coverage of TIUS cuts across SIC classifications and even includes personal use, although vehicles owned by Federal, state, and local government agencies are not covered. Some privately or commercially owned vehicles that do not have to be licensed (for example, "off-highway" trucks used exclusively on private property) also are excluded. The 1987 TIUS includes physical characteristics of the Nation's private trucking fleet, such as vehicle type, gross weight, type and size of engine, type of transmission, type of braking system, power steering, fuel conversion, air conditioning, type and size of body, power axles, axle arrangement of trailer units, and cab type. The survey also includes operational characteristics, such as base of operation; number of trucks, truck-tractors, and trailers operated from base of operation; area of operations; vehicle miles; miles per gallon; use of vehicle; and type of commodities carried (including hazardous materials).

For 1987, about 135,000 private and commercial trucks were sampled from approximately 44.8 million state vehicle registrations.

Census of Manufactures 1982, 1987, 1992

Establishment coverage of over 10,000 transportation equipment manufacturers. Coverage includes all eighteen 4 digit industries of equipment manufacturers in SIC 37, from guided missile to recreational camper manufacturers. Data include employment, wages, value of shipments, value added, capital expenditures, operating expenses, assets, and inventories.

Census of Governments 1982, 1987, 1992

Coverage extends from the Federal Government, and 50 State governments to some 83,000 units of local government—counties, cities, towns, school districts and special districts. Data collected include: full and part time employment and payrolls; revenues by type and sources, expenditure by character, object and function (including an array of transportation related functions); indebtedness by type and purpose; and, assets held by the government as cash or investments in securities.

Census of Construction 1982, 1987, 1992

Coverage includes transportation related construction activities such as establishments primarily engaged in highway, street, bridge, and tunnel construction. Data include the value of construction work done, assets, expenses, capital expenditures, and employment.

Census of Agriculture 1982, 1987, 1992

Provides universe count of farms and farm production by small geographic location. Data highlight the county location of agricultural production, (which is typically transported by truck, rail, or water), plus expenses and assets, including fuel costs and trucks used.

Enterprise Statistics 1982, 1987, 1992

The Enterprise Statistics program regroups census data for establishments under common ownership or control in order to show various economic characteristics of the owning or controlling firms. This program also yields separate data about auxiliary establishments. An auxiliary is an establishment whose employees are primarily engaged in performing supportive services, such as trucking and warehousing for other establishments of the same company rather than for the general public or for other business firms. Information available includes the number of auxiliaries and payroll, plus the number of employees engaged in several different types of service, sales or receipts, end-of-year inventories, rental payments, selected expense data, and so forth.

Decennial Census - Demographic

Census of Population and Housing 1980, 1990

Questions on the means of transportation people use to get to work by geographic location of their work place have been included in the decennial censuses since 1960. In 1980, items on travel time to work and carpool occupancy during the work trip were added. The year 1990 marks the first time that information on time leaving home to go to work was collected in the Census of Population and Housing. Data on these topics are made available in printed reports and on computer tapes for geographic areas such as census tracts, places, counties, metropolitan areas, and states.

Existing Current Survey Programs - Economic

Motor Freight Transportation and Warehousing Survey

An annual survey based on a sample of 1,500 firms representing all employer firms with one or more establishments that are primarily engaged in providing for-hire commercial motor freight transportation and warehousing services. This includes firms furnishing local or long distance trucking or transfer services, and those engaged in the storage of farm products, furniture and other household goods, or commercial goods of any nature. The survey provides about 50 data items on operating revenues and operating expenses, plus inventories of revenue-generating equipment for establishments in SIC 42 for the United States. Comparable statistics are shown for the previous year along with year-to-year percentage changes. Publication is released about 9 months after the period of reference.

Nationwide Truck Activity and Commodity Survey

The NTACS is a DOT sponsored follow-on survey to the quinquennial Truck Inventory and Use Survey (TIUS), and has been designed to obtain operational characteristics and activity patterns of trucks by collecting trip-specific information primarily from commodity carrying trucks. It will provide essential information for the analyses of truck sizes and weight issues, highway user charges, safety issues, energy and environmental constraints, proposed investments in new roads and technology, hazardous materials transport and other aspects of the Federal Aid Highway Program.

Questions on the NTACS also provide linkages between the TIUS and the other existing sources of truck related information. A public-use computer tape of micro records (no printed reports) is scheduled for release to the DOT in late spring 1991.

Annual Survey of Manufactures

Data on domestic manufacturers production of transportation equipment. Value of shipments, expenses, and other key measures provided for 18 transportation equipment manufacturing industries.

Annual Government Finance Surveys

Coverage includes the Federal Government, 50 State governments and a sample of some 22,000 local governments--counties, cities, towns, school districts and special districts. Data collected include: full and part time employment and payrolls; revenues by type and source, including transportation related activities (motor fuel taxes, toll charges, etc.), expenditure by character, object and function (including an array of transportation related functions); indebtedness by type and purpose, and assets held by the government as cash or investments in securities.

Surveys of Transportation Equipment Manufacturing

National estimates of detailed domestic production of aerospace, aircraft, and truck trailers.

County Business Patterns Publications

The County Business Patterns is an annual series of national and state publications presenting county-level data on number of establishments with paid employees, total employment, and payroll on an establishment basis, with economic activity classification reflecting the principal activity at each individual location. The coverage includes about 45 transportation industries in each of over 3,000 counties.

Foreign Trade Statistics

Official U.S. merchandise trade data reflect a monthly census of U.S. export and import transactions, based on the official documents that shippers and receivers must file with the U.S. Customs Service in connection with each shipment. These figures reflect the flow of merchandise, but not intangibles like services and financial commitments. The trade figures trace commodity movements out of and into U.S. Customs jurisdictions. Key variables in foreign trade reports are export value calculated free alongside ship (f.a.s.); import value, specific commodities, and foreign country of origin or destination. Additional variables shown selectively include SIC-based product code, method of transportation (by air, sea, or land), U.S. state of origin or destination, United States and foreign ports, quantities shipped, and shipment weight for air and sea shipments.

Plant and Equipment Expenditure Survey

A quarterly publication of transportation equipment manufacturers showing investment information for manufacturing and transportation service firms.

Quarterly Financial Report

Publishes up-to-date aggregate statistics on the financial results and position of U.S. corporations. The QFR presents estimated statements of income and retained earnings, balance sheets, and related financial and operating ratios for the transportation equipment industry, including breakouts of motor vehicles and motor vehicle equipment, and aircraft, and parts.

Existing Current Survey Programs - Demographic

American Housing Survey

Since the mid-1970's, information has been collected in the American Housing Survey on means of transportation to work, travel time to work, and distance to work. Other data items, including information on the geographic location of the work place, have been collected periodically from both the national

sample and the individual metropolitan area samples of the AHS. Data are available in printed reports, public-use microdata files, and unpublished tabulations for selected large cities and counties, and for the nation.

Consumer Expenditure Quarterly Interview Survey

Transportation expenses are collected as part of the Consumer Expenditure Quarterly Interview Survey, which provides information on how various groups of U.S. consumers spend their money. The survey data include large expenditures, such as automobiles, and expenditures that occur on a regular basis, such as gasoline and insurance premiums.

IV. APPROVED/BUDGETED PROGRAMS UNDER DEVELOPMENT

1992 Economic Census Expansion for Transportation

The 1992 Census of Transportation will present a significant expansion of transportation establishment statistics on revenues, payroll and employment by varied transportation classifications. It will provide these data for 43 4-digit industries in the following Major Groups.

SIC Major Group	Title
41	Local and Suburban Transit and Interurban Highway Passenger Transportation
42	Motor Freight Transportation and Warehousing
44	Water Transportation
45*	Transportation by Air
46	Pipelines, except Natural Gas
47	Transportation Services

* Except large certificated passenger air carriers.

This represents an expansion in the scope of the Transportation Census for 15 industries in Major Groups 41, 45, and 46, incorporating over 24,000 additional establishments with more than 860,000 employees. General financial and employment data, and number of establishments will be provided.

The questionnaire and collection methodology for these industries are currently being tested as part of the 1989 Pretest. Review of the data collected on these questionnaires and the accompanying evaluation forms should provide the information needed to finalize the coverage and questionnaire design for these industries in 1992.

Additionally, collection of data for the railroad industry and large certificated passenger air carriers are under consideration. Review of the data available from other government agencies (Interstate Commerce Commission and the Department of Transportation, respectively) and the reportability of requested data as well as information from the Pretest will determine whether or not these industries should be within scope of the 1992 Census.

Plans are to publish data from the 1992 Census on a national basis and, where not prohibited by confidentiality restrictions, for selected states and metropolitan statistical areas. Publication plans for 1992 include the release of summary data for nonemployers in the transportation industries for the first time.

V. FUTURE PLANNED SURVEYS

Charter, Rural, Intercity Bus Survey (annual)

This survey will be a complete enumeration of approximately 2,000 firms providing intercity, rural, or charter bus transportation services. Estimates of annual dollar volume for intercity and charter bus activities range from \$5 to \$8 billion. The 1982 Bus Regulatory Reform Act seriously reduced the amount of data for intercity bus activity. While intercity scheduled service has continued to decline, charter and tour ridership is growing. Over 40 data items on revenues and expenses are planned.

Publication schedule: If approved, December 1993 covering calendar year 1992 activities.

Transportation Services Survey (annual)

A sample survey covering all employer establishments from a universe of 34,000 establishments providing transportation services (SIC 47). Estimates of dollar volume for services incidental to transportation range from \$12 to \$14 billion annually.

Regulatory reform has had a profound affect on the arrangement of freight transportation as traditional lines of delineation between arrangers of freight transportation have become blurred. All public data collection on freight forwarding ceased in 1980. About 35 data items on detailed revenues and expenses are planned.

Publication schedule: If approved, December 1993, covering calendar year 1992 activities.

Water Transportation Survey (annual)

A sample survey covering all employer firms providing water transportation services. The industry consists of 7,500 establishments with estimated revenues of \$7-\$9 billion.

Existing data sources deal almost exclusively with the physical characteristics of the systems, vessels, waterways, and port facilities of the industries; or on commodity movements. The passenger transportation segment of this industry is one of the fastest-growing components of the travel sector. About 40 detailed data items on revenues and expenses are planned.

Publication schedule: If approved December 1993, Covering calendar year 1992 activities.

VI. PROPOSED/PLANNED JOINT PROJECTS WITH OTHER AGENCIES

State and Local Government Transportation Survey

This proposed survey would fill an important need for information about the resources state and local governments devote to the provision of vital transportation infrastructure and services. The survey would include all aspects of government transportation services, including highways, water transportation, air transportation and transit operations. The data would emphasize the financial and personnel resources that state and local governments provide to construct, maintain, and operate all these services.

The existing data on state and local government transportation services is fragmented by the diffuse nature of Federal, state and local government organizations. The Census Bureau's data collection programs on state and local government finances and employment provide an ideal base for establishing a comprehensive transportation information system, i.e., uniform time frame, definitions, data classification and data collection methods.

This would be a voluntary survey of all state governments and a sample of individual local governments--counties, municipalities, townships, school districts and special districts. The financial data would cover the entire range of financial activities: revenues (motor fuel taxes, transit charges, Federal revenues); expenditures (highway construction, transit system current operations); indebtedness (types of debt financing for airports or highways); and gross assets (including highway trust funds). For comparative purposes the employment data, showing number of employees and payrolls, would cover the same functional areas as the expenditure information. One unique feature that demonstrates the wide scope of this survey would be the collection of information from school systems about the costs related to pupil transportation.

This survey would provide, for the first time, comprehensive state and local financial data on transportation activities. New, consistent data would be published on an annual basis for the following categories:

- o Gross value of transportation assets by governmental unit by transportation function.

- o Specific relationship of governmental financing along with the actual expenditures (e.g., Federal government contribution and debt financing by transportation function and purpose). Information on funding sources will include tax levies, debt issues, fees charged, and miscellaneous revenues.

Proposed 1993 Commodity Flows Survey (CFS)

The proposed commodity flows survey of shippers would measure the flow of goods from origin to destination within the United States. The survey would collect the weight and value of about 18 million sampled shipments. Other information collected for these sampled shipments would be the mode of transport, and commodity code (5-digit).

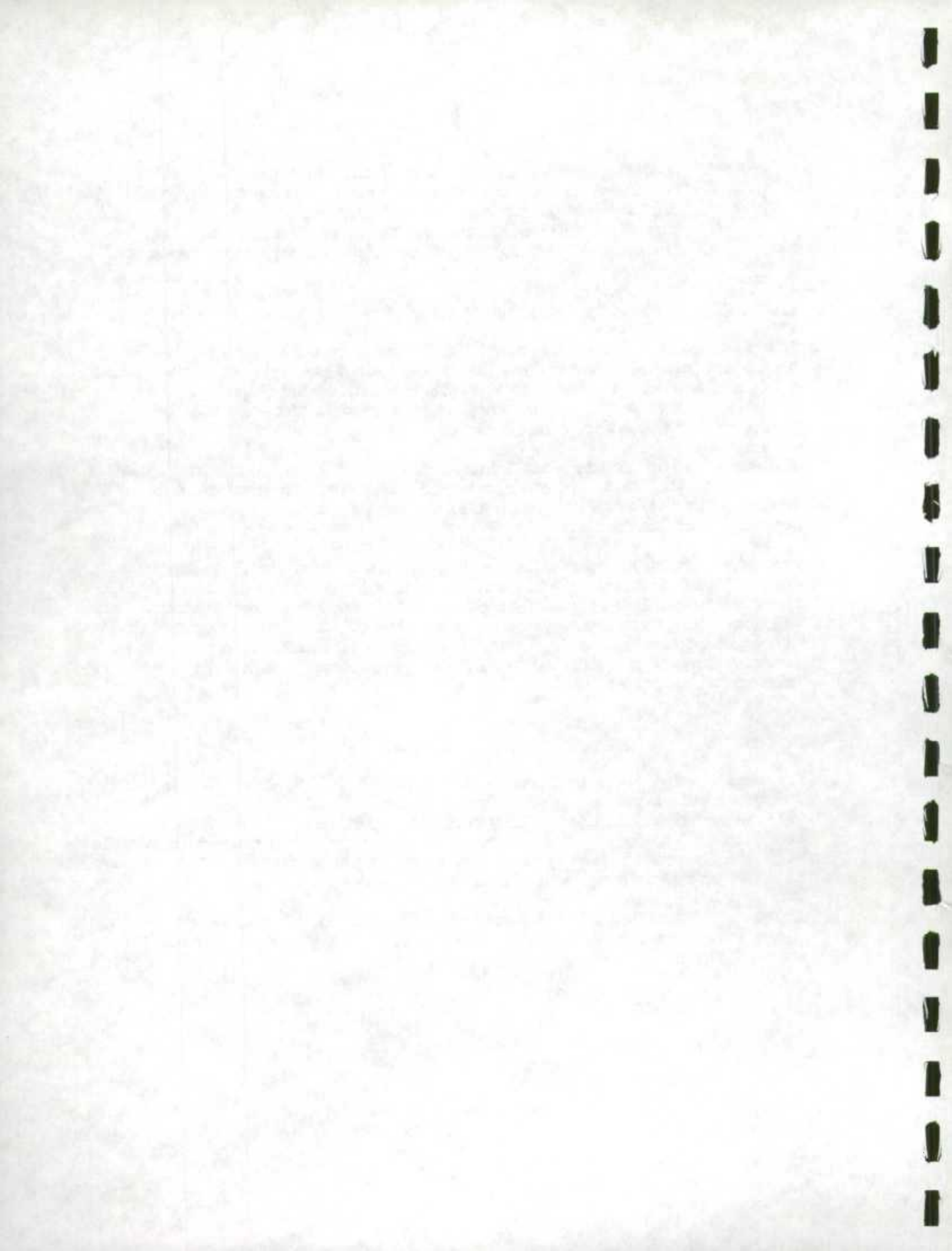
The survey would include establishments classified in manufacturing, minerals and mining, wholesale, and other selected industries. The survey would be conducted by the Census Bureau in 1993 with major funding provided by the Department of Transportation.

The Secretary of Transportation identified this information as the highest data priority initiative in his statement of a National Transportation Policy. The DOT needs this information to evaluate truck size and weight limits, user fee, cost allocation, energy and environmental constraints, economic viability of competing modes, hazardous materials transport, intermodal programs to improve economic productivity and international competitiveness, and other key transportation issues.

Proposed Bus and Government Vehicle Survey

Currently, very little is known about the use of the highway system by buses and government-owned vehicles. There are an estimated two million of these vehicles currently in use and they certainly could have a major impact on the conditions of highways and road systems. Complete bus and government vehicle road use information also is needed to allow accurate forecasting of highway capacity and investment requirements.

The Census Bureau and DOT are currently evaluating existing data sources in these areas, and formulating a proposal to efficiently measure and monitor annual changes in this important area.



1993 COMMODITY FLOW SURVEY

Robert E. Crowther
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and

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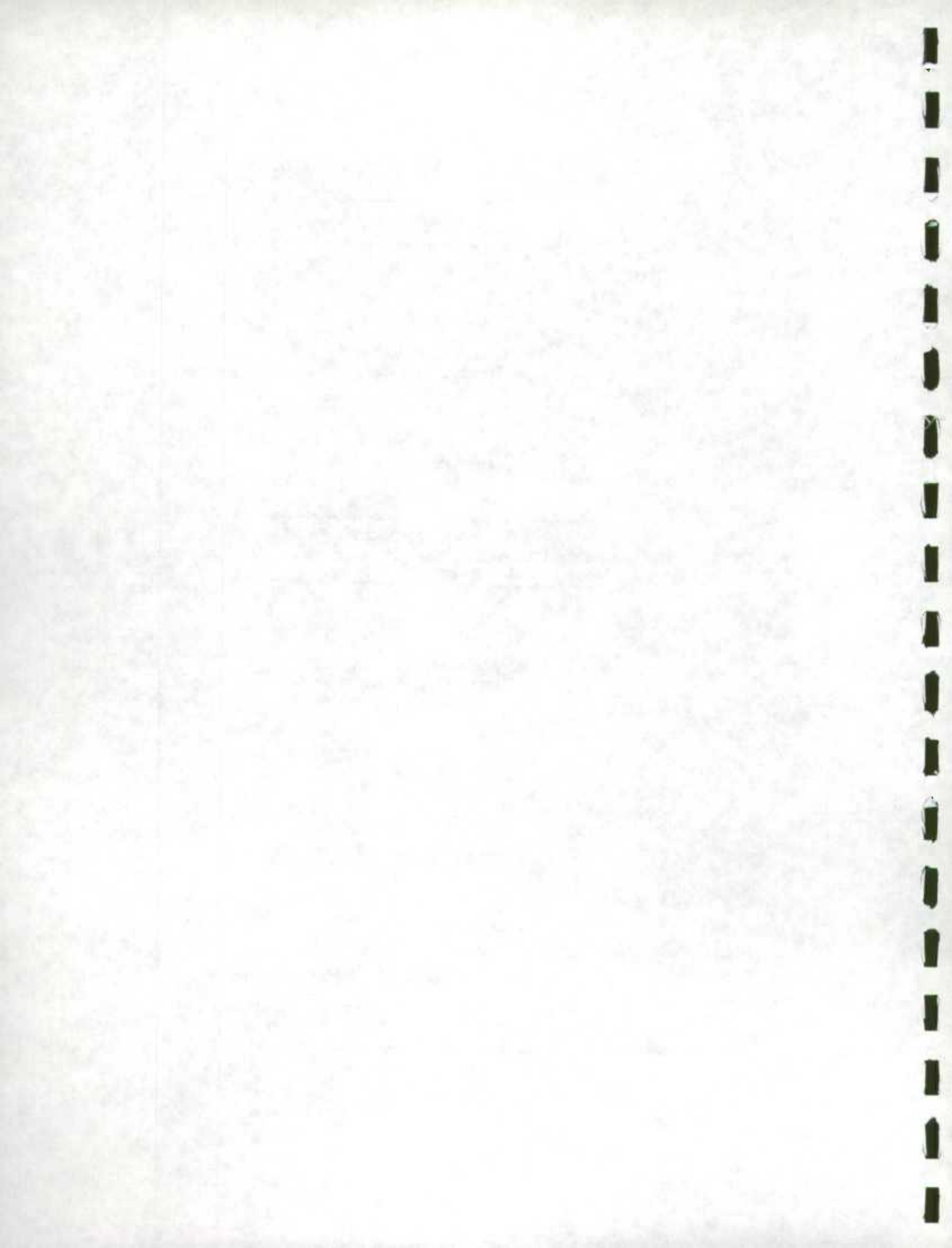
and

James M. Anestad
Assistant Division Chief for Current Service
and Transportation Programs

Business Division
Bureau of the Census

Thursday, October 31, 1991
4:45 p.m.

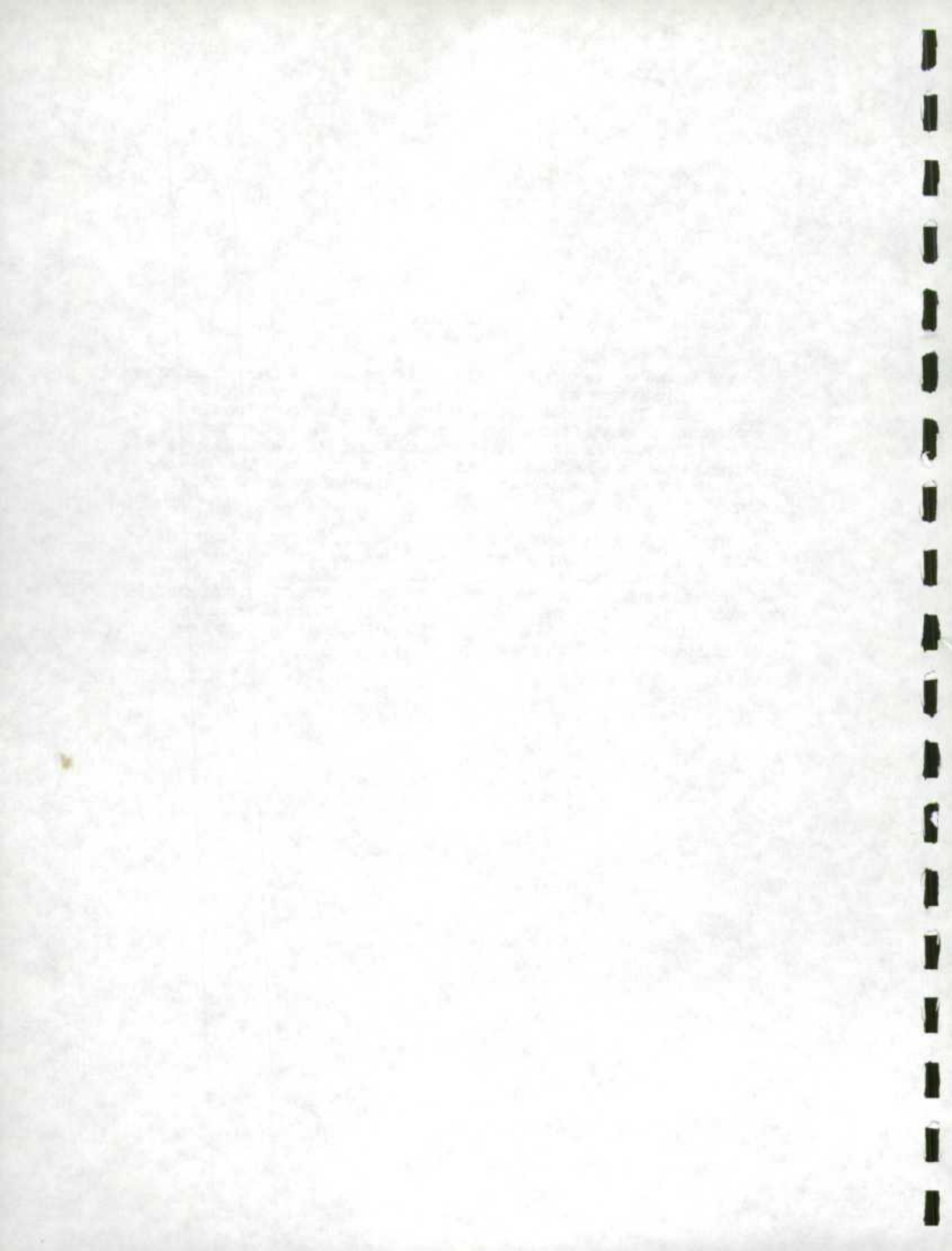
To be presented to the Census Advisory Committees
of the American Marketing Association at the
Joint Advisory Committee Meeting, October 31-November 1, 1991



ABSTRACT

The Bureau of the Census and the U.S. Department of Transportation are planning a jointly sponsored Commodity Flow Survey (CFS) covering the 1993 calendar year. The CFS will restore a data program on commodity flows that was collected as part of the quinquennial economic censuses between 1963 and 1977. This new CFS has incorporated some important methodology changes that will improve the reliability and reportability of the data. The DOT has identified commodity flow data as a primary data need for informed decision making.

The 1993 CFS will select a sample of some 200,000 establishments classified in manufacturing, minerals, or wholesale. Each of these selected establishments will report a sample of their individual shipments for a two week period in each of the four quarters of 1993. Information collected for these shipments includes the weight, value, origin, destination, mode of transportation, and type of commodity. This will provide a total sample of 20 to 24 million individual shipments.



I. Introduction

The 1993 Commodity Flow Survey (CFS) evolved from discussions between representatives of the Census Bureau and the U.S. Department of Transportation (DOT). The DOT was interested in updating and expanding the information available on commodity flows (origination and destination) by modes of transportation. These discussions began as the U.S. DOT developed their National Transportation Policy (NTP) which was released in early 1990. This statement of National Transportation Policy recognized the importance of transportation data to informed decision making, and called for the DOT to assume a proactive role in reversing recent declines in data resources. The NTP further states that it is Federal transportation policy to:

"...identify national needs for information on transportation, including U.S. domestic and international flows of commodities and passengers, and the extent, condition, use and performance of each transportation mode, and assure those needs are met..."

Also, the DOT has turned to the National Academy of Sciences for an independent assessment of long range data needs. This study, by the Strategic Transportation Data Needs Committee, which was convened by the Academy's Transportation Research Board, has said that intermodal freight transportation data is of prime importance. The Committee's final report is due later this fall.

The Census Bureau is also responsible for collecting and publishing these data because the CFS serves broad economic indicators and data needs of Federal agencies beyond the DOT. The Census Bureau considers

the transportation area of the service sector as a high priority for new statistical coverage. This was initially determined through a Census research contract with the National Academy of Sciences. This priority data need is due to the loss of statistical information because of lessening regulatory needs and the sunset of the Interstate Highway authorizing legislation. More recently there has been impetus due to the huge Omnibus Transportation Bill now winding its way through Congress.

II. Background

A. The Commodity Transportation Survey

The Census Bureau began collecting commodity flow data in 1963 with the inception of the Census of Transportation. The first Census of Transportation included a Commodity Transportation Survey (CTS) to measure the origin and destination of commodities shipped by manufacturers. The CTS surveys were conducted for 1963, 1967, 1972, and 1977 using the same basic approach: A sample of establishments from the Census of Manufactures (CM) was used and each selected establishment was requested to select a sample of its individual shipping documents covering the entire sample year.

This approach provided estimates for shipments of domestically manufactured products by all modes of transportation. The

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location of the shipment origin (i.e., the manufacturing plant) and the city and state of destination as well as the weight, a description of the commodity and the primary mode of transportation were reported. Commodities were coded to the Standard Transportation Commodity Code (STCC) and distances from the origin to the destination were determined in order to calculate ton-miles. The scope of the survey varied to some extent between the years of 1963 and 1972. Small manufacturing establishments and some industries were excluded.

In 1977, the scope of the CTS was expanded to include all manufacturing establishments. Also, the value of the shipments was collected. This broadened the scope to cover all manufacturing industries and allowed us to edit and benchmark our estimates to the 1977 Census of Manufactures. Due to cost constraints, the CTS was conducted for the first time as a mail-out/mail-back survey.

B. 1977 Evaluation

All iterations of the CTS were less than successful due to methodology problems, incomplete coverage, or small samples. As part of the 1977 CTS, the Census Bureau conducted an evaluation of the methodology used and the data produced by the survey. This evaluation uncovered numerous errors by respondents in attempting to follow our sampling instructions. The most common errors were

to omit certain files of shipping documents (usually overlooked), and to either oversample or undersample the documents. Other errors included substituting for a selected shipment because it did not seem "representative" and not following the sampling instructions at all. Some of these sampling errors were corrected during our edit to the establishment's COM report, and by adjusting the within-plant expansion factors (weights).

Another concern was the high standard errors on a large number of publication cells. The number of establishments and shipping documents selected was too small to produce reliable estimates for levels of detail published for the 1977 CTS.

C. Research Into New Methodologies

Because of the many problems found with the 1977 CTS, we decided that a new methodology should be developed to collect CTS data and began to research alternatives.

The results of our CTS research indicated the need to simplify the sampling operation so that the respondents would cooperate and follow the instructions properly. We decided to break down the sample period from 1 year to a series of short periods. After several models were tested, we found that taking a sample of shipments (about 30) over a 2-week period in each quarter of the calendar year should provide an adequate sample for our purposes.

Also, by using this method we could let the respondent know ahead of time so they could prepare for sampling.

Investigations into establishment record keeping showed that sales invoices tended to be the most complete files. We had found earlier that the bills of lading files were fragmented for many respondents. They tended to be segregated by customer or mode of transport, and this had led to respondents omitting segments of their files.

Since we were not ready in 1982 to implement a new methodology, we decided to collect some interim commodity flow data by using a summary form. We mailed this and collected summary data for 1983. The sample was increased to 70,000 establishments and broadened in scope to include minerals/mining, farm assemblers of grains (wholesales), and petroleum bulk stations. We asked for a breakdown by weight of their shipments for the year by state and by mode of transport - this 1983 survey failed miserably. Most of the respondents did not have book records for these figures and could not give us good estimates, especially based on weight. Because of the poor reliability of the reported data, the results were not published.

Continuing our investigations in the mid-1980's, we also looked at the commodity flow data program being conducted by Statistics Canada. Their carrier-based survey was very attractive. We

proposed to develop a 1987 carrier-based survey for specific modes of transportation such as for-hire trucking and air, and to provide some minimal data for private trucking and owner/operators from the Truck Inventory and Use Survey. The waybill sample would provide the rail mode.

We also realized that restricting the CTS only to manufacturing only provided a piece of the commodity flow activity, and that piece was shrinking year by year. A carrier-based survey would provide shipments between all segments of the economy.

This proposal was not acceptable to our data users. Most of the data users we contacted felt that private trucking coverage was not adequate and that combining the waybill sample with our trucking component and an aviation component would likely leave holes in the total picture.

About this same time, we were forced to reduce spending under the Gramm-Rudman-Hollings guidelines (FY 1988) and the 1987 CTS was canceled. About 1 year ago we began discussions with the DOT to evaluate the potential for a joint Census-DOT origination-destination survey, retitled Commodity Flow Survey.

III. Coverage of the 1993 Commodity Flow Survey

A. Standard Industrial Classifications Included

The 1993 CFS will measure the outbound shipments from establishments that are classified in the following SIC divisions:

<u>Division</u>	<u>Establishment Universe</u>
Mining	30,000
Manufacturing	354,000
Wholesale Trade (merchant, wholesalers, mfg. sales branches)	457,000 (Total wholesale)
Retail Trade (selected)	7,000
Services (motion picture and videotape distribution only)	1,000
Auxiliary Establishments (warehouses, milk receiving stations)	16,000 (Total aux. for mining, manufacturing, wholesale)

Attachment A provides more details on the actual SICs to be included in the survey.

B. Data Collected

Data collected will include a description of the commodity shipped (and Standard Transportation Commodity Classification code), weight, value, domestic destination (or port of exit), export shipment (check box only-Y/N), foreign destination, containerization and hazardous materials (Y/N), and mode of transportation (10 options).

A number of desirable data collection enhancements were discussed in our planning meetings with the DOT. We have found it necessary to categorize some of these desired survey enhancements as

auxiliary or supplemental to the main Commodity Flow Survey. These items will be researched and may be handled through supplemental data collections or by tabulating related data from other sources.

For instance, we cannot properly measure imports through the CFS. Imports will be evaluated via Foreign Trade Division's import database. It may be desirable to sample known importers from the Foreign Trade Division (FTD) universe to accurately measure the missing transport distance of the goods from port of entry to the initial establishment within CFS coverage. Also, the domestic mode of transportation would be collected in any supplemental import survey.

In the case of exports, there is no accurate means to link individual shipments reported on the CFS to FTD export records. Therefore, the CFS will measure only the domestic movement of shipments and simply identify those destined for export (as reported on the CFS). Selected shippers that export have indicated that they periodically do not know the port of exit (POE) of their shipment, only the final foreign destination city. Accordingly, we are exploring the possibility of using FTD export data to impute the most probable customs district (as a proxy for port of exit) for selected nonreporting of POE on the CFS.

Future in depth analyses for specific establishments that export may be possible between the CFS and the FTD databases. Such activities, however, will be beyond the scope of planning, designing, and implementing the 1993 CFS.

IV. 1993 Methodology

A. Sample

The sample of approximately 200,000 establishments will be drawn from the classifications in III.A. above. The estimated universe of establishments is 800,000. For sampling, the universe will be stratified by geography and by 3-digit SIC code. The stratification by geography will be based on National Transportation Analysis Regions (NTARs). NTAR's represent groups of BEA areas (183 areas comprising the complete US) which in turn represent groups of counties. There are 89 NTARs, some of which cross state boundaries. Within each stratum all establishments above an established size level will be taken with certainty. The remaining establishments within the stratum will be subjected to sampling.

B. Time Period

Each sampled establishment will be required to report for a sample of their shipments for a 2-week period in each of the four

quarters of 1993. This will provide us with 8 weeks of sampled shipments (out of 52 weeks) for each establishment. Twenty-six 2-week blocks of time will be defined. Each establishment will be asked to select a systematic sample of all shipping documents for four of those 2-week blocks (one per quarter). So that seasonality can be represented, each establishment will be randomly assigned to the 2-week blocks in such a way that the entire year is covered. Each establishment's 8 weeks of sampled shipments will be expanded to match that establishment's total annual output as reported in the 1992 Economic Census and adjusted to 1993 levels.

C. Shipment Sampling

Each establishment will receive their questionnaire before their 2-week sampling period begins so that they can make any necessary preparations for sampling. Early in calendar year 1993, we will advise establishments of their selection in the survey and their specific 2-week reporting periods for all four quarters. They will be asked to sample a number of individual shipments for the 2-week period, based on the total number of shipments of the establishment for the period. The number of establishment documents sampled will average about 30 per quarter, which will provide 20-24 million shipment observations for the year. Instructions will be prepared to explain the detailed mechanical aspects of sampling the shipment documents.

D. Field Test of Questionnaire

We are presently conducting a field test of the CFS questionnaire. The questionnaire that we are testing (FORM TC-TEST) is included as Attachment B. For this test, we selected approximately 60 establishments, representing a cross section of several industry types and establishment sizes. Census Bureau and DOT personnel will visit the representative establishments to obtain comments and information pertinent to finalizing the questionnaire. No actual data will be collected. Our initial visits to these companies indicate that the requested data are reportable and that 2-week reporting periods on a current basis makes the records more accessible.

During the field test, we will also test a series of supplemental establishment-level questions pertaining to availability of transportation equipment and access to transportation facilities. These questions would be included for the fourth quarter of 1993 only, and would be sent to a subsample of the CFS sample establishments. The data would be used to produce national level estimates only. The field test version of these questions is included as Attachment C.

E. CFS Mailout

The questionnaires will be mailed every 4 weeks, so that 2 groups will be included in each mailing. This will total 13 mailings for the year. The first mailing will be completed in late December 1992.

V. Computer Edit Operations

A. Quarterly Edit

Each report form will be edited for internal consistency, insuring that a complete report has been received and that checks are done for proper shipment sampling, the proper time period sampled, and a verification of commodity codes.

B. Annual Establishment Edit

The 8 weeks of sample data will be inflated to represent the annual activity and adjusted to match the 1992/3 Economic Census records at the 4 and 5 digit commodity levels.

C. Disclosure Analysis

Disclosure analysis will be conducted to ensure that appropriate data cells are collapsed or suppressed within all tabulations and data products, as required. The disclosure analysis will

incorporate aggregate Economic Census data within geographic NTAR and SIC categories.

VI. Publications

A. U.S. Totals

The U.S. Summary data publication will provide the most detailed commodity data (5-digit STCC for manufacturing and 4-digit STCC for all other sectors). There will be a few sampled SIC's for which data will be designed to produce tables only at the U.S. level (they include SIC 5961 and 7822).

B. Geographic Publications

Geographic publication will present data for state-to-state and for the 89 National Transportation Analysis Regions (NTAR to NTAR). Data for states and NTARs will be presented in less detailed commodity breakdown than the data presented at the U.S. level. We anticipate NTAR to NTAR publication levels to show 3-digit SIC levels wherever possible (all shipments originating in a geographic area, plus all shipments to that area as a destination). Relative Standard Errors (RSE) will be calculated for key totals, to provide a measure of the reliability of the estimates. Maximum level imputation rates may also limit

individual cell publication. Census will only publish aggregate data with reliable estimate levels.

C. Public Use Tape

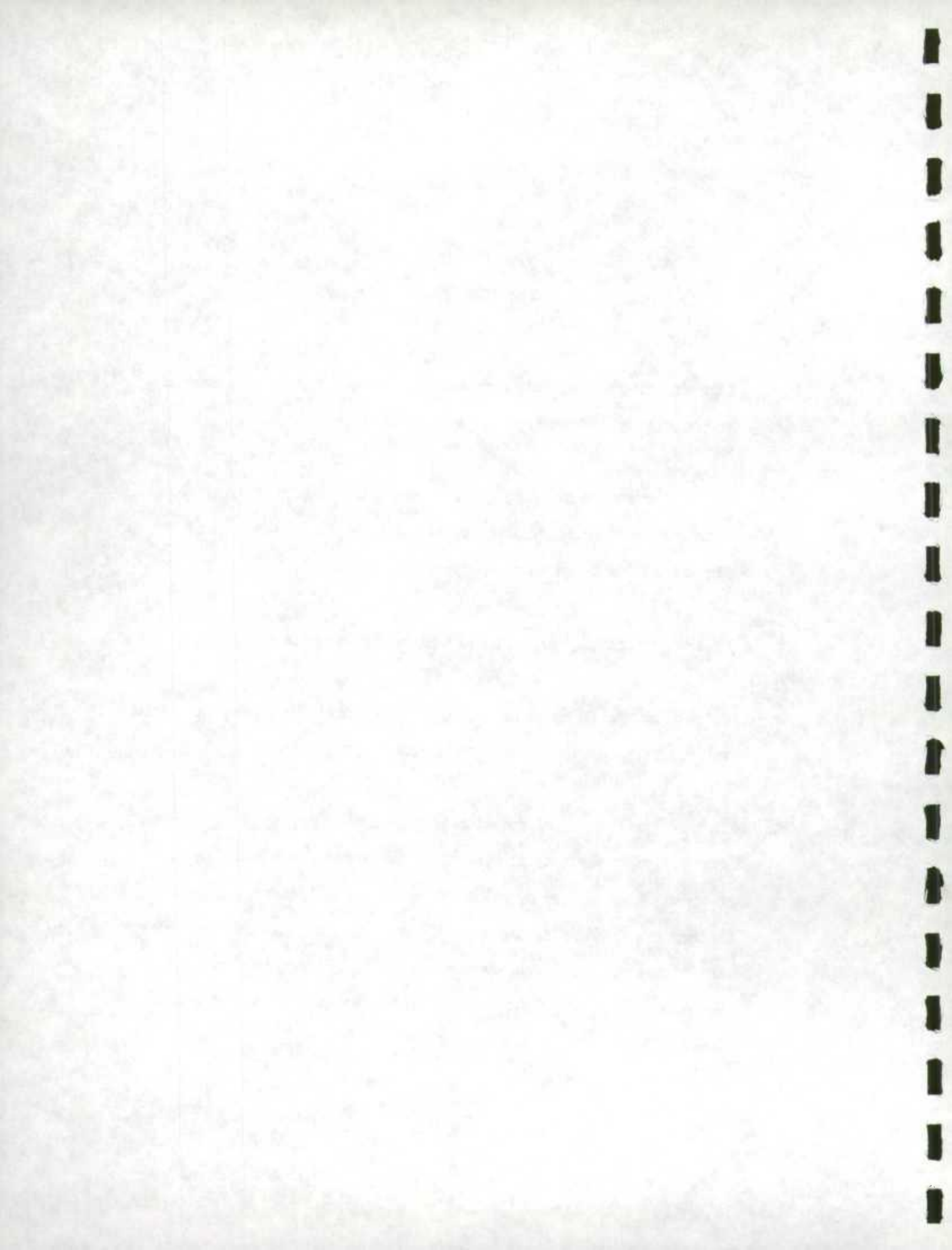
A Public Use Tape (PUT) or CD-ROM will be produced. This tape of aggregate data will contain summary data at a finer detail than the publication. It will be necessary for RSEs and imputation levels to be incorporated to indicate some measure of data reliability. No PUT of micro data is being considered.

D. Database

A database of the 1993 CFS will be maintained by the Business Division to be used for producing special tabulations, studies, incorporating export and import data files, etc., to meet future special data requests on a current basis.

Questions for the CAC Advisors

1. In terms of gross ton miles moved, did we omit any major domestic economic sectors that initiate shipments of goods?
2. We have attempted to limit total respondent reporting burden by including only priority data items/questions. Have we overlooked any significant data items or questions?
3. Have we omitted any significant transportation modes?
4. Concerning the fourth quarter supplemental questions, have we overlooked any priority questions or information?
5. In this survey, we are focusing on shipment of commodities. However, to obtain a more complete picture of the demand placed on the total transportation system by establishment-level shipments, we are attempting to identify and explore other data sources for "secondary" shipments, such as refuse/garbage movements. Are there any other significant secondary establishment-level shipments that we should consider?



1993 Commodity Flow Survey

SIC Coverage

DIV A. Agriculture - All SIC's excluded

DIV B. Mining

Included: 101-, 102-, 103-, 104-, 106-, 109-, 122-, 123-, 131-,
132-, 141-, 142-, 144-, 145-, 147-, 149-,

Excluded: 108-(Metal Mining Serv.), 124-(Coal Mining Serv.),
138-(Oil/Gas Field Serv.), 148-(Nonmetallic
Mineral Services, except fuels)

DIV C. Construction - All SICs excluded

DIV D. Manufacturing

Included: All except SIC 279 (Typesetting and Platemaking)

Excluded: 279 (Typesetting and Platemaking)

DIV E. Transportation, Communication, Electric, Gas, and Sanitary Services -

All SICs excluded.

DIV F. Wholesale

Included: 50, 51 (Merchant Wholesalers, Manufacturer's
Sales Branches)

Excluded: (Manufacturer's sales offices, agents, brokers,
and commission merchants who do not maintain
inventories. Excluded the type-of-operation code, as
these are not SIC's)

DIV G. Retail Trade

Included: 5961 (Catalog and mail-order houses) + auxiliaries
(warehouses)

Excluded: All other

DIV H. Finance, Insurance and Real Estates - all SICs excluded.

DIV I. Services

Included: 7822 (motion picture and video tape distribution)

Excluded: All other service industries

Auxiliaries:

Included: Auxiliaries coded as auxiliary to:

Retail
Minerals
Manufacturing
Wholesale trade

and with a Type of Operation Code:

83 - Warehouses

Approximate Number of 3-digits 173

Sectors Excluded from Core CFS Coverage

It is agreed that these excluded sectors will continue to be researched in terms of significant TMT volumes and existing transportation related data sources. If it is determined that an area is important and resources exist, they will be considered for separate coverage from CFS.

- o Agriculture (Farm to processor movements).
- o Exports/Imports (Use FTD data sources to coordinate with CFS export indicators. Imports handled separately.)
- o Garbage/refuse TMT volumes.
- o Pipelines (treated as mode. Research will address pipelines as shipper of own products and existing Federal data sources.
- o Puerto Rico

FORM TC-TEST

1993
COMMODITY FLOW SURVEY

Please complete this report for the TWO WEEK period:

and return the completed form within 15 DAYS.

INTRODUCTION

This survey requests that you select a sample of your outbound shipping documents for the specific two week period shown above, and transcribe certain information from these documents to this form beginning on page 2.

The shipping documents used should be as comprehensive of your outbound shipments as possible, including all customers, all modes of transportation, all destinations, all products, shipments to warehouses, and interplant transfers. It is also important that you report both the WEIGHT and VALUE of each shipment.

We suggest that you use your SALES INVOICE FILE as we have found this file is usually the most comprehensive. However, if you have another file which is more complete with respect to your shipping activity, use that file instead. Please enter the name of the file you will use.

- 1 Sales Invoice File, or
- 2 Other File (specify) _____

THE SAMPLING INSTRUCTIONS ARE SHOWN ON PAGE 2.

NOTICE - Response to this inquiry is required by law (Title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may only be seen by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

Name & Address

SAMPLE

PHYSICAL LOCATION OF SHIPPING ESTABLISHMENT - Enter only if the mailing address above is different from the physical location from which your shipments originate.

(1) Number and street		
(2) City, village, or other place	State	ZIP Code

Operational status

Mark (X) the ONE box which best describes this establishment

- 1 In operation
- 2 Temporarily or seasonally inactive
- 3 Ceased operation - Give date →
- 4 Sold or leased TO another operator - Give date AND enter name, etc., below

Month	Day	Year

Name of new owner or operator	Month	Day	Year
Number and street			
City	State	ZIP Code	

INSTRUCTIONS FOR SELECTING THE SAMPLE

a. Determine the sampling interval — Determine the number of sales invoices for the period. **NOTE:** Estimate the complete invoice file size including any voided invoices, credit memoranda, etc. which may be part of the file.

Enter the total number of invoices for the two week period —> []

Mark (X) the appropriate box below:

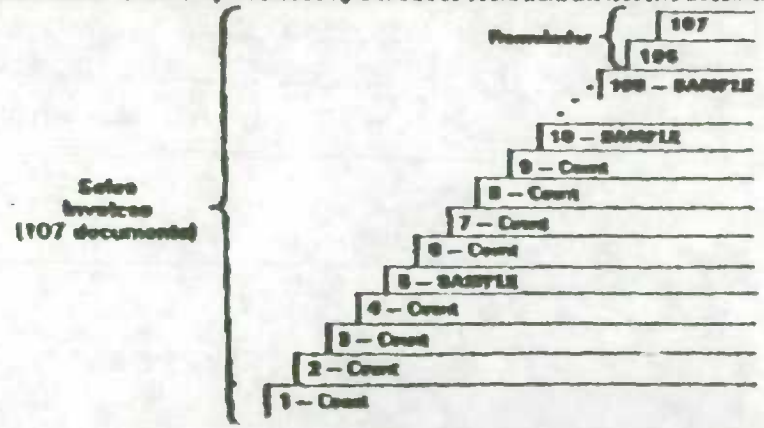
Number of sales invoices	Mark (X) one	"Take every" Interval (sampling interval)	Expected sample size
0 — 40	<input type="checkbox"/>	1	1 — 40
41 — 100	<input type="checkbox"/>	2	20 — 50
101 — 200	<input type="checkbox"/>	5	20 — 40
201 — 400	<input type="checkbox"/>	10	20 — 40
401 — 800	<input type="checkbox"/>	20	20 — 40
801 — 1600	<input type="checkbox"/>	40	20 — 40
1601 or more	<input type="checkbox"/>	Call Census for an Interval Telephone: (301) 763-4362	

b. Selecting the first invoice — Begin counting sales invoices with the first sales invoice in the file for the period. The "Take every" interval marked above tells you the first document to be selected and transcribed.

NOTE: If a selected invoice is an invalid document, such as void, credit memo, etc., enter "NSI" (non-sales invoice) in column (b) on the next line of the Invoice Transcription Record. Then continue counting to the next sampling interval.

c. Completing the sample selection — Continue counting and every time the document count is a multiple of the "Take every" interval, select and transcribe that document. If "Take every" is 1, then transcribe data from all the sales invoices for the month.

For sampling follow this example — The sales invoice file has 107 documents. The "Take every" interval is 5. Count all the sales invoices selecting the 5th, 10th, 15th, 20th, 25th... 105th documents for transcription. No sample will be selected from the last two documents.



>>> INSTRUCTIONS FOR TRANSCRIBING DATA TO THE SHIPMENT SAMPLE FORM BELOW

Complete one line for each selected shipment.

INVOICE NUMBER - Enter the invoice number or the serial number of the invoice which will allow you to identify and locate the particular invoice if questions arise regarding your report in column (b).

INVOICE DATE - Enter the month and day of invoice in column (c). Use numbers only.

TOTAL VALUE - Enter value, in dollars of the entire invoice in column (d). The value should be reported as the net selling value, f.o.b. plant, exclusive of freight charges and excise taxes.

TOTAL WEIGHT - Enter weight (pounds) in column (e). If weight is not shown, please estimate.

COMMODITY CODE - See the list of Commodity Codes in the enclosed Instruction Manual, TC-TEST #11, for the proper code. If the shipment contained more than one commodity, enter the code for the commodity with the greatest weight. Enter the code in column (f).

COMMODITY DESCRIPTION - If you did not enter the commodity code in column (f), enter the description of the commodity with the greatest weight from the invoice in column (g). Do not use trade names, catalog numbers, or other codes not familiar to persons outside your business.

HAZARDOUS MATERIALS SHIPMENT - Indicate by checking yes or no in column (h) if the shipment was a hazardous material which required placarding.

MODE OF TRANSPORT - Enter the code(s) for the mode(s) of transport used from the legend located at the bottom of the Shipment Sample Form. Enter all that apply in column (i).

INTERMODAL CONTAINERIZATION - Check column (j) yes or no if the shipment was containerized for ease in intermodal shipping.

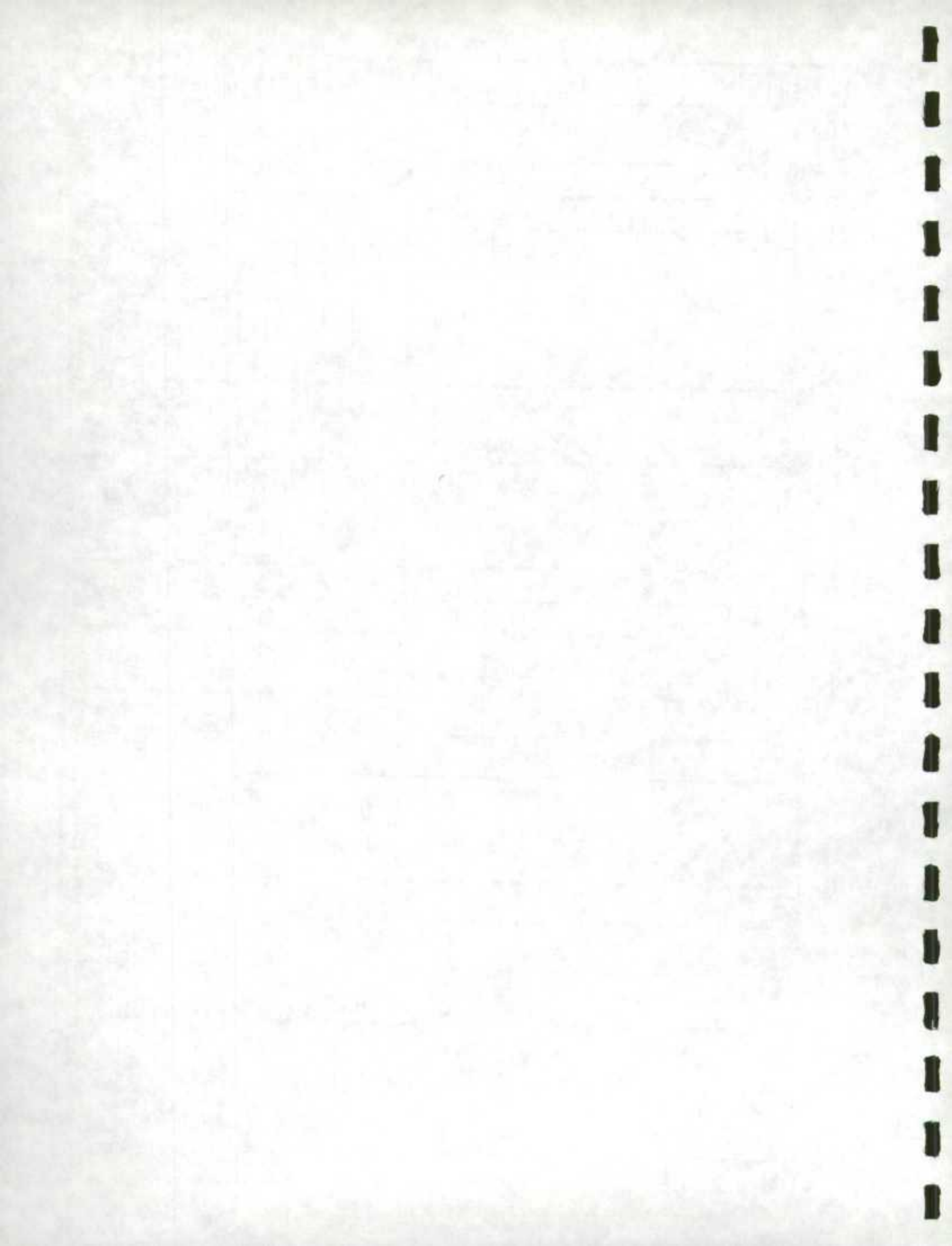
DESTINATION: CITY, STATE AND ZIP CODE - Enter the city, State and zip code of the consignee as it appears on the sales invoice in column (k). Use the "ship to" address. For export shipments, report the U.S. port of exit as the destination city. Use the two letter state abbreviation shown in the Instruction Manual.

EXPORT SHIPMENT - Check column (l) yes or no if the shipment is to be exported outside the United States, and if an export, enter the foreign city and country of destination. Be sure that the city reported for these shipments in the "Destination" column (k) is the port of exit.

SHIPMENT SAMPLE FORM

LINE NO.	INVOICE NO.	INVOICE DATE		TOTAL VALUE	TOTAL WEIGHT	COMMODITY CODE (5-Digit)	COMMODITY DESCRIPTION (largest weight)	HAZ-MAT?		MODE OF TRANSPORT CODES	CONTAINERIZED?		DESTINATION (CITY, PORT, OR EXPT)			EXPORT SHIPMENT?	
		M	D					Y	N		Y	N	CITY	ST	ZIP	Y/N	CITY & COUNTRY
1				\$	Lbs												
2				\$	Lbs												
3				\$	Lbs												
4				\$	Lbs												
5				\$	Lbs												
6				\$	Lbs												
7				\$	Lbs												
8				\$	Lbs												
9				\$	Lbs												
10				\$	Lbs												
11				\$	Lbs												
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20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29				\$	Lbs												
30				\$	Lbs												

MODE OF TRANSPORT | 1-Private Truck 2-Foreign Truck 3-Railroad 4-Inland Water 5-Deep Sea Water 6-Pipeline 7-Air 8-Parcel Delivery or US Postal Service 9-Other Mode 0-Unknown



a. Did you use any of the following types of off-site facility during 1993?		b. What is the approximate distance to the off-site facility of this type that you used most in 1993? (Report in road miles)	c. What mode of transport was used most often in 1993 to reach the off-site facility? For each facility you used, enter ONE of the codes below.		
			Enter code	(If code 8, specify)	Codes:
(1) Rail siding	1 <input type="checkbox"/> Yes - Answer b and c --> 2 <input type="checkbox"/> No - SKIP to line (2)	_____ Miles			1-For hire motor carrier 2-Private truck
(2) Waterway dock, Great Lakes	1 <input type="checkbox"/> Yes - Answer b and c --> 2 <input type="checkbox"/> No - SKIP to line (3)	_____ Miles			3-Rail 4-Water
(3) Waterway dock, inland water	1 <input type="checkbox"/> Yes - Answer b and c --> 2 <input type="checkbox"/> No - SKIP to line (4)	_____ Miles			5-Air 6-TOFC 7-Pipeline
(4) Waterway dock, deep sea water	1 <input type="checkbox"/> Yes - Answer b and c --> 2 <input type="checkbox"/> No - SKIP to line (5)	_____ Miles			8-Other
(5) Airport, landing strip capable of handling your shipments	1 <input type="checkbox"/> Yes - Answer b and c --> 2 <input type="checkbox"/> No - SKIP to line (6)	_____ Miles			
(6) Pipeline Terminal	1 <input type="checkbox"/> Yes --> 2 <input type="checkbox"/> No - SKIP to next item	_____ Miles			

ON-SITE SHIPPING FACILITIES

During 1993, did you have any of the following transport facilities on your premises?

- | | | |
|---|-----------|----------|
| (a) Rail siding? | 1 [] Yes | 2 [] No |
| (b) Waterway dock, Great Lakes? | 1 [] Yes | 2 [] No |
| (c) Waterway dock, inland water? | 1 [] Yes | 2 [] No |
| (d) Waterway dock, deep sea water? | 1 [] Yes | 2 [] No |
| (e) Airport, landing strip capable
of handling your shipments? | 1 [] Yes | 2 [] No |
| (f) Pipeline Terminal | 1 [] Yes | 2 [] No |

TRANSPORTATION EQUIPMENT

ATTACHMENT C Page 3 of 3

(1) During 1993, did you (establishment or parent company) own or lease any of the following types of equipment which this establishment used for outbound shipments?

- (a) Railcars? 1 Yes 2 No
- (b) Straight Trucks with 6 or more tires or Truck-Tractors:
 - Owned? 1 Yes 2 No
 - Leased, With Driver? 1 Yes 2 No
 - Leased, Without Driver? 1 Yes 2 No
- (c) Trailers? 1 Yes 2 No
- (d) Aircraft? 1 Yes 2 No
- (e) Barges? 1 Yes 2 No
- (f) Other types of equipment? 1 Yes 2 No

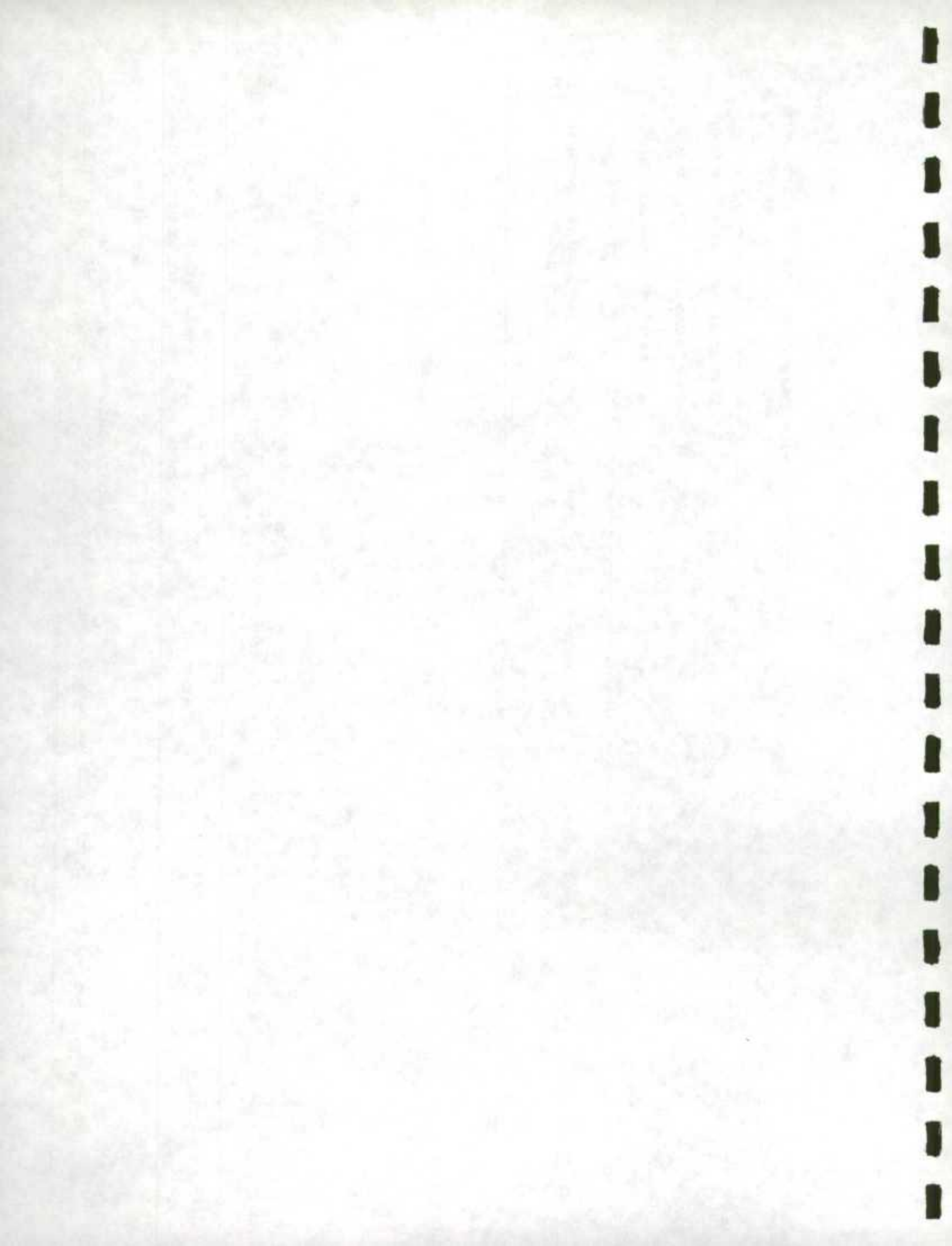
↓
specify: _____

(2) FOR RAIL SHIPMENTS ONLY: During 1993, what percentage of your outbound RAIL shipments were transported on the following equipment? (Check ONE box for each type of equipment; if you had NO rail shipments, mark 0% for all types)

Railcars that:	0%	1-25%	26-50%	51-75%	76-99%	100%
(a) Your company owned/leased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) A common carrier owned/leased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Other party owned/leased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(3) During 1993, who generally decided on and controlled the mode of transportation for your outbound shipments - your company or the receiver?

- 1 Your company
- 2 Receiver



April 19, 1991

**BUDGETS DIVISION - ECONOMIC SURVEYS AND CENSUSES
SURVEY PROFILE**

- Survey Title:** **Truck Inventory and Use Survey (TIUS)**
- Purpose:** To provide data on the physical and operational characteristics of the United States truck population.
- Respondent:** Owners of private and commercial trucks registered (or licensed) in each state (excluding government and off-road vehicles).
- Data Collection Methods:** Mail survey. Stratified random sample of approximately 135,000 trucks from an estimated 47 million vehicle registrations on file with motor vehicle departments in the 50 states and the District of Columbia. The sample is selected by state and is stratified mainly by body type. Data collection is staggered as state vehicle registration files become available. A combination of mail and telephone follow-up is employed to obtain data for non-response cases and to verify data. New sample selected every five years.
- Frequency:** Quinquennially (covering years ending in "2" and "7")
- Sponsorship:** Authorized by Title 13 of the U.S. Code. Mandatory response is required by law.
- Contents:** Physical characteristics of the nation's trucking fleet including average weight, type and size of engine, specialty equipment, axle arrangement of trailer units, and type of cab. Also provides operational characteristics such as base of operation, annual and lifetime miles, uses of the vehicle, types of products carried, and miles per gallon.
- Products:** Fifty separate state reports and a report for the District of Columbia issued approximately 8 to 17 months after initial mailout. The United States Summary issued 19 months after initial mailout. These printed reports are also available on microfiche. A public use tape which contains unaggregated, microdata information for each truck in the sample is also available 19 months after initial mailout. The records on the public use tape are modified to avoid the disclosure of a sampled vehicle or operating company.

Data and Users:Data:Federal and State Government Agencies

U.S. Department of Transportation
 - Federal Highway Administration
 - Oak Ridge National Laboratory

U.S. Environmental Protection Agency

Bureau of Economic Analysis

U.S. Department of Agriculture
 - Economic Research Service

State Highway and Transportation Officials

Trade Associations

American Association of State Highway and Transportation Officials

American Trucking Association

California Trucking Association

Association of American Railroads

Truck Renting and Leasing Association

Motor Vehicle Manufacturers Association

Private Sector

Firestone

Richard A. Staley Consultants

Caterpillar Tractor Company

Uses:

Used in analysis for cost allocation; safety issues; proposed investments in new roads and technology; truck size and weight issues; user fees; energy and environmental constraints; logistical requirements; regulatory impact analysis; and maintenance of vital statistics for prediction of future trends.

To assess intermodal competition; to assess the effects of regulations on members; to determine policy planning and market strategies; to measure growth; to assess the utility and cost of certain types of equipment; to assist in the development of research and safety programs; to calculate the longevity of products.

To calculate the longevity of products; to determine the usage, vocation, and applications of products for market studies and product planning; to track the importance of various channels in the parts distribution and service networks; to assess the effects of deregulation on the restructuring of

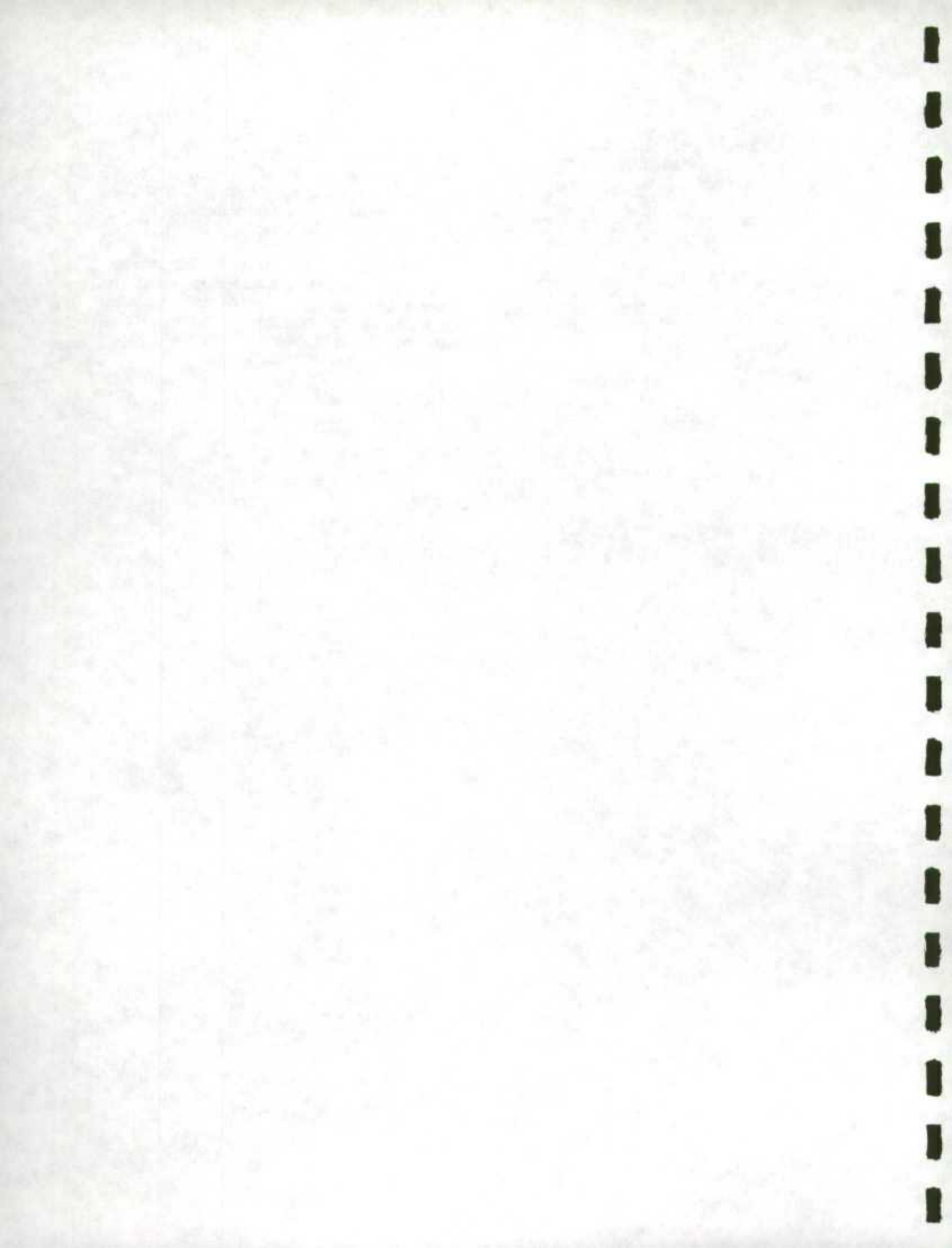
Edson Chemical Americas
Truck Division of General
Motors

Commercial Carrier Journal

Unique Features:

the industry; to determine fuel demands and needs for fuel efficiency; to determine the impact of certain types of equipment on fuel efficiency; to provide data on channels through which their products reach the user.

Only source of data collected for trucks that are classified by their physical and operational characteristics and that also provides microdata analysis from a public use type to data users of the transportation community.



April 19, 1991

**TRAFFIC DIVISION - ECONOMIC SURVEYS AND CENSUSES
SURVEY PROFILE**

Survey Title: Nationwide Truck Activity and Commodity Survey (NTACS)

Purpose: To provide trip-specific information from commodity-carrying trucks to the U.S. Department of Transportation (DOT) for its analysis on safety issues, proposed investments in new roads and technology, truck sizes and weight issues, user fees, cost allocation, energy and environmental constraints, hazardous materials transport, and other aspects of the Federal-aid Highway Program. This initial data collection was for survey year 1989.

Respondent: Owners of private and commercial trucks registered (or licensed) in each state (excluding government and off-road vehicles).

Data Collection Methods: Mail survey. Probability sample of approximately 44,000 trucks selected from the respondents to the Truck Inventory and Use Survey. Mailout is conducted over 13 4-week periods with short-haul trucks responding for one specific sample day and long-haul trucks responding for two specific days. Both mail and telephone follow-up are used to obtain data for non-response cases and to verify data.

Frequency: Quinquennially (covering years ending in "9" and "4")

Sponsorship: Authorized by Title 13 of the U.S. Code. Response to this survey is voluntary.

Contents: Conducted as a follow-on to the quinquennial Truck Inventory and Use Survey (TIUS). TIUS provides information on truck activity and on aggregate levels of truck use in the United States. NTACS provides additional detail on characteristics and activity patterns by collecting trip-specific information on sample days primarily from commodity-carrying trucks. Physical and operational characteristics collected include vehicle ownership, operability, and disposition, total miles and places of operation, sources of fuel, vehicle type, and axle configuration. Sample day information includes mileage, fuel consumption, tolls paid, vehicle dimensions, and hours of operation. Trip-specific information includes times, destinations, type of stops, weights, and types of products picked up and delivered.

Products: Tape containing unaggregated microdata information for each truck in the sample. The records on the microdata tape are modified to avoid the disclosure of a sampled vehicle or operating company.

Uses and
Notes:

The (DOT) primarily relies on the microdata file for extensive use of models on unaggregated data to analyze policy questions and issues regarding truck activity and commodity flow. The microdata file will not be released to other data users, outside the DOT's control, before its staff and contractor have analyzed, and incorporated imputation results on the microdata file.

Data
Limitations:

The NWCS included sensitive questions plus some exploratory items in this first time effort of collecting trip-specific information from primarily commodity-carrying vehicles. As anticipated by the Census Bureau, we obtained low responses for selected items of priority interest to DOT. As a result of low response rates, DOT will do extensive imputation on the microdata file that Census has deemed preliminary before outside users can realistically use the microdata file. The goal for the next data collection is to improve questionnaire and item responses and overall quality to produce a microdata file for widespread public use by the transportation community.

Unique
Features:

Only source of microdata available on trip specific information regarding truck activity and commodity flow of all trucks for FHWA's analysis.

April 11, 1991

INVENTORY OF ECONOMIC SURVEYS

SURVEY PROFILE

Survey Title: Motor Freight Transportation and Warehousing Survey

Purpose: Provides estimates of revenue, expenses, and vehicle fleet inventory for commercial motor freight transportation and warehousing services.

Respondent: Companies engaged in providing commercial motor freight transportation and warehousing services.

Data Collection

Methods:

Mail survey of probability sample. Includes approximately 1,500 firms. About 825 follow-up forms are mailed to companies not responding by the due date each year. An additional 800 telephone calls are made to the firms to collect, verify, or clarify data.

Frequency: Annually

Sponsorship: Data collection authorized by Title 13 of the United States Code, Sections 131, 182, 224 and 225. Response is mandatory.

Contents: Current dollar estimates of revenue and expenses, percentage of motor carrier freight revenue by commodity type, shipment size, and vehicle fleet inventory.

Products: Annual press release and publication issued approximately 11 months after the end of the survey year. Data available electronically via CENDATA and the SDC/BIDC bulletin board.

Primary Federal Users and Uses:

Users:

Uses:

Bureau of Economic Analysis

Input to estimates of national income and product accounts.

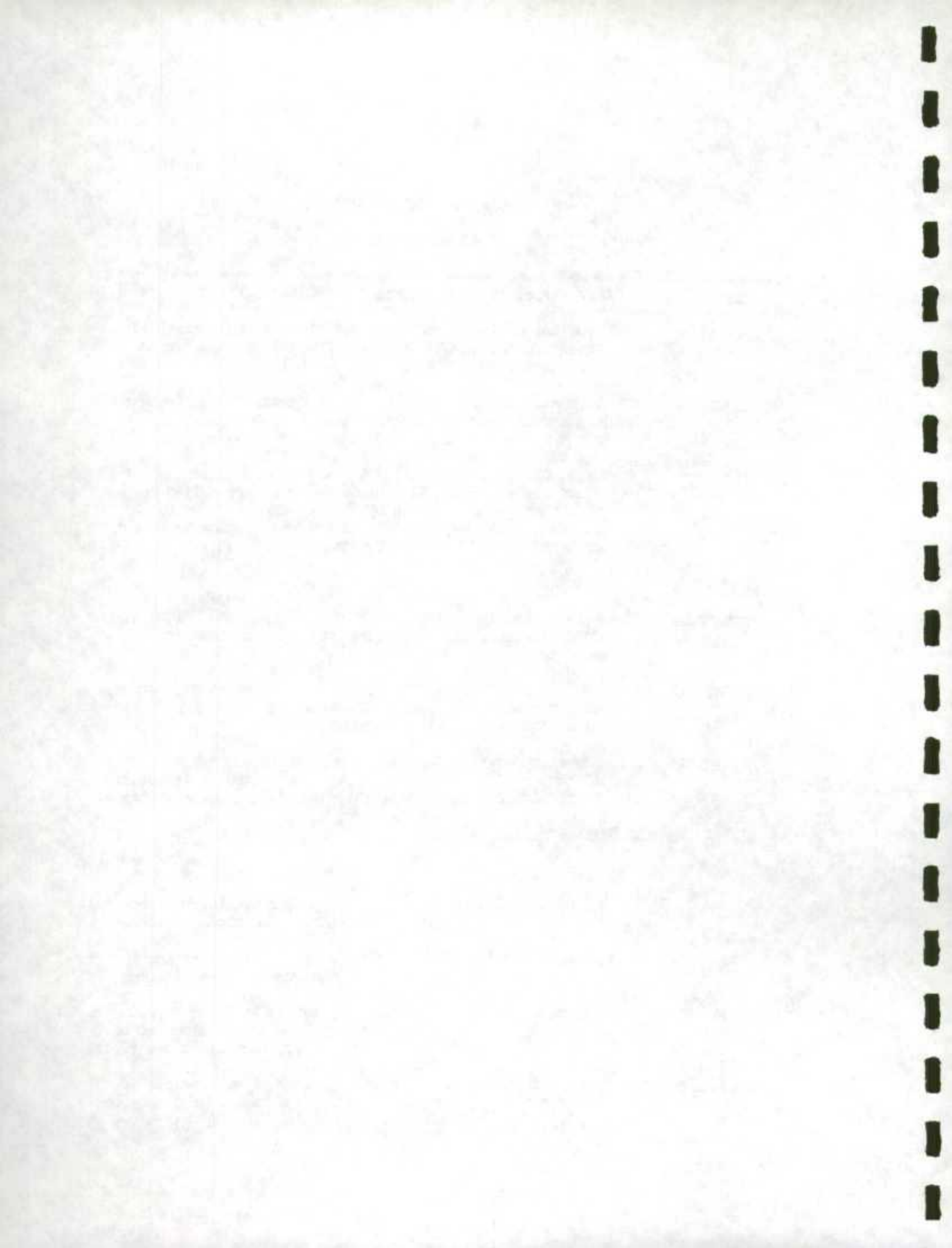
U.S. Department of Transportation

Policy development and program management and evaluation.

Bureau of Labor Statistics

Input to Producer Price Indices and development of productivity measurements.

Unique Features: Only annual source of data for the universe of employer firms providing for-hire trucking and warehousing services.



November 18, 1991

Statistics Canada

Transportation Overview

1. Aviation

2. Surface and Marine

2.1 Marine

2.2 Surface

. Trucking

. Rail

. Passenger Bus and Urban Transit

. Road Motor Vehicles

-Registrations

-Fuel Sales

Key Players In The Program

Statistics Canada

Transport Canada

National Transportation Agency

Provinces and Territories

Participation

Content of Program

Funding

Source of Some Data

Trucking Statistics Program

Current:

Collected Under Statistics Act

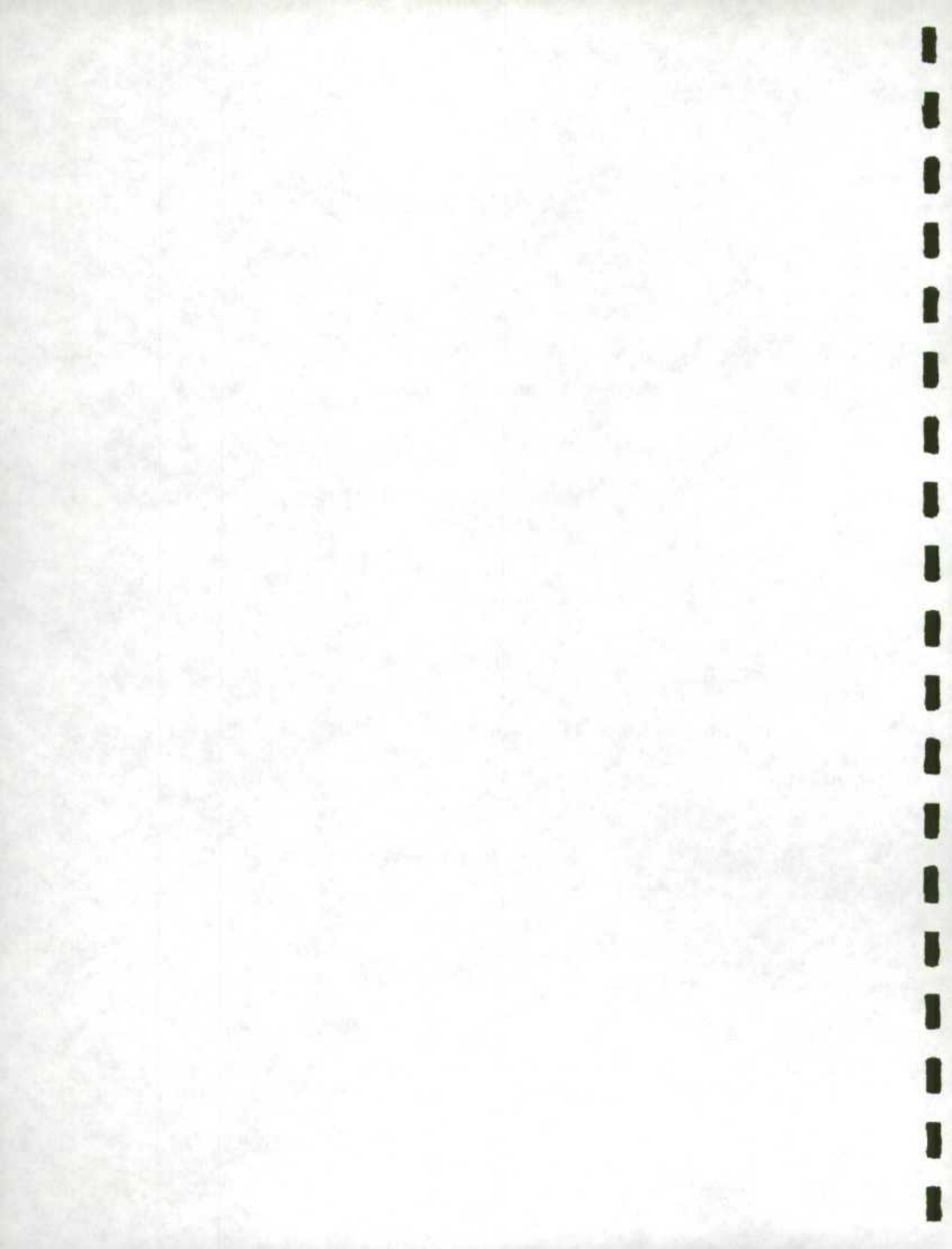
Canadian Domiciled Carriers

Financial and Operating Statistics

Commodity Origin and Destination Statistics

Future:

US Domiciled Carriers Operating In Canada



A. MATHIESON

TRANSPORTATION DIVISION

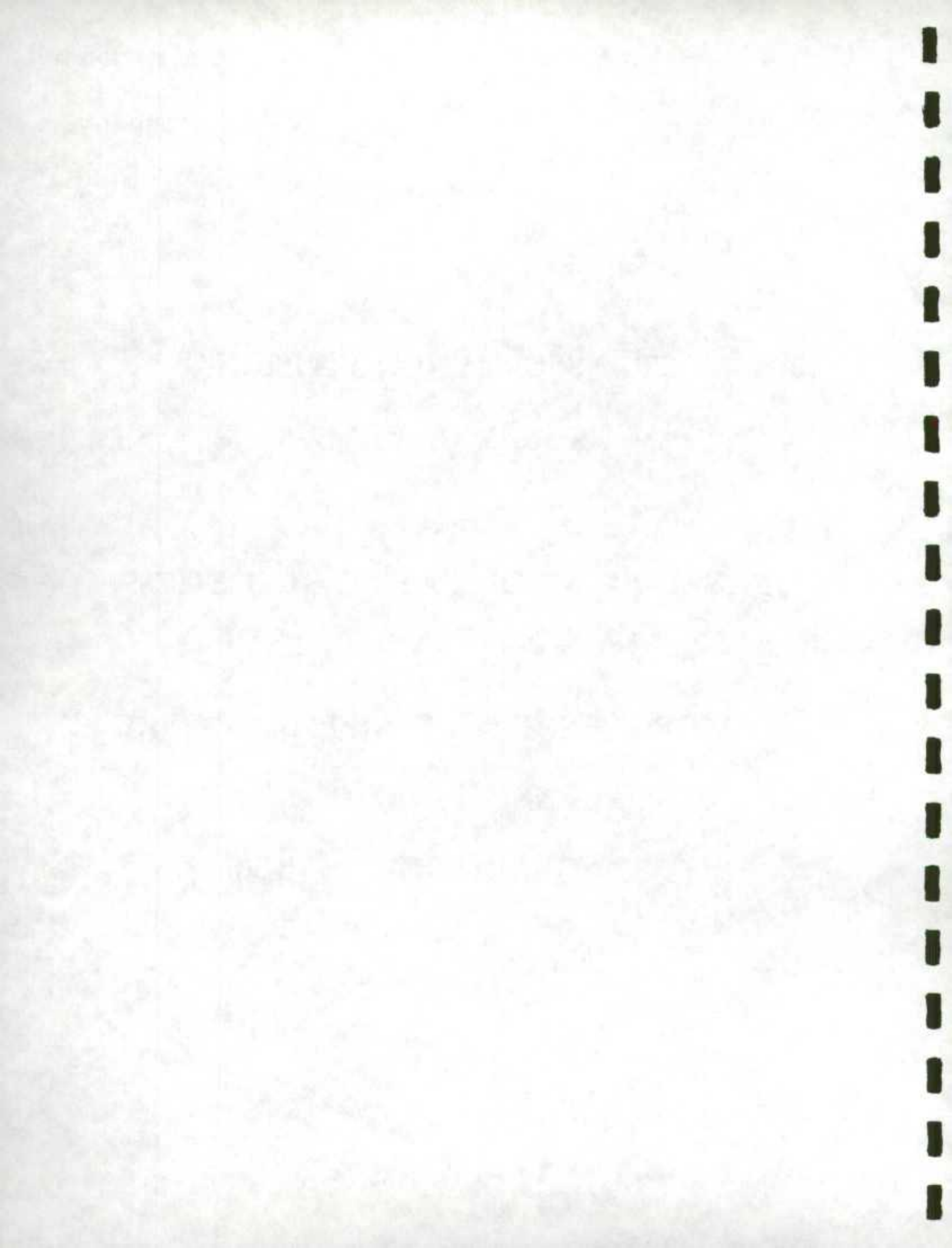
TRUCKING SURVEYS

FINANCIAL AND OPERATING STATISTICS:

MOTOR CARRIERS OF FREIGHT SURVEY

ANNUAL (AMCF)

QUARTERLY (QMCF)



MOTOR CARRIERS OF FREIGHT SURVEY

SCOPE: CANADIAN-DOMICILED TRUCKING

FOR-HIRE

PRIVATE

DATA GAPS: COURIER SERVICE

ARMOURED CAR CARRIERS

ANNUAL MOTOR CARRIERS OF FREIGHT

TARGET POPULATION -

CARRIERS EARNING AT LEAST \$25,000/YR

LEVEL I (CENSUS)

REVENUES > \$5 MILLION

LEVEL II (CENSUS)

REVENUES \$1 M TO \$5 M

LEVEL III (SAMPLE)

REVENUES \$25,000 - \$1 M

LEVEL IV (PRIVATE - CENSUS)

EXPENSES > \$1 M

QUARTERLY MOTOR CARRIERS OF FREIGHT

TARGET POPULATION -

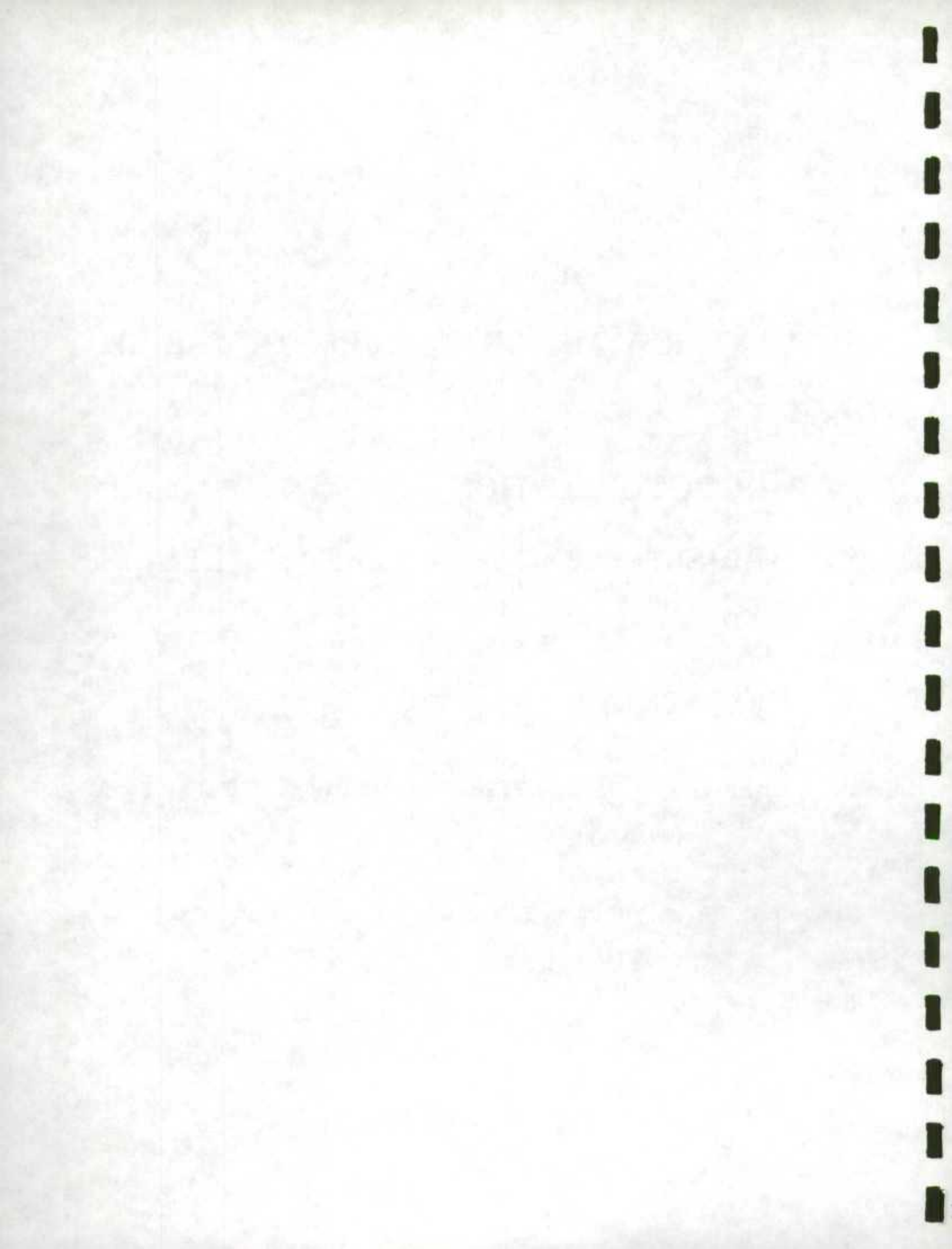
CARRIERS EARNING AT LEAST \$1 MILLION

TWO "STRATA":

1. CARRIERS WITH REVENUES > \$25 MILLION ARE CONSIDERED

"TAKE ALL"

2. THE REMAINDER OF THE POPULATION IS SAMPLED



INFORMATION COLLECTED

ANNUAL

BY PROVINCE AND LEVEL:

AREA OF OPERATION*

BALANCE SHEET

INCOME STATEMENT

EMPLOYMENT

OWNER-OPERATORS

EQUIPMENT IN SERVICE

DISTANCE TRAVELLED

*** INCLUDES U.S. TRAFFIC**

INFORMATION COLLECTED
QUARTERLY

BY PROVINCE*:

OPERATING REVENUES

- DOMESTIC & INT'L

SALARIES & WAGES

PURCHASED TRANSPORTATION

FUEL

DISTANCE TRAVELLED

*** INCLUDES U.S. TRAFFIC**

COLLECTION - AMCF

FOR-HIRE

LEVELS I, II

FRAME FROM BUSINESS REGISTER

MAIL OUT, MAIL BACK

TELEPHONE FOLLOW-UP

LEVEL III

SAMPLE FROM INCOME TAX FILE

FINANCIAL DATA FROM TAX

OPERATING DATA FROM OCQ*

COLLECTED VIA CATI**

* OTHER CHARACTERISTICS QUESTIONNAIRE

** COMPUTER-ASSISTED TELEPHONE INTERVIEW

COLLECTION - AMCF (cont'd)

PRIVATE TRUCKING

LEVEL IV

FRAME FROM ADMIN. FILES

- PROVINCIAL VEHICLE REGISTRATIONS
- FLEET DATA WHERE AVAILABLE

MAIL OUT, MAIL BACK

TELEPHONE FOLLOW-UP

COLLECTION - QMCF

MAIL OUT (4 PER YEAR)

FAX BACK - OR -

TELEPHONE FOLLOW-UP

COOPERATION FROM INDUSTRY

- FREIGHT CARRIERS' ASSOC (FCA)

PROCESSING - QMCF

"TOP" CARRIERS (> \$25 MILLION)

PROCESSED AND RELEASED FIRST

ESTIMATES FOR ALL CARRIERS FOLLOW

WITHIN FOUR WEEKS

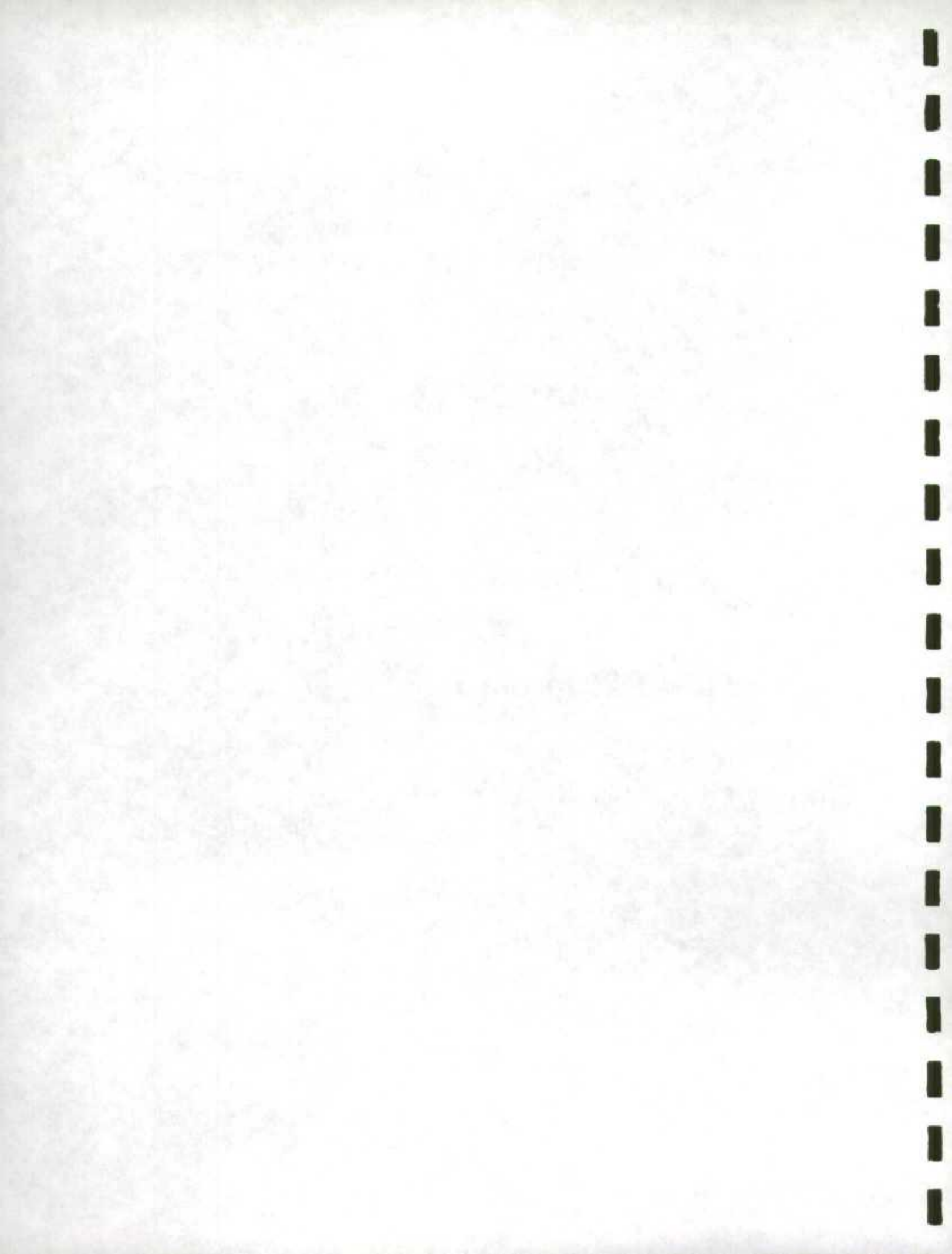
COORDINATED DATA RELEASE WITH FCA

DISSEMINATION

*** ANNUAL PUBLICATION**

*** SERVICE BULLETIN**

*** CUSTOM REPORTS**





Motor Carriers of Freight Financial and Operating Statistics, 1990

Level I
Transportation Division

Confidential when completed

Si vous préférez ce questionnaire en
français, veuillez cocher

Please revise name and/or address below if not correct.

<p>Survey Objective This survey collects data which are essential for the statistical analysis of the Trucking Industry and the impact of the industry on the Canadian economy. These data have become very important to the users, given the current interest in trucking industry and their role in economic growth.</p> <p>Authority This survey is conducted under the authority of the Statistics Act, Revised Statutes of Canada, 1985, Chapter S19, and applicable provincial statutes and regulations.</p> <p>Coverage The report should not include the revenues of your subsidiaries or foreign branches. The report should include the revenues and expenses of 'associated' legal entities which support or complement the principal trucking activities. All amounts should be reported in Canadian dollars.</p> <p>Confidentiality The data are to be used for statistical purposes only and published in aggregate form in Trucking in Canada, Catalogue No. 53-222. The data are kept confidential, as outlined in the confidentiality provisions of the Statistics Act. The confidentiality provisions of the Statistics Act are not affected by either the Access to Information Act or any other Legislation.</p> <p>Return Procedure Please return the questionnaire within 30 days of receipt. If you are unable to do so, please inform us of the expected completion date. If you receive more than one questionnaire under different identification numbers asking</p>	<p>for a report on the same business, please complete only one, and attach and return the duplicate questionnaire(s).</p> <p>Federal Provincial Agreements In order to reduce response burden and to provide consistent statistics, Statistics Canada has entered into data sharing agreements under section 11 of the Statistics Act with the Newfoundland Statistics Agency and the Quebec Bureau of Statistics and under section 12 of the Statistics Act with the Newfoundland Department of Works, Services and Transportation, the Nova Scotia Board of Commissioners of Public Utilities, the Quebec Department of Transportation, the Ontario Ministry of Transportation and Alberta Transportation and Utilities. Agreement under section 11 of the Statistics Act are only negotiated with provincial statistical agencies in provinces that have statistics acts which include the same provisions for confidentiality and penalties for disclosure of information as the Federal Statistics Act. Under section 12 of the Statistics Act you may refuse to share your information with any of the departments listed by writing to the Chief Statistician and returning your letter of objection along with the completed questionnaire in the enclosed return envelope.</p> <p>Correspondence/Assistance If you require assistance in the completion of this questionnaire or have any questions regarding the survey, please address all enquiries to: Transportation Division, Statistics Canada, Ottawa, Ontario Canada K1A 0T8</p> <p>In all correspondence concerning this questionnaire, please quote the identification number appearing on the address label. For communications by telephone, call (613) 951-8777 (call collect)</p>				
<p>1. Reporting Period The questionnaire should be completed for your most recent fiscal year ending no later than March 31, 1991.</p> <p style="text-align: center;">Day Month Year Day Month Year</p> <p>From <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> 1001 To <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> 1002</p> <p>Period of Operation If you did not operate this business for a full year, please check the reason for your part year report.</p> <p>1003 <input type="checkbox"/> Change of ownership 1006 <input type="checkbox"/> Ceased operations due to bankruptcy, fire, demolition (please specify) ▼ <input style="width: 100px;" type="text"/></p> <p>1004 <input type="checkbox"/> Seasonal business</p> <p>1005 <input type="checkbox"/> New business in 1990 <input style="width: 100px;" type="text"/></p> <p>1007 <input type="checkbox"/> Change of fiscal year end</p> <p>1008 <input type="checkbox"/> Other ▶ <input style="width: 100px;" type="text"/></p>	<p>2. Identification of Firm (Please print)</p> <p>A. Legal name of business (if different from address label) <input style="width: 100%; height: 20px;" type="text"/></p> <p>B. Name under which business operates (trade name) (if different from the address label or legal name) <input style="width: 100%; height: 20px;" type="text"/></p> <p>C. Are you a corporation whose sole purpose is to provide services to your parent company or to an affiliated company? 1090 <input type="checkbox"/> Yes 1100 <input type="checkbox"/> No</p> <p>If YES, please print the name of your affiliated corporation. <input style="width: 100%; height: 20px;" type="text"/></p>				
<p>3. Legal and/or Operating Entities Please list the names of the legal and/or operating entities (e.g. a division) included in this report (See "Coverage" above) if additional space is required, continue in Comment area at end of questionnaire.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-bottom: 1px solid black;">Name</td> <td style="width: 50%; border-bottom: 1px solid black;">Address</td> </tr> <tr> <td style="border-bottom: 1px solid black; height: 20px;"></td> <td style="border-bottom: 1px solid black; height: 20px;"></td> </tr> </table>		Name	Address		
Name	Address				
<p>4. Organization</p> <p>A. What Form of Organization? (check one box only)</p> <p>1010 <input type="checkbox"/> Individual Proprietorship 1020 <input type="checkbox"/> Partnership 1030 <input type="checkbox"/> Incorporated Company 1040 <input type="checkbox"/> Other ▶ <input style="width: 100px;" type="text"/></p> <p>B. Is this entity a joint venture? 1050 <input type="checkbox"/> Yes 1060 <input type="checkbox"/> No</p> <p>C. Please report the Employer Number(s) under which you make remittances of payroll to Revenue Canada, Taxation</p> <p>1070 <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> 1080 <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/></p>					

5-3503-60 1 1991-02-01 STC-TRA-400-04404

I. Area of Operation

1. Check off the area of operation and record the annual transportation revenues (see cell 5040, page 3) pertaining to the for-hire carrier operations generated from shipments originating in each area listed below. The total transportation revenue should include the total revenue earned by the carrier (excluding other carriers' portion of revenue on interlined shipments) and revenue generated by owner operators. If revenue figures are not easily available, please record the percentage breakdown by area of origin of the shipments.

The figures below are: 2140 Dollars
2150 Percentage

Please provide Transportation Revenue (cell 5040) in \$ Canadian ←

<input checked="" type="checkbox"/>	Originating Revenue	
2010 <input type="checkbox"/>	Newfoundland	2110
2011 <input type="checkbox"/>	Prince Edward Island	2111
2012 <input type="checkbox"/>	Nova Scotia	2112
2013 <input type="checkbox"/>	New Brunswick	2113
2024 <input type="checkbox"/>	Québec	2124
2035 <input type="checkbox"/>	Ontario	2135
2046 <input type="checkbox"/>	Manitoba	2146

<input checked="" type="checkbox"/>	Originating Revenue	
2047 <input type="checkbox"/>	Saskatchewan	2147
2048 <input type="checkbox"/>	Alberta	2148
2059 <input type="checkbox"/>	British Columbia	2159
2060 <input type="checkbox"/>	Yukon	2160
2061 <input type="checkbox"/>	Northwest Territories	2161
2091 <input type="checkbox"/>	U.S.A./Other	2191

If percentage breakdown is selected please ensure that the total for all areas equals 100%.

2. Record the estimated percentage of transportation revenue (cell 2200) received for the following types of movements made by the carrier.

- Movements within provinces or territories
- Movements between provinces or territories
- International (movements into Canada)
- International (movements out of Canada)

% of Transportation Revenue	
<input type="text" value=""/>	2300
<input type="text" value=""/>	2310
<input type="text" value=""/>	2320
<input type="text" value=""/>	2330
Total	100%

II. Classification of Motor Carrier

1. Show the significant type(s) of service performed by the carrier determined by the major source of transportation revenue (see cell 2200 above)

The figures below are: 3001 Dollars
3002 Percentage

Type of Service		
Motor vehicles (auto carriers)		3004
Household goods (exclude new furniture)		3005
Heavy machinery mover		3006
Petroleum products (liquid bulk)		3007
Temperature controlled — tank		3008
Temperature controlled — van		3009
Dump trucking (sand, gravel, snow, etc.)		3010
Unprocessed agricultural commodities		3011
Live animals		3012
General freight (including new furniture)	Truckload	3013
	Less than truckload (include expedited freight)	3014
Total		<input type="text" value=""/> → 3015
Building materials (lumber, drywall, etc.)		3016
Dry bulk		3017
Forest products (logs, chips and other crude)		3018
Mine ores		3019
Liquid waste		3020
Scrap and waste (non-liquid)		3021
Small parcel delivery (include courier)		3022
Other types of service not listed above		3023

If percentage breakdown is selected please ensure that the total for all areas equals 100%

2. Total tonnage transported Metric Tonnes

III. Balance Sheet

Please report the balance sheet figures for the For-Hire Motor Carriers of Freight operations only. If you are unable to do so please report all fixed assets other than the motor carrier business in cells 4101 and 4102.

Assets		\$ (omit cents)	
Current	Cash, deposits and temporary investments		4010
	Accounts receivable		4020
	Prepaid expenses		4030
	Materials, supplies and other current assets		4040
	Total		4050
Fixed (motor carrier freight business)	Land		4060
	Buildings	4071	
	Less accumulated depreciation	4072	
		→	4070
	Revenue equipment — trucks, tractors, trailers	4081	
	Less accumulated depreciation	4082	
		→	4080
	Other equipment and operating property	4091	
	Less accumulated depreciation	4092	
	→	4090	
Fixed (other than motor carrier freight business)	Original cost	4101	
	Less accumulated depreciation	4102	
		→	4100
	Other assets (intangibles, investments, deferred charges)		4110
Total Assets			4120
Liabilities			
Current	Bank loans		4130
	Accounts payable		4140
	Current debt (include current portion of deferred income tax)		4150
	Total		4160
Long term debt	Mortgages		4170
	Equipment loans		4180
	Capital leases		4190
	Deferred taxes		4200
	Other loans		4210
	Total		4220
Total Liabilities			4230
Owner(s) Equity			
	Capital stock — preferred		4240
	Capital stock — common		4250
	Retained earnings		4260
	Other surplus		4270
	Total		4280
Total Liabilities and Owner(s) Equity			4290

IV. Operating Revenues

Include the operating revenue which is derived from the for-hire motor carrier freight operations and its other related activities. The total revenue should include the revenue earned by the carrier (excluding other carriers' portion of revenue on interlined shipments) and revenue generated by owner operators. Purchased transportation, other than interline expenses, should be reported as operating expenses in Section V. Report any other revenue earned in Section VI.

		\$ (omit cents)	
	Local freight service (transportation performed within a metropolitan area and its commercial zone)		5010
	Intercity freight service (transportation performed beyond the limits defined for local freight service)		5020
	Government subsidies received		5030
	Transportation Revenue		5040
	Van line commission and insurance		5050
	Equipment rentals		5060
	Packaging and crating (dunnage)		5070
	Storage and warehousing		5080
	Other ▶ <input type="text"/>		5090
	Total Operating Revenue		5100

V. Operating Expenses

Include the operating expenses which were the result of the all operating revenue categories listed on page 3. Report any other expenses in Section VI.

Transportation Expenses		\$ (omit cents)
Salaries and wages (excluding benefits)	Highway drivers	6001
	Local drivers	6002
	Helpers	6003
	Other transportation employees	6004
Unemployment insurance, health insurance, pension funds, workers compensation, statutory holidays and other paid leave		6005
Hired cartage		6006
Fuel (including fuel tax) — for owned and leased vehicles		6007
Owner operator expenses		6008
Purchased transportation (railroads/piggy back)		6011
Purchased transportation (water carriers, airlines)		6012
Other purchased transportation (e.g. driver services and contract hauling)		6013
Vehicle licence and registration fees		6014
Vehicle rent (short term)		6009
Vehicle lease (long term)		6010
Depreciation of revenue equipment (trucks, tractors, trailers, etc.)		6015
Packaging and crating supplies (dunnage)		6016
Other transportation expenses (i.e. fines and penalties)		6017
Total		6018

Maintenance and Garage Expenses

Salaries and wages (excluding benefits)	Mechanics and maintenance employees	6101
	All others	6102
Unemployment insurance, health insurance, pension funds, workers compensation, statutory holidays and other paid leave		6103
Vehicle parts		6104
Tires and tubes (including repairs and replacements)		6105
Purchased repair (parts and labour)		6106
Other operating supplies (e.g. oil, lubricants, coolants)		6107
Repairs and maintenance to garage		6108
Garage rental		6109
Depreciation	Buildings (garages)	6110
	Equipment	6111
Other maintenance and garage expenses		6112
Total		6113

Terminal Expenses (excluding Local Pick-up and Delivery)

Salaries and wages (excluding benefits)	Terminal and platform employees (other than office workers)	6201
	Office employees	6202
Unemployment insurance, health insurance, pension funds, workers compensation, statutory holidays and other paid leave		6203
Operating supplies and expenses		6204
Repairs and maintenance — terminal and grounds		6205
Platform and terminal rental		6206
Depreciation	Buildings	6207
	Equipment	6208
Telephone and utilities		6209
Other terminal expenses		6210
Total		6211

Marketing, Traffic and Sales Expenses (should include expenditures originating from the solicitation of traffic)

\$ omit cents

Salaries and wages (including commissions but excluding benefits)		6301
Unemployment insurance, health insurance, pension funds, workers compensation, statutory holidays, and other paid leave		6302
Advertising		6303
Other traffic expenses		6304
Total		6305

Administration and General Office Expenses

Salaries and wages (including billing and collection personnel but excluding benefits)		6401
Unemployment insurance, health insurance, pension funds, workers compensation, statutory holidays and other paid leave		6402
Vehicle insurance	Public liability and property damage	6403
	Collision, fire and theft	6404
Cargo loss and damage insurance		6405
Other insurance payments (including insurance on buildings and structures)		6406
General supplies and expenses (postage and stationery, etc.)		6407
Repairs and maintenance — buildings and grounds		6408
Head office rental		6409
Depreciation	Buildings	6410
	Computers	6411
	Other equipment	6412
Real estate and property taxes		6413
Communication expenses (facsimile, telephone, satellite tracking equipment)		6414
Computers and other office automation equipment (other than depreciation)		6415
Professional, consulting and legal fees		6416
Safety and compliance expenses		6417
Other expenses		6418
Total		6419
Total Operating Expenses		6501

VI. Income Account

\$ (omit cents)

NET MOTOR CARRIER FREIGHT OPERATING REVENUE (Cell 5100 less cell 6501)		6601
Non-motor carrier freight operations ▶ <input type="text"/>		
Revenue		7010
Expenses		7020
Non-operating revenue (interest, dividends, capital gains, etc.)		7030
Non-operating expenses (dividends paid, capital loss, etc.)		7040
Interest paid		7050
Profit (loss) for year, before income tax		7060
Provision for income taxes		7070
Net Income Transferred to Retained Earnings		7090

VII. Revenue Equipment Operated, Excluding Maintenance Equipment

1. Power Units	Straight Trucks		Road Tractors	
	Average number of vehicles operated by your company during the year	Owned	8001	
	Leased long term	8002		8007

		Average Number of Units Operated					
		under 9.1 metres (under 30 feet)		9.1-15.0 metres (30 - 49 feet)		over 15.0 metres (over 49 feet)	
		owned	leased*	owned	leased*	owned	leased*
		8101	8102	8103	8104	8105	8106
2. Trailers & Other Equipment Operated							
Semi-trailers	Van — temperature controlled	8201					
	Van — non temperature controlled	8202					
	Rack and flatbed	8203					
	Auto carriers	8204					
	Tank — temperature controlled	8205					
	Tank — non temperature controlled	8206					
	Other ▶ <input type="text"/>	8207					
	Total	8208					
Other revenue equipment	Full trailers	8209					
	Container trailers	8210					
	Other ▶ <input type="text"/>	8211					
	Total	8212					
	Grand Total	8213					

* Long term basis

VIII. Revenue Equipment Operated by Region, Excluding Maintenance Equipment

Report the average number of vehicles operated by your company during the year according to the regions where the activity of the vehicle took place. Also include the vehicles operated by owner operators performing services on your behalf.

Region		Straight Trucks		Road Tractors		Tractors
		Owned & Leased	Operated by Owner Operators	Owned & Leased	Operated by Owner Operators	(semi & full) Owned & Leased
		9001	9002	9003	9004	9005
Newfoundland	9101					
Prince Edward Island	9102					
Nova Scotia	9103					
New Brunswick	9104					
Québec	9105					
Ontario	9106					
Manitoba	9107					
Saskatchewan	9108					
Alberta	9109					
British Columbia	9110					
Yukon	9111					
Northwest Territories	9112					
United States/Other	9113					
	Total	9114				

IX. Distance Travelled by Region

Report the total annual distance travelled in kilometres (both empty and loaded) by your equipment during the year in each region. Exclude the distance travelled by maintenance vehicles. The distance travelled should include all intraprovincial (including local), interprovincial and international operations. The distance of interprovincial and international movements should be split between regions. Include the distance travelled by owner operators performing services on your behalf.

Region		Straight Trucks		Road Tractors	
		Owned & Leased Long Term	Operated by Owner Operators	Owned & Leased Long Term	Operated by Owner Operators
		10001	10002	10003	10004
Newfoundland	10101				
Prince Edward Island	10102				
Nova Scotia	10103				
New Brunswick	10104				
Québec	10105				
Ontario	10106				
Manitoba	10107				
Saskatchewan	10108				
Alberta	10109				
British Columbia	10110				
Yukon	10111				
Northwest Territories	10112				
United States/Other	10113				
	Total	10114			

X. Fuel Consumption for the year (exclude lubricating oil and heating fuel)

Litres

Fuel consumed by owned and leased vehicles

	11001
--	-------

XI. Performance/Productivity Measures (For General Freight Carriers Only)

Please estimate as accurately as possible the measures of industry performance/productivity measures listed below.

Number of shipments	Under 4 500 kg (10,000 lbs)		12001
	4 500 kg (10,000 lbs) and over		12002
	Total		12024
Estimated percentage of empty vehicle kilometres per year			12003
Numbers of terminals used			13009
Average load factor per trip			12004
Productivity measures by function	Less than truckload (line haul)	Average revenue per shipment	12005
		Average kilograms per shipment	12006
		Average revenue per cwt	12007
		Average revenue per tonne-kilometre	12008
	Truckload	Average revenue per shipment	12011
		Average kilograms per shipment	12012
		Average revenue per cwt	12013
		Average revenue per tonne-kilometre	12014
	Terminal/pick up and delivery	Average stops per hour	12017
		Average kilometres per hour	12018
		Average pieces per hour	12019

XII. Employment and Owner Operators

Report either the **AVERAGE** number of employees or the total hours worked according to their primary type of work. Please indicate for each function whether you are reporting the average number of employees or the hours worked. If you choose average number of employees, please try to give "person year" equivalents. For example, a "person year" is roughly equivalent to 2,000 hours per year, therefore, if you hired 3 drivers for 4 months each to drive during your peak period, this would be equivalent to one "person year". Include directors, working owners and other officers of incorporated companies.

Please allocate the employees to the region that they are based in, or where the majority of their work is performed.

		Highway Drivers	Local Drivers	Helpers	Mechanics and Maintenance Employees	Terminal and Platform Employers (other than office)
		<input type="checkbox"/> Hours <input type="checkbox"/> Number	<input type="checkbox"/> Hours <input type="checkbox"/> Number	<input type="checkbox"/> Hours <input type="checkbox"/> Number	<input type="checkbox"/> Hours <input type="checkbox"/> Number	<input type="checkbox"/> Hours <input type="checkbox"/> Number
		13001	13002	13003	13004	13005
Newfoundland	13101					
Prince Edward Island	13102					
Nova Scotia	13103					
New Brunswick	13104					
Québec	13105					
Ontario	13106					
Manitoba	13107					
Saskatchewan	13108					
Alberta	13109					
British Columbia	13110					
Yukon	13111					
Northwest Territories	13112					
United States/Other	13113					
Total	13114					

(Continued on next page)

		Terminal Office Employees	Administrative and General Office Employees	All Other Employees	Owner Operators	
		<input type="checkbox"/> Hours <input type="checkbox"/> Number	<input type="checkbox"/> Hours <input type="checkbox"/> Number	<input type="checkbox"/> Hours <input type="checkbox"/> Number	Full* Time	Part Time
		13006	13007	13008	13010	13011
Newfoundland	13101					
Prince Edward Island	13102					
Nova Scotia	13103					
New Brunswick	13104					
Québec	13105					
Ontario	13106					
Manitoba	13107					
Saskatchewan	13108					
Alberta	13109					
British Columbia	13110					
Yukon	13111					
Northwest Territories	13112					
United States/Other	13113					
Total	13114					

* Full time owner operators working exclusively for your company.

XIII. Certification

I certify that the information contained herein is complete and correct to the best of my knowledge.

Name of person to contact for further information (please print)

Title

Business Address

Postal Code

Telephone Number

Area Code						Ext.			
-----------	--	--	--	--	--	------	--	--	--

Signature of Authorized Person

Date

<input type="text"/>	<input type="text"/>
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Thank you for your Cooperation

Comments

Additional Legal and/or Operating Entities (continued from question 3, page 1)

Name

Address



**Motor Carriers of Freight
Operating Statistics, 1990
Level III**
Transportation Division

Confidential when completed

Si vous préférez recevoir ce questionnaire en français, veuillez cocher

Please revise name and/or address below if not correct.

<p>Authority This survey is conducted under the authority of the Statistics Act, Revised Statutes of Canada, 1985, Chapter S19, and applicable provincial statutes and regulations.</p> <p>Federal-Provincial Agreements In order to reduce response burden and to provide consistent statistics, Statistics Canada has entered into data sharing agreements under Section 11 of the <i>Statistics Act</i> with the Newfoundland Statistics Agency and the Québec Bureau of Statistics and under Section 12 of the <i>Statistics Act</i> with the Newfoundland Department of Works, Services and Transportation, the Nova Scotia Board of Commissioners of Public Utilities, the Québec Department of Transportation, the Ontario Ministry of Transportation and Alberta Transportation and Utilities. Agreements under Section 11 of the <i>Statistics Act</i> are only negotiated with provincial statistical agencies in provinces that have statistics acts which include the same provisions for confidentiality and penalties for disclosure of information as the <i>Federal Statistics Act</i>. Under Section 12 of the <i>Statistics Act</i> you may refuse</p>	<p>to share your information with any of the departments listed, by writing to the Chief Statistician and returning your letter, along with the completed questionnaire, in the enclosed return envelope.</p> <p>Correspondence/Assistance If you have any questions regarding the survey, please contact: Operations and Integration Division Statistics Canada Ottawa, Ontario K1A 0T8</p> <p>OR telephone (613) 951-3484 (collect). FAX: (613) 951-9873</p> <p>In all correspondence concerning this questionnaire, please quote the identification number appearing on the address label.</p>																		
<p>Please note:</p> <p>i. Please complete and return the questionnaire in the enclosed postage paid return envelope. If the questionnaire is not received, an interviewer from Statistics Canada will contact you in the near future to obtain the information. If you prefer, you may also send the questionnaire by facsimile.</p> <p>ii. Provide your best estimate where precise data are not available.</p> <p>iii. All information in this report should pertain to the firm's own 12-month accounting period, whose year-end occurred on any date from April 1, 1990 to March 31, 1991, inclusive. Please provide your accounting period:</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>Day</td><td>Month</td><td>Year</td><td>Day</td><td>Month</td><td>Year</td> </tr> <tr> <td></td><td></td><td>70</td><td></td><td></td><td>71</td> </tr> </table>		Day	Month	Year	Day	Month	Year			70			71						
Day	Month	Year	Day	Month	Year														
		70			71														
<p>1. Which of the following best describes your business activities? Check only one box. <input checked="" type="checkbox"/></p> <p>01 <input type="checkbox"/> Owner-operator - working for one or more for-hire carriers</p> <p>02 <input type="checkbox"/> Owner-operator - working for one or more private carriers</p> <p>03 <input type="checkbox"/> Owner-operator - working for both for-hire and private carriers</p> <p>04 <input type="checkbox"/> For-hire trucking operation</p> <p>05 <input type="checkbox"/> Other (please specify) <input type="text"/></p> <p>If you do not operate in the trucking industry, do not complete the remainder of the questionnaire. Describe in question 1 above, under the category "other", the industry in which you operate, then return this questionnaire to Statistics Canada. Thank you.</p>																			
<p>2. Which of the following best describes the principal type of service performed by your business, as determined by your major source of gross transportation revenue? Check only one. <input checked="" type="checkbox"/></p> <table border="0"> <tr> <td>06 <input type="checkbox"/> Motor vehicles (auto carriers)</td> <td>15 <input type="checkbox"/> General freight (including new furniture)</td> </tr> <tr> <td>07 <input type="checkbox"/> Household goods (exclude new furniture)</td> <td>16 <input type="checkbox"/> Building materials (lumber, drywall, etc.)</td> </tr> <tr> <td>08 <input type="checkbox"/> Heavy machinery mover</td> <td>17 <input type="checkbox"/> Dry bulk</td> </tr> <tr> <td>09 <input type="checkbox"/> Petroleum products (liquid bulk)</td> <td>18 <input type="checkbox"/> Forest products (logs, chips and other crude)</td> </tr> <tr> <td>10 <input type="checkbox"/> Temperature controlled - tank</td> <td>19 <input type="checkbox"/> Mine ores</td> </tr> <tr> <td>11 <input type="checkbox"/> Temperature controlled - van</td> <td>20 <input type="checkbox"/> Liquid waste</td> </tr> <tr> <td>12 <input type="checkbox"/> Dump trucking (sand, gravel, snow, etc.)</td> <td>21 <input type="checkbox"/> Scrap and waste (non-liquid)</td> </tr> <tr> <td>13 <input type="checkbox"/> Unprocessed agricultural commodities</td> <td>22 <input type="checkbox"/> Small parcel delivery (include courier)</td> </tr> <tr> <td>14 <input type="checkbox"/> Live animals</td> <td>23 <input type="checkbox"/> Other types of service not listed above. Please specify: <input type="text"/></td> </tr> </table>		06 <input type="checkbox"/> Motor vehicles (auto carriers)	15 <input type="checkbox"/> General freight (including new furniture)	07 <input type="checkbox"/> Household goods (exclude new furniture)	16 <input type="checkbox"/> Building materials (lumber, drywall, etc.)	08 <input type="checkbox"/> Heavy machinery mover	17 <input type="checkbox"/> Dry bulk	09 <input type="checkbox"/> Petroleum products (liquid bulk)	18 <input type="checkbox"/> Forest products (logs, chips and other crude)	10 <input type="checkbox"/> Temperature controlled - tank	19 <input type="checkbox"/> Mine ores	11 <input type="checkbox"/> Temperature controlled - van	20 <input type="checkbox"/> Liquid waste	12 <input type="checkbox"/> Dump trucking (sand, gravel, snow, etc.)	21 <input type="checkbox"/> Scrap and waste (non-liquid)	13 <input type="checkbox"/> Unprocessed agricultural commodities	22 <input type="checkbox"/> Small parcel delivery (include courier)	14 <input type="checkbox"/> Live animals	23 <input type="checkbox"/> Other types of service not listed above. Please specify: <input type="text"/>
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5-3503/62-1 1991-07-30 STC TPA-400-044-04

3. In which area(s) does this business operate? Please check all applicable boxes.

- | | | |
|--|--|---|
| 24 <input type="checkbox"/> Newfoundland | 29 <input type="checkbox"/> Ontario | 34 <input type="checkbox"/> Yukon |
| 25 <input type="checkbox"/> Prince Edward Island | 30 <input type="checkbox"/> Manitoba | 35 <input type="checkbox"/> Northwest Territories |
| 26 <input type="checkbox"/> Nova Scotia | 31 <input type="checkbox"/> Saskatchewan | 36 <input type="checkbox"/> United States/Other |
| 27 <input type="checkbox"/> New Brunswick | 32 <input type="checkbox"/> Alberta | |
| 28 <input type="checkbox"/> Québec | 33 <input type="checkbox"/> British Columbia | |

4. What is the estimated percentage of your gross annual transportation revenue received for each of the following types of movements?

% of Gross Annual Transportation Revenue		% of Gross Annual Transportation Revenue	
Movements within a province or territory	% 37	Local service (transportation performed within a municipality and its commercial zone)	% 41
Movements between provinces or territories	% 38	Intercity service (transportation performed beyond the limits defined for local service)	% 42
International movements into Canada	% 39		
International movements out of Canada	% 40		
Total	100%	Total	100%

5. Please report the average number of employees on your company payroll, according to their primary type of work and the average number of owner-operators hired. Include directors, working owners and other officers of incorporated companies, and working owners of unincorporated companies.

	Full Time	Part Time
Drivers	57	62
Other employees	58	63
Owner operators (hired by your company)	59	64
Working owners of unincorporated companies	60	65
Total	61	66

6. Please indicate the average number of units operated during the accounting period. If you are an owner operator, complete 6(b) only, otherwise, answer 6(a) and 6(b):

Revenue Equipment operated during the reporting period:

a)	Average number of company units operated (owned and under long-term lease)	Straight trucks	43
		Road tractors	44
		Semi-trailers	45
		Other	46
	Estimated kilometres travelled during the accounting period (empty and loaded)	Straight trucks	47
		Road tractors	48
Total number of shipments (to be completed by companies only)		49	
b)	Average number of units operated by owner operators	Straight trucks	50
		Road tractors	51
		Semi-trailers	52
		Other	53
	Estimated kilometres travelled during the accounting period (empty and loaded)	Straight trucks	54
		Road tractors	55
Total number of trips (to be completed by owner operators only)		56	

7. Please report fuel consumption for the accounting period (exclude lubricating oil and heating fuel). Include fuel consumed by owned and leased vehicles.

Quantity litres	Value \$ Cdn
67	\$.00 68

8. What is the estimated percentage of empty vehicle kilometres travelled for the accounting period? % 69

9. Name of person to contact for further information (please print):

Telephone number

Area Code	Ext

Comments

Thank you for your cooperation



**Motor Carriers of Freight
Financial and Operating Statistics, 1990**

Level II
Transportation Division

Confidential when completed

Si vous préférez ce questionnaire en français, veuillez cocher

Please revise name and/or address below if not correct.

<p>Survey Objective This survey collects data which are essential for the statistical analysis of the Trucking Industry and the impact of the industry on the Canadian economy. These data have become very important to the users, given the current interest in trucking industry and their role in economic growth.</p> <p>Authority This survey is conducted under the authority of the Statistics Act, Revised Statutes of Canada, 1985, Chapter S19, and applicable provincial statutes and regulations.</p> <p>Coverage The report should not include the revenues of your subsidiaries or foreign branches. The report should include the revenues and expenses of 'associated' legal entities which support or complement the principal trucking activities. All amounts should be reported in Canadian dollars.</p> <p>Confidentiality The data are to be used for statistical purposes only and published in aggregate form in Trucking in Canada, Catalogue No. 53-222. The data are kept confidential, as outlined in the confidentiality provisions of the Statistics Act. The confidentiality provisions of the Statistics Act are not affected by either the Access to Information Act or any other Legislation.</p> <p>Return Procedure Please return the questionnaire within 30 days of receipt. If you are unable to do so, please inform us of the expected completion date. If you receive more than one questionnaire under different identification numbers asking</p>		<p>for a report on the same business, please complete only one, and attach and return the duplicate questionnaire(s).</p> <p>Federal Provincial Agreements In order to reduce response burden and to provide consistent statistics, Statistics Canada has entered into data sharing agreements under section 11 of the Statistics Act with the Newfoundland Statistics Agency and the Quebec Bureau of Statistics and under section 12 of the Statistics Act with the Newfoundland Department of Works, Services and Transportation, the Nova Scotia Board of Commissioners of Public Utilities, the Quebec Department of Transportation, the Ontario Ministry of Transportation and Alberta Transportation and Utilities. Agreement under section 11 of the Statistics Act are only negotiated with provincial statistical agencies in provinces that have statistics acts which include the same provisions for confidentiality and penalties for disclosure of information as the Federal Statistics Act. Under section 12 of the Statistics Act you may refuse to share your information with any of the departments listed by writing to the Chief Statistician and returning your letter of objection along with the completed questionnaire in the enclosed return envelope.</p> <p>Correspondence/Assistance If you require assistance in the completion of this questionnaire or have any questions regarding the survey, please address all enquiries to: Operations and Integration Division, Statistics Canada, Ottawa, Ontario Canada K1A 0T6</p> <p>In all correspondence concerning this questionnaire, please quote the identification number appearing on the address label. For communications by telephone, call (613) 951-3484 (call collect)</p>	
<p>1. Reporting Period The questionnaire should be completed for your most recent fiscal year ending no later than March 31, 1991.</p> <p>Day Month Year Day Month Year From <input type="text"/> <input type="text"/> <input type="text"/> 1001 To <input type="text"/> <input type="text"/> <input type="text"/> 1002</p> <p>Period of Operation If you did not operate this business for a full year, please check the reason for your part year report.</p> <p>1003 <input type="checkbox"/> Change of ownership 1006 <input type="checkbox"/> Ceased operations due to bankruptcy, fire, demolition (please specify) ▼ 1004 <input type="checkbox"/> Seasonal business 1005 <input type="checkbox"/> New business in 1990 <input type="text"/> 1007 <input type="checkbox"/> Change of fiscal year end 1008 <input type="checkbox"/> Other ▶ <input type="text"/></p>		<p>2. Identification of Firm (Please print)</p> <p>A. Legal name of business (if different from address label) <input type="text"/></p> <p>B. Name under which business operates (trade name) (if different from the address label or legal name) <input type="text"/></p> <p>C. Are you a corporation whose sole purpose is to provide services to your parent company or to an affiliated company? 1090 <input type="checkbox"/> Yes 1100 <input type="checkbox"/> No</p> <p>If YES, please print the name of your affiliated corporation. <input type="text"/></p>	
<p>3. Legal and/or Operating Entities Please list the names of the legal and/or operating entities (e.g. a division) included in this report (See "Coverage" above.) If additional space is required, continue in Comment area at end of questionnaire.</p> <p>Name Address <input type="text"/></p>			
<p>4. Organization</p> <p>A. What Form of Organization? (check one box only) 1010 <input type="checkbox"/> Individual Proprietorship 1020 <input type="checkbox"/> Partnership 1030 <input type="checkbox"/> Incorporated Company 1040 <input type="checkbox"/> Other ▶ <input type="text"/></p> <p>B. Is this entity a joint venture? 1050 <input type="checkbox"/> Yes 1060 <input type="checkbox"/> No</p> <p>C. Please report the Employer Number(s) under which you make remittances of payroll to Revenue Canada, Taxation 1070 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1080 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>			

I. Area of Operation

1. Check off the area of operation and record the annual transportation revenues (see cell 5040, page 3) pertaining to the for-hire carrier operations generated from shipments originating in each area listed below. The total transportation revenue should include the total revenue earned by the carrier (excluding other carriers' portion of revenue on interlined shipments) and revenue generated by owner operators. If revenue figures are not easily available, please record the percentage breakdown by area of origin of the shipments.

The figures below are: 2140 Dollars
2150 Percentage

Please provide Transportation Revenue (cell 5040) in \$ Canadian

←

<input checked="" type="checkbox"/>	Originating Revenue	
2100 <input type="checkbox"/> Newfoundland		2110
2110 <input type="checkbox"/> Prince Edward Island		2111
2120 <input type="checkbox"/> Nova Scotia		2112
2130 <input type="checkbox"/> New Brunswick		2113
2024 <input type="checkbox"/> Québec		2124
2035 <input type="checkbox"/> Ontario		2135
2046 <input type="checkbox"/> Manitoba		2146

<input checked="" type="checkbox"/>	Originating Revenue	
2047 <input type="checkbox"/> Saskatchewan		2147
2048 <input type="checkbox"/> Alberta		2148
2059 <input type="checkbox"/> British Columbia		2159
2060 <input type="checkbox"/> Yukon		2160
2061 <input type="checkbox"/> Northwest Territories		2181
2091 <input type="checkbox"/> U.S.A./Other		2191

If percentage breakdown is selected please ensure that the total for all areas equals 100%.

2. Record the estimated percentage of transportation revenue (cell 2200) received for the following types of movements made by the carrier.

	% of Transportation Revenue	
• Movements within provinces or territories	%	2300
• Movements between provinces or territories	%	2310
• International (movements into Canada)	%	2320
• International (movements out of Canada)	%	2330
Total	100%	

II. Classification of Motor Carrier

Show the significant type(s) of service performed by the carrier determined by the major source of transportation revenue (see cell 2200 above).

The figures below are: 3001 Dollars
3002 Percentage

Type of Service		
Motor vehicles (auto carriers)		3004
Household goods (exclude new furniture)		3005
Heavy machinery mover		3006
Petroleum products (liquid bulk)		3007
Temperature controlled — tank		3008
Temperature controlled — van		3009
Dump trucking (sand, gravel, snow, etc.)		3010
Unprocessed agricultural commodities		3011
Live animals		3012
General freight (including new furniture)	Truckload	3013
	Less than truckload (include expedited freight)	3014
	Total	→ 3015
Building materials (lumber, drywall, etc.)		3016
Dry bulk		3017
Forest products (logs, chips and other crude)		3018
Mine ores		3019
Liquid waste		3020
Scrap and waste (non-liquid)		3021
Small parcel delivery (include courier)		3022
Other types of service not listed above		3023

If percentage breakdown is selected please ensure that the total for all areas equals 100%.

III. Balance Sheet

Please report the balance sheet figures for the For-Hire Motor Carriers of Freight operations only. If you are unable to do so please report all fixed assets other than the motor carrier business in cells 4101 and 4102.

Assets		\$(omit cents)	
Current	Cash, deposits and temporary investments		4010
	Accounts receivable		4020
	Prepaid expenses		4030
	Materials, supplies and other current assets		4040
	Total		4050
Fixed (motor carrier freight business)	Land		4080
	Buildings	4071	
	Less accumulated depreciation	4072	
		→	4070
	Revenue equipment — trucks, tractors, trailers	4081	
	Less accumulated depreciation	4082	
		→	4080
	Other equipment and operating property	4091	
	Less accumulated depreciation	4092	
	→	4090	
Fixed (other than motor carrier freight business)	Original cost	4101	
	Less accumulated depreciation	4102	
		→	4100
	Other assets (intangibles, investments, deferred charges)		4110
Total Assets			4120
Liabilities			
Current	Bank loans		4130
	Accounts payable		4140
	Current debt (include current portion of deferred income tax)		4150
	Total		4160
Long term debt	Mortgages		4170
	Equipment loans		4180
	Capital leases		4190
	Deferred taxes		4200
	Other loans		4210
	Total		4220
Total Liabilities			4230
Owner(s) Equity			
	Capital stock — preferred		4240
	Capital stock — common		4250
	Retained earnings		4260
	Other surplus		4270
	Total		4280
Total Liabilities and Owner(s) Equity			4290

IV. Operating Revenues

Include the operating revenue which is derived from the for-hire motor carrier freight operations and its other related activities. The total revenue should include the revenue earned by the carrier (excluding other carriers' portion of revenue on interlined shipments) and revenue generated by owner operators. Purchased transportation, other than interline expenses, should be reported as operating expenses in Section V. Report any other revenue earned in Section VI.

		\$(omit cents)	
	Local freight service (transportation performed within a metropolitan area and its commercial zone)		5010
	Intercity freight service (transportation performed beyond the limits defined for local freight service)		5020
	Government subsidies received		5030
	Transportation Revenue		5040
	Van line commission and insurance		5050
	Equipment rentals		5060
	Packaging and crating (dunnage)		5070
	Storage and warehousing		5080
	Other ▶ <input type="text"/>		5090
	Total Operating Revenue		5100

V. Operating Expenses

Include the operating expenses which were the result of all the operating revenue categories listed on page 3. Report any other expenses in Section VI.

\$ (omit cents)

Salaries and wages (excluding benefits)	Highway drivers	8001
	Local drivers and helpers	8002
	Mechanics and maintenance personnel	8101
	Terminal and platform employees	8201
	Administration and all other personnel	8401
Unemployment insurance, health insurance, pension funds, workers compensation, statutory holidays and other paid leave		8005
Fuel (including fuel tax) — for owned and leased vehicles		8007
Owner operator expenses		8008
Vehicle rent (short term)		8009
Vehicle lease (long term)		8010
Purchased transportation (e.g. driver services, contract hauling and piggyback)		8013
Maintenance and repairs (including tires and tubes)	Purchased repair (parts and labour)	8106
	Purchased materials for maintenance purposes	8104
Depreciation	Revenue equipment (trucks, tractors and trailers)	8015
	Buildings, computers and other equipment	8207
Insurance (vehicle, cargo loss and damage, and other insurance)		8403
Safety and compliance expenses		8417
Other expenses (e.g. vehicle license and registration fees)		8418
Total		8501

VI. Income Account

\$ (omit cents)

NET MOTOR CARRIER FREIGHT OPERATING REVENUE (Cell 5100 less cell 8501)		8601
Non-motor carrier freight operations		
Revenue		7010
Expenses		7020
Non-operating revenue (interest, dividends, capital gains, etc.)		7030
Non-operating expenses (dividends paid, capital loss, etc.)		7040
Interest paid		7050
Profit (loss) for year, before income tax		7060
Provision for income taxes		7070
Net Income Transferred to Retained Earnings		7090

VII. Revenue Equipment Operated, Excluding Maintenance Equipment

1. Power Units

Straight Trucks

Road Tractors

Average number of vehicles operated by your company during the year	Owned	8001	8006
	Leased long term	8002	8007
Average number of units operated by owner operators		8003	8008
Estimated kilometres travelled during the year (empty and loaded)	Company drivers and driver services personnel	8004	8009
	Owner operators	8005	8010

		Average Number of Units Operated					
		under 9.1 metres (under 30 feet)		9.1-15.0 metres (30 - 49 feet)		over 15.0 metres (over 49 feet)	
		owned	leased	owned	leased	owned	leased
		8101	8102	8103	8104	8105	8106
2. Trailers & Other Equipment Operated							
Semi-trailers	Van — temperature controlled	8201					
	Van — non temperature controlled	8202					
	Rack and flatbed	8203					
	Auto carriers	8204					
	Tank — temperature controlled	8205					
	Tank — non temperature controlled	8206					
	Other ▶ <input type="text"/>	8207					
	Total	8208					
Other revenue equipment	Full trailers	8209					
	Container trailers	8210					
	Other ▶ <input type="text"/>	8211					
	Total	8212					
	Grand Total	8213					

VIII. Fuel Consumption for the year (exclude lubricating oil and heating fuel)

Litres

Fuel consumed by owned and leased vehicles 11001

IX. Other Measures

Please estimate as accurately as possible the measures listed below.

Number of shipments	Under 4 500 kg (10,000 lbs)		12001
	4 500 kg (10,000 lbs) and over		12002
	Total		12024
Total metric tonnes carried			12026
Estimated percentage of empty vehicle kilometres per year			12003

X. Employment and Owner Operators

Report the AVERAGE number of employees or the total hours worked according to their primary type of work. If you choose average number of employees, please try to give "person year" equivalents. For example, a "person year" is roughly equivalent to 2,000 hours per year, therefore, if you hired 3 drivers for 4 months each to drive during your peak period, this would be equivalent to one "person year". Include directors, working owners and other officers of incorporated companies.

Highway drivers (excluding owner operators)	Hours <input type="checkbox"/> Number <input type="checkbox"/>	13066
Local drivers and helpers (excluding owner operators)	Hours <input type="checkbox"/> Number <input type="checkbox"/>	13067
Mechanics and maintenance personnel	Hours <input type="checkbox"/> Number <input type="checkbox"/>	13069
Terminal and platform employees (other than office)	Hours <input type="checkbox"/> Number <input type="checkbox"/>	13070
Administrative and all other personnel	Hours <input type="checkbox"/> Number <input type="checkbox"/>	13136
Owner operators	Hours <input type="checkbox"/> Number <input type="checkbox"/>	13140

XI. Certification

I certify that the information contained herein is complete and correct to the best of my knowledge

Name of person to contact for further information (please print)

Title

Business Address

Postal Code

Telephone Number

Area Code		Ext.	
-----------	--	------	--

Signature of Authorized Person

Date



**Motor Carriers of Freight
Financial and Operating Statistics, 1990**
Private Carriers
Transportation Division

Confidential when completed

Si vous préférez ce questionnaire en français, veuillez cocher

Level IV

Please revise name and/or address below if not correct.

<p>Survey Objective This survey collects data which are essential for the statistical analysis of the Trucking Industry and the impact of the industry on the Canadian economy. These data have become very important to the users, given the current interest in trucking industry and their role in economic growth.</p> <p>Authority This survey is conducted under the authority of the Statistics Act, Revised Statutes of Canada, 1985, Chapter S19, and applicable provincial statutes and regulations.</p> <p>Coverage This report covers that portion which provides transportation services (i.e. private trucking) only. The report should not include the expenses of your subsidiaries or foreign branches. All amounts should be reported in Canadian dollars.</p> <p>Confidentiality The data are to be used for statistical purposes only and published in aggregate form in Trucking in Canada, Catalogue No. 53-222. The data are kept confidential, as outlined in the confidentiality provisions of the Statistics Act. The confidentiality provisions of the Statistics Act are not affected by either the Access to Information Act or any other Legislation.</p> <p>Return Procedure Please return the questionnaire within 30 days of receipt. If you are unable to do so, please inform us of the expected completion date. If you receive more than one questionnaire under different identification numbers asking</p>	<p>for a report on the same business, please complete only one, and attach and return the duplicate questionnaire(s).</p> <p>Federal Provincial Agreements In order to reduce response burden and to provide consistent statistics, Statistics Canada has entered into data sharing agreements under section 11 of the Statistics Act with the Newfoundland Statistics Agency and the Quebec Bureau of Statistics and under section 12 of the Statistics Act with the Newfoundland Department of Works, Services and Transportation, the Nova Scotia Board of Commissioners of Public Utilities, the Quebec Department of Transportation, the Ontario Ministry of Transportation and Alberta Transportation and Utilities. Agreement under section 11 of the Statistics Act are only negotiated with provincial statistical agencies in provinces that have statistics acts which include the same provisions for confidentiality and penalties for disclosure of information as the Federal Statistics Act. Under section 12 of the Statistics Act you may refuse to share your information with any of the departments listed by writing to the Chief Statistician and returning your letter of objection along with the completed questionnaire in the enclosed return envelope.</p> <p>Correspondence/Assistance If you require assistance in the completion of this questionnaire or have any questions regarding the survey, please address all enquires to: Operations and Integration Division, Statistics Canada, Ottawa, Ontario Canada K1A 0T8</p> <p>In all correspondence concerning this questionnaire, please quote the identification number appearing on the address label. For communications by telephone, call (613) 951-3484 (call collect)</p>				
<p>1. Reporting Period The questionnaire should be completed for your most recent fiscal year ending no later than March 31, 1991.</p> <p>From <input type="text"/> Day <input type="text"/> Month <input type="text"/> Year <input type="text"/> 1001 To <input type="text"/> Day <input type="text"/> Month <input type="text"/> Year <input type="text"/> 1002</p> <p>Period of Operation If you did not operate this business for a full year, please check the reason for your part year report.</p> <p>1003 <input type="checkbox"/> Change of Ownership 1006 <input type="checkbox"/> Ceased operations due to bankruptcy, fire, demolition (please specify) ▼ <input type="text"/></p> <p>1004 <input type="checkbox"/> Seasonal business</p> <p>1005 <input type="checkbox"/> New business in 1990 <input type="text"/></p> <p>1007 <input type="checkbox"/> Change of fiscal year end</p> <p>1008 <input type="checkbox"/> Other ▶ <input type="text"/></p>	<p>2. Identification of Firm (Please print)</p> <p>A. Legal name of business (if different from address label) <input type="text"/></p> <p>B. Name under which business operates (trade name) (if different from the address label or legal name) <input type="text"/></p> <p>C. Are you a corporation whose sole purpose is to provide services to your parent company or to an affiliated company? 1090 <input type="checkbox"/> Yes 1100 <input type="checkbox"/> No</p> <p>If YES, please print the name of your affiliated corporation. <input type="text"/></p>				
<p>3. Legal and/or Operating Entities Please list the names of the legal and/or operating entities (e.g. a division) included in this report (See "Coverage" above.) If additional space is required, continue in Comment area at end of questionnaire.</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Address</th> </tr> </thead> <tbody> <tr> <td><input type="text"/></td> <td><input type="text"/></td> </tr> </tbody> </table>		Name	Address	<input type="text"/>	<input type="text"/>
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<input type="text"/>	<input type="text"/>				
<p>4. Organization</p> <p>A. What Form of Organization? (check one box only)</p> <p>1010 <input type="checkbox"/> Individual Proprietorship 1020 <input type="checkbox"/> Partnership 1030 <input type="checkbox"/> Incorporated Company 1040 <input type="checkbox"/> Other ▶ <input type="text"/></p> <p>B. Is this entity a joint venture? 1050 <input type="checkbox"/> Yes 1060 <input type="checkbox"/> No</p> <p>C. Please report the Employer Number(s) under which you make remittances of payroll to Revenue Canada, Taxation</p> <p>1070 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1080 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>					

PART A: COMPANY DESCRIPTION

I. Type of Business

Please check the box(es) which best describe your trucking operations. Describe your transportation function as it relates to the overall organizational structure of your firm.

- 1101 Extension of the sales or marketing department or the Head Office without being a separate cost or profit centre
- 1103 Separate cost centre
- 1105 Separate profit centre
- 1114 Other

Separate transport company:

- 1108 Providing strictly private carriage
- 1110 Providing strictly for-hire trucking services
- 1112 Providing private carriage and for-hire trucking services

II. Area of Operation

1. Record the estimated percentage of trips which were:

- Local (transportation performed within a metropolitan area and its commercial zone)
- Intercity (transportation performed beyond the limits defined for local freight service)

	%	2001
	%	2002
Total		100%

2. For intercity trips only, check off the area of operation and record the number of trips originating in each area. If the actual number of trips by area is not easily available, please record the percentage breakdown by area of origin of the trips and the total number of trips.

The figures below are: 2101 Number
2102 Percentage

Please provide the total number of intercity trips for all areas

2103

<input type="checkbox"/>	No. of Originating Intercity Trips	
2010 <input type="checkbox"/> Newfoundland		2110
2011 <input type="checkbox"/> Prince Edward Island		2111
2012 <input type="checkbox"/> Nova Scotia		2112
2013 <input type="checkbox"/> New Brunswick		2113
2024 <input type="checkbox"/> Québec		2124
2035 <input type="checkbox"/> Ontario		2135
2046 <input type="checkbox"/> Manitoba		2146

<input type="checkbox"/>	No. of Originating Intercity Trips	
2047 <input type="checkbox"/> Saskatchewan		2147
2048 <input type="checkbox"/> Alberta		2148
2059 <input type="checkbox"/> British Columbia		2159
2060 <input type="checkbox"/> Yukon		2160
2061 <input type="checkbox"/> Northwest Territories		2161
2091 <input type="checkbox"/> U.S.A./Other		2191

If percentage breakdown is selected please ensure that the total for all areas equals 100%.

3. Record the estimated percentage of intercity trips for the following types of movements

- Movements within a province or territory
- Movements between provinces or territories
- International (movements into Canada)
- International (movements out of Canada)

	%	2301
	%	2302
	%	2303
	%	2304
Total		100%

III. Nature of Trucking Activity

Estimate the percentage share of your trucking activities in terms of total trips for the following types of operations.

- Private carrier (carrying your own commodities)
- For-hire trucking

% of Total Trips	
	% 3101
	% 3103
Total	100%

IV. Commodities Carried

Rank the top five (5) types of commodities carried in terms of tonnes and estimate the percentage carried of each.

Type	% of Tonnes Carried
1	% 4001
2	% 4002
3	% 4003
4	% 4004
5	% 4005
6 All Other Commodities	% 4006
Total	100%

PART B: OPERATING STATISTICS

V. Operating Revenues (if applicable)

Include only the operating revenue pertaining to the trucking operations. If applicable, the total revenue should include the revenue earned by the carrier (excluding other carriers' portions of revenue on interlined shipments) and revenue generated by owner operators. Purchased transportation, other than interline expenses should be reported as operating expenses in Section VI.

- Private operations — carrying your own commodities
- For-hire operations — e.g. backhauling, etc.
- Other ▶

\$ (omit cents)	
	5001
	5003
	5005
Total	5006

VI. Operating Expenses

Include only the operating expenses pertaining to the trucking operations. Include expenses for both for-hire and private trucking operations, if applicable.

		\$ (omit cents)
Salaries and wages (excluding benefits)	Highway drivers	8001
	Local drivers and helpers	8002
	Mechanics and maintenance personnel	8101
	Terminal and platform employees	8201
	Administration and all other personnel	8401
Unemployment insurance, health insurance, pension funds, workers compensation, statutory holidays and other paid leave		8005
Fuel (including fuel tax) — for owned and leased vehicles		8007
Owner operator expenses		8008
Vehicle rent (short term)		8009
Vehicle lease (long term)		8010
Driver services expenses (e.g. leased, agency or contracted)		8011
Purchased transportation (e.g. contract hauling and piggyback)		8013
Maintenance and repairs (including tires and tubes)	Purchased repair (parts and labour)	8106
	Purchased materials for maintenance purposes	8104
Depreciation	Equipment (trucks, tractors and trailers)	8015
	Buildings, computers and other equipment	8207
Insurance (vehicle, cargo loss and damage, and other insurance)		8403
Safety and compliance expenses		8417
Other expenses (e.g. cross corporate charges, vehicle licence and registration fees)		8418
Total		8501

VII. Equipment Operated, Excluding Maintenance Equipment

1. Power Units

		Straight Trucks	Road Tractors
Average number of vehicles operated by your company during the year	Owned	8001	8006
	Leased long term	8002	8007
Average number of units operated by owner operators		8003	8006
Estimated kilometres travelled during the year (empty and loaded)	Company drivers and driver services personnel	8004	8009
	Owner operators	8005	8010

2. Trailers & Other Equipment

		Average Number of Units Operated					
		under 9.1 metres (under 30 feet) owned leased		9.1-15.0 metres (30 - 48 feet) owned leased		over 15.0 metres (over 48 feet) owned leased	
		8101	8102	8103	8104	8105	8106
Semi-trailers	Van — temperature controlled	8201					
	Van — non temperature controlled	8202					
	Rack and flatbed	8203					
	Tank — temperature controlled	8205					
	Tank — non temperature controlled	8206					
	Other ▶ <input type="text"/>	8207					
Total		8208					
Other equipment	Full trailers	8209					
	Container trailers	8210					
	Other ▶ <input type="text"/>	8211					
	Total		8212				
Grand Total		8213					

VIII. Fuel Consumption for the year (exclude lubricating oil and heating fuel)

Litres

Fuel consumed by owned and leased vehicles

	11001
--	-------

IX. Other Measures

Number of shipments	Under 4 500 kg (10,000 lbs)		12001
	4 500 kg (10,000 lbs) and over		12002
	Total		12003
Total metric tonnes carried			12004
Estimated percentage of empty vehicle kilometres per year			12005

X. Employment and Owner Operators

Report the **AVERAGE** number of employees or the total hours worked according to their primary type of work. If you choose average number of employees, please try to give "person year" equivalents. For example, a "person year" is roughly equivalent to 2,000 hours per year, therefore, if you hired 3 drivers for 4 months each to drive during your peak period, this would be equivalent to one "person year". Include Directors, working owners and other officers of incorporated companies.

Highway drivers (excluding owner operators)	Hours <input type="checkbox"/>	Number <input type="checkbox"/>		13066
Local drivers and helpers (excluding owner operators)	Hours <input type="checkbox"/>	Number <input type="checkbox"/>		13067
Mechanics and maintenance personnel	Hours <input type="checkbox"/>	Number <input type="checkbox"/>		13069
Terminal and platform employees (other than office)	Hours <input type="checkbox"/>	Number <input type="checkbox"/>		13070
Administrative and all other personnel	Hours <input type="checkbox"/>	Number <input type="checkbox"/>		13136
Owner operators	Hours <input type="checkbox"/>	Number <input type="checkbox"/>		13140
Driver services (leased, agency or contracted)	Hours <input type="checkbox"/>	Number <input type="checkbox"/>		13142

XI. Certification

I certify that the information contained herein is complete and correct to the best of my knowledge.

Name of person to contact for further information (please print)

Title

Business Address

Postal Code

Telephone Number

Area Code		Ext	
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Signature of Authorized Person

Date

▶	
---	--

Thank you for your Cooperation

Comments

Additional Legal and/or Operating Entities (continued from question 3, page 1)

Name

Address

For Statistics Canada Use Only

13150

13151



Transportation Division

Motor Carrier Freight Quarterly Survey Second Quarter 1991

Confidential when completed

Period covered by this report:

From Day Month 1991 to Day Month 1991

Collected under the authority of the Statistics Act,
Revised Statutes of Canada, 1985, Chapter S19

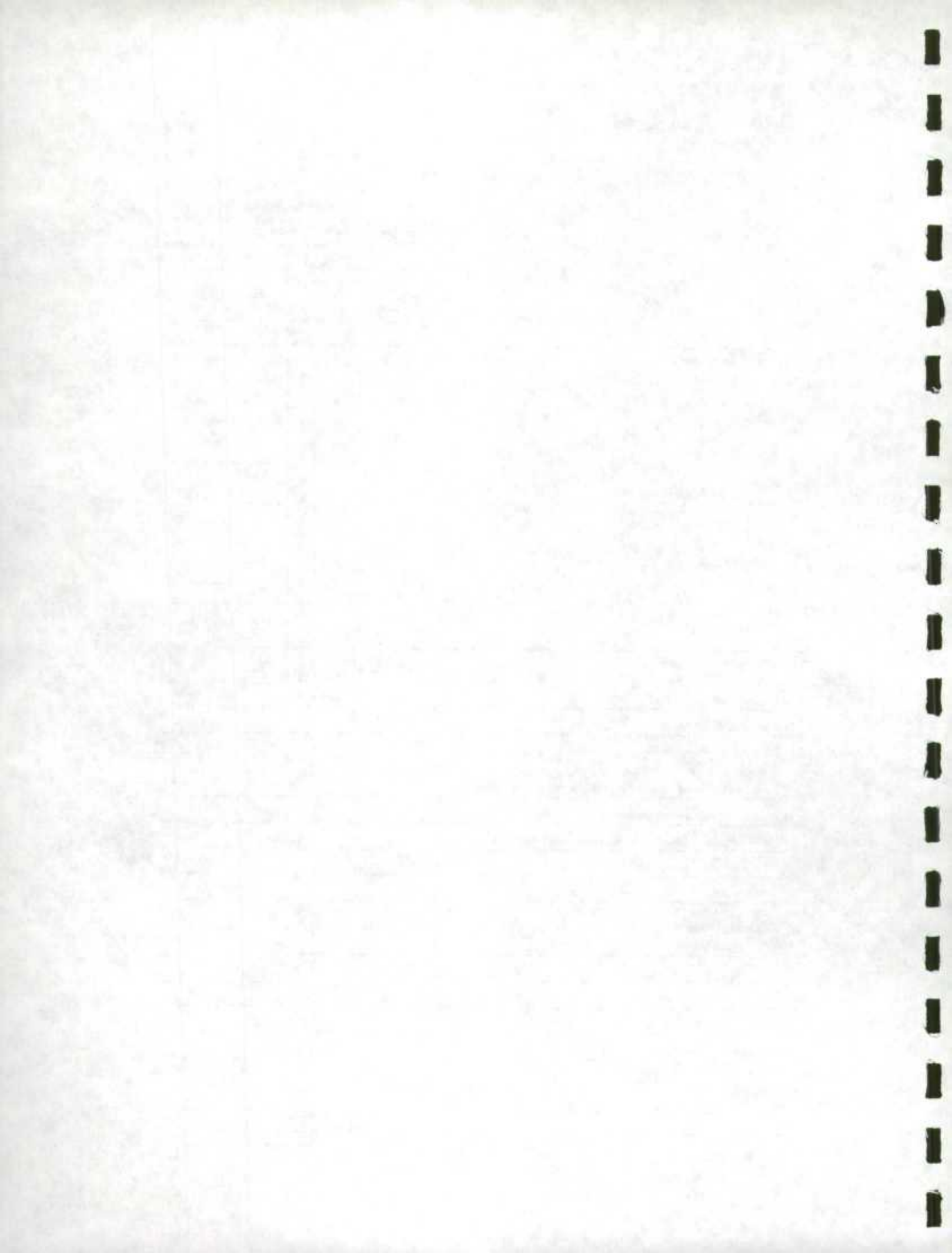
Confidentiality

The data are to be used for statistical purposes and published in aggregate form only. The data are kept confidential, as outlined in the confidentiality provisions of the Statistics Act and are not affected by the Access to Information Act or any other Legislation.

Correspondence/Assistance

Please see instructions for completion of this questionnaire, if you require further assistance, please call collect (613) 951-3484. Completed questionnaire may be sent through Fax, to: (613) 951-9673.

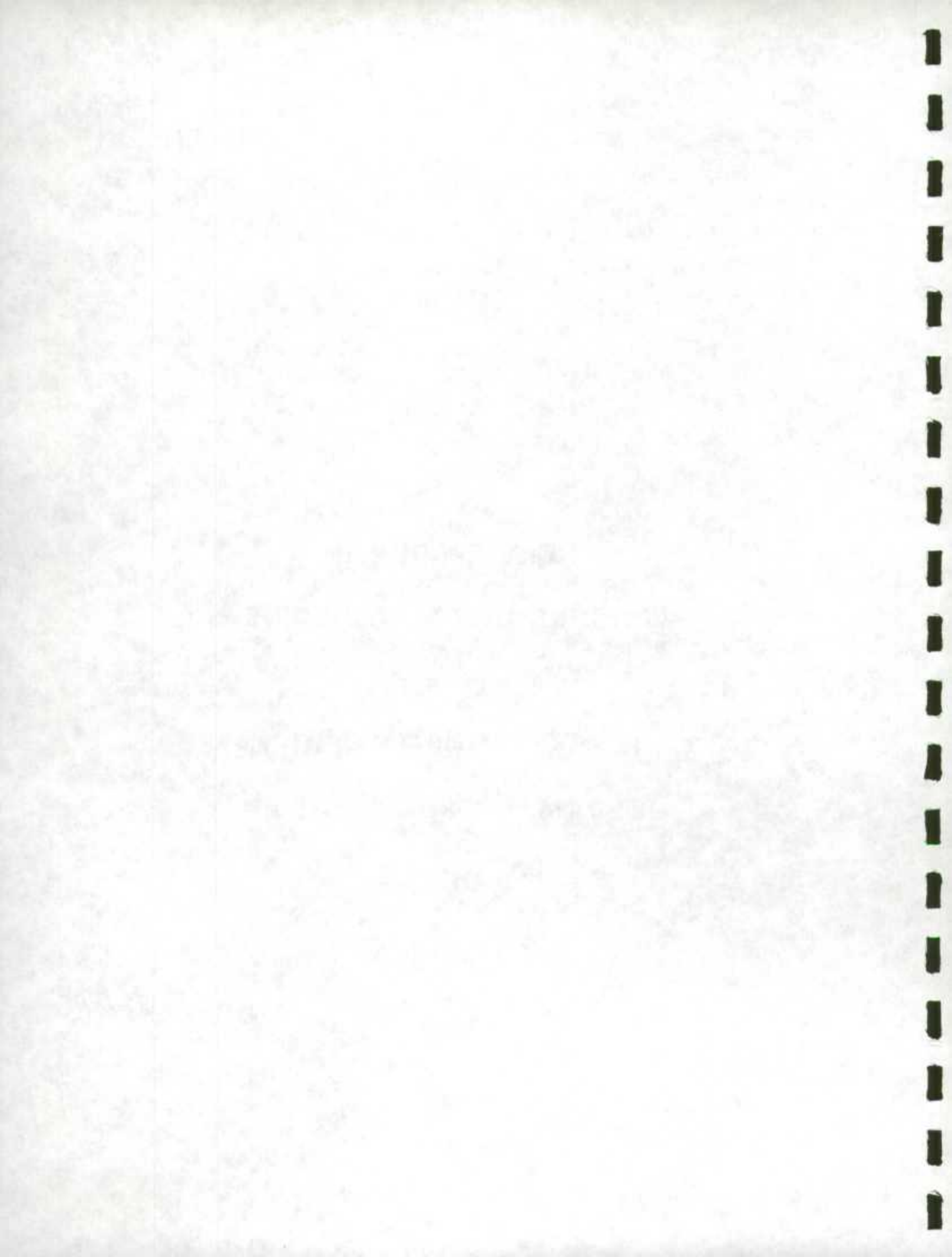
1) Total operating revenues (excluding GST) by province or territory of origin		
Newfoundland	\$	
Prince Edward Island	\$	
Nova Scotia	\$	
New Brunswick	\$	
Québec	\$	
Ontario	\$	
Manitoba	\$	
Saskatchewan	\$	
Alberta	\$	
British Columbia	\$	
Yukon	\$	
Northwest Territories	\$	
USA and Mexico	\$	
TOTAL	\$	
2) Total international operating revenues:		
Into Canada	\$	
Out of Canada	\$	
3) Total salaries and wages (including benefits)		\$
4) a. Number of owner operators		
b. Number of power units operated by owner operators		
c. Payments to owner operators (excluding GST) including fuel if provided		\$
5) Purchased transportation (excluding GST and interline expenses)		\$
6) Fuel expenses for company drivers (excluding GST)		\$
7) Other operating expenses excluding GST (maintenance, terminal, sales, general and administration)		\$
8) Total operating expenses (excluding GST, interest, capital gain or loss, etc.)		\$
9) Distance travelled:		
By company drivers		km
By owner operators		km
10) Percentage of total operating revenues for:		
TL traffic (shipments of 10,000 lbs or 4,500 kilograms, and over)		%
LTL traffic (shipments under 10,000 lbs or 4,500 kilograms)		%
11) GST collectible for services rendered		\$
12) GST payable on purchases		\$
The above figures cover the following divisions of your company:		



K. DAVIDSON

NOVEMBER 18, 1991

**OVERVIEW OF THE
FOR-HIRE TRUCKING SURVEY**
also called the
**TRUCKING COMMODITY ORIGIN AND
DESTINATION SURVEY - TOD**



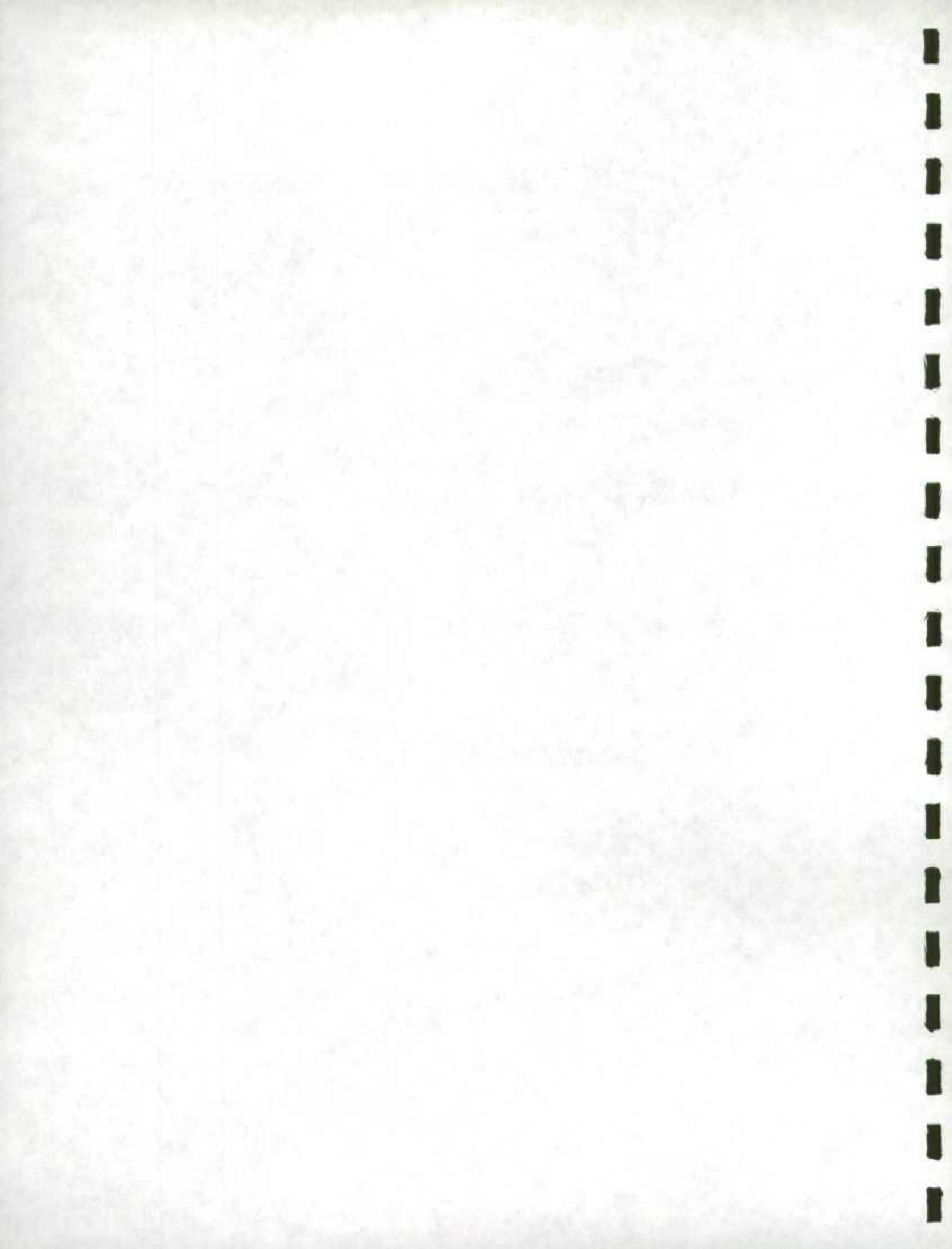
OBJECTIVE

FRAME

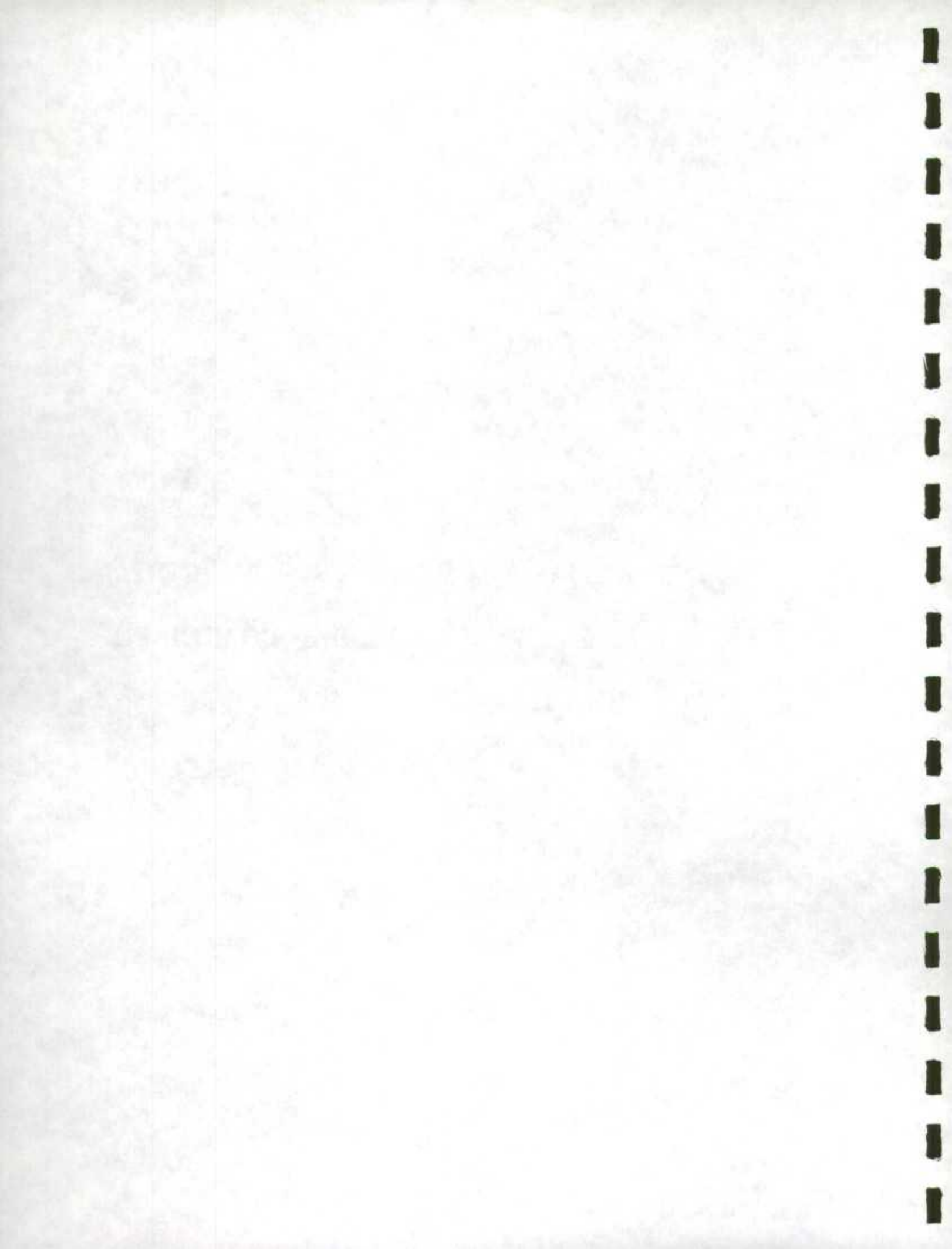
STRATIFICATION

SAMPLING STRATEGY

OUTPUTS



**INTERCITY MOVEMENTS OF GOODS
TRANSPORTED BY CANADIAN DOMICILED
FOR-HIRE TRUCKING COMPANIES**



OUTPUT VARIABLES:

- **TONNES TRANSPORTED**
- **COMMODITIES CARRIED**
- **REVENUES**
- **SHIPMENT ORIGIN AND DESTINATION**

FRAME

**CANADIAN DOMICILED COMPANIES WITH
EARNINGS OF \$1.0 MILLION OR MORE FROM
INTERCITY TRUCKING WHICH REPORTED TO
MOTOR CARRIERS OF FREIGHT SURVEY**

STRATIFICATION

- REVENUE CLASS
- TYPE OF SERVICE
- AREA OF OPERATION

REVENUE CLASSES

CLASS 1 CARRIERS:

**ANNUAL INTERCITY REVENUES OF
\$12.0 MILLION AND OVER;**

CLASS 2 CARRIERS:

**ANNUAL INTERCITY REVENUES BETWEEN
\$1.0 MILLION AND \$11,999,999**

TYPE OF SERVICE

- **GENERAL FREIGHT**
- **AUTO CARRIERS**
- **PETROLEUM, REFRIGERATED LIQUID, BULK LIQUID**
- **DUMP TRUCKING AND MINE ORE**
- **FOREST PRODUCTS**
- **BUILDING MATERIAL**
- **MACHINERY, AGRICULTURE AND EXPLOSIVES**
- **REFRIGERATED SOLIDS**
- **LIVE ANIMALS**
- **VAN LINES**

AREA OF OPERATION

- QUEBEC
- ONTARIO
- ATLANTIC
- QUEBEC - ONTARIO
- PRAIRIES
- PACIFIC
- CANADA
- INTERNATIONAL LESS THAN 40%
- INTERNATIONAL 40% AND MORE

TAKE-ALL and TAKE-SOME

- **TAKE-ALL**

SAMPLED EVERY QUARTER

- **TAKE-SOME**

VERY WELL REPRESENTED

USUALLY ONLY SAMPLED ONE

QUARTER EACH YEAR.

DATA REQUIREMENTS

- **ORIGIN**
- **DESTINATION**
- **COMMODITY DESCRIPTION**
- **WEIGHT**
- **REVENUE**

SURVEY DATA

- **COMMODITIES**
- **REVENUES**
- **TONNAGE**
- **TONNE-KILOMETRES**
- **NUMBER OF SHIPMENTS**
- **REVENUE PER TONNE / SHIPMENT**
- **REVENUE PER SHIPMENT**
- **REVENUE PER TONNE-KILOMETRE / SHIPMENT**
- **WEIGHT PER SHIPMENT**
- **DISTANCE PER SHIPMENT**

TRUCKING CHARACTERISTICS

- **TYPE OF SERVICE PROVIDED**
- **SIZE OF CARRIER (REVENUE EARNED)**
- **AREA OF OPERATION**
- **COMMODITIES CARRIED**
- **LESS THAN TRUCKLOAD (LTL)**
- **TRUCKLOAD (TL)**
- **INTERNATIONAL, DOMESTIC, BOTH**

GEOGRAPHICAL

- **CENSUS METROPOLITAN AREA TO CENSUS METROPOLITAN AREA (CMA to CMA)**
- **REGION TO REGION**
- **PROVINCIAL / TERRITORIAL BREAKDOWN**
- **TOTAL DOMESTIC**
- **CANADIAN PORTIONS OF INTERNATIONAL JOURNEYS**
- **COMPLETE INTERNATIONAL JOURNEYS**

STATISTICAL DESCRIPTIONS

- **DETAILED SAMPLING METHODOLOGY**
- **ESTIMATION TECHNIQUES**
- **COEFFICIENTS OF VARIATION**
- **DATA COLLECTION**
- **DATA QUALITY AND LIMITATIONS**

US Domiciled Carriers Operating

In Canada

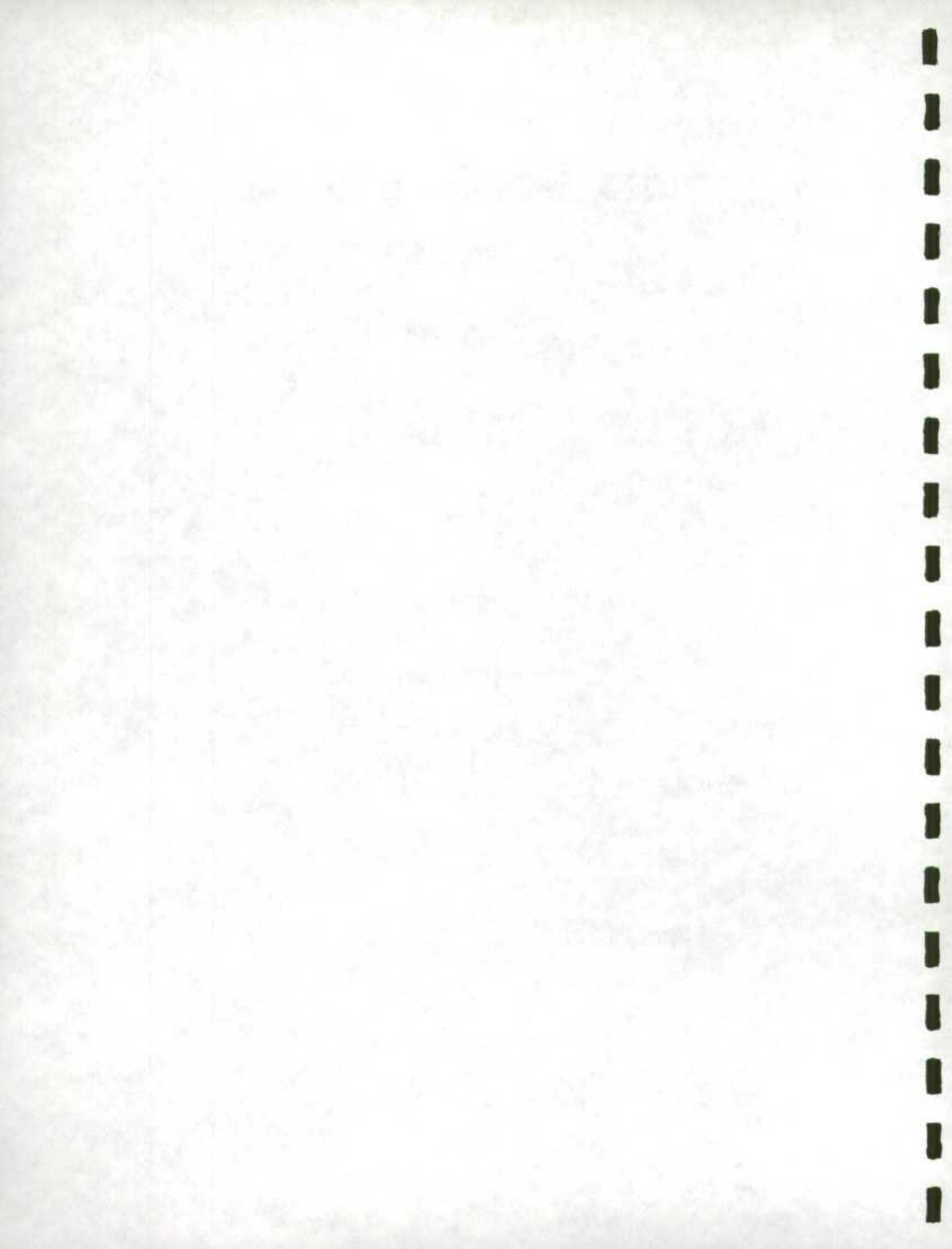
Frame

Sources:

- Provincial Registration Files
- Stat Can Transborder Survey
- International Trade "Customs" Data

Weights:

- ICC?
- TTS Blue Book?
- Other??



Types of Data

1. Market Share

2. Origin and Destination

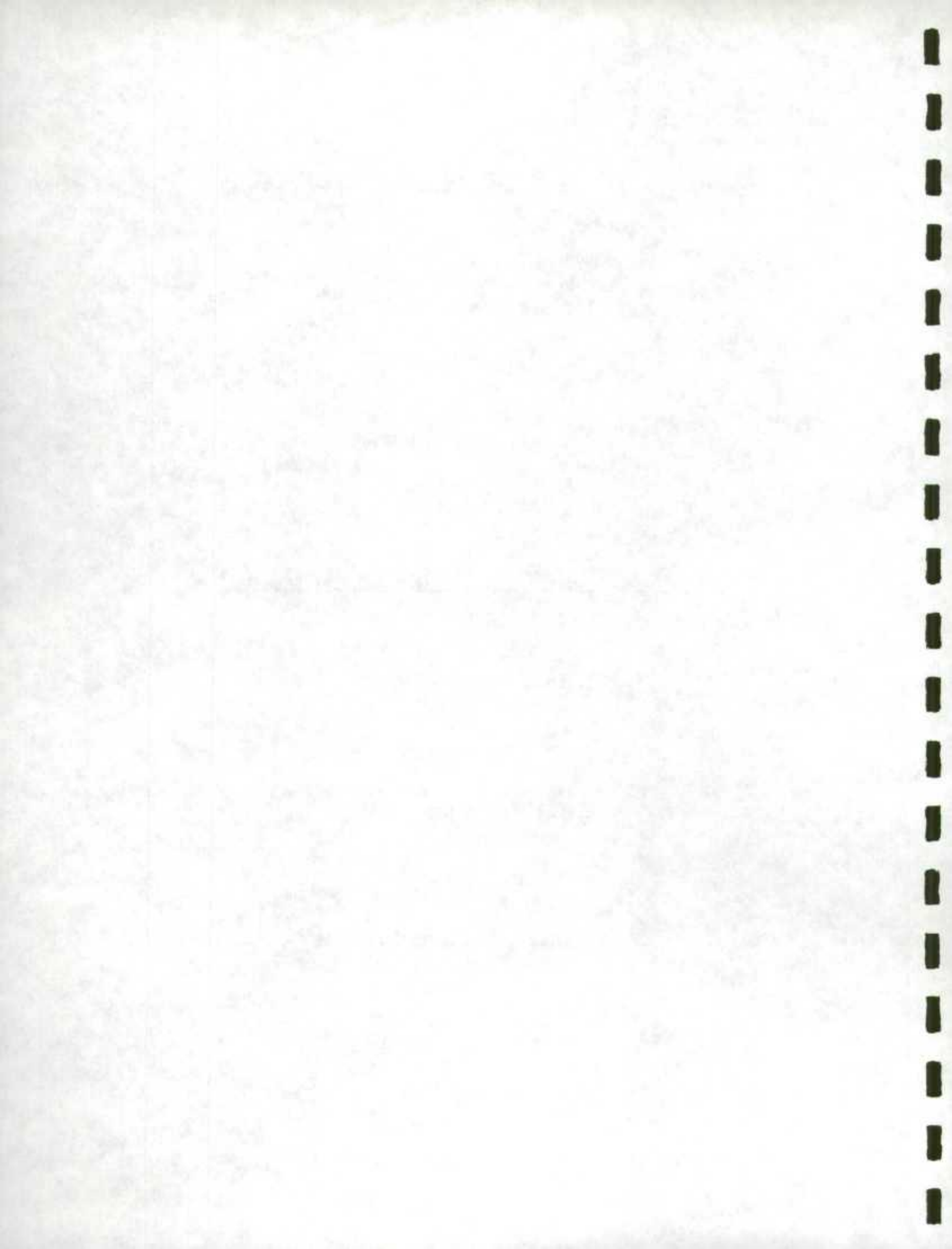
Data Collection Methods-O/D Data:

1. Tapes

2. Tariff Bureaus

3. Stat Can Regional Offices

4. Other?



ROAD-SIDE SURVEYS

PRESENTATION TO:

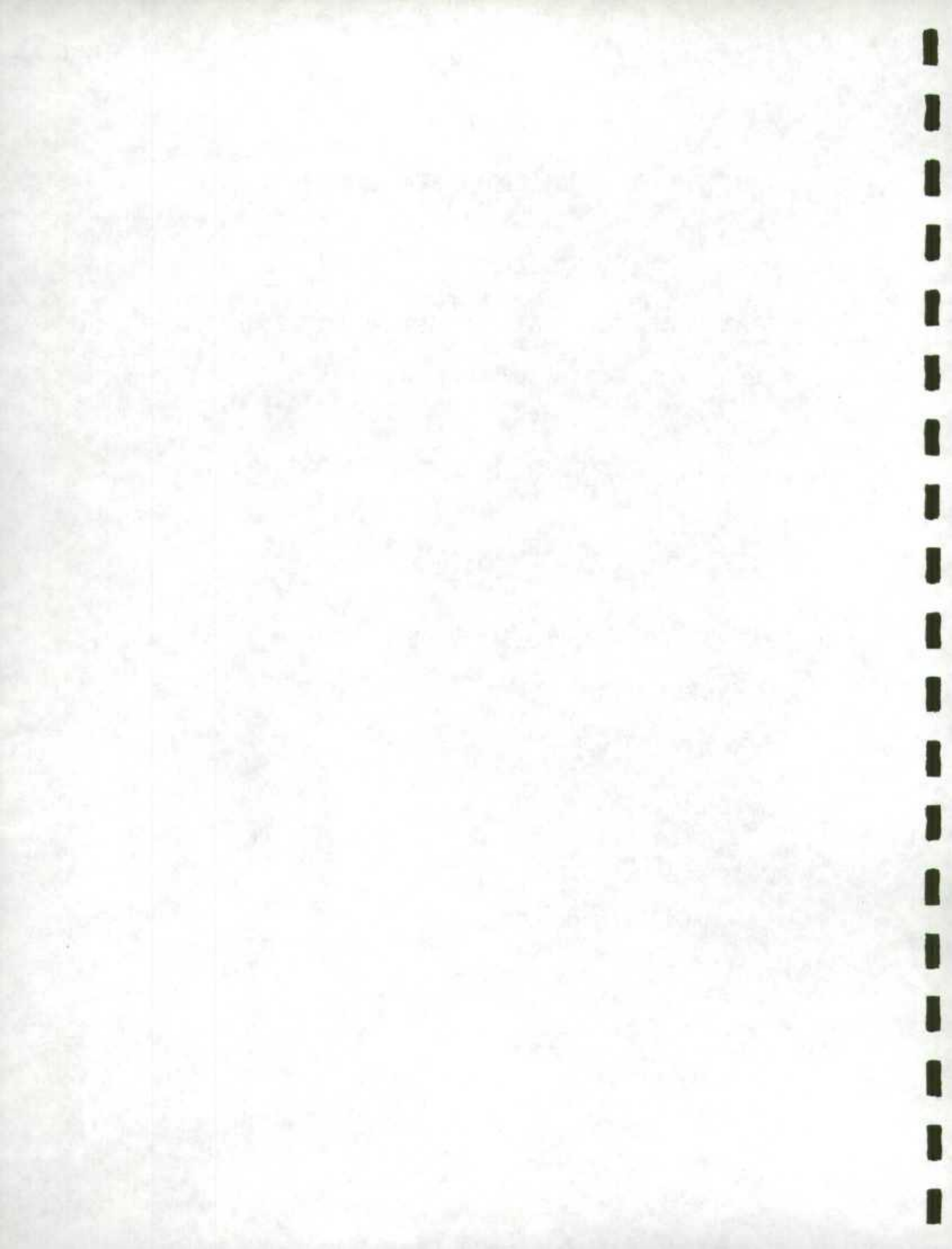
TRANSPORTATION STATISTICS INTERCHANGE MEETING

NOV. 18, 1991

MINISTRY OF TRANSPORTATION, ONTARIO

TOPICS TO BE DISCUSSED

- o BACKGROUND
- o METHODOLOGY
- o FINDINGS
- o LIMITATIONS
- o POSSIBLE FUTURE STEPS



INVESTMENT IN ROAD SIDE SURVEYS OF COMMERCIAL VEHICLE TRAFFIC

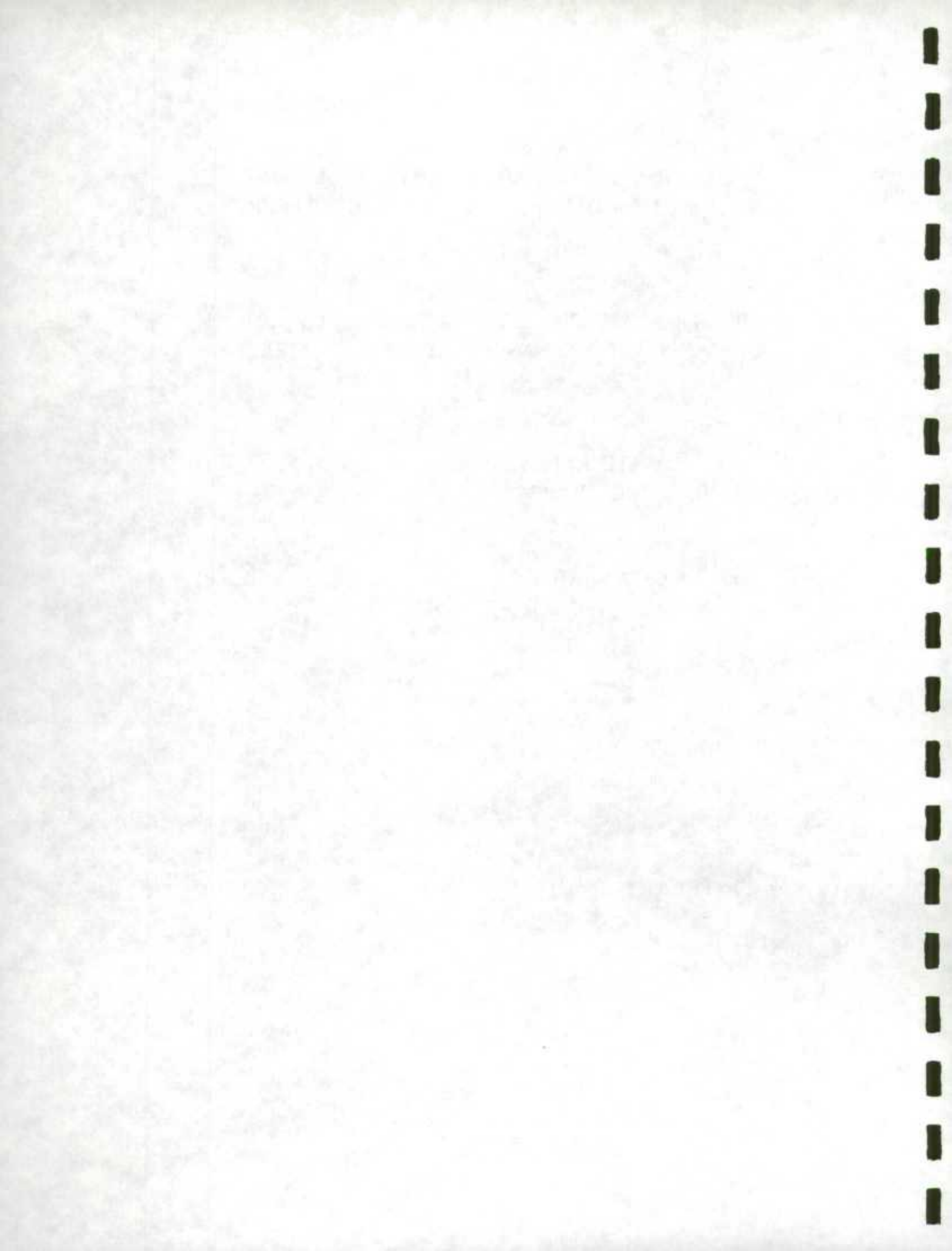
- o SIGNIFICANT INCREASE IN USE OF ROAD SIDE SURVEYS ACROSS CANADA OVER PAST FIVE YEARS
- o APPROXIMATE EXPENDITURES ON ROAD SIDE SURVEYS INCLUDE:

ONTARIO, VARIOUS	1987	\$ 25,000
	1988	\$400,000
	1990	\$ 75,000

QUEBEC	1989	\$200,000
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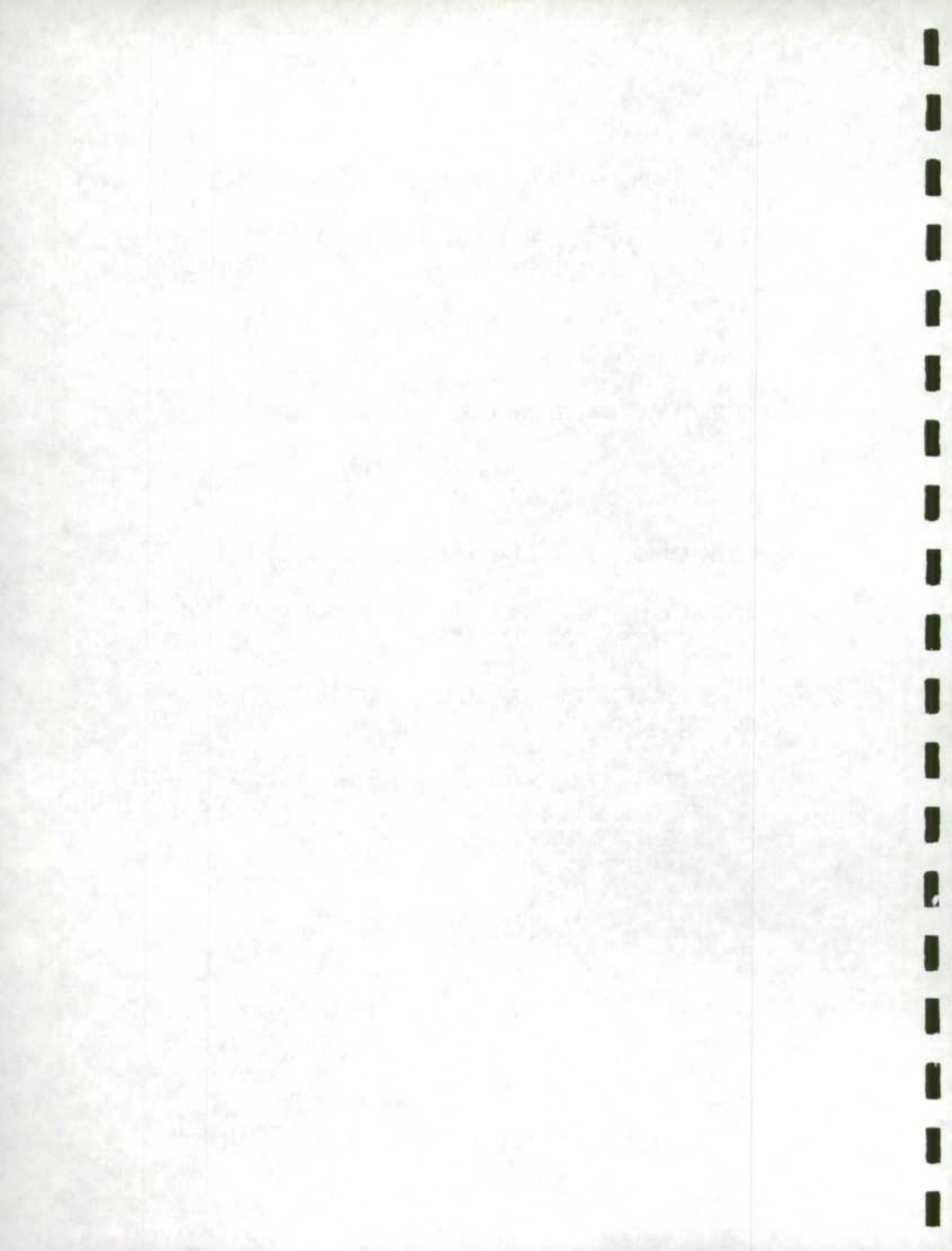
STATSCAN INTERNATIONAL	1991	\$250,000
---------------------------	------	-----------

CCMTA INTERPROVINCIAL	1991	\$200,000
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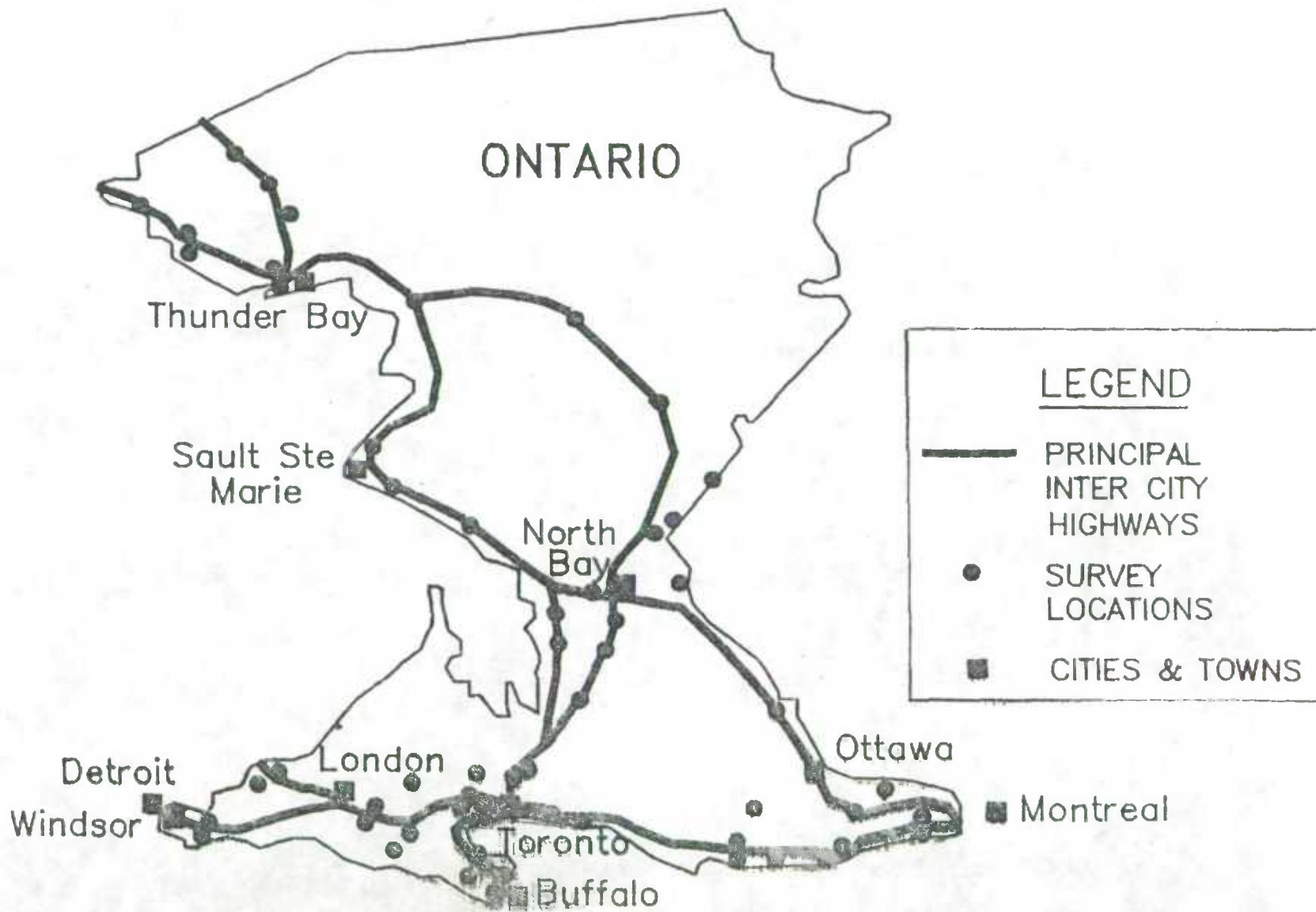


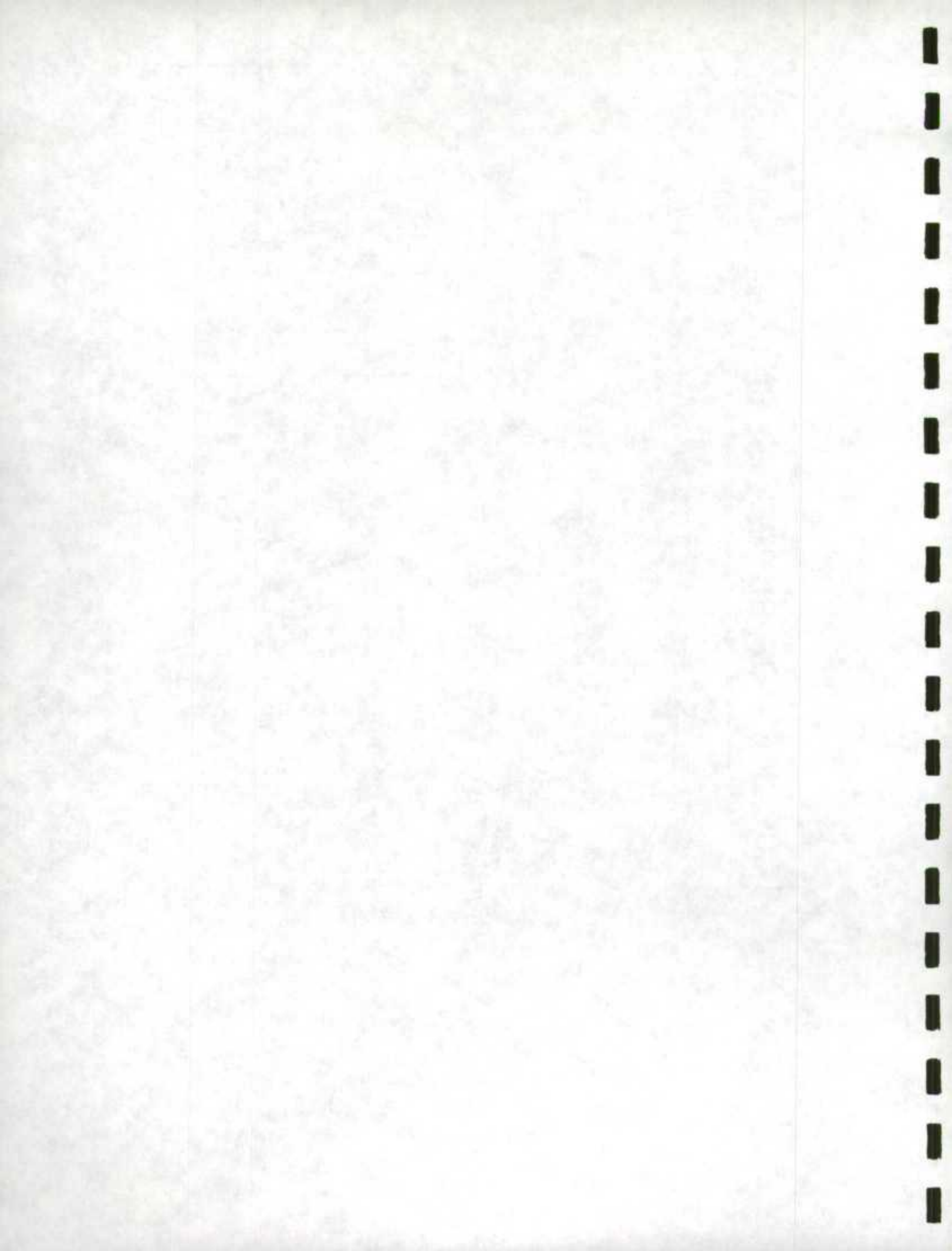
PURPOSE OF ROAD-SIDE SURVEY

- o TO SUPPLEMENT OTHER SOURCES OF DATA ON TRUCKING ACTIVITY
- o TO COLLECT INFORMATION NOT AVAILABLE FROM OTHER SOURCES
- o TO PROVIDE DATA ON TRENDS IN TRUCKING ACTIVITY
- o TO ANSWER QUESTIONS SUCH AS:
 - IMPACT OF FREE TRADE ON FREIGHT VOLUMES
 - IMPACT OF CHANGES IN TRUCK REGULATIONS ON:
 - PRIVATE / FOR-HIRE SPLIT
 - ONTARIO / NON-ONTARIO BASED CARRIERS
 - AVERAGE FREIGHT LOADS, BACKHAUL PERCENTAGES
 - IMPACT OF ECONOMIC CHANGES ON:
 - TRUCK TRAFFIC VOLUMES
 - FREIGHT VOLUMES
 - PREDOMINANT COMMODITY TYPES



LOCATION OF SURVEY STATIONS





TYPE OF DATA COLLECTED

WHERE

- o ORIGIN AND DESTINATION
- o TYPE OF O/D, E.G. TERMINAL, DOCK, CONSIGNEE
- o IF TRIP IS INTERNATIONAL, WHICH CROSSING IS USED

WHO

- o OWNER-OPERATOR OR COMPANY DRIVER
- o PRIVATE COMPANY OR FOR-HIRE CARRIER
- o DRIVER BASED IN ONTARIO OR OUT OF PROVINCE
- o COMPANY BASED IN ONTARIO OR OUT OF PROVINCE

WHAT

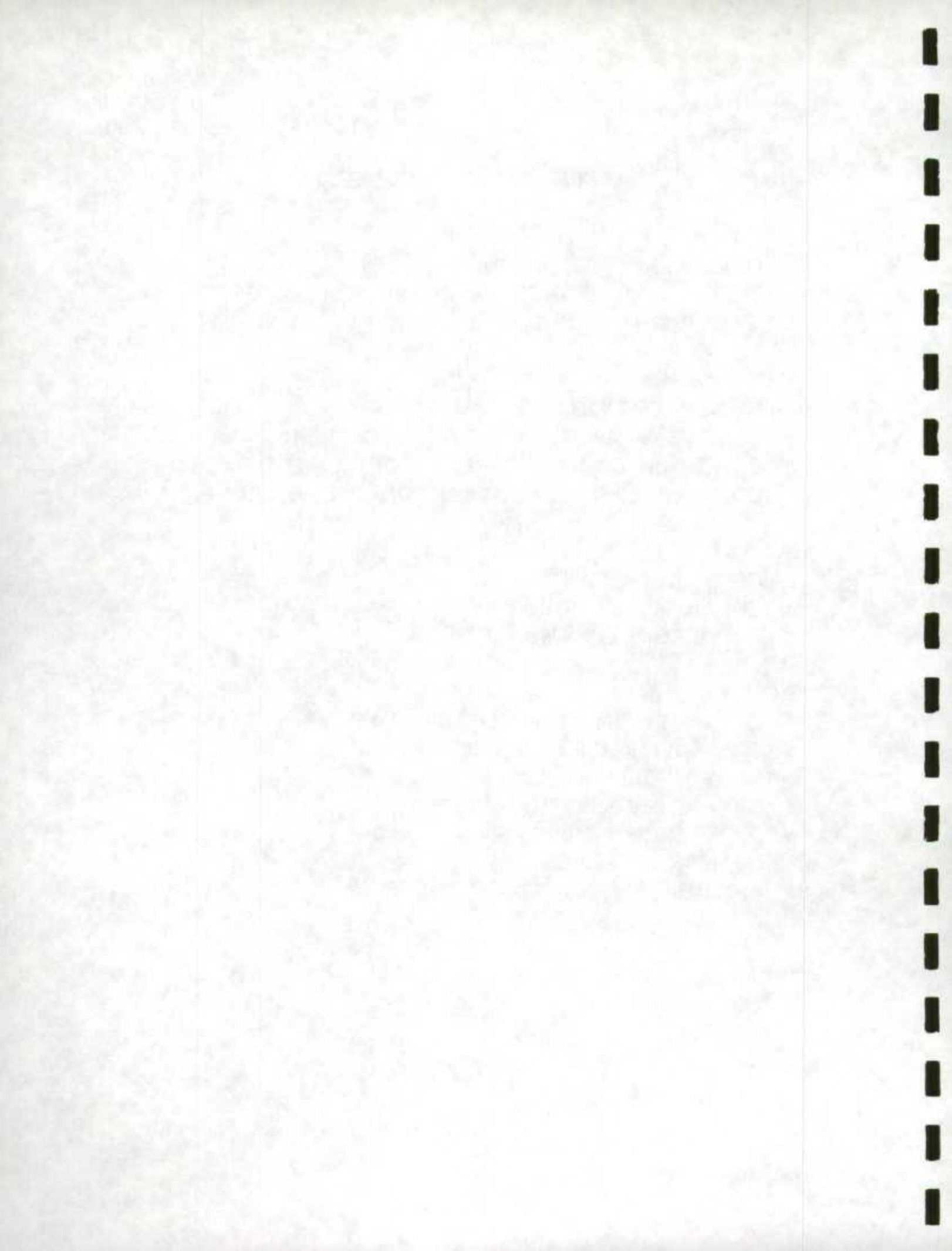
- o COMMODITY TYPE
- o COMMODITY WEIGHT
- o DANGEROUS GOODS CODE

HOW

- o IS TRAILER EMPTY OR LOADED
- o TRACTOR/TRAILER OR STRAIGHT TRUCK
- o BODY/TRAILER STYLE
- o IF VAN, IS IT REFRIGERATED
- o GROSS VEHICLE WEIGHT
- o NUMBER OF AXLES
- o AXLE CONFIGURATION
- o ENERGY SAVING DEVICES

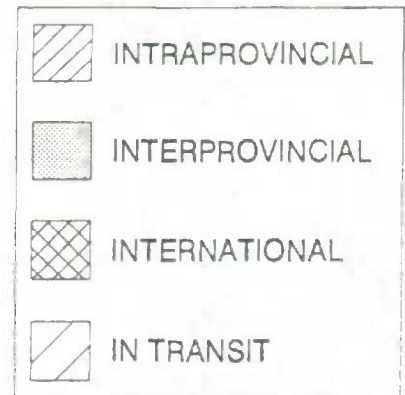
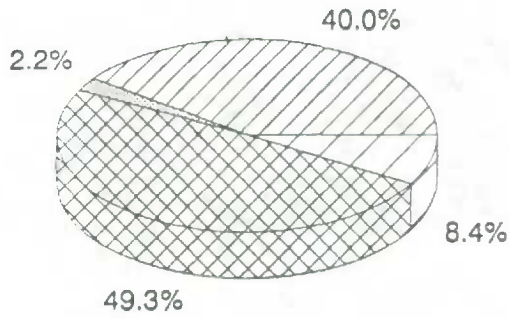
WHEN

- o TIME OF DAY
- o DATE
- o DAY OF WEEK

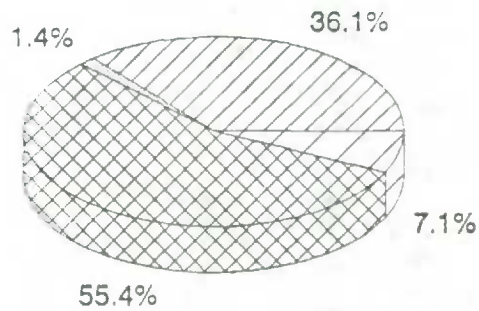


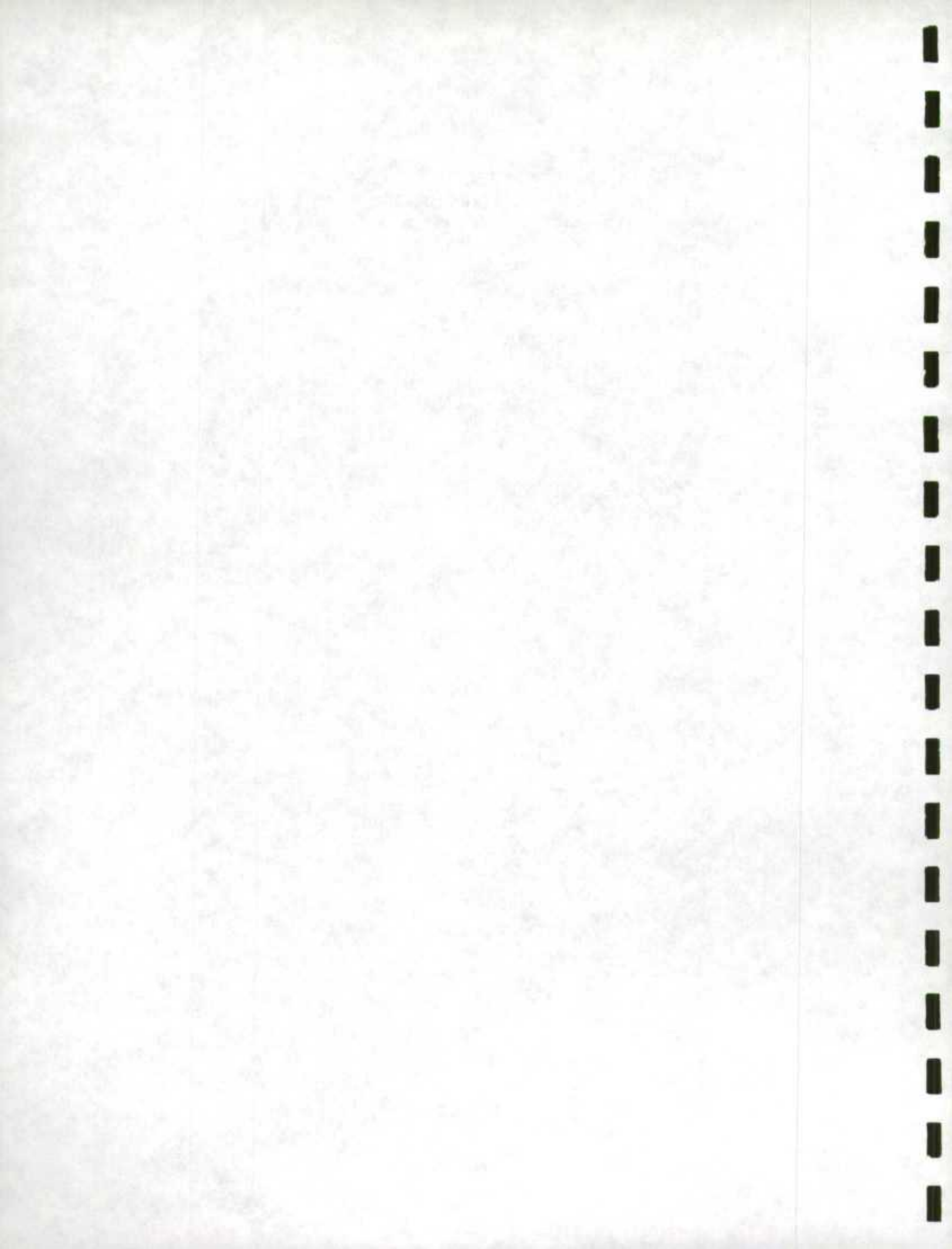
PERCENTAGE OF FREIGHT WEIGHT
BY TYPE OF TRIP
Q.E.W. 1990 COMMERCIAL VEHICLE SURVEY

NORTHBOUND



SOUTHBOUND





- 6 strata with 30 6-hour stints over the 6 week period

Stratum 1: Atlantic Provinces

Stratum 2: Quebec

Stratum 3: Ontario (Southwestern Ontario)

Stratum 4: Other Ontario

Stratum 5: Prairie Provinces

Stratum 6: British Columbia

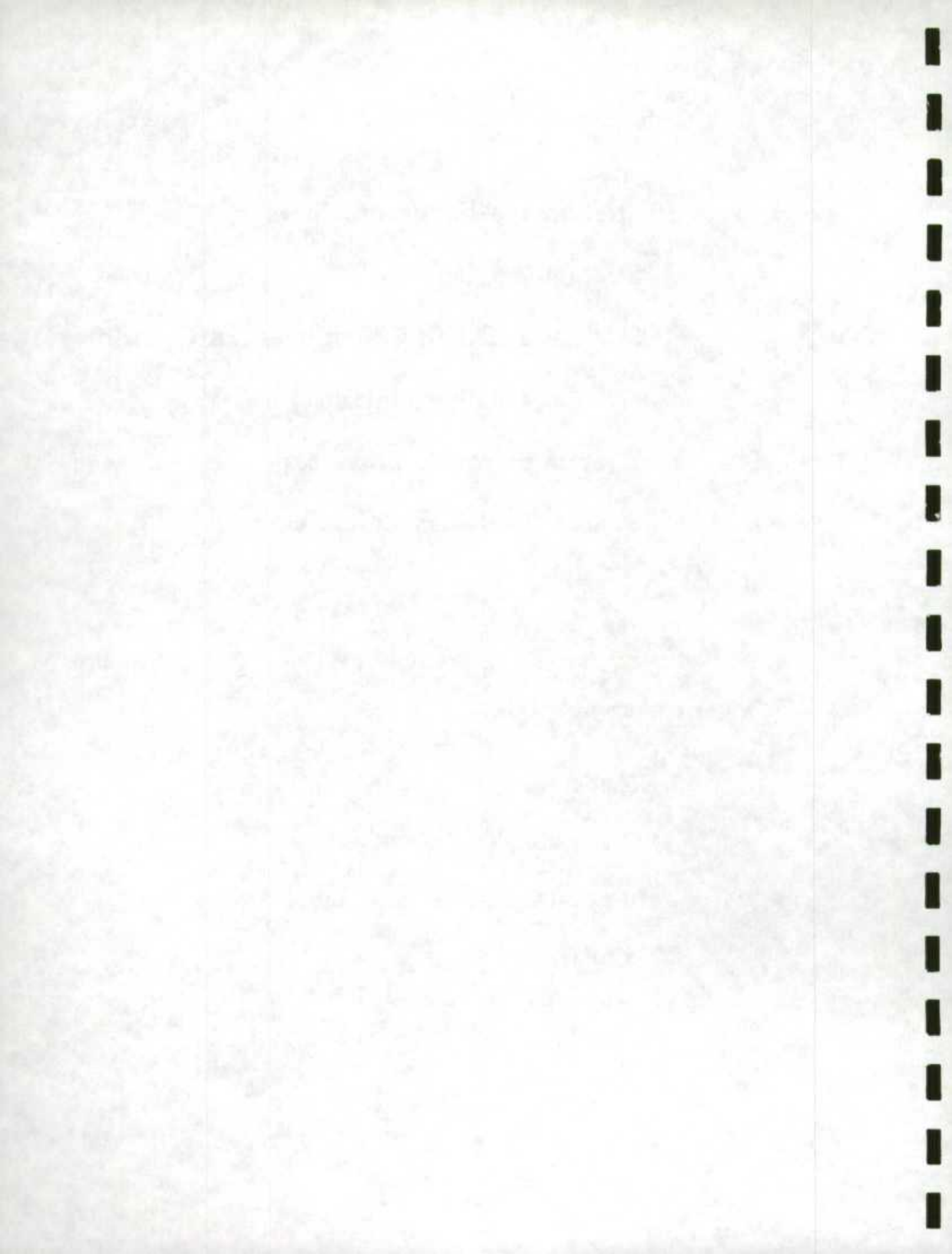
SAMPLE SIZE

13,475 observations

290 unusable

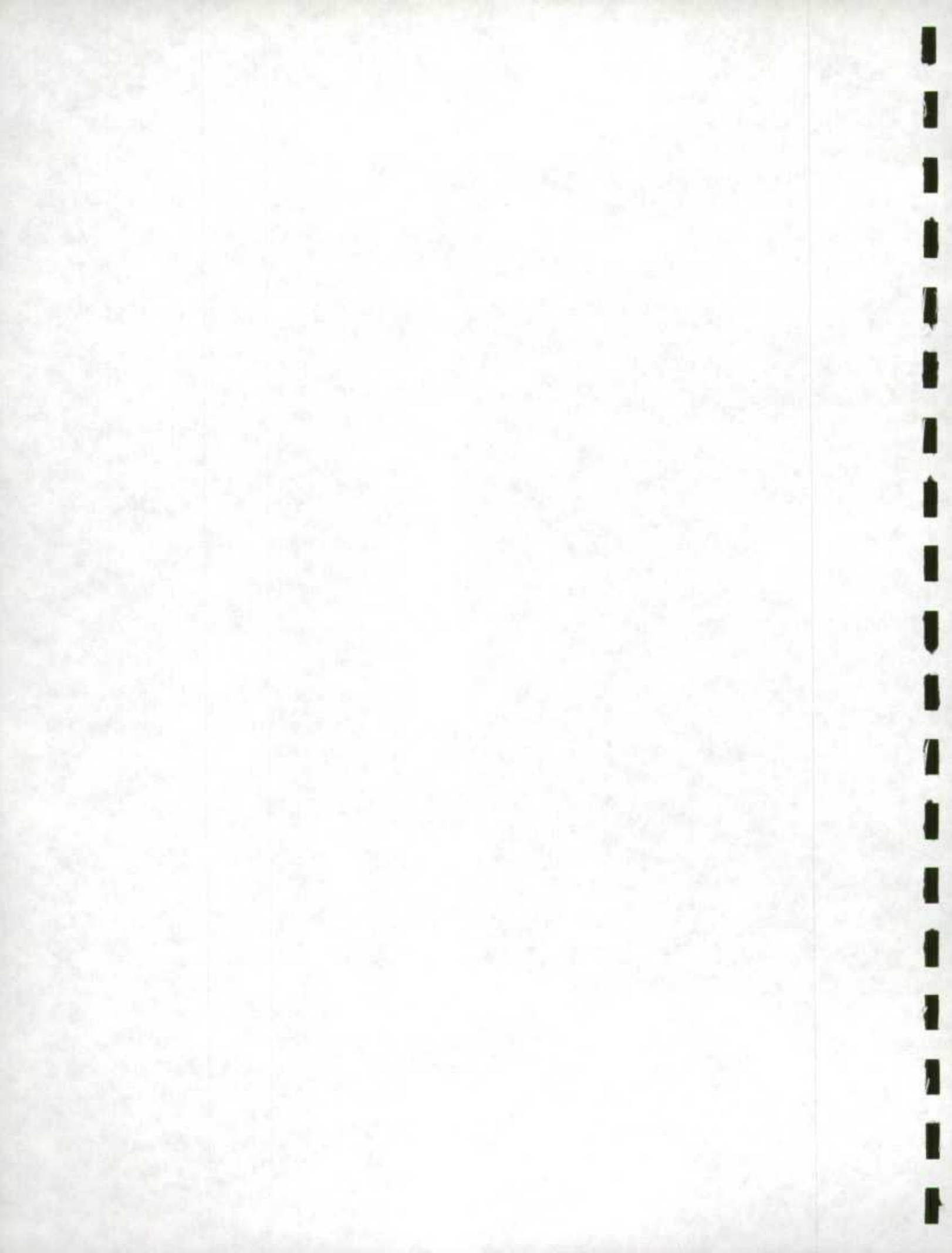
450 non-transborder movement

12,735 total



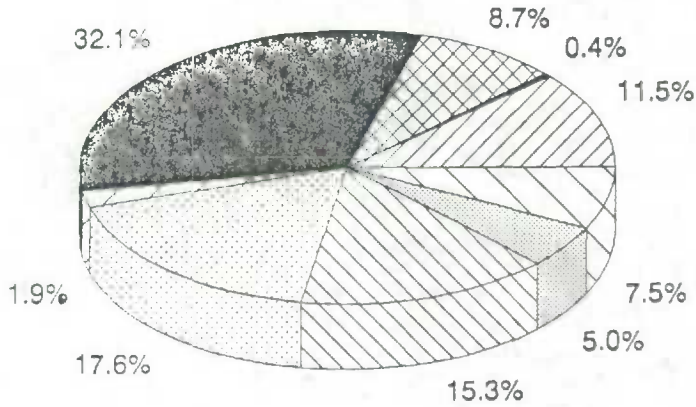
MARKET SHARE BY PERCENTAGE OF TRUCKS
Q.E.W. ROAD-SIDE SURVEYS



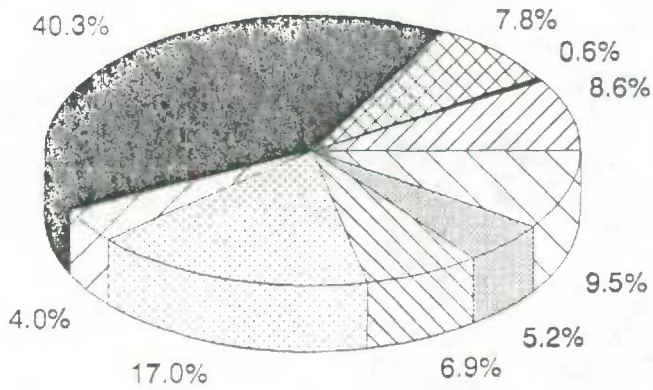


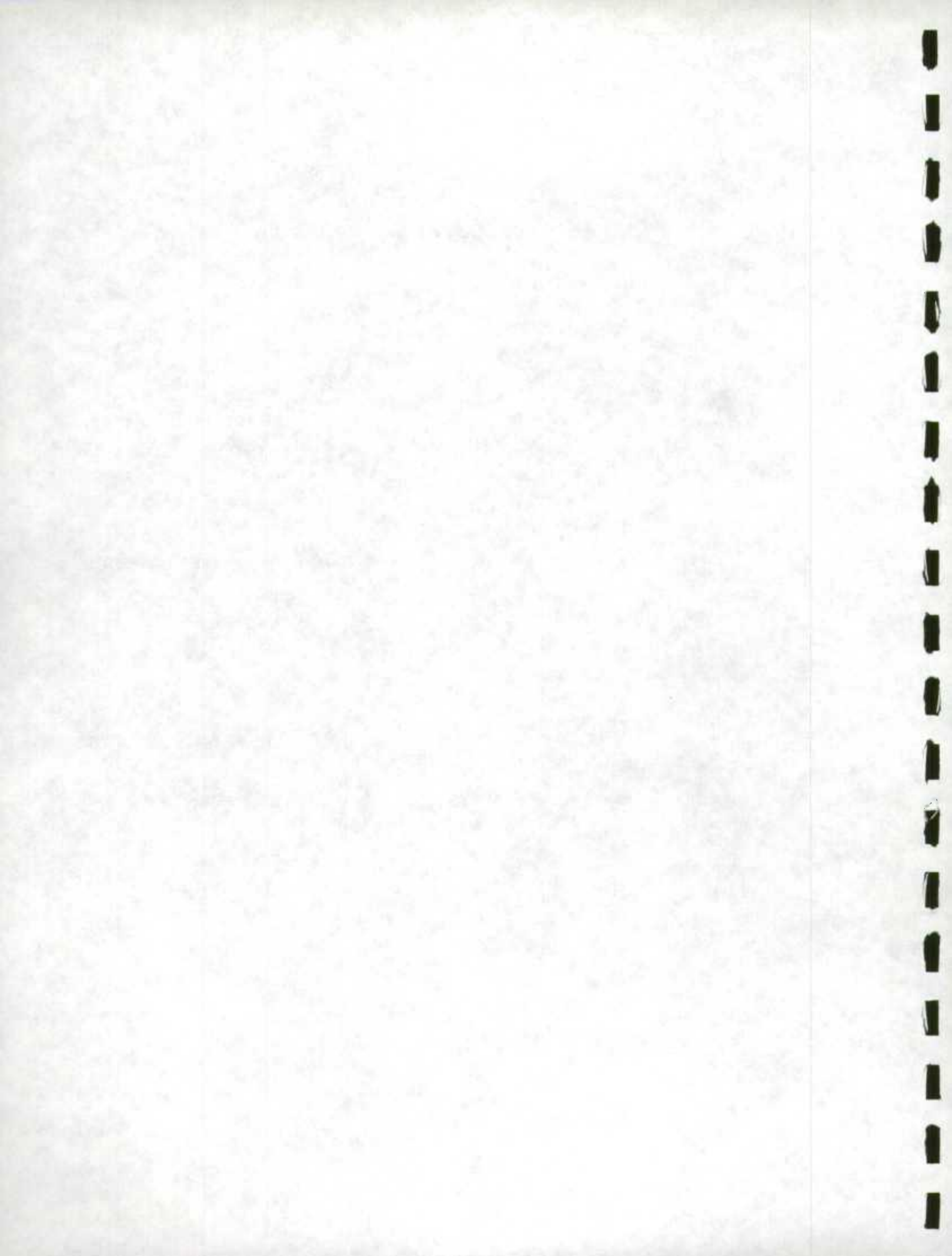
COMMODITY TYPES
INTERNATIONAL TRIPS ON Q.E.W.
1990 COMMERCIAL VEHICLE SURVEY

NORTHBOUND

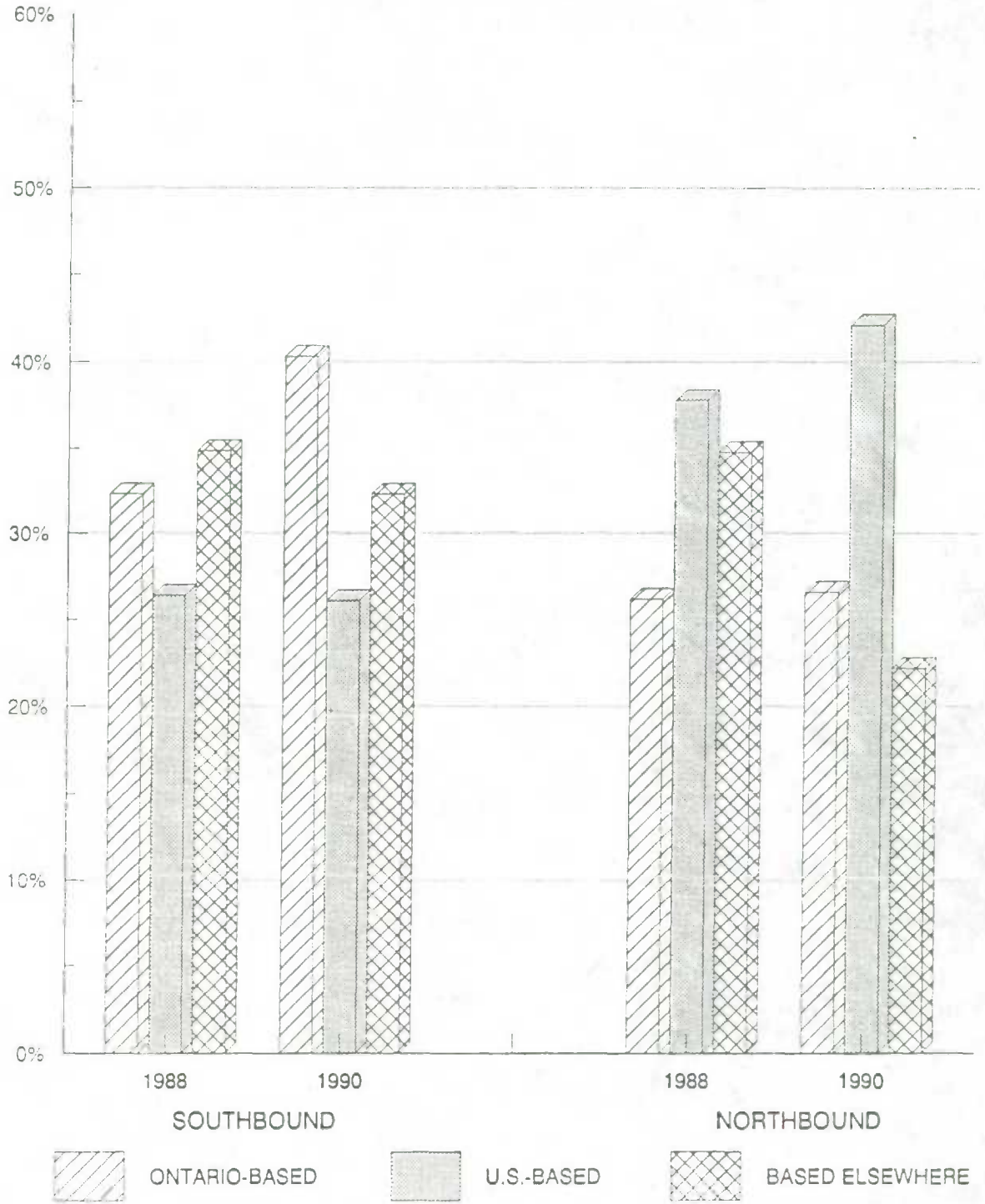


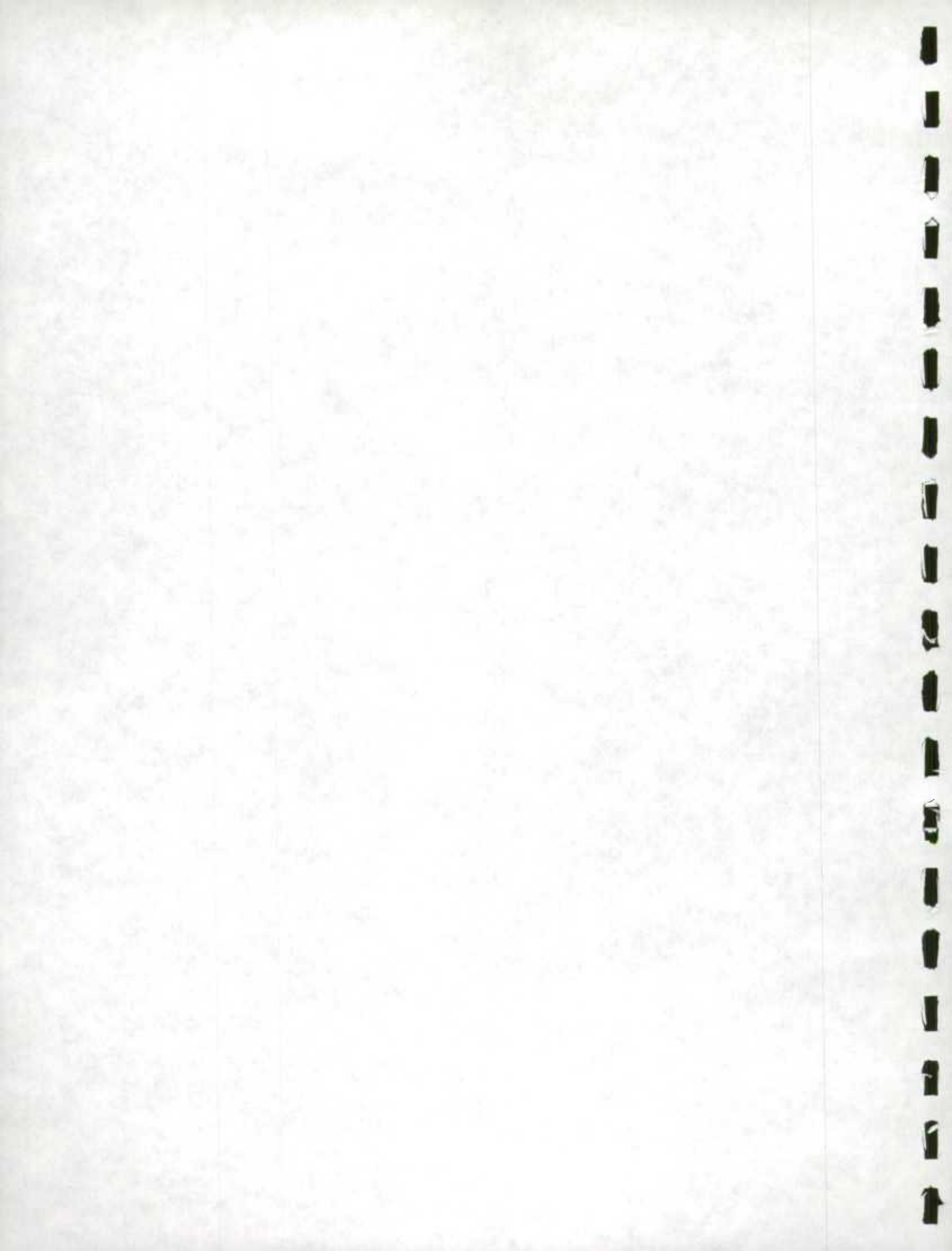
SOUTHBOUND





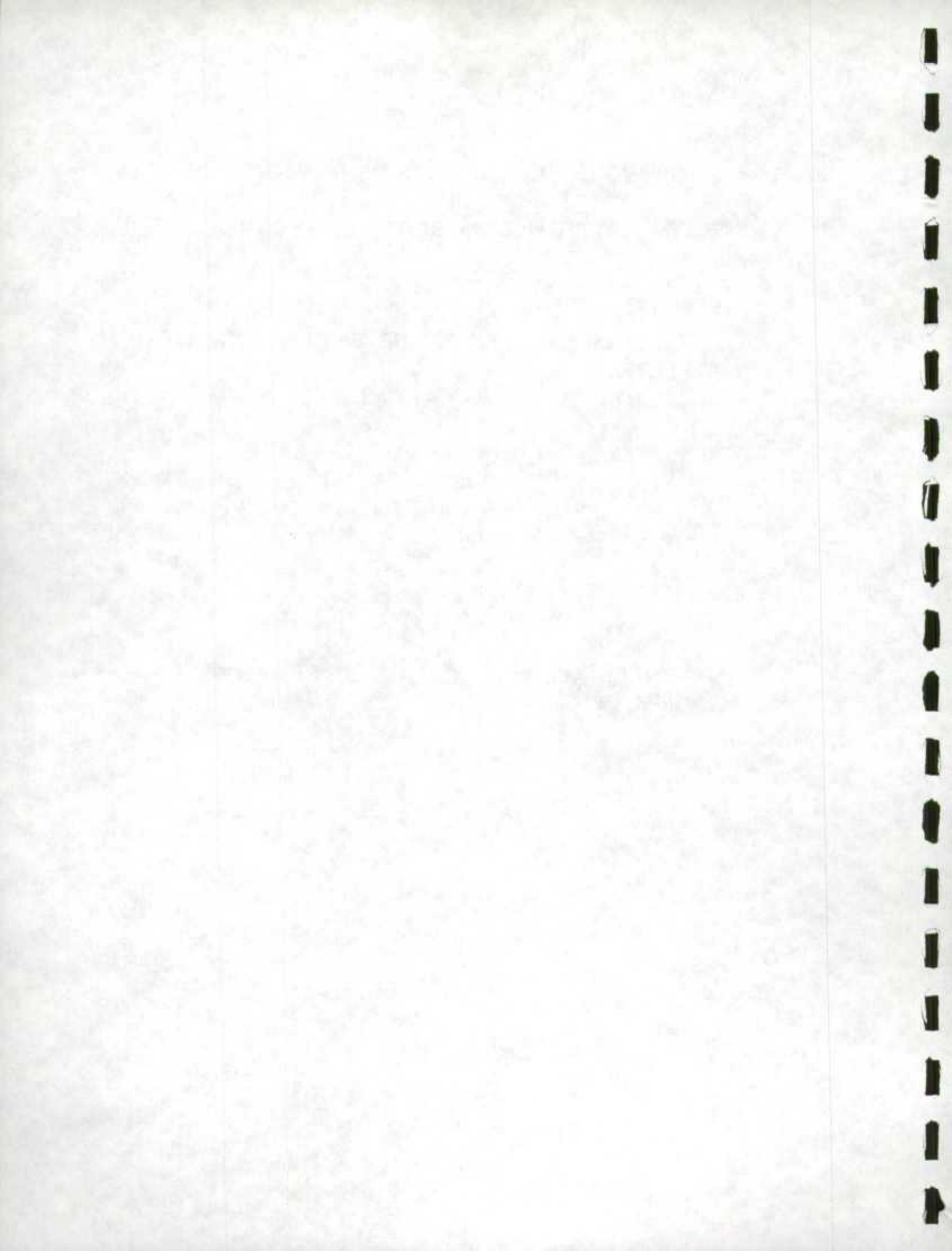
OCCURRENCE OF EMPTY TRUCKS VERSUS BASE OF OPERATION Q.E.W. ROAD-SIDE SURVEYS



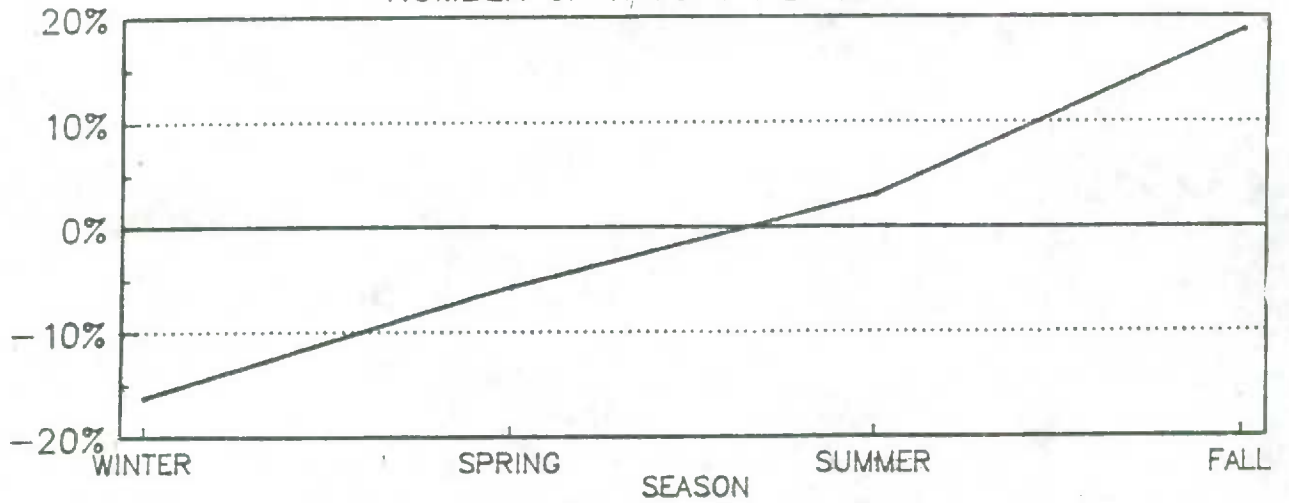


FACTORS AFFECTING RESULTS OF ROAD-SIDE SURVEYS

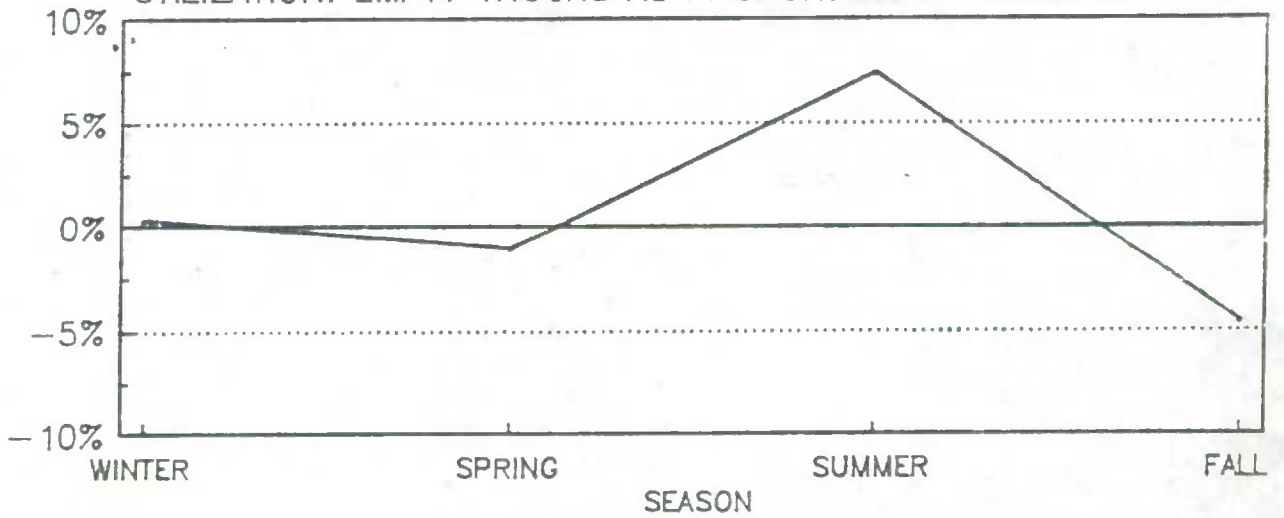
- o ANALYSIS PERFORMED ON RESULTS FROM TWO SURVEYS ON Q.E.W.
- o 1988 SURVEY:
 - FOUR SEASONAL 24-HOUR SURVEYS IN EACH DIRECTION
 - USED TO ANALYZE VARIATIONS BY SEASON
- o 1990 SURVEY
 - 5-DAY SURVEY 24-HOURS A DAY IN EACH DIRECTION
 - USED TO ANALYZE VARIATIONS BY TIME OF DAY AND BY DAY OF WEEK
- o EXAMINED TWO THINGS:
 1. DO TRUCK VOLUMES VARY BY TIMING-RELATED FACTORS
 2. DO TRUCK ACTIVITY CHARACTERISTICS VARY INDEPENDENTLY OF VOLUMES



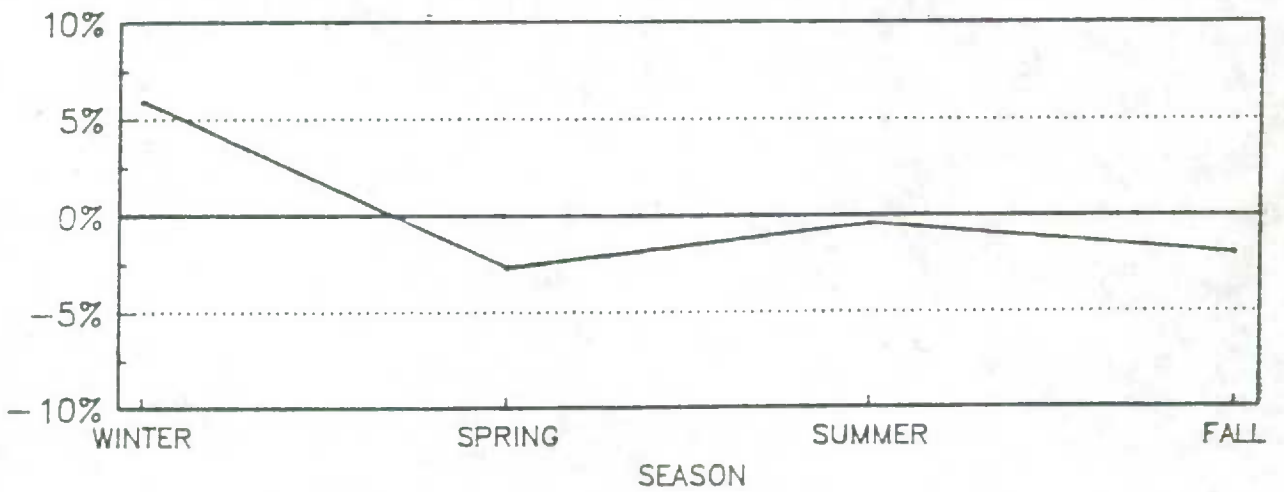
VARIATION FROM AVERAGE BY SEASON
NUMBER OF TRUCKS PER DAY

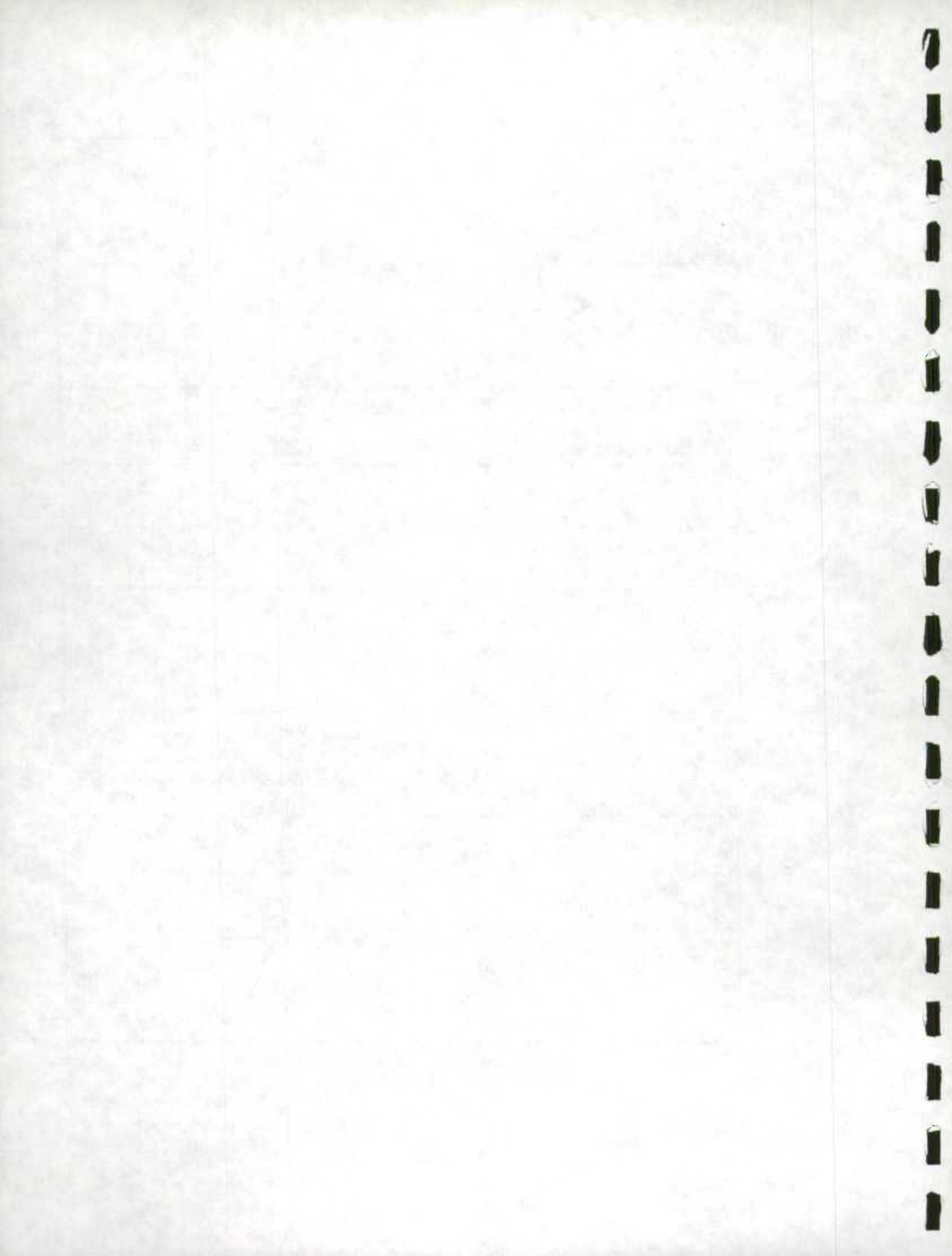


UTILIZATION: EMPTY TRUCKS AS PROPORTION OF TOTAL TRUCKS



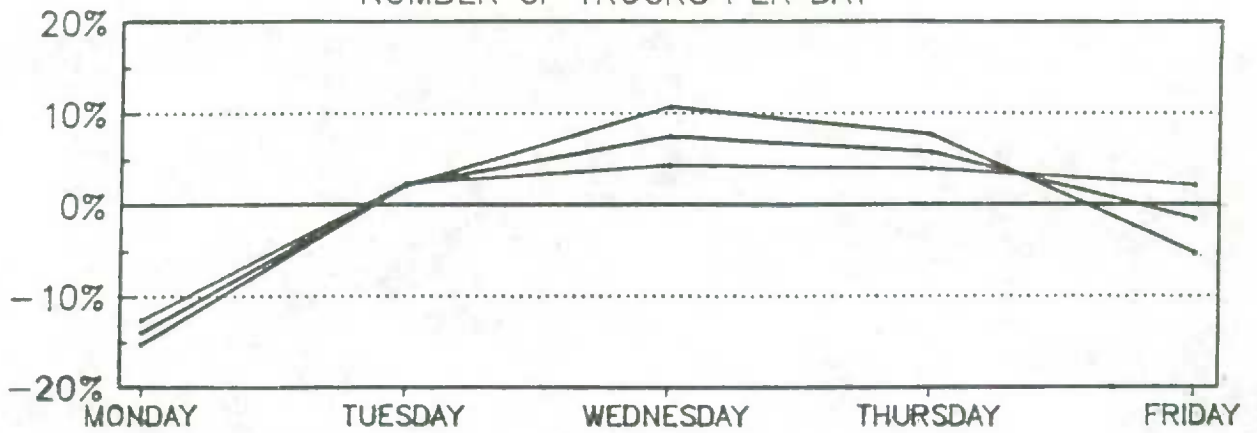
TRIP TYPE: INTERNATIONAL TRIPS AS PROPORTION OF TOTAL TRIPS



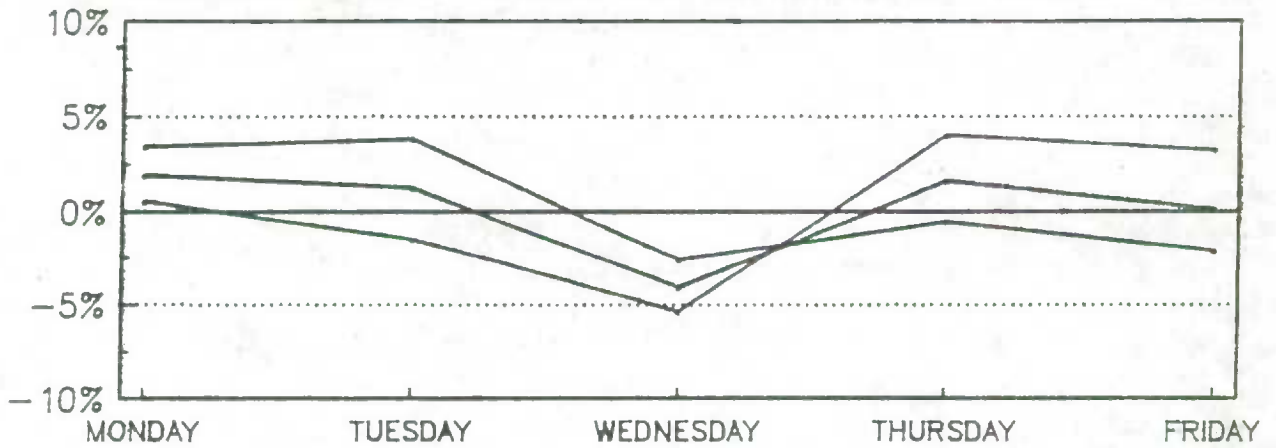


VARIATIONS FROM AVERAGE BY DAY OF THE WEEK

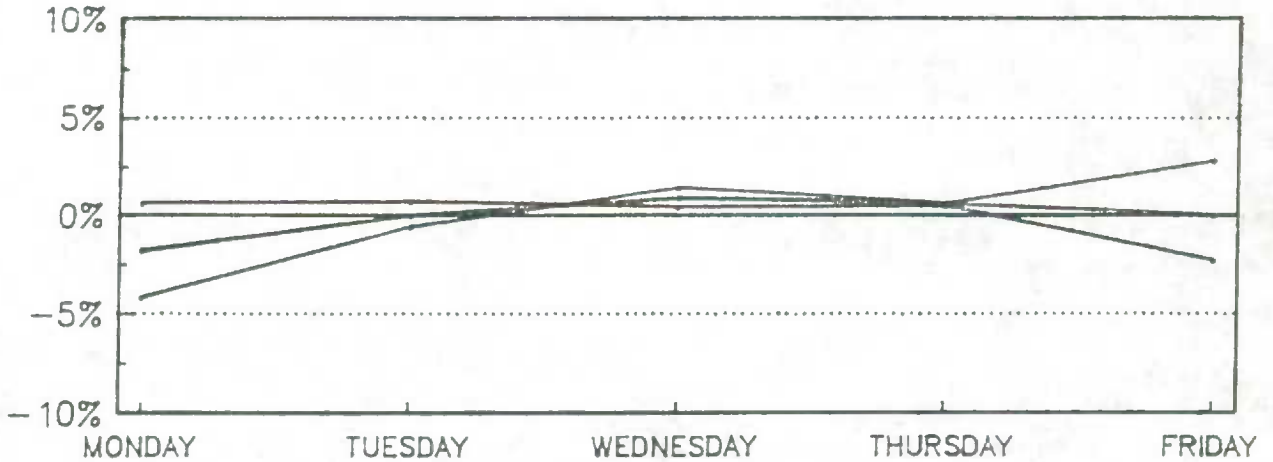
NUMBER OF TRUCKS PER DAY



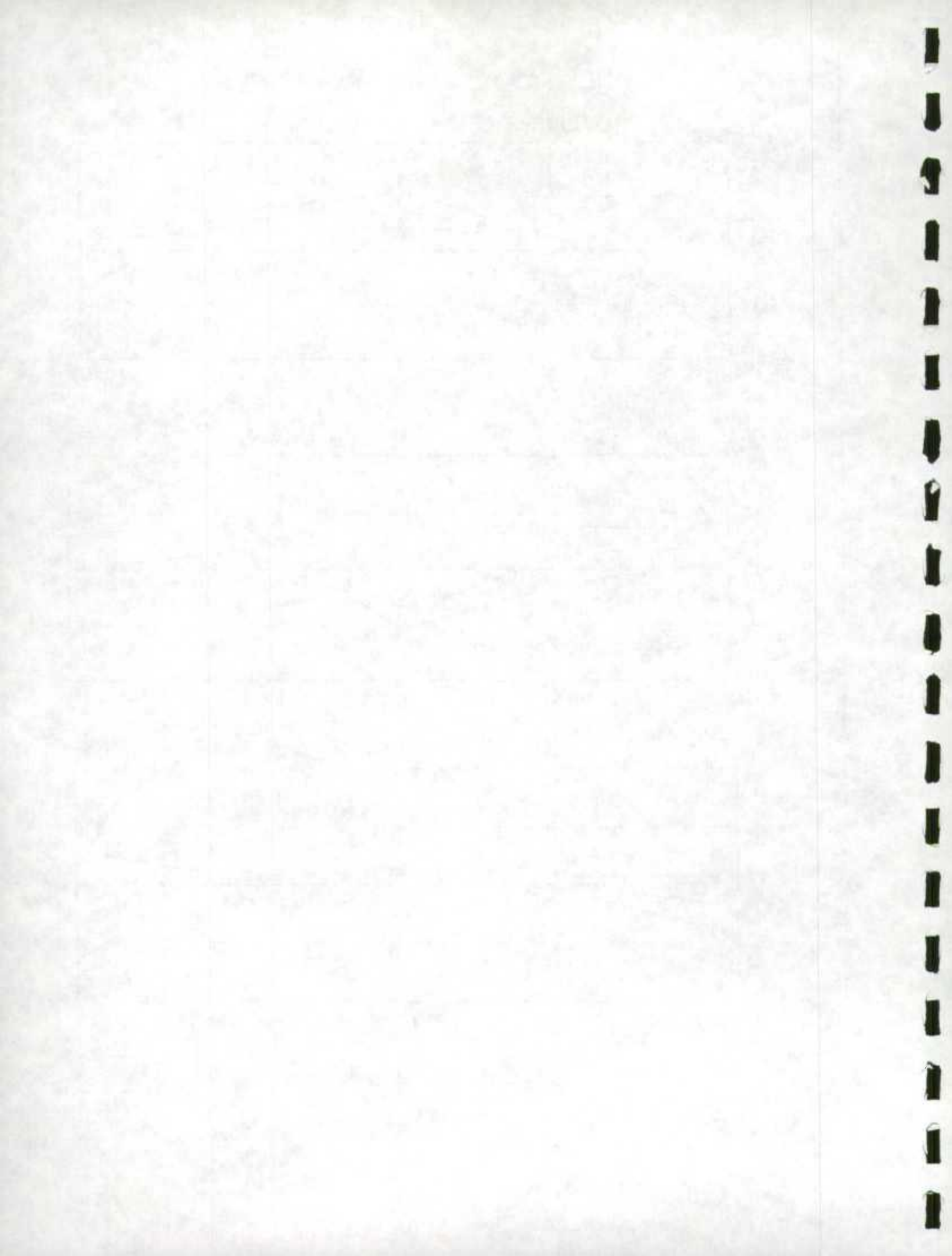
UTILIZATION: EMPTY TRUCKS AS PROPORTION OF TOTAL TRUCKS



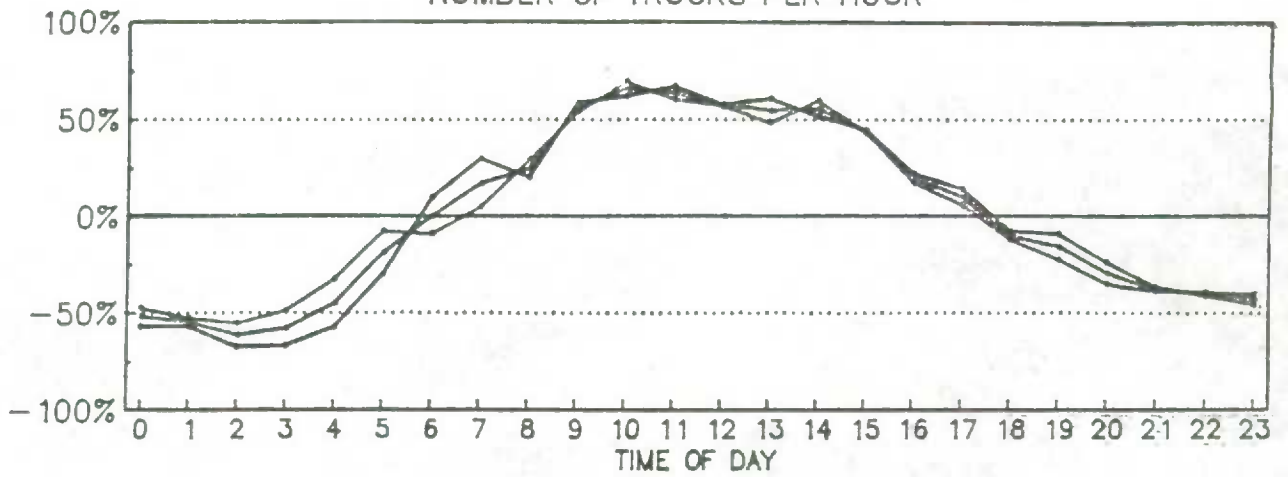
TRIP TYPE: INTERNATIONAL TRIPS AS PROPORTION OF ALL TRIPS



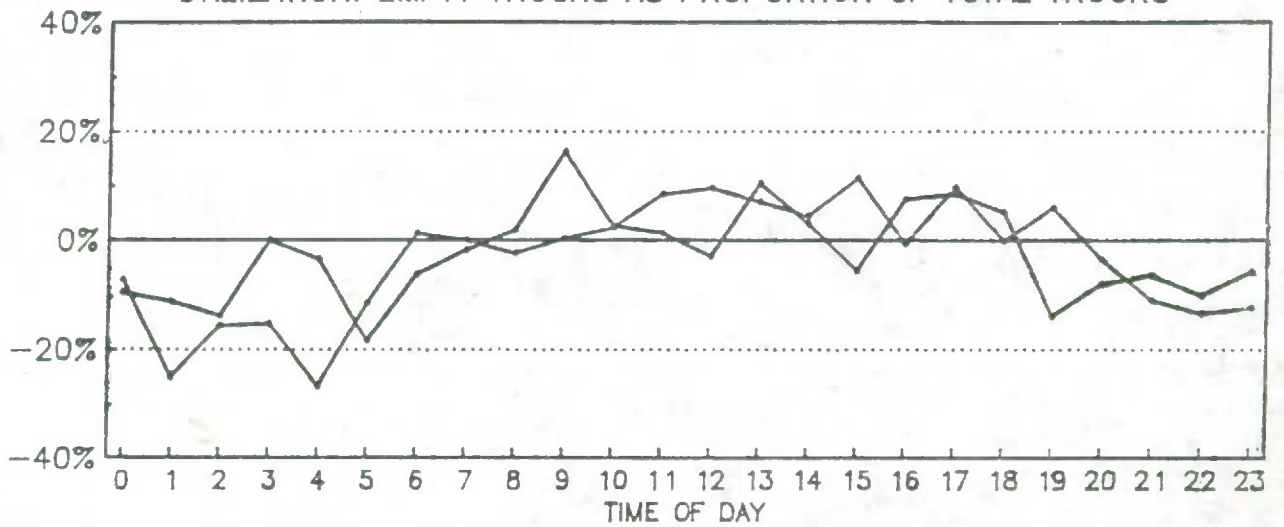
STATION 232 STATION 235 BOTH



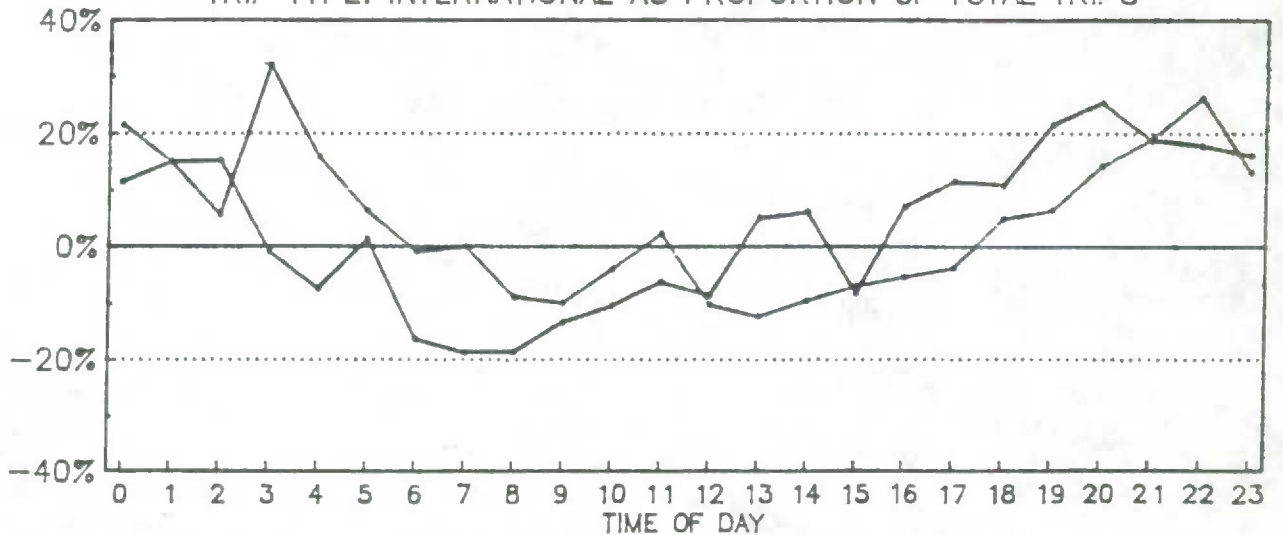
VARIATIONS FROM AVERAGE BY TIME OF DAY
NUMBER OF TRUCKS PER HOUR



UTILIZATION: EMPTY TRUCKS AS PROPORTION OF TOTAL TRUCKS



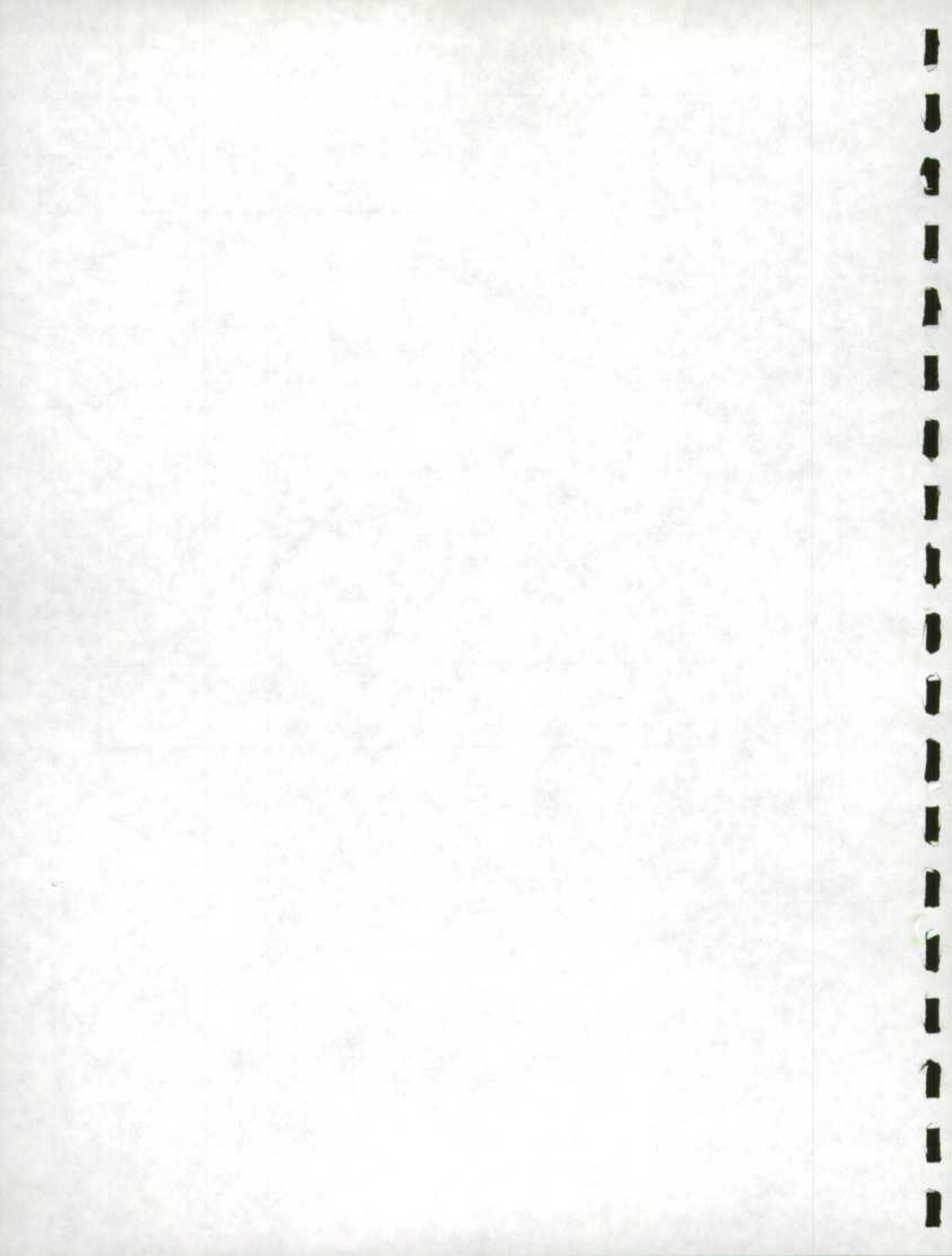
TRIP TYPE: INTERNATIONAL AS PROPORTION OF TOTAL TRIPS



STATION 232

STATION 235

BOTH

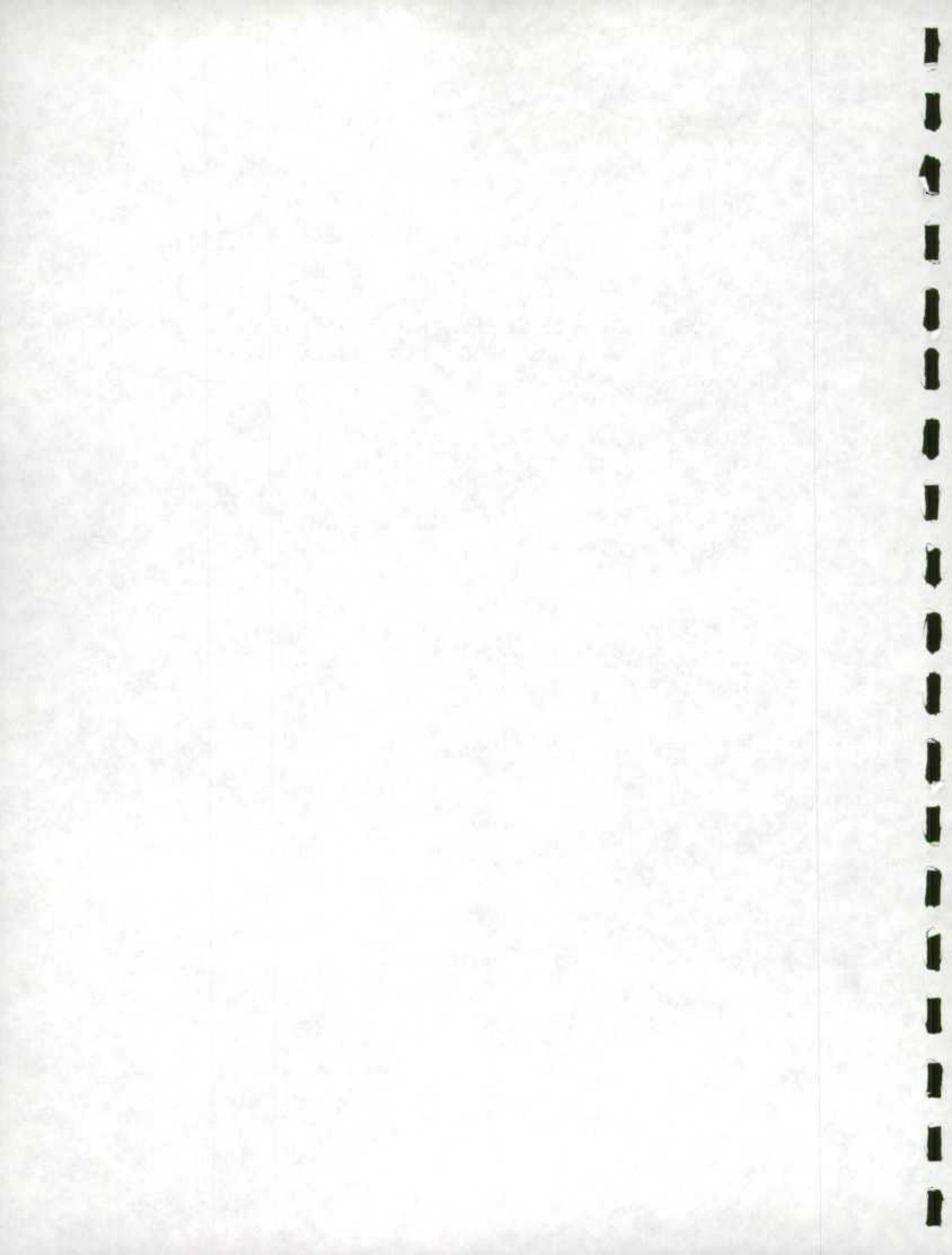


RESULTS OF STUDY

- o SIGNIFICANT VARIATIONS IN BOTH TRAFFIC VOLUMES AND TRAFFIC CHARACTERISTICS BY TIME OF DAY
 - ANYTHING LESS THAN 24-HOUR SURVEY IN EACH DIRECTION WILL YIELD QUESTIONABLE RESULTS

- o SIGNIFICANT VARIATIONS IN TRAFFIC VOLUMES BY DAY OF WEEK AND BY SEASON
 - SINGLE DAY ROADSIDE SURVEYS SHOULD NOT BE USED TO PROJECT TRAFFIC VOLUMES

- o ALTHOUGH SOME VARIATIONS IN TRAFFIC CHARACTERISTICS BY DAY OF WEEK AND BY SEASON, USUALLY IN 5% RANGE
 - THEREFORE CAN BE VERY USEFUL TO MONITOR TRENDS

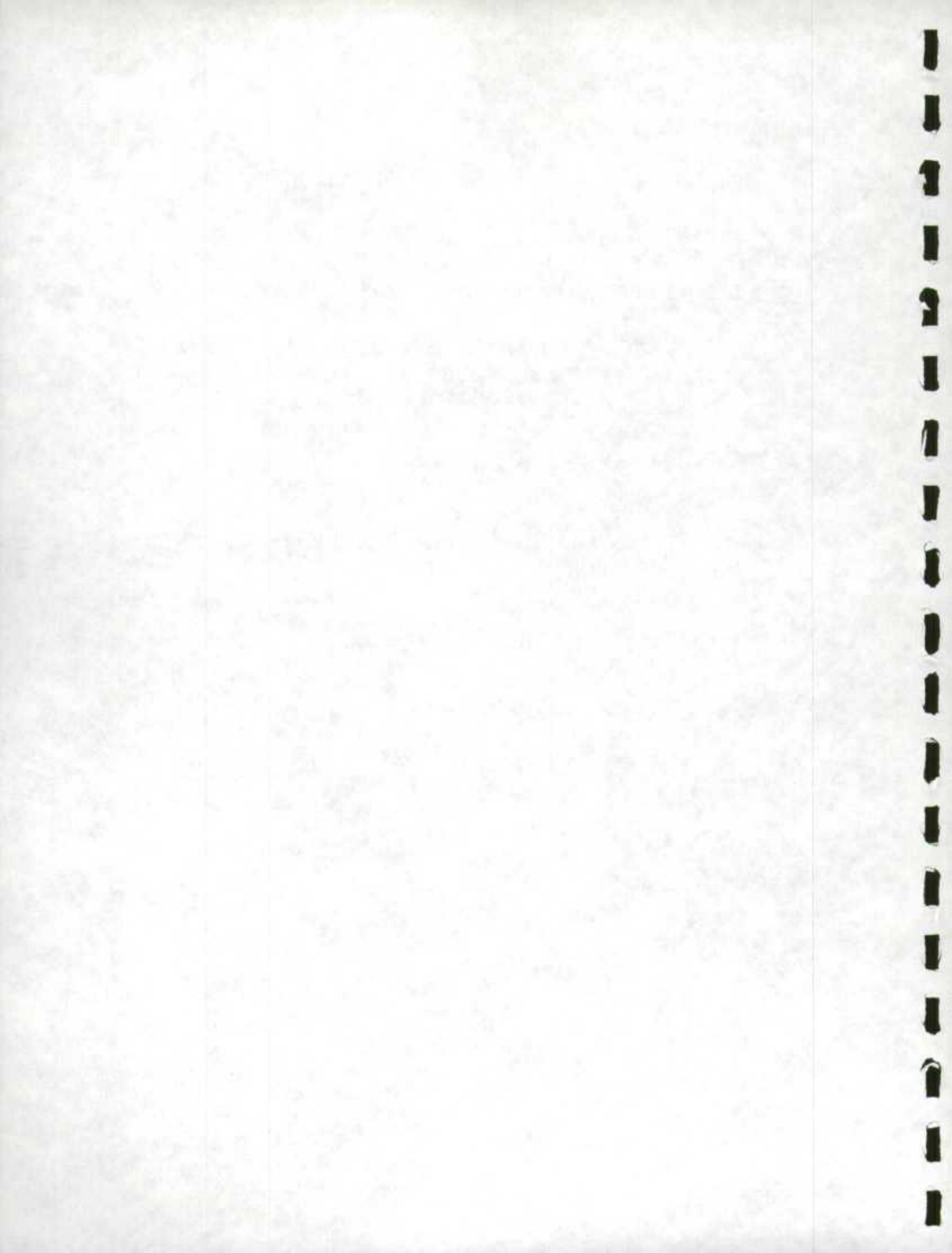


CAUTIONS & LIMITATIONS

- DIFFERENCES IN TRAFFIC VOLUMES & CHARACTERISTICS EXIST BETWEEN DIFFERENT SURVEY LOCATIONS
 - PROVINCE-WIDE ANALYSIS REQUIRES THAT SEVERAL LOCATIONS BE SURVEYED
 - FOR TREND ANALYSIS SURVEY LOCATIONS MUST BE THE SAME IN EACH OF THE SURVEY YEARS

- CHANGES IN SURVEY METHODOLOGY AND TRAINING WILL AFFECT SURVEY RESULTS

- OTHER FACTORS SUCH AS WEATHER, ROAD CONSTRUCTION, ACCIDENTS, STRIKES & BLOCKADES WILL INFLUENCE SURVEY RESULTS



RECOMMENDATIONS TO 1991 FEDERAL-PROVINCIAL
COMMITTEE ON TRANSPORTATION STATISTICS

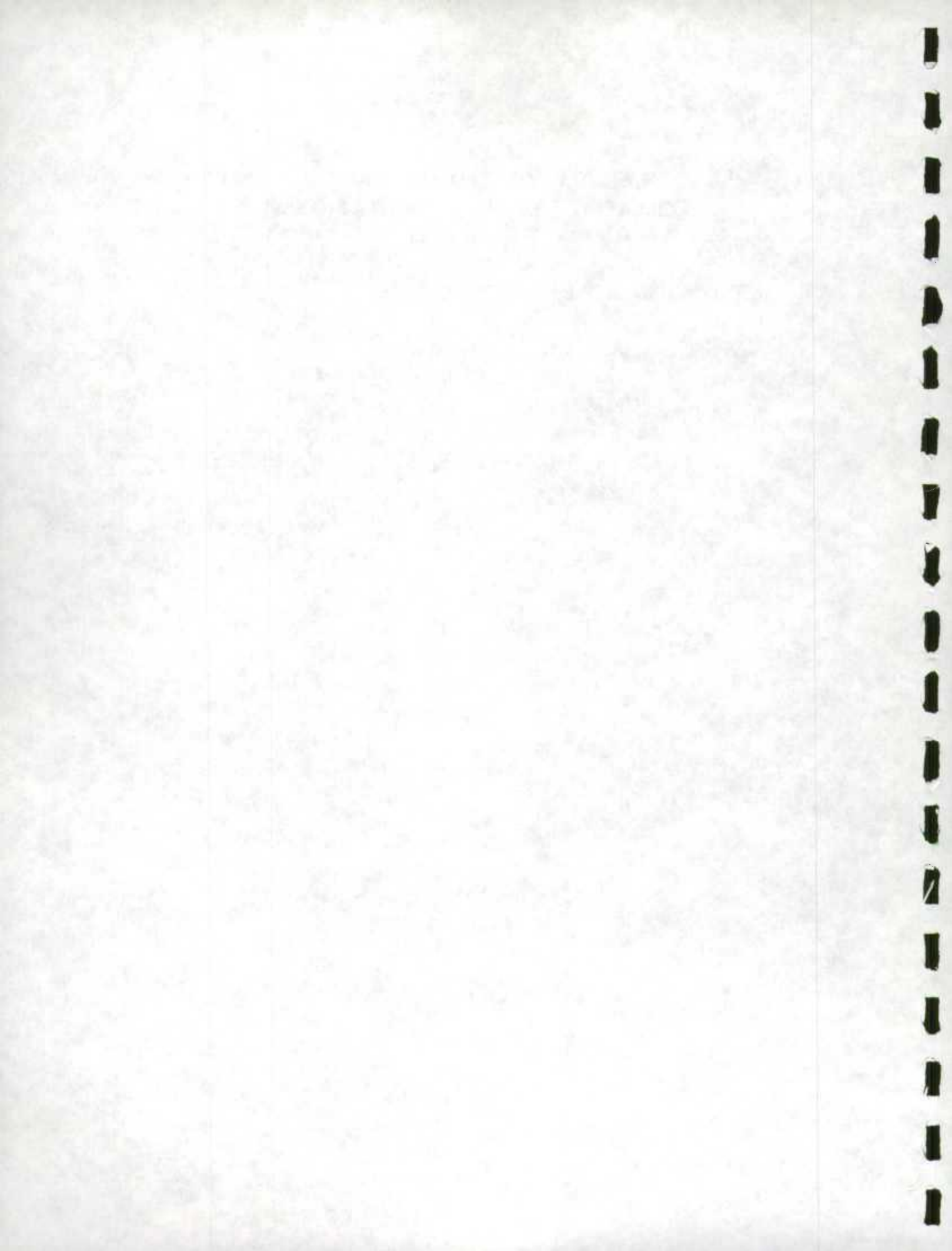
o ESTABLISH A WORKING GROUP:

AT THE VERY MINIMUM TO:

- SHARE INFORMATION
- CO-ORDINATE DATA WITH STATSCAN SURVEYS

POSSIBLY TO:

- CO-ORDINATE SURVEY EFFORTS
- CONDUCT FURTHER RESEARCH ON ROAD-SIDE
METHODOLOGY



FUTURE WORK REQUIRED

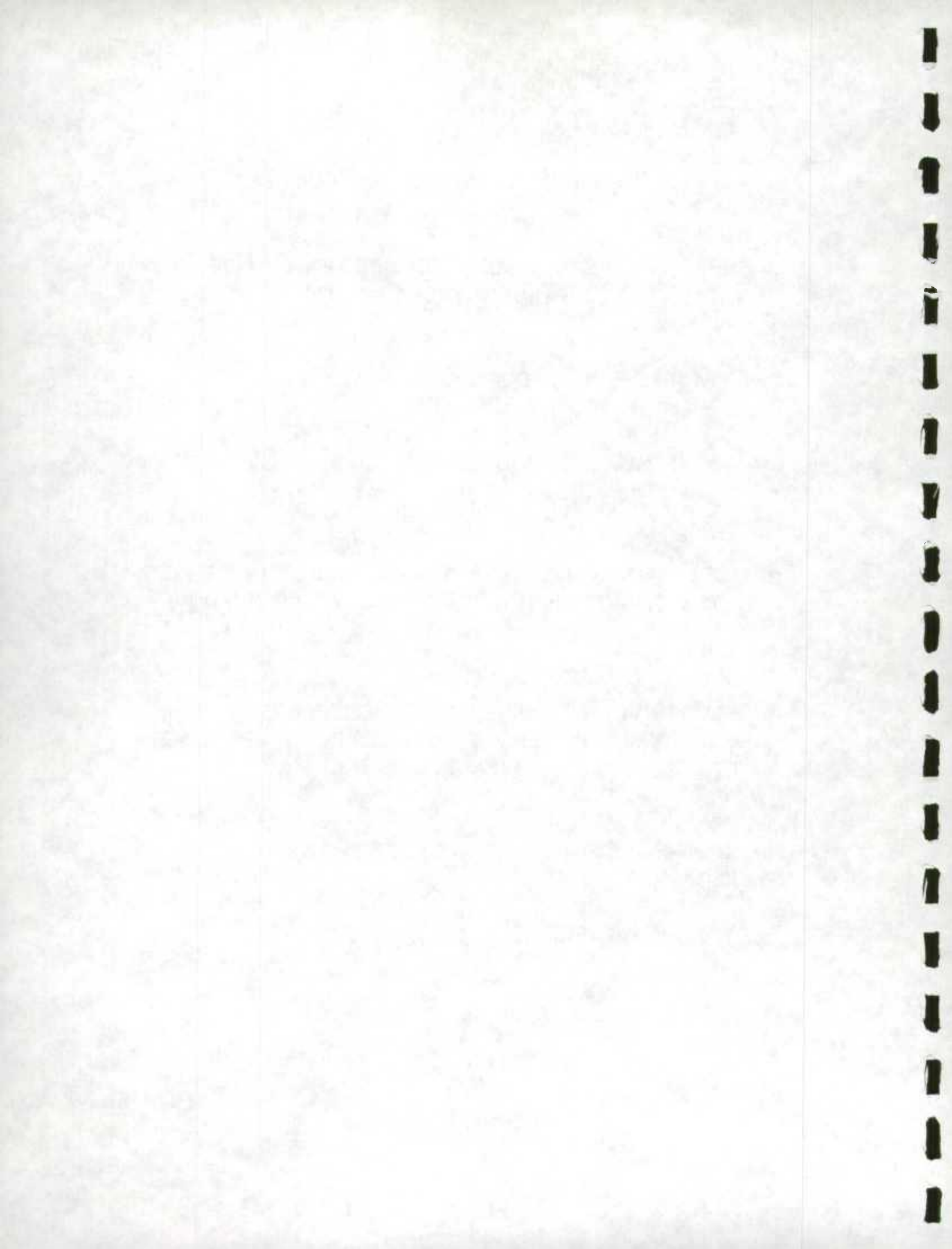
- o THERE IS A NEED TO DEVELOP AN APPROPRIATE DATABASE FOR VALID TREND ANALYSIS

- o DATABASE FOR AN INSPECTION STATION WOULD BE DEVELOPED FROM A:
 - 5 WEEKDAY, 24-HOUR A DAY SURVEY FOR EACH OF THE FOUR SEASONS FROM THE SAME YEAR

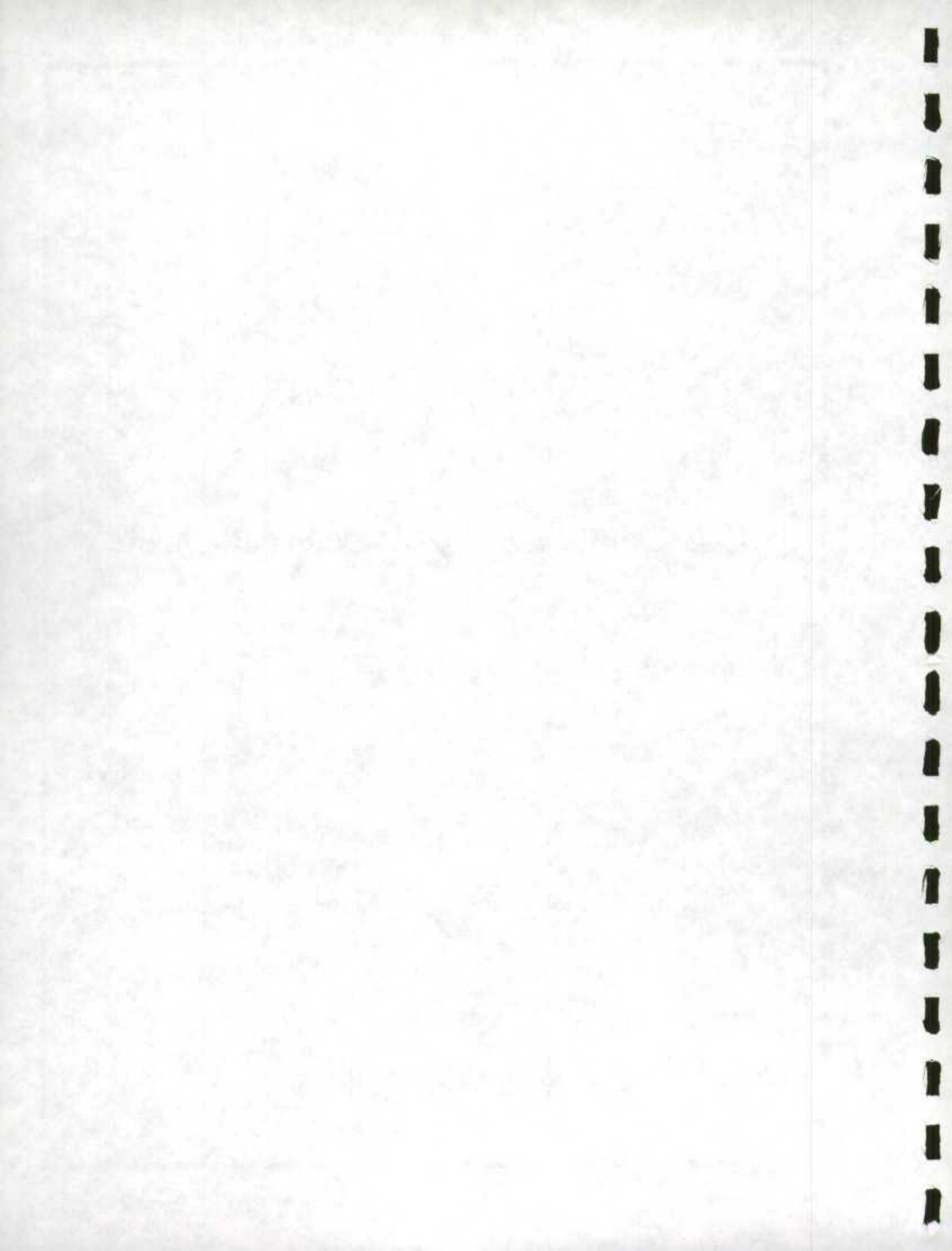
- o THE RELIABILITY OF ANALYSIS WOULD BE INCREASED IF THE TIMING OF THE SURVEY COULD BE HELD CONSTANT OVER SEVERAL YEARS

- o FULL SURVEYS OF SEVERAL REPRESENTATIVE LOCATIONS THROUGHOUT THE PROVINCE NEED TO BE CONDUCTED TO DEVELOP PROVINCIAL INDICATORS

- o EXPLORE POTENTIAL TO COLLECT DATA ELECTRONICALLY
 - E.G. I-75 PROJECT



1989 QUÉBEC COMMERCIAL VEHICLE SURVEY



1. SURVEY OBJECTIVES

To fulfill many gaps in the knowledge of the trucking industry and assist the ministry in activities related to policies, regulations and planning, a roadside survey was undertaken in 1989 with the following objectives :

- collect information on economic characteristics of the trucking industry related to the drivers and carriers, the loads, the goods movement;
- collect information on technical characteristics of the vehicles and their loads;
- establish a profile for both the extraprovincial and intraprovincial segments of trucking activities with a special emphasis on interregional trucking inside Quebec.

2. METHODOLOGY

● Survey type

- Roadside survey on the Quebec road system
- Data collected by :
 - driver's interview
 - observation of vehicle characteristics

● Survey features

- Carried out between May 23, 1989 and June 20, 1989
- 72 survey locations
- 6 or 12 hour survey periods for each location
- Four different questionnaires were used, the longest including 25 questions
- 2929 interviews completed

● Survey staff and process

- One person performing a classification count
- A second person giving directions to vehicles (randomly chosen) toward survey facilities
- A third person interviewing the driver
- One person observing the characteristics of the vehicle (assisted by the survey crew chief)

● Data weighting

- Raw data were expanded to their survey period classification count

2. METHODOLOGY

- Main variables under study

- Vehicle

- Configuration

- Body style

- Number of axles, distance between axles

- Features

- Driver and carrier

- Carrier type

- Vehicle base

- Provincial/state of registration

- Driver's age and experience

- Employment category

- Annual distance driven

- Number of working and driving hours (daily and weekly)

- Load

- Main commodity

- Space utilization

- Load weight

- Gross vehicle weight (available at weight scales)

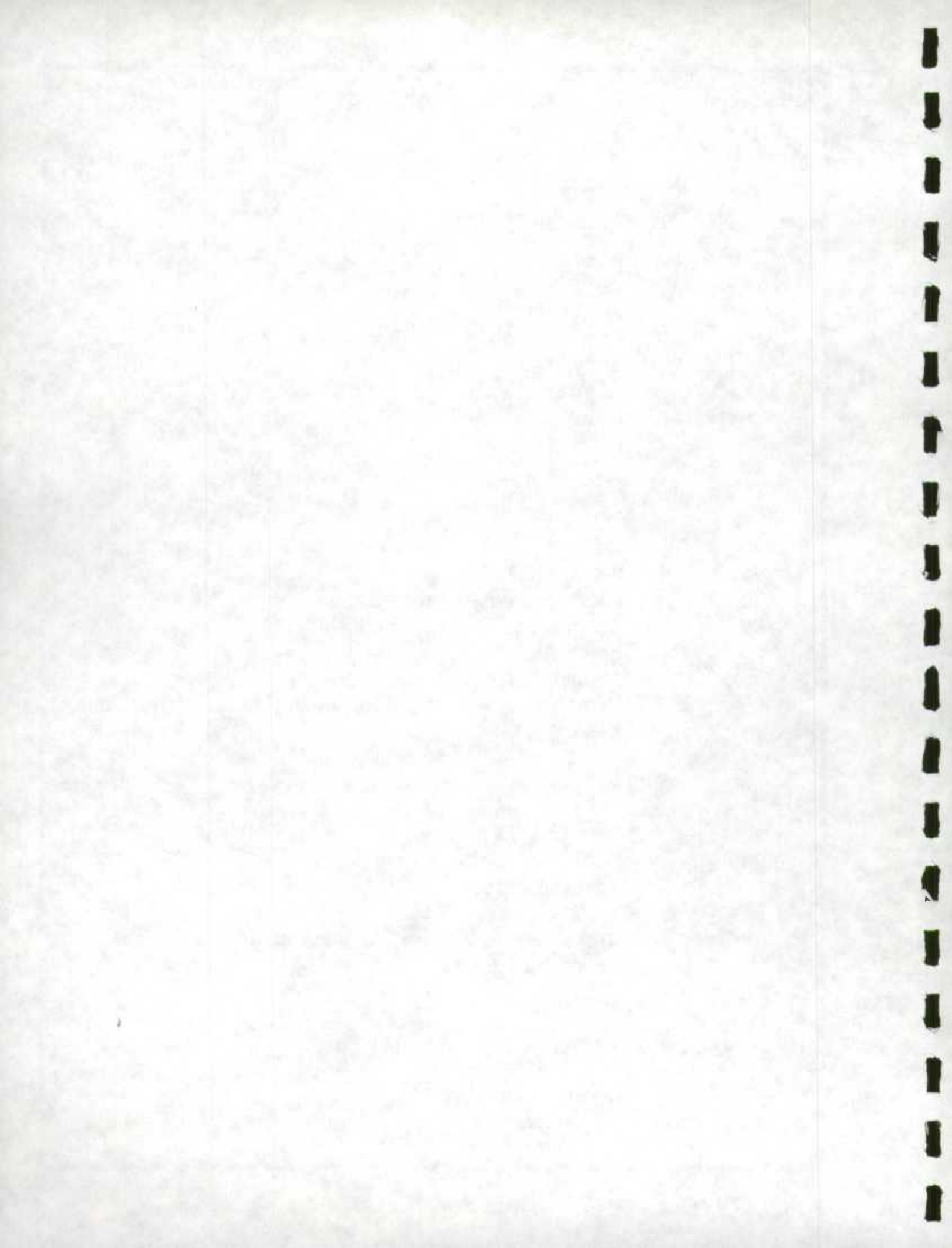
- Dangerous goods

- Movements

- Origin-destination

- Intermodal link

- Trip length



3. CONCLUSION

3.1 RESULTS

- Good data were obtained on over-all characteristics related to the drivers, carriers, vehicles and loads. However, limited capacity of disaggregating data due to the sample size.
- Less reliable results were obtained for the characteristics closely linked to the survey's locations and periods of time, such as information related to truck movements and traffic patterns.

3.2 METHODOLOGY

- Objectives

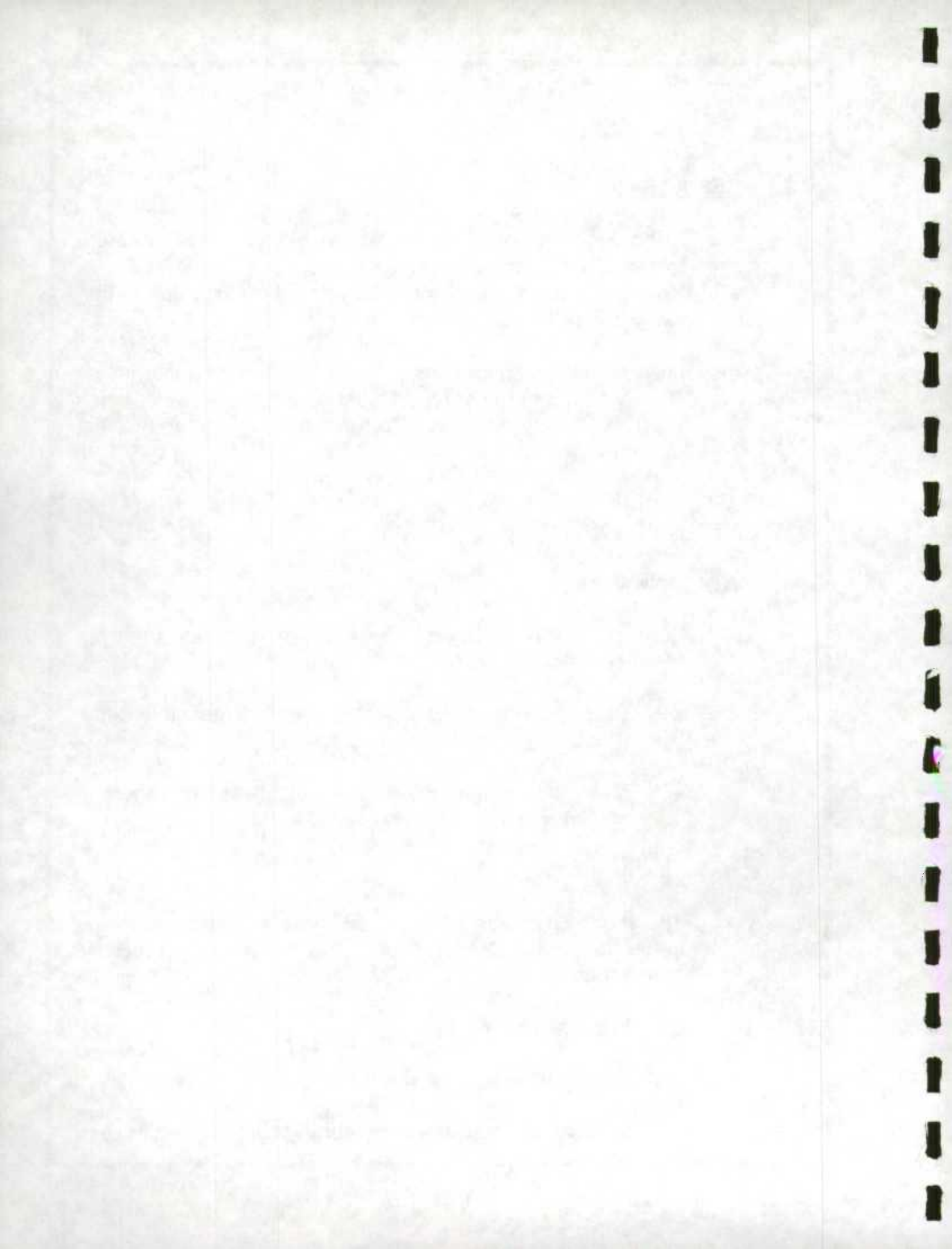
Before undertaking an extensive effort on road side surveys, it is essential to :

- Carefully define the objectives and, if possible, limit them.
- Make certain that all of these objectives are coherent and attainable within a given budget.

- Theoretical aspects

The theoretical bases of the roadside surveys have to be better defined. Research efforts are needed, especially concerning :

- Sites selection
- Appropriate weighting methods
- Appropriate measures of accuracy related to estimates.



TRANSBORDER TRUCKING SURVEY



OBJECTIVES

- Determine the share of transborder trucking
- Assess the competitiveness of Canadian firms

METHODOLOGY

TARGET POPULATION

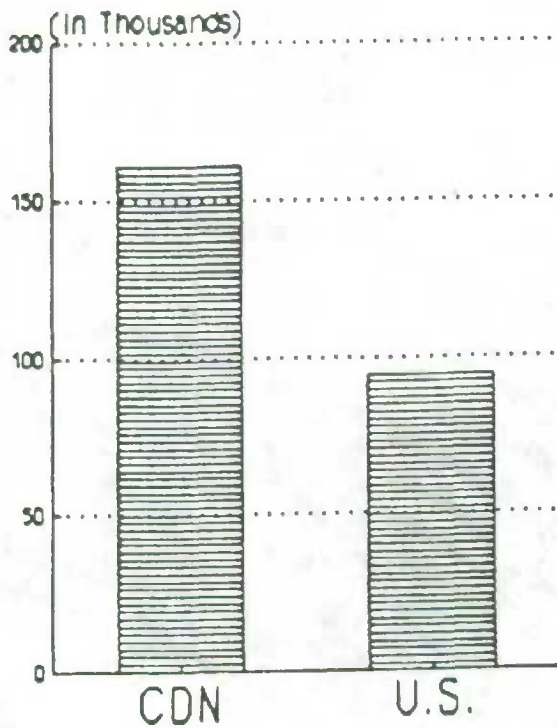
- all commercial truck traffic during Feb. 4 - March 15, 1991

SAMPLE DESIGN

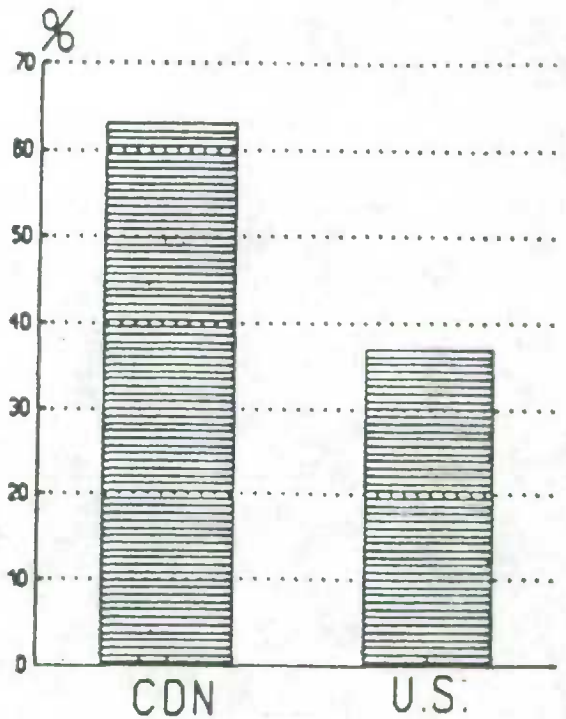
- stratified 2-stage design
 - 1) 6-hour stints at specific locations
 - 2) inbound trucks as the 2nd stage

MAJOR FINDINGS

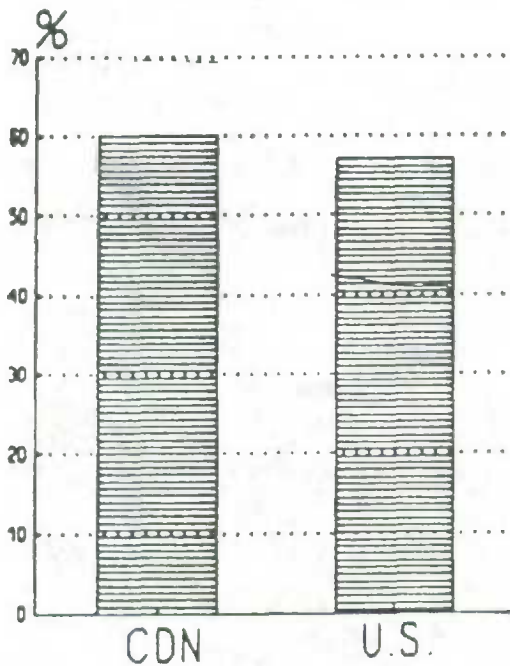
ESTIMATED MOVEMENTS



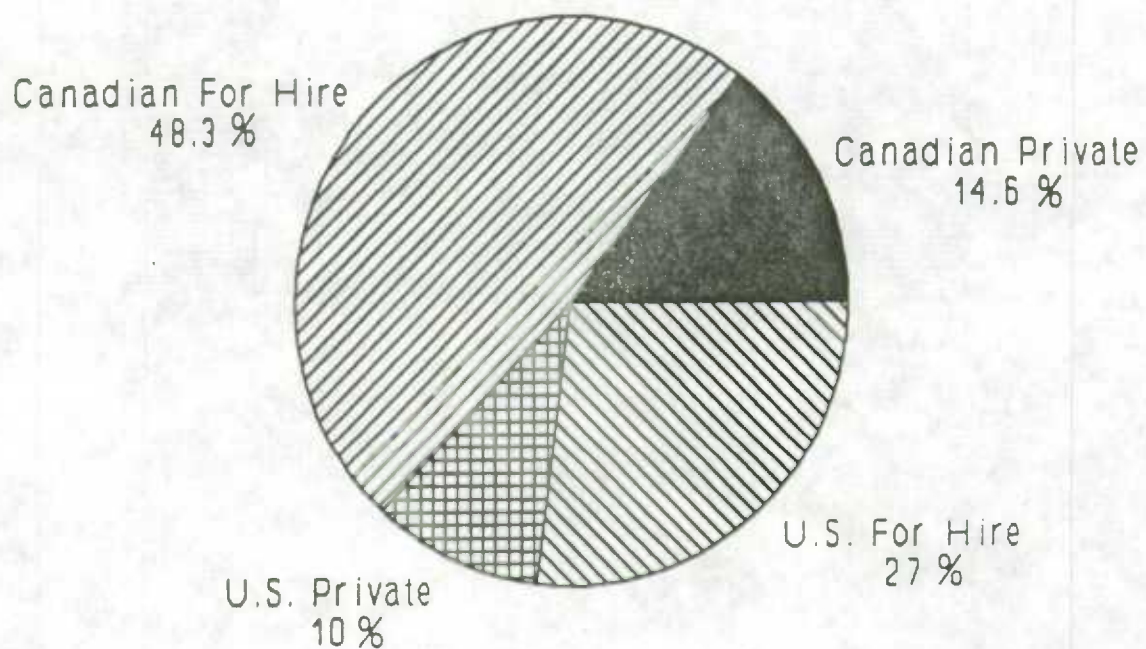
MARKET SHARE



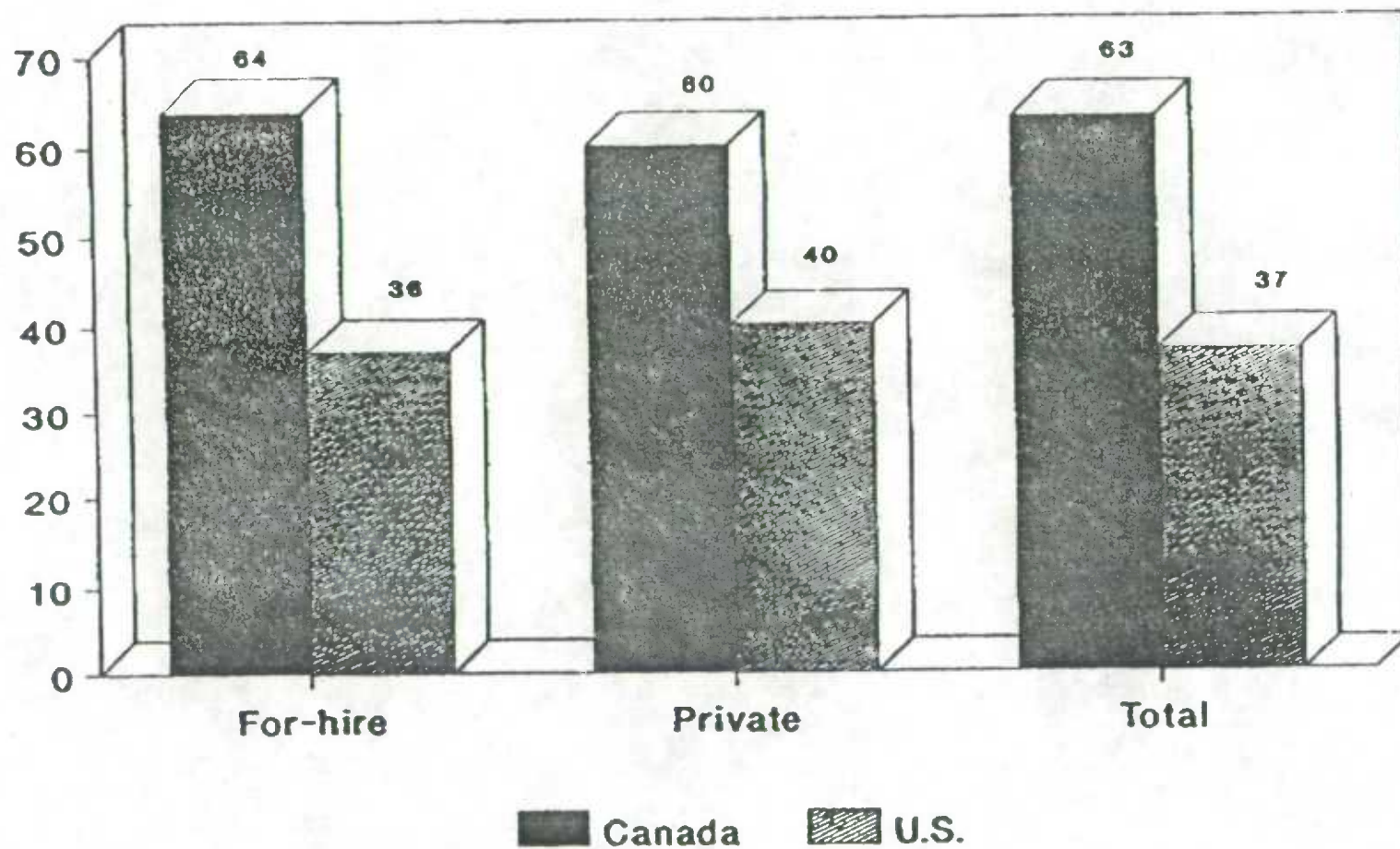
CAPACITY UTILIZATION

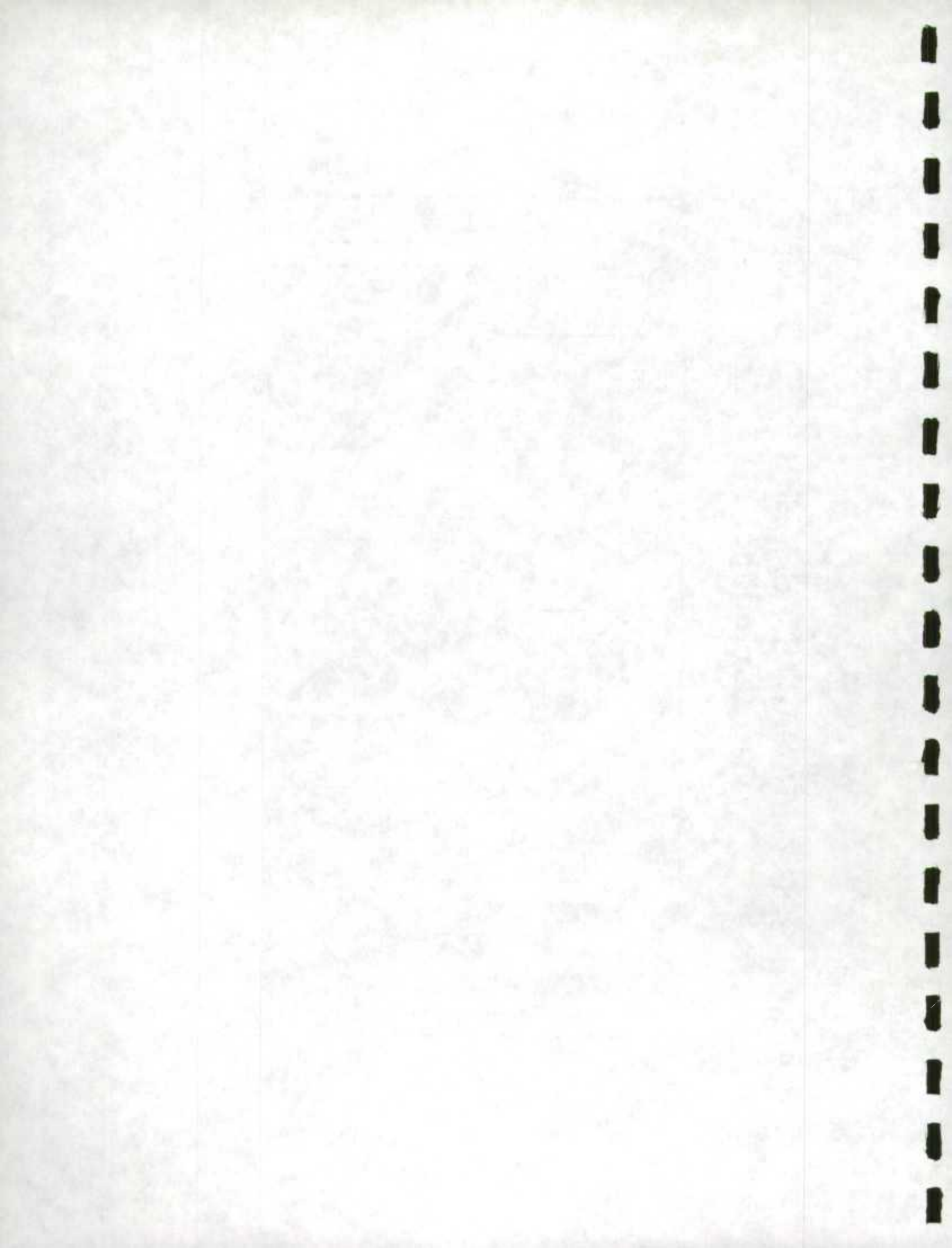


MARKET SHARE (FTE) by carrier base and type



TRANSBORDER MARKET SHARES IN TRUCKING (percentage)



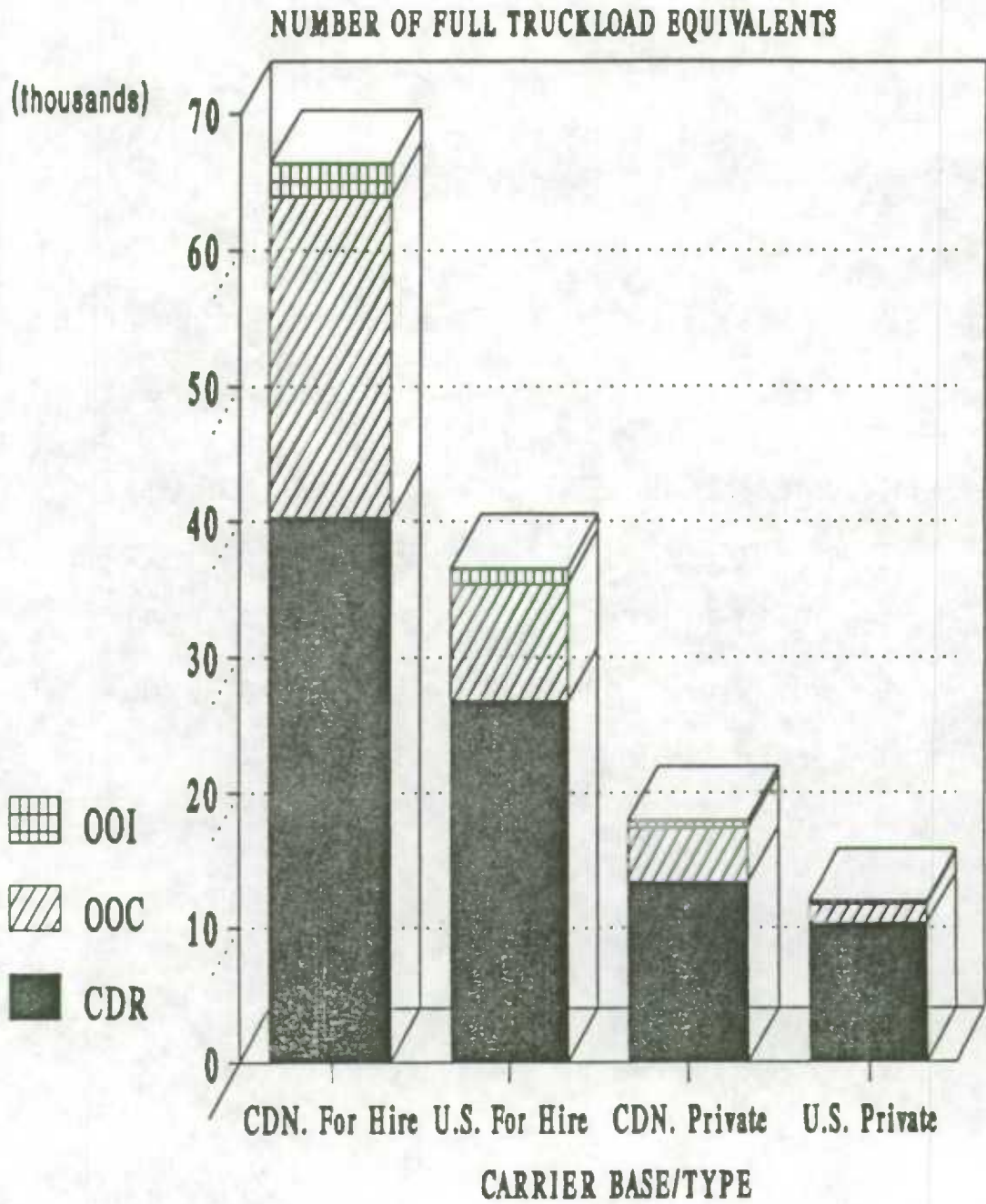


Canadian Market Share (FTE basis) by Configuration

	Canadian Market Share %	Number of Estimated Movements	Percentage of Total Estimated Movements %
Tractor/1 Trailer (T1)	63	217 000	85.2
Tractor/2 Trailers (T2)	48	17 000	6.5
Tractor Only (TO)	80	4 000	1.5
Straight Truck (ST)	73	14 000	5.4
Truck/Trailer (TT)	58	3 000	1.3

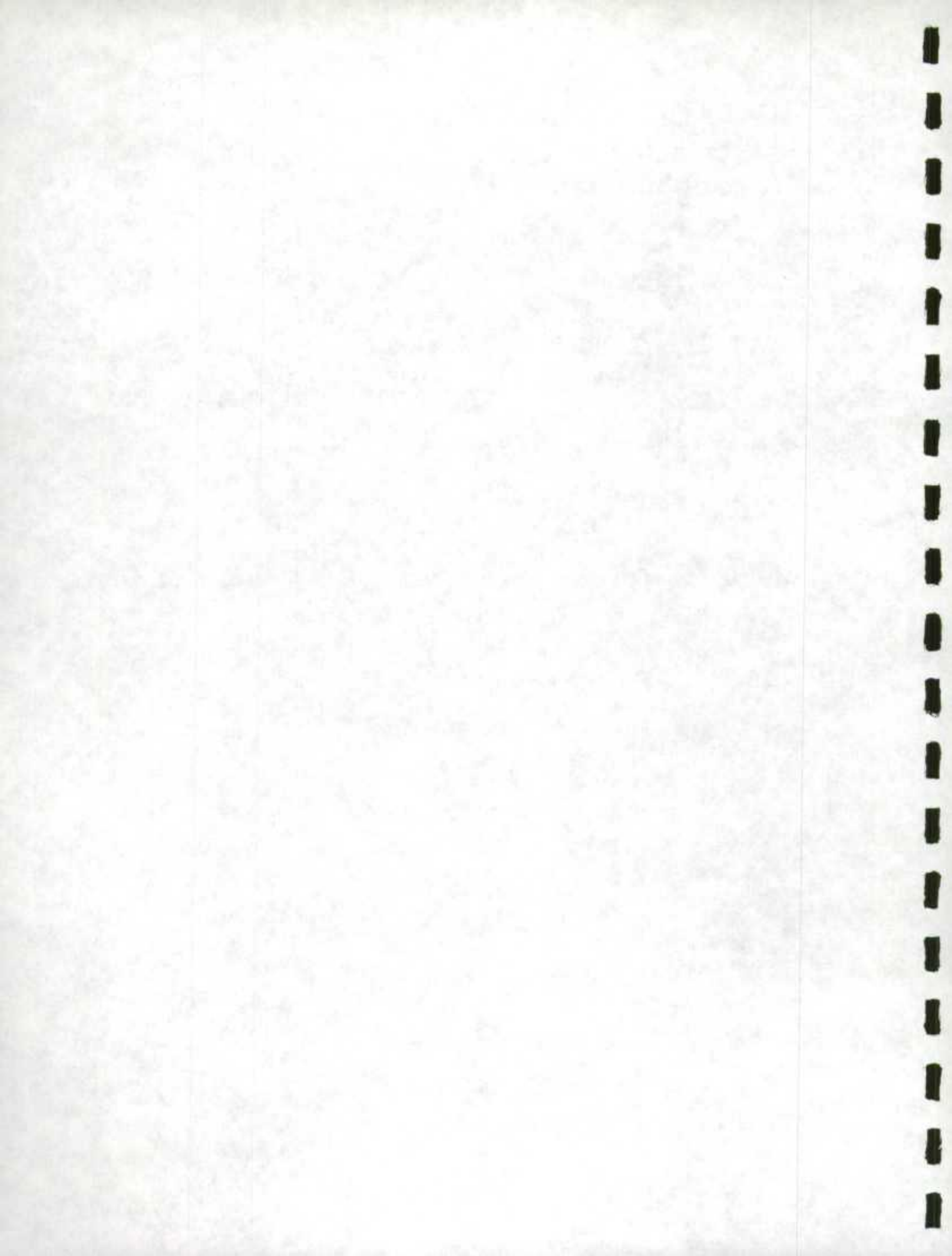
Configuration - Tractor/one trailer

Driver types and FTE distribution

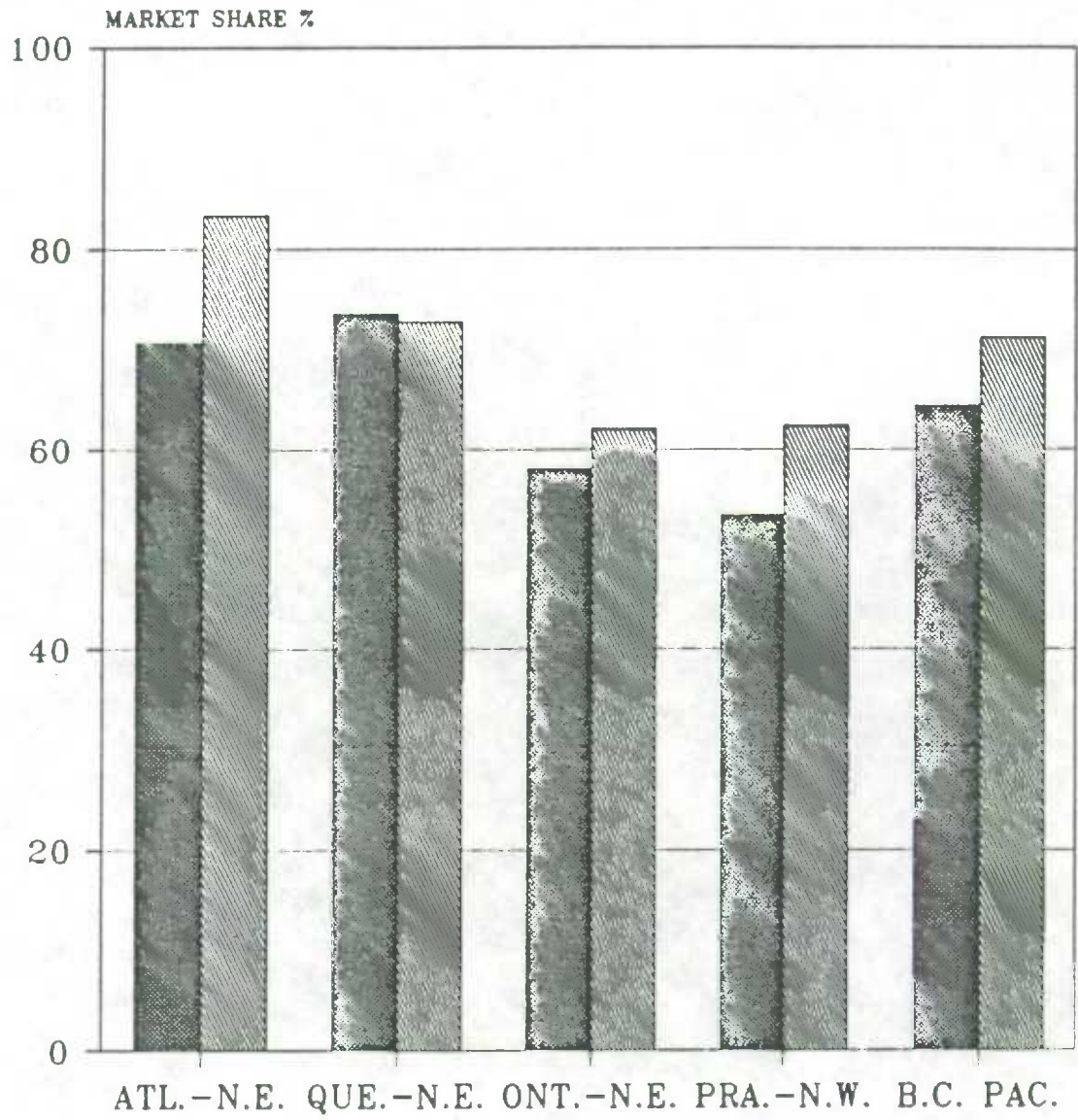


CAPACITY UTILIZATION (CU)
 by carrier base and type
 (tractor/one trailer)

CARRIER BASE	CARRIER TYPE	NUMBER OF ESTIMATED MOVEMENTS	CU		
			IN	OUT	ROUND
			%	%	%
CDN.	For-hire	100 000	61	72	66
	Private	35 000	40	63	52
U.S.	For-hire	62 000	65	53	59
	Private	21 000	57	58	57

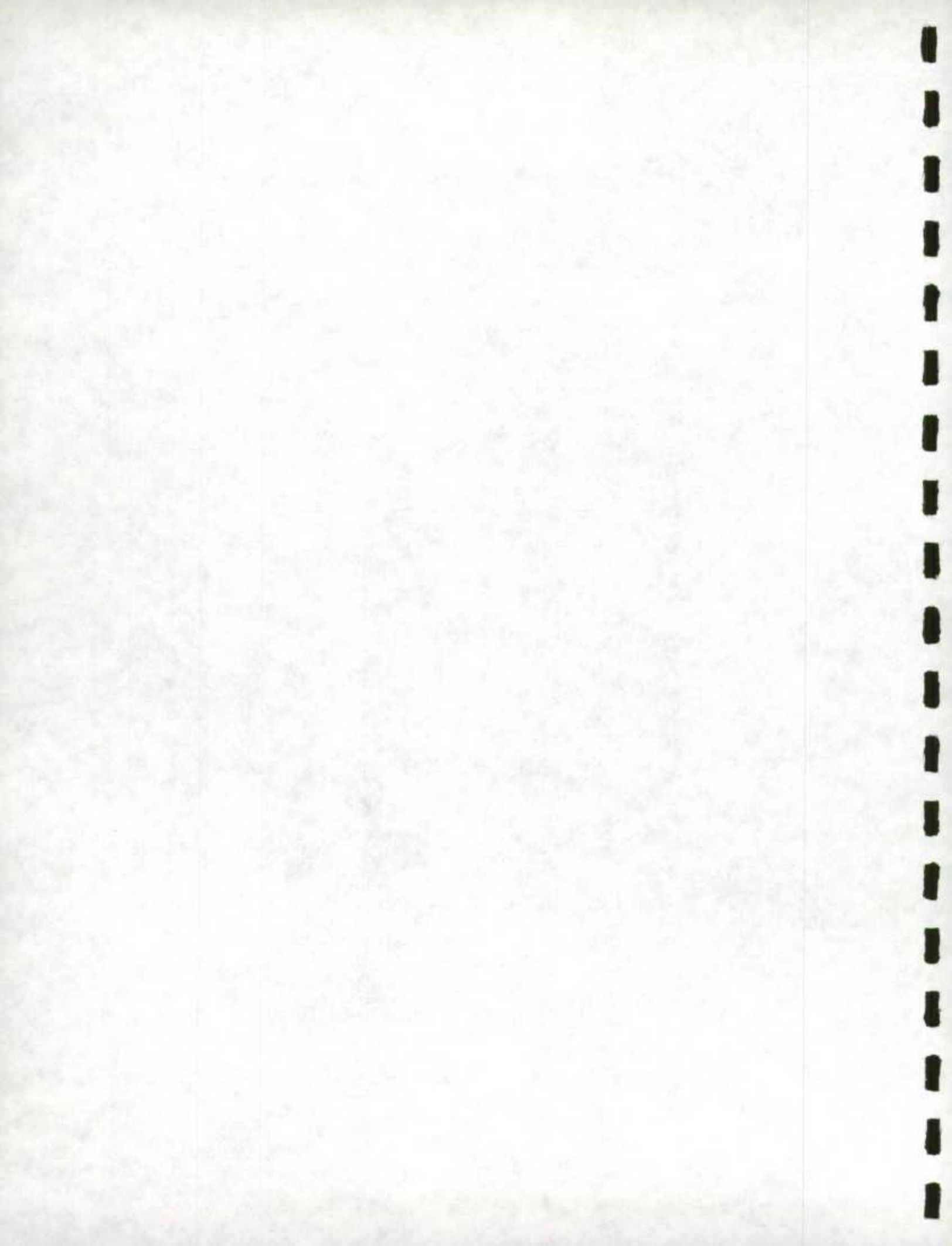


CANADIAN MARKET SHARE
(ONE-WAY TRIP) TRACTOR/ONE TRAILER



REGIONAL PAIR

INBOUND OUTBOUND



TRANSBORDER TRUCKING SURVEY, 1991

Statistics Act, R.S.C. 1985 c.S19
Confidential when completed

STRATUM: STINT: TIME: #:

OBSERVATION SECTION

1. CONFIGURATION:

- 1 - Tractor, one trailer
- 2 - Tractor, two trailers
- 3 - Tractor only
- 4 - Straight truck
- 5 - Truck and trailer

2. TRAILER STYLE:

- 1 - Van no reefer
- 2 - Van, with reefer
- 3 - Flatbed
- 4 - Car carrier
- 5 - Hopper
- 6 - Stake and rack
- 7 - Tanker
- 8 - Float
- 9 - Container
- 10 - Pulp chip
- 11 - Animal carrier
- 12 - Other

3. ENGAGED AXLES:

(Incl. tractor)

4. TRACTOR PLATE:

(State/Province)

5. CLASS:

- 1 - Empty
- 2 - Transit
- 3 - Post audit
- 4 - Bonded
- 5 - Itinerant

INTERVIEW SECTION

6. CARRIER NAME:

7. CARRIER BASE:
(State/Province)

8. CARRIER TYPE:

- 1 - For Hire/Common
- 2 - Private

9. DRIVER RESIDENCE:
(State/Province)

10. DRIVER STATUS:

- 1 - Company driver (for Carrier)
- 2 - Owner/Operator under contract to Carrier
- 3 - Independent Owner/Operator
- 4 - Other

11. INBOUND:

b. % Capacity used

c. Load origin

d. Load destination

e. Commodity

12. LAST OUTBOUND:
(Canadian Carrier)

a. WHEN Days ago

b. % Capacity used

c. Load origin

d. Load destination

e. Commodity

13. NEXT OUTBOUND:
(US Carrier)

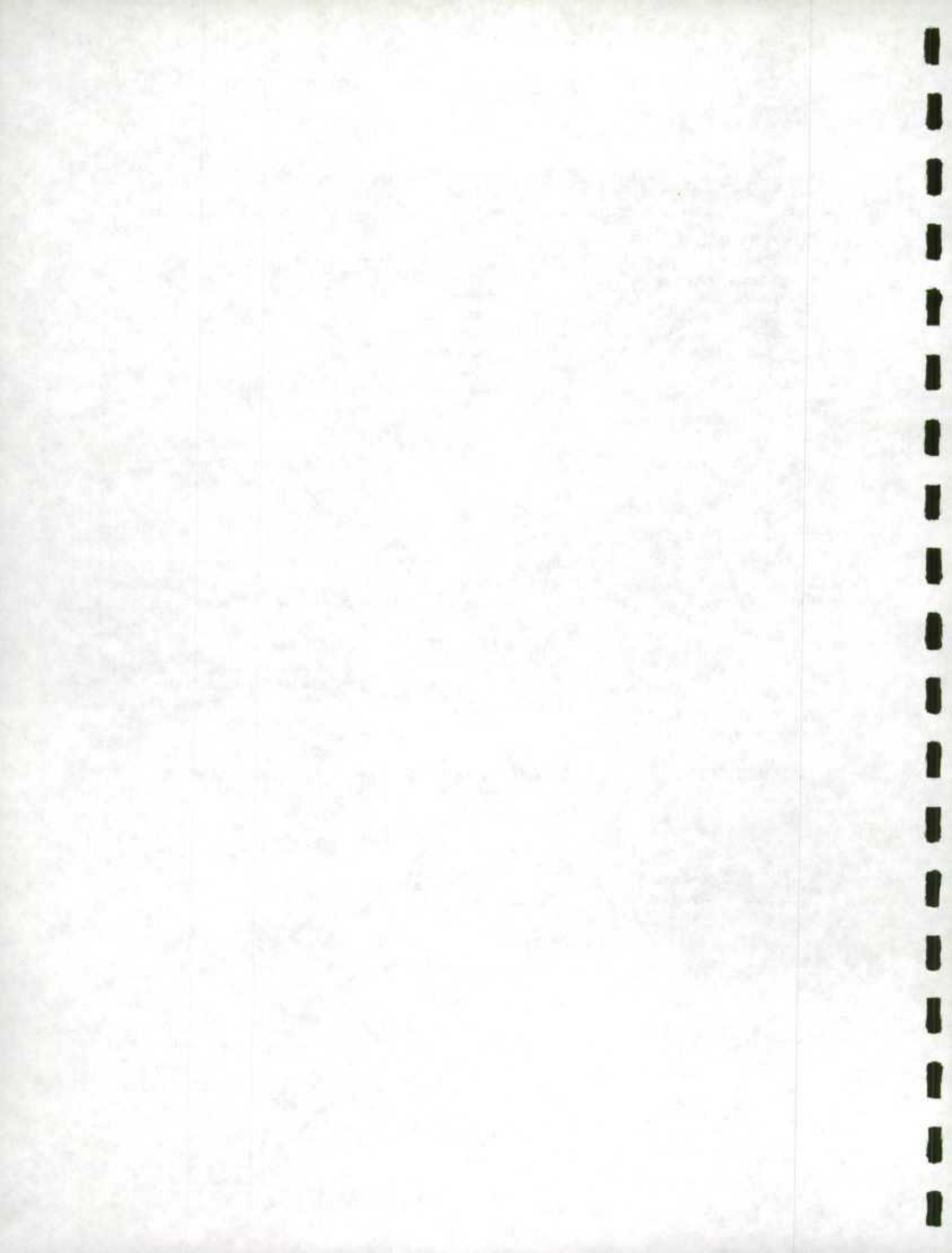
a. WHEN Days from today

b. % Capacity used

c. Load origin

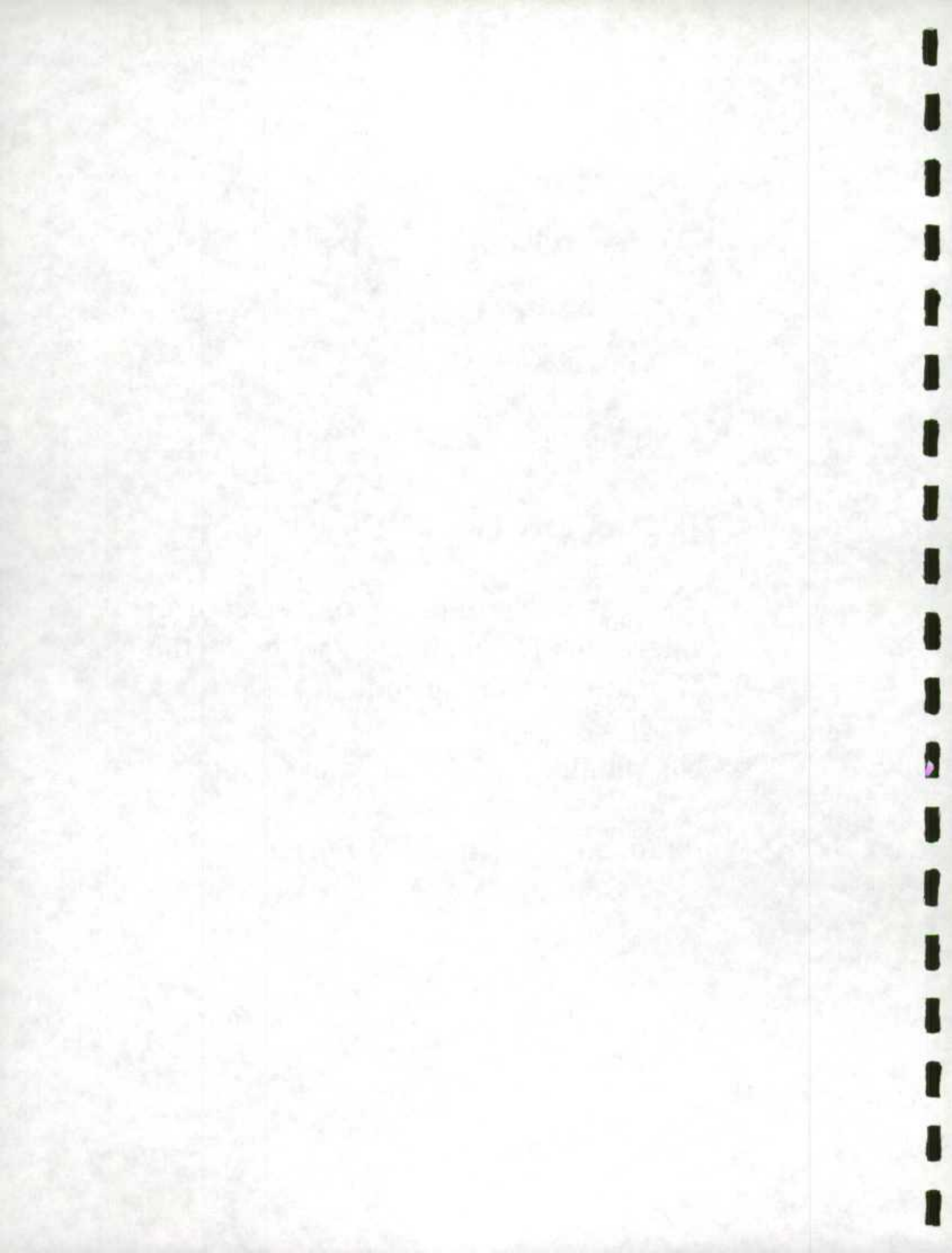
d. Load destination

e. Commodity



NATIONAL ROADSIDE SURVEY

- Federal/Provincial Endeavour
- Assess the impact of structural operational changes within the Canadian trucking industry
- Supplement other statistical sources
- Transborder Roadside Survey



DATA OBJECTIVES

- operating efficiency
- traffic patterns & flows
- type of operation
- type of activity
- employment characteristics
- carrier base
- equipment configuration

SURVEY FOCUS

- tractor-tractor units
- extra-provincial movements
 - between provinces and/or territories
 - between Canada & U.S.

SURVEY STRUCTURE

FORMAT

- driver interviews

(supplemented by visual profile of full in-scope traffic universe)

LOCATIONS

- thirty sites across Canada

DURATION

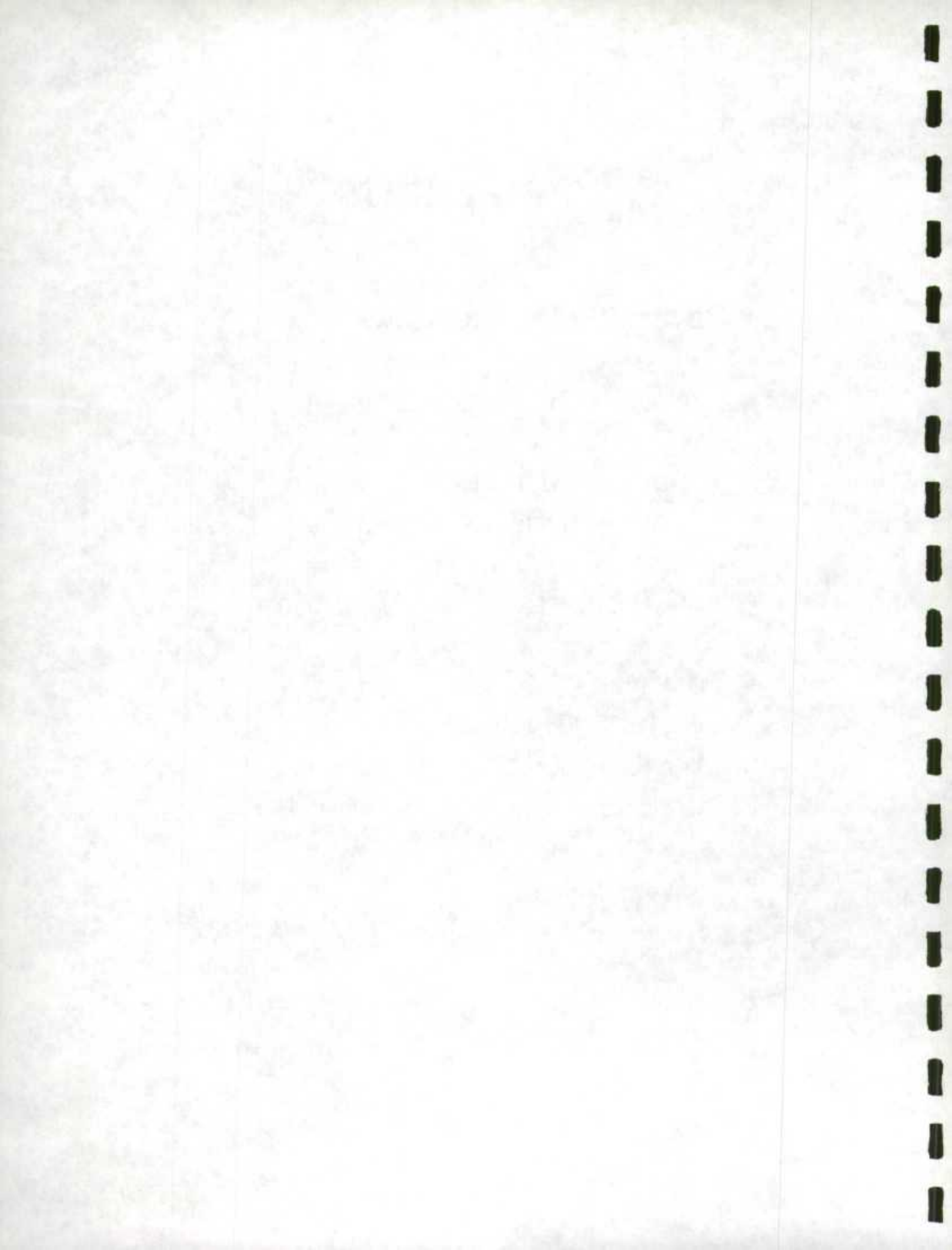
- seven days June 17-23, 1991
- mandatory 24 hour period

SURVEY ORGANIZATION

- survey operations
- data capture, processing, compilation
- output

HIGHLIGHTS

- over 20,000 interviews
- 78% for hire operations
- company drivers: 65%
owner-operators: 31%
- 84% one-trailer configuration
- dry vans 42%
reefers 19%
flat beds 18%
tankers 8%
- 16% empty
63% > 3/4 capacity utilization
- 60% single shipment
11% between 2 & 5 shipments



April 18, 1991

INTERNATIONAL TRADE DIVISION
ALTERNATE DATA SOURCES PROJECT
TERMS OF REFERENCE

Objective

The principal objective of the Alternate Data Sources Project is to develop a strategy that will allow for the continued production of international trade data in a situation of significantly reduced or non-existent Customs documentation.

Considerations

- i **Customs 2000**
Customs and Excise have yet to establish an implementation schedule for the several Customs 2000 initiatives. Nor is it clear to what extent these initiatives will affect the collection of trade data.
- ii **Eurostat 92**
The Eurostat proposal for collecting intra-community trade data in the EEC offers an opportunity to evaluate an operational strategy for a situation analogous to our own.
- iii **GST Client Identifier**
Should Customs and Excise adopt the GST registration number as their unique client identifier, a PD/T1-T2 concordance will be required to establish and maintain trade frame linkage with Statistics Canada's Central Frame Data Base.
- iv **Memorandum of Understanding**
Any alternate collection methodologies for import data will have to recognize the obligations of the Memorandum of Understanding for the exchange of import data between the U.S. and Canada.
- v **Resources**
Considerable computer resources will be required to manipulate and process our source files for linkage and analysis. The scope of the Project's interface activities will also require sufficient operating funds.

Activities

- i **Customs and Excise Interface**
Intensive consultation with Customs and Excise will be pursued, through participation in committees and working groups. It is essential that the requirements of the trade statistical program be considered in the development of all Customs 2000 initiatives.

- ii **User Interface**
A comprehensive user consultation program will be undertaken to determine user response to the possibility of reduced detail and frequency of trade data and to solicit user support in maintaining the relevancy and integrity of the trade statistics program.
- iii **Respondent Interface**
Extensive consultation with importers, exporters, brokers and carriers will be conducted to determine the linkages between commercial and customs documentation and to evaluate the accessibility and quality of respondent information systems.
- iv **Frame Development and Analysis**
Frames for the import, export and carrier universes will be developed, analyzed and evaluated with respect to data collection strategies and linkage with Statistics Canada production data.

Workplan 1991/92

- i **Prototype carrier frame and analysis**
- ii **Prototype importer frame and analysis (including the measurement of import data from small importers)**
- iii **Prototype exporter frame and analysis**
- iv **User consultation report**
- v **Respondent consultation report**
- vi **Analytical papers and reports**

Workplan 1992/93

- i **Operational carrier, importer and exporter frames**
- ii **Short and long term strategies for the continued production of international trade data**



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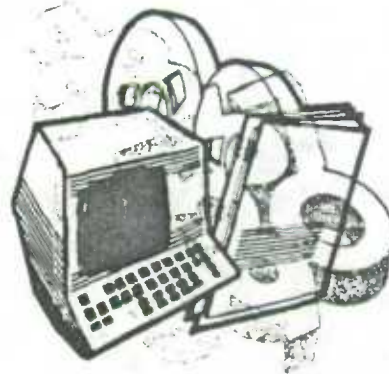
Bureau of the Census

1990 Annual Research Conference

March 18-21, 1990

Holiday Inn Crowne Plaza
300 Army Navy Drive
Arlington, Virginia 22202

Proceedings

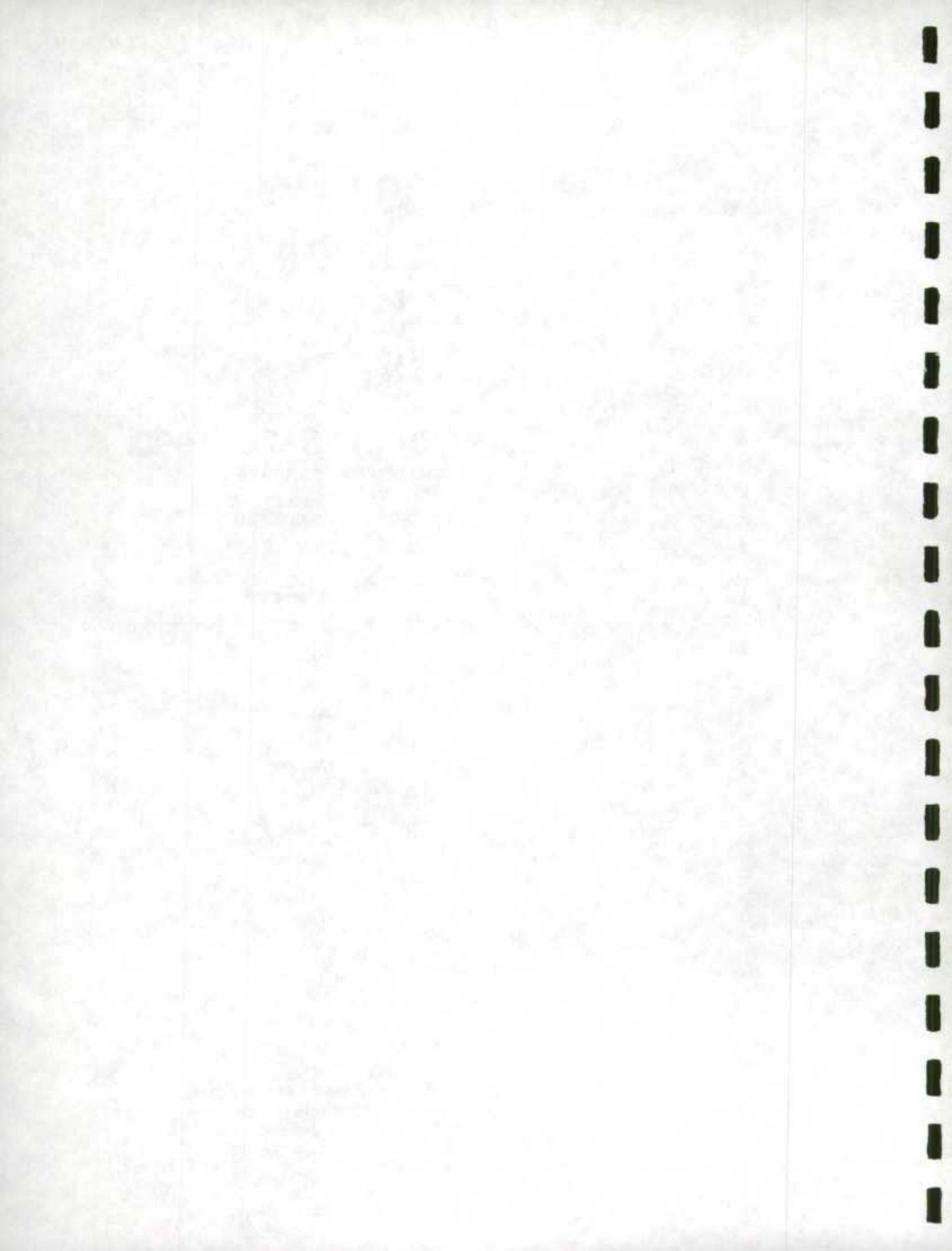


Issued August 1990



U.S. Department of Commerce
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Thomas J. Murrin, Deputy Secretary
Michael R. Darby, Under Secretary
for Economic Affairs

BUREAU OF THE CENSUS
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C. L. Kincannon, Deputy Director



Origin of Merchandise Exports Data

Michael G. Farrell and Anthony Radspieler
Bureau of the Census

Abstract

This paper describes the basic concepts the Census Bureau has used over the years for its publications on the origin of exported merchandise. The recent addition of the Employer Identification Number to the export declaration provides a way to link data on individual commodity shipments to the rich database of information about firms and establishments available from the Economic Censuses, Annual Survey of Manufactures, and the Standard Statistical Establishment List (SSEL). The paper discusses the research planned to explore the wealth of new information on the characteristics of exporters and the products they export.

Keywords

exports, origin, exporters

Introduction

The increase in the dollar volume of merchandise exports in the 1987-1988 period accounted for a substantial portion of the year-to-year growth in the Gross National Product (GNP). States and the federal government spend millions of dollars every year to promote this trade in exports. However, the most basic statistical information necessary to target export promotion programs and to identify industries with export potential is lacking. Data on firms engaged in exporting and on potential exporters are inadequate and the Census Bureau does not have a comprehensive list of all exporters. Currently, it cannot supply the state-by-state data about exporters required by the Omnibus Trade and Competitiveness Act of 1988.

While there are commercial directories that contain the names and addresses of some exporters, there are no comprehensive measures of the business activity or even a complete list of all exporters. Neither the national statistical system, statistics from state programs nor private sector programs provide adequate data by geographic area or by industrial classification on the mix of commodities exported, on the characteristics of firms and establishments engaged in exporting or on those with potential to export.

Several trade policy issues lack the necessary statistical data for decision making. For example, the federal government is interested in reducing the trade deficit and it is also interested in providing services to small and medium sized exporters. Without knowing the number of small and medium sized exporters, it is difficult to assess the effectiveness of programs designed to increase their participation in exporting or to determine the impact they might have on the trade deficit.

Currently, U.S. statistics on merchandise trade reflect the interests of the more insular economy of days gone by than they do those of today's global economy.

State/Regional and Other Subnational Trade Data

Placed in historical perspective, our quest for U.S. merchandise trade data (exports + imports) goes back to the earliest period of the Republic. The Treasury Department estimated the balance of trade as far back as 1790. Actual statistics based on export declarations first became available September 30, 1820. They were then, as they are today, a by-product of the administrative process of recording commodity shipments at the various U.S. ports of call that linked this country with the outside world.

Thus, for nearly two centuries the trade data have dealt only with measures of country-to-country commodity flow and traffic through the U.S. Customs districts and ports.

These days, however, the two most frequently asked questions about foreign trade statistics seem to be: "What were the commodity exports from my state, and what were the major imports consumed in my state?" and "Which industries in my state are exporting and which industries are consuming imported goods?" Most are shocked to find that the information doesn't exist. They ask, "Why?"

A brief explanation of what subnational foreign trade data are available, are not available, and what could be made available is what this paper is about.

While our merchandise trade turnover (exports + imports) represented only 6.7 percent (\$34.6 billion) of U.S. Gross National Product (\$515.3 billion) in 1960; by 1988, our exports plus imports soared to \$780.4 billion, or 16 percent of our GNP (\$4,864.3 billion).

Only in recent years, has there been general interest in data gauging the impact of international trade on the states where exports are produced and imports consumed. In some measure, this "demand-pull" is a direct result of our expanding international trade, both in relative and absolute terms.

During the past decade, the individual states have become increasingly aware of global economic integration and its implications for them. Thus, with the growing significance of international trade, the lack of subnational statistics on merchandise trade and on the firms engaged in exporting and importing has become a noticeable void in the analytical toolbox of state (and federal) agencies that track U.S. trade figures, in their attempt to establish what proportion of total U.S. trade "belongs" to any given region, state or locality.

We find we do not know how many exporters or importers there are in a state, whether they are big or small, whether they are part of a multinational organization, what commodities are produced and consumed, or what international partners are most involved in state-to-country and country-to-state merchandise trade.

Underlying this recent demand for subnational trade data is, of course, the chronic and substantial U.S. national trade deficit which has been of increasing concern to U.S. policymakers throughout the better part of two decades.

Doubtless, this concern will persist into the foreseeable future.

These global economic trends and their international trade ramifications touch all geographic areas of the country, and make it relevant to raise questions that few were concerned about in the past.

For example, at the state and local level, those involved in export promotion programs and those interested in import penetration want to know:

1. What and how much do we export/import?
2. Where do these exports go?
3. Where do these imports come from?
4. How many exporters/importers are located in our area?

These data users frequently express surprise, and at times accompanied by consternation, that the Commerce Department does not have a full array of marketing data "on the shelf" for instant analysis. With today's technology, one is led to believe that one can retrieve, with "push button" efficiency, data on any subject.

Viewed superficially, it appears an easy task to have "clean" state-by-state data on any state's exports and/or imports, by country of origin or destination, preferably on a month-to-month basis (with little or no time lag), at 10-digit commodity classification detail.

A detailed examination of the administrative process of recording international commodity shipments reveals that the system was not structured to identify or regulate firms and establishments engaged in producing or consuming commodities.

The administrative process was designed to regulate shipments of merchandise into or out of the country. The statistical by-products of the administrative process reflect these concepts.

Along with its other duties, the U.S. Customs Service performs the function of collecting import and export documents at the ports. These documents contain a vast and detailed amount of merchandise trade data pertaining to the traffic of commodities coming into, and going out of this country through the ports within the U.S. Customs Districts. That does not mean the exact state or local geographic configuration desired by today's data users can immediately be made available from this data. U.S. Customs Districts are not coextensive with state boundaries.

Furthermore, the shipments that the U.S. Customs Service monitors, in large part, are not tracked from the "country of origin" to the "ultimate consumer" (in the case of imports). And in the case of exports, they are often not recorded from the "point of production" to the "ultimate destination" overseas. The producer, or assembler is not necessarily the exporter. Likewise, the manufacturer, wholesaler, or retailer is not necessarily the importer. Moreover, there is nothing on the U.S. Commerce Department's export declaration to distinguish exporters that manufacture the commodity from those that distribute it. Similarly, the U.S. Customs Services import document does not necessarily contain information about the ultimate consumer. The movement of goods before they are determined to be "for export," and after imports enter domestic channels of distribution, are beyond the purview of the U.S. Customs Service record keeping.

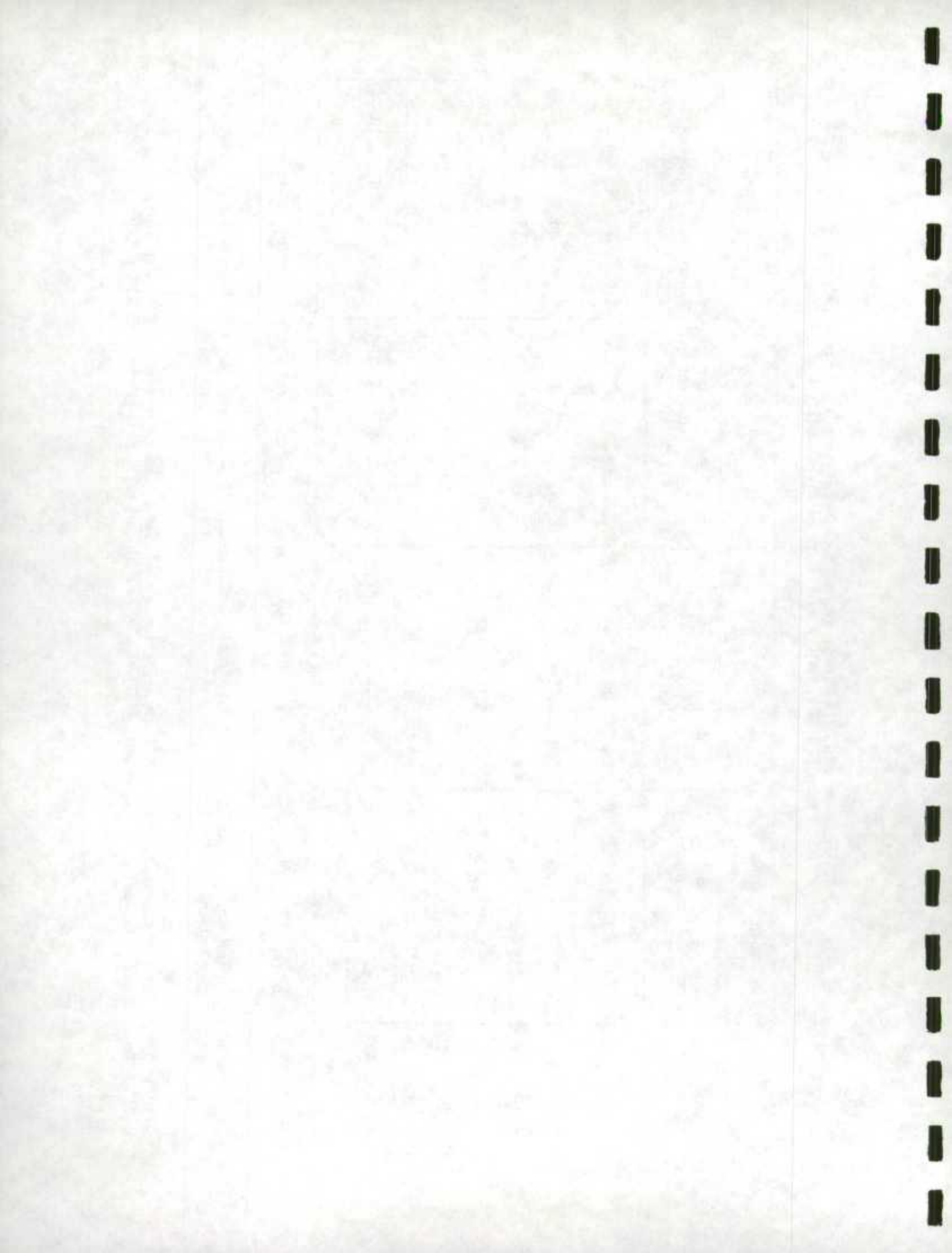
Within the U.S., interregional commodity movements are not recorded as exports or imports when they cross state borders. In brief, the same federal administrative rules that apply to the movement of goods between the United States and other countries do not apply in the realm of interstate commerce. The latest published data on the interstate movement of

Table 1
Establishments with Paid Employment that Exported Merchandise in 1987
[Employment Size Range (1) by Industrial Division (2)]

Employment Size Range (Number)	Manufacturers [SICs 20 thru 39]				Wholesalers [SICs 50 & 51]				Other [Remaining SICs]				Total U.S.			
	No. of Exporters	Pct	No. of Employees (1,000s)	Pct	No. of Exporters	Pct	No. of Employees (1,000s)	Pct	No. of Exporters	Pct	No. of Employees (1,000s)	Pct	No. of Exporters	Pct	No. of Employees (1,000s)	Pct
Total U.S.	50,847	39.15	8,640	84.08	52,630	40.52	943	9.17	26,406	20.33	694	6.75	129,883	100	10,276	100
< 10	9,303	7.16	29	0.29	32,144	24.75	116	1.13	18,896	14.55	47	0.46	60,343	46.46	193	1.88
10 to 19	5,942	4.57	85	0.82	9,235	7.11	126	1.22	3,086	2.38	42	0.41	18,263	14.06	252	2.45
20 to 49	10,711	8.25	350	3.40	7,279	5.60	222	2.16	2,459	1.89	75	0.73	20,449	15.74	646	6.29
50 to 99	8,691	6.69	620	6.03	2,547	1.96	173	1.69	976	0.75	68	0.66	12,214	9.40	861	8.38
100 to 249	8,845	6.81	1,396	13.59	1,138	0.88	169	1.65	643	0.50	96	0.93	10,626	8.18	1,661	16.16
250 to 499	4,083	3.14	1,426	13.88	203	0.16	67	0.65	176	0.14	63	0.61	4,462	3.44	1,556	15.14
> 500	3,272	2.52	4,734	46.07	84	0.06	70	0.68	170	0.13	303	2.95	3,526	2.71	5,107	49.70

- (1) Assignment to 'Employment Size Range' and 'Number of Employees' are based on the total number of employees at each physical location as reported by the establishment in the 1987 Economic Censuses.
- (2) Classification is based on the 1987 Standard Industrial Classification (SIC) system, Executive Office of the President/Office of Management and Budget.

SOURCE: Department of Commerce, Bureau of the Census, Foreign Trade Division, Data Analysis and Planning Staff.
Contact Name: Michael P. Risha, Phone: (301) 763-2724 or Michael G. Farrell, Phone: (301) 763-2700.



manufactured goods comes from the 1977 Commodity Transportation Survey. The survey did not, however, distinguish between goods for domestic consumption and goods for export. Cost, response burden and problems with methodology have precluded publication of more recent updates.

Suffice to say, that currently there exists a paucity of accurate and reliable empirical commodity flow data about merchandise shipments by state (i.e., before they come within the scope of the U.S. Customs information gathering system, or after they leave it). Moreover, until recently, no data about the exporter has been available from the administrative records used to regulate and measure commodity shipments.

So the next best question: What is currently available?

Census Bureau State-by-State Foreign Trade Data

The concept of origin seems simple. However, the route from the mine to the consumer may have many detours and many points can be considered to be "the origin" of exports. In manufacturing, for instance, not all products that are manufactured are in the final form the export takes. Raw materials go into the fabrication of parts. Parts are assembled into a product. The manufacturer is not always the exporter. The product may be sold by the manufacturer to one or more wholesalers or brokers, who may resell it to the eventual exporter or export it themselves.

In agriculture and the minerals industries identical products within a shipment may not be segregated for domestic or export use until they reach the last broker. Early participants in the production process and in the distribution channels may not know which product is eventually exported and which is not.

On the import side, the concept of destination also seems simple, but a similar phenomenon of "many destinations" may occur. For instance, parts or raw materials are imported by a wholesaler. They are transported to a warehouse and mixed with similar items of domestic origin. The items are purchased by a wholesaler who sells them to an assembler. The final product may be a mixture of imported and domestic origin components. A manufacturer, wholesaler, retailer, other business or an individual may buy the product. Those down the chain of distribution from the original importer may not know which product was imported and which was not.

Determining origin or destination is a process of linking each commodity shipment to the establishment that produced or consumed it. Since there are no administrative records that track the domestic movement of commodities, that part of the linking process must be done by statistical survey. The one time cost of a survey that would produce reliable data at the state level for domestic and international shipments is almost equal to the current annual budget for all foreign trade statistics.

Although no funds have ever been appropriated nor are any currently appropriated for any origin and destination statistics, several studies have been done on a reimbursable basis. The concepts used reflect their sponsor's interests, although none reflect the concept of origin used in the Omnibus Trade and Competitiveness Act of 1988.

Over the past three decades, the following concepts of origin and destination have been used in Census Bureau reimbursable tabulations.

1. Domestic and International Transportation of U.S. Foreign Trade

[Exports: By state where grown, produced or assembled;
Imports: By state where transported for sale or use.]

In 1957, the U.S. Army Corps of Engineers requested the Census Bureau to undertake a survey of selected commodities comprising principally "liner" type commodities and some "bulk" commodities in the United States export and import waterborne trade. [This survey was designed to furnish part of the data needed for a report on the Great Lakes harbors prepared by the U.S. Army Corps of Engineers, in response to a Congressional directive with an objective to improve the harbors of the Great Lakes and the St. Lawrence Seaway.]

Questionnaires were mailed to the importers and exporters whose names appeared on the import entries and export declarations to obtain certain facts concerning the specific transactions. [The U.S. Customs Service's Import Entry Summary (Form 7501) is the source of U.S. merchandise imports, while the U.S. Commerce Department's Shipper's Export Declaration (SED) is the source of official government statistics on U.S. merchandise exports.]

The major fact requested from the exporter was the interior point where the goods reached the form in which they were exported, i.e., where they were grown, produced, assembled, or last materially altered; and from the importer, the major fact requested was the interior point to which the goods

were physically transported for further processing, for sale, or for use by the importer. Information also was requested concerning type of transportation mode and nature of source of supply or use of the product. The objective of the study was to provide transportation information, and all the statistics presented were therefore based on tonnages.

The general method used in the survey involved a stratified probability sampling of selected commodity import and export shipments through all United States ports. The primary purpose for undertaking the survey was to obtain data that would be useful for estimating the potential volume of shipments through the St. Lawrence Seaway. The sample of movements necessarily had to be drawn from export shipments through all United States ports because there was no satisfactory basis for defining in advance the area that is tributary to the Great Lakes.

Similar, but more comprehensive surveys were conducted in 1970 and in 1976. The studies were published about 2 1/2 years after the reference year, contain no establishment data, and only 2-digit commodity detail. Cost has precluded more recent updates.

2. Exports from Manufacturing Establishments

[Exports: By state where goods are produced.]

Another early source of Census statistics on the role of the states in U.S. export trade, has been the Industry Division's report on the "Exports From Manufacturing Establishments." This series was formerly titled, "Origin of Exports of Manufactured Products." The series was funded through 1981 by the International Trade Administration of the Commerce Department.

Manufacturers reporting in the Annual Survey of Manufacturers (ASM), about 60,000 plants, were requested to report a single figure representing the total value of products shipped for export during the year. Such directly reported exports understate the true value of all exports because many respondents do not know the final destination of the products produced in their plant. In order to provide a more accurate measure of the overall importance of exports industrially and geographically, the directly reported values were adjusted to include estimates of the exports of manufactured products by wholesalers, exporters, etc. Data from the ASM were adjusted to reflect the totals derived from official export data compiled from the Shipper's Export Declarations (SEDs).

The general method used was to convert the SED based data to data that reflect the ASM concepts and report manufactured exports at the production origin.

The following characteristics apply to this data series:

- a. Because the ASM measures only domestically manufactured exports, reexports were not included in the estimates;
- b. The ASM does not include production in the Virgin Islands or Puerto Rico. Exports from these areas were not included, but the SED-based data were adjusted to reflect trade between the U.S. and these territories. Other territories of the U.S. are also excluded from both the ASM and SED based sets of data;
- c. The commodity classification used on the SED through 1988 is the Schedule 7-digit system. The Bureau of Economic Analysis assigned the data to 6-digit Input-Output (I-O) commodity classifications. The SED data were collected on a free alongside ship (f.a.s.) basis, thus included freight and wholesale margins. To make the SED-based data comparable to the ASM-based data, the margins were subtracted to derive a "free on board" (f.o.b) plant value. The 6-digit commodity margin rates from the benchmark I-O study were applied to the SED-based data to derive the f.o.b. plant value of exports.
- d. The merchandise export data were converted to an SIC basis, using the latest available Census of Manufacturers data on the distribution of product shipments by industry classification; and,
- e. The differences between these national estimates of export shipments (SED-based) and reported shipments of manufacturing establishments (ASM-based) were then allocated to geographic areas at the 3-digit SIC level, and added to the total f.o.b. value of exports of manufacturing establishments by state as reported in the ASM.

In January 1989, the Census Bureau announced the availability of the latest report covering the years 1985 and 1986. The report provides state-by-state estimates of the value of exports produced by manufacturing establishments in those states. It was first produced in the early 1960s with updates about every three years. It is now an annual report which provides estimates of direct and supporting exports, and the number of employees involved in the production of U.S. exported goods.

Currently, it is perhaps our most reliable export data series available on manufacturing establishments engaged in exporting.

However, some drawbacks of this series as far as state export promotion is concerned, are: the export survey results appear in hard copy only after an approximate 2 1/2 year lag (with only 2-digit SIC level of detail for manufacturing establishments); it measures exports only, not imports; it measures the commodity at the establishment, not port nor destination; and it factors out the distribution (wholesaler) activity, allocating those margins back to the processing plant. Also, it does not include data for establishments engaged in exporting commodities produced by the agriculture, minerals, forestry and fishing sectors of the economy.

3. Origin of Movement of Commodities

[Exports--By state where the merchandise began its export journey.]

Responding to transportation industry requests, the Foreign Trade Division of the Census Bureau added a "state of origin" inquiry to the SED in December 1985.

The instructions that accompany the SED define the "point (state) of origin" as "a) The 2-digit U.S. Postal Service abbreviation of the state in which the merchandise actually starts its journey to the port of export, or b) the state of the commodity of the greatest value, or c) the state of consolidation."

The "origin of movement" totals were determined by sorting the SEDs, about 9.7 million transactions in 1987, by the state reported as the point where the commodity became an export. Summary statistics were developed by commodity classification (SITC), by industrial classification (SIC), by geographic location (region, state, port, country of destination), for value or quantity by method of transportation. The data provided information to the transportation industry on the flow of commodities between the "pick-up point" and the port.

During 1987, a group of subscribers funded a one-time special tabulation detailing exports by "State of Export" [2-digit, SIC] for that year; "Region of Export" [4-digit, SITC]; and, "Port of Export" including total dollar value of exports by all modes of transportation from the various U.S. ports, at a cost of \$6,400 for all three series. This same level of detail is now available beginning with 1988, at \$200 per quarter for each of the three series.

Aside from the above, aggregate state export/import data were also made available for 1987 and 1988. These tabulations appeared in the Census Bureau Foreign Trade publication entitled: FT-990 "Highlights of U.S. Export and Import Trade," in 1987. To speed release of the 1988 data, the tabulations were transferred to the publication, "Summary of U.S. Export and Import Merchandise Trade," FT-900. The data were tabulated on an "as reported" basis. About 25 percent of the shipments contain no state code defining the point of origin of movement. The industrial classification is based on concordances between the Schedule B classification and the SIC. While the Schedule B commodity classification system is based on merchandise content, the SIC is a system for classifying domestic establishments by principal industrial activity (process). In some cases there is exact concordance; in others the relationship is tenuous at best.

In 1988, the Census Bureau entered into an agreement with the Massachusetts Institute for Social and Economic Research (MISER) to make the data more useful. MISER selected manufacturing and foreign trade as its area of specialization for the Census Bureau's pilot Business and Industry Data Center (BIDC) program. Its demonstration project consisted of developing algorithms to estimate the state of origin of movement for the 25 percent of shipments that contained no state code. The adjusted data were released on a state-by-state basis on floppy disks at a cost of \$50 per state.

Comparing the Differences: Census Bureau Export Trade Data Series

[Industry Division/Foreign Trade Division]

The question frequently arises:

Can the establishment based data and the commodity based data be usefully compared and/or reconciled? [i.e., the state export data published in the Industry Division's, "Exports from Manufacturing Establishments," and the "Origin of Movement" statistics, by the Foreign Trade Division].

Since the Industry Division's next publication on exports will cover the year 1987; "Will we be able to compare the 1987 'Exports from Manufacturing Establishments' data, to the data already released for 1987 in the 'Origin of Movement' series?"

Comparability problems arise, in that the Foreign Trade Division's series on origin of movement and

the Industry Division's series on the exports of manufacturing establishments draw on different sources for their detailed data. Thus, they are not directly comparable at the state level.

Although both series use the official U.S. export statistics as an aggregate base, the dollar values published in the Foreign Trade Division series are "f.a.s." and therefore include all wholesale costs and all other costs incurred in transporting the commodity to the port of export.

Unlike the Foreign Trade Division's state export series, the dollar value of exports in the Industry Division survey of manufactures is "f.o.b." plant.

The Foreign Trade Series also includes all commodity exports (e.g., agriculture, mining, minerals, etc.), while the Industry Division export survey data, as noted earlier, does not.

The following illustrates how the two data series would record the "state of origin," and the value of commodity shipments in three different situations:

Example 1 shows the manufacturer as the exporter. The Industry Division series would record the transaction as a \$10.00 value in state "A." The Foreign Trade Division series would record the transaction as a \$10.80 value in state "A." The difference in value represents the cost of transportation from state "A" to the port of export in state "C."

Example 2 shows the wholesaler as the exporter. The Industry Division series would record the transaction as a \$10.00 value in state "A." The Foreign Trade Division series would record the transaction as a \$11.30 value in state "B." The difference in value represents the cost of transportation from state "A" to the port of export, plus the wholesaler's margin.

Example 3 shows the wholesaler as the exporter. The Industry Division series would not include the transaction since the commodity (grain) was grown, not manufactured. The Foreign Trade Division series would record the transaction as a \$11.30 value in state "C" since the exporter determined that the decision to export the grain was made at the port.

For the reasons cited above, it becomes clear that the Foreign Trade Division magnetic tape export data series on origin of movement is not a direct substitute for the Industry Division Series on "Origin of Exports of Manufactured Products" (or the "Exports from Manufacturing Establishments" the series' new title).









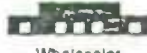


NOTE: Conceptually they represent the same origin in Example "A," but they have different values because of f.o.b./f.a.s. differences.

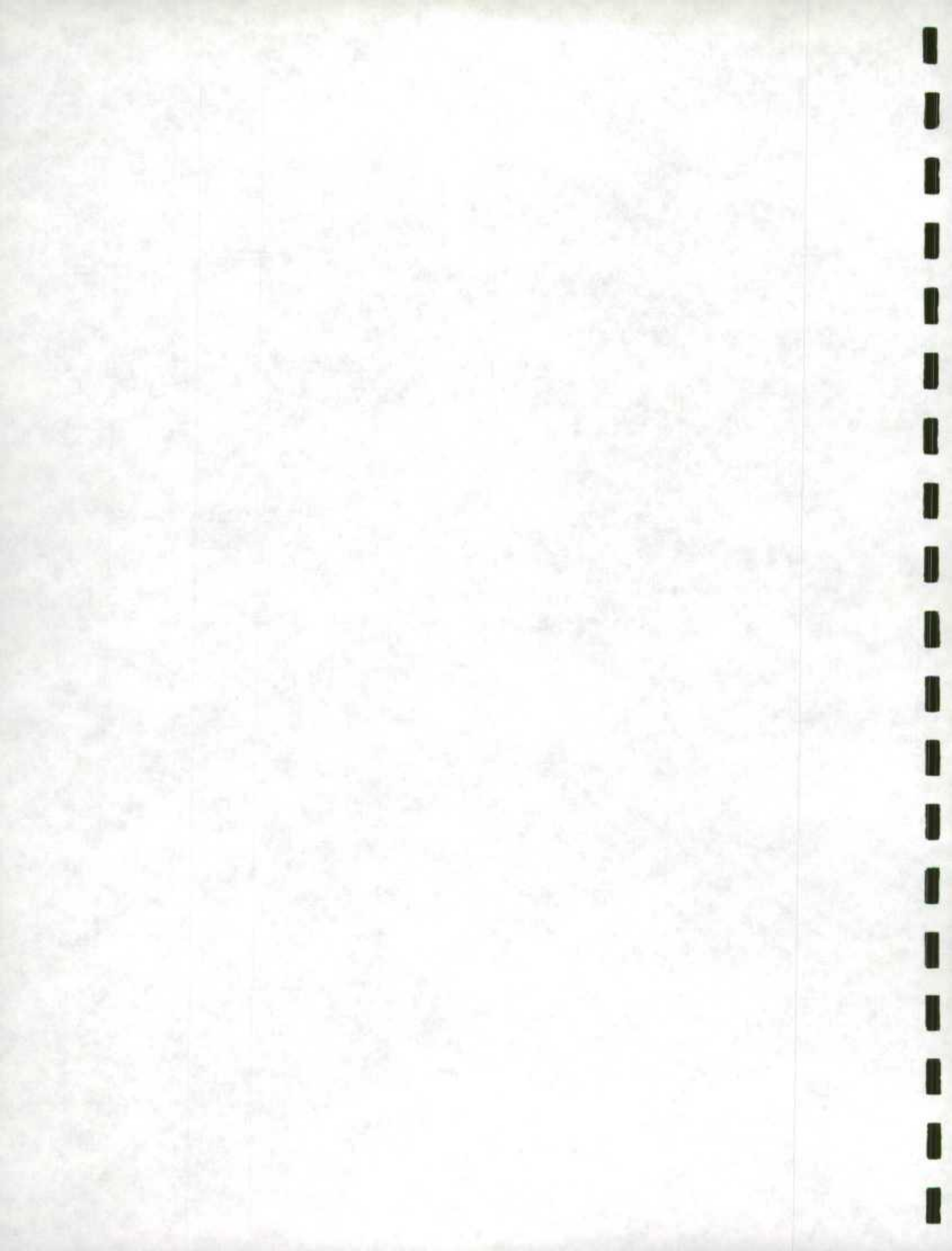
[1987 Economic Census/1987 Foreign Trade Division Data]

There are no estimates of direct exports of goods that are not manufactured. However, state-by-state estimates of the total production of crops and livestock, minerals, and scrap and waste can be developed from the 1987 Censuses of Agriculture, Minerals and Wholesale Trade, respectively. When the value for a state is taken as a percent of U.S. production of the commodity, one can derive the states' share of total U.S. production. The same calculation can be done for exports of these same commodities.

For example, for Louisiana, export shipments of "crops" in 1987 amounted to 44 percent of total U.S. exports, while the state in that year produced only 1.6 percent of total U.S. "crop" output. Clearly this shows that a far larger amount than that produced exclusively in Louisiana, is probably shipped out of New Orleans. Other dramatic deviations are found in Texas, California, and Virginia. Texas accounted for 25.7 percent of total mineral production, but (according to the Origin of Movement data) exported 2.7 percent of U.S. total mineral exports. Also, in the "Scrap and Waste" category, the wholesale trade statistics show that California accounted for about 11.5 percent of total U.S. sales of that category, but exported 33.6 percent of scrap and waste exports. The seaports of San Francisco, Los Angeles, and San Diego, handling exports originating in several of the adjacent states, accounted for this large percentage difference. The same appears to apply to Virginia in the minerals category; producing 1.7 percent of total U.S. mineral production, but exporting 26 percent of the nation's mineral exports. The fact that West Virginia and contiguous states export coal through the Norfolk/Newport News coal shipping port accounts for the large Virginia state figure.

Comparisons of the 1987 Origin of Movement data to the preliminary 1987 estimates of direct exports of manufacturers indicates that the state where the export journey began is not necessarily the state where the commodity was made nor is it the state that contains the port of export. Comparisons of the 1987 Origin of Movement data to the data from the non-manufacturing sectors indicates that the state where the export journey began is not the state where the commodity was grown, mined or assembled but most likely the state that contains the port of export.

State A	State B	State C
<p>Exports from manufacturing establishment</p>  <p>Manufacturer</p> <p>Value F.O.B. \$10.00</p> <p>Origin of movement</p>	<p>Example 1</p>  <p>Transportation cost \$0.80</p>	 <p>Port</p> <p>Value F.A.S. \$10.80</p>
 <p>Manufacturer</p> <p>Value F.O.B. \$10.00</p>	<p>Example 2</p>  <p>Wholesaler</p>  <p>Transportation cost \$0.40</p> <p>Origin of movement</p>	<p>Transportation cost \$0.40</p>  <p>Port</p> <p>Value F.A.S. \$11.30</p> <p>Value F.O.B. \$10.90</p> <p>\$ 10.00 - F.O.B. Manufacturer + 0.40 - Transportation cost + 0.50 - Wholesale markup \$ 10.90</p>
 <p>Farm</p> <p>Value F.O.B. \$10.00</p>	<p>Example 3</p>  <p>Wholesaler</p> <p>Value F.O.B. \$10.90</p> 	<p>Origin of movement</p>  <p>Port</p> <p>Value F.A.S. \$11.30</p>



Comparisons of the summary data from the establishment survey (ASM) and the summary data from the administrative records of commodity shipments (SEDs) show they are different at the state and 2-digit SIC detail. A record-by-record comparison will be required to determine why.

Data Limitations

The most important constraints which have precluded earlier development of regional, state and local trade data series include:

1. The nature of the collection process poses serious difficulties in accurately assigning U.S. merchandise trade by state. For example, as earlier stated, U.S. exports are entered or recorded on the SED, usually by a broker, at the port of exit or shipment from the United States. In this instance, the state where the manufacturer is located and the state where the export journey of the specific commodity began, may not be the same.
2. Lack of funding and,
3. Information that could be gleaned from foreign trade transactions was severely limited for many years by the Census Bureau's ability to manipulate the number of records and the amount of data on those records. The FTD was one of the first to computerize their processing on the first commercial computer, Univac I. At the Census Bureau, the foreign trade programs were major consumers of available computer capacity. The programs were upgraded to the Univac 1103 and 1105 in the 1960s and to the 1107, the 1108 and the 1110 in the '70s. Memory was expensive and processing turnaround-time slow. In 1979, the Census Bureau acquired a Univac 1184 and has upgraded its mainframe configuration several times during the 1980s. The cost of using the mainframe is high.

This last constraint was alleviated with the recent procurement of microcomputer hardware with extremely large memory and sophisticated data base software. This greatly enhanced our ability to manipulate and match extremely large data sets at low cost. A combined commodity/establishment data set would use approximately 1.2 gigabytes of dedicated disk space. Fortunately, this breakthrough in computer technology happened at the same time as the focus on international trade data sharpened and new data were collected that will enable us to examine the characteristics of exporters.

Export Promotion Data Needs at the U.S. Level

The slippage in the U.S. trade deficit during the 1980s has been a major source of increased export earnings by our U.S. trading partners and a powerful stimulus to their national output. Conversely, it has also been a major long term concern to those watching the deteriorating U.S. international economic relationship with its world trading partners.

Placing in dramatic perspective the potential "crisis" of the U.S. international trade imbalance, Dr. Charles W. McMillion, in his recent analysis of the State of Maryland's export potential, states:

"With this borrowing (for debt service), the U.S. as a Nation is now consuming and investing far more than it is producing. At some point, just to service this debt the nation will have to produce, competitively produce, and sell in tough world markets, far more than it consumes and invests. That means the U.S. must run a trade surplus equal to our debt service obligations just to stop accumulating foreign debt. This requires a wrenching \$200 billion change in the pattern of U.S. and world trade. That is, the U.S. must move from a trade deficit of \$170 billion in 1987 to a \$40-\$50 billion trade surplus just to service old debt, never mind paying off principal. This will require the equivalent of either doubling current U.S. exports (which have actually declined in real terms during the 1980s) or reducing by half U.S. imports (which have grown very substantially in the 1980s)." ^{1/}

Further buttressing this analysis, the Congressional Office of Technology Assessment states:

"The speed by which the U.S. economy has become immersed in international trade and accumulated a huge trade deficit is a striking example of an economy in transition. The share of GNP held by exports has grown by almost a third from 1970 to 1986; import penetration increased by 76 percent. From the end of World War II to 1983 (38 years) the amount of imports purchased on a per capita basis (real 1982 dollars) slowly crept from \$300 to \$1,500. By 1987, the amount was \$2,300, a more than 50 percent increase in 4 years. This phenomenon is not limited to a few select products but

^{1/} McMillion, Charles, "Trade and International Competitiveness: Challenges to Maryland Firms and Ports," [Prepared as part of the Maryland Competitiveness Strategy Project: Johns Hopkins University, Institute for Policy Studies, Baltimore, MD, December 1989 P. 15;

now effects virtually every industry." ^{2/}

Further, the Congressional study notes; "It is obviously important that we understand how foreign trade influences the performance of the domestic economy. For example, the effects of trade on jobs, inflation, and our dependence on foreign sources, are at the root of many policy decisions... The absence of any detail about trade in the input/output accounts, for example, means that an uncomfortable number of assumptions must be made to see which industries are affected directly and indirectly by changes in the U.S. trade position. The explosive growth in the volume and complexity of trade makes this a major challenge." ^{3/}

What kind of foreign trade statistics can be deemed to be of highest value to the increasing number of data users serving the U.S. "export promotion" effort?

First and foremost is the need to supply statistics on the profile of firms engaged in exporting. We need to answer the questions of "Which industries are engaged in exporting and which are not?" and "What share of the market is held by small, medium size, and large exporters?" and "How much of the merchandise trade segment represents transfers between related parties?"

This data should provide insight for those establishing policy on the distribution of scarce export promotion dollars and for those measuring the effectiveness of programs to increase exports.

Export Promotion Data Needs at the State Level

Currently, the individual states pursue most export promotion efforts among their resident industries without sufficiently reliable data and without a systematic basis for longer term strategies. To date, the absence of detailed and timely data has precluded important research and analysis of the individual state and regional share in U.S. foreign trade.

For example, Dr. McMillion, expresses the view that: "One of the largest obstacles to promotion of international commerce in Maryland is the extremely poor quality of state trade data collected by the Federal Government. This has been a consistent theme of the National Governors' Association and others for many years. The Trade and Competitiveness Act of 1988 authorized the establishment of a State Data Bank for this and other purposes, but thus far no monies have been appropriated." ^{4/}

Dr. McMillion also notes that "the current limitations of state trade data prevent detailed analysis and efficient targeting of state resources. The private sector in Maryland should join with the Maryland International Division in working for adequate funding for this vital resource." ^{5/}

The National Trade Data Bank

Both national and state level data needs were addressed by the Trade and Competitiveness Act of 1988. Section 5406 (b)(7) of the Act states that "Within 2 years after the date of the enactment of this act, the Secretary of Commerce shall establish the Data Bank..." It will contain "import and export data for the United States on a state-by-state basis aggregated at the product level including, (A) data concerning the country shipping the import, the state of first destination, and the original port of entry for imports of goods and, to the extent possible, services, and (B) data concerning the state of the exporter, the port of departure, and the country of first destination for export of goods and to the extent possible, services."

Improvements for data on exports and imports of services are being investigated by the Bureau of Economic Analysis and improvements for merchandise trade data by the Census Bureau.

The Act calls for information about the physical location of the establishment that exported the commodity (state of the exporter). It also calls for information about commodity flow (port of departure and country of first destination) based on the state where the exporter is located. This is a different concept than any that the Census Bureau has used before. The following is a description of how this data could be made available and how it could be related to the concepts used in previous studies.

^{2/} U.S. Congress, Office of Technology Assessment, "Statistical Needs for a Changing U.S. Economy," [Background Paper, OTA-BP-E-58, U.S. GPO, Washington, D.C., September 1989, P. 21;

^{3/} U.S. Congress, OTA, Op. Cit., P. 22;

^{4/} McMillion, Charles, Op. Cit., P. 26;

^{5/} McMillion, Charles, Op. Cit., P. 62

The Exporter Data Base

The Census Bureau maintains the Standard Statistical Establishment List (SSEL) of all 15 million business establishments in the United States. The Federal Employer Identification Number (EIN), assigned to every firm with paid employment by the U.S. Treasury, is the control number used to keep this list up to date.

The SSEL is the mailing list for the Economic Censuses and the control list for many current economic surveys. It contains the SIC code, number of employees, name, and address (including ZIP code) of the physical location of the establishment.

In 1987, the Census of Manufactures and the Census of Distributive Trades questionnaires included a question on the value of export shipments by the establishment during the Census year.

In December 1985, the Census Bureau added the EIN question to the SED. The EIN of the exporter provides a way to aggregate all shipments made by the exporter and to link the rich data base of 9.7 million SEDs to the data base of 15 million business establishments to determine which ones were exporters. A match of SED records to preliminary 1987 Census records showed that as many as 120,000-130,000 establishments exported two or more shipments during the year.

SED records contain information about commodities exported, including the commodity classification, country of destination, Customs district and port of embarkation, ZIP code of the exporter, the state where the export journey began, value (f.a.s. basis), shipping weight, quantity, method of transportation, whether the cargo was containerized, and whether the transaction was made between related parties.

An Exporter Data Base (EDB) is being formed by linking the commodity records filed during 1987 to the establishment records filed covering the year 1987. Establishment records in the SSEL are linked to the owning company records, so that multiunit establishments reporting export activities will be linked to the enterprise record containing the characteristics of the parent firm. Linking these multiunit establishments to associated enterprise records will provide company level information about the firms that own and operate the establishments engaged in exporting. This includes the mailing address of the enterprise, whether a foreign company owns it, whether it has foreign affiliates, and its foreign country code. It also provides data on the total employment of the enterprise and/or the total number of establishments the company owned and operated.

The 1987 EDB will be a research data base. Only 75 percent of the SEDs reported the EIN required for the linking process. The linked records can be used to produce tabulations by state in various ways. The data base will also be the source of firm and establishment characteristic information. It will be the source of various special tabulations of exporter characteristics and will serve as a research tool to determine which firms are not filing complete export documents.

Creation of the EDB requires no new data and imposes no additional reporting burden on exporters. It does, however, match data collected about establishments to data collected about commodities and thereby provides new information. The new information provides quantitative data based on all of the origin concepts including "where produced," "where sold," "where the export journey began," and "port-to-country of destination."

The EDB could be used as a benchmark for a data series on the state of the exporter as required by the Omnibus Trade and Competitiveness Act of 1988.

In addition, it could provide: (1) The basis for a program to develop accurate and timely measures of state-by-state export activity, a high priority of the National Governors' Association, District Export Councils, and Port Authorities nationwide; (2) Statistical measures of export activity needed to target export promotion programs, (3) Commodity detail on trade between affiliates needed for the Bureau of Economic Analysis benchmark of the Survey of Foreign Direct Investments; (4) measures to show the relationship of the production origin data published in the "Export from Manufacturing Establishments" series of data and the origin of movement data published by Foreign Trade; and (5) new data on exporters of agricultural commodities, minerals, and other non manufactured commodities.

Function of the 1987 Exporter Data Base (EDB)

The 1987 EDB will provide the means to answer questions about the U.S. exporter community. Tabulations of the information in the EDB will be defined by the federal, state agencies or other sponsors interested in reimbursable tabulations. The EDB could serve as an indicator of exporter activity should there be interest in developing an annual or quarterly report on exporters. The merchandise trade statistics in this way could be made more relevant. As GAD noted, "Unlike other monthly economic indicators (such as the unemployment rate and its consumer price entry), which are developed from estimates based on periodic surveys and sampling techniques, trade statistics are compiled from an enumeration of all actual import and export shipment data reported to Customs and

Census. This statistical framework was constructed in the early 1950s when U.S. trade was considerably less extensive and less complex. The rapidly changing trade environment has raised concerns about the comprehensiveness of the trade data in reflecting the complexity of the nation's trade." ^{6/} An Exporter Data Base can help address these concerns.

Destination of Imports

Information on the destination of imports is another matter.

We know which foreign countries produce the commodities we import. We know which domestic industries mine, grow or manufacture these same commodities. We can determine with existing National data, the effect imported goods have on domestic producers and which industries in which states are most affected by foreign competition.

What we do not know is which industries in which states consume imported goods. The available data on consumption and purchases is not collected in that detail and no distinction is made between goods of imported or domestic origin.

Until certain information on the destination of imports can be added to the U.S. Customs Service Import Entry Summary form, and information on the purchase and consumption of imported goods can be collected from establishments by the Census Bureau, there is little hope of obtaining accurate state of destination data.

The Economic Census staff has included questions on purchases of imported goods on the record keeping practices survey for the 1992 Economic Census. This survey will provide information on availability of this data in records maintained by companies in their firm and establishment accounts.

Summary

An Exporter Data Base can serve a variety of functions. It can provide a source from which users of national level statistics can gain insight into the complex production, distribution and transportation system used by firms engaged in exporting. It can enable us to provide sponsors with data by size of firm, related party, or on the mix of commodity exports by industrial sector. It can serve as a source from which sponsors of state level statistics can get information to better target their export promotion programs. Lastly, an EDB can provide state-by-state data on the export activity of manufacturers vis-a-vis intermediates, on the production and distribution origin and destination of exports, and can provide more detail by industrial classification than has ever been available.

While state-by-state trade statistics have been an elusive goal for many years, new data coupled with recent innovations in computer technology promise that the goal can be reached, as far as export data are concerned.

Lack of available data to determine import penetration at the state level, still places this goal beyond empirical reach.

Acknowledgements

The authors acknowledge and appreciate the substantial contributions of Dr. Michael P. Risha of the Census Bureau.

^{6/} U.S. Congress, United States General Accounting Office, "Federal Statistics, Merchandise Trade and Statistics: Some Observations," GAO/OCE-89-1BR, P. 12.

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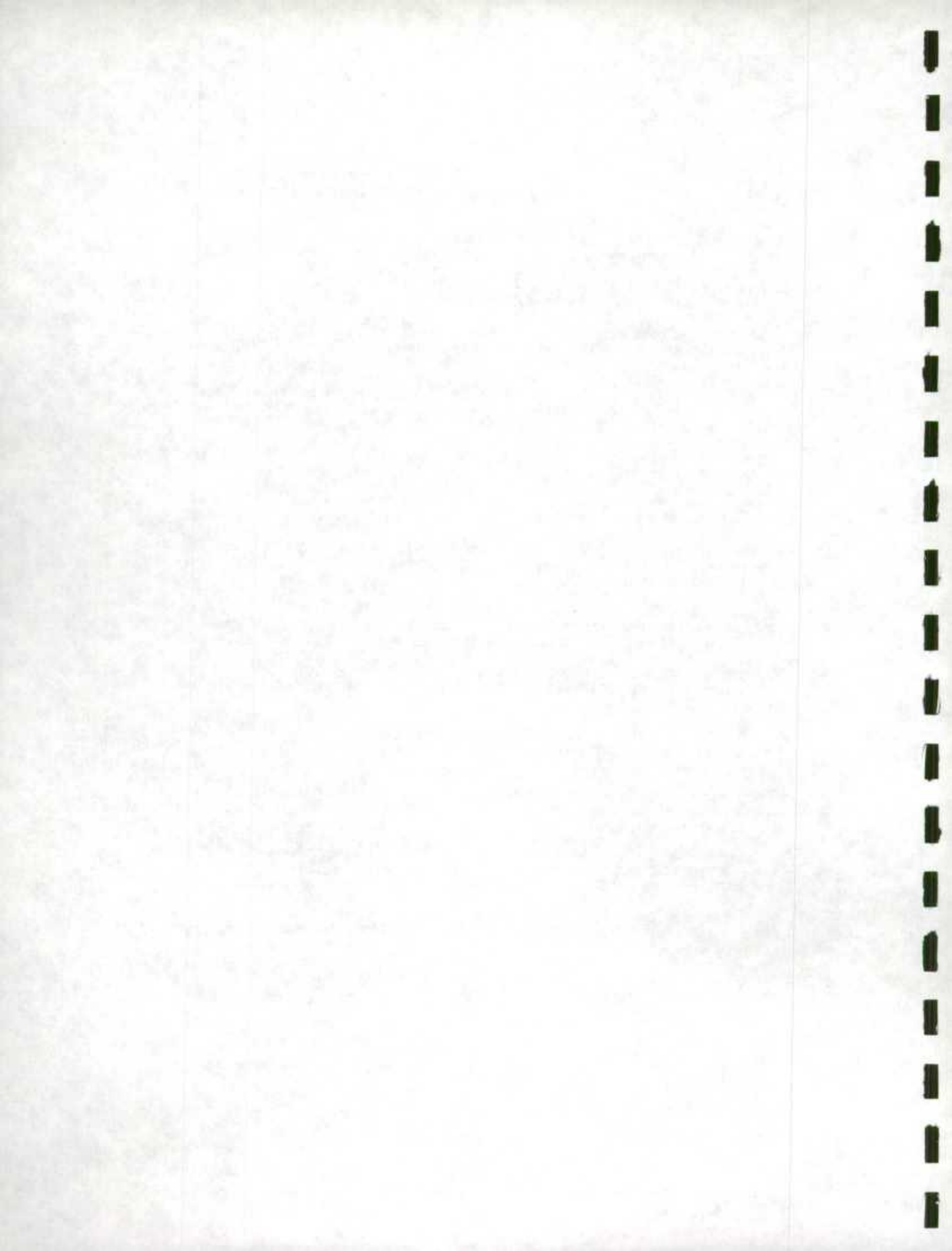
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SHIPPER'S EXPORT DECLARATION

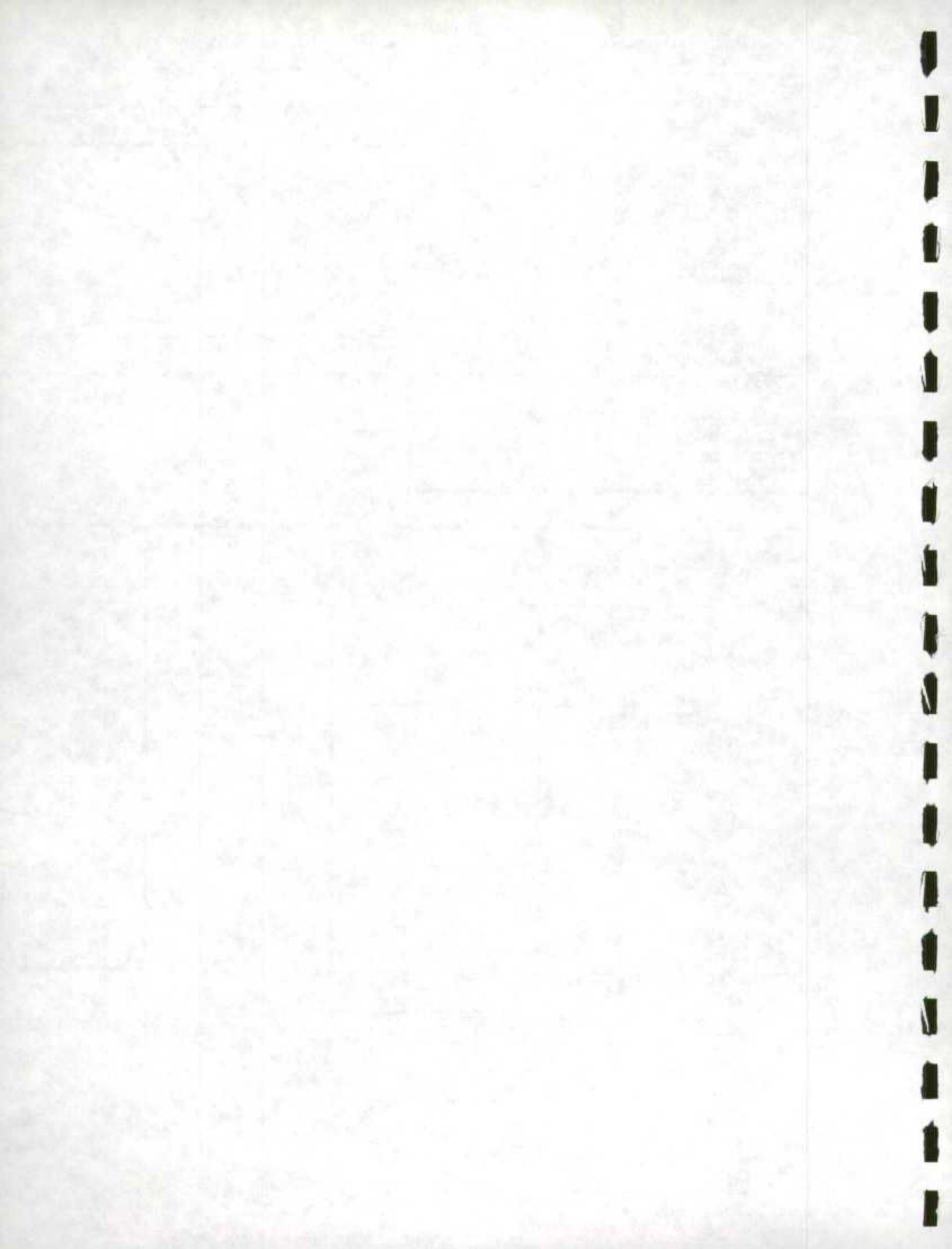
1a. EXPORTER (Name and address including ZIP code) Brown and Company 123 Samantha Road Toledo, OH		ZIP CODE 43264	2. DATE OF EXPORTATION 1-10-88	3. BILL OF LADING/AIR WAYBILL NO. 00-1234-5678
b. EXPORTER'S EIN (IRS) NO. 12-345678901	c. PARTIES TO TRANSACTION <input type="checkbox"/> Related <input checked="" type="checkbox"/> Non-related			
4a. ULTIMATE CONSIGNEE Kirk Sales, LTD 162 Belva Street London, England				
b. INTERMEDIATE CONSIGNEE Tim Service Company 3456 Fred Lane London, England				
5. FORWARDING AGENT Sharyn Exports P.O. Box XYZ New York, NY 10047		6. POINT (STATE) OF ORIGIN OR FTZ NO. OH		7. COUNTRY OF ULTIMATE DESTINATION England
8. LOADING PIER (Vessel only)	9. MODE OF TRANSPORT (Specify) Air			
10. EXPORTING CARRIER Fairway Air	11. PORT OF EXPORT Kennedy Airport			
12. PORT OF UNLOADING (Vessel and air only) Gatwick, England	13. CONTAINERIZED (Vessel only) <input type="checkbox"/> Yes <input type="checkbox"/> No			

14. SCHEDULE B DESCRIPTION OF COMMODITIES } (Use columns 17-19)					15. MARKS, NOS., AND KINDS OF PACKAGES	VALUE (U.S. dollars, omit cents) (Selling price or cost if not sold) (20)
O/F (16)	SCHEDULE B NUMBER (17)	CHECK DIGIT	QUANTITY - SCHEDULE B UNITS (18)	SHIPPING WEIGHT (Kilos) (19)		
	2 Boxes (B/1 and B/2) of Model 525 Signal Generators					
D	8543.20.0000	3	2	6 Kg		2,375
	1 Box (B/3) of Parts for Model 525 Signal Generator (protos, tees, defectors, and defector mounts)					
D	8543.90.9500	4	X	31 Kg		1,854
21. VALIDATED LICENSE NO. (GENERAL LICENSE SYMBOL) A 123456		22. ECCN (When required) 1529				

23. Only authorized officer or employee: *H. Brown* The exporter authorizes the forwarder named above to act as forwarding agent for export control and customs purposes.

24. I certify that all statements made and all information contained herein are true and correct and that I have read and understand the instructions for preparation of this document, set forth in the "Correct Way to Fill Out the Shipper's Export Declaration." I understand that civil and criminal penalties, including forfeiture and sale, may be imposed for making false or fraudulent statements herein, failing to provide the requested information or for violation of U.S. laws on exportation (13 U.S.C. Sec. 305; 22 U.S.C. Sec. 401; 18 U.S.C. Sec. 1001; 50 U.S.C. App. 2410).

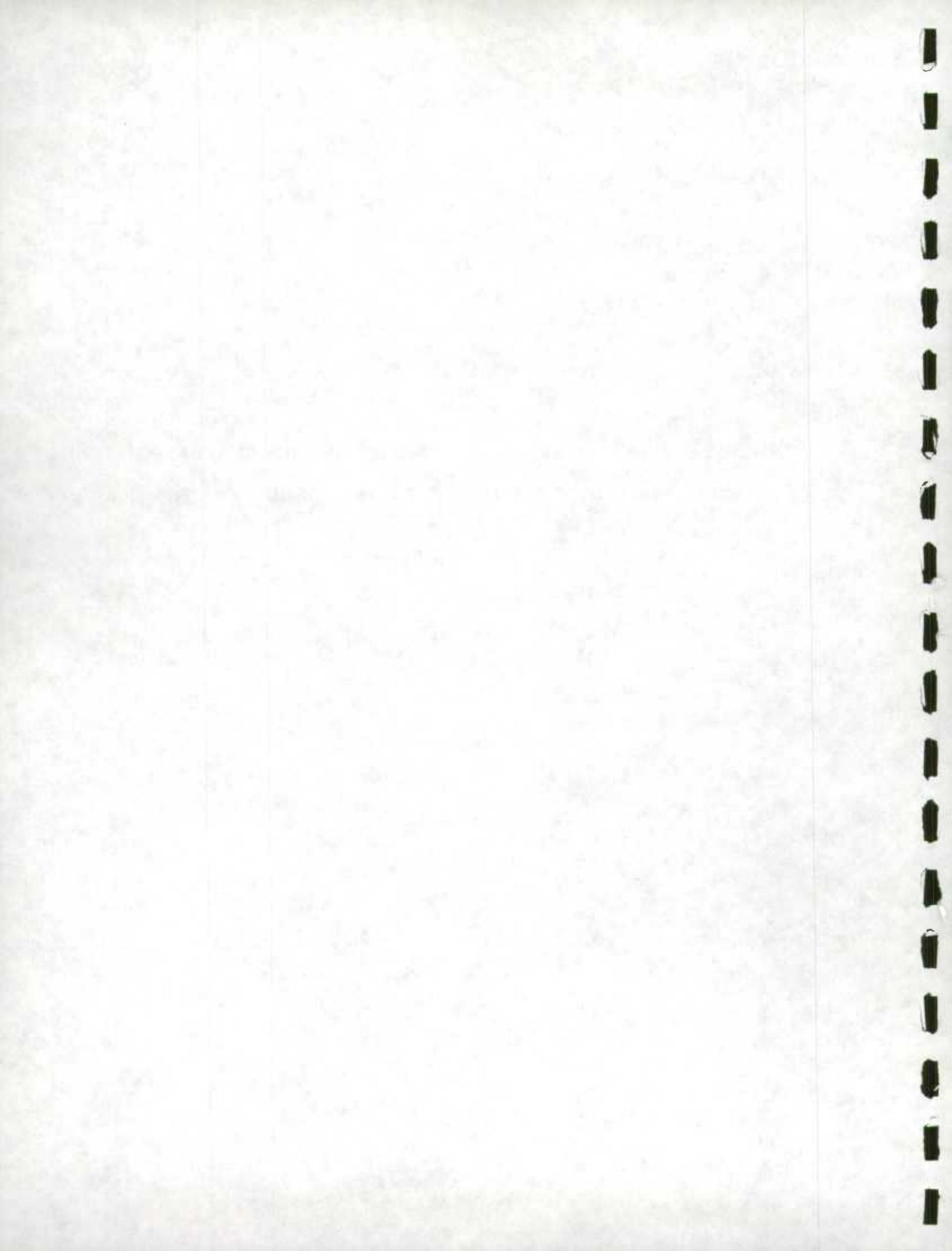
Signature: *H. Sharyn* Confidential - For use solely for official purposes authorized by the Secretary of Commerce (13 U.S.C. 301 (g)).
Title: President Export shipments are subject to inspection by U.S. Customs Service and/or Office of Export Enforcement.
Date: 1-10-88 25. AUTHENTICATION (When required)



QUESTIONNAIRES

ANNUAL SURVEY OF MANUFACTURERS: DESTINATION OF SHIPMENTS

ORIGIN AND DESTINATION SURVEY OF GOODS OF MERCHANDISING
ESTABLISHMENTS



Annual Survey of Manufactures: Destination of Shipments

13 DESTINATION OF SHIPMENTS - Please report the distribution of shipments of "goods of own manufacture and amount received for work done" (item 8.7) and of "goods purchased and sold in the same condition as purchased" (item 9.1) by the destination shown below.

Value of shipments of goods of own manufacture and amount received for work done (item 8.7)

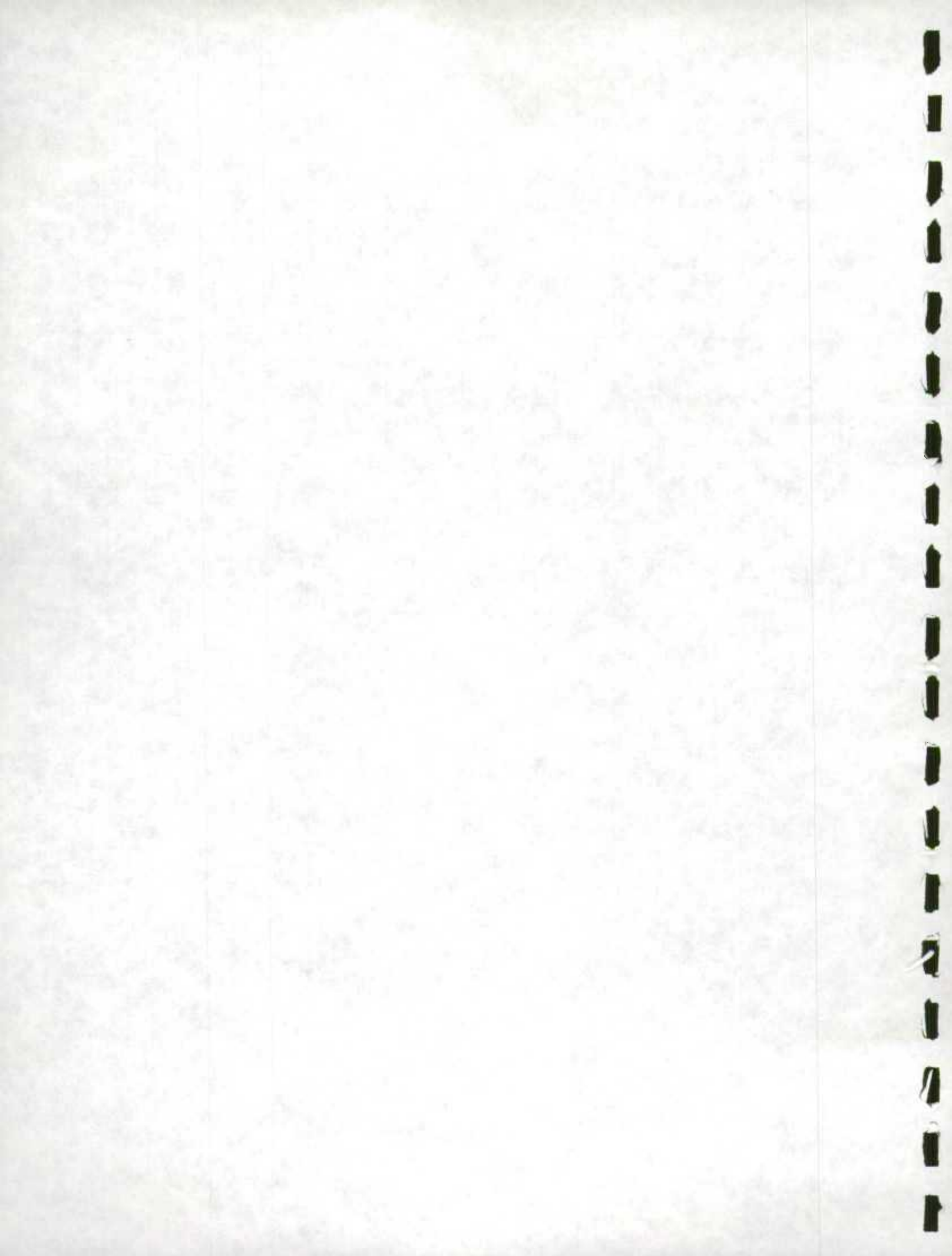
Value of shipments of goods purchased and sold in the same condition as purchased (item 9.1)

- If you do not have a precise breakdown, please give your best estimates, either in dollars or in percentages.

- If the totals on lines 8.7 and 9.1 include the value of goods that were not physically shipped (book transfers), please enter the amount(s) involved on line 13.14 ("added to inventories held but not owned").

- For physical shipments to Head Offices, Sales Offices, wholesalers or other distributors, please report the first destination, i.e. the location at which the distributor received these goods.

Destination	Value of shipments of goods of own manufacture and amount received for work done (item 8.7)		Value of shipments of goods purchased and sold in the same condition as purchased (item 9.1)	
	% of total	OR Canadian dollars (omit cents)	% of total	OR Canadian dollars (omit cents)
13.1 Newfoundland				
13.2 Prince Edward Island				
13.3 Nova Scotia				
13.4 New Brunswick				
13.5 Quebec				
13.6 Ontario				
13.7 Manitoba				
13.8 Saskatchewan				
13.9 Alberta				
13.10 British Columbia				
13.11 Yukon				
13.12 Northwest Territories				
13.13 Exports				
13.14 Added to inventories held but not owned				
13.15 TOTAL				





Statistics Canada Statistique Canada

Merchandising and Services Division

ORIGIN AND DESTINATION SURVEY OF GOODS
OF MERCHANDISING ESTABLISHMENTS
1979

Taken in conformity with the requirements of the Statistics Act, Chapter 15, Statutes of Canada 1970-71-72.

Return completed form within thirty days of receipt.

Please refer to your file number below and above survey title in all correspondence

Office use

IMPORTANT - Please read instructions 1 to 8 before completing page 2

1. Report for your business year ending at anytime between April 1, 1979 and March 31, 1980.
2. Actual figures are obviously preferred but if they are not available, provide estimates based on a study of a sample number of your invoices. As a last resort, your best approximation will be acceptable. DO NOT return the form blank.
3. You may report in percentages or in dollars but if you choose the former, be sure to report all TOTALS in dollars.
4. For the purposes of this survey, the origin and the destination of goods are being measured at the "establishment" level. The "establishment" is defined as any accounting entity for which gross profit can be derived from its accounting records.

If your business is made up of only one such "establishment", simply complete and return one form.

If your business is composed of several establishments (as defined above), you are required to complete one form for each. Additional forms will be provided on request. Distribution points such as regional warehouses, central company warehouses, etc. which are not an integral part of a selling establishment are deemed to be "establishments" and a form specifying their nature must be completed for each one.
5. The terms ORIGIN and DESTINATION as used in this questionnaire relate to the "physical movement of goods". The ORIGIN is where the goods were physically located when leaving for delivery to this establishment. The DESTINATION is where the goods are first delivered (physically) from this establishment.
6. The term "goods acquired", as used in column 1 of page 2, is to be taken to mean all goods, whether for resale in the same condition or for use in manufacturing, delivered to this establishment regardless of the method of acquisition, i.e. goods bought or taken on consignment or book transfer basis, providing a physical movement of the goods occurred in each case. The term does not include packaging, warehouse and office supplies.
7. The term "goods shipped", as used in column 2 of page 2, is to be taken to mean all goods, whether for resale in the same condition as purchased or of own manufacture, leaving this establishment regardless of the type of shipment, i.e. goods sold or shipped on consignment or book transfer basis, providing a physical movement of the goods occurred in each case.
8. Drop or direct shipments made by your suppliers on your behalf to your customers are to be excluded from both the ORIGIN (page 2, column 1) and the DESTINATION (page 2, column 2). These will be reported by your suppliers. However, the total amount of these shipments are to be reported under line 1.16 of page 2. Include your own drop or direct shipments to points designated by your customers under column 2 of page 2.

1. ORIGIN AND DESTINATION OF GOODS	Column 1		Column 2	
<p>NOTE - see page 1 for full details on how to complete this portion of the form.</p>	<p>Report the ORIGIN and the value of all goods acquired (delivered to this establishment) whether bought or taken on consignment or book transfer basis. EXCLUDE goods bought by you and shipped on your behalf by your suppliers directly to your customers. EXCLUDE packaging, warehouse and office supplies.</p>		<p>Report the DESTINATION and the value of all goods shipped by this establishment whether sold or shipped on consignment or book transfer basis. DO NOT INCLUDE drop or direct shipments made on your behalf by your suppliers directly to your customers.</p>	
	Percentage	OR Dollars	Percentage	OR Dollars
1.1 Newfoundland				
1.2 Prince Edward Island				
1.3 Nova Scotia				
1.4 New Brunswick				
1.5 Quebec				
1.6 Ontario				
1.7 Manitoba				
1.8 Saskatchewan				
1.9 Alberta				
1.10 British Columbia				
1.11 Yukon				
1.12 Northwest Territories				
1.13 Outside Canada				
1.14 Total (in dollars only)	\$		\$	
1.15 Value of goods sold but not shipped (goods held by you)				Dollars
1.16 Value of drop or direct shipments made by your suppliers on your behalf				
1.17 Value of book transfers - goods shipped (included in column 2)				
1.18 Value of goods shipped on consignment basis (included in column 2)				
<p>2. TOTAL NET SALES AND RECEIPTS Report the total net sales and receipts of this establishment for the period covered by this report. Include sales of new and used goods, commissions earned, revenue from repairs and services, custom manufacturing, rentals and any other operating revenue</p>				
<p>3. IMPORTER NUMBER If you imported goods from other countries, please give your IMPORTER number for customs clearance (or your agent's numbers used for your account)</p>				Number

CERTIFICATE

This is to certify that this report has been completed to the best of my ability and covers the period

from _____ 19__ to _____ 19__

Name (please print)	Title	Tel. No.
Address	Signature	Date of this report

1980

OTHER DOCUMENTATION AVAILABLE AT THE MEETING

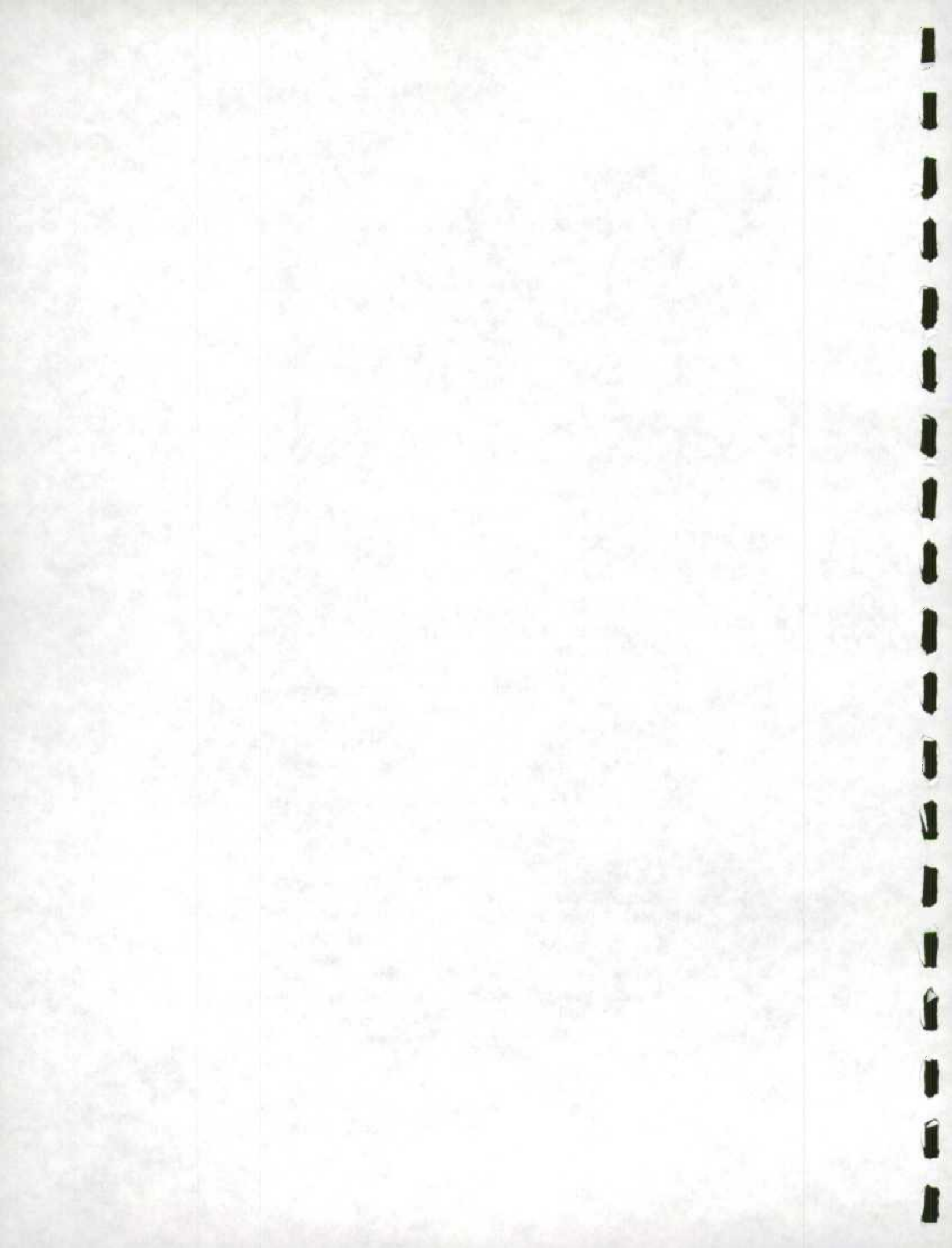
- . Transborder Freight in the U.S. Balance of Payments Accounts
- . 1993 surveys for which funding is requested in fiscal year 1994:
 - . Transportation Services Survey
 - . Charter, Rural, and Intercity Bus Survey (CRIBS)
- . Data for U.S. National Transportation Decision Making: Problems and Prospects (by Rolf R. Schmitt)

U.S. Bureau of Labor Statistics - Producer Price Index:

- . Transportation Sector Coverage in the Producer Price Index
- . "The Producer Price Index: An introduction to its derivation and uses"
- . Chapter 16. Producer Prices
- . Table 5. Producer price indexes for the net output of selected industries and their products

U.S. Department of Commerce, Bureau of the Census

- . Inventory of Economic Surveys - Survey Profile: Census of Transportation, Communications, and Utilities Communications
- . 1992 Census of Transportation, Communications, and Utilities - Scope Expansion
- . 1987 Census of Transportation - Water Transportation Covering letter (CB-4400)
- . 1987 Census of Transportation Industries - Instructions (CB-I(T-1))
- . 1987 Census of Transportation brochure (EC-B-11)
- . 1987 Census of Transportation - Motor Freight Transportation and Public Warehousing (CB-4200)
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Highway Passenger Transportation (CB-4100X)
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Air Transportation (CB-4500X)
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Pipelines (CB-4600(X))
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Telephone and Telegraph Communications (CB-4801(X))
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Radio, Television, and Cable Television Broadcasting (CB-4802(X))
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Electric, Gas, Water, and Sanitary Services (CB-4900(X))
- . Census of Transportation, Communications, and Utilities - 1989 Pretest: Evaluation Supplement (CB-2(E)(X))



Transborder Freight
in the U.S. Balance of Payments Accounts

Under present balance of payments guidelines, only part of truck and rail freight revenue is included in the balance of payments accounts, and no separation of revenues of U.S. and non-U.S. carriers is made. Coverage of revenues of truck and rail carriers should be expanded, and revenues of U.S. and non-U.S. carriers should be separated to correctly reflect U.S. international transactions in the U.S. balance of payments accounts and the U.S. national income and product accounts.

A. Current practice

Under present guidelines, the freight revenue of truck and rail carriers in the balance of payments accounts is limited to inland freight revenue, which is included in the merchandise trade account. Inland freight receipts, included in merchandise exports, covers the transportation of exports by truck and rail from U.S. plants to the Canadian border. Inland freight payments, included in merchandise imports, covers the transportation of U.S. imports by truck and rail from Canadian plants to the Canadian border.

This treatment of truck and rail freight revenue is consistent with balance of payments accounting convention (International Monetary Fund, Balance of Payments Manual (4th edition) para. 241) that merchandise should be valued at the "customs frontier" of the exporting country and thus, should include the cost of transporting goods to that point. In the case of U.S. overland exports to Canada, the "customs frontier" is the U.S. border and thus, the value of exports should include the cost of transporting those exports from U.S. plants to the U.S. border. Similarly, imports should include the value of transporting imports from Canadian plants to the Canadian border.

This treatment of freight revenue, while satisfactory for accounting for air and ocean freight revenues, may lead to errors in the balance of payments accounts in the case of rail and truck revenues between the United States and Canada. For example, this treatment implicitly assumes that all truck and rail revenues for transporting U.S. imports from Canadian plants to the Canadian border accrues to Canadian carriers and that all the revenue for transporting those imports from the Canadian border to U.S. destinations accrues to U.S. carriers. This treatment may have had some validity before deregulation of the trucking industries in the United States and Canada, but its validity following deregulation is dubious. U.S. and Canadian truck carriers now compete freely for freight in both directions and for local freight traffic.

B. Alternative approach

An alternative approach is to include the full value of transborder freight services provided by the residents of one country to the residents of the other country. The relevant measures would be freight revenues of Canadian truck and rail carriers for transporting U.S. imports from Canadian plants to interior U.S. destinations, and revenues of U.S. truck and rail carriers for transporting exports from U.S. plants to interior Canadian destinations. For example, U.S. receipts would include only revenues of U.S. carriers, but the revenues would include transportation of exports from U.S. plants to interior Canadian destinations. The current practice is to include the revenue for transporting goods from plants to the border, regardless of the nationality of the carriers.

The table below illustrates the impact of various treatments of freight revenue on the balance of payments accounts. In the alternative, only transportation transactions deemed to be between nonresidents are included. The second version of the alternative requires separate estimates for freight revenues on freight from the plant to the border and on freight from the border to the final destination. This would permit partial compliance with the convention that merchandise be valued at the border.

	<u>Current practice</u>	<u>Alternative</u>	
		<u>First Version</u>	<u>Second Version</u>
Merchandise account	110	100	105
Merchandise	100	-	-
Inland freight, i.e., plant to border	10	-	5
Transportation account	-	15	10
Plant to border	-	-	-
Border to destination	-	-	10
Total	110	115	115

C. Data limitations

Until July 1989, estimates of inland freight payments to Canada were obtained from Statistics Canada. Until January 1991,

estimates of inland freight receipts were based on a Foreign Trade Division sample study. No information on freight payments or receipts beyond the border or nationality of carrier.

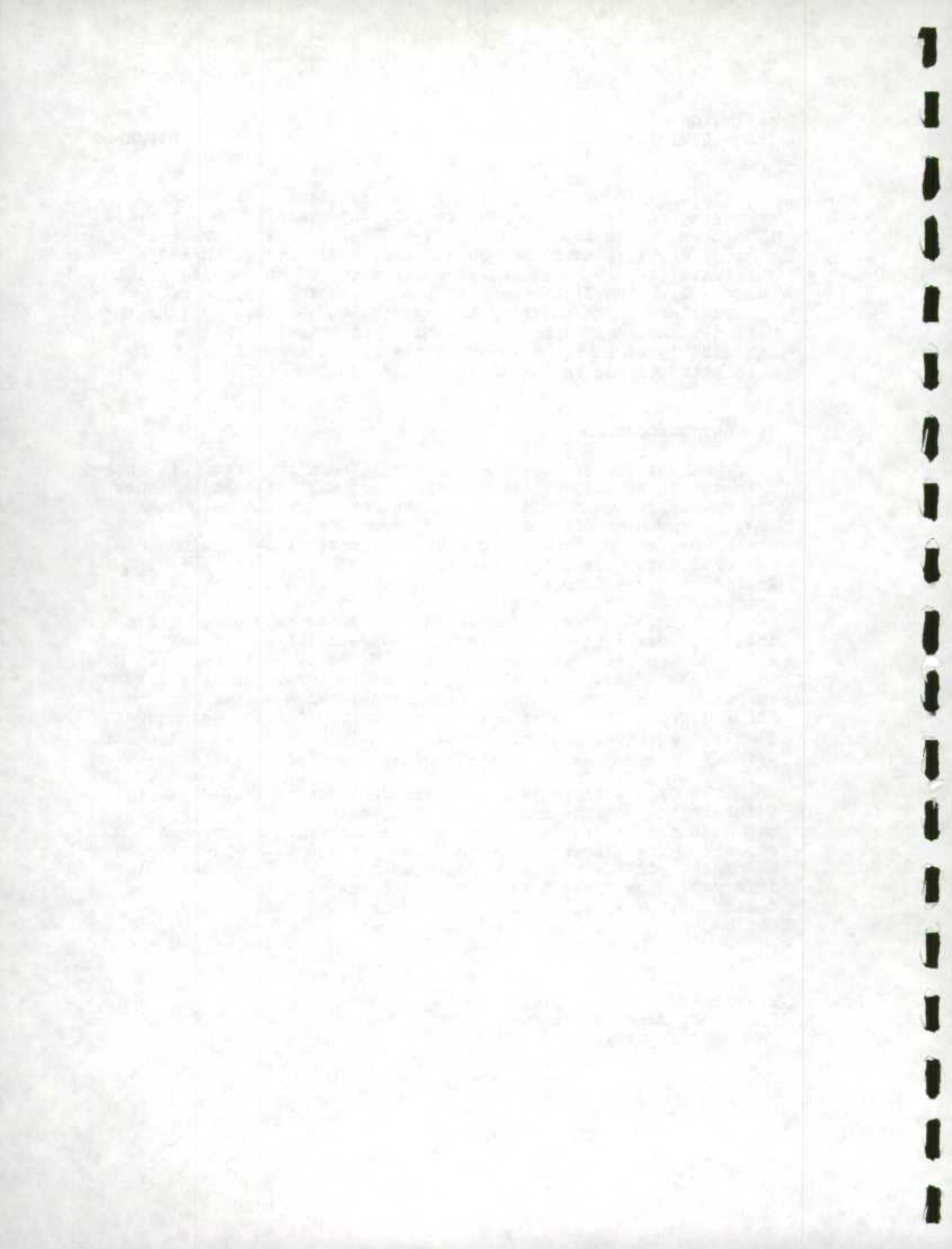
In July 1989, the Foreign Trade Division revised its reporting regulations to require U.S. importers to report c.i.f. import values on imports by truck and rail. (Importers were already required to report on a c.i.f. basis for ocean and air shipments.) However, importers are required to report freight charges from Canadian plants to the U.S. border only. No information on the value of transportation services to interior U.S. destinations is included, and no information on the nationality of carriers is available. In January 1991, Statistics Canada initiated a similar program.

D. Recommendation

The Balance of Payments Division should cooperate with other agencies in developing data on truck and rail freight revenues for transporting merchandise to interior destinations. Data on freight revenues for transporting merchandise a) from plants to the border and b) from the border to interior destinations would be ideal. (However, this requires an arbitrary division of freight charges into (a) and (b) because freight revenues probably are earned for services provided from origin to destination.) Also, information on the identity of carriers should be developed to distinguish between freight revenue of U.S. and Canadian carriers. (Only U.S. or Canadian carriers need to be identified. Once the revenue of one group is determined, it could be assumed that the remaining revenue accrues to the other group.) This distinction is required for the balance of payments accounts, and would also satisfy requests of other data users for information on market shares, traffic patterns, etc.

The Census Bureau's Foreign Trade Division collects some information on truck and rail freight charges on U.S. imports, but does not collect any information on freight charges on U.S. exports. For exports to Canada, the Foreign Trade Division uses Statistics Canada's data on Canadian imports. Thus, obtaining information on freight charges on U.S. exports to Canada from Canadian sources would require the cooperation of Statistics Canada.

Balance of Payments Division
Bureau of Economic Analysis
November 12, 1991



Funding requested in FY 94
to Survey 1993

Transportation Services Survey

- o SIC Group 47 - Transportation Services
 - 471 - Freight Forwarding
 - 4723 - Arrangement of Transportation of Freight and Cargo
 - 474 - Rental of Railroad Cars
 - 4742 - Rental of Railroad Cars With Care of Lading
 - 4743 - Rental of Railroad Cars Without Care of Lading
 - 478 - Miscellaneous Services Incidental to Transportation
 - 4782 - Inspection of Weighing Services Connected With Transportation
 - 4783 - Packing and Crating
 - 4784 - Fixed Facilities for Handling Motor Vehicle Transportation, W.E.C.
 - 4789 - Services Incidental to Transportation, N.E.C.
- o Universe size - 34,000 estabs (1985 CBP)
- o Approximate sample size - 1,000 firms
- o Number of data items and type of data requested - 30 questions, financial (revenues and expenses)
- o GNP - Total transportation = \$150.8 billion (1988 Survey of Current Business)
Transportation services = \$12.0 billion or 8.0% of total transportation
- o Wages and salaries - Total transportation = \$79.9 billion (1988 Survey of Current Business)
Transportation services = \$6.2 billion or 7.7% of total transportation

Regulatory reform has had a profound effect on the arrangement of freight transportation:

- o The industry is primarily composed of freight forwarders, freight brokers, carrier agents, and carriers that provide a full range of transportation services. Traditional lines of delineation between arrangers of freight transportation have become blurred. Brokers can now own forwarders and vice versa, agents can own forwarders and vice versa, and carriers are expanding to include forwarding, brokerage and other intermediary services.
- o Freight forwarding is comprised of air, inland water and surface, and deep sea forwarding. Surface freight forwarders which at one time were the dominant players in the arrangement of freight transportation have been relegated to a lesser role. They have been supplanted in

importance by the growth of air forwarders, carrier agents and transportation brokers. Many air forwarders operate their own planes and trucks indistinguishing them from air couriers. All public data collection on freight forwarding ceased in 1980; industry sources have not supplanted the previously available data.

- o Freight brokers have also experienced a dramatic increase in number. With under 50 new broker's license granted by the ICC in 1978, the number of new licenses for 1983 rose to 828, an increase of over 1,600 percent in 5 years. The term "freight brokers" applies only to transportation intermediaries that deal with ICC-licensed truck brokers shipping general commodity freight. They are specifically distinguished from household goods brokers, which are also licensed by the ICC but which generally specialize in that commodity. A third group of truck brokers include unlicensed brokers that arrange motor carriage of exempt agricultural commodities. The ICC estimated that there are approximately 1,000 exempt agricultural brokers which arrange most truck movement of agriculture products. Brokers are also evolving as consultants, auditors, and third party negotiators for available transport discounts and complete transportation analysis of shipment or receipt of freight.
- o Other non-broker intermediaries that have become major players since deregulation include carrier agents, shipper agents and non-vessel operating common carriers (NVOCC). Carrier agents are motor carrier sales people who work under the direction of the carrier. Unlike brokers, agents cannot arrange a shipper's freight to any carrier, but must do business with the carrier they represent. Shipper's agents are exempt intermediaries that retail trailer-on-flat-car service. They typically make commitments to purchase large values of piggy-back service. NVOCC operators are used by freight forwarders, agents and brokers. They offer land-ocean transportation services of LTL shipments at the shipper or consignee discretion.
- o DOT needs information about the size, growth, profitability, structure, etc. of the transportation services industry in developing legislative and policy issues.
- o BEA needs this information for the preparation of national income and product accounts and in their benchmark and annual input-output tables. The transportation services industry was #2 on BEA's industry priority list for the transportation sector following the motor freight transportation and warehousing industry.
- o BLS uses the data as input to their Producer Price Indices and in developing productivity measurements.

Funding requested in FY 94
to Survey 1993

Charter, Rural, and Intercity Bus Survey (CRIBS)

Year Started

Proposed for fiscal year 1994 covering the 1993 and 1992 survey years.

Frequency

Annually

Industries Included

Intercity and rural bus transportation (SIC 413), charter bus transportation (SIC 414), and terminal and service facilities for motor vehicle passenger transportation (SIC 417). Local and suburban bus transportation (SIC 411) and school buses (SIC 415) are excluded.

Respondent Universe

Approximately 2,000 firms with 1 or more inscope establishments.

Survey Design

The CRIBS will consist of all firms with one or more inscope establishments as of December 31, 19 , and a probability sample of all EI births subsequent to December 31, 19 . EI births will be handled as follows:

- o EI classified in SIC 41 will be selected with certainty in first stage sampling, and canvassed for updated kind of business and size information. If the EI is verified in the canvassing to be inscope to CRIBS, it will be selected with certainty to the survey.
- o Unclassified EIs or EIs subjected to first stage sampling under an SIC other than 41 will be selected in second stage sampling and assigned their first stage weight if found to be inscope to CRIBS.

Data Items

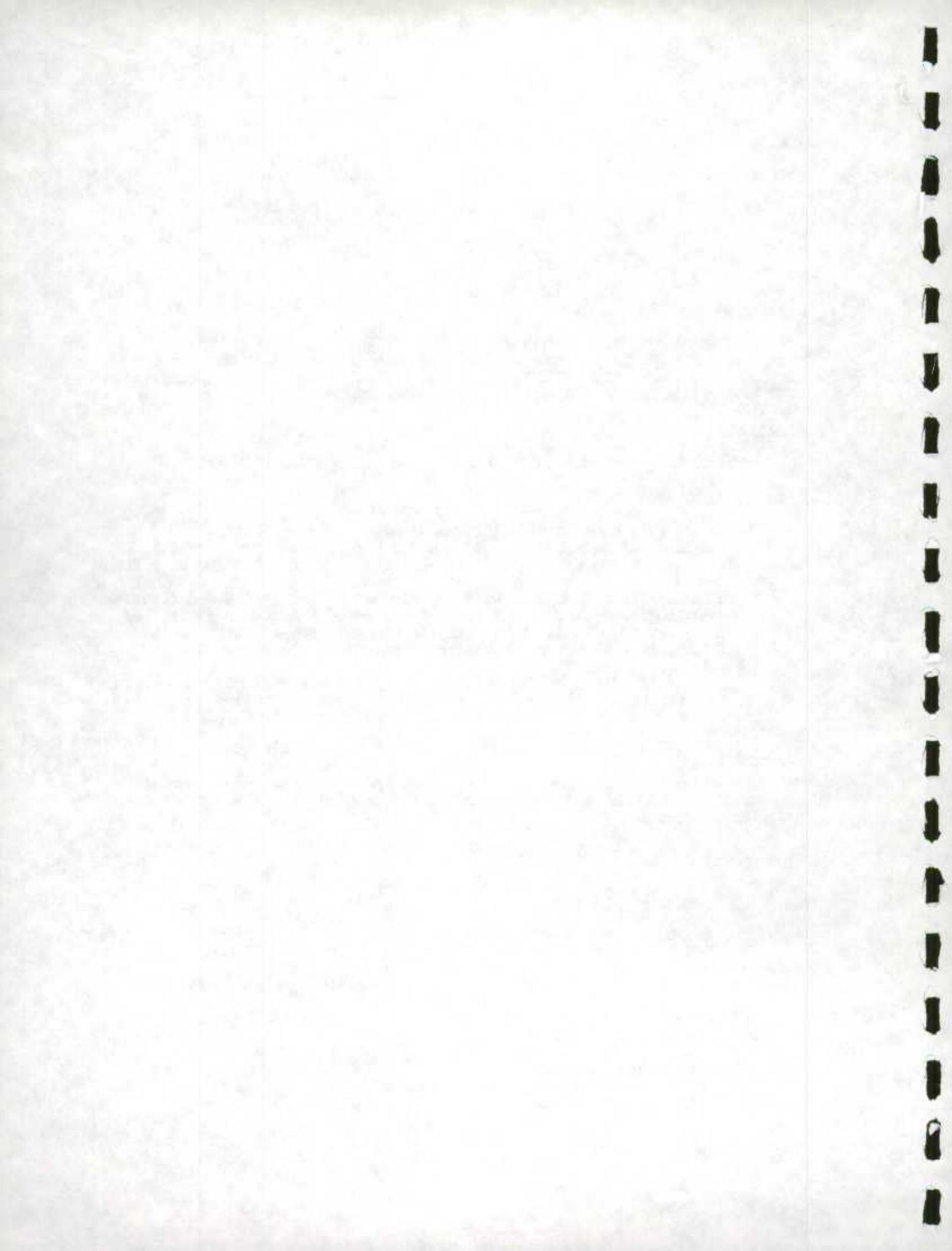
The survey will collect detailed breakouts of revenues and expenses, end of year 19 inventories of revenue generating equipment, miles traveled in 19 , and ridership.

19 Questionnaires - Volume and Time to Complete

<u>Form</u>	<u>Coverage</u>	<u>Number</u>	<u>Time to Complete</u>
B-530	Multiunit	50	2 hours
B-531	Single unit	1,950	2 hours

Timing

Precanvass--December 19
Initial mailout--March 19
Mail follow up--May 19
Telephone follow up--June - July 19
Data analysis and review-- May - December 19
Publication--December 19



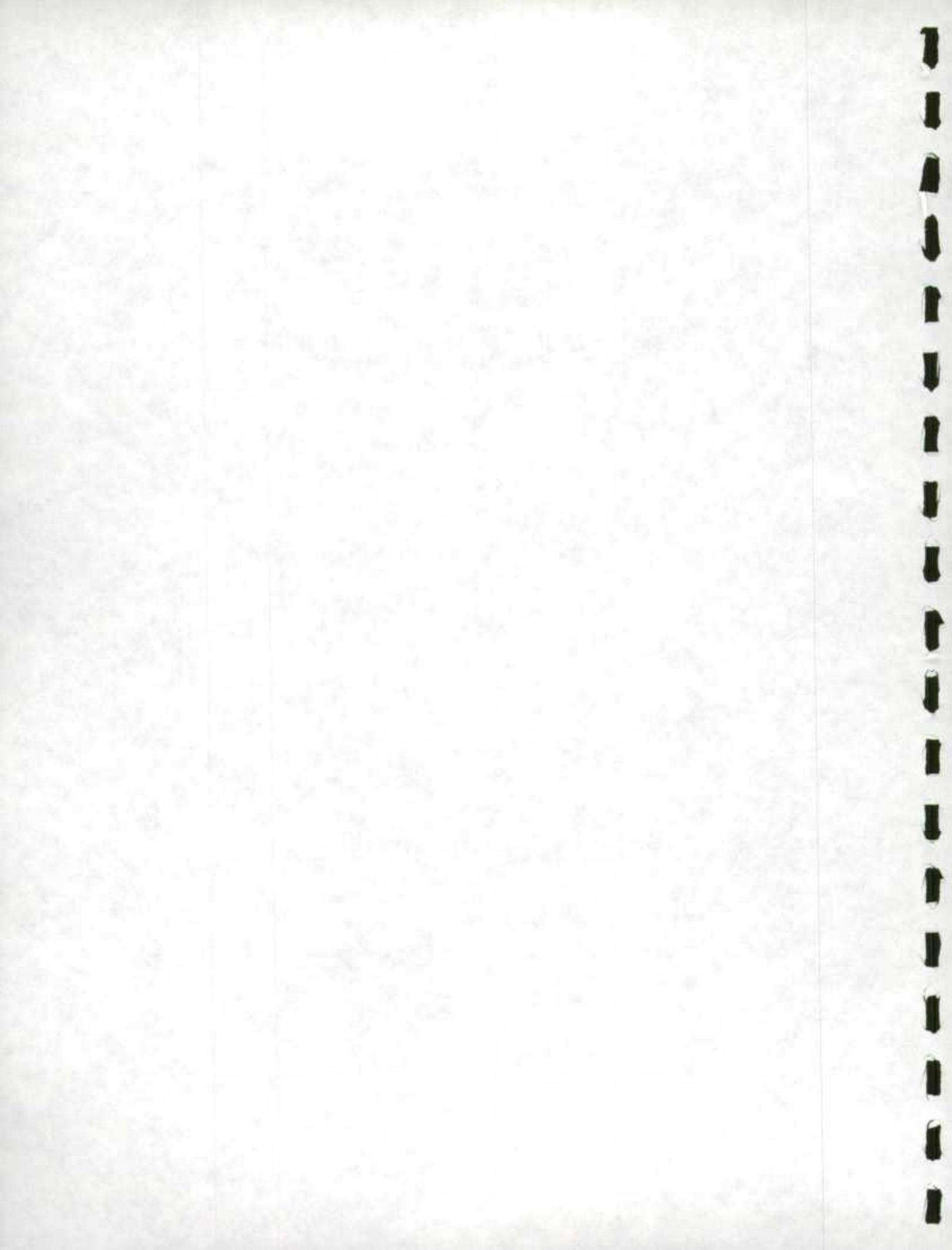
**Data for U.S. National Transportation Decisionmaking;
Problems and Prospects**

by

Rolf R. Schmitt

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Data for U.S. National Transportation Decisionmaking: Problems and Prospects

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Introduction

Informed public decisionmaking requires an understanding of the relationships among transportation activity, passenger flows, commodity movements, logistical requirements of economic activities, international trade, safety, and the extent and condition of the Nation's transportation system to:

- identify characteristics of current and anticipated transportation system use that affect interstate commerce, international trade, and the cost of personal and business logistics;
- assess the effects of proposed Federal legislation and Federal and State regulations on the Nation's transportation system;
- evaluate the cost-effectiveness of alternative levels of investment in existing transportation infrastructure and new transportation technologies;
- determine whether user charges are adequate and equitable;
- analyze and oversee operating restrictions on transportation services (such as truck size and weight limits) that affect interstate commerce, international trade, and safety; and
- make federal programs responsive to national goals beyond mobility and safety, such as economic development, environmental protection, social justice, and defense.

The requisite understanding can no longer be based solely on past experience since transportation services are responding in unprecedented and often unpredictable ways to deregulation, new transportation technologies, the growth of international trade, structural changes in the economy, and other factors. Data are needed to identify emerging and desired relationships among patterns of transportation system use, the availability and quality of transportation facilities and services, demographic

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conditions, the economy, and the environment, especially since these relationships are central to transportation policies being pursued or contemplated throughout North America.

Concerns with the adequacy of information to support public decisionmaking have been expressed in both the U.S. and Canada within the last year. *Moving America: A Statement of National Transportation Policy* by the U.S. Department of Transportation (DOT) dedicates an entire section to data issues, and proposes an aggressive agenda to correct a general decline in information on the condition, performance, and consequences of the national transportation system. *Getting There: the Interim Report of the Royal Commission on National Passenger Transportation* raises similar concerns with a more specific emphasis on identifying subsidies to each mode of transportation and the public benefits of those subsidies.

The problems with transportation data raised in these reports are not new; however, the potential for ameliorating the data problems in the U.S. may be unprecedented. Recent innovations in data collection and information system technology provide an opportunity for improving the quantity and quality of essential transportation data. Senior Federal officials have become aware of data problems and opportunities to correct those problems, and have initiated a multi-million dollar first step to seize the opportunities. The U.S. Congress has responded with the necessary funds, and may also provide needed institutional changes.

This paper attempts to provide a context for current proposals to improve the information base for national transportation decisionmaking in the U.S. A personal evaluation of these proposals is included. Specific issues and initiatives related to measuring and forecasting multimodal transportation activity are discussed in the appendix.

The Past Quarter Century

Much of the current concern with transportation data and optimism for resolving those issues brings a feeling of *deja vu* for professionals who remember when the DOT was established in 1966. A department was being created in which the Nation's diverse transportation programs could be integrated. Transportation could finally be treated as a system, guided by long range, comprehensive planning. Computer technology promised to revolutionize those plans by creating comprehensive data bases that could be analyzed with powerful and sophisticated models and other analytical tools.

The DOT delivered on much of its promise in its first decade of existence. The DOT assembled comprehensive reviews of the status of the transportation system in the biennial National Transportation Reports of 1970 through 1976. (The first was not released, and the last was published in 1977 as *Trends and Choices*). The DOT became a major advocate and sponsor of advances in geographic information systems technology, and worked aggressively with the U.S. Bureau of the Census to improve

its coverage of commuting patterns in the Decennial Census and expand its surveys of shippers, long distance travellers, and trucking.

Many of the DOT accomplishments were undone in its second decade of existence. Long range, comprehensive policy studies fell out of favor, and the 1979 report of the independent National Transportation Policy Study Commission became the last multimodal assessment of the entire transportation system until 1990. The multimodal surveys of commodity flows and long distance passenger travel died from methodological problems and insufficient funds after 1977. Efforts to create comprehensive data bases linked by geographic information systems technology were abandoned as too expensive to maintain, too difficult to use in a timely fashion, and unresponsive to the needs of decisionmakers (often because the data were reduced to a lowest common denominator that failed to serve anyone).

Three major forces pushed Federal data collections into a decade of decline: deregulation, paperwork reduction, and funding constraints.

-- Deregulation eliminated much of the authority to collect data, though not always the need for the data. In some cases, data programs were changed to fit with the deregulated environment. For example, the Census Bureau began a survey of motor carriers to provide needed economic indicators after the Interstate Commerce Commission eliminated many of its reporting requirements. The burdensome reports to support the old regulatory process were replaced by a sample survey that met ongoing data needs with far less paperwork. In other cases, groups that made extensive use of regulatory data for nonregulatory purposes were able to maintain the data program. For example, aircraft manufacturers lobbied successfully to save the airline passenger origin-destination survey which provided essential market demand data. There were also examples of data series that had outlived their usefulness long ago, and appropriately disappeared into the regulatory sunset. Unfortunately, these positive examples were outnumbered by the data series that were terminated during deregulation even though they could remain useful to public decisionmakers with minor change.

-- Paperwork reduction was the second instrument of decline in data collections. Legal mandates forced Federal agencies to reduce the size of surveys, reporting requirements, and similar burdens on businesses and individuals by governmentwide percentages each year. On one hand, the need to minimize burden was very real as respondents became less cooperative and more belligerent to the growing bombardment of surveys and forms from both public agencies and the private sector. On the other hand, the paperwork reduction mandates put ultimate approval of data collections in the hands of individuals who neither designed the data collection nor made use of the results. Data collections were occasionally disapproved because of the policies they were designed to examine rather than the data collection's public need or efficiency of design. Even without the politics, the governmentwide cuts did not allow

opportunities for trade-offs between departments to reach paperwork reduction goals.

- If data collections could not be starved by reducing available response burden, they could be starved by a lack of funds. Budgets for many programs remained stable or declined while costs of traditional data collection methods increased. Critical data programs requiring a high degree of labor-intensive quality control often overwhelmed budgets of allied programs. The Decennial Census was typically the biggest bull in a shrinking statistical china shop.

Even rational and appropriate responses to these pressures had a way of backfiring during this era. For example, the Federal Highway Administration shifted the roadway inventory requirements it placed on the States to a more efficient sampling system, known as the Highway Performance Monitoring System (HPMS). The HPMS provided data that were closely tailored to the types of issues and degree of accuracy required for national highway policy studies. This was a clear improvement until the Congress ordered the ~~the~~ designation of a nationwide network of routes for certain types of trucks. The HPMS sample was not appropriate to route designation, and the older inventory approach to data had to be improvised.

When the DOT entered its third decade, its data programs could be characterized as a mixture of modest successes and major failures. The mode-specific programs such as the HPMS had generally improved and were meeting the immediate needs of their sponsoring agencies. Most of the multimodal programs were either gone or barely surviving. Meanwhile, the demand for more and better data was exploding. Demand for data grew for several reasons. First, the microcomputer revolution placed unprecedented processing power in the hands of end users, including both analysts and decisionmakers. These end users became increasingly sophisticated and placed greater demands on both the quantity and quality expected of data bases. These users became even more demanding as they turned away from strong ideologies of the early 1980's. Analysts and decisionmakers were now coping with a less clear national agenda—driven in part by dramatic social, economic, environmental, and political changes—that placed a premium on up-to-date information. The information being demanded often included decade-old data sets that had to be used for lack of alternatives, even though deregulation, economic change, and transportation technology had altered the patterns of transport demand radically since the last data collection.

This gap between the demand for transportation data and its supply was known to DOT's senior decisionmakers when they began to create the Statement of National Transportation Policy (NTP) in 1989. The NTP evolved through a year-long, DOT-wide consensus building effort, and was formally approved by the White House through its Office of Management and Budget. In its final form, the NTP explicitly recognized the importance of transportation data to informed decisionmaking, and called for the DOT to assume a proactive role in reversing recent declines in data resources. It boldly proclaimed that:

It is Federal transportation policy to:

... identify national needs for information on transportation, including U.S. domestic and international flows of commodities and passengers, and the extent, condition, use and performance of each transportation mode, and assure that those needs are met...

The NTP concluded with the following promise:

To improve the coverage, quality, and availability of data to support informed transportation decisionmaking, the Department will:

- *Develop a comprehensive assessment of data needs and priorities of the Department and the transportation community.*
- *Develop more effective and permanent institutional mechanisms within the Department to ensure that transportation-related data collected by different agencies can be effectively linked, to collect data on multimodal passenger and freight transportation flows, and to integrate and disseminate transportation-related data collected by DOT and other public agencies.*

The NTP also called for the DOT to take a more integrated and multimodal approach to the Nation's diverse transportation programs. Transportation would be treated as a system, guided by strategic planning (which sounds very much like long range, comprehensive planning). Computer technology promised once again to revolutionize those plans by creating comprehensive data bases that could be analyzed with powerful and sophisticated models and other analytical tools. It may be *deja vu*, but perhaps the promises of an effective transportation data base would be fulfilled on the DOT's 25th birthday.

The TRB Study

The NTP was initiated by the Secretary of Transportation to evaluate the state of the Nation's transportation system, identify opportunities and challenges to maintain and improve the system into the 21st Century, and to recommend broad policies and specific program initiatives for the Federal Government and the transportation community. The NTP effort brought into focus gaps in available information on the condition, performance, and use of the transportation system, and the effects of future technology and institutions on those gaps. As a consequence, a special study was initiated through the Transportation Research Board (TRB) of the National Academy of Sciences to evaluate the current and anticipated state of transportation data, and to recommend improvements to the information resources that are essential to support informed national decisionmaking in transportation.

The TRB held a series of meetings in 1989 and convened a special panel of 15 experts from throughout the transportation community in 1990 through 1991 to discuss issues related to transportation data needs, collection, and use. The TRB considered the following types of transportation data:

- *Facility Inventory, Condition, and Performance:* data on the extent, ownership, physical condition, operating costs, speed, capacity, and other characteristics of rights-of-way, terminal and network facilities, and related transportation infrastructure.
- *Equipment Inventory, Condition, and Use:* data on the number, miles of travel, ownership, physical condition, operating costs, speed, capacity, and other characteristics of vehicles, rolling stock, aircraft, and vessels.
- *Carrier Performance and Condition:* data on the expenses, revenues, ownership, market coverage, labor force, and service characteristics of public and private for-hire carriers, shipper-owned transportation services, transportation services provided by social service and other organizations for their own account, and arrangers of transportation service.
- *Passenger and Freight Flows:* data on the volume, geography, value, and other characteristics of passenger and freight flows.
- *Demographics and General Economic Activity:* data on the number, geographic distribution, economic health, output or propensity to travel, vehicle availability, and other characteristics of households, businesses, and users of the transportation system.
- *Safety and Security:* data on accidents, near-misses, personal injuries, emergency medical services, cargo damage, passenger and cargo restraints, hours of operation, drug and alcohol use, and terrorist incidents and countermeasures.
- *Finance and Program Administration:* Information on public agency activities, expenditures, revenue sources, trust fund balances, and other characteristics of public finance and administration.

The TRB recognized that the types of information that are needed in each of these categories and our ability to obtain and use the requisite data are affected by major technological and institutional forces. Technological forces include the development of automated vehicle monitoring and identification systems, satellite-based communications and remote sensing, electronic interchange of shipping documents, geographic information systems, computer-aided survey methodology, and microcomputers for data management and analysis. Institutional forces include: budgetary problems for data collection and dissemination agencies; the

loss of data from deregulation and paperwork reduction requirements; and efforts to decentralize or privatize data collection and dissemination activities.

A number of crosscutting issues were raised in the 1989 TRB sessions to provide a broader context in which specific data needs and problems could be molded into a comprehensive statistical policy for the transportation community.

-- *Capturing Technological Opportunities for Improved Data Collection and Management.*

New technologies of data acquisition and information systems could fundamentally change the type, quantity, and quality of data that we will need and can obtain. What are the institutional barriers to and strategies for improving methods of data collection and management? Can we establish linkages and standards among data sets without compromising the utility of the data? Can we establish linkages and standards among data sets without compromising the utility of the data? Can we establish locally useful data that can be added up to nationally useful information?

-- *Institutional Mechanisms for Monitoring Information Resources and Fostering Feedback.*

Most past comprehensive evaluations of transportation data resources have bemoaned the lack of a stable, official organization to inventory transportation data resources, monitor changes in those resources, maintain and disseminate key national transportation data sets, and provide a forum in which the providers and users of transportation data can express their needs on a comprehensive basis. A few organizations assume some of these functions for individual programs, but comprehensive efforts are attempted only on occasion. Should a comprehensive forum be established within the DOT or elsewhere? What institutional arrangements are needed to make the forum responsive to data users, effective with data providers, and lasting?

-- *Benefit-Cost Evaluation of Data.*

Transportation data collection and maintenance efforts must be seriously justified to survive in either public or corporate environments, yet most benefit-cost analyses of data programs are cursory efforts that point to the existence of data gaps and to cost-effective ways to fill the gap. The benefits of filling the gap are typically not quantified, mainly because such analysis raises difficult questions. What are the benefits of a good decision versus a bad one? Would better data help achieve a better decision? Who would benefit from the informed decisionmaking or be hurt by ignorance, and who would pay for the information? How can nonmonetary costs such as respondent burden be measured effectively and included in the equation? How can the benefits and costs be organized into a rational and acceptable list of priorities?

-- *Decentralization and Privatization of Public Data Resources.*

Proposals have been made in recent years to shift responsibility for data collection and distribution from the Federal Government to State and local governments or from the public to private sectors. These proposals raise questions of completeness and comparability of data from place to place.

The use of State and local governments to collect data for Federal purposes raises a number of questions. If the data are useful primarily or strictly for national purposes, should the State and local governments be reimbursed for expenses incurred in collecting and maintaining the data? How can the Federal Government assure quality and consistency of data collected by the State and local governments, especially if the data are used in apportionments of funds and errors could be locally beneficial?

The use of the private sector to collect or distribute public data also raises a number of questions: Can private vendors achieve adequate response rates without public mandates or sponsorship? Can industry-sponsored groups collect credible data when critical policies are at stake? Should public data that are subsequently updated or supplemented by private vendors become proprietary? Should private resellers of public data be required to disclose fully their sources so that the public support for that data is not undermined? Should private vendors who collect and maintain data that are critical to transportation decisionmakers be allowed monopoly control? What is the Government's role in establishing standards for privately collected or maintained data that are used in public decisionmaking? Should the Government publicize evaluations of the quality of data that are privately collected and maintained?

-- *Cost Recovery.*

The major alternative to reducing or privatizing a public data collection program in the face of budget constraints is to pay for the program through user charges. Indeed, some metropolitan planning organizations (MPOs) have become very aggressive vendors of public data to other public agencies, private firms, and the public. Several questions are raised by such activity: How are the costs allocated among data users, and how are prices set? How are priorities established between data services requested by a public agency sponsor or the MPO and by a cash-paying customer? Can public agencies establish proprietary rights over data services and resources that are partially funded by the public? What are the political and legal problems of competition between public agencies and private vendors?

-- *Research on Methods of Data Collection, Aggregation, and Management.*

What research and development is needed on new methods of data collection in transportation, on sample and statistical design, on data aggregation, on the impacts of data collection and aggregation on data quality, and on more meaningful measures of transportation activity and its role in society?

Illustrative suggestions include: determination of efficient sample sizes for collection of flow data from points on networks; methods for sampling shipment data from establishments; the affects on travel demand forecasts of using Census tracts instead of traffic analysis zones for urban transportation planning models; and methods for measuring accessibility.

-- *Training the Next Generation of Data Users and Providers.*

Most of today's transportation planners and analysts rely on data collected by others, and perceive that they have little control over their data resources. As a consequence, many transportation planners and analysts lack the understanding and appreciation of data quality and validity issues that are essential to appropriate use of transportation data. Relatively few professionals appear to have the skills to collect and manage data, even when local opportunities arise. Even fewer professionals have requisite skills and experience to participate with the small and aging cadre of designers and providers of national transportation data resources.

A new generation of professionals is needed to guide future statistical policy debates, to design future data collection and management programs at all levels of government, and to foster the appropriate use of data for decisionmaking throughout the transportation community. How can the transportation planners and analysts be given effective training in data collection methods, data quality, and statistical policy issues? How can a new generation of professionals be recruited to design and manage future transportation data resources?

While the TRB panel did not have time to explore all of these issues fully, it was able to reach a consensus on key findings and an aggressive set of recommendations. Its report is undergoing review by the National Academy of Sciences, and should be released by late November.

RECENT EVENTS

Neither the DOT nor the Congress have remained idle while the TRB study is being completed. Following release of the NTP in February, 1990, a DOT-wide working group on transportation data was convened to identify the highest priority data-related elements of the NTP to implement in FY1992. The FY 1992 Budget Special Analysis for Data Collection, Processing, and Dissemination placed the highest priority on initiation of nationwide surveys of interregional, multimodal commodity

and passenger flows. Funding for the proposed surveys was included in the FY 1992 budget of the Federal Highway Administration. Related planning activities have been initiated by ad hoc teams under the DOT Transportation Data Coordinating Committee, which was created by the Secretary in 1991 to continue the activities of the NTP working group. The appropriations committees in Congress have responded with approximately \$4 million in FY 1992, which should be adequate for first year funding of the \$15 million surveys.

The new data collection program, other cooperative ventures between the DOT and Census Bureau, and data coordination activities are being pursued on an ad hoc basis by informal working groups of interested individuals. Many key participants can contribute only on a part-time basis, and most of the activities do not have a stable institutional home to assure long-term viability.

The institutional stability of these endeavors would be affected significantly by either of two congressional proposals in the Federal highway reauthorization bills. The House of Representatives calls for the creation of an Office of Intermodalism in the Office of the Secretary of Transportation to oversee intermodal programs and to create an intermodal data base on the volume and patterns of intermodal freight and passenger movements and on public and private investment in intermodal facilities. The legislation is unclear on its distinction of intermodal and multimodal transportation. The Senate calls for the creation of an independent Bureau of Transportation Statistics within the DOT. The Bureau would be responsible for improving the quality and comparability of the DOT's statistics, and for the development and annual publication of a report on the condition and performance of the transportation system. The House would create a policy and program management office with a limited data function, while the Senate would create a broadly ranging data and analysis organization with no policy-setting or program management responsibilities beyond statistical matters. Both proposed organizations could emerge from conference since they overlap only in being potential homes for the multimodal surveys.

The draft recommendations of the TRB study on strategic transportation data needs are very similar in form—though not necessarily in philosophy—to the Senate proposal. The panel favors the creation of an independent organization for data collection and analysis within the DOT that produces an annual report on the condition and performance of the transportation system. The panel concurs with the expressed need to achieve quality and comparability of the DOT's statistics to enhance the DOT's credibility. The panel emphasizes bridge-building among existing data programs and through multimodal data collections and relational links among independent modal data programs, rather than the Senate's more authoritarian, guideline-promulgating Bureau.

A separate DOT-funded study by the National Academy of Public Administration on Organizing the Administration of Surface Transportation Policies

and Programs to Meet National Needs also references the Senate proposal in its final report of August, 1991 to the DOT:

The Panel, in its deliberations, returned repeatedly to problems in the compilation and interpretation of transportation statistics and whether improvement would be facilitated with the establishment of an STA [Surface Transportation Administration]. This raises the larger issue of adequacy of data across the Department's programs: surface, air, and water....

The Panel believes that these steps [recent data coordination activities of the DOT] are in the right direction, but are insufficient to meet the Department's needs....In the panel's judgement a strong organizational focal point is needed in the Department to develop adequate statistics on a continuing basis. This might be accomplished by the Bureau [of Transportation Statistics] prescribed in S.1204 or other means. A start could be made inside an STA, by providing a similar focal point under the associate administrator for policy, planning, and budget to facilitate coordinated data-gathering across the surface modes and greater uniformity and consistency within each mode.

Either congressionally proposed organization could assume management of *the* multimodal ~~the~~ commodity and passenger flow surveys, pursue some of the enhancements to existing data collections, and provide leadership for subsequent data initiatives. The House proposal would give the multimodal surveys immediate relevance, but dilute their long-term viability by embroiling the proposed office in potentially controversial investment programs. The House proposal also puts the office and its multimodal data program within [Office of the Secretary of *the* Transportation or the DOT's Research and Special Programs Administration, neither of which have been able to sustain multimodal data programs to date (as illustrated by the demise of the publication, National Transportation Statistics, for lack of \$100,000 in 1991). The Senate proposal would create an independent bureau with a much more focussed and effective institutional base for completion of the surveys, for conduct of the related activities, and for promotion of multimodal data collection and analysis activities in 1997 and beyond.

The Senate proposal would also resurrect the National Transportation Reports in the form of an annual condition and performance report on the entire transportation system. These reports would encourage continuing relevance of the Bureau's data initiatives by keeping the Bureau focused on the following questions from the perspective of users of the transportation system:

- What are the geographical and temporal patterns of transportation demand?
- What kinds of goods move? How much moves? Where does it come from and go to? When does it move? How does it get there?

- What kinds of people travel? How many travel? Where do they come from and go to? When do they travel? How do they get there?
- How will these geographical and temporal patterns of transportation demand change?
- Does the current transportation system have the capacity, coverage, and flexibility to serve current geographical and temporal patterns of transportation demand? Who and what are left behind?
- Will the planned transportation system have the capacity, coverage, and flexibility to serve anticipated geographical and temporal patterns of transportation demand? Who and what will be left behind?
- How safe, costly (to the traveller and shipper), timely, and reliable is the transportation system now?
- How safe, costly, timely, and reliable will the planned transportation system be?
- How does the current transportation system support or degrade the environment, energy conservation, the economics of the transportation industry, the rest of the economy, national security and emergency management, personal fulfillment, and social well being? How do these external forces affect the current transportation system?
- How will the planned transportation system support or degrade the environment, energy conservation, the economics of the transportation industry, the rest of the economy, national security and emergency management, personal fulfillment, and social well being in the future? How will these external forces affect the planned transportation system?

The "planned transportation system" in these questions includes changes that are programmed or likely under current policies and investment levels, and does not imply centrally planned transportation infrastructure and services.

If either congressional proposal (or both) prevail, staff resources of the operating administrations within the DOT would be free to concentrate on modally-focussed activities. Either proposal would provide a more stable home than the status quo for data initiatives that transcend operating administration boundaries. Without institutional change, the multimodal data initiatives may not outlive the current administration.

CONCLUSIONS

Political interest and the relatively small cost of current proposals has instilled a guarded optimism that the DOT's data programs will undergo significant and lasting improvements. The costs of the transportation data initiatives are minor compared to the decisions that it could affect. The DOT has historically developed and analyzed legislation affecting billions of dollars in user charges, highway and transit authorizations, and productivity of the trucking industry while making relatively small investments in essential data to support its programs. The Surface Transportation Assistance Act of 1982, for example, raised user fees for heavy trucks by over \$1 billion and relaxed size and weight regulations that may save the trucking industry \$3 to \$5 billion per year. Less than one percent of this total has been spent by the entire Federal Government since 1980 to collect transportation activity and commodity flow data to support such billion-dollar decisions.

The larger costs of the proposed data initiatives are institutional, requiring significant organizational change. The proposed Office of Intermodalism and Bureau of Transportation Statistics have not been received with enthusiasm by many existing managers in the DOT. The data center could create many enemies as it attempts to expand data resources and enhance the DOT's credibility through:

- the development of data collection methods and evaluation of data collection programs with an emphasis on data quality and utility;
- the advocacy of transportation data collection programs throughout the Federal Government (and implementation of programs when necessary);
- the provision of technical expertise and professional impartiality on methods of data collection and use; and
- the education of data users on effective use of existing data resources, and the encouragement of feedback from the users to data providers on needed improvements.

The proposed data center should minimize organizational conflict while pursuing significant change. The following principles might provide the necessary balance:

- The center should engage in data acquisition only when the required data fall between or transcend existing programs of the operating administrations, when the center needs to supplement data activities of the operating administrations to improve data comparability, or when the operating administrations request assistance. Mode-specific data acquisition should be left with the relevant operating administration to encourage the closest match between data collectors and subject matter expertise.

- The effectiveness of existing data programs that support operations and management should not be impaired to serve strategic planning.
- Data comparability should be achieved by creating bridges among data sets rather than forcing data into lowest common denominators when those common denominators do not serve data users. This will generally require the inclusion of overlapping questions in separate data collection programs so that data sets can be linked through relational queries.
- Data quality should be improved by research, education, and assistance rather than by directives. When data credibility is challenged in a public forum, the center should take an active role in evaluating the challenge. Should quality be found inadequate, the center should perform necessary research and work ^{the} with the data program managers to develop methods for quality improvement. The center should publicize quality problems and solutions rather than mandate the recommended improvements if program managers are uncooperative. (In other words, the center should pursue data quality issues in a way that parallels the National Transportation Safety Board's approach to ongoing safety problems.)
- The center should foster communication among data providers and users, encourage improved documentation of existing data resources, and help educate data users on the proper interpretation and use of existing data as the principle mechanisms for enhancing data integration and strengthening constituencies for data programs.
- The center should encourage cooperative ventures and provide a forum for coordination, but should generally not have regulatory powers and become a source of delay for the programs and research of others.
- Should the center be assigned responsibility for DOT's implementation of regulations under the Paperwork Reduction Act, the center should serve as a positive force to help DOT's operating administrations through the clearance process of the Office of Management and Budget.
- The center should rely on existing data resources in the public and private sectors whenever possible. The center should use the private sector for data acquisition when the private sector is more cost-effective, will not compromise the real or perceived credibility of the resulting information, and will not restrict public access to the resulting data products.
- All information and analytical methods developed by or for the center should be in the public domain and fully accessible, except where data are restricted to protect national security or the confidentiality of respondents to data collections.

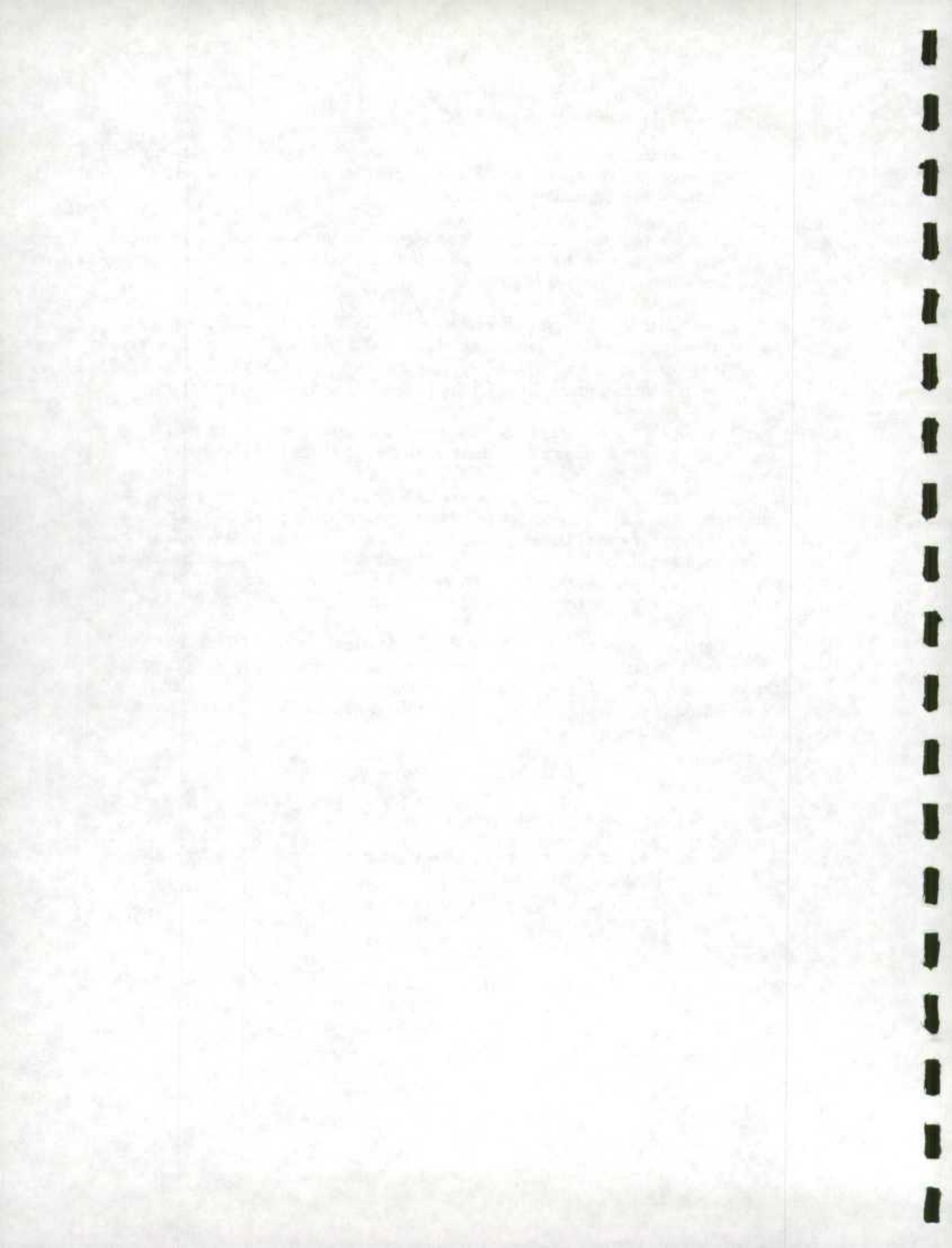
- Data content, structure, and dissemination should be responsive primarily to the needs of the data users, and data products should be designed for both technical and nontechnical audiences.
- Data dissemination should be handled by professionals who collected—or make extensive use of—the data and who can thus provide the most knowledgeable and efficient responses to public inquiries.
- The center should serve policy officers of the DOT and the Congress as a first priority, but should be responsive when possible to the needs of the broader transportation community. The center should recognize that an informed public is often a prerequisite for the successful passage of policy changes.

Perhaps the greatest present danger with the current enthusiasm for improving transportation data is that excessive past promises could be made and broken once again, creating a backlash that returns data programs to the spirit of the 1980's. The data initiatives and proposals for organizational change are built on the implicit promise that more and better data will automatically result in better transportation decisions. Good data are a necessary but not sufficient condition for enlightened and effective decisions. Furthermore, truly informed decisionmaking can bog down or collapse when contradictory evidence and clear delineation of winners and losers are made public. Such is the price of democracy.

Canadian born Dr. Edgar Horwood, who pioneered the use of Census data and geographic information systems in transportation planning during his long career at the University of Washington at Seattle, kept the promise of data and informed decisionmaking in a healthy perspective. His *Short Laws of Data Processing and Information Systems* included the following:

- *Good data are the data you already have.*
- *Bad data drives out good.*
- *The data you have for the present crisis was collected to relate to the previous crisis.*
- *The respectability of existing data grows with elapsed time and distance from the data source to the investigator.*

With this wisdom and a strong congressional mandate, perhaps the DOT will finally "develop more effective and permanent institutions" as called for in the NTP to meet the transportation community's needs into the 21st Century.



APPENDIX

**A Strategy for Measuring and Forecasting
Multimodal Transportation Activity**

The DOT measures and forecasts passenger flows, commodity flows, and multimodal transportation activity to support a wide range of national policy issues. This appendix summarizes the needs for multimodal information and strategies for measuring and forecasting multimodal transportation activity.

**NEEDS FOR DATA ON COMMODITY AND PASSENGER FLOWS
AND MULTIMODAL TRANSPORTATION ACTIVITY**

Data on interregional commodity and passenger flows and transportation activity by all modes are essential for the analyses of several key transportation issues:

- *Identify existing transportation facilities of national significance.* The NTP proposes to place the emphasis of Federal transportation programs on facilities of national significance. Commodity and passenger flow data are needed to determine whether current or future traffic on a given facility serve national or local transportation needs. Multi-state, corridor-level data are needed to estimate the impact of current and future intercity traffic on local transportation facilities and the impact of local traffic on intercity flows, which are key issues in determining the extent of appropriate Federal involvement in urban transportation.
- *Identify markets (typically multi-state intercity corridors) which are candidates for public investments or other policy actions.* This can also be viewed in the negative (i.e. markets which should be left alone by the Federal Government). Multi-state, corridor-level data are required to evaluate proposals for large-scale extensions and expansions to the Interstate System, to forecast future airport capacity requirements, and to assess the feasibility of investments in alternatives such as mag-lev and tilt-rotor.
- *Identify needs for intermodal transportation programs.* Improved intermodal connections have stimulated major increases in the productivity and efficiency of the Nation's transportation system. Data on commodity and passenger flows between ultimate origin and destination as well as between terminals are needed (1) to forecast how well these connections will function as international trade continues to grow; (2) to evaluate proposals for Federal involvement in intermodal facilities, such as national programs to improve harbor and airport access; and (3) to estimate the impacts of other policies such as environmental regulation on the effectiveness of intermodal facilities of national significance.

- *Estimate the impacts of truck size and weight restrictions, highway and waterway user charges, railroad and aviation mergers, and other subjects of Federal policy on the economic viability and productivity of competing modes.* The impacts of a Federal policy for one mode on competing modes depends on the quantity, value, and geographic dispersion of passenger or freight traffic. These analyses require data on the size and economic characteristics of commodity and passenger movements between ultimate origin and destination as well as between terminals.
- *Forecast future freight and passenger traffic to estimate user revenues and calculate cost responsibility.* Commodity and passenger flow data are essential to forecasts of traffic by vehicle type, which in turn affect estimates of revenues to the Highway Trust Fund, of damage to the Federal-aid highway system, and of cost responsibility among different classes of highway users.
- *Identify critical links between highway investments and economic productivity at national and regional levels.* Data on commodity and passenger flows are essential to measure the role of transportation in improving international competitiveness and regional economic development, especially given the growth in traffic across the international borders within North America. Passenger flow data are included in part because tourism and business travel have become critical economic activities in several States.
- *Determine the capacity of the domestic transportation system to respond to national security requirements and natural disasters.* Data on commodity and passenger flows are needed to determine the base level of demand for transportation above which capacity must be provided to meet emergency logistical needs effectively.
- *Evaluate safety trends and programs.* Data on commodity and passenger flows provide the denominator for accident statistics and estimates of population exposure to risk. Data on hazardous materials movements are especially critical to the Department's safety initiatives.
- *Evaluate environmental and energy concerns.* Commodity and passenger flow data are essential to forecasts of transportation demand that are used in turn to estimate energy dependence, the transport sector's contribution to air quality and similar environmental problems, and the amount of traffic that contributes to the risk of oil spills and incidents involving hazardous cargo.
- *Provide a basis for evaluating Federal involvement in the intercity bus industry.* Should scheduled interregional bus carriers continue their decline, political pressure may be generated for direct Federal intervention. There are no industrywide sources of data on passenger travel by bus that are similar to the terminal-to-terminal data available from Amtrak and airline ticket counts. The extent to which regionwide bus carriers and other modes are effectively

replacing interregional bus carriers must be known on a comprehensive and consistent basis to avoid public action based solely on anecdotal evidence.

- *Evaluate economic productivity of the transportation sector.* The U.S. Bureau of Labor Statistics uses ton miles in measures of the productivity of firms in freight transportation. Questionable estimates of ton miles contribute to low productivity measures and have triggered congressional proposals to fix reported economic stagnation.
- *Provide regional and multi-state corridor flows for local planning studies.* Regional and local transportation planners require information on total flows within, into, out of, and through their planning areas to provide control totals for more detailed local studies, and to place local needs and conditions in a national context. These needs are especially important for planning federally funded projects, from major intercity facilities such as the Northeast Corridor to local access roads.

These issues require data for direct analyses of recent trends and conditions, and for less direct applications involving the estimation of models and statistical relationships to forecast future trends and the consequences of policy initiatives.

Informed responses to these diverse policy issues require a common base of information on the quantity and the modal, spatial, and temporal distributions of commodity and passenger flows. Specific data elements involving both commodity and passenger flows include:

- the ultimate origin and destination of shipments and trips;
- the frequency and distance of shipments and travel;
- the transportation services, conveyances, and facilities consumed;
- the port of embarkation or arrival for international movements; and
- the transportation costs to the shipper or traveller, including accidents and damage.

Additional data elements involving commodity flows include:

- volume by commodity type and hazard class, measured by shipment weight and value,
- containerization and other packaging characteristics; and
- characteristics of the shipper and receiver that generate—or are affected by—commodity flows.

Additional data elements involving passenger flows include:

- the purposes and duration of the trip;
- the demographic and economic characteristics of the traveller and the traveller's origins and destinations that generate—or are affected by—passenger flows.

These and other data elements are combined to forecast future passenger and commodity flows, determine how well the current transportation system serves current and future flows, and to evaluate the consequences of those flows for economic, social, and environmental goals.

While substantial data are collected on terminal-to-terminal flows of people and goods using for-hire carriers, very little current data exist on:

- the ultimate origins and destinations of passenger movements and commodity flows that involve more than one mode (i.e. the hinterlands of major intercity and international terminals);
- the dependence of rail, water, pipeline, and air modes on highways and the interdependence of rail, water, and pipeline modes to reach ultimate origins and destinations;
- the total quantity and geography of flows by private passenger vehicles or shipper-owned trucks;
- the geography of flows by for-hire trucks;
- the costs of transportation by market served;
- the domestic origins and destinations of international trade; and
- the characteristics of travellers and shippers and the purposes of their movements that explain and predict passenger and commodity flows.

The last national data collections of commodity and passenger flows that covered all modes, provided geographic specificity, and were not limited to terminal-to-terminal moves were conducted in 1977, before transportation patterns were changed significantly by factors such as deregulation and the growth of international trade. This paucity of current information inspired the FY1992 DOT data initiative.

THE TRANSPORTATION UNIVERSE

Any comprehensive effort to monitor passenger and commodity movements and multimodal transportation activity throughout the United States is an enormous

undertaking. The shippers, arrangers, transporters, and recipients of shipments include nearly 6 million business establishments and over 90 million households. There are also more than 83 thousand governmental units that can ship, transport, or receive goods. These establishments, households, and government units generate passenger travel as well.

Passenger flows differ from commodity flows in many respects. The greatest passenger flows involve the household, retail, and services sectors. Carriers and third parties (typically travel agents) play a less significant role in passenger transport, with 85 to 95 percent of all trips "served" by the traveller's private vehicle. Passenger flows involve more origins and destinations than commodity flows, and respond to less quantifiable factors of demand; however, passenger flows should be much simpler to monitor because the traveller can respond directly to questions about all aspects of the trip. Shipper and carrier records must speak for inanimate shipments to describe their journeys. On the other hand, shippers typically maintain records on their shipments that can be queried later. Those records are usually prepared in different parts of the shipper's organization, and often must be assembled after the shipment has left the establishment. Information on passenger travel is often stored only in the traveller's memory, requiring a more immediate data collection while the traveller's recall is complete and accurate.

Passenger and commodity flow data also differ in the experience and expectations of data users. A wealth of models and analytical techniques have been developed for freight transportation based on accepted sources of data. Freight transportation analysts are primarily concerned with updating and expanding the coverage of past data collections. While a similarly rich tradition of modeling and analysis exists for urban passenger transportation, analysts of intercity passenger travel have never been satisfied with past data collections, and do not share a consensus on the types of variables and level of geographic detail that would make an effective data base. Analytical methods are often in greater flux for passenger travel than for commodity flows, perhaps because travel behavior responds to cultural and other factors beyond strictly economic decisions. Logistics planners are typically more sensitive to readily quantified variables and less affected by intangibles in comparison to the travelling public.

APPROACHES TO MEASURING THE TRANSPORTATION UNIVERSE

The size of the Nation's transportation system and the variety of establishments and individuals involved in transporting people and goods precludes the use of a complete census of shipments and trips for measuring all commodity and passenger flows. Shipments and trips must be sampled at the origin, destination, or en route, and the sample expanded to the universe of transportation by statistical methods or simulation models.

Statistical methods include direct estimation and regression approaches. If the sample is large enough to capture the diversity of commodity and passenger

movements, then it can be expanded directly based on sampling rates and stratification. This approach works well for measuring aggregate transportation activity with large scale data collections, such as measuring the geography of journeys-to-work from the long form of the Decennial Census. More sophisticated regression techniques must be employed when flows are measured indirectly or when the data collection captures detailed characteristics of transportation activity for a very small sample of observations. For example, regression models can be used to estimate vehicle miles of travel (VMT) by metropolitan area from population and employment data and from detailed household transportation patterns based on the small sample in the Nationwide Personal Transportation Survey.

Simulation models use both aggregate and disaggregate data bases to estimate the universe of flows and transportation activity. These models are calibrated by regression techniques, but forecast the universe based on distributions of demand relative to explicitly defined networks and on assumptions about traveller and shipper behavior. Simulation techniques pioneered for urban transportation studies have been used by the DOT and others to estimate interregional commodity and passenger flows for several years.

Both statistical methods and simulation models are ultimately driven by samples of the transportation universe. Several basic strategies for sampling the transportation universe are being used today.

Shipment Data

Shipment data can be collected from either the carrier or the shipper. Carriers know much about the shipment's specific route and handling while in the carrier's care, but that is typically only part of the trip. The carrier is also unlikely to know much about the economic activity of the shipper or consignee. With increasing use of containerization and the decline of commodity-specific rate setting, carriers often do not even know what commodities they are carrying. In contrast, the shipper usually knows the shipment's characteristics, ultimate origin, and ultimate destination, as well as the characteristics of both shipper and consignee; however, the shipper knows little about the modes and routes used by the carriers, especially when the shipper's volume or individual shipment size are small and when shipment consolidators and other third parties are involved.

Most ongoing data on commodity movements are collected from carriers. The Federal Railroad Administration, the Federal Energy Regulatory Commission, and the U.S. Army Corps of Engineers obtain shipment records from railroads, pipeline operators, and inland waterway operators respectively, and include the size and value of shipments by origin and destination. These data have relatively high sampling rates, but do not indicate the true origin and destination for shipments that are handled by more than one carrier or mode. Trucking is also conspicuously absent from these data on commodity flows.

The only comprehensive shipment data for commodity movements by truck and intermodal combinations was last collected from selected shippers by the U.S. Bureau of the Census in the 1977 Commodity Transportation Survey (CTS), which sampled shipments by domestic manufacturers for all modes. The 1977 survey encountered technical problems that were beyond funding resources to resolve in the 1980's. The planned 1993 Commodity Flow Survey (CFS) will expand coverage to include establishments in mining, wholesale, and selected other industries, and will resolve the technical problems with the earlier survey.

Traveller Data

Most information on passenger movements is collected by household surveys, on-board surveys, or ticket samples. Household surveys include the Nationwide Personal Transportation Study (NPTS), the Residential Transportation Energy Consumption Survey (RTECS), the journey-to-work portion of the Decennial Census of Population and Housing, the National Travel Surveys (NTS) of 1977 and earlier, and the proposed passenger flow survey. The Federal Highway Administration's NPTS and the Department of Energy's RTECS provide aggregate statistics of personal travel, and the old NTS and the proposed passenger flow survey measure geographic patterns of long distance travel. On-board surveys are conducted by individual carriers, DOT tabulates origin-destination data from 10 percent of all airline tickets, and Amtrak tabulates origin-destination data from its tickets. On-board surveys and ticket samples provide information on terminal-to-terminal passenger flows, but rarely shed information on intermodal connections, the size of each terminal's hinterland, and traveller characteristics.

Carrier Data

Carrier availability and performance have a significant influence on both freight and passenger flows, especially with respect to mode choice. Most railroad, waterway, pipeline, aviation, and intermodal facilities are listed in public reports or private guides. Airline, passenger railroad, and intercity bus schedules are also published. The DOT monitors and publishes on-time performance by the airlines, and similar information is available from Amtrak. Guides to trucking are less comprehensive, largely because the industry is both ubiquitous and highly volatile.

Most carrier performance data are limited to economic performance. Revenue, expenditure, and related data are collected by trade associations and financial rating services. Much of the financial data formerly collected by Federal regulatory agencies are now being obtained by the U.S. Bureau of the Census, which is expanding its annual surveys and quinquennial Economic Census to include establishments primarily engaged in for-hire transportation or in services related to transportation. The Census programs provide information on revenues, expenditures, and employment. These economic data do not cover private trucking and other transportation activity of establishments that are not primarily engaged in for-hire transportation. Coverage of bus- and truck-operating establishments is much better

for safety-related data collected by the Federal Highway Administration's Office of Motor Carriers on all companies that operate heavy trucks across State lines.

Shipper Data

The U.S. Bureau of the Census collects data on revenues, expenditures, employment, resource consumption, and product output for establishments throughout the economy in its annual surveys and quinquennial Economic Census, Census of Agriculture, and Census of Governments. These data collection programs provide information on sources of demand for freight transportation, and establish a sample frame for surveys of shipments.

Vehicle Data

The large percentage of passenger and commodity movements that are served by not-for-hire motor vehicles can be measured directly by surveys based on vehicle registrations or by wayside observations. This sampling strategy has many of the strengths and weaknesses of data collections on shipments from carriers, but can be applied to both motor carriers and others who are not primarily in for-hire truck transportation.

The quinquennial Truck Inventory and Use Survey (TIUS) by the U.S. Bureau of the Census is based on a sample of registered trucks and vans, and provides data on the characteristics of the vehicle and its annual use. The Nationwide Truck Activity and Commodity Survey (NTACS) has been funded by the DOT as a follow-on to the TIUS to link vehicle characteristics with trip and shipment characteristics on sampled days. The TIUS and NTACS cover trucks used for personal transportation as well as for for-hire transport and other business uses. (Two-thirds of all trucks and vans in the U.S. are used for personal transport.) Neither survey includes buses, automobiles, or government vehicles.

States estimate aggregate vehicle activity by highway and vehicle class for the Federal Highway Administration based on roadside counts as part of the Highway Performance Monitoring System (HPMS). The HPMS cannot link vehicle activity to passenger characteristics or commodities carried because it depends increasingly on automatic vehicle identification and weigh-in-motion equipment that measures only the vehicle's external characteristics. The HPMS and TIUS together can be used to link commodity movements and highway type through the Highway Traffic Forecasting System, which is described later.

THE PROPOSED STRATEGY

Since no single strategy can provide complete coverage of all modes, establishments engaged in transportation activity, and other players who affect—or are affected by—transportation activity, a composite strategy has been proposed to

create a comprehensive data base for multimodal policy analysis. This strategy includes:

- the multimodal commodity and passenger flow surveys in the FY 1992 and subsequent DOT budgets;
- enhancements to existing data collections;
- special studies of transportation costs and fuel consumption;
- extensions to an existing, multimodal modeling system; and
- production of a transportation geography data base.

The first three elements involve data collections, and the last two involve data integration and forecasting.

Commodity and Passenger Flow Surveys

The Federal Highway Administration's FY1992 budget includes a line item for *Multimodal Commodity and Passenger Flow Studies*:

The multimodal commodity and passenger flow studies include implementation of a commodity transportation survey and a national travel survey in conjunction with the 1992 Economic Census. The surveys will measure commodity and passenger movements by all modes of transportation between and within all regions of the U.S. Such information is central to the analysis of policy issues such as proposed transportation investments in congested intercity corridors, user charges, safety, international economic competitiveness, and national defense. The last national commodity and passenger flow surveys were conducted in 1977, before transportation patterns were changed significantly by factors such as deregulation and the growth of international trade....

The Congress has tentatively appropriated \$4 million for FY1992. Additional funds will be required in subsequent Federal Highway Administration budgets to cover the estimated total cost through CY1994 of \$15 million.

The Commodity Flow Survey (CFS) is being designed by a joint Census-DOT planning group to collect data on 20-24 million shipments from approximately 200,000 manufacturing, mining, merchant wholesale, and selected other establishments. The CFS will be conducted as a mail-back survey to maximize the sample size. Sampled shipment characteristics will be expanded to total flows by linking shipments back to establishment output data in the 1993 annual establishment surveys and the 1992 Economic Census. Tabulations by origin-destination flows by type of commodity, modes used, shipment size, trip distance, and similar characteristics are anticipated.

An ad hoc DOT planning group has been convened to initiate planning for a passenger flow survey. Since a consensus does not exist on specific objectives and data collection methods, the DOT's Transportation Systems Center is administering a design study to develop specifications and options for the survey.

The proposed passenger flow survey would build upon—rather than replace—existing programs such as the National Personal Transportation Survey (NPTS). The NPTS covers all modes and provides nationwide measures of the types and lengths of trips made and the detailed characteristics of travellers that are beyond the scope of effective passenger flow surveys. However, the sample size of the NPTS cannot be expanded to identify specific passenger flows between regions, and the survey emphasizes local rather than intercity travel. Also, it is not clear whether a household-based sample can effectively represent business-based travel.

Enhancements to Existing Data Collections

Several enhancements to existing data collections are planned or proposed to provide better linkages between the flows surveys and other data sources, and to provide additional detail on multimodal transportation activity that is beyond the scope of the flow surveys. These enhancements are needed because no one survey can obtain all required data without becoming so complex and burdensome that response rates and data quality suffer.

An illustrative enhancement is the Trans-border Study. The U.S. Customs Service collects documents for all exports and imports, which are processed by the Census Bureau into foreign trade statistics. A DOT-funded feasibility study is currently under way at Census to distinguish surface modes used for trans-border shipments between the U.S. and Canada and the U.S. and Mexico.

Special Studies of Transportation Costs and Fuel Consumption

The volumes of goods shipped and people moved can be translated into volumes of vehicle and carrier activity; however, the consequences of those volumes for economic productivity, energy consumption, and environmental problems cannot be calculated without additional information. The most contentious added data elements are the in-use fuel economy of motor vehicles and railroad equipment, and transportation costs to the shipper or traveller. The former is measured by rough estimates from survey respondents and by controlled tests under artificial conditions. The latter is measured by a shrinking number of regulatory reports, by aggregate cost data from carriers, by private and government surveys of limited ranges of establishments, and by anecdotal evidence.

Special studies are needed to develop better estimates of in-use fuel economy and to estimate transportation costs by mode, carrier type, and distance-based market. The latter is especially important to current modelling efforts.

A Multimodal Modeling System

The Highway Traffic Forecasting System (HTFS) is the Federal Highway Administration's major analytical tool for integrating data on transportation activity and forecasting future activity. The HTFS provides 5- to 10-year forecasts of highway use, and estimates the impacts of truck size and weight restrictions, highway user taxes, national economic conditions, regional economic conditions, and highway performance on VMT by type of vehicle, highway, and highway user. The HTFS also estimates those impacts on Payload Ton Miles (PTM) by type of vehicle, highway user, and shares of traffic between trucks and railroads. In developing a statistical base for these forecasts, the HTFS integrates data from the TIUS, NTACS, NPTS, and other sources into a Master Traffic File. This integrated data base provides estimates of highway use by type of highway and vehicle at the State level, and by several vehicle and user attributes at the national level. The Master Traffic File can be used for analyses of safety exposure and other issues which require cross-tabulations of highway, vehicle, and user characteristics.

Transportation Geography Data Base

While the HTFS can provide an effective tool for integrating disparate sources of commodity and passenger flow data for estimates and forecasts of multimodal transportation activity, it cannot easily provide information on the specific aspects of detailed flows, transportation activity, and surrounding conditions for the unending variety of policy questions that arise over time. Indeed, no single modeling system can be designed to answer all policy questions without collapsing under its own weight. An alternative system is needed to relate commodity and passenger flows with specific transportation networks, activity on those networks, and the economic, social, and environmental characteristics of areas surrounding those networks. Since geographical location provides an effective common denominator for these varied flow, network, and areawide characteristics, a geographical information system (GIS) is needed to calculate and display the relationships of interest.

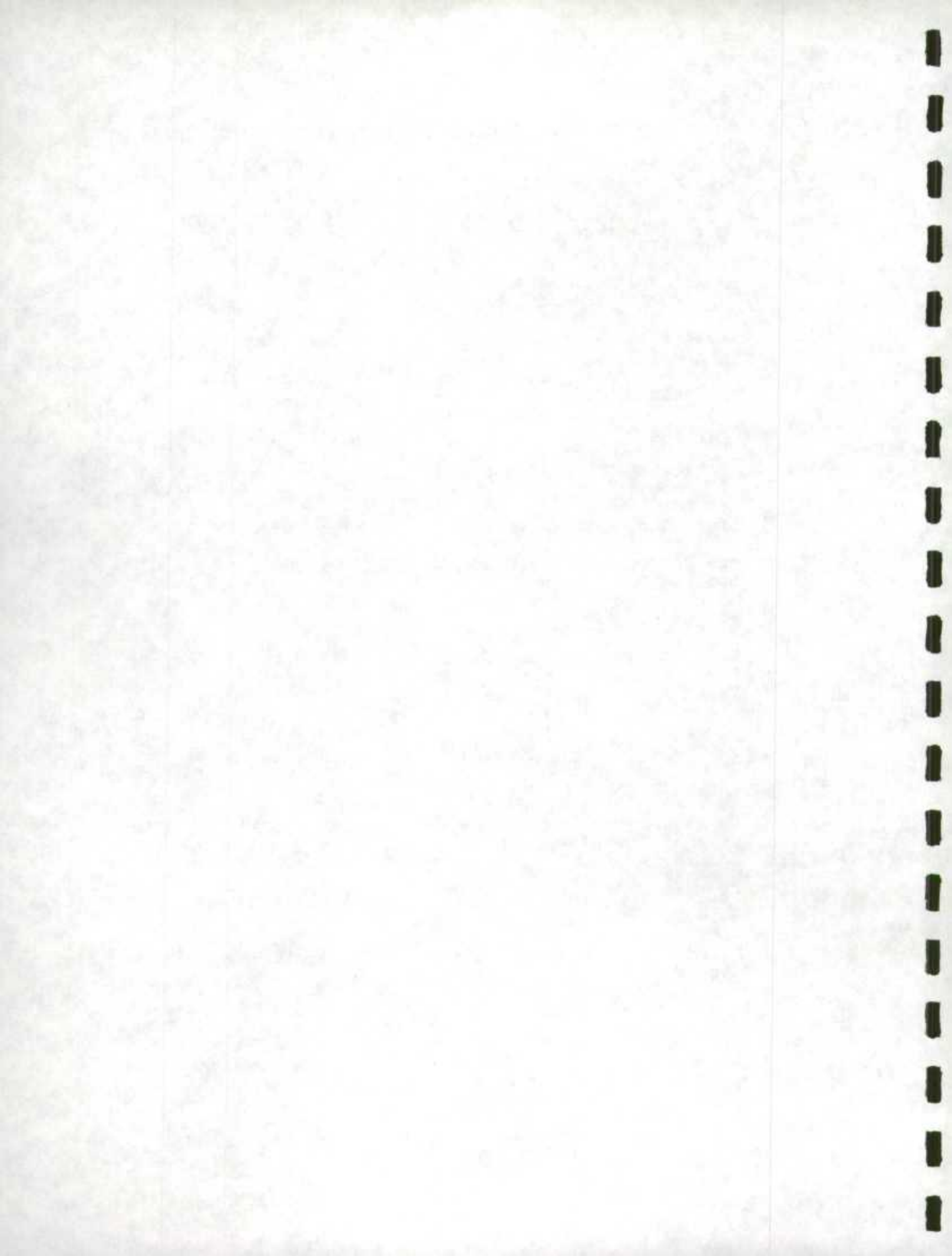
The HTFS uses the TransCAD commercial GIS software package to manage network and related data. Other data of interest can be imported into TransCAD and analyzed with very modest effort, as was recently demonstrated during the creation of National Transportation Analysis Regions. The problem is acquisition and maintenance of the data, and not software, to access and analyze the data.

Building blocks for the transportation geography data base exist or are being developed. Oak Ridge National Laboratory has a highway network, and is beginning work on a waterway network. The Federal Railroad Administration is completing a railroad network, and the Federal Aviation has at least two airport files. These existing data bases are based on maps at the 1:2million scale or better, and have an accuracy of at least 1,500 meters. Files for pipelines, ports, and intermodal connections are needed.

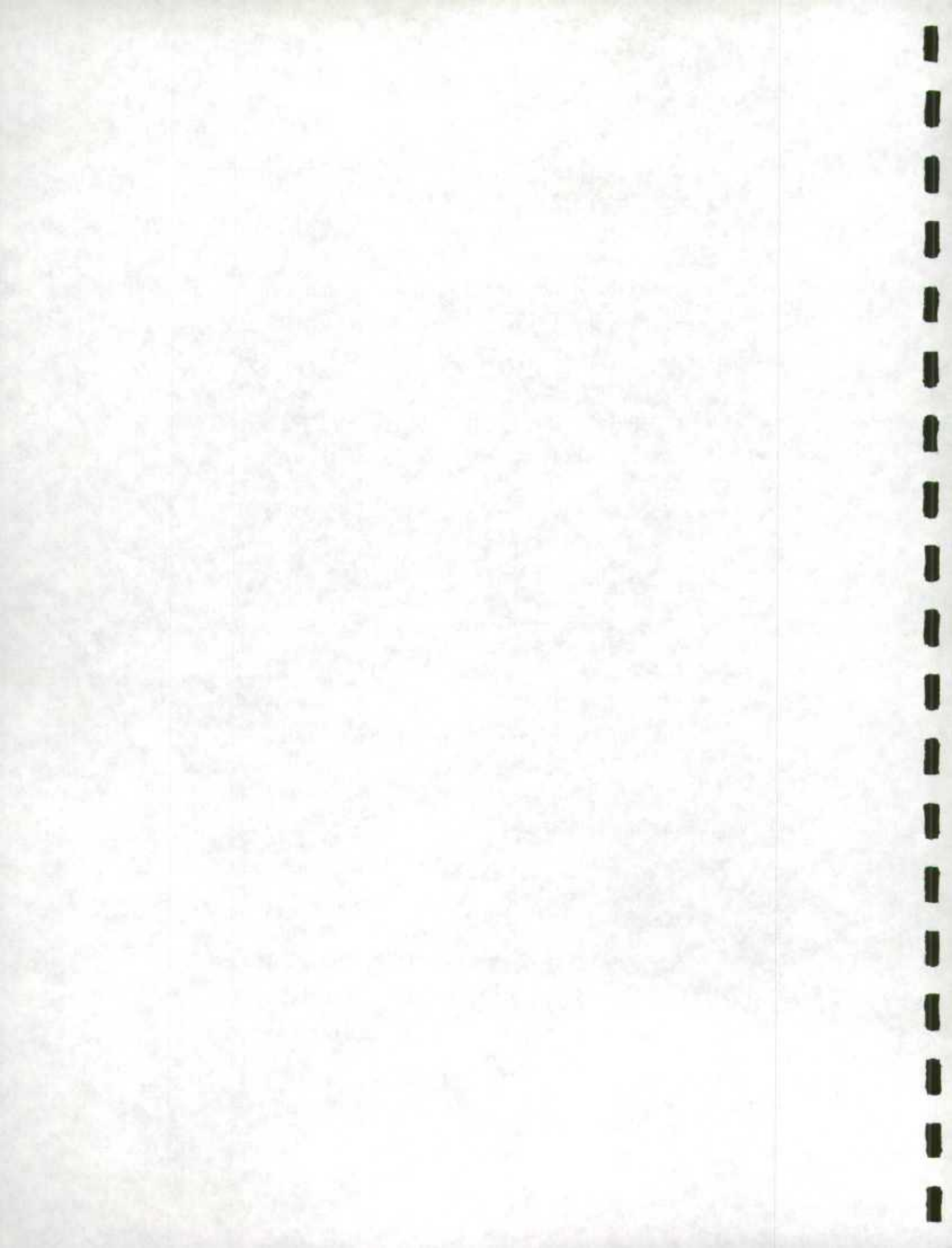
Once the desired geographic files are acquired or developed, plans should be formulated to publish the data files both in electronic and paper forms on a regular basis for use by DOT and other decisionmakers. The paper version could even be called the National Transportation Atlas, which was last published by the DOT in 1977. A depository should also be established for the most recent versions of potentially useful geographical data sets in the formats of GIS software used by the DOT.

TRANSPORTATION SECTOR COVERAGE IN THE PRODUCER PRICE INDEX

<u>SIC</u>	<u>Title</u>	<u>Publication Date</u>
4011	Railroads, Line-Haul Operating	January 1979
* 4013	Railroad Switching and Terminal Establishments	Unscheduled
4111	Local and Suburban Transit	Unscheduled
4119	Local Passenger Trans- portation, NEC	Unscheduled
4121	Taxicabs	Unscheduled
4131	Intercity and Rural Bus Transportation	Unscheduled
4141	Local Bus Charter Services	Unscheduled
4142	Bus Charter Service, except Local	Unscheduled
4151	School Buses	Unscheduled
4173	Terminal and Service Facilities for Motor Vehicle Passenger Transportation	Unscheduled
4212	Local Trucking without Storage	January 1993
4213	Trucking, except Local	July 1992
4214	Local Trucking with Storage	January 1993
4215	Courier Services except by Air	July 1992
4221	Farm Product Warehousing and Storage	July 1992
4222	Refrigerated Warehousing and Storage	January 1992

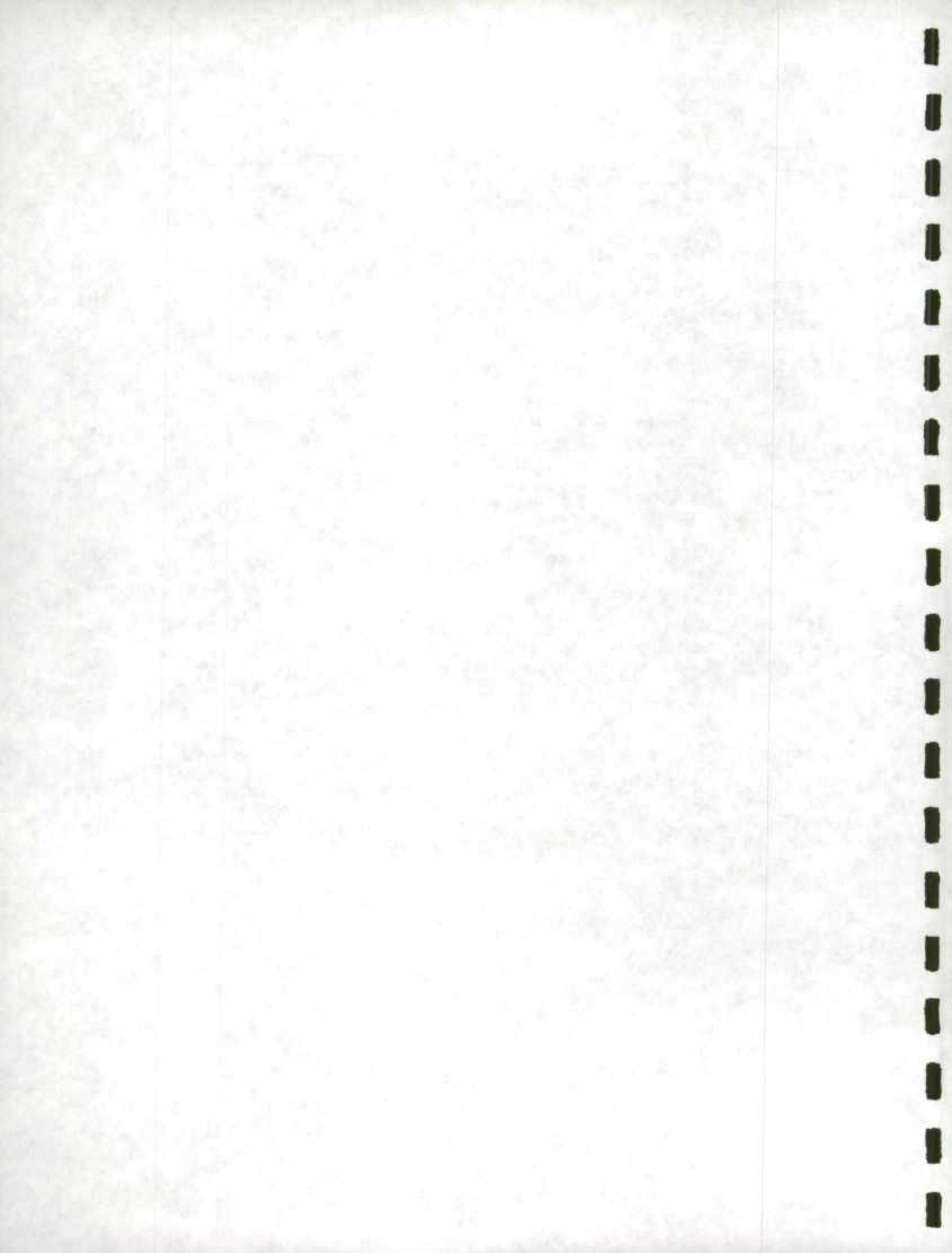


<u>SIC</u>	<u>Title</u>	<u>Publication Date</u>
4225	General Warehousing and Storage	July 1993
4226	Special Warehousing and Storage, NEC	Unscheduled
4231	Terminal and Joint Terminal Maintenance Facilities for Motor Freight Transportation	Unscheduled
4311	United States Postal Service	January 1978
4412	Deep Sea Foreign Transportation of Freight	July 1988
4424	Deep Sea Domestic Transportation of Freight	July 1988
4432	Freight Transportation in the Great Lakes-St. Lawrence Seaway	July 1991
4449	Water Transportation of Freight, NEC	Unscheduled January 1991
*4481	Deep Sea Transportation of Passengers, except by Ferry	Unscheduled
4482	Ferries	Unscheduled
4489	Water Transportation of Passengers, NEC	Unscheduled
4491	Marine Cargo Handling	January 1992
4492	Towing and Tugboat Services	July 1992
4493	Marinas	Unscheduled
4499	Water Transportation Services, NEC	Unscheduled
4512	Air Transportation, Scheduled	January 1990
4513	Air Courier Services	January 1990
4522	Air Transportation, Unscheduled	July 1992



<u>SIC</u>	<u>Title</u>	<u>Publication Date</u>
4581	Airports, Flying Fields, and Airport Terminal Services	July 1992
4612	Crude Petroleum Pipelines	July 1986
4613	Refined Petroleum Pipelines	July 1986
4619	Pipelines, NEC	Unscheduled
4724	Travel Agencies	January 1990
4725	Tour Operators	January 1990
4729	Arrangement of Passsenger Transportation, NEC	Unscheduled
*4731	Arrangement of Transportation of Freight and Cargo	Unscheduled
4741	Rental of Railroad Cars	Unscheduled
4783	Packing and Crating	Unscheduled
4785	Fixed Facilities and Inspection and Weighing Services for Motor Vehicle Transportation	Unscheduled
4789	Transportation Services, NEC	Unscheduled

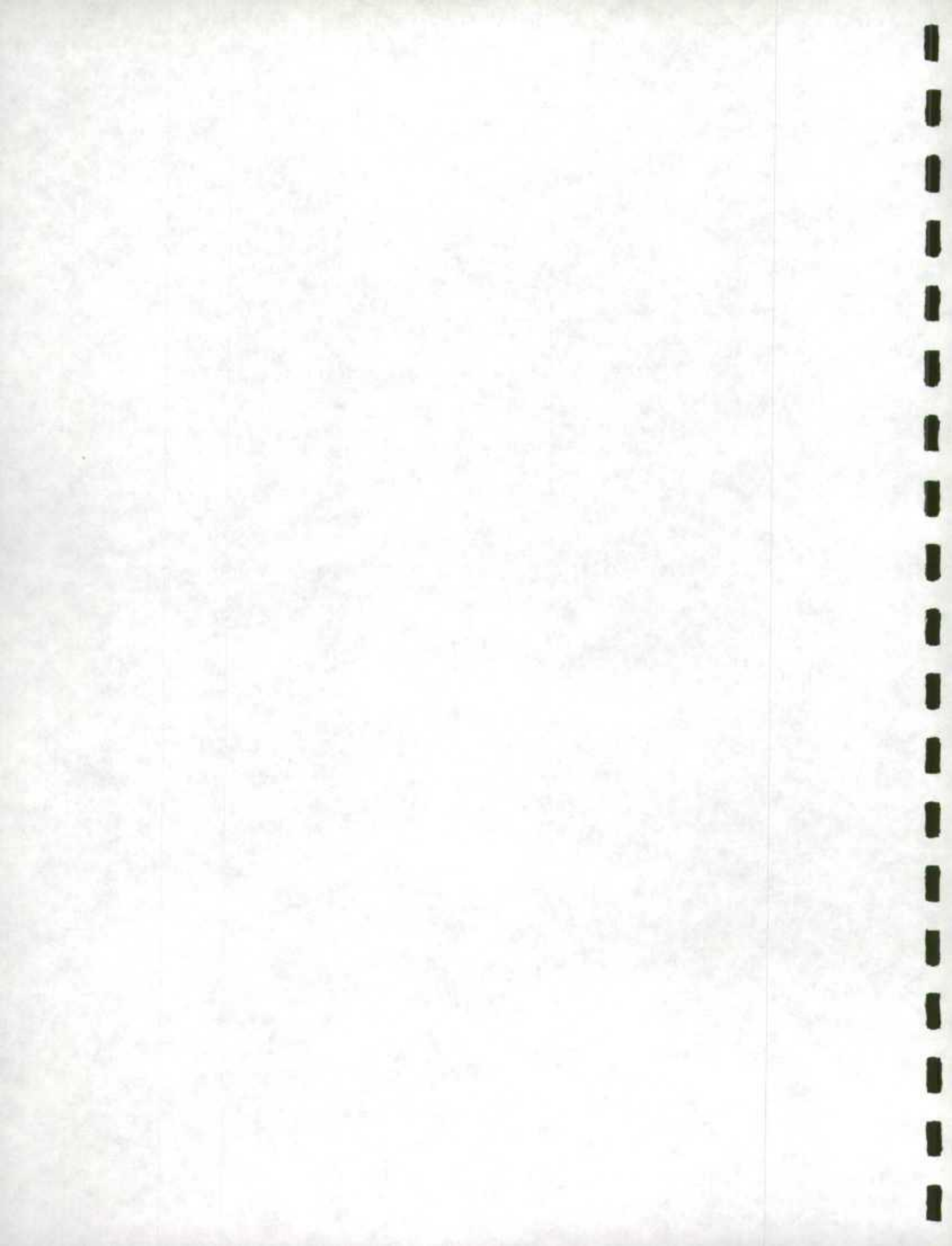
* To be scheduled for mid-1990's publication



PROGRAM: PRODUCER PRICE INDEX

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The Producer Price Index:

An introduction to its derivation and uses



U.S. Department of Labor
Bureau of Labor Statistics
March 1989

The measurement of inflation in various sectors of the economy has become increasingly important over the past two decades. The Producer Price Index (PPI) has played a key role in giving decision makers in both government and private business a tool for measuring inflation. This brochure is intended to provide an introduction to the scope, methods, and uses of these indexes compiled by the Bureau of Labor Statistics (BLS).¹

What the PPI measures

Producer Price Indexes measure average changes in prices *received* by domestic producers of commodities at all stages of processing. It is *not* a measure of the cost of producing goods, and it is *not* a measure of prices that retailers pay to wholesalers. It is almost unique among economic statistics in the United States in terms of its extensive detail and breadth of coverage.

Nearly all of the indexes are calculated from price reports mailed to BLS by the producing firms themselves. Other indexes are based on reports from other Federal Government agencies or various commodity exchanges. The sampling of establishments within each industry, and of the individual products, is done on a probability basis to avoid any biases. Each producer is asked to report the *net transaction price* for shipments as of a certain date each month. The product selection process includes a precise specification of the terms of transaction. All common types of business discounts are systematically accounted for in the PPI.

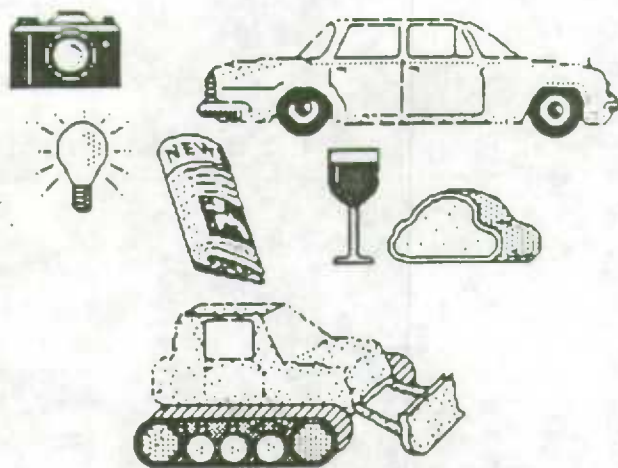
The thousands of price quotes received by BLS are reported to the public as price indexes, which measure relative changes in prices. An index of 110.0, for example, means that prices are 10 percent higher than they were in the base year. In January 1988 the index reference base year for most PPI series other than the industry-classified indexes was changed from 1967=100 to 1982=100, so as to harmonize the weight base and reference base and thereby more closely approximate the theoretical Laspeyres (fixed base-weighted) index formula. This has resulted in large apparent "decreases" in the indexes for many commodity series. However, all historical index values for the affected PPI time series were recalculated to conform to the 1982 reference base. This rebasing process does not affect percent change calculations, except for rounding.

How the PPI is organized

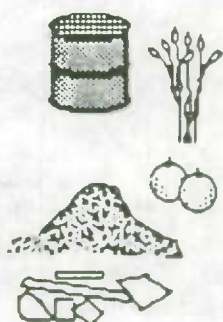
The 7,000 detailed product indexes published every month are aggregated (grouped) in three principle ways: by stage-of-processing, by commodity grouping, and by industry. There are also a variety of special-grouping indexes, and some arranged by durability of product. Since January 1987, the PPI commodity grouping indexes have been calculated using 1982 value weights, mainly from the Census of Manufactures and the Census of Mining. Between 1976 and 1986 the PPI was based on 1972 weights.²

The primary classification scheme is known as the *stage-of-processing* system, which categorizes all goods as either finished, intermediate or crude. Stage-of-processing indexes are calculated by proportionally combining sub-product class indexes (see the explanation on commodity grouping hierarchy below). Before 1978, when the name "Wholesale Price Index" was still being used, the major summary index was the All Commodities index, also referred to as "the" WPI. Although BLS continues to publish this index, it is no longer used for analytical purposes, because of the inherent *multiple-counting* bias. Price indexes such as All Commodities (or Metals and Metal Products) which lump together products from different stages of processing are subject to a pronounced bias, and BLS discourages their use. The change in the name to "Producer Price Index" in 1978 was intended to more accurately represent the type of prices being measured, and was accompanied by a shift in emphasis toward the stage-of-processing system.

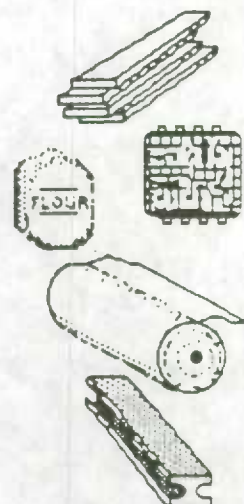
Finished Goods are those sold to the final demand user, i.e., either to an individual consumer or to a business investing in capital equipment. This definition uses an input-oriented concept, based on the destination of the goods being shipped. In other words, it approximates a deflator for material inputs to Final Demand, the National Income Accounting analog to Gross National Product. (However, consumer services, investment in structures, government purchases, and foreign trade fall outside of the PPI framework.) For that reason, it has a special significance to economists, because it covers much of the final demand sector of the economy. This index often presages fluctuations in the Consumer Price Index, and is for that reason the most widely-observed PPI series.



Crude Materials are goods that have not undergone processing at any previous stage; however, the value weight for those goods consumed in their raw state by households (i.e., farm produce and natural gas) is allocated to Finished Goods. In contrast to the Finished Goods definition, Crude Materials are defined by an output-oriented concept. Crude items may be shipped to any stage of processing (including crude itself: corn is consumed by cattle and chickens), but not to final demand. The key criterion is that the good in question must not be *made from* any other good that is commercially traded. Scrap metals, wastepaper, and similar items are included as well. Prices of crude commodities are often very sensitive to the level of demand in the overall economy. For this reason, the Crude Materials index (and especially the component which excludes food and energy) is considered a valuable indicator of economic conditions.



Intermediate Goods thus include everything else, i.e., manufactured items that are not sold to final users.³ About half of this broad category is composed of partly processed materials and components that will be transformed into finished goods. Also included within the intermediate category are processed fuels and lubricants, supplies (such as fertilizers), containers, and construction materials and components. Since gasoline (as one example) is sold both to consumers and business users, its value weight in the PPI is proportionally allocated to both Finished Goods and Intermediate Goods, based on data from the U.S. input-output table, published by the U.S. Department of Commerce. Although the Intermediate Goods index does have a small degree of multiple counting, it is still a useful measure of general business costs. It is also regarded as a reliable signal of possible future changes in inflation for the Finished Goods Price Index.



The second major scheme of organizing PPI data is the *commodity classification system*, which has evolved over many years and includes 15 major groups. The majority of PPI data users rely on commodity indexes, in part because of the the great amount of historical data available for many of these series. This system is not used by any other government statistical program. Commodities are grouped according to similarity of material composition and end use, regardless of the industry of origin. A strict coding hierarchy composed of discrete, parallel levels unequivocally identifies the groupings to which each specific item (i.e., commodity) belongs, as illustrated below:

02	Processed foods and feeds	Major group
02-2	Meats, poultry, and fish	Subgroup
02-23	Fresh and processed fish	Product class
02-23-04	Canned fish	Sub-product class
02-23-04-01	Canned tuna	Individual item

The third principal classification system used in the PPI is the *Standard Industrial Classification* (SIC), which is widely used by other government statistical agencies. The SIC is organized by grouping together business establishments (distinct facilities where work is carried out, such as a factory) rather than by products. Under the industry classification scheme, a given product may be produced in more than one industry. An industry's output thus consists of its *primary products*, as well as *secondary products*, which are mainly produced in other industries. The PPI makes use of the Census product class extension to the SIC system, but various modifications are made when appropriate. Unlike the commodity classification system, there is no regular hierarchy of coding. Although there is considerable similarity in many of the PPI commodity groupings and SIC groupings, it should be emphasized that many industries produce goods that are primarily made in other industries, and thus the price index for a given industry may include different price quotes than for a similarly-titled commodity grouping.

The PPI Revision

Historically, the PPI did not have a substantial number of price indexes classified by the SIC. This limited the compatibility of PPI data with other statistics, making economic research more difficult. In 1967 the Bureau of Labor Statistics began to publish "Industry Sector Price Indexes," which were based on commodity price data from the old WPI regrouped to conform to the SIC. However, coverage of industries by SIC code remained weak until the onset of the PPI Revision program in the late 1970's.

One of the main objectives of the PPI Revision program was to achieve full coverage of the mining and manufacturing sector of the U.S. economy. The first phase of the Revision program was completed in early 1986. However, special problems of measurement precluded publication of indexes for the computer and space industries. BLS currently publishes monthly price indexes for 488 industries, based on approximately 75,000 quotations.

The key methodological advance in the new industry indexes is that they are calculated using *net output* weights so as to consistently eliminate multiple counting at all levels of aggregation. That means that only transactions *outside* the industry are counted. For example, the blast furnace and steel mills industry (SIC 3312) produces semifinished steel slabs, some of which are shipped to other industries for finishing and some of which are finished by other establishments within that industry. The net output price index for that industry would include value weights for shipments to the other industries, but not the shipments within the industry. In this way, we can more directly capture the pricing effect that one industry has on another. The PPI industry indexes are calculated using net output weights from the 1977 Census of Manufactures, and the 1977 input-output table (both published by the Department of Commerce).

Another area of improvement stemming from the PPI Revision has been the adoption of a systematic process for selecting establishments to be included in the survey, their products, and the terms of transactions for those products. The probability selection now used ensures that the PPI will not be biased in its sample of commodities; in the past, there was a tendency to choose mainly volume-selling items made by large firms.

Finally, a thorough process for handling various type of discounts (such as trade, quantity, and seasonal) permits a more accurate estimation of actual transaction prices than was possible under the traditional methodology. Of course, the voluntary nature of the PPI program places the entire burden of index accuracy on the companies that participate in the survey.

Uses of the PPI

Producer Price Indexes are widely used by businesses, as well as by government and nonprofit institutions. Many organizations are able to monitor the effects of inflation more easily by using PPI data. The most common application of PPI's for business use is in the escalation of long-term contracts,⁴ where both parties agree that the price (or fee or rent) will be adjusted periodically proportionate to changes in an agreed-upon PPI series. Sometimes the adjustment formula includes other variables, such as labor costs.

If the intent of the escalation clause is to maintain pace with the overall rate of inflation in the economy, then a general index such as Finished Goods will be appropriate. If the intent is to adjust for changes in costs of the specific materials and supplies purchased by the firm providing the goods or services, then the parties might want to select one or more PPI's to measure changes in costs for those inputs, such as aluminum mill shapes (code 10-25-01) or diesel fuel (code 05-73-03).

Accounting statements have begun to reflect more explicitly the effects of inflation in recent years.⁵ Price indexes provide a standardized means of showing the effects of inflation, and the PPI is particularly suited for adjusting the current cost of goods in inventory without referring to the original invoices using the "last in - first out" (LIFO) method. Financial planning and market research are other common business tasks that are facilitated by the PPI.

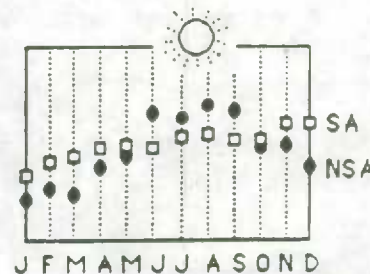
In the Federal Government, the PPI is used for policy analysis as well as for statistical purposes. The President's Council of Economic Advisors and the Congressional Budget Office both closely watch PPI developments to assess the near-term prospects for changes in the rate of inflation. The Bureau of Economic Analysis within the Commerce Department uses the PPI (as well as the Consumer Price Index) when it calculates the Implicit Price Deflator for the Gross National Product accounts every quarter. The deflation of the current-dollar or "nominal" values of the components of GNP permits an accurate determination of the "real" rate of growth in the economy. Other government agencies use the PPI when preparing reports on conditions in particular industries.

Seasonal adjustment

For some analytical purposes, economic data may be more meaningful in a seasonally adjusted form. However, unadjusted data are recommended for most business users (see below). Seasonally adjusted indexes are used only for economic analysis. Data users who are concerned with macro-economic trends (i.e., trends affecting the economy as a whole) prefer to "filter out" the normal seasonal fluctuations relating to weather, production schedules, etc., so that they can better observe any fundamental changes. For example, food prices typically decline during the fall harvests and heating fuel prices typically go up during the winter.

The X-11 seasonal adjustment procedure (originally developed in the Commerce Department) is used by BLS to derive adjustment factors in order to calculate seasonally adjusted price indexes that more closely reflect underlying trends. It should be remembered that seasonal adjustment is based on the historical trends of the eight most recent years, not subjective judgment. These factors are recalculated at the beginning of each year, and the seasonally adjusted indexes are revised five years back. Seasonally adjusted index values of broader categories (such as Finished Goods) are derived indirectly, by aggregating the seasonally adjusted component indexes. Ongoing research aims to improve the statistical reliability of seasonal adjustment, using more advanced methods of seasonal adjustment such as the X-11 ARIMA variant developed at Statistics Canada.

Unadjusted data are of primary interest to users who need information that can be related to the actual dollar values of transactions. Escalation contracts nearly always cite unadjusted figures, for example. Most market analysts pay attention to both adjusted and unadjusted indexes, because of occasional anomalous seasonal factors. As a general rule, businesses should use the not seasonally adjusted PPI values.⁶



FOOTNOTES:

- ¹ Those who desire further information on PPI calculation methodology should refer to chapter 16 of the *BLS Handbook of Methods* (1988), Bulletin 2285.
- ² A detailed explanation of the PPI weight revision was published in the August 1987 issue of the *Monthly Labor Review*.
- ³ Electric power is also included within Intermediate Goods, because it directly competes with other intermediate energy items such as residual fuel.
- ⁴ *Escalation and Producer Price Indexes: A Guide for Contracting Parties*, BLS Report 570, published in 1979.
- ⁵ Financial Accounting Standards Board *Statement Number 33, Financial Reporting and Changing Prices*, outlines standard procedures for reporting inflation effects in business financial statements.
- ⁶ For more information, see "Appendix A: Seasonal Adjustment Methodology at BLS" in the *BLS Handbook of Methods*.

Chapter 16. Producer Prices



Reprint from *BLS Handbook of Methods*, Bulletin 2285

U.S. Department of Labor
Bureau of Labor Statistics

The Producer Price Index (PPI) measures average changes in selling prices received by domestic producers for their output. Most of the information used in calculating the Producer Price Index is obtained through the systematic sampling of virtually every industry in the mining and manufacturing sectors of the economy. The PPI program (also known as the industrial price program) includes some data from other sectors as well—agriculture, fishing, forestry, services, and gas and electricity. Thus the title “Producer Price Index” refers to an entire “family” or system of indexes.

As of January 1987, the PPI program contained:

- Price indexes for nearly 500 mining and manufacturing industries, including approximately 8,000 indexes for specific products and product categories;
- Over 3,000 commodity price indexes organized by type of product and end use; and
- Several major aggregate measures of price change organized by stage of processing.

Together, these elements constitute a system of price measures designed to meet the need for both aggregate information and detailed applications, such as following price trends in specific industries and products.

Measures of price change classified by industry, the most recent addition to the PPI system, now form the basis of the program. These indexes reflect the price trends of a constant set of goods and services which represent the total output of an industry. Industry index codes are based upon the Standard Industrial Classification (SIC) system and provide comparability with a wide assortment of industry-based data for other economic phenomena, including productivity, production, employment, wages, and earnings.

Background

Known until 1978 as the Wholesale Price Index or WPI, the Producer Price Index is one of the oldest continuous systems of statistical data published by the Bureau of Labor Statistics, as well as one of the oldest economic time series compiled by the Federal Government. First published in 1902, the index covered the years from 1890 through 1901. The origins of the index can be found in an 1891 U.S. Senate resolution authorizing the Senate Committee on Finance to investigate the effects of the tariff laws “upon the imports and exports, the growth,

development, production, and prices of agricultural and manufactured articles at home and abroad.”¹

The first index, published on the base period 1890–99, was an unweighted average of price relatives for about 250 commodities. Since that time, many changes have been made in the sample of commodities, the base period, and the method of calculating the index. A system of weighting was first used in 1914, for example, and major sample expansions and reclassifications were implemented in 1952 and 1967.

When it was originally founded, the Wholesale Price Index program was intended to measure changes in prices received for goods sold in primary markets of this country. The conceptual framework and economic theory guiding the program’s evolution, while more implicit than explicit, concentrated on obtaining the price received by either a domestic producer or an importer for the first commercial transaction.

A number of practical gaps, inconsistencies, and other weaknesses in the industrial price program, combined with increased development of the theory of price indexes in preretail markets, spurred several changes in terminology and operations during the 1970’s. The 1978 program name change from Wholesale Price Index to Producer Price Index, for example, was prompted by widespread misconceptions about the meaning of “wholesale.” When the program began at the turn of the century, “wholesale prices” was a term commonly understood to refer to prices for goods sold in large quantities. Because that connotation faded over time, however, many in the general public came to assume that the term “wholesale prices” referred to prices charged by wholesalers, jobbers, or other distributors. Adoption of the term “producer prices” was intended to reemphasize that the industrial price program continues to be based on prices received by producers from whoever makes the first purchase, rather than on prices paid to wholesalers by retailers or others further removed in the distribution chain. This new nomenclature was accompanied in 1978 by a shift in the Bureau’s analytical focus from the all commodities price index (which was popularly called “the” Wholesale Price Index) to the Finished Goods Price Index and the other stage-of-processing price indexes.

¹ Senate Committee on Finance, *Wholesale Prices, Wages, and Transportation*, Senate Report No. 1394, “The Aldrich Report,” Part I, 52nd Congress, 2d sess., March 3, 1893; and U. S. Department of Labor, *Course of Wholesale Prices, 1890–1901*, Bulletin No. 39, March 1902, pp. 205–09.

These changes were a prelude to the most comprehensive overhaul of industrial price methodology in the program's history. Also begun in 1978, this overhaul was phased in gradually until the transition to the methodology of what is called the Producer Price Index Revision (PPIR) was essentially completed in January 1986. This chapter describes this new methodology, which now is used throughout the PPI "family" of indexes. Elements of the traditional methodology remaining in effect are integrated into the following presentation. Differences between the PPIR and the traditional methodology are mentioned where appropriate. However, such contrasts are not highlighted as much as they had been in the previous edition of this *Handbook* (1982), prepared when the industrial price program was still in transition.²

Description of Survey

Universe

The Producer Price Index universe consists of the output of all industries in the goods-producing sectors of the American economy—mining, manufacturing, agriculture, fishing, and forestry—as well as gas and electricity and goods competitive with those made in the producing sectors, such as waste and scrap materials. The output of the services sector is also within the theoretical PPI universe; although coverage of services currently is minimal, planning is well underway for considerable expansion in this area. Imports are no longer included within the PPI universe; however, the BLS International Price Program currently publishes price indexes for both imports and exports. (See chapter 17.) Domestic production of specifically military goods is now included, as are goods shipped between establishments owned by the same company (termed interplant or intracompany transfers).

Prices

One of the most crucial tasks in preparing any price index is to define what constitutes the "price" whose changes are to be measured. A seemingly simple question such as "What is the price of steel?" is unanswerable until it is made more specific.

For the purposes of the industrial price program, a price is defined as the net revenue accruing to a specified producing establishment from a specified kind of buyer for a specified product shipped under specified transaction terms on a specified day of the month. This definition points up the several price-determining variables that must be clarified before a cooperating business establishment can report a meaningful price for any of its

products to BLS. For example: If a company charges more for a red widget than a white one, color is one of the price-determining variables; if all widgets sell for the same price regardless of color, color is not a price-determining variable.

Because the PPI is meant to measure changes in net revenues received by producers, changes in excise taxes—revenues received by the government—are not reflected. But changes in rebate programs, low-interest financing plans, and other sales promotion techniques are reflected to the extent that these policies affect the net proceeds ultimately realized by the producer for a unit sale. If an auto manufacturer offers retail customers a rebate of \$500, the manufacturer's net proceeds are reduced by \$500, and the PPI for new cars would reflect a lower price. (Conversely, termination of a rebate program would be treated as a price increase.) But if a retail car dealer offers retail customers an additional rebate whose cost is absorbed by the dealer rather than the manufacturer, such a rebate would not affect the PPI. (The Consumer Price Index, of course, would reflect a customer rebate regardless of whether it was sponsored by the manufacturer or the dealer.)

The statistical accuracy of Producer Price Indexes depends heavily on the quality of the information voluntarily provided by respondents. BLS emphasizes to cooperating businesses the need for reports of realistic transaction prices, including all discounts, premiums, rebates, allowances, etc., rather than fictitious list or book prices. The use of list prices in the industrial price program has been the exception, not the rule. Even before the conversion to the methodology of the Producer Price Index Revision, a BLS survey showed that only about 20 percent of traditional commodity indexes were based on list prices. Inasmuch as the PPIR methodology is more systematic than the traditional methodology in concentrating on actual transaction prices, the use of list price is even less frequent now.

Neither order prices nor "futures" prices are ordinarily included, because the PPI tries to capture the selling price for output being shipped in that same month, not some time in the future. Changes in transportation fees will be reflected in industry price indexes only when the producing company (rather than a commercial shipper or a contractor) receives revenues for delivering products to the buyer.

Most prices refer to one particular day of the month, viz., the Tuesday of the week containing the 13th of the month; this pricing date can range between the 9th and the 15th. There are some exceptions, however. Prices for a number of farm products are for a day of the week other than Tuesday. Prices for some refined petroleum products are commonly an average of prices during the first half of the month rather than the prices received by oil refineries on a given day. Price indexes for natural gas and some industrial chemicals are still based on data

² Bureau of Labor Statistics, *BLS Handbook of Methods*, Vol. 1, Bulletin 2134-1 (1982).

for the calendar month as a whole and, therefore, lag 1 month behind other indexes. A natural gas index for November, for example, would reflect price changes that actually occurred in October.

Although most prices reported to the Bureau are the selling prices of selected producers, free on board (f.o.b.) point of production, some prices are those quoted on organized commodity exchanges or at central markets; this practice is most often found among farm products.

Product change and quality adjustment

Although the same product usually is priced month after month, it is necessary to provide a means for bridging over changes in detailed specifications so that only real price change will be measured. An adjustment is especially important when one product is replaced by a new one. Even when companies report their selling prices based on altered transaction selling terms (e.g., price per 1,000 sold instead of price per 100), or when there is a change in the number or identity of companies reporting to BLS, routine steps can be taken to ensure that only true price changes influence the index.

When a company respondent reports a price that reflects a physical change in a product, the Bureau uses one of several quality adjustment methods. The direct comparison method is used when the change in the physical specification is so minor that no product cost differences result; in this instance, the new price is directly compared to the last reported price under the former specifications, and the affected index reflects any price difference.

When changes in physical characteristics of a product cause product cost differences, however, the Bureau attempts to make an accurate assessment of real price change by taking systematic account of quality differences. The explicit quality adjustment method is crucial for automobiles, machinery, and other types of goods that undergo periodic model changes. The usual method for quality adjustment involves the collection of data from reporting companies on the costs they have incurred in connection with the quality change. If the selling price of a new model car is \$500 more than the previous model year's version, but \$200 of that increase is due to the extra product cost and normal margin associated with the addition of government-mandated safety equipment, then the real price has only risen by \$300; the change in the passenger car index will reflect only that amount, not the nominal price rise of \$500. Admittedly, there are several problems in applying this procedure in an economically meaningful fashion; for example, some improvements in quality and performance may actually cost the producer less than the technology of an older, inferior product did. The Bureau has been actively exploring the use of alternative, hedonic quality adjustment procedures, but with limited results to date. Any inability to reflect technical

change embodied in new products implicitly imparts a bias of unknown magnitude and direction to PPI data.

Unfortunately, it is not always possible to obtain a value for quality adjustment if, for example, the respondent is unable to estimate the production cost difference between an old item and a new one, or if an explicit comparison between an entirely new product and a previous product is not feasible. In such cases, the Bureau may have to assume that any difference in price between the old and the new items is entirely due to quality adjustment; the Bureau, therefore, employs the "overlap" method (if possible). Under this method, the Bureau collects prices for both the old and the new item over a period of time and chooses 1 month as the overlap month. In this overlap month, any difference between the price levels of the two items is factored out. For purposes of calculating the official price index, the Bureau uses price changes for the old item through the overlap month but thereafter follows price changes only for the new item.

Data Sources and Collection Methods

One of the fundamental differences between the traditional PPI methodology and the PPIR methodology is the switch from judgmental selection of companies and products to probability sampling. Under the traditional methodology, BLS would normally ask the largest companies producing a given type of commodity to report prices for their best-selling products. The PPI was, therefore, too heavily composed of volume-selling products made by major producers. This selection system, while convenient, missed much of the economy's flexibility and dynamism by overlooking the behavior of medium- and small-sized firms and the strategies for pricing medium- and small-volume products.

Under the sample design procedures of the Producer Price Index Revision, the industry as a whole is the basic starting point for sampling. Each industry has an individually designed and tailored sample. The first step in selecting a sample is to construct a universe frame of establishments classified within that industry. The primary source for compiling this universe of establishments is the data from the Unemployment Insurance System, because virtually every employer is legally required to be a member. Supplementary information from multiple, publicly available lists is used to refine the industry's frame of establishments, e.g., by eliminating firms that have gone out of business.

An establishment is defined as a production entity in a single location. Two establishments may occupy the same or adjacent space if they are separable by physical identification, recordkeeping, or both. Establishments are the units for which production and employment data are collected; however, establishments may frequently not be the appropriate unit for the collection of producer price

data. An establishment may be one of several owned by a single business firm and operated as a cluster, constituting a profit center; in such cases, the business maximizes profit over the cluster as a whole rather than for any one establishment.

The second step in constructing an industry sample consists of clustering establishments into price-forming units. Each member of a price-forming unit must belong to the same industry; establishments in a profit center that belong to other industries must be excluded in this step.

Once a list of price-forming units in an industry has been constructed, the list must be stratified by variables appropriate for that industry. The criterion for identifying the sampling strata is whether price trends may be different for different values of a variable. For example, the size of the production unit may cause differences in production technologies and, thus, different responses to changes in demand or input costs. Some industries may be characterized by geographically independent markets, which should become strata. Within each stratum, units are usually ordered by size to ensure a proportionate distribution of the sample.

The fourth step is to assign the number of units to be selected in each stratum. Normally, this assignment is in direct proportion to the value of shipments by units in each stratum. However, if there is evidence that some strata have more heterogeneity in price change, these strata will be assigned a greater proportion of the total sample than their simple shipment values would require. Each price-forming unit is selected systematically with a probability proportionate to its size. Ideally, the proper measure of size would be the total revenue of the unit; however, in practice, employment is used as a proxy because employment information is usually more readily available.

Once an establishment or cluster of establishments is selected for pricing, a BLS field economist visits the unit to solicit its cooperation. The officials of the unit are assured that their assistance is completely voluntary, and that any information they agree to provide to BLS will be safeguarded under the strictest guarantees of confidentiality. If the officials agree to participate in the Producer Price Index program, the BLS field economist proceeds to select those transactions to be priced through time from among all the unit's revenue-producing activities. A probability technique called disaggregation is used to select those transactions. The disaggregation procedure assigns to each category of items shipped, and to each category of other types of receipts, a probability of selection proportionate to its value within the reporting unit. The categories selected are broken into additional detail in subsequent stages until unique items, or unique types of other receipts, are identified.

Even after a physically unique item has been determined, it may be necessary to disaggregate further. If the same physical item is sold at more than one price, then

the conditions that determine that price—such as the size of the order, the type of customer, etc.—must also be selected on the basis of probability. This method for identification of terms of sale (or transaction terms) both ensures that the same type of transaction is priced over time and eliminates any bias in the selection of the sales terms.

To minimize the reporting burden on cooperating companies, the disaggregation process described above usually is completed within 2 hours in the initiation interview. Subsequently, reporting companies agree to supply prices for those items selected on an agreed-upon schedule, usually monthly but sometimes less often. BLS Form 473P, shown at the end of this chapter, is used for reporting producer prices; it generally takes less than 30 minutes to fill out these repricing forms. Cooperation generally remains high, although some companies decline to participate from the beginning and others may drop out of the program.

The BLS sample of each industry's producers and output must be updated every few years to take account of changing market conditions. This procedure, called "resampling," takes place relatively often for industries marked by dynamic changes in production technology or industry structure. More stable industries need to undergo resampling less frequently. In practice, many of the reporting companies may be the same both before and after resampling; likewise, some individual products in the sample may also be the same. The resampling process gives the Bureau the systematic opportunity to keep the PPI system as up to date and useful as possible.

Estimating Procedures

Weights

If the Producer Price Index system were composed merely of indexes for individual products, with no grouping or summarization, there would be no need to devise a comprehensive weight structure. However, given the desire for numerous indexes for groupings of individual products, there is a need for a weight system that will let more important products have a greater impact on movements of groupings. Without a weighting structure, a 10-percent rise in automobile prices would have the same significance as a 10-percent rise in apple prices.

This section first describes the weighting policies for the industry and product indexes of the Producer Price Index Revision. The remainder of the section discusses the weighting structure of the traditional commodity groupings portion of the PPI family of indexes.

Item and product aggregation weights. A price index for even the most finely detailed product (usually termed a "cell index") cannot be calculated without applying a

policy for weighting the individual price reports received by BLS for each item. Under the current PPIR methodology, reports of some establishments are given more weight than those from others in calculating each cell index. Item weights are assigned by BLS on the basis of data on shipment values provided to BLS field representatives during the initiation interviews with cooperating establishments, adjusted by BLS probability selection techniques. (Prior to 1978, almost all price reports used to calculate any given cell index would implicitly be weighted equally, regardless of any differences in size among the reporters; if, for example, five companies provided prices for a certain commodity each month, each of these five reports would have had a weight of one-fifth.)

To calculate price indexes for levels of aggregation above the cell index, BLS compiles weights based on values of shipments for those aggregations of products made within the same industry; thus, shipment values for the same products made in other industries do not enter the weighting structure. Data on values of shipments are derived from information provided by the Bureau of the Census and a few other sources.³ The total value of shipments for each industry is distributed among the products or other revenue sources produced by that industry, thereby eliminating the need for any indirect imputations of weight, a common practice under the pre-1978 methodology of the Producer Price Index.

Industry net output weights. In compiling price indexes for 4-digit SIC industries, as well as for even more highly aggregated industry group indexes, BLS employs net output values of shipments as weights. Net output shipment values refer to the value of shipments from establishments in one industry to establishments classified in another industry. By definition, then, net output shipment values differ from gross shipment values by excluding shipments among establishments within the same industry, even if those establishments are owned by separate and independent firms. The meaning of "net output" depends on the context of the index grouping. The net output for total manufacturing, for example, would be the value of manufactured output shipped outside the entire manufacturing sector, e.g., to the construction sector or to consumers. In addition to the value of shipments data supplied by the *Census of Manufactures*, BLS also constructs appropriate net output price indexes through the use of information on the value of materials consumed (also from the Census Bureau), data on detailed industry flows from

³ Information currently used for calculating weights throughout the PPI family of indexes is largely taken from the following censuses conducted by the Bureau of the Census of the U. S. Department of Commerce: (1) the *Census of Manufactures*; (2) the *Census of Mineral Industries* (which includes oil and gas production); (3) the *Census of Agriculture*; and (4) the *Census of Wholesale Trade*. Other current weight sources include the Edison Electric Institute and the National Marine Fisheries Service.

the input-output tables compiled by the Bureau of Economic Analysis of the U.S. Department of Commerce, and other detailed industry data. Currently, industry price indexes continue to be calculated primarily with 1977 net output weights and input-output relationships.

Weights for traditional commodity groupings. Weights for individual commodity price indexes, and in turn for commodity grouping price indexes, are based on gross value of shipments data, as compiled by the Bureau of the Census and a few other sources. These weights represent the total net selling value of goods produced or processed in the United States, f.o.b. production point, exclusive of excise taxes. Since January 1987, shipment values between establishments owned by the same company (termed interplant transfers) have been included in commodity and commodity grouping weights; interplant transfers had been excluded from the weight structure before then.

Commodity and commodity grouping weights are updated periodically to take into account changing production patterns. Since January 1987, these weights have been derived from the total net selling value of commodities reported in the 1982 economic censuses. From January 1976 through December 1986, 1972 shipment values formed the foundation for commodity and commodity grouping weights. Updated weights are incorporated into the PPI system in a manner that does not require recalculation of indexes for earlier periods.

BLS does not publish the actual values used as weights, but does publish what is called a relative importance for each commodity and commodity grouping. The relative importance of an item represents its basic value weight, including any imputations, multiplied by the relative of price change from the weight date to the date of the relative importance calculation. The result is expressed as a percentage of the total for all commodities. Data showing the relative importance of commodity groupings with respect to the three major stage-of-processing groupings are also available.

BLS calculates relative importance data each December, so that the impact of any additions or deletions to the sample can be reflected. Except when entirely new weights are introduced from the latest industrial censuses, or when there are sample changes affecting a given grouping at midyear, relative importance data usually change from one December to another because of relative price movements. A commodity whose price rises faster than the all commodities index from one December to the next will have a higher relative importance (abstracting from any sample changes); conversely, a commodity whose price falls or rises less than the all commodities index will show a smaller relative importance. Relative importance data are not used, however, as fixed inputs by the Bureau to calculate monthly price indexes. Rather, each commodity's actual weight value fluctuates each month in

accordance with its price movements. Theoretically, the Bureau could calculate and publish a new set of relative importance data every month. Relative importance data for any given commodity grouping also change when its components are subjected to a sample change.

Index calculation

In concept, the Producer Price Index is calculated according to a modified Laspeyres formula:

$$I_i = (\Sigma Q_a P_i / \Sigma Q_a P_o) \times 100$$

where:

P_o is the price of a commodity in the comparison period;

P_i is its price currently; and

Q_a represents the quantity shipped during the weight-base period.

An alternative formula more closely approximates the actual computation procedure:

$$I_i = \left[\frac{\Sigma Q_a P_o (P_i / P_o)}{\Sigma Q_a P_o} \right] \times 100$$

In this form, the index is the weighted average of price relatives, i.e., price ratios for each item (P_i / P_o). The expression ($Q_a P_o$) represents the weights in value form, and the P and Q elements (both of which originally relate to period "a" but are adjusted for price change to period "o") are not derived separately. When specifications or samples change, the item relatives must be computed by linking (multiplying) the relatives for the separate periods for which the data are precisely comparable.

Analysis and Presentation

Classification

The Producer Price Index family of indexes consists of several major classification systems, each with its own structure, history, and uses. However, indexes in all classification systems now draw from the same pool of price information provided to BLS by cooperating company reporters, and virtually all indexes are now calculated consistent with the methodology of the Producer Price Index Revision. The three most important classification structures are: (1) industry; (2) commodity; and (3) stage of processing.

Industry classification. A Producer Price Index for an industry is a measure of changes in prices received for the industry's output sold outside the industry (that is, its net output). As previously stated, the SIC 4-digit industry code is the basis for the industry price index system. Price indexes have also been available since 1985 for many more highly aggregated industry series at the 3- and 2-digit levels, as well as for total mining industries and total manufacturing industries.

From the beginning of the transition to the PPIR methodology nearly every 4-digit industry price index has been accompanied by detailed indexes representing price movements for the various products made in that industry. Code numbers for these indexes at the 5-digit (product class) and the 7-digit (individual product) levels often follow the codes and titles established by the Census Bureau as of 1977 as extensions of the SIC structure. Sometimes, however, BLS assigns its own codes and titles.

In general, there may be as many as three kinds of product price indexes for a given industry. Every industry has primary product indexes to show changes in prices received by establishments classified in the industry for products made primarily, but not necessarily exclusively, by that industry. The industry under which an establishment is classified is determined by those products accounting for the largest share of its total value of shipments. In addition, most industries have secondary product indexes to show changes in prices received by establishments classified in the industry for products chiefly made in some other industry. Finally, some industries may have miscellaneous receipts indexes to show price changes in other sources of revenue received by establishments within the industry.

Commodity classification. The commodity classification structure of the Producer Price Index organizes products by similarity of end use or material composition, regardless of whether these products are classified as primary or secondary in their industry of origin. This system is unique to the PPI and does not match any other standard coding structure such as the SIC or the United Nations Standard International Trade Classification. Historical continuity, the needs of index users, and a variety of ad hoc factors were important in developing the PPI commodity classifications.

Fifteen major commodity groupings (2-digit level) make up the all commodities index. Of these, 2 major commodity groupings form the index for farm products and processed foods and feeds, while the other 13 are grouped into the industrial commodities price index. Each major commodity grouping includes (in descending order of aggregation) subgroups (3-digit), product classes (4-digit), subproduct classes (6-digit), and individual items (8-digit). The structure of the traditional commodity classification system thus follows a strict, consistent hierarchy.

Corresponding indexes. Nearly all 8-digit commodities under the traditional commodity coding system are now derived from corresponding industry-classified product indexes. In such instances, movements in the traditional commodity price indexes are identical to movements of their counterparts. Although most traditional commodity price indexes continue to be published on their own original base period, the corresponding industry product

price indexes are published on a base of the month of their introduction. Therefore, monthly percent changes for corresponding indexes will be virtually identical even though their respective index levels may differ.

Specifications for products priced under the current methodology follow Census Bureau definitions and are considerably broader than those formerly used for traditional commodity indexes. Because companies are now reporting prices for a broader range of commodity and transaction-term specifications within a given commodity index, it is no longer feasible to publish meaningful average prices for individual commodities, as was sometimes possible with the traditional methodology. Price indexes are now usually calculated by constructing an index for each reporting establishment's price and then averaging these indexes, with appropriate establishment weights, to derive the commodity index. Under the former methodology, an average price could be computed directly from individual company prices. But despite the broadening of specifications, industry-classified product indexes are now available in much greater abundance and detail than was the case with the traditional commodity price indexes calculated before the conversion to the new methodology.

Stage-of-processing classification. Stage-of-processing (SOP) price indexes regroup commodities at the subproduct class (6-digit) level according to: (1) the class of buyer; and (2) the amount of physical processing or assembling the products have undergone.

Within the stage-of-processing system, finished goods are defined as commodities that are ready for sale to the final-demand user, either an individual consumer or a business firm. In national income accounting terminology, the Finished Goods Price Index roughly measures changes in prices received by producers for two portions of the gross national product: (1) personal consumption expenditures on goods, and (2) capital investment expenditures on equipment.⁴ Within the Finished Goods Price Index, the consumer foods category includes unprocessed foods, such as eggs and fresh fruits, as well as processed foods, such as bakery products and meats. The finished energy goods component includes those types of energy to be sold to households—primarily gasoline, home heating oil, and natural gas. The category for consumer goods other than foods and energy includes durables such as passenger cars and household furniture, and nondurables such as apparel and prescription drugs. The capital equipment index measures changes in prices received by producers of durable investment goods such as heavy motor trucks, tractors, and machine tools.

The stage-of-processing category for intermediate materials, supplies, and components consists partly of

⁴ The Producer Price Index universe excludes the consumer services portion of personal consumption expenditures and the structures portion of investment expenditures.

commodities that have been processed that still require further processing. Examples of such semifinished goods include flour, cotton yarn, steel mill products, and lumber. The intermediate goods category also encompasses nondurable, physically complete goods purchased by business firms as inputs for their operations. Examples include diesel fuel, belts and belting, paper boxes, and fertilizers.

Crude materials for further processing are defined as unprocessed commodities not sold directly to consumers. Crude foodstuffs and feedstuffs include items such as grains and livestock. The crude energy goods category consists of crude petroleum, natural gas, and coal. Examples of crude nonfood materials other than energy include raw cotton, construction sand and gravel, and iron and steel scrap.

The value-weight of a single subproduct class may be allocated among several different SOP categories to reflect different classes of buyers. For example, a portion of the value-weight of the citrus fruits index has been assigned to the index for crude foodstuffs and feedstuffs to represent the proportion of citrus fruit sold to food processors; most of the rest of the value-weight for this grouping has been assigned to the index for finished consumer foods. The value-weights are the same as those for the subproduct classes within the commodity classification scheme. The allocations of these value-weights to various SOP categories are currently based on input-output studies for 1972 conducted by the Bureau of Economic Analysis.

Many major stage-of-processing price indexes exist continuously back to 1947. However, some special groupings within the SOP system (such as finished goods less foods and energy) were first calculated in the 1970's and have no historical record before then.

Other. There are several additional classification structures within the PPI family of indexes. For example, Producer Price Indexes are available by durability of product. Allocation of individual commodities to durability-of-product categories (such as durable manufactured goods and total nondurable goods) is based on the Census Bureau definition: Products with an expected lifetime of less than 3 years are classified as nondurable, while products with a longer life expectancy are considered durable goods. Special commodity grouping indexes (such as fabricated metal products and selected textile mill products) rearrange PPI commodity data into different combinations of price series. In 1986, BLS began publication of indexes measuring changes in prices of material inputs to construction industries.

Most Producer Price Indexes, whether commodity-oriented or industry-oriented, are based on a national sample of producers because most output is destined for a national market. Differences in transportation costs to buyers in different parts of the country are normally excluded by definition. However, regional price indexes

are published for a few selected items, such as electric power, coal, sand and gravel, scrap metals, and cement, where regional markets are the rule rather than the exception.

Analysis

In 1978, as the transition from the traditional methodology to the methodology of the Producer Price Index Revision began, BLS decided to shift its analytical focus. Prior to that time, the Bureau's economic analysis had focused on the all commodities index, the industrial commodities index, and other highly aggregated major commodity groupings. During the 1970's, however, it became clear that these indexes are subject to a major defect: The multiple counting of price changes. This problem is common among highly aggregated traditional commodity groupings because they are calculated from price changes of commodities at several stages of processing, where each individual price change is weighted by its total gross value of shipments in the weight-base year.

To illustrate the multiple-counting problem, suppose that the price of cotton rises sharply. If this price increase is passed through by spinners of cotton yarn, then by weavers of gray cotton fabric, then by producers of finished cotton fabric, and finally by shirt manufacturers, the single price increase for the raw material cotton would have been included five times in the all commodities index and four times in both the industrial commodities category and in the major commodity group for textile products and apparel. As long as prices for all items at all stages of processing are changing at about the same rate, this multiple counting will not lead to any major distortions. But if, as is more usually the case, prices are rising at different rates, multiple counting can result in rates of change for aggregated price indexes that are highly misleading, because material prices tend to be more volatile than finished goods prices are, and because gross output values are used as weights for major commodity groups. The rate of increase indicated by the all commodities index would probably be exaggerated upwards during inflationary times. When prices are falling, the rate of decrease for that index would probably be similarly off-target. In addition, at any given time, there will be many items showing price increases while other items are registering price declines; both kinds of changes probably will be exaggerated (by different degrees) in the all commodities index. Thus, the net effect of these many different biases will be difficult to discern when the economy is characterized by mixed price movements. (Less aggregated commodity grouping indexes that cover only a single stage of processing are not affected by this multiple-counting defect.)

Stage-of-processing indexes have, therefore, become the central classification structure used by the Bureau for analyzing price trends in the general economy. In

particular, the single most important index now stressed by the Bureau is the Finished Goods Price Index. This index is crucial because it measures inflation in consumer and capital goods, upon which demand for materials and other inputs depends. Both this index and the index of Crude Materials for Further Processing are largely free of multiple-counting problems because they are rather strictly defined. The index for Intermediate Materials, Supplies, and Components, however, is a residual, encompassing everything that cannot fit into one of the other two major stage-of-processing categories. This index, therefore, includes several different stages of processing (three such stages in the shirt example above) and is affected by the multiple-counting problem.

The Bureau is focusing more on the price indexes for the net output of industries as a better solution to the problems inherent in aggregated price indexes based upon a weighting structure using gross shipment values.

Presentation

Producer Price Indexes are usually issued on the second or third Friday of the month following the reference month. The monthly PPI news release, available without charge from the Bureau, shows the most recent originally released and revised data for all stage-of-processing indexes and for selected major commodity groupings that comprise the bulk of the SOP indexes. All indexes in the news release are presented as not seasonally adjusted, but seasonally adjusted monthly percent changes are shown for many series as well; price changes over the last 12 months are also included. Even though the news release can display only a limited number of PPI series, all Producer Price Indexes are available and considered officially published at the time of the release.

The monthly detailed report, *Producer Price Indexes*, is printed 3 or 4 weeks after the news release date and is available to the public from the Superintendent of Documents, U.S. Government Printing Office, on a subscription basis. The monthly detailed report currently includes every not seasonally adjusted index within the PPI family that is publishable, along with some monthly and annual percent change calculations. Some seasonally adjusted indexes and monthly percent changes are also shown. The report also contains a narrative section explaining the most significant price movements within major stage-of-processing and industry groups for that month. When appropriate, additional narratives explain the latest sample changes (usually effective in January and July), updates in seasonal adjustment factors or weights, or other changes in methodology or presentation. Occasionally, a longer narrative section delves more deeply into the economic background underlying recently observed price movements. A subscription to this periodical also includes an annual supplement. This supplement, commonly mailed to subscribers in the summer

the year after the reference year, provides all publishable indexes and their annual averages for the calendar year, as well as tables of relative importance data effective for December of that year. Neither the monthly periodical nor the annual supplement includes information on actual dollar prices for any item.

Printouts of tables of historical price indexes for any PPI series are available, usually without charge, from the Bureau on request. Two computer tapes are available at cost; one shows complete historical tables for all individual commodities and commodity groupings, stage-of-processing groupings, durability-of-product groupings, and other indexes from traditional PPI structures, and the other shows complete historical records for industry and product indexes classified according to the SIC and the Census product codes. Complete historical records are also available on microfiche at cost. BLS has recently made available to the public monthly diskettes showing the latest monthly values and the previous 12 months of data for most series included within the PPI news release. PPI data may now also be accessed electronically on an on-line basis through the BLS Electronic News Service or through a variety of data bases maintained by private firms.

Seasonally adjusted data. Because price data are used for different purposes by different groups, BLS publishes seasonally adjusted as well as unadjusted data each month. For analyzing general price trends in the economy, seasonally adjusted data are usually preferred because they are designed to eliminate the effect of changes that normally occur at about the same time and in about the same magnitude each year—such as price movements resulting from normal weather patterns, regular production and marketing cycles, model changeovers, seasonal discounts, and holidays. Seasonally adjusted data, therefore, reveal more clearly the underlying cyclical trends or unusual disturbances in normal seasonal patterns (such as severe weather conditions). Data that are not seasonally adjusted are of primary interest to those who need information which can be more readily related to the dollar values of transactions. For example, unadjusted data are normally used in price escalation clauses of long-term sales or purchase contracts.

Producer Price Indexes may be seasonally adjusted at various levels of aggregation if statistical tests show there is a significant pattern of seasonal price changes, and there is a genuine economic rationale supporting the perceived seasonality. The Bureau's economic analysis of the PPI is normally based on seasonally adjusted data, although unadjusted data are used when tests show an absence of significant seasonality. Seasonal adjustment factors are recalculated when January indexes are released each February, as data for the most recent calendar year are reflected for the first time and data for more distant

periods are disregarded. This recalculation of seasonal factors leads to the revision of all seasonally adjusted indexes for the immediately preceding 5 years. BLS uses the X-11 seasonal adjustment method to compute seasonal factors.

Because seasonal adjustment is a tool for enhancing economic analysis, some indexes that are affected by the multiple-counting problem described earlier (such as the all commodities index and the indexes for the major commodity groups) are deliberately not calculated on a seasonally adjusted basis.

Revised data. All Producer Price Indexes are routinely subject to revision only once, 4 months after original publication, to reflect late reports and corrections by company respondents. Once revised, indexes are considered final. The Bureau does not use the term "preliminary" to describe the originally released PPI numbers, because "preliminary" usually describes data that are based on a small sample of information and that are typically subject to large revisions. When Producer Price Indexes are first released, they are typically based on a substantial portion of returns from respondents; hence, subsequent revisions are normally minor, especially at the more highly aggregated grouping levels. Either "first published" or "originally released" would be a more appropriate term than "preliminary." Changes in previously published data caused by a processing error are so indicated in a subsequent news release and/or detailed report.

Calculating index changes. Movements of price indexes from one month to another should usually be expressed as percent changes rather than as changes in index points because index point changes are affected by the level of the index in relation to its base period, while percent changes are not. Each index measures price changes from a reference period which is defined to equal 100.0; at this writing, 1967 is the standard base period for most PPI series, but many indexes that began after 1967 are based on the month of their introduction. The following tabulation shows the computation of index point and percent changes.

Index point change

Finished Goods Price Index	288.5
Less previous index	285.0
Equals index point change	3.5

Index percent change

Index point change	3.5
Divided by previous index	285.0
Equals	0.012
Results multiplied by 100	0.012 × 100
Equals percent change	1.2

An increase of 188.5 percent from the reference base period in the Finished Goods Price Index, for example, is shown as 288.5. This change can be expressed in

dollars as follows: Prices received by domestic producers of a systematic sample of finished goods have risen from \$100 in 1967 to \$288.50 today. Likewise, a current index of 300.0 would indicate that prices received by producers of finished goods today are triple what they were in 1967.

From time to time, the Bureau updates its standard reference base period. The switch to the 1967=100 base occurred in January 1971; before that, the years 1957-59 were used as the standard reference base. For reasons explained above, any switch of standard reference base periods does not affect calculations of percent change for any index. However, care must be taken to ensure that indexes on one base period are not being incorrectly compared against indexes for the same series expressed on a different base period. In 1988, the new standard reference base period for the Producer Price Index family of indexes is scheduled to become 1982=100. Index series that began after January 1982, however, will continue to be based on the month of their introduction.

Uses and Limitations

Producer Price Indexes are used for many purposes by government, business, labor, universities, and other kinds of organizations, as well as by members of the general public.

The Finished Goods Price Index is one of the Nation's most closely watched indicators of economic health. Movements in this index are often considered to presage similar changes in inflation rates for retail markets, as measured by the Bureau's Consumer Price Index. While this may sometimes be the case, there are many reasons why short-term movements in the PPI and the CPI may diverge. For example, the Finished Goods Price Index by definition excludes services, which constitute a major portion of the CPI. The Producer Price Index does not measure changes in prices for imported goods, but the Consumer Price Index does include imports. Conversely, the CPI does not capture changes in capital equipment prices, a major component of the Finished Goods Price Index. Large swings in producer prices for foods and other items may be considerably dampened by the time retail prices are measured, as retailers or other distributors absorb price volatility rather than pass through wide price variations to consumers.

Other stage-of-processing price indexes besides the Finished Goods Price Index are used for general economic analysis. Because prices for food and energy have tended to be so erratic in recent years, some economists prefer to focus attention on an index such as finished goods other than foods and energy as a better measure of the so-called "underlying rate of inflation." The index for Intermediate Materials, Supplies, and Components is closely followed as an indicator of material cost pressures

that may later appear in the Finished Goods Price Index and/or the CPI. The index for crude materials other than foods and energy is quite sensitive to shifts in total demand and can be a leading indicator of the state of the economy; its limited scope, however, makes it less reliable as an indicator of the future status of inflation in general. The stage-of-processing structure is especially well suited for facilitating economic analysis of the inflation transmission process. Hence, it can be used for analyzing the impact of government stabilization policies.

Producer Price Index data for capital equipment are used by the U.S. Department of Commerce to help calculate the gross national product (GNP) deflator and many of its component deflators. PPI data at all levels of industry and commodity aggregation can be used to deflate dollar values expressed in current dollars to constant-dollar values for a variety of economic time series, such as inventories, sales, shipments, and capital equipment replacement costs. To illustrate the deflation concept, suppose that nominal shipment values for a given industry have doubled over a 10-year span. If the Producer Price Index for that same industry has tripled over the same span, then the "real" (i.e., inflation-adjusted) value of shipments for that industry has actually declined; higher prices more than account for the doubling of dollar shipment values, and physical volume has implicitly fallen.

Private business firms use PPI data to assist their operations in a variety of ways, in addition to using these figures for general economic analysis or deflation as discussed above. Producer Price Indexes are frequently cited in price escalation clauses of long-term sales or purchase contracts as a means to protect both the buyer and the seller from unanticipated inflation or deflation. Typically, an escalation clause will specify that the price for x number of widgets being sold by company A to company B each year will go up or down by a specified fraction of the percentage of change in material costs, as measured by one or more specified Producer Price Indexes (often in conjunction with the change in an average hourly earnings indicator, used to measure labor costs). Hundreds of billions of dollars in contract values are tied to Producer Price Indexes through these price escalation clauses; such clauses are common in both government and private sector contracts.

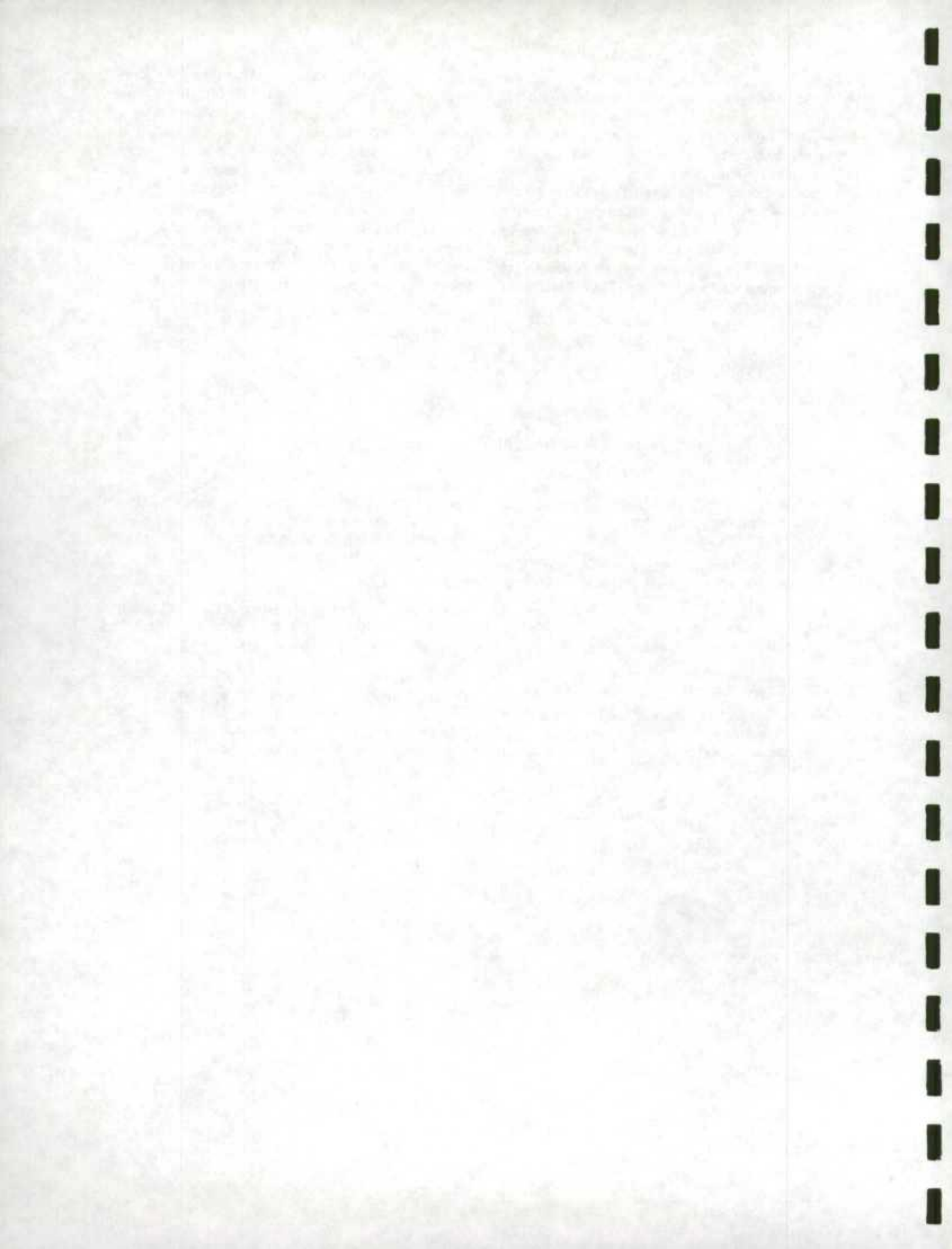
Private companies can also use PPI data to compare changes in material costs they incur against changes in the PPI for that material. By the same token, they can compare changes in the selling prices they charge for their own output to changes in the PPI for the same kind of product. PPI information may be employed in econometric models, in forecasting, in market analysis, and in academic research. PPI's are frequently used in LIFO (Last-In, First-Out) inventory accounting systems by firms wishing to avoid the kind of "phantom profits" that might appear on their books with a FIFO (First-In, First-Out) system.

Those wishing to follow PPI data for a particular series over a prolonged time span should be aware that highly detailed indexes are more vulnerable to being discontinued by BLS than aggregated indexes. During the industry resampling process described earlier, for example, the industry index (4-digit level) is commonly kept continuous before and after the resampling process is completed, while indexes for detailed products within that industry may be discontinued and replaced by items that are new or that had not been selected for pricing before. Finely detailed indexes are also vulnerable to temporary suspension of publication. The Bureau's rules against disclosure of confidential information preclude

publication of indexes when fewer than three companies report prices for a given product. Even if there are three reported prices for a given product in any given month, the Bureau will ordinarily publish that index only if at least two of those prices are considered good (i.e., not estimated) and if a single reporter does not account for more than half of the market for that product. When a detailed index disappears either temporarily or permanently, the Bureau routinely recommends that users who had been following that index either choose another detailed index within the same product grouping or else switch their attention to a more highly aggregated grouping index.

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Bureau of Labor Statistics
Information for the Producer Price Indexes

U. S. Department of Labor



The information collected on this form by the Bureau of Labor Statistics will be held in the strictest confidence and will be used for statistical purposes only.

This report is authorized by law, 29 U.S.C. 2. Your voluntary cooperation is needed to make the results of this survey comprehensive, accurate, and timely.

Form Approved
O. M. B. No. 1220-0008

INSTRUCTIONS

ITEM DESCRIPTION

Please determine if the information your company previously provided is currently applicable or requires update. If revision is required, please indicate the changes in the open areas.

If you revise the description, indicate the date on which the change became effective and the estimated value of the change (change in cost plus standard markup.)

Please review the Adjustments to Price area to determine if the adjustments and related terms are current as shown.

Additional instructions appear on the reverse side of this form.

If you have any questions concerning completion of this form, please call:

R
E
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A
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K
S

PREVIOUS PRICE INFORMATION — Please review the Previous Price Information below. Enter missing prices if available. Correct any incorrect prices that are shown. Net transaction prices are the most desirable type of price. If incorrect or if you change to a different type of price, indicate the current type of price.

Type of price you report →

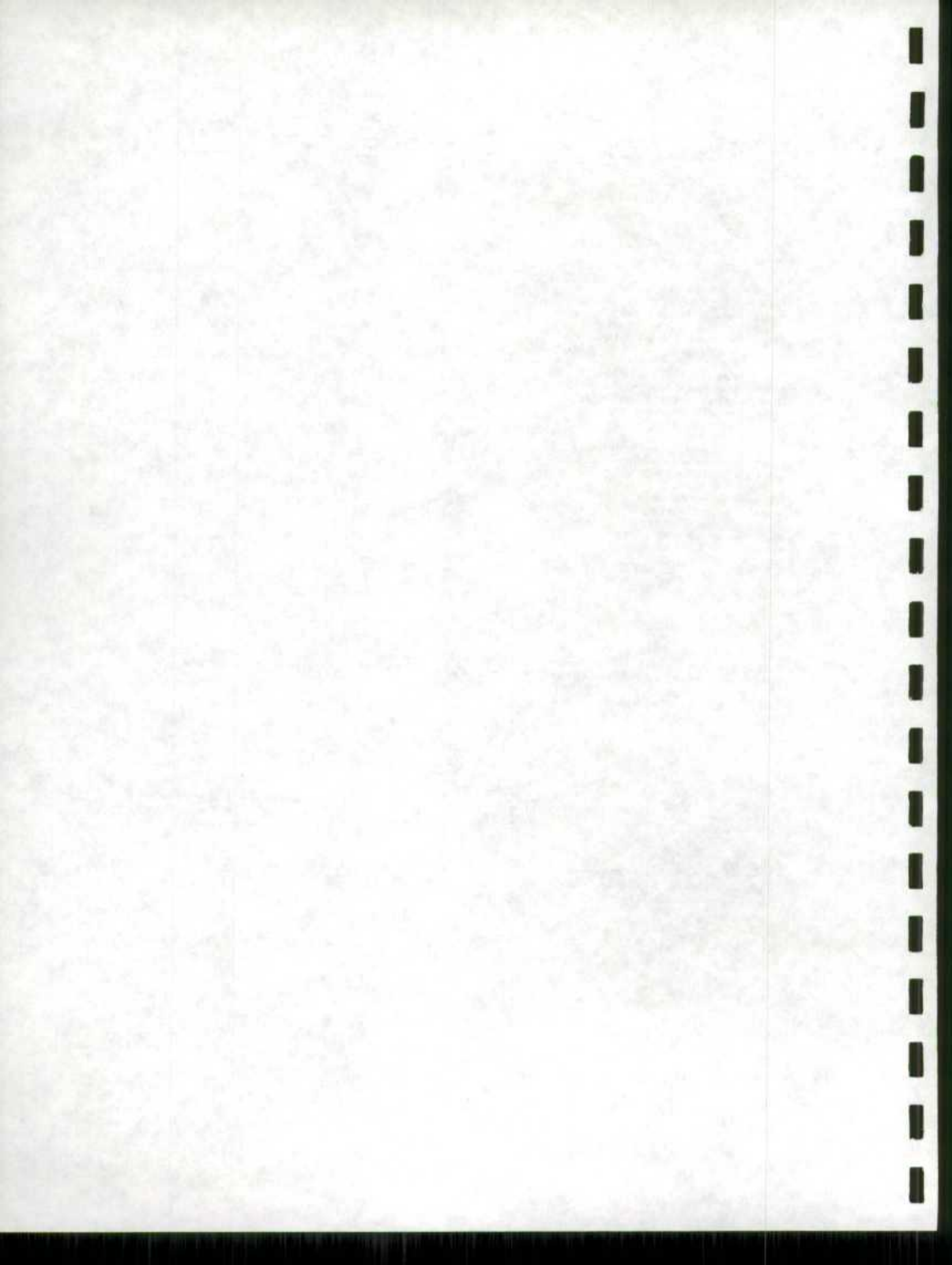
Did the price change between

Have you made any changes to the Item Description or the Previous Price Information described above?

Please enter the price in the boxes below if there has been a change. Use black pen or pencil only, writing the number as shown. Please do not type. DO NOT USE BLUE. If there was not a shipment, estimate the price that would have been charged on

1 2 3 4 5 6 7 8 9 0

Check if this is a
CLOSEOUT price on
an item which is
being phased out.



Dear Respondent,

Thank you for your continuing participation in the Producer Price Index (PPI) program. The data which you provide are used in computing the Producer Price Indexes and constitute the basis for analyzing industrial price changes.

Please use the enclosed postage free envelope to return the pricing forms. Your continued cooperation is greatly appreciated.

Commissioner of Labor Statistics

Instructions for completing a PPI pricing form:

The information contained on this form was furnished by your firm in previous pricing periods. Review the information carefully to verify that it remains current. Cross out any incorrect information and write in all corrections and additions that are necessary. Any information concerning the item which exceeds the space limitation imposed by the form is continued on the subsequent page and should also be verified.

Item and Transaction Description

If the Item Description or the Transaction Terms, or both, no longer apply, a substitute item or substitute transaction terms should be selected by you. Item substitution should only occur when the item previously reported is no longer available because it is being or has been permanently discontinued. The substitute item should be as similar as possible to the current item and should be expected to remain available for some time. The substitute transaction terms should likewise be as similar as possible to the discontinued transaction terms.

Report these changes in the closest open area and provide current price information.

Adjustments to Price

Following is a list of the more common adjustments to price. The specific adjustments on the pricing form were selected originally and should be changed only when either the level of an existing adjustment changes or a new adjustment becomes applicable to the product and transaction described.

Deductions from price include:

1. Standard discounts (Cash, Seasonal, Cumulative Volume, Quantity, and Trade)
2. Rebates
3. Other recurring discounts
4. Other nonrecurring discounts (Competitive and Negotiated)

Additions to price include:

1. Surcharges
2. Other recurring charges added to price
3. Other nonrecurring charges added to price

Taxes should always be excluded from the price. If this exclusion is not possible, note this in Remarks.

Freight charges should be excluded from the price unless delivery was selected originally as part of the product. Make changes if the currently described freight terms no longer exist.

QUESTIONS

Answer whether you have ("YES") or have not ("NO") made any changes or entries to the item description or previous price information.

Answer YES or NO depending on whether the shipment price of the item described changed ("YES") between the two dates listed or whether the shipment price did not change ("NO") during this time period.

If the answer is NO, the form has been completed and is ready for mailing. **DO NOT ENTER A PRICE IF THE PRICE HAS NOT CHANGED.** If the answer is YES, please enter the new price.

If there has been a change in the name or address to whom this form should be sent in the future, enter an (X) in the box. It is necessary to make the name and address change on only one form.

Please complete and return within 5 business days all of the pricing forms that are mailed to you even if there are no changes.

If you are anticipating a change in any of the information that you provide, please indicate in Remarks. List the anticipated change and when it will occur.

Any questions that you have regarding the pricing forms or their completion may be resolved by calling the Bureau of Labor Statistics, Division of Industrial Prices and Price Indexes, Washington, D. C., by using the telephone number at the top of the pricing forms.

REMARKS:

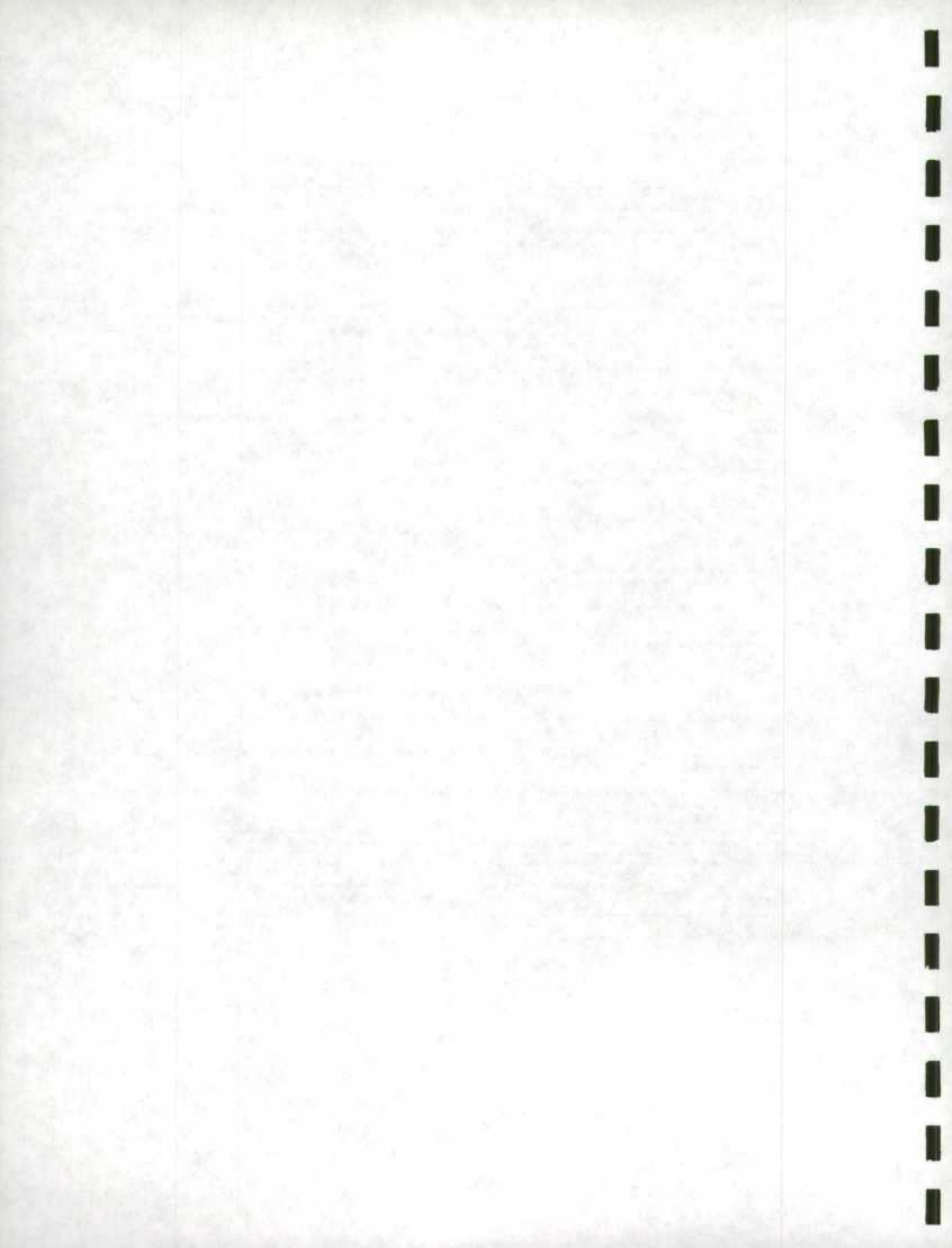


Table 5. Producer price indexes for the net output of selected industries and their products—Continued

Industry and product ¹	Industry code	Product code	Index base	Index			Unadjusted percent change to Sep. 1991 from —	
				May 1991 ²	Aug. 1991 ²	Sep. 1991 ²	Sep. 1990	Aug. 1991
Hard surface floor coverings	3996		12/85	123.7	123.5	123.5	4.8	0
Primary products		3996-P	12/85	125.6	125.5	125.5	6.4	0
Floor tile		3996-122	12/85	124.9	(?)	124.9	8.6	(?)
Manufacturing industries, n.e.c.	3999		12/85	117.4	117.8	117.2	1.1	-3
Primary products		3999-P	12/85	118.6	118.9	118.4	.9	-4
Chemical fire extinguishing equipment and parts		3999-1	12/85	120.7	121.6	121.6	3.7	0
Hand portable extinguishers		3999-113	12/85	126.4	125.8	125.8	4.0	0
Dry chemical		3999-11312	12/85	127.9	127.2	127.2	3.0	0
Coin operated amusement machines		3999-2	12/85	128.3	128.3	(?)	(?)	(?)
Arcade and amusement center type electronic games		3999-212	12/85	129.2	129.2	(?)	(?)	(?)
Matches		3999-3	12/85	135.3	135.3	(?)	(?)	(?)
Paper stem, packed in books or otherwise		3999-361	12/85	135.5	135.5	(?)	(?)	(?)
Candles		3999-4	12/85	125.6	125.6	125.7	2.4	.1
Lampshades		3999-5	12/90	101.1	101.1	101.3	(?)	.2
Feathers, plumes, and artificial trees and flowers		3999-8	12/85	116.4	114.2	114.2	-4	0
Artificial Christmas trees, all types (metal, plastics, etc.)		3999-813	12/85	114.4	109.2	109.2	(?)	0
Artificial flowers, fruits, and wreaths		3999-815	12/85	120.8	119.8	119.8	1.5	0
Other materials		3999-81517	12/85	126.0	125.0	125.0	.2	0
Miscellaneous fabricated products, n.e.c.		3999-9	12/85	116.6	117.6	115.9	1.5	-1.4
Christmas tree ornaments and decorations, except glass and electrical		3999-951	12/85	111.8	108.0	108.0	(?)	0
Other miscellaneous fabricated products, n.e.c.		3999-998	12/85	116.2	116.8	116.9	2.0	.1
Secondary products and miscellaneous receipts		3999-SM						
Miscellaneous receipts		3999-M	12/85	102.1	102.1	102.1	0	0
Resales		3999-289	12/90	100.0	100.0	100.0	(?)	0
Secondary products		3999-S	12/85	115.2	115.1	115.3	4.7	.2
Services industries								
Railroads, line haul operations	4011		12/84	109.6	109.4	109.5	2.1	.1
Farm products		4011-A1	12/84	111.8	112.8	111.9	.8	-8
Grain		4011-A11	12/84	111.2	112.2	112.2	1.4	0
Metallic ores		4011-A2	12/84	107.8	105.6	105.6	-4	0
Iron ores		4011-A21	12/84	105.7	105.7	105.7	1.9	0
Coal		4011-A3	12/84	105.2	105.3	105.3	1.5	0
Bituminous coal		4011-A31	12/84	105.2	105.3	105.3	1.5	0
Non-metallic minerals		4011-A4	12/84	118.3	118.4	116.6	4.2	.2
Food products		4011-A5	12/84	108.2	107.3	106.7	3.8	1.3
Wood or lumber products		4011-A6	12/84	106.9	106.5	106.6	1.4	.1
Lumber or dimension stocks		4011-A61	12/84	105.3	105.3	104.1	-6	-1.1
Pulp, paper, or allied products		4011-A7	12/84	111.9	111.4	111.4	2.1	0
Chemical or allied products		4011-A8	12/84	113.7	113.7	113.4	1.8	-3
Potassium or sodium inorganic compounds		4011-A81	12/84	112.4	112.4	(?)	(?)	(?)
Petroleum or coal products		4011-A9	12/84	114.9	111.7	111.7	2.9	0
Clay, concrete, glass, or stone products		4011-B1	12/84	117.9	118.8	117.0	2.9	.2
Primary metal products		4011-B2	12/84	116.2	116.2	116.6	3.4	.3
Primary iron or steel products		4011-B21	12/84	111.8	111.8	112.3	3.4	.4
Transportation equipment		4011-B3	12/84	109.9	109.9	110.1	2.4	.2
Motor vehicles		4011-B31	12/84	113.0	113.1	113.6	2.3	.4
Motor vehicle parts or accessories		4011-B32	12/84	110.8	110.6	110.8	2.1	0
Waste or scrap materials		4011-B4	12/84	115.0	115.1	115.1	3.6	0
Shipper assn or similar traffic		4011-B5	12/84	100.8	100.9	100.9	1.2	0
Miscellaneous mixed shipments		4011-B6	12/84	103.5	103.9	103.9	2.1	0
United States Postal Service	43		06/89	119.5	119.5	119.5	19.5	0
United States Postal Service	4311		06/89	119.5	119.5	119.5	19.5	0
Primary services		4311-P	06/89	119.5	119.5	119.5	19.5	0
First class mail		4311-1	06/89	117.0	117.0	117.0	17.0	0
Letter mail		4311-111	06/89	116.6	116.6	116.6	16.6	0
Post cards		4311-112	06/89	126.5	126.5	126.5	26.5	0
Priority mail		4311-113	06/89	119.0	119.0	119.0	19.0	0
Second class mail		4311-2	06/89	123.6	123.6	123.6	23.6	0
In county mail		4311-211	06/89	125.2	125.2	125.2	25.2	0
Regular rate mail		4311-212	06/89	121.9	121.9	121.9	21.9	0
Nonprofit rate mail		4311-213	06/89	130.9	130.9	130.9	30.9	0
Classroom rate mail		4311-214	06/89	111.9	111.9	111.9	11.9	0
Third class mail		4311-3	06/89	127.8	127.8	127.8	27.8	0
Single piece mail		4311-311	06/89	115.5	115.5	115.5	15.5	0
Regular bulk mail		4311-312	06/89	127.6	127.6	127.6	27.6	0
Nonprofit bulk mail		4311-313	06/89	130.8	130.8	130.8	30.8	0
Fourth class mail		4311-4	06/89	115.8	115.8	115.6	15.6	0
Parcel post		4311-411	06/89	118.0	118.0	118.0	18.0	0
Bound printed matter		4311-412	06/89	106.0	106.0	106.0	6.0	0
Special rate mail		4311-413	06/89	118.5	118.5	118.5	18.5	0
Library rate mail		4311-414	06/89	102.6	102.6	102.6	2.6	0
International mail		4311-5	06/89	106.4	106.4	106.4	6.4	0
International air mail		4311-511	06/89	105.2	105.2	105.2	5.2	0
International surface mail		4311-512	06/89	123.6	123.6	123.6	23.6	0

See footnotes at end of table.

Table 5. Producer price indexes for the net output of selected industries and their products—Continued

Industry and product ¹	Industry code	Product code	Index base	Index			Unadjusted percent change to Sep 1991 from —	
				May 1991 ²	Aug 1991 ²	Sep 1991 ²	Sep 1990	Aug 1991
United States Postal Service—Continued								
Terminal dues and transit fees		4311-513	06/89	100.0	100.0	100.0	0	0
Special services and fees		4311-6	06/89	118.1	118.1	118.1	18.1	0
Special services		4311-611	06/89	121.9	121.9	121.9	21.9	0
Domestic mail fees		4311-612	06/89	99.0	99.0	99.0	-1.0	0
Other services and fees		4311-613	06/89	111.7	111.7	111.7	11.7	0
Express mail		4311-912	06/89	115.8	115.8	115.8	15.8	0
Mailgram service		4311-913	06/89	100.0	100.0	100.0	0	0
Deep sea foreign transportation of freight								
Primary services	4412		06/88	119.3	115.4	118.7	-3	1.1
Inbound liner		4412-P	06/88	118.8	116.1	117.1	.3	.9
Outbound liner		4412-1	06/88	113.8	114.0	113.3	0	-6
		4412-2	06/88	132.9	126.4	129.4	4.6	2.4
Domestic deep sea transportation of freight								
Primary services	4424		06/88	119.7	120.1	120.1	10.2	0
Noncontiguous area transportation		4424-P	06/88	119.7	120.1	120.1	10.2	0
Crude petroleum		4424-1	06/88	113.7	115.0	114.9	7.1	-1
Other noncontiguous area transportation		4424-121	06/88	114.5	116.0	115.9	8.4	-1
Coastwise transportation		4424-151	06/88	110.7	110.9	110.9	2.1	0
Refined petroleum products		4424-2	06/88	128.1	127.5	127.5	13.5	0
Other coastwise transportation		4424-241	06/88	140.8	139.9	139.9	18.3	0
Secondary and miscellaneous services		4424-251	06/88	97.8	98.0	98.0	.2	0
Secondary services		4424-SM						
		4424-S	06/88	109.6	95.2	88.1	(?)	-7.5
Water transportation of freight, n.e.c.								
Primary services	4449		12/90	94.5	99.4	104.0	(?)	4.6
Mississippi River transportation		4449-P	12/90	94.1	99.5	104.5	(?)	5.0
Farm products		4449-1	12/90	94.2	100.1	105.8	(?)	5.7
Chemicals		4449-121	12/90	78.2	117.3	153.3	(?)	30.7
Coal		4449-131	12/90	95.2	96.5	96.0	(?)	-5
Refined petroleum products		4449-141	12/90	99.0	100.0	100.6	(?)	.6
Non-metallic minerals		4449-151	12/90	101.4	100.4	101.2	(?)	.8
Other Mississippi River transportation		4449-161	12/90	83.1	91.6	99.1	(?)	8.2
Atlantic inland waterways transportation		4449-171	12/90	96.4	94.5	95.4	(?)	1.0
Pacific inland waterways transportation		4449-2	12/90	92.7	95.1	(?)	(?)	(?)
Secondary and miscellaneous services		4449-3	12/90	95.8	95.8	96.1	(?)	.3
Secondary services		4449-SM						
Deep sea domestic transportation		4449-S	12/90	98.1	98.4	98.6	(?)	.2
Other secondary services		4449-S	12/90	98.6	98.6	(?)	(?)	(?)
		4449-SSS	12/90	93.1	96.8	98.7	(?)	2.0
Air transportation, scheduled and air courier services								
Primary services	451		12/89	121.4	120.9	121.0	7.8	.1
Air transportation, scheduled								
Primary services	4512		12/89	122.6	122.0	122.2	6.6	.2
Scheduled air cargo transportation		4512-P	12/89	121.9	121.7	121.5	8.9	-2
Property		4512-1	12/87	103.2	104.0	104.0	2.1	0
Freight		4512-111	12/87	104.8	105.8	105.8	2.7	0
Express		4512-11101	12/87	103.2	104.3	104.3	2.6	0
Mail		4512-11102	12/87	136.7	136.7	136.7	7.9	0
U.S. mail		4512-112	12/87	98.8	98.7	98.7	-2	0
Scheduled air passenger transportation		4512-11201	12/87	90.7	90.6	90.6	-2	0
Domestic		4512-2	12/89	123.7	123.4	123.2	9.3	-2
First class, including business		4512-211	12/89	125.4	125.0	125.0	10.2	0
First class discount		4512-21101	12/89	116.4	116.4	117.5	6.8	.9
Coech		4512-21102	12/89	120.2	120.2	120.2	13.3	0
Coech discount		4512-21103	12/89	129.5	129.4	129.2	10.5	-2
Other receipts		4512-21104	12/89	129.0	128.3	127.8	10.6	-4
Transport-related receipts		4512-SM						
Other transport-related receipts		4512-S	12/89	131.4	127.1	131.9	5.8	3.8
		4512-SSS	12/89	140.1	134.3	140.1	6.6	4.3
Air courier services								
Primary services	4513		12/89	104.9	104.9	104.9	-2.5	0
		4513-P	12/87	106.1	106.1	106.1	-2.5	0
Pipe lines, except natural gas								
Crude petroleum pipe lines	46		12/86	96.1	96.1	96.1	-1	0
Trans-Alaskan pipe lines		4612	06/86	94.4	94.4	94.4	-2	0
Non-Trans-Alaskan pipe lines		4612-111	06/86	88.2	88.2	88.2	-6	0
		4612-121	06/86	100.9	101.0	101.0	.2	0
Refined petroleum pipe lines	4613		06/86	101.0	101.1	101.1	.1	0
Travel agencies								
Primary services	4724		12/89	114.5	115.4	111.8	3.0	-3.1
Airline arrangements		4724-P	12/89	115.3	118.3	112.5	3.2	-3.3
Domestic flights		4724-1	12/89	122.8	126.5	119.6	4.5	-5.5
International flights		4724-111	12/89	120.5	120.8	118.2	4.5	-2.2
Other travel arrangements, except airline		4724-112	12/89	129.4	145.0	124.4	4.6	-14.2
Hotel bookings		4724-2	12/89	101.4	96.5	96.7	0	2.3
Car rental arrangements		4724-211	12/89	109.6	102.4	104.1	.9	1.7
		4724-212	12/89	82.4	83.1	83.7	2.9	.6

See footnotes at end of table.

Table 5. Producer price indexes for the net output of selected industries and their products—Continued

Industry and product ¹	Industry code	Product code	Index base	Index			Unadjusted percent change to Sep. 1991 from —	
				May 1991 ²	Aug. 1991 ²	Sep. 1991 ²	Sep. 1990	Aug. 1991
Travel agencies—Continued								
Cruise bookings		4724-213	12/89	101.0	94.5	98.1	0.2	3.8
Tour bookings		4724-214	12/89	100.6	96.0	97.7	-3.1	1.8
Secondary services and miscellaneous receipts		4724-SM						
Secondary services		4724-S	12/89	(?)	(?)	(?)	(?)	(?)
Tour operation		4725-S	12/89	(?)	(?)	(?)	(?)	(?)
Tour operators	4725		12/89	103.8	100.7	100.9	-2.0	.2
Primary services		4725-P	12/89	102.4	99.3	99.4	-2.4	.1
Tour operation		4725-1	12/89	102.4	99.3	99.4	-2.4	.1
Domestic tours, including Canada and Mexico		4725-101	12/89	103.7	98.8	98.9	-3.5	.1
Foreign tours		4725-102	12/89	100.0	100.2	100.2	-5	0
Secondary services and miscellaneous receipts		4725-SM						
Secondary services		4725-S	12/89	121.7	118.1	119.8	1.3	1.4
Travel agency services		4724-S	12/89	121.7	118.1	119.8	1.3	1.4
Radio broadcasting	4832		06/88	109.9	110.6	110.5	-.4	-.1
Primary services		4832-P	06/88	109.9	110.6	110.5	-.4	-.1
Local station commercial advertising		4832-1	06/88	111.8	112.5	112.5	.5	0
Commercials sold by daypart		4832-101	06/88	106.8	106.8	106.9	-.6	.1
Morning drive		4832-10111	06/88	103.9	103.9	104.0	.1	.1
Midday		4832-10112	06/88	117.2	117.2	117.6	-1.4	.3
Afternoon drive		4832-10113	06/88	103.5	103.8	103.9	.8	.1
Evening		4832-10114	06/88	98.8	98.4	98.4	-1.7	0
Commercials sold in package plans		4832-103	06/88	120.5	122.4	122.0	2.0	-.3
Other local station services		4832-2	06/88	99.1	99.1	99.1	.4	0
Electric power and natural gas utilities	4961		12/90	103.4	107.9	106.0	(?)	.1
Primary products		4961-P	12/90	103.1	107.5	107.7	(?)	.2
Electric power		4961-1	12/90	105.4	111.6	111.6	(?)	0
Sales to ultimate consumers		4961-1A	12/90	105.4	111.6	111.6	(?)	0
Residential		4961-11	12/90	104.2	109.5	109.7	(?)	.2
New England		4961-111	12/90	96.1	99.2	101.1	(?)	1.9
Investor owned utilities		4961-11131	12/90	95.7	99.3	101.3	(?)	2.0
Non-investor owned utilities		4961-11141	12/90	101.1	99.0	99.5	(?)	.5
Middle Atlantic		4961-112	12/90	101.8	104.6	105.5	(?)	.9
Investor owned utilities		4961-11231	12/90	102.0	104.7	105.6	(?)	.9
Non-investor owned utilities		4961-11241	12/90	90.4	95.7	95.0	(?)	-.7
East North Central		4961-113	12/90	111.4	116.5	116.2	(?)	-.3
Investor owned utilities		4961-11331	12/90	112.0	117.1	116.8	(?)	-.3
Non-investor owned utilities		4961-11341	12/90	100.1	102.4	103.1	(?)	.7
West North Central		4961-114	12/90	100.3	119.9	118.8	(?)	-.9
Investor owned utilities		4961-11431	12/90	100.4	122.8	121.4	(?)	-1.1
Non-investor owned utilities		4961-11441	12/90	99.9	106.3	106.8	(?)	.5
South Atlantic		4961-115	12/90	100.6	108.9	109.4	(?)	.5
Investor owned utilities		4961-11531	12/90	100.6	109.6	110.1	(?)	.5
Non-investor owned utilities		4961-11541	12/90	100.9	102.8	102.1	(?)	-.7
East South Central		4961-116	12/90	101.3	102.2	102.0	(?)	-.2
Investor owned utilities		4961-11631	12/90	102.0	103.4	103.1	(?)	-.3
Non-investor owned utilities		4961-11641	12/90	100.0	100.0	100.0	(?)	0
West South Central		4961-117	12/90	111.9	116.2	118.4	(?)	.2
Investor owned utilities		4961-11731	12/90	113.6	118.1	118.2	(?)	.1
Non-investor owned utilities		4961-11741	12/90	98.8	101.2	102.2	(?)	1.0
Mountain		4961-118	12/90	101.5	106.8	106.9	(?)	.1
Investor owned utilities		4961-11831	12/90	102.6	102.0	102.1	(?)	.1
Non-investor owned utilities		4961-11841	12/90	97.0	125.7	125.8	(?)	.1
Pacific		4961-119	12/90	104.3	104.3	104.2	(?)	-.1
Investor owned utilities		4961-11931	12/90	105.1	105.0	104.9	(?)	-.1
Non-investor owned utilities		4961-11941	12/90	101.8	102.2	102.0	(?)	-.2
Commercial		4961-12	12/90	105.5	114.5	114.4	(?)	9.4
New England		4961-121	12/90	93.3	103.6	104.4	(?)	2.1
Investor owned utilities		4961-12131	12/90	92.8	103.7	104.5	(?)	.8
Non-investor owned utilities		4961-12141	12/90	102.1	102.8	101.6	(?)	-1.2
Middle Atlantic		4961-122	12/90	100.5	110.9	110.8	(?)	4.9
Investor owned utilities		4961-12231	12/90	100.7	111.2	111.1	(?)	-.1
Non-investor owned utilities		4961-12241	12/90	78.0	77.9	79.5	(?)	2.1
East North Central		4961-123	12/90	106.6	111.7	111.3	(?)	1.4
Investor owned utilities		4961-12331	12/90	106.9	112.3	111.8	(?)	-.4
Non-investor owned utilities		4961-12341	12/90	102.0	103.4	104.2	(?)	.8
West North Central		4961-124	12/90	100.0	115.9	114.2	(?)	-1
Investor owned utilities		4961-12431	12/90	100.0	118.5	118.4	(?)	-1.8
Non-investor owned utilities		4961-12441	12/90	99.9	105.5	105.8	(?)	.3
South Atlantic		4961-125	12/90	100.5	105.5	106.0	(?)	6.6
Investor owned utilities		4961-12531	12/90	100.5	106.1	106.7	(?)	.6
Non-investor owned utilities		4961-12541	12/90	100.6	101.6	101.2	(?)	-.4
East South Central		4961-126	12/90	100.1	101.8	101.8	(?)	.6
Investor owned utilities		4961-12631	12/90	100.1	102.4	102.4	(?)	0
Non-investor owned utilities		4961-12641	12/90	100.0	100.0	100.0	(?)	0
West South Central		4961-127	12/90	107.3	115.2	115.1	(?)	2.9
Investor owned utilities		4961-12731	12/90	106.5	117.5	117.5	(?)	0

See footnotes at end of table.

Table 5. Producer price indexes for the net output of selected industries and their products—Continued

Industry and product ¹	Industry code	Product code	Index base	Index			Unadjusted percent change to Sep. 1991 from —	
				May 1991 ²	Aug. 1991 ²	Sep. 1991 ²	Sep. 1990	Aug. 1991
Electric power and natural gas utilities—Continued								
Non-investor owned utilities		4981-12741	12/90	99.0	99.5	98.9	(?)	-0.6
Mountain		4981-128	12/90	100.3	103.2	103.7	0.5	.5
Investor owned utilities		4981-12831	12/90	100.7	99.7	100.4	(?)	.7
Non-investor owned utilities		4981-12841	12/90	97.9	120.6	120.5	(?)	-1
Pacific		4981-129	12/90	121.1	136.4	136.3	38.1	-1
Investor owned utilities		4981-12931	12/90	126.4	145.6	145.5	(?)	-1
Non-investor owned utilities		4981-12941	12/90	100.3	100.7	100.7	(?)	0
Industrial		4981-13	12/90	107.8	112.5	112.4	6.9	-1
New England		4981-131	12/90	94.4	102.8	103.5	9.1	.7
Investor owned utilities		4981-13131	12/90	93.2	103.0	103.9	(?)	.9
Non-investor owned utilities		4981-13141	12/90	101.6	101.5	100.9	(?)	-6
Middle Atlantic		4981-132	12/90	103.3	109.9	110.1	8.6	.2
Investor owned utilities		4981-13231	12/90	103.4	110.2	110.4	(?)	.2
Non-investor owned utilities		4981-13241	12/90	100.9	(?)	101.0	(?)	(?)
East North Central		4981-133	12/90	116.0	121.4	120.9	14.9	-4
Investor owned utilities		4981-13331	12/90	116.9	122.5	122.0	(?)	-4
Non-investor owned utilities		4981-13341	12/90	87.6	99.1	100.7	(?)	1.6
West North Central		4981-134	12/90	99.8	111.6	108.9	-13.3	-2.4
Investor owned utilities		4981-13431	12/90	99.9	113.2	109.7	(?)	-3.1
Non-investor owned utilities		4981-13441	12/90	99.0	103.7	104.5	(?)	.8
South Atlantic		4981-135	12/90	100.8	108.4	108.9	-1.9	.5
Investor owned utilities		4981-13531	12/90	100.9	109.2	109.8	(?)	.5
Non-investor owned utilities		4981-13541	12/90	100.4	101.1	101.0	(?)	-1
East South Central		4981-136	12/90	100.5	101.3	101.3	1.0	0
Investor owned utilities		4981-13631	12/90	101.2	102.9	102.9	(?)	0
Non-investor owned utilities		4981-13641	12/90	100.0	100.0	100.0	(?)	0
West South Central		4981-137	12/90	109.2	111.8	111.2	2.4	-5
Investor owned utilities		4981-13731	12/90	110.5	113.2	112.4	(?)	-7
Non-investor owned utilities		4981-13741	12/90	96.7	98.1	99.8	(?)	1.7
Mountain		4981-138	12/90	96.5	97.5	97.3	-6.1	-2
Investor owned utilities		4981-13831	12/90	99.1	93.9	93.7	(?)	-2
Non-investor owned utilities		4981-13841	12/90	94.9	118.7	118.8	(?)	.1
Pacific		4981-139	12/90	120.8	122.9	123.1	24.8	.2
Investor owned utilities		4981-13931	12/90	126.0	133.8	133.7	(?)	-1
Non-investor owned utilities		4981-13941	12/90	104.3	98.1	98.9	(?)	.8
Other ultimate consumers		4981-14	12/90	100.3	103.8	104.1	(?)	.3
New England		4981-141	12/90	98.8	100.6	101.0	(?)	.4
Investor owned utilities		4981-14131	12/90	98.4	100.1	100.8	(?)	.7
Non-investor owned utilities		4981-14141	12/90	100.6	103.1	102.0	(?)	-1.1
Middle Atlantic		4981-142	12/90	86.2	87.7	89.2	(?)	1.7
Investor owned utilities		4981-14231	12/90	100.0	102.6	103.8	(?)	1.0
Non-investor owned utilities		4981-14241	12/90	72.6	73.0	74.9	(?)	2.6
East North Central		4981-143	12/90	115.1	118.2	117.6	(?)	-5
Investor owned utilities		4981-14331	12/90	115.6	118.9	118.3	(?)	-5
Non-investor owned utilities		4981-14341	12/90	102.0	103.4	103.7	(?)	.3
West North Central		4981-144	12/90	101.8	104.3	103.9	(?)	-4
Investor owned utilities		4981-14431	12/90	102.6	105.0	104.2	(?)	-8
Non-investor owned utilities		4981-14441	12/90	99.7	103.0	103.2	(?)	.2
South Atlantic		4981-145	12/90	100.0	106.0	107.4	(?)	1.3
Investor owned utilities		4981-14531	12/90	99.9	106.3	107.6	(?)	1.4
Non-investor owned utilities		4981-14541	12/90	101.4	103.2	103.2	(?)	0
East South Central		4981-146	12/90	99.9	105.0	104.9	(?)	-1
Investor owned utilities		4981-14631	12/90	99.9	107.1	107.1	(?)	0
Non-investor owned utilities		4981-14641	12/90	100.0	100.0	100.0	(?)	0
West South Central		4981-147	12/90	104.1	105.3	104.5	(?)	-8
Investor owned utilities		4981-14731	12/90	104.8	106.6	105.7	(?)	-8
Non-investor owned utilities		4981-14741	12/90	97.8	92.6	92.1	(?)	-5
Mountain		4981-148	12/90	101.8	104.3	104.4	(?)	.1
Investor owned utilities		4981-14831	12/90	103.1	102.8	102.9	(?)	.1
Non-investor owned utilities		4981-14841	12/90	98.4	108.3	108.3	(?)	0
Pacific		4981-149	12/90	97.7	104.3	104.2	(?)	-1
Investor owned utilities		4981-14931	12/90	107.3	121.1	121.0	(?)	-1
Non-investor owned utilities		4981-14941	12/90	89.2	89.5	89.5	(?)	0
Natural gas		4981-2	12/90	95.9	94.8	95.4	(?)	.6
Sales to ultimate consumers		4981-2A	12/90	95.9	94.8	95.4	(?)	.6
Residential		4981-21	12/90	99.8	98.1	98.8	(?)	.7
New England		4981-211	12/90	85.5	85.9	86.5	(?)	.7
Investor owned utilities		4981-21131	12/90	86.3	85.7	86.3	(?)	.7
Middle Atlantic		4981-212	12/90	98.9	98.0	98.8	(?)	.8
Investor owned utilities		4981-21231	12/90	98.8	97.9	98.7	(?)	.8
East North Central		4981-213	12/90	96.7	93.8	93.6	(?)	0
Investor owned utilities		4981-21331	12/90	96.5	93.3	93.3	(?)	0
West North Central		4981-214	12/90	92.9	90.2	95.0	(?)	5.3
Investor owned utilities		4981-21431	12/90	92.9	91.1	95.8	(?)	5.2
Non-investor owned utilities		4981-21441	12/90	92.8	90.5	95.2	(?)	5.8
South Atlantic		4981-215	12/90	95.7	90.7	91.8	(?)	1.2
Investor owned utilities		4981-21531	12/90	95.6	89.9	91.3	(?)	1.6
Non-investor owned utilities		4981-21541	12/90	97.2	96.8	97.6	(?)	-1.0
East South Central		4981-216	12/90	97.1	95.3	94.3	(?)	-1.0

See footnotes at end of table.

Table 5. Producer price indexes for the net output of selected industries and their products—Continued

Industry and product ¹	Industry code	Product code	Index base	Index			Unadjusted percent change to Sep. 1991 from —	
				May 1991 ²	Aug 1991 ²	Sep. 1991 ²	Sep. 1990	Aug 1991
Electric power and natural gas utilities—Continued								
Investor owned utilities		4981-21631	12/90	95.4	94.1	92.1	(?)	-2.1
Non-investor owned utilities		4981-21641	12/90	101.5	98.6	100.0	(?)	1.4
West South Central		4981-217	12/90	92.0	92.9	93.5	(?)	.6
Investor owned utilities		4981-21731	12/90	92.4	92.6	92.9	(?)	.3
Non-investor owned utilities		4981-21741	12/90	88.6	95.4	99.6	(?)	4.4
Mountain		4981-218	12/90	99.1	99.6	99.6	(?)	0
Investor owned utilities		4981-21831	12/90	99.2	99.6	99.6	(?)	0
Non-investor owned utilities		4981-21841	12/90	98.8	98.8	99.2	(?)	.4
Pacific		4981-219	12/90	127.0	127.2	127.2	(?)	0
Investor owned utilities		4981-21931	12/90	127.2	127.3	127.3	(?)	0
Commercial		4981-22	12/90	93.7	92.8	93.2	(?)	.6
New England		4981-221	12/90	86.0	85.4	86.0	(?)	.7
Investor owned utilities		4981-22131	12/90	85.7	85.1	85.8	(?)	.8
Middle Atlantic		4981-222	12/90	98.2	98.3	96.7	(?)	-1.6
Investor owned utilities		4981-22231	12/90	98.2	98.3	96.7	(?)	-1.6
East North Central		4981-223	12/90	95.2	92.3	92.3	(?)	0
Investor owned utilities		4981-22331	12/90	95.1	92.0	92.0	(?)	0
Non-investor owned utilities		4981-22341	12/90	101.2	101.2	101.2	(?)	0
West North Central		4981-224	12/90	90.2	87.8	93.1	(?)	6.0
Investor owned utilities		4981-22431	12/90	89.9	87.7	93.1	(?)	6.2
Non-investor owned utilities		4981-22441	12/90	94.7	89.3	92.7	(?)	3.8
South Atlantic		4981-225	12/90	92.9	90.6	92.6	(?)	2.2
Investor owned utilities		4981-22531	12/90	92.6	90.1	92.3	(?)	2.4
Non-investor owned utilities		4981-22541	12/90	96.8	97.0	96.0	(?)	-1.0
East South Central		4981-226	12/90	95.4	95.6	95.3	(?)	-.3
Investor owned utilities		4981-22631	12/90	92.5	94.1	92.7	(?)	-1.5
Non-investor owned utilities		4981-22641	12/90	101.2	98.6	100.8	(?)	2.2
West South Central		4981-227	12/90	90.0	92.3	92.9	(?)	.7
Investor owned utilities		4981-22731	12/90	90.4	92.2	92.4	(?)	.2
Non-investor owned utilities		4981-22741	12/90	85.3	93.3	98.4	(?)	5.5
Mountain		4981-228	12/90	99.6	99.9	100.1	(?)	.2
Investor owned utilities		4981-22831	12/90	99.7	100.0	100.2	(?)	.2
Non-investor owned utilities		4981-22841	12/90	98.5	98.5	99.1	(?)	.6
Pacific		4981-229	12/90	89.7	88.9	89.6	(?)	.8
Investor owned utilities		4981-22931	12/90	89.6	88.7	89.5	(?)	.9
Industrial		4981-23	12/90	91.5	90.8	91.4	(?)	.7
New England		4981-231	12/90	80.6	81.4	82.2	(?)	1.0
Investor owned utilities		4981-23131	12/90	80.7	81.6	82.5	(?)	1.1
Middle Atlantic		4981-232	12/90	95.6	96.8	93.1	(?)	-3.8
Investor owned utilities		4981-23231	12/90	96.5	97.7	93.9	(?)	-3.9
East North Central		4981-233	12/90	92.3	87.7	88.3	(?)	.7
Investor owned utilities		4981-23331	12/90	92.1	87.4	88.0	(?)	.7
West North Central		4981-234	12/90	85.0	85.2	87.9	(?)	3.2
Investor owned utilities		4981-23431	12/90	85.1	85.8	88.3	(?)	2.9
Non-investor owned utilities		4981-23441	12/90	83.5	72.1	78.2	(?)	8.5
South Atlantic		4981-235	12/90	89.0	89.5	91.0	(?)	1.7
Investor owned utilities		4981-23531	12/90	88.5	89.5	91.3	(?)	2.0
Non-investor owned utilities		4981-23541	12/90	92.4	89.7	88.9	(?)	-.9
East South Central		4981-236	12/90	91.0	87.1	87.7	(?)	.7
Investor owned utilities		4981-23631	12/90	88.8	84.7	84.2	(?)	-.6
Non-investor owned utilities		4981-23641	12/90	95.3	91.9	94.5	(?)	2.8
West South Central		4981-237	12/90	96.0	97.1	97.4	(?)	.3
Investor owned utilities		4981-23731	12/90	96.1	97.2	97.5	(?)	.3
Non-investor owned utilities		4981-23741	12/90	80.6	90.4	96.5	(?)	6.7
Mountain		4981-238	12/90	98.5	98.9	98.9	(?)	0
Investor owned utilities		4981-23831	12/90	98.5	98.8	98.9	(?)	.1
Non-investor owned utilities		4981-23841	12/90	100.0	100.2	100.0	(?)	-.2
Pacific		4981-239	12/90	88.1	86.3	87.9	(?)	1.9
Non-investor owned utilities		4981-23941	12/90	88.1	86.3	87.9	(?)	1.9
Electric utilities		4981-24	12/90	89.1	90.1	90.6	(?)	.6
Middle Atlantic		4981-242	12/90	65.5	64.6	68.4	(?)	5.9
Investor owned utilities		4981-24231	12/90	65.5	64.6	68.4	(?)	5.9
East North Central		4981-243	12/90	99.5	93.4	103.4	(?)	10.7
Investor owned utilities		4981-24331	12/90	99.4	93.0	103.3	(?)	11.1
West North Central		4981-244	12/90	80.0	79.0	88.6	(?)	12.2
Investor owned utilities		4981-24431	12/90	87.6	88.2	96.8	(?)	9.8
Non-investor owned utilities		4981-24441	12/90	88.7	85.3	76.3	(?)	16.8
East South Central		4981-246	12/90	108.9	85.4	79.0	(?)	-7.5
Mountain		4981-248	12/90	98.8	96.6	96.6	(?)	0
Pacific		4981-249	12/90	83.3	83.0	83.1	(?)	.1
Investor owned utilities		4981-24931	12/90	83.6	83.6	83.6	(?)	0
Other ultimate consumers		4981-25	12/90	93.0	89.3	89.5	(?)	-.2
New England		4981-251	12/90	89.4	89.2	89.1	(?)	-.1
Middle Atlantic		4981-252	12/90	103.7	99.9	99.4	(?)	-.5
Investor owned utilities		4981-25231	12/90	103.7	99.9	99.4	(?)	-.5
East North Central		4981-253	12/90	98.8	97.7	92.5	(?)	-5.3
Investor owned utilities		4981-25331	12/90	98.7	97.6	92.3	(?)	-5.4
West North Central		4981-254	12/90	93.5	90.5	97.0	(?)	7.2
Investor owned utilities		4981-25431	12/90	92.8	92.4	99.5	(?)	7.7

See footnotes at end of table

Table 5. Producer price indexes for the net output of selected industries and their products—Continued

Industry and product ¹	Industry code	Product code	Index base	Index			Unadjusted percent change to Sep. 1991 from —	
				May 1991 ²	Aug 1991 ²	Sep. 1991 ²	Sep. 1990	Aug 1991
Electric power and natural gas utilities—Continued								
Non-investor owned utilities		4981-25441	12/90	98.3	75.2	78.1	(?)	2.5
South Atlantic		4981-255	12/90	103.1	93.9	93.8	(?)	-1
Investor owned utilities		4981-25531	12/90	103.7	91.8	92.2	(?)	.4
Non-investor owned utilities		4981-25541	12/90	101.3	100.7	98.9	(?)	-1.8
East South Central		4981-256	12/90	96.6	93.3	90.3	(?)	-3.2
Investor owned utilities		4981-25631	12/90	95.7	91.6	87.4	(?)	-4.6
Non-investor owned utilities		4981-25641	12/90	99.2	98.5	99.4	(?)	.9
West South Central		4981-257	12/90	77.5	79.3	82.4	(?)	3.9
Investor owned utilities		4981-25731	12/90	77.2	79.1	82.2	(?)	3.9
Non-investor owned utilities		4981-25741	12/90	100.0	100.0	100.0	(?)	0
Mountain		4981-258	12/90	99.0	99.8	99.6	(?)	-2
Investor owned utilities		4981-25831	12/90	98.2	99.2	99.2	(?)	0
Non-investor owned utilities		4981-25841	12/90	100.2	100.7	100.1	(?)	-6
Pacific		4981-259	12/90	74.3	68.8	73.5	(?)	6.8
Investor owned utilities		4981-25931	12/90	74.3	68.8	73.5	(?)	6.8
Delivered to ultimate consumers for the account of others (transportation only)								
Commercial consumer		4981-26	12/90	95.8	95.6	95.8	(?)	.2
Investor owned utilities		4981-261	12/90	162.0	157.6	146.2	(?)	-7.2
Industrial consumer		4981-26111	12/90	165.1	160.5	148.5	(?)	-7.5
Investor owned utilities		4981-262	12/90	93.5	93.8	94.5	(?)	.7
Non-investor owned utilities		4981-26211	12/90	93.4	93.6	94.4	(?)	.6
Electric utilities		4981-26212	12/90	97.1	95.6	100.3	(?)	4.9
Investor owned utilities		4981-263	12/90	106.1	106.1	104.8	(?)	-1.2
Other consumers		4981-26311	12/90	106.1	106.1	104.8	(?)	-1.2
Investor owned utilities		4981-264	12/90	101.9	97.9	96.1	(?)	-1.8
Investor owned utilities		4981-26411	12/90	101.9	97.9	96.1	(?)	-1.8
Utility products and services, other than distribution and transportation								
Secondary products and miscellaneous receipts		4981-3	12/90	101.7	102.2	102.2	(?)	0
Miscellaneous receipts		4981-SM						
Miscellaneous receipts		4981-M	12/90	101.1	101.2	101.2	(?)	0
Scrap and waste materials								
Primary products	5093	5093-P	12/86	127.8	121.7	121.8	-17.0	.1
Metal scrap		5093-A	12/86	128.4	122.5	122.6	-17.2	.1
Ferrous scrap		5093-1	12/86	144.6	139.4	139.8	-18.3	.3
Carbon steel scrap		5093-11	12/86	138.5	134.4	136.5	-16.0	1.6
Heavy melting scrap		5093-111	12/86	135.7	133.1	137.0	-14.8	2.9
Heavy melting scrap - domestic shipments		5093-1111	12/86	131.2	129.5	131.8	-14.4	1.8
Northeast		5093-11112	12/86	130.6	130.3	132.5	-14.6	1.7
Chicago		5093-11113	12/86	140.1	130.4	131.0	-19.4	.5
Ohio and Lake Erie		5093-11114	12/86	125.2	123.9	127.7	-17.7	3.1
South		5093-11115	12/86	(?)	(?)	(?)	(?)	(?)
West		5093-11116	12/86	140.1	134.5	143.5	-15.0	6.7
Bundles		5093-112	12/86	141.7	(?)	132.7	-15.8	(?)
Bundles - domestic shipments		5093-112D	12/86	130.1	124.1	130.7	-15.7	5.3
Northeast		5093-11212	12/86	131.3	128.7	135.5	-13.7	5.3
Chicago		5093-11213	12/86	151.1	146.0	146.9	-7.1	.6
Ohio and Lake Erie		5093-11214	12/86	119.9	119.9	122.9	-15.0	2.5
Shredded scrap		5093-113	12/86	124.7	128.9	129.9	-14.6	.8
Shredded scrap - domestic shipments		5093-113D	12/86	118.4	112.9	114.0	-17.9	1.0
South		5093-11315	12/86	116.0	109.2	110.3	-15.9	1.0
Cut plate and structural scrap		5093-114	12/86	132.9	124.3	128.2	-15.0	3.1
Cut plate and structural scrap - domestic shipments		5093-114D	12/86	130.4	127.4	128.2	-14.1	.6
Northeast		5093-11412	12/86	130.0	124.0	124.8	-13.5	.6
South		5093-11415	12/86	116.2	113.6	116.9	-18.4	2.9
Other carbon steel scrap		5093-115	12/86	172.0	175.9	183.4	-13.0	4.3
Other carbon steel scrap - domestic shipments		5093-115D	12/86	155.8	159.3	166.1	-13.0	4.3
Stainless and alloy steel scrap		5093-12	12/86	186.6	176.5	161.1	-25.9	-8.7
Stainless and alloy steel scrap - domestic shipments		5093-121D	12/86	176.6	169.9	151.6	-28.0	-10.8
Cast iron scrap		5093-13	12/86	126.7	115.4	116.6	-15.2	1.0
Cast iron scrap - domestic shipments		5093-131D	12/86	128.9	117.4	118.7	-15.2	1.1
Northeast		5093-13112	12/86	122.6	118.6	117.9	-9.0	-6
Chicago		5093-13113	12/86	(?)	(?)	(?)	(?)	(?)
Ohio and Lake Erie		5093-13114	12/86	120.9	120.1	120.1	-4.7	0
West		5093-13116	12/86	139.6	(?)	(?)	(?)	(?)
Nonferrous scrap		5093-2	12/86	152.9	146.2	144.2	-21.2	-1.4
Aluminum scrap		5093-21	12/86	120.9	118.4	116.5	-24.9	-1.6
Aluminum scrap - domestic shipments		5093-21D	12/86	116.2	114.7	112.5	-23.9	-1.9
Aluminum scrap - new		5093-211	12/86	115.3	114.3	113.1	-20.6	-1.0
Solids and clippings		5093-21111	12/86	114.1	114.4	112.7	-20.6	-1.5
Aluminum scrap - old		5093-212	12/86	117.5	115.2	111.7	-27.7	-3.0
Used cans		5093-21211	12/86	114.1	114.1	111.5	-29.5	-2.3
Other old scrap		5093-21212	12/86	124.1	117.3	112.1	-23.8	-4.4
Copper and brass scrap		5093-22	12/86	184.4	174.0	172.4	-16.9	-9
Copper and brass scrap - domestic shipments		5093-22D	12/86	182.6	172.0	170.4	-16.7	-9
No. 1 heavy wire		5093-221	12/86	154.5	152.9	154.6	-15.7	1.1
No. 2 wire, mixed		5093-222	12/86	187.7	186.7	185.1	-15.7	-9
Other copper and brass scrap		5093-224	12/86	189.7	(?)	168.2	-17.0	(?)
Copper and brass scrap - export shipments		5093-22E	12/86	202.6	194.3	192.2	-18.4	-1.1

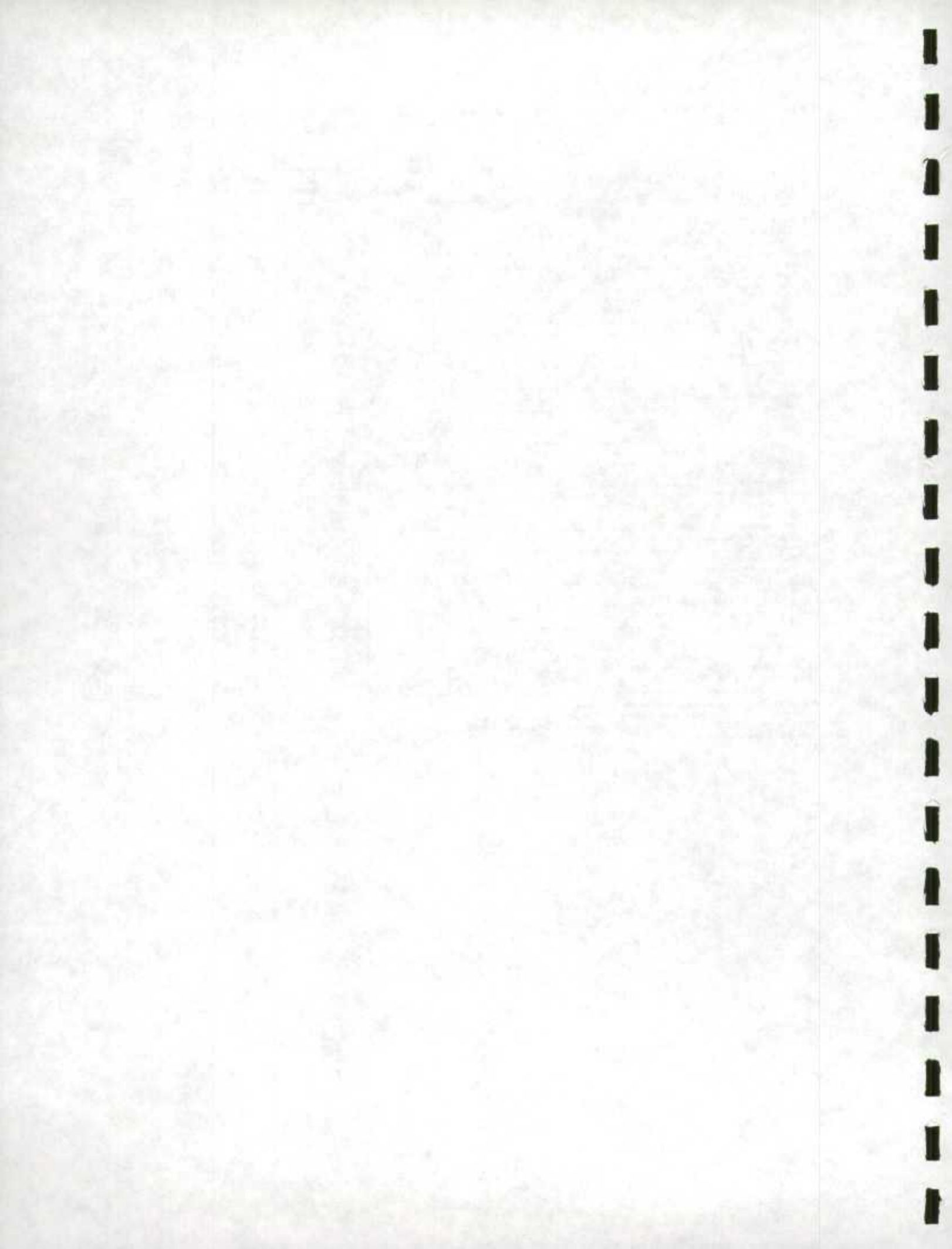
See footnotes at end of table

Table 5. Producer price indexes for the net output of selected industries and their products—Continued

Industry and product ¹	Industry code	Product code	Index base	Index			Unadjusted percent change to Sep. 1991 from —	
				May 1991 ²	Aug. 1991 ²	Sep. 1991 ²	Sep. 1990	Aug. 1991
Scrap and waste materials—Continued								
Lead scrap		5093-23	12/86	129.3	117.8	116.1	-39.4	-1.4
Lead scrap - domestic shipments		5093-231D	12/86	129.3	117.8	116.1	-39.4	-1.4
Waste paper		5093-B	12/86	81.1	70.8	70.3	-14.6	-7
Corrugated		5093-51	12/86	65.7	55.5	57.1	-7.2	2.9
Northeast		5093-511	12/86	31.1	27.7	27.7	-46.1	0
North Central		5093-512	12/86	81.3	66.5	69.5	14.1	4.5
South		5093-513	12/86	74.1	68.2	71.1	-7.2	4.3
West		5093-514	12/86	82.3	85.6	85.1	2.5	-8
News		5093-52	12/86	53.4	41.9	41.0	-8.9	-2.1
Northeast		5093-521	12/86	29.9	25.5	25.5	-5.2	0
North central		5093-522	12/86	62.1	42.3	39.2	-25.0	-7.3
South		5093-523	12/86	71.3	62.2	62.2	-14.1	0
West		5093-524	12/86	85.1	86.9	86.9	28.9	0
Mixed papers		5093-53	12/86	54.5	41.6	38.4	-35.8	-7.7
Northeast		5093-531	12/86	11.1	10.8	10.8	-2.7	0
North central		5093-532	12/86	79.9	59.1	49.1	-42.4	-16.9
South		5093-533	12/86	64.4	63.1	67.0	-16.6	6.2
West		5093-534	12/86	75.0	19.8	19.8	-73.5	0
High grades: pulp substitutes and denking		5093-54	12/86	100.4	91.8	89.9	-18.9	-2.1
Northeast		5093-541	12/86	85.3	76.9	75.8	-20.1	-1.4
North central		5093-542	12/86	102.4	95.5	92.9	-19.7	-2.7
South		5093-543	12/86	128.4	114.3	113.5	-18.8	-7
West		5093-544	12/86	122.2	110.1	106.8	-6.0	-3.0
Waste paper exports		5093-55	12/86	101.0	85.1	84.1	-10.1	-1.2
Waste paper exports		5093-551	12/86	101.0	85.1	84.1	-10.1	-1.2
Waste materials other than metal and paper		5093-C	12/86	111.1	108.3	108.1	-10.7	-2
Waste rags and textile waste		5093-6	12/86	110.7	110.7	110.7	-11.9	0
Waste rags and textile waste		5093-611	12/86	110.7	110.7	110.7	-11.9	0
Wiping cloths		5093-7	12/86	102.2	102.2	102.2	1.4	0
Wiping cloths		5093-711	12/86	102.2	102.2	102.2	1.4	0
Other waste materials and scrap, including rubber scrap and oil waste		5093-8	12/86	122.3	112.6	111.9	-15.1	-6
Other waste materials and scrap, including rubber scrap and oil waste		5093-811	12/86	122.3	112.6	111.9	-15.1	-6
Truck rental and leasing, without drivers	7513		06/91	(?)	101.2	100.8	(?)	-4
Primary services		7513-P	06/91	(?)	101.7	101.2	(?)	-5
Truck rentals		7513-1	06/91	(?)	103.9	101.7	(?)	-2.1
Truck leases		7513-2	06/91	(?)	100.6	101.0	(?)	.4
Trucks		7513-211	06/91	(?)	101.2	102.1	(?)	.9
Truck trailers and semitrailers		7513-213	06/91	(?)	100.1	100.1	(?)	0
Secondary services and miscellaneous receipts		7513-SM						
Miscellaneous receipts		7513-M	06/91	(?)	97.0	97.2	(?)	.2

¹ Industry and product class indexes may include products not shown separately.
² Data for May 1991 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication. Data are not seasonally adjusted.

³ Not available.
⁴ Seasonal product—no price available this month.
n.e.c. = Not elsewhere classified.



INVENTORY OF ECONOMIC SURVEYS

SURVEY PROFILE

Note: Economic census coverage of local and interurban passenger transit; transportation by air; pipelines; communications; and electric, gas, and sanitary services is new for the 1992 reference year. Many details are still under development.

Survey Title: Census of Transportation, Communications, and Utilities

Purpose: To provide detailed industry and geographic area statistics on establishments classified in transportation, communications, and utilities, Division E of the Standard Industrial Classification (SIC).

Respondents: Domestic operating establishments classified in transportation, communications, and utilities. Details of industry coverage are under development.

Data Collection Methods: Mail canvass supplemented by data from Federal administrative records. Data collection details are under development.

Frequency: 5 years (covering years ending in "2" and "7")

Sponsorship: Authorized by Title 13, United States Code, Section 131. Section 224 of the same statute makes reporting mandatory.

Contents: Basic statistics include current dollar measures of revenue, annual payroll, and first quarter payroll; number of establishments; and number of employees for pay period including March 12. Other content is under development.

Products: Reports will include Geographic Area Series and Subject Series reports. Details are under development.

Users and Uses:

Users:

Federal Agencies:

Bureau of Economic Analysis
Urban Mass Transit Authority
Department of Transportation,
Office of Economic Analysis

Uses:

Benchmarking GNP estimates and
input-output tables
Statistical research, benchmarking
employment by industry
Statistical research

Private Sector:

American Trucking Association
American Society of Travel Agents
National Waterways Conference
American Waterworks Association
United Bus Owners of America

Statistical and economic research,
market analysis, and publicity
for all these groups. Dozens of
others use information.

Unique Features:

- Basic statistics suitable for use as benchmarks, since they are based on a complete enumeration and are free of sampling error
- Only source of detailed industry statistics for geographic areas

1992 CENSUS OF TRANSPORTATION, COMMUNICATIONS, AND UTILITIES SCOPE EXPANSION

I. Introduction

There is great interest in the service sector of our economy. The services industries make up a major part of the economy and are growing. This growth coupled with the recent trend toward deregulation of many of its component industries, has brought to the forefront a need for more measurement of services. To that end, the Bureau of the Census has sought to expand the scope of the Economic Censuses. A portion of this expansion is within the transportation, communications, and utilities areas.

For 1987, the Census of Transportation included the motor freight and warehousing, water transportation, and transportation service industries.

For 1992, we investigated the inclusion of all industries, except the Federal Postal system, within Division E of the Standard Industrial Classification (SIC) Manual. This review included research on currently available statistics and the need for data, as well as the reportability of requested data. This paper summarized the recommendations regarding this research.

II. Railroad Transportation (SIC Major Group 40)

This industry includes line-haul railroads providing interurban passenger and freight operations and related terminal facilities. National data on the railroad industry are available from the Association of American Railroads (AAR). The AAR receives data from the Interstate Commerce Commission (ICC) for the large rail companies and supplements it with their own surveys of smaller companies. Due to the regional dominance within the railroad industry, most of the subnational data which would be collected for this industry in the censuses would likely be withheld due to the confidentiality provisions of Title 13 of the U.S. Code (the section authorizing the Economic Censuses). For this reason, we have recommended excluding this major group from the 1992 Economic Censuses. We do plan to include the data from AAR publications in U.S. tables with appropriate citations as to the source.

III. Local and Suburban Transit and Interurban Highway Passenger Transportation (SIC Major Group 41)

This industry includes transit systems, taxicabs, intercity and rural buses, bus charters, school buses, and passenger terminal services.

Due to the shortage of complete data for this industry, the censuses will include this Major Group in the 1992 Economic Censuses. The Census Bureau's Recordkeeping

Practices Survey indicates that location data are generally available so we propose an establishment-based census similar to the methodology used for the 1987 Census of Transportation presenting data for U.S., State and selected substate areas. Consistent with most economic census areas, government operations will be excluded. As nonemployers are a significant part of segments of this industry, plans are being made to publish these data.

IV. Transportation by Air (SIC Major Group 45)

This industry includes scheduled and nonscheduled air transportation of freight and passengers and the airports, flying fields and associated services necessary to their operations.

Currently, the Department of Transportation (DOT) collects data on the large certificated passenger air carriers. These data are available from DOT and the Air Transport Association. Additionally, some safety and traffic data are available from the Federal Aviation Administration regarding airports. The remainder of the industry has very little available in terms of financial data. The census will include this industry; however, those passenger airlines filing with DOT will be excluded. National data for these airlines will be presented with appropriate citation to the source. The census will be taken on an establishment basis and published for states and selected substate areas. Government operations will be excluded from coverage of this industry.

V. Pipelines, Except Natural Gas (SIC Major Group 46)

This industry includes companies engaged in the pipeline transportation of petroleum and other products (crude oil, refined products, coal slurry, etc.), except natural gas.

This industry was included in the Pretest using the establishment-based concept. However, the results of the Pretest indicate that data on revenue are generally not by location.

There is a need for data for this industry and we will include pipelines in the 1992 Economic Censuses; however, this will be collected on a company basis. Companies in this group will receive a report requesting data for all pipeline operations in the subsidiary (as defined by the Employer Identification (EI) number) within each state. There will be an associated listing of all establishments known to be within the particular EI and state requesting payroll and employment data for each location. The respondent will be requested to update this list for new locations and operations which have ceased operation. The listing will include all locations classified in Major Group 46 including those currently classified as auxiliary locations. Consolidated data for

revenue and sources of revenue for all establishments within the EI and state will be requested. This plan will allow for simplified reporting and still provide both national and State data.

VI. Communications (SIC Major Group 48)

This industry includes telephone, telegraph, and other message communications; radio and television broadcasting; cable and other pay television services; and communication services.

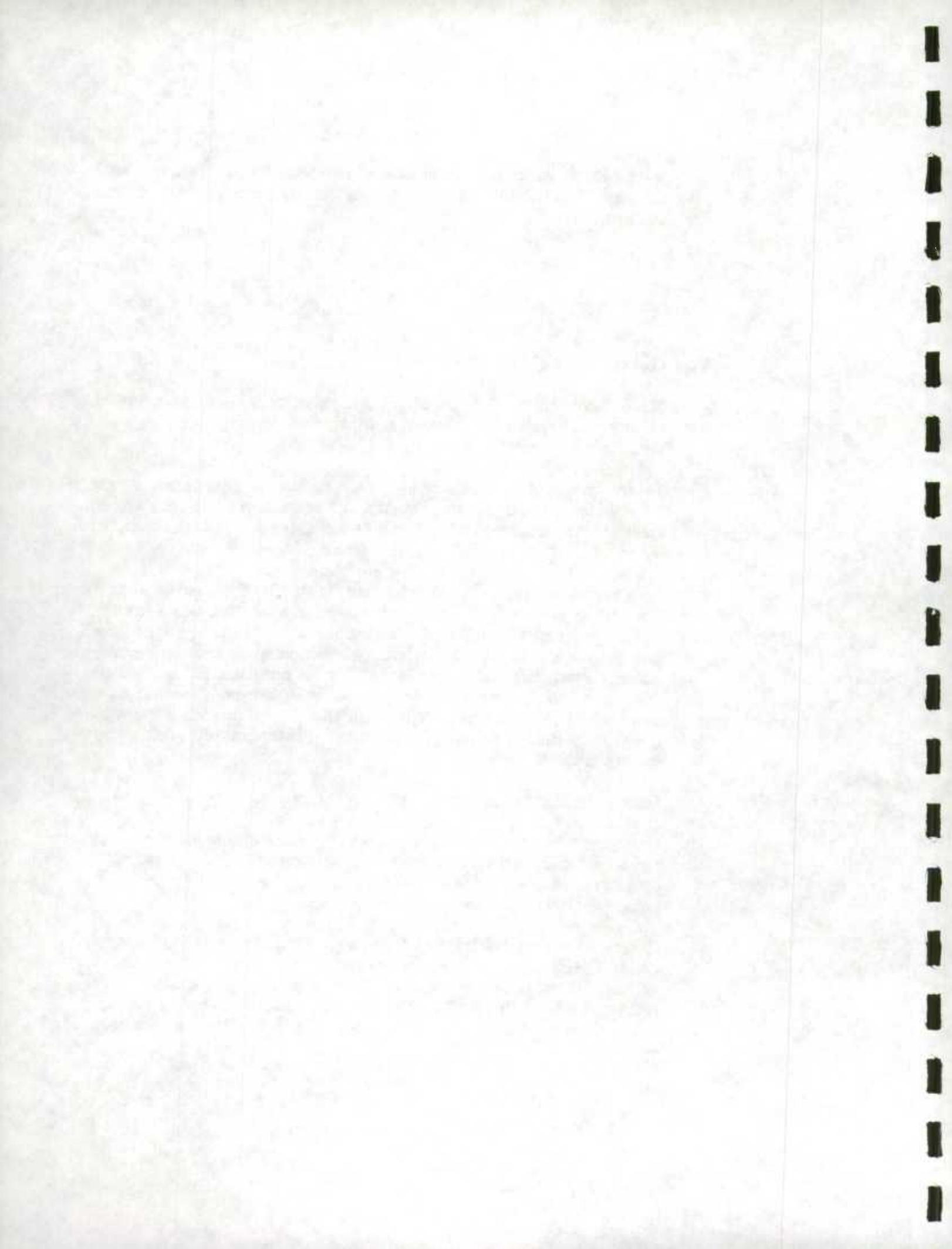
The early results of the Recordkeeping Survey indicated that separate data on revenues for establishments in the telephone and telegraph segments of this industry were not available. Accordingly, we considered collection of data on an alternate basis for this segment.

There is sufficient need to include this industry in the 1992 Economic Censuses. For broadcasting, pay television services and communication services, data is generally available at the establishment level. However, the telephone and telegraph segments have data available only at a higher level. As described above under the pipeline section, for this segment (SIC's 481 and 482) we are planning an EI by state data collection method for multi-establishment firms. A separate establishment-based report will be the vehicle for collecting single-establishment firm data in this segment as well as the multi- and single establishment firms in the remainder of the communications industry.

VII. Electric, Gas, and Sanitary Services (SIC Major Group 49)

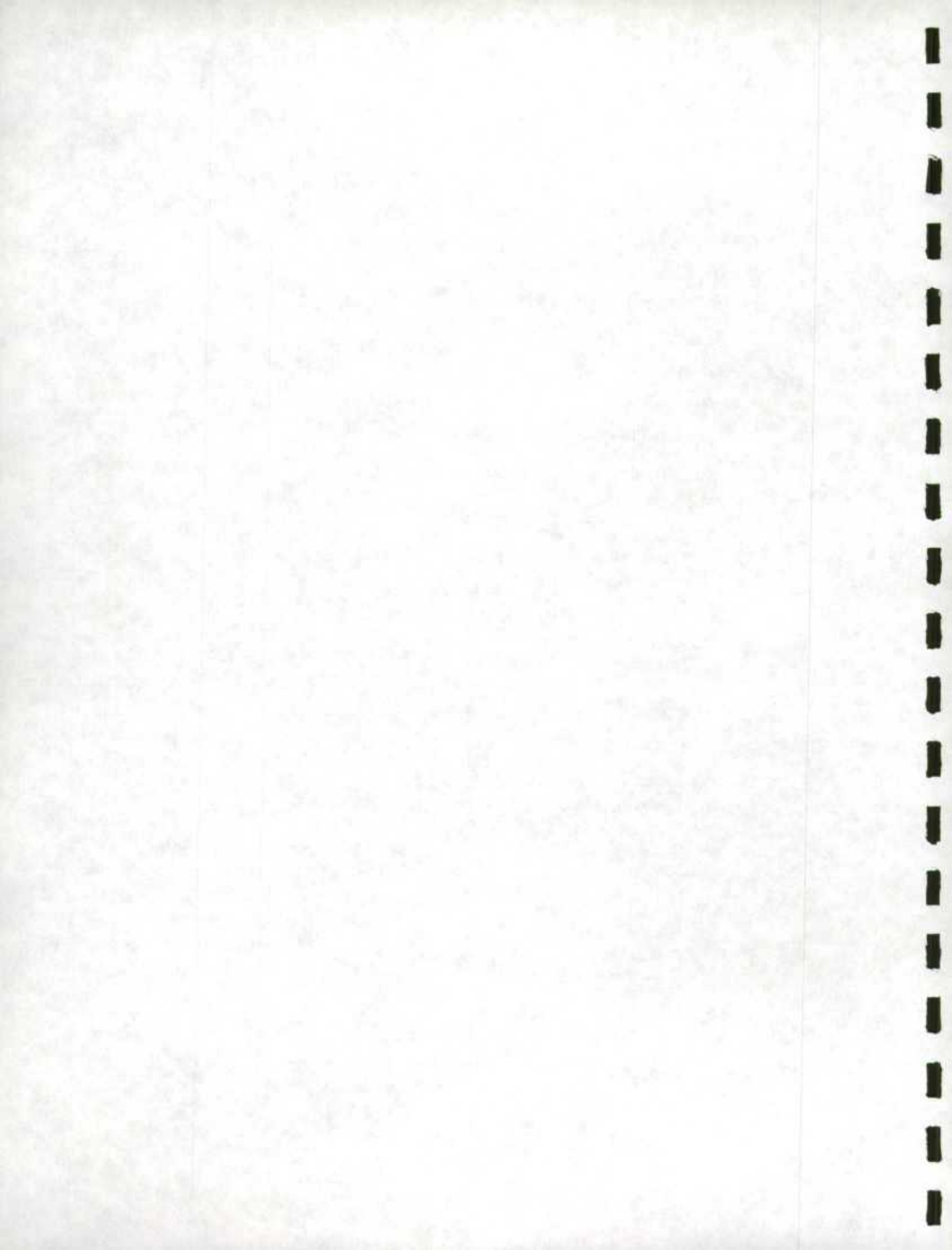
This industry includes the generation; transmission and/or distribution of electricity, natural gas, steam, and heated or cooled air; the supply of water for irrigation, domestic, commercial, and industrial use; the collection and disposal of sewage, garbage and other waste; and other sanitary services.

To provide complete data for this industry, we will include it in the 1992 Economic Censuses. Similar to the communications methodology, multiunit firms in SIC's 491, 492, and 493 will be surveyed based upon EI-state reports with associated establishment lists. Data for the remainder, single establishment electric and gas utilities and the remainder of the industry, will be collected using establishment-based reports.



Division E

SIC Description	IN/OUT	EI-state/ Establishment	Notes
40 Railroad	OUT		Data from DOT/AAR in U.S.
41 Passenger Hwy Transportation	IN	ESTAB	
43 Post Office	OUT		
45 Air Transp. Airlines	OUT		Data from DOT/ATA in U.S.
Other Air	IN	ESTAB	
46 Pipelines	IN	EI-state	All estabs to receive EI-state report.
48 Communication Telephone & Telegraph (Multiunit) Other comm.	IN IN	EI-state ESTAB	SIC 481, 2 only
49 Utilities Electric & Gas (Multiunits) Other utilities	IN IN	EI-state ESTAB	SIC 491, 2, & 3 only





NOTICE — Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

Please complete this form and RETURN TO
BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, IN 47134

DUE DATE: FEBRUARY 15, 1988
If filing by the due date causes an undue burden, a time extension request should be sent to the above address; please include your 11-digit Census File Number (CFN).

NOTE — Please read the accompanying instructions before answering the questions.

In correspondence pertaining to this report, please refer to this Census File Number (CFN)

Employer Identification (EI) Number

CB-4400

Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.

Item 1 — EMPLOYER IDENTIFICATION NUMBER
Is the Employer Identification (EI) Number shown in the label the SAME as that used for this establishment on its latest 1987 Employer's Quarterly Federal Tax Return, Treasury Form 941?

- 094 1 YES
- 2 NO — Enter current EI No. (9 digits)

Item 2 — PHYSICAL LOCATION OF ESTABLISHMENT

Answer items a, b, c, and d

NOTE: P.O. boxes or rural routes are not physical locations.

- a. Same as shown in mailing label. If different, indicate change.

NUMBER AND STREET
CITY, TOWN, VILLAGE, ETC. STATE ZIP CODE

- b. Is this establishment physically located inside the legal boundaries of the city, town, village, etc.?

- 095 1 YES 3 No legal boundaries
- 2 NO 4 Don't know

c. Type of municipality where physically located

- 096 1 City, village, or borough 3 Other or don't know
- 2 Town or township

d. Name of county where physically located

Item 3 — OPERATIONAL STATUS Number of months 002

- a. How many months during 1987 did this firm or organization actively operate this establishment?
- b. Mark (X) the ONE box which best describes this establishment at the end of 1987.

- 001 1 In operation
- 2 Temporarily or seasonally inactive
- 3 Ceased operation — Give date →
- 4 Sold or leased to another operator — Give date at right → AND enter name, etc., below

NAME OF OPERATOR
NUMBER AND STREET
CITY STATE ZIP CODE

Item 4 — ORGANIZATIONAL STATUS

Mark (X) the ONE box which best describes this establishment during 1987.

- 003 1 Individual proprietorship
- 2 Partnership
- 5 Governmental — Specify
- 6 Corporation
- 9 Other — Specify

Item 5 — Not applicable to this report.

HOW TO REPORT DOLLAR FIGURES

Value figures may be reported in dollars or rounded to thousands.

Example: If a figure is \$1,125,628, report either

1 125 628
Preferred Acceptable

Mil. (000) Thou. (000) Dollars (000)

Item 6 — DOLLAR VOLUME

OPERATING REVENUE in 1987

Mil. Thou. Dol. 010

Item 7 — PAYROLL AND EMPLOYMENT

a. Payroll in 1987, before deductions

Mil. Thou. Dol. 030

(1) Total ANNUAL payroll

031

(2) FIRST QUARTER payroll (Jan. — Mar.)

b. Employment in 1987

Number

032

Number of paid employees for the pay period including March 12, 1987 (include both full- and part-time employees)

Item 8 — KIND OF BUSINESS OR ACTIVITY

a. Mark (X) the ONE box which best describes the business or activity that accounted for the MAJOR portion of this establishment's revenue in 1987.

Deep sea foreign transportation 070 441101

Deep sea domestic transportation:

- Transportation to and between noncontiguous territories (between the U.S. mainland and its noncontiguous states and territories) 442101
- Coastwise transportation 442201

Intercoastal transportation (between U.S. Atlantic, Gulf, and Pacific coast via the Panama Canal) 442301

Great Lakes — St. Lawrence Seaway transportation:

- Ferries 443111
- Other Great Lakes — St. Lawrence Seaway transportation 443191

Transportation on rivers and canals, excluding ferries 444101

Arrangement of transportation for passengers:

- Travel agency — not operated by transportation company 472214
- Steamship ticket office operated by domestic steamship company 440000
- Steamship ticket office operated by foreign steamship company 472295

Arrangement of transportation for freight and cargo:

- Freight forwarding service, undertaking the transportation of goods from shippers to receivers for a charge which covers the entire transportation and, in turn, makes use of the services of various freight carriers in effecting delivery) 471203
- Shipping agent or broker, acting as agent in arranging transportation of freight and cargo 472305

Complete all items

SKIP to item 10

ITEM 8 CONTINUED ON PAGE 2

Item 8 - KIND OF BUSINESS OR ACTIVITY - Continued

- Other services incidental to water transportation or activity: 070
- Ferries 445201
 - Lighterage 445301
 - Towing and tugboat service 445401
 - Marine cargo handling 446301
 - Canal operation 446401
 - Oil spill cleanup 446921
 - Marina or boat yard 446811
- } SKIP to item 9
- Excursion and sightseeing boats, including charters 446901
 - Pleasure boat rental or party fishing boat 979999
 - Commercial boat rental or charter 446931
 - Boat building and repair 9373200
- Other services incidental to water transportation - Describe 446991
- Other kind of activity - Describe 777777 - SKIP to item 10

b. Did this establishment primarily transport - 589

1 Passengers 2 Freight

Item 9 - SOURCE OF REVENUE

Revenue may be reported either in dollar figures (see example on page 1) or as percentages (in whole percents) of the total (see example below).

Please do NOT combine data for two or more detail lines. Estimates are acceptable.

Line b - Include revenue from the transfer of cargo between ship and barges, trucks, trains, pipelines, and wharfs. Include revenue for ship hold cleaning, stevedoring, and the operation of waterfront terminals. Also, include revenue derived from the operation and maintenance of commercial piers, docks, and associated buildings.

Line c - Report revenue for boat repair, rental of pleasure boats, and the operation of party fishing boats on line f.

Line d - Report revenue for other services incidental to water transportation, including maintenance and operation of canals, marine towing and tugboat services, operating lighters and other harbor vessels for transferring goods and passengers between ship and shore or from one ship to another, ship cleaning, marine salvaging or wrecking, renting or chartering of commercial boats, and piloting vessels in and out of harbors. Report revenue for ship hold cleaning on line b. Report revenue for oil spill cleanup on line f.

Line e(3) - Do not include the sale of used boats or equipment which were previously rented or leased to customers. Include revenue from the sale of boats and other marine equipment sold on your own account. If boats or other goods are sold for others on a commission or brokerage basis, report commissions on line f.



If the figure is 38.76% of total revenue: Mil. | Thou. | Dol. | Percent

Report whole percents → 39

Not acceptable → 38.76

Sources of revenue	Census use	Mil.	Thou.	Dol.	Percent
a. Water transportation	530	531			532
(1) Passenger	551				
(2) Military and postal freight	552				
(3) Other freight	553				
b. Marine cargo handling	554				
c. Pleasure boat dockage, ship rental, launch fees, and storage	555				
d. Other water transportation-related services - See instructions for line d above.	556				
e. Sales of merchandise					
(1) Fuels and lubricants	557				
(2) Food and beverages	558				
(3) Sales of other merchandise	475				
f. All other operating revenue - Describe in REMARKS section if this is largest source of revenue.	485				
g. TOTAL - Should equal Item 6 H reporting in dollars →	490				100%

NOTE

Answer Item 10 only if your Census File Number (CFN), shown in the address label of this report form, begins with a zero.

Item 10 - OWNERSHIP, CONTROL, AND LOCATIONS OF OPERATION

a. Is this company owned or controlled by another company? ENTER OWNING OR CONTROLLING COMPANY NAME, ADDRESS, AND ZIP CODE

097 1 YES →
2 NO

EI No. (9 digits)

b. Does this company own or control any other company or companies? ENTER OWNED OR CONTROLLED COMPANY NAME, ADDRESS, AND ZIP CODE

098 1 YES →
2 NO

EI No. (9 digits)

c. How many establishments were operated under the EI Number shown in the address label (or as corrected in item 1) at the end of 1987? → Number 099

If more than one, provide the physical location address and other information indicated below for each establishment. The headquarters location should be listed on line 1, followed by other locations. If book figures are not available, estimates are acceptable. Continue with the same format in REMARKS (or attach a separate sheet) if necessary.

NAME, ADDRESS, AND ZIP CODE	1987			Mil.	Thou.	Dol.
	Revenue	081				
1						
KIND-OF-BUSINESS DESCRIPTION	Annual payroll	082				
	Census use	088				
2						
KIND-OF-BUSINESS DESCRIPTION	Annual payroll	082				
	Census use	088				
3						
KIND-OF-BUSINESS DESCRIPTION	Annual payroll	082				
	Census use	088				
4						
KIND-OF-BUSINESS DESCRIPTION	Annual payroll	082				
	Census use	088				

REMARKS - Please use this space for any explanations that may be essential in understanding your reported data.

Item 11 - CERTIFICATION - This report is substantially accurate and has been prepared in accordance with instructions.

Period covered by this report → FROM: Mo. Year TO: Mo. Year

Name of person to contact regarding this report - Print or type

Telephone → Area code Number Extension

Signature of authorized person Date

EC-G-L41
(4-87)



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Data Preparation Division
Jeffersonville, Indiana 47134

We have not received a completed 1987 Economic Censuses report form for your company or organization. This form was due February 15. In case your form has been lost, we have enclosed another. Please take the time TODAY to complete and return your report form. Use your best estimates if information for all items requested is not available.

The economic censuses not only provide the government with vital information, they also provide American businesses and organizations such as yours with a wealth of detailed industry and geographic data. This information can be a valuable resource in helping you to make informed decisions concerning marketing, choosing new site locations, introducing new products or services, or comparing your performance with others in your industry. If economic census results are to benefit the Nation, your industry, and your organization, we need a response from everyone that received a report form.

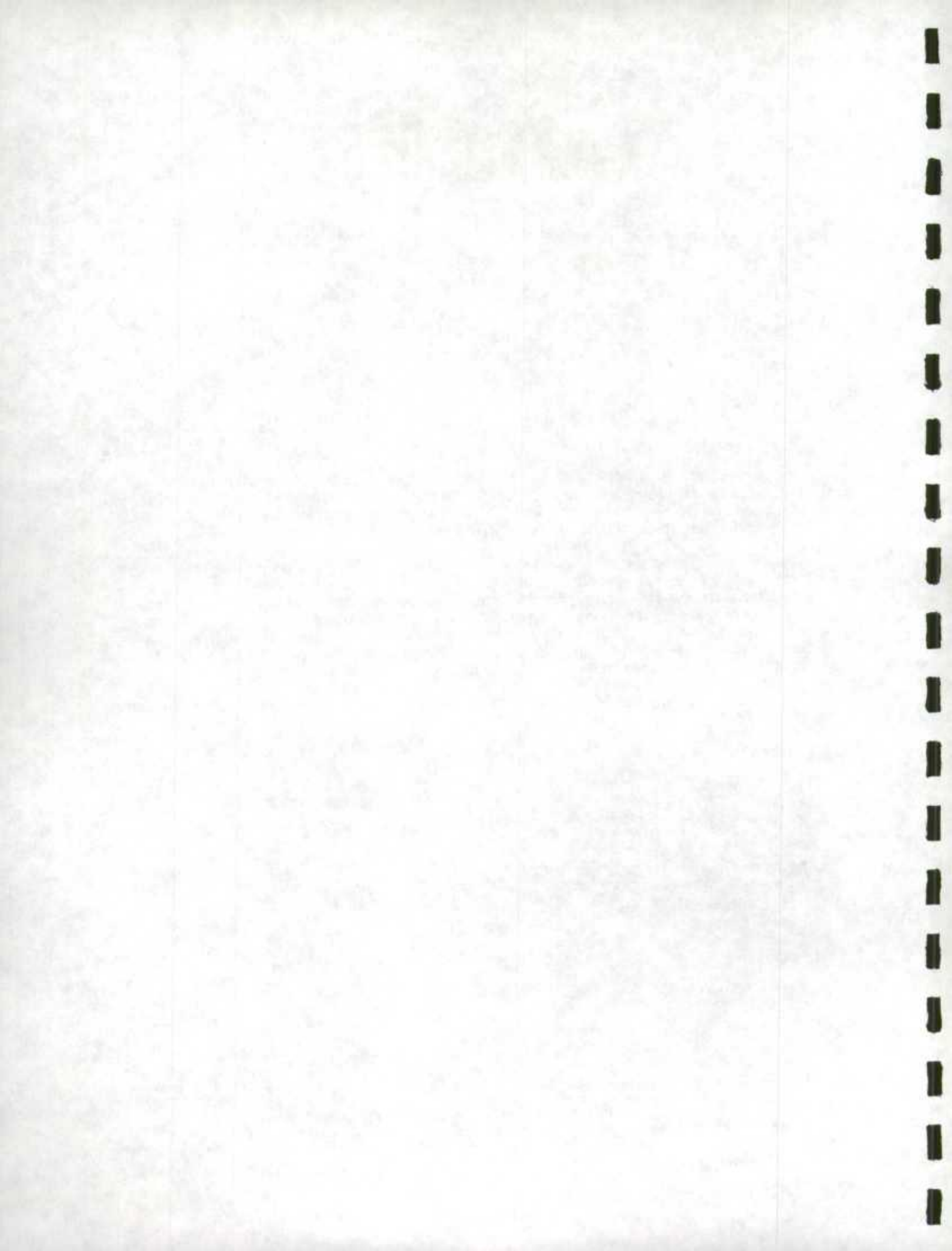
If your report was mailed within the past several days, we thank you and ask that you disregard this notice.

Sincerely,

ROGER H. BUGENHAGEN
Assistant Director
for Economic Censuses
Bureau of the Census

Enclosures

NOTICE — Response to this inquiry is required by law (Title 13, United States Code). By the same law YOUR REPORT TO THE CENSUS BUREAU IS CONFIDENTIAL. It may be seen only by sworn Census Bureau employees and may be used only for statistical purposes. Your report CANNOT be used for purposes of taxation, investigation, or regulation. The law also provides that copies retained in your files are immune from legal process.



1987 CENSUS OF TRANSPORTATION INDUSTRIES INSTRUCTIONS

This report should be completed and returned in the preaddressed envelope provided as soon as possible, but not later than February 15, 1988. If this report does not appear to apply to your kind of business or activity, describe your business or activity in item 8 and complete the remainder of the form as accurately as possible. In most cases, completion of this form will satisfy Census requirements and eliminate further correspondence. If additional information is needed, we will either write or telephone you.

If filing by February 15 causes an undue burden, or if you have any questions, please write to the **Bureau of the Census**, 1201 East Tenth Street, Jeffersonville, Indiana 47134.

Always include the Census File Number (number following "CFN" in address label) in all correspondence.

This report should cover calendar year 1987. If book figures are not available, estimates are acceptable.

Dollar volume items should be rounded to the nearest thousand dollars as illustrated on the report form.

IF THIS COMPANY OR ORGANIZATION OPERATED MORE THAN ONE ESTABLISHMENT (LOCATION) AT THE END OF 1987 UNDER THE SAME EMPLOYER IDENTIFICATION (EI) NUMBER, enter the location of your headquarters establishment in item 2 and, beginning with item 3, **REPORT THE COMBINED DATA FOR THE ENTIRE COMPANY**. In the "Ownership, Control, and Locations of Operation" inquiry, provide information separately for each establishment, including the headquarters location.

This report form is designed for use also by individual establishments of multi-establishment companies. Consequently, the wording frequently refers to "establishment." If you are submitting a combined company report, you should read "establishment" to mean your entire company operated under this EI number.

Item 2 — PHYSICAL LOCATION OF ESTABLISHMENT

Answers to the physical location question will be used in developing statistics on the economic activities of the state, county, city, village, etc., in which the establishment is located. For this reason, it is important that you indicate whether or not the mailing address shown in the label is also the physical location of the establishment. If the mailing address and the actual physical location are not the same, please provide the address of the actual physical location.

Item 4 — ORGANIZATIONAL STATUS

Indicate the legal form of organization used for tax purposes by the establishment. Mark (X) "governmental" if establishment is operated by or is under the control of a government entity or a board of directors either appointed by such an entity or publicly elected.

Item 6 — DOLLAR VOLUME

OPERATING REVENUE

Include —

- Gross revenue from services provided, from the use of facilities, and from merchandise sold in 1987, whether or not payment was received in 1987.
- For travel agents, shipping agents, shipping brokers, and other establishments operating on a commission basis — commissions, fees, and other operating income, NOT gross billings or sales.
- For tour operators — the difference between the selling price of their tours and the amounts paid to suppliers, i.e., hotels, transfers, sightseeing companies, etc.
- For freight forwarders — the difference between the gross charges and the amounts paid to other transportation companies.
- For household goods moving and storage agents — booking and origin commissions.
- Fair sales value of merchandise marketed in 1987 under capital, finance, or "full payout" leases.
- Total value of service contracts.
- Amounts received for work subcontracted to others.

Exclude —

- Sales and other taxes collected directly from customers or clients and paid directly to a local, state, or Federal tax agency.
- Rents from and revenue (gross, as well as this establishment's share) of departments or concessions which are operated by others.
- Sales of used equipment previously rented or leased to customers.

- Proceeds from the sale of real estate (land and buildings), investments, or other assets (except inventory held for resale).
- Income from interest, rental of real estate, dividends, contributions, and grants.
- Commissions from vending and amusement machine operators.
- Revenue from installment payments received from leasing of vehicles, equipment, instruments, tools, etc., marketed under capital, finance, or "full payout" leases.
- Other nonoperating income (e.g. royalties, franchise fees).

Item 7 — PAYROLL AND EMPLOYMENT

Definitions are the same as those used on the Employer's Quarterly Federal Tax Return, Form 941, and as described in Circular E, Employer's Tax Guide.

a. Payroll

Include —

- Wages, salaries, tips, vacation allowances, bonuses, commissions, and other compensation paid to employees during 1987, whether or not subject to income or FICA tax.
- Salaries of officers and executives of a corporation.
- Salaries and wages paid to owner-operator drivers.
- Salaries and wages paid to employees on ships at sea.

Exclude —

- Payments to or withdrawals by proprietors or partners of an unincorporated firm.
- Annuities or supplemental unemployment compensation benefits, even if income tax was withheld.
- Payrolls of commission agents.
- Payrolls of departments or concessions operated by other firms located in this establishment.

b. Employment

Include —

- All full- and part-time employees on the payroll during the pay period including March 12, 1987.
- Salaried officers and executives of a corporation.
- Employees on paid sick leave, paid vacations, and paid holidays.
- Owner-operator drivers on the payroll.
- Employees on ships at sea.

Exclude:

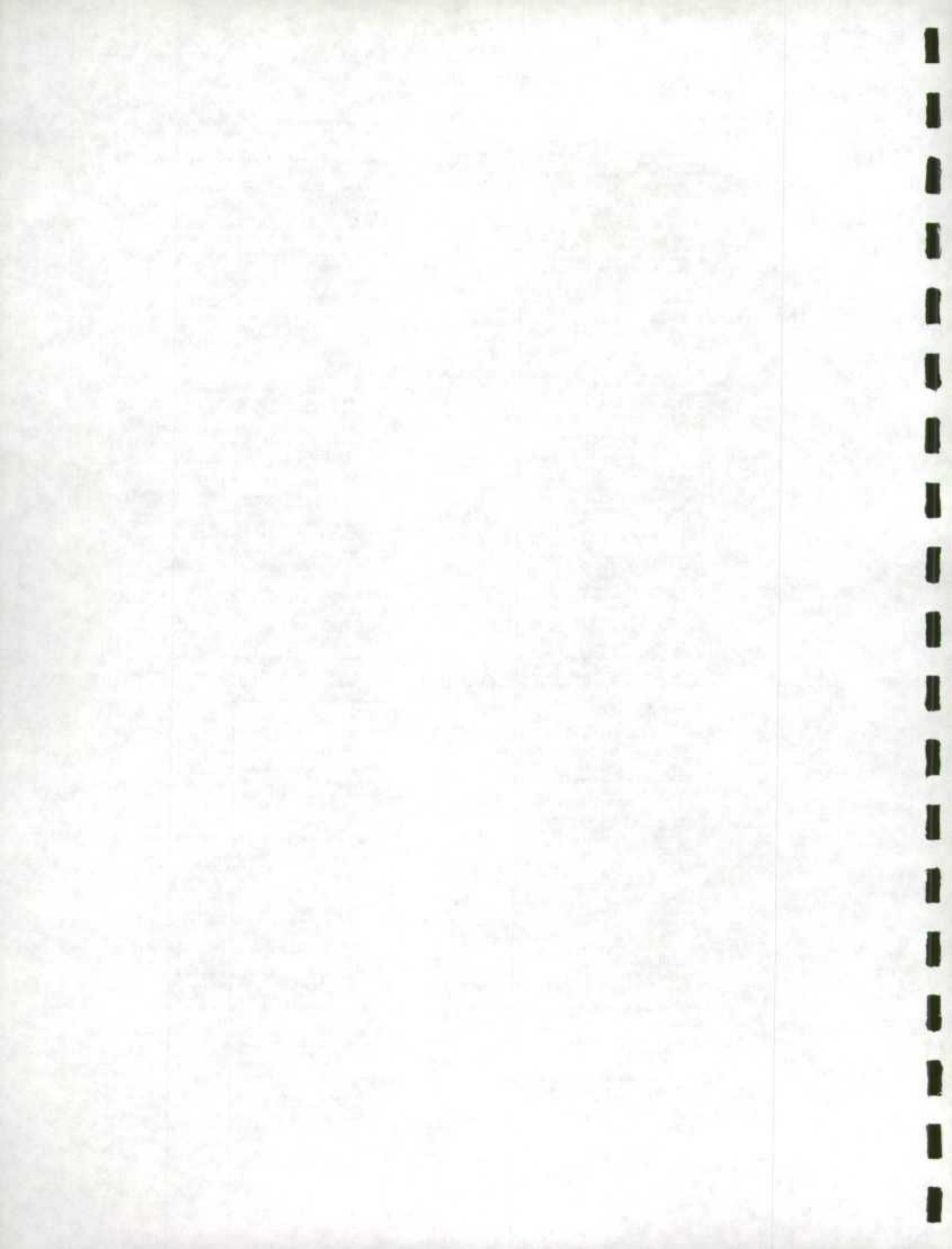
- Proprietors or partners of an unincorporated firm.
- Employees of commission agents.
- Employees of departments or concessions operated by other firms located in this establishment.

OWNERSHIP, CONTROL, AND LOCATIONS OF OPERATION

- a. Indicate whether ANOTHER company owns more than 50 percent of the voting stock or has the power to control the management and policies of this company.

MARK "NO" if:

- This company has a franchise, or is an agent entitled to use a trade name but is not owned or controlled by the franchisor or carrier.
 - This company is engaged in the management of a business owned by others.
- b. Indicate whether this company owns more than 50 percent of the voting stock or has the authority to direct or cause the direction of management and policies of any subsidiary and/or affiliate. If YES, report the owned or controlled company.
- c. Include all selling and service locations and any other facilities such as warehouses, terminals, administrative offices, etc., in operation at the end of 1987. Establishments with no paid employees are not considered separate establishments. If operating more than one establishment, list the headquarters location first. The sum of the revenue and annual payroll reported for the individual establishments should equal the corresponding entries in items 6 and 7a(1). If employees worked at more than one location, report them at the one where they spent most of their working time.



Final approval was obtained from the Office of Management and Budget of the Executive Office of the President, which is responsible for ensuring that the data requested are not available from other Federal sources.

IS IT MANDATORY? IS IT CONFIDENTIAL?

Your response to this census is required by law (Title 13 of the United States Code). This same law guarantees that the information furnished will be kept confidential.

Your firm's report will be used solely for developing summary statistics. It cannot be used for purposes of taxation, investigation, or regulation. Nor can data be published in any manner that would reveal information about a specific firm.

WHEN AND WHERE CAN I GET THE RESULTS OF THE CENSUS?

The Census Bureau will begin publishing the results early in 1989. Over 600 reports covering the 1987 Economic Censuses will be sold through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. They also can be reviewed and ordered in any of the Census Bureau's Regional Offices or Department of Commerce District Offices, which are located in major cities throughout the United States.

Publications are available for research and reference at university, college, and large public libraries.

**YOUR numbers DO
make the difference!**



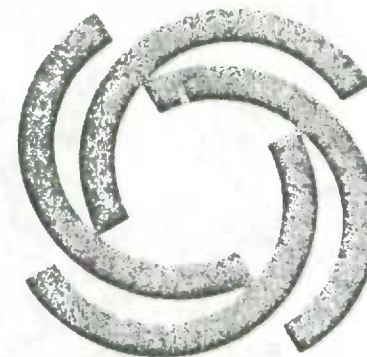
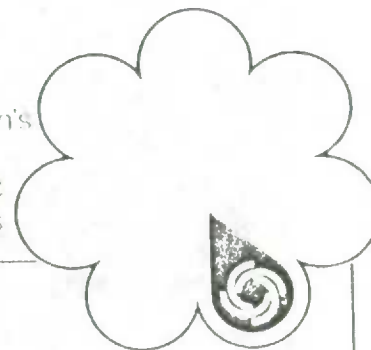
**Please Complete and Return
Your Bureau of the
Census Questionnaire**



U.S. Department of Commerce
BUREAU OF THE CENSUS

1987 Census of Transportation

Part of
the Nation's
5-Year
Economic
Censuses



EC B 11

WHAT IS THE CENSUS OF TRANSPORTATION?

It is the collection and publication of basic facts about selected transportation activities in the United States. The census provides specific information about this sector of the economy and contributes to an overall picture of the Nation's economic well-being.

The Census of Transportation is taken once every five years. There are two parts to this census: (1) sample surveys, such as the Truck Inventory and Use Survey of registered vehicles, and (2) a census of establishments in selected transportation industries and transportation-related activities. This brochure covers only the establishment part.

The 1987 census includes some industries not covered in earlier censuses. Thus, many firms will be included in the census for the first time.

The Census is being taken in 1988 covering operations in 1987.

WHY IS IT IMPORTANT?

Often, the source of information upon which important decisions are based is not apparent, but many economic data series use census data.

Many organizations rely on facts from the census in making policy decisions and in advising the business community. Some of these are:

- local chambers of commerce
- trade associations
- market research firms
- wholesalers and retailers

motor carriers and other transportation and support service firms
manufacturers
Federal, state, and local governments

Information about the transportation industries covered in the census is published:

- For receipts, employment and payroll
- By size of establishment
- For cities, counties, states, and metropolitan areas
- That provides statistical measures for use in analysis of market structure, trends, market penetration, and market potential

WHERE DO I FIT IN?

Your firm is being asked to fill out a Census form for your establishment or company. It is estimated that it takes less than 35 minutes to complete the average form for this part of the census.

Filing your report by the February 15, 1988, due date will help keep costs down by eliminating the need to contact you again. If the report cannot be completed by this date, please request an extension of time by February 1 by writing:

Bureau of the Census
1201 East Tenth Street
Jeffersonville, IN 47134

Please include your Census File Number (CFN) in any correspondence with the Cen-

sus Bureau. This number is shown on the address label on the report form.

If you have any questions concerning your census report, do not hesitate to contact the Census Bureau at the above address. But please remember to include your Census File Number.

ARE ESTIMATES ACCEPTABLE?

Yes. For any questions for which exact figures are not available, your best estimates are acceptable.

HOW WERE THE QUESTIONS DETERMINED?

The report form you have received is the result of extensive consultation with:

- trade and other business associations representing every type of transportation activity
- individual business firms which supply and use the data
- local, state, and Federal agencies

Proposed questions were reviewed by the Business Advisory Commission Federal Reports, which is made up of representatives from each major field of business. And the proposed questions were supplied to the Congress for review.



1987 CENSUS OF TRANSPORTATION MOTOR FREIGHT TRANSPORTATION AND PUBLIC WAREHOUSING

OMB APPROVAL NO. 0807-0557, EXPIRES 06/89

NOTICE — Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

Please complete this form and RETURN TO
BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, IN 47134

DUE DATE: FEBRUARY 15, 1988

If filing by the due date causes an undue burden, a time extension request should be sent to the above address; please include your 11-digit Census File Number (CFN).

NOTE — Please read the accompanying instructions before answering the questions.

In correspondence pertaining to this report, please refer to this Census File Number (CFN)

Employer Identification (EI) Number

CB-4200

SAMPLE

Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.

Item 1 — EMPLOYER IDENTIFICATION NUMBER

Is the Employer Identification (EI) Number shown in the label the SAME as that used for this establishment on its latest 1987 Employer's Quarterly Federal Tax Return, Treasury Form 941?

- 094 1 YES
2 NO — Enter current EI No. → (9 digits)

Item 2 — PHYSICAL LOCATION OF ESTABLISHMENT

Answer items a, b, c, and d

NOTE: P.O. boxes or rural routes are not physical locations.

- a. Same as shown in mailing label. If different, indicate change. →

NUMBER AND STREET
CITY, TOWN, VILLAGE, ETC. STATE ZIP CODE

- b. Is this establishment physically located inside the legal boundaries of the city, town, village, etc.?

- 095 1 YES 3 No legal boundaries
2 NO 4 Don't know

- c. Type of municipality where physically located

- 096 1 City, village, or borough 3 Other or don't know
2 Town or township

- d. Name of county where physically located

Item 3 — OPERATIONAL STATUS

Number of months
002

- a. How many months during 1987 did this firm or organization actively operate this establishment?

- b. Mark (X) the ONE box which best describes this establishment at the end of 1987.

- 001 1 In operation
2 Temporarily or seasonally inactive
3 Ceased operation — Give date →
4 Sold or leased to another operator — Give date at right → AND enter name, etc., below →

Figures only
Month Day Year

NAME OF NEW OWNER OR OPERATOR
NUMBER AND STREET
CITY STATE ZIP CODE

Item 4 — ORGANIZATIONAL STATUS

Mark (X) the ONE box which best describes this establishment during 1987.

- 003 1 Individual proprietorship
2 Partnership
5 Governmental — Specify _____
0 Corporation
9 Other — Specify _____

Item 5 — Not applicable to this report.

HOW TO REPORT DOLLAR FIGURES

Value figures may be reported in dollars or rounded to thousands.

Example: If a figure is \$1,125,628. Preferred report either

Mil- lions (000)	Thou- sands (000)	Dol- lars (000)
1	126	
1	125	628

Item 6 — DOLLAR VOLUME

OPERATING REVENUE in 1987

Establishments which use purchased transportation and/or commissioned agents should include gross revenue regardless of amount retained by this establishment. Do not include sales of used equipment.

Mil.	Thou.	Dol.
010		

Item 7 — PAYROLL AND EMPLOYMENT

a. Payroll in 1987, before deductions	Mil.	Thou.	Dol.
(1) Total ANNUAL payroll	030		
(2) FIRST QUARTER payroll (Jan. — Mar.)	031		
b. Employment in 1987			Number
Number of paid employees for the pay period including March 12, 1987 (include both full- and part-time employees)	032		

Item 8 — KIND OF BUSINESS OR ACTIVITY

- a. Mark (X) the ONE box which best describes the business or activity that accounted for the MAJOR portion of this establishment's revenue in 1987.

Motor freight transportation, including rental or leasing of trucks with drivers (Note: A motor freight terminal used exclusively by company-operated vehicles should mark the one box which best describes the type of trucking activity it supports.)

- 070
Household goods moving 421811
General freight trucking 421821
Garbage and trash collection 421261
Dump trucking 421271
Hazardous materials trucking 421831
Agricultural products trucking (including livestock) 421841
Other trucking — Describe 421891

Complete all items

Courier and messenger services, including delivery of parcels weighing 100 pounds or less (except telephone and radio telephone) 421851

Public warehousing

- Cotton and lintens 422101
Animal and vegetable fats and oils 422102
Other farm products 422103
Refrigerated products 422201
Household goods 422401
General goods 422511

Specialized goods (including petroleum, chemicals, whiskey, hazardous materials, textiles, automobile dead storage, and other products requiring special storage) — Describe 422601

SKIP to item 9

- Self-service or miniwarehouse 422521
Field warehouse 9739990

ITEM 8 CONTINUED ON PAGE 2

Item 8 - KIND OF BUSINESS OR ACTIVITY - Continued

Other transportation-related activities 070

Motor freight terminal or joint terminal maintenance facility (except those for exclusive use of company-operated vehicles) 423101

Truck rental without drivers 9751310

Truck leasing without drivers 9751320

Freight forwarding service (undertaking the transportation of goods from shippers to receivers for a charge which covers the entire transportation and, in turn, makes use of the services of various freight carriers in effecting delivery) 471202

Shipping agent or broker 472304

Air courier services (including air parcel delivery) 9450000

Armored car service 9759320

Other transportation-related activity - Describe 777777

Other kind of activity - Describe 777777

SKIP to Item 12

b. Did this establishment provide storage services in 1987?

53a YES NO

Item 9 - SOURCES OF REVENUE

Revenue may be reported either in dollar figures (see example on page 1), or as percentages (in whole percents) of the total (see example below). Please do NOT combine data for two or more detail lines. Estimates are acceptable.

Line a - Report all revenue from the transportation of freight by motor vehicle, including revenue from rental and leasing of vehicles with drivers. Courier and messenger service revenue should be reported on line b.

Line c - Include revenue for self-service and miniwarehouses. Report storage revenue only. Handling and other service charges should be reported on line d.

Line d - Report all amounts billed separately for labor, packing and crating, handling, accessorial services, etc. Include booking and origin commissions. Include revenue from truck repair and parts installed in repair work on line f.

Line e - If goods are sold for others on a commission or brokerage basis, report commissions on line f. Do not include the sale of used vehicles, equipment, or parts.

Line f - Include charges for repair and maintenance, including parts installed in repair work. Do not include commissions from vending machine operations, the sale of used vehicles, equipment or parts, interest, or any other non-operating income.

HOW TO REPORT PERCENTS

If figure is 38.76% of total revenue:	Mil.	Thou.	Dol.	Percent
• Report whole percents				39
Not acceptable				38.76

	Census use	Mil.	Thou.	Dol.	Percent
a. Motor carrier revenue	101				
b. Courier and messenger services (including parcel delivery)	102				
c. Warehousing and storage revenue	103				
d. Other services related to motor carrier and storage activities	104				
e. Sales of merchandise	475				
f. All other revenue - Describe in REMARKS section if this is largest source of revenue.	485				
g. TOTAL - Should equal Item 6 if reporting in dollars	490				100%

Item 10 - ANALYSIS OF OPERATING REVENUE

a. Did this establishment report motor carrier, courier, or messenger service revenue in items 9a or 9b?

537 YES - Continue with b NO - SKIP to item 11

b. What percentage of the motor carrier, courier, or messenger service revenue was:

(1) LOCAL (furnishing motor carrier, courier, or messenger services within a city, town, or other local area, including adjoining towns and suburban areas) Report in whole percents 538

(2) INTERCITY (motor carrier, courier, or messenger services beyond local areas and commercial zones) 539

(3) TOTAL - Sum of lines (1) and (2) 100%

Item 11 - PURCHASED TRANSPORTATION

a. Did this establishment use purchased transportation in 1987?

540 YES - Continue with b NO - SKIP to item 12

b. Report the transportation purchased in 1987 for each of the following uses:

	Mil.	Thou.	Dol.
(1) Lease and rental payments for trucks and other motor vehicles with drivers	541		
(2) Lease and rental payments for trucks and other motor vehicles without drivers	542		
(3) Purchased transportation from other motor carriers	543		
(4) All other purchased transportation (including allowances to shippers less credits for equipment rents to others)	544		
(5) TOTAL purchased transportation ->	545		

NOTE

Answer item 12 only if your Census File Number (CFN), shown in the address label of this report form, begins with a zero.

Item 12 - OWNERSHIP, CONTROL, AND LOCATIONS OF OPERATION

a. Is this company owned or controlled by another company?

087 YES -> NO

b. Does this company own or control any other company or companies?

088 YES -> NO

c. How many establishments were operated under the EI Number shown in the address label (or as corrected in item 1) at the end of 1987? Number 089

If more than one, provide the physical location address and other information indicated below for each establishment. The headquarters location should be listed on line 1, followed by other locations. If book figures are not available, estimates are acceptable. Continue with the same format in REMARKS (or attach a separate sheet) if necessary.

Note - Motor carriers and public warehouses with two or more buildings or locations operated as a unit in the same metropolitan area, where all of these locations are used for the same general type of activity, should be considered as a single "location" for the purpose of this report. Date should be included with the controlling main or branch location.

NAME, ADDRESS, AND ZIP CODE	1987	Mil.	Thou.	Dol.
	Revenue	081		
KIND-OF-BUSINESS DESCRIPTION	Annual payroll	082		
	Census use	088		
NAME, ADDRESS, AND ZIP CODE	1987	Mil.	Thou.	Dol.
	Revenue	081		
KIND-OF-BUSINESS DESCRIPTION	Annual payroll	082		
	Census use	088		

REMARKS - Please use this space for any explanations that may be essential in understanding your reported data.

Item 13 - CERTIFICATION - This report is substantially accurate and has been prepared in accordance with instructions.

Period covered by this report FROM: Mo. Year TO: Mo. Year

Name of person to contact regarding this report - Print or type

Telephone Area code Number Extension

Signature of authorized person Date



NOTICE - Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

In correspondence pertaining to this report, please refer to this Census File Number (CFN):

Employer Identification (EI) Number

Please complete this form and RETURN TO:
BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, IN 47134-0001

DUE DATE: 30 DAYS AFTER RECEIPT

NOTE - Please read the accompanying instructions before answering the questions.

CENSUS USE ONLY

Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.

Item 1 - EMPLOYER IDENTIFICATION NUMBER

Is the Employer Identification (EI) Number shown in the label the SAME as that used for this establishment on its latest 1989 Employer's Quarterly Federal Tax Return, Treasury Form 941?

- 084 1 YES
- 2 NO - Enter current EI No. _____ (9 digits)

Item 2 - PHYSICAL LOCATION OF ESTABLISHMENT

Answer items a, b, c, and d

NOTE: P.O. boxes or rural routes are not physical locations.

- a. Same as shown in mailing label. If different, indicate change.

NUMBER AND STREET
CITY, TOWN, VILLAGE, ETC. STATE ZIP CODE

- b. Is this establishment physically located inside the legal boundaries of the city, town, village, etc.?

- 095 1 YES 3 No legal boundaries
- 2 NO 4 Don't know

- c. Type of municipality where physically located

- 096 1 City, village, or borough 3 Other or don't know
- 2 Town or township

- d. Name of county where physically located

Item 3 - OPERATIONAL STATUS

Number of months

- a. How many months during 1989 did this firm or organization actively operate this establishment? _____ 002
- b. Mark (X) the **ONE** box which best describes this establishment at the end of 1989.

- 001 1 In operation
- 2 Temporarily or seasonally inactive
- 3 Ceased operation - Give date -> _____
- 4 Sold or leased to another operator - Give date at right -> _____ AND enter name, etc., below

Figures only

Month	Day	Year

NAME OF NEW OWNER OR OPERATOR
NUMBER AND STREET
CITY STATE ZIP CODE

Item 4 - ORGANIZATIONAL STATUS

Mark (X) the **ONE** box which best describes this establishment during 1989

- 003 1 Individual proprietorship
- 2 Partnership
- 3 Cooperative (taxable)
- 4 Cooperative (tax-exempt)
- 5 Governmental - Specify _____
- 6 Corporation
- 9 Other - Specify _____

Item 5 - Not applicable to this report.

HOW TO REPORT DOLLAR FIGURES

Value figures may be reported in dollars or rounded to thousands. Example: If a figure is \$1,125,628, report either **1,126** (Preferred) or **1,125,628** (Acceptable)

Mil- lions (000)	Thou- sands (000)	Dol- lars (000)
1	126	
1	125	628

Item 6 - DOLLAR VOLUME

OPERATING REVENUE in 1989

Exclude government subsidies. Taxicab operators should include tips.

Mil.	Thou.	Dol.
010		

Item 7 - PAYROLL AND EMPLOYMENT

a. Payroll in 1989, before deductions

(1) Total ANNUAL payroll

Mil.	Thou.	Dol.
014		
015		

(2) FIRST QUARTER payroll (Jan. - Mar.)

b. Employment in 1989

Number of paid employees for the pay period including March 12, 1989 (include both full- and part-time employees)

Number
016

Item 8 - KIND OF BUSINESS OR ACTIVITY

Mark (X) the **ONE** box which best describes the PRINCIPAL kind of business of this establishment in 1989.

Scheduled passenger transportation 020

- Intercity or rural bus 413101
- Local and suburban bus 411111
- Commuter bus 411121
- Airport service 411131
- Local/commuter rail or subway 411141
- Other scheduled local service - Describe 411191

Bus charter service

- Local 414101
- Intercity 414201

Other passenger transportation

- School bus 415101
- Sightseeing bus 411911
- Handicapped or senior citizen service 411921
- Taxicab service 412101
- Limousine or auto rental with driver 411931
- Ambulance or rescue service 411941
- Vanpool 411851

- Scenic or amusement rail, trolley, or cable car operation 979999
- Other passenger transportation - Describe 411991

Arrangement of passenger transportation NOT operated by transportation company

- Travel agency 472402
- Tour operator (except local sightseeing) 472502
- Ticket office 472902

Other transportation related activities

- Motor freight carrier - Describe 421000
- Terminal or maintenance facility (except those for exclusive use of company operated vehicles) 417301
- Automobile rental or leasing, without driver 9751000
- Other kind of business - Describe 777777

Complete all items

SKIP to item 10

SKIP to item 13

Item 9 - SOURCES OF REVENUE

Revenue may be reported either in dollar figures (see example on page 1) or as percentages (in whole percents) of the total (see example below). Please do NOT combine data for two or more detail lines. Estimates are acceptable.

HOW TO REPORT PERCENTS

If the figure is 38.76% of total revenue:
 • Report whole percents → 39
 Not acceptable → 38.76

Sources of revenue	Census use	Mil.	Thou.	Dol.	Per-cent
1. Local or suburban route (including commuter)	530	531			532
2. Intercity regular route	102				
3. Charter or special	103				
4. Sightseeing	104				
5. Airport service	105				
6. School bus service	106				
7. Handicapped or senior citizen service	107				
8. Freight, baggage, and mail	120				
9. Repair and maintenance of vehicles NOT owned by your company	130				
10. Advertising	140				
11. Sales of merchandise					
a. Fuels and lubricants	310				
b. Food and beverages	320				
c. Sales of other merchandise	330				
12. All other operating revenue - Describe in REMARKS section if this is largest source of revenue	375				
13. TOTAL - Should equal Item 5 if reporting in dollars →	300				100%

Item 10 - SUBSIDIES

a. Did this establishment receive any cash or non-cash subsidies (e.g., fuel, maintenance services) from any agency of local, state, or Federal Government in 1989? Include Section 5 and 9 Urban Mass Transit Act Grants.
 YES - Complete item 10b
 NO - SKIP to item 11

b. Report the dollar value of all cash and non-cash subsidies received during 1989.

Mil.	Thou.	Dol.
535		

Item 11 - RIDERSHIP

How many passenger trips did you provide during 1989?
 Report to the nearest 1,000.

Mil.	Thou.	Units
533		

Item 12 - INVENTORIES OF REVENUE GENERATING EQUIPMENT - DECEMBER 31, 1989

Revenue generating equipment	Number of vehicles		
	Owned (1)	Leased (2)	Total (3)
a. Vans	541	551	561
b. Small buses (less than 35 seats)	542	552	562
c. Two-axle buses (35 seats or more)	543	553	563
d. Three-axle buses (35 seats or more)	544	554	564
e. Taxicabs	545	555	565
f. Limousines	546	556	566
g. Ambulances	547	557	567
h. Other - Describe →	548	558	568

NOTE

Answer item 13 only if your Census File Number (CFN), shown in the address label of this report form, begins with a zero.

Item 13 - OWNERSHIP, CONTROL, AND LOCATIONS OF OPERATION

a. Is this company owned or controlled by another company?
 097 YES →
 NO
 EI No. (9 digits)

b. Does this company own or control any other company or companies?
 098 YES →
 NO
 EI No. (9 digits)

c. How many establishments were operated under the EI Number shown in the address label (or as corrected in item 1) at the end of 1989? →

Note - Do not include ticket selling locations in hotel lobbies, stores, etc.

If more than one, provide the physical location address and other information indicated below for each establishment. The headquarters location should be listed on line 1, followed by other locations. If book figures are not available, estimates are acceptable. Continue with the same format in REMARKS (or attach a separate sheet) if necessary.

NAME, ADDRESS, AND ZIP CODE	1989	Mil.	Thou.	Dol.	
					Revenue
1	081				
KIND-OF-BUSINESS DESCRIPTION	082				
	Census use	083			
2	081				
KIND-OF-BUSINESS DESCRIPTION	082				
	Census use	083			
3	081				
KIND-OF-BUSINESS DESCRIPTION	082				
	Census use	083			
4	081				
KIND-OF-BUSINESS DESCRIPTION	082				
	Census use	083			

REMARKS - Please use this space for any explanations that may be essential in understanding your reported data.

Item 14 - CERTIFICATION - This report is substantially accurate and has been prepared in accordance with instructions.

Period covered by this report → FROM: Mo. Year TO: Mo. Year

Name of person to contact regarding this report - Print or type

Telephone → Area code Number Extension

Signature of authorized person Date



U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

FORM
CB-4500(X)

CENSUS OF TRANSPORTATION, COMMUNICATIONS, AND UTILITIES - 1989 PRETEST

AIR TRANSPORTATION

OMB APPROVAL NO. 0607-0695 EXPIRES 12/31/91

Employer Identification (EI)
Number

NOTICE - Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is **confidential**. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

Please complete this form and RETURN TO:
BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, IN 47134-0001

DUE DATE: 30 DAYS AFTER RECEIPT

NOTE - Please read the accompanying instructions before answering the questions.

CENSUS USE ONLY

Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.

Item 1 - EMPLOYER IDENTIFICATION NUMBER

Is the Employer Identification (EI) Number shown in the label the SAME as that used for this establishment on its latest 1989 Employer's Quarterly Federal Tax Return, Treasury Form 941?

- 094 1 YES (9 digits)
- 2 NO - Enter current EI No. _____

Item 2 - PHYSICAL LOCATION OF ESTABLISHMENT

Answer items a, b, c, and d

NOTE: P.O. boxes or rural routes are not physical locations.

- a. Same as shown in mailing label. If different, indicate change.

NUMBER AND STREET
CITY, TOWN, VILLAGE, ETC.
STATE
ZIP CODE

- b. Is this establishment physically located inside the legal boundaries of the city, town, village, etc.?

- 095 1 YES 3 No legal boundaries
- 2 NO 4 Don't know

- c. Type of municipality where physically located

- 099 1 City, village, or borough 3 Other or don't know
- 2 Town or township

- d. Name of county where physically located

Item 3 - OPERATIONAL STATUS

Number of months

- a. How many months during 1989 did this firm or organization actively operate this establishment?

002

- b. Mark (X) the ONE box which best describes this establishment at the end of 1989.

- 001 1 In operation
- 2 Temporarily or seasonally inactive
- 3 Ceased operation - Give date →
- 4 Sold or leased to another operator - Give date at right → AND enter name, etc., below →

Figures only
Month Day Year

NAME OF NEW OWNER OR OPERATOR
NUMBER AND STREET
CITY
STATE
ZIP CODE

Item 4 - ORGANIZATIONAL STATUS

Mark (X) the ONE box which best describes this establishment during 1989.

- 003 1 Individual proprietorship
- 2 Partnership
- 3 Cooperative (taxable)
- 4 Cooperative (tax-exempt)
- 5 Governmental - Specify _____
- 6 Corporation
- 9 Other - Specify _____

Item 5 - Not applicable to this report.

In correspondence pertaining to this report, please refer to this Census File Number (CFN)

HOW TO REPORT DOLLAR FIGURES

Value figures may be reported in dollars or rounded to thousands.

Example: If a figure is \$1,125,628, Preferred report either

Mil- lions (000)	Thou- sands (000)	Dol- lars (000)
1	126	
1	125	628

Item 6 - DOLLAR VOLUME

Mil. Thou. Dol.

010

OPERATING REVENUE in 1989

Item 7 - PAYROLL AND EMPLOYMENT

Mil. Thou. Dol.

014

- a. Payroll in 1989, before deductions

(1) Total ANNUAL payroll

015

(2) FIRST QUARTER payroll (Jan. - Mar.)

- b. Employment in 1989

Number

018

Number of paid employees for the pay period including March 12, 1989 (include both full- and part-time employees)

Item 8 - KIND OF BUSINESS OR ACTIVITY

Mark (X) the ONE box which best describes the business or activity that accounted for the MAJOR portion of this establishment's revenue in 1989:

- Scheduled air transportation** 020
- Passenger carrier, including commuter 451211
- Cargo carrier 451221
- Other air transportation**
- Charter passenger service 452211
- Air taxi service 452221
- Sightseeing airplane service 452231
- Other air transportation - Describe 452291
- Courier service, including delivery of parcels weighing 100 pounds or less**
- Air courier service 451301
- Courier service, except by air
- Local 421512
- Intercity 421522
- Arrangement of transportation for passengers**
- Travel agency - NOT operated by transportation company 472403
- Airline ticket office operated by DOMESTIC air carrier 451212
- Airline ticket office operated by FOREIGN air carrier 472293
- Arrangement of transportation for freight and cargo**
- Freight forwarding service (undertaking the transportation of goods from shippers to receivers for a charge which covers the entire transportation and, in turn, makes use of the services of various freight carriers in effecting delivery) 473114
- Shipping agent or broker 473126

Complete all items

SKIP to item 10

ITEM 8 CONTINUED ON PAGE 2

Item 8 - KIND OF BUSINESS OR ACTIVITY - Continued

Air transportation services (Air carriers should mark the box on the previous page that best describes the air transportation activity supported by the services operated at this location.)

- Flying fields, except those operated by aviation clubs 458111
- Airport operations 458121
- Airfreight handling 458122
- Aircraft cleaning and janitorial service 458123
- Aircraft servicing and repair, except on a factory basis 458124
- Other air transportation service - Describe 458125

Other air transportation-related activities

- Aircraft rebuilding and repair on a factory basis 9372100
- Aircraft and aeronautical equipment sales
- Households 9559920
- Businesses 9508810
- Aircraft rental and leasing, without pilot 9735910
- Aircraft fueling service 9517200
- Other air transportation-related service - Describe 9000000

Other kind of activity - Describe 777777

Skip to item 10

NOTE

Answer item 10 only if your Census File Number (CFN), shown in the address label of this report form, begins with a zero.

Item 10 - OWNERSHIP, CONTROL, AND LOCATIONS OF OPERATION

a. Is this company owned or controlled by another company?

- 097 1 YES →
- 2 NO

ENTER OWNING OR CONTROLLING COMPANY NAME, ADDRESS, AND ZIP CODE

EI No. (9 digits)

b. Does this company own or control any other company or companies?

- 098 1 YES →
- 2 NO

ENTER OWNED OR CONTROLLED COMPANY NAME, ADDRESS, AND ZIP CODE

EI No. (9 digits)

c. How many establishments were operated under the EI Number shown in the address label (or as corrected in item 1) at the end of 1989? →

Number
079

Note - Do not include ticket selling locations in hotel lobbies, stores, etc.

If more than one, provide the physical location address and other information indicated below for each establishment. The headquarters location should be listed on line 1, followed by other locations. If book figures are not available, estimates are acceptable. Continue with the same format in REMARKS for attach a separate sheet if necessary.

Item 9 - SOURCES OF REVENUE

Revenue may be reported either in dollar figures (see example on page 1) or as percentages (in whole percents) of the total (see example below). Please do NOT combine data for two or more detail lines. Estimates are acceptable.

HOW TO REPORT PERCENTS

If figure is 38.78% of total sales:
 • Report whole percents → 39
 • Not acceptable → 38.78

Sources of revenue	Census use	Mil.	Thou.	Dol.	Per-cent
1. Passenger revenues	530	531			532
a. Scheduled domestic	501				
b. Scheduled international	502				
c. Charter	503				
d. Other passenger revenue	504				
2. Freight revenues including air courier services					
a. Domestic air freight	505				
b. International air freight	506				
c. Domestic air mail	507				
d. International air mail	508				
3. Sales of merchandise					
a. Food and beverages	320				
b. Sales of other merchandise	350				
4. All other revenue - Describe in REMARKS section if this is largest source of revenue	375				
5. TOTAL - Should equal item 6 if reporting in dollars	300				100%

Continue with item 10 in next column →

NAME, ADDRESS, AND ZIP CODE	1989	1989		
		Mil.	Thou.	Dol.
1	Revenue	081		
	Annual payroll	082		
	Census use	088		
2	Revenue	081		
	Annual payroll	082		
	Census use	088		
3	Revenue	081		
	Annual payroll	082		
	Census use	088		
4	Revenue	081		
	Annual payroll	082		
	Census use	088		

REMARKS - Please use this space for any explanations that may be essential in understanding your reported data.

Item 11 - CERTIFICATION - This report is substantially accurate and has been prepared in accordance with instructions.

Name of person to contact regarding this report - Print or type _____

Period covered by this report → FROM: Mo. Year TO: Mo. Year

Telephone → Area code Number Extension Signature of authorized person Date



U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

FORM
CB-4600(X)

CENSUS OF TRANSPORTATION, COMMUNICATIONS, AND UTILITIES - 1989 PRETEST

PIPELINES

OMB APPROVAL NO. 0607-0695, EXPIRES 12/31/91
Employer Identification (EI)
Number

NOTICE - Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

In correspondence pertaining to this report, please refer to this Census File Number (CFN)

Please complete this form and RETURN TO:
BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, IN 47134-0001

DUE DATE: 30 DAYS AFTER RECEIPT

NOTE - Please read the accompanying instructions before answering the questions.

CENSUS USE ONLY

Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.

Item 1 - EMPLOYER IDENTIFICATION NUMBER

Is the Employer Identification (EI) Number shown in the label the SAME as that used for this establishment on its latest 1989 Employer's Quarterly Federal Tax Return, Treasury Form 941?

094 1 YES
2 NO - Enter current EI No. (9 digits)

HOW TO REPORT DOLLAR FIGURES

Value figures may be reported in dollars or rounded to thousands.

Example: If a figure is \$1,125,628
Preferred report either

Mil- lions (000)	Thou- sands (000)	Dol- lars (000)
1	126	
	1	125 628

Item 6 - DOLLAR VOLUME

OPERATING REVENUE in 1989

Mil.	Thou.	Dol.
010		

Item 2 - PHYSICAL LOCATION OF ESTABLISHMENT

Answer items a, b, c, and d

NOTE: P.O. boxes or rural routes are not physical locations.

a. Same as shown in mailing label. If different, indicate change.

NUMBER AND STREET
CITY, TOWN, VILLAGE, ETC. STATE ZIP CODE

b. Is this establishment physically located inside the legal boundaries of the city, town, village, etc.?

095 1 YES
2 NO
3 No legal boundaries
4 Don't know

c. Type of municipality where physically located

096 1 City, village, or borough
2 Town or township
3 Other or don't know

d. Name of county where physically located

Item 7 - PAYROLL AND EMPLOYMENT

a. Payroll in 1989, before deductions

(1) Total ANNUAL payroll

Mil.	Thou.	Dol.
014		

Mil.	Thou.	Dol.
015		

(2) FIRST QUARTER payroll (Jan.-Mar.)

b. Employment in 1989

Number of paid employees for the pay period including March 12, 1989 (include both full- and part-time employees)

Number
016

Item 3 - OPERATIONAL STATUS

a. How many months during 1989 did this firm or organization actively operate this establishment?

Number of months

002

b. Mark (X) the ONE box which best describes this establishment at the end of 1989.

001 1 In operation
2 Temporarily or seasonally inactive
3 Ceased operation - Give date
4 Sold or leased to another operator - Give date at right AND enter name, etc., below

Figures only

Month Day Year

NAME OF NEW OWNER OR LESSEE

NUMBER AND STREET

CITY STATE ZIP CODE

Item 4 - ORGANIZATIONAL STATUS

Mark (X) the ONE box which best describes this establishment during 1989.

003 1 Individual proprietorship
2 Partnership
3 Cooperative (taxable)
4 Cooperative (tax-exempt)
5 Governmental - Specify
6 Corporation
9 Other - Specify

Item 8 - KIND OF BUSINESS OR ACTIVITY

Mark (X) the ONE box which best describes the business or activity that accounted for the MAJOR portion of this establishment's revenue in 1989.

Pipelines

020

Crude petroleum 461201

Refined petroleum 461301

Coal or coal slurry 461901

Natural gas 492202

Other pipelines - Describe 461902

Other pipeline transportation-related activities

Drilling oil and gas wells 9138100

Oil and gas field exploration service 9138200

Other oil and gas field service - Describe 9138900

Petroleum bulk station or terminal 9517100

Petroleum or chemical warehousing 422802

Other kind of activity - Describe 777777

Complete all items

SKIP to item T1

Item 5 - Not applicable to this report.

PENALTY FOR FAILURE TO REPORT

CONTINUE ON PAGE 2

Item 9 - SOURCES OF REVENUE

Revenue may be reported either in dollar figures (see example on page 1) or as percentages (in whole percents) of the total (see example below).

Please do NOT combine data for two or more detail lines. Estimates are acceptable.

HOW TO REPORT PERCENTS

If the figure is 38.76% of total revenue:
 • Report whole percents → 39
 • Not acceptable → 38.76

Sources of revenue	1989 \$	Mil.	Thou.	Dol.	Per- cent
1. Pipeline transportation					
a. Crude petroleum	801				
b. Natural gas	602				
c. Refined petroleum products	603				
d. Inorganic chemicals	604				
e. Organic chemicals	605				
f. Coal	606				
g. All other	607				
2. Sales of merchandise	390				
3. All other operating revenue - Describe in REMARKS section if this is largest source of revenue.	375				
4. TOTAL - Should equal Item 6 if reporting in dollars →	300				100%

Item 10 - CONSTRUCTION ACTIVITY

a. Did THIS ESTABLISHMENT have any employees on the payroll engaged in construction, renovation, or maintenance and repairs of buildings, structures, or lines? (Exclude employees engaged only in such activities as janitorial services, cleaning, lawn maintenance, etc.)

- 583 1 YES - Continue with b
 2 NO - Skip to item 11

b. Report the total expenditures in 1989 for the construction work done by these employees. (Include labor and materials. Exclude land and the value of production machinery and equipment not an integral part of a structure.)

Report in whole percents

	Mil.	Thou.	Dol.
584			
585			
586			
(3) TOTAL - Sum of lines (1) and (2) should add to 100 percent			100%
587			
588			
589			
(4) TOTAL - Sum of lines (1) through (3) should add to 100 percent			100%

NOTE

Answer Item 11 only if your Census File Number (CFN), shown in the address label of this report form, begins with a zero.

Item 11 - OWNERSHIP, CONTROL, AND LOCATIONS OF OPERATION

a. Is this company owned or controlled by another company?
 097 1 YES →
 2 NO
 ENTER OWNING OR CONTROLLING COMPANY NAME, ADDRESS, AND ZIP CODE
 EI No. (9 digits)

b. Does this company own or control any other company or companies?
 098 1 YES →
 2 NO
 ENTER OWNED OR CONTROLLED COMPANY NAME, ADDRESS, AND ZIP CODE
 EI No. (9 digits)

c. How many establishments were operated under the EI Number shown in the address label (or as corrected in item 1) at the end of 1989? →
 Number
 if more than one, provide the physical location address and other information indicated below for each establishment. The headquarters location should be listed on line 1, followed by other locations. If book figures are not available, estimates are acceptable. Continue with the same format in REMARKS (or attach a separate sheet) if necessary.

1	NAME, ADDRESS, AND ZIP CODE	1989		
		Mil.	Thou.	Dol.
	Revenue	081		
	Annual payroll	082		
	Census use	088		
2	NAME, ADDRESS, AND ZIP CODE	1989		
	Revenue	081		
	Annual payroll	082		
3	NAME, ADDRESS, AND ZIP CODE	1989		
	Revenue	081		
	Annual payroll	082		
4	NAME, ADDRESS, AND ZIP CODE	1989		
	Revenue	081		
	Annual payroll	082		

REMARKS - Please use this space for any explanations that may be essential in understanding your reported data.

Item 12 - CERTIFICATION - This report is substantially accurate and has been prepared in accordance with instructions.

Period covered by this report → FROM: Mo Year TO: Mo Year

Name of person to contact regarding this report - Print or type

Telephone → Area code Number Extension

Signature of authorized person Date



U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

FORM
CB-4801(X)

CENSUS OF TRANSPORTATION, COMMUNICATIONS, AND UTILITIES - 1989 PRETEST

TELEPHONE AND TELEGRAPH COMMUNICATIONS

OMB APPROVAL NO. 0607-0695 EXPIRES 12/31/91

NOTICE - Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

In correspondence pertaining to this report, please refer to this Census File Number (CFN)

Employer Identification (EI) Number

Please complete this form and RETURN TO
BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, IN 47134-0001

DUE DATE: 30 DAYS AFTER RECEIPT

NOTE - Please read the accompanying instructions before answering the questions.

CENSUS USE ONLY

Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.

Item 1 - EMPLOYER IDENTIFICATION NUMBER

Is the Employer Identification (EI) Number shown in the label the SAME as that used for this establishment on its latest 1989 Employer's Quarterly Federal Tax Return, Treasury Form 941?

- 094 1 YES
 2 NO - Enter current EI No. (9 digits)

HOW TO REPORT DOLLAR FIGURES

Value figures may be reported in dollars or rounded to thousands.

Example: If a figure is \$1,125,828, report either

Mil- lions (000)	Thou- sands (000)	Dol- lars (000)
1	126	
1	125	828

Item 6 - DOLLAR VOLUME

OPERATING REVENUE in 1989

Item 7 - PAYROLL AND EMPLOYMENT

a. Payroll in 1989, before deductions

(1) Total ANNUAL payroll

(2) FIRST QUARTER payroll (Jan. - Mar.)

b. Employment in 1989

Number of paid employees for the pay period including March 12, 1989 (include both full- and part-time employees)

Item 8 - KIND OF BUSINESS OR ACTIVITY

Mark (X) the ONE box which best describes the PRINCIPAL kind of business of this establishment in 1989.

- Telephone communications, except radiotelephones 020
- Local telephone service 481311
 - Long distance telephone service 481321
 - Data transmission service 481331
 - Other telephone service - Describe 481381

- Radiotelephone communications
- Cellular telephone service 481211
 - Paging service 481221
 - Other radiotelephone service - Describe 481291

- Telegraph and other message communications
- Telegraph service 482211
 - Facsimile transmission service 482231
 - Telex service 482241
 - Other telegraph and message communication - Describe 482291

- Other telephone and telegraph related activities
- Telephone answering service 973990
 - Telemarketing service 973890
 - Telephone equipment repair 978290
 - Telephone equipment sales
 - Households 959990
 - Businesses 950650

Other kind of business - Describe 777777

Item 2 - PHYSICAL LOCATION OF ESTABLISHMENT

Answer items a, b, c, and d

NOTE: P.O. boxes or rural routes are not physical locations.

a. Same as shown in mailing label. If different, indicate change.

NUMBER AND STREET

CITY, TOWN, VILLAGE, ETC. STATE ZIP CODE

b. Is this establishment physically located inside the legal boundaries of the city, town, village, etc.?

- 095 1 YES 3 No legal boundaries
 2 ND 4 Don't know

c. Type of municipality where physically located

- 096 1 City, village, or borough 3 Other or don't know
 2 Town or township

d. Name of county where physically located

Item 3 - OPERATIONAL STATUS

a. How many months during 1989 did this firm or organization actively operate this establishment?

b. Mark (X) the ONE box which best describes this establishment at the end of 1989.

- 001 1 In operation
 2 Temporarily or seasonally inactive
 3 Ceased operation - Give date ->
 4 Sold or leased to another operator - Give date at right AND enter name, etc., below

NAME OF NEW OWNER OR OPERATOR

NUMBER AND STREET

CITY STATE ZIP CODE

Item 4 - ORGANIZATIONAL STATUS

Mark (X) the ONE box which best describes this establishment during 1989.

- 003 1 Individual proprietorship
 2 Partnership
 3 Cooperative (taxable)
 4 Cooperative (tax-exempt)
 5 Governmental - Specify _____
 6 Corporation
 9 Other - Specify _____

Item 5 - Not applicable to this report.

PENALTY FOR FAILURE TO REPORT

CONTINUE ON PAGE 2

Item 9 - SOURCES OF REVENUE
 Revenue may be reported either in dollar figures (see example on page 1) or as percentages (in whole percents) of the total (see example below). Please do NOT combine data for two or more detail lines. Estimates are acceptable.

Sources of revenue	Census use	If the figure is 38.76% of total revenue.			
		Mil.	Thou.	Dol.	Per-cent
1. Telephone services (include cellular/radiotelephone)	530	531			532
a. Local telephone service	801				
b. Long distance service	802				
c. Cellular/Radio telephone service	803				
d. Telephone data transmission	804				
e. Other telephone service	805				
2. Network access revenues	810				
3. Telegraph, cable, or telex transmission service	815				
4. Advertising revenue	820				
5. Rent or lease of communications equipment	315				
6. Sale of communications equipment	325				
7. Sale of merchandise	390				
8. All other revenue - Describe in REMARKS section if this is largest source of revenue.	375				
9. TOTAL - Should equal item 6 if reporting in dollars	300				100%

Item 10 - REVENUE BY CLASS OF CUSTOMER
 Report the percentage of your 1989 revenues accounted for by each of the following classes of customer.

Class of customer	Report in whole percents
a. Residential	62
b. Commercial	63
c. Institutional	64
d. Governmental	65
e. Other	66
f. TOTAL - Sum of lines a through e should add to 100 percent	100%

Item 11 - CONSTRUCTION ACTIVITY

a. Did THIS ESTABLISHMENT have any employees on the payroll engaged in construction, renovation, or maintenance and repairs of buildings, structures, or lines? (Exclude employees engaged only in such activities as janitorial services, cleaning, lawn maintenance, etc.)

1 YES - Continue with b
 2 NO - Skip to item 12

b. Report the total expenditures in 1989 for the construction work done by these employees. (Include labor and materials. Exclude land and the value of production machinery and equipment not an integral part of a structure.)

	Mil.	Thou.	Dol.
58a			

c. What percentage was for:

	Report in whole percents
(1) Buildings and structures	58b
(2) Lines and equipment	58c
(3) TOTAL - Sum of lines (1) and (2) should add to 100 percent	100%

d. What percentage was for:

(1) New construction	58d
(2) Renovations	58e
(3) Maintenance and repairs	58f
(4) TOTAL - Sum of lines (1) through (3) should add to 100 percent	100%

NOTE
 Answer Item 12 only if your Census File Number (CFN), shown in the address label of this report form, begins with a zero.

Item 12 - OWNERSHIP, CONTROL, AND LOCATIONS OF OPERATION

a. Is this company owned or controlled by another company?
 097 YES →
 2 NO
 ENTER OWNING OR CONTROLLING COMPANY NAME, ADDRESS, AND ZIP CODE
 EI No. (9 digits)

b. Does this company own or control any other company or companies?
 098 YES →
 2 NO
 ENTER OWNED OR CONTROLLED COMPANY NAME, ADDRESS, AND ZIP CODE
 EI No. (9 digits)

c. How many establishments were operated under the EI Number shown in the address label (or as corrected in item 1) at the end of 1989? → Number

If more than one, provide the physical location address and other information indicated below for each establishment. The headquarters location should be listed on line 1, followed by other locations. If book figures are not available, estimates are acceptable. Continue with the same format in REMARKS (or attach a separate sheet) if necessary.

NAME, ADDRESS, AND ZIP CODE	1989			
	Mil.	Thou.	Dol.	
1	Revenue	081		
	Annual payroll	082		
	Census use	088		
2	Revenue	081		
	Annual payroll	082		
	Census use	088		
3	Revenue	081		
	Annual payroll	082		
	Census use	088		
4	Revenue	081		
	Annual payroll	082		
	Census use	088		

REMARKS - Please use this space for any explanations that may be essential in understanding your reported data.

Item 13 - CERTIFICATION - This report is substantially accurate and has been prepared in accordance with instructions.

Period covered by this report → FROM: Mo. Year TO: Mo. Year

Name of person to contact regarding this report - Print or type

Telephone → Area code Number Extension

Signature of authorized person Date



U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

FORM
CB-4802(X2)

**CENSUS OF TRANSPORTATION, COMMUNICATIONS,
AND UTILITIES - 1989 PRETEST**
RADIO, TELEVISION, AND CABLE TELEVISION BROADCASTING

OMB APPROVAL NO. 0807-0595 EXPIRES 12/31/91

NOTICE - Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

In correspondence pertaining to this report, please refer to this Census File Number (CFN)

Employer Identification (EI) Number

Please complete this form and RETURN TO:
BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, IN 47134-0001

DUE DATE: 30 DAYS AFTER RECEIPT

NOTE - Please read the accompanying instructions before answering the questions.

CENSUS USE ONLY

Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.

Item 1 - EMPLOYER IDENTIFICATION NUMBER
Is the Employer Identification (EI) Number shown in the label the SAME as that used for this establishment on its latest 1989 Employer's Quarterly Federal Tax Return, Treasury Form 941?

094 YES NO - Enter current EI No. _____
(9 digits)

HOW TO REPORT DOLLAR FIGURES

Value figures may be reported in dollars or rounded to thousands.
Example: If a figure is 01,125,628, report either **1125628** (Preferred) or **1125628** (Acceptable)

Mil- lions (000)	Thou- sands (000)	Dol- lars (000)
1	125	628

Item 2 - PHYSICAL LOCATION OF ESTABLISHMENT
Answer items a, b, c, and d.
NOTE: P.O. boxes or rural routes are not physical locations.

a. Same as shown in mailing label. If different, indicate change.

NUMBER AND STREET _____
CITY, TOWN, VILLAGE, ETC. _____ STATE _____ ZIP CODE _____

b. Is this establishment physically located inside the legal boundaries of the city, town, village, etc.?
095 YES NO No legal boundaries Don't know

c. Type of municipality where physically located
096 City, village, or borough Town or township Other or don't know

d. Name of county where physically located _____

Item 6 - DOLLAR VOLUME
OPERATING REVENUE in 1989 (Exclude contributions, gifts, and grants.)

010 _____

Item 7 - PAYROLL AND EMPLOYMENT

a. Payroll in 1989, before deductions

(1) Total ANNUAL payroll _____
015 _____

(2) FIRST QUARTER payroll (Jan. - Mar.) _____

b. Employment in 1989 _____
Number
018 _____

Number of paid employees for the pay period including March 12, 1989 (include both full- and part-time employees)

Item 3 - OPERATIONAL STATUS Number of months

a. How many months during 1989 did this firm or organization actively operate this establishment?
002 _____

b. Mark (X) the ONE box which best describes this establishment at the end of 1989.

001 In operation Temporarily or seasonally inactive Ceased operation - Give date → _____
Month Day Year

Sold or leased to another operator - Give date at right → _____
AND enter name, etc., below

NAME OF NEW OWNER OR OPERATOR _____
NUMBER AND STREET _____
CITY _____ STATE _____ ZIP CODE _____

Item 8 - KIND OF BUSINESS OR ACTIVITY
Mark (X) the ONE box which best describes the PRINCIPAL kind of business of this establishment in 1989.

Radio broadcasting station 020

Network 483201
Affiliate 483202
Independent 483203
Public 483204

Television broadcasting station

Network 483301
Affiliate 483302
Independent 483303
Public 483304

Cable television service 484101

Other pay television services - Describe 48A102

Item 4 - ORGANIZATIONAL STATUS
Mark (X) the ONE box which best describes this establishment during 1989.

003 Individual proprietorship Corporation
 Partnership Other - Specify _____
 Cooperative (taxable)
 Cooperative (tax-exempt)
 Governmental - Specify _____

Other communications-related services

Television program production, including commercials 9781200
Motion picture and video tape production 9781200

Radio program production, including commercials 9792200
Information retrieval service 9737500

Other communication-related service - Describe 489901

Other kind of business - Describe 721217

Item 5 - TAX STATUS

a. Is this establishment operated on a not-for-profit basis?
005 YES NO - SKIP to item 6

b. Was all or part of the income of this establishment or organization exempt from Federal income taxes under section 501 or 521 of the Internal Revenue Code?
004 YES NO

PENALTY FOR FAILURE TO REPORT

CONTINUE ON PAGE 2

Item 9 - SOURCES OF REVENUE

Revenue may be reported either in dollar figures (see example on page 1) or as percentages (in whole percents) of the total (see example below).

Please do NOT combine data for two or more detail lines. Estimates are acceptable.

HOW TO REPORT PERCENTS

If the figure is 38.76% of total revenue:

- Report whole percents → 39
- Not acceptable → 38.76

Sources of revenue	080-086	Mil.	Thou.	Dol.	Per cent
1. Station revenues	080	081			082
a. Network compensation	081				
b. National and regional advertising	082				
c. Local advertising	083				
d. Other station revenues	084				
2. Network revenues					
a. Advertising	085				
b. Program revenues from stations	086				
c. Other network revenues	085				
3. Cable and other pay television					
a. Advertising	086				
b. Other program revenues	085				
4. All other revenue - Describe in REMARKS section if this is largest source of revenue.	087				
5. TOTAL - Should equal Item 6 if reporting in dollars →	300				100%

Item 10 - CONTRIBUTIONS, GIFTS, AND GRANTS

a. Did THIS ESTABLISHMENT receive any contributions, gifts, or grants in 1989? 089
 YES - Continue with b
 NO - Skip to item 11

b. Report the value of all contributions, gifts, or grants received in 1989. 090

	Mil.	Thou.	Dol.
(1) Federal, state, and local governments	091		
(2) All others	092		
(3) TOTAL	090		

Item 11 - CONSTRUCTION ACTIVITY

a. Did THIS ESTABLISHMENT have any employees on the payroll engaged in construction, renovation, or maintenance and repairs of buildings, structures, or lines? (Exclude employees engaged only in such activities as janitorial services, cleaning, lawn maintenance, etc.) 093
 YES - Continue with b
 NO - Skip to item 12

b. Report the total expenditures in 1989 for the construction work done by these employees. (Include labor and materials. Exclude land and the value of production machinery and equipment not an integral part of a structure.) 094

	Mil.	Thou.	Dol.
Report in whole percents	095		
(1) Buildings and structures	096		
(2) Lines and equipment	097		
(3) TOTAL - Sum of lines (1) and (2) should add to 100 percent	098		100%

c. What percentage was for:

(1) New construction	099		
(2) Renovations	100		
(3) Maintenance and repairs	101		
(4) TOTAL - Sum of lines (1) through (3) should add to 100 percent	102		100%

NOTE

Answer Item 12 only if your Census File Number (CFN), shown in the address label of this report form, begins with a zero.

Item 12 - OWNERSHIP, CONTROL, AND LOCATIONS OF OPERATION

a. Is this company owned or controlled by another company? 097
 YES →
 NO

ENTER OWNING OR CONTROLLING COMPANY NAME, ADDRESS, AND ZIP CODE
 EI No. (9 digits)

b. Does this company own or control any other company or companies? 098
 YES →
 NO

ENTER OWNED OR CONTROLLED COMPANY NAME, ADDRESS, AND ZIP CODE
 EI No. (9 digits)

c. How many establishments were operated under the EI Number shown in the address label (or as corrected in item 11) at the end of 1989? 099

If more than one, provide the physical location address and other information indicated below for each establishment. The headquarters location should be listed on line 1, followed by other locations. If book figures are not available, estimates are acceptable. Continue with the same format in REMARKS (or attach a separate sheet) if necessary.

NAME, ADDRESS, AND ZIP CODE	1989		
	Mil.	Thou.	Dol.
1	081		
Revenue	081		
Annual payroll	082		
KIND-OF-BUSINESS DESCRIPTION	Census use 088		
2	081		
Revenue	081		
Annual payroll	082		
KIND-OF-BUSINESS DESCRIPTION	Census use 088		
3	081		
Revenue	081		
Annual payroll	082		
KIND-OF-BUSINESS DESCRIPTION	Census use 088		
4	081		
Revenue	081		
Annual payroll	082		
KIND-OF-BUSINESS DESCRIPTION	Census use 088		

REMARKS - Please use this space for any explanations that may be essential in understanding your reported data.

Item 13 - CERTIFICATION - This report is substantially accurate and has been prepared in accordance with instructions.

Period covered by this report → FROM Mo. Year TO Mo. Year

Name of person to contact regarding this report - Print or type

Telephone → Area code Number Extension

Signature of authorized person Date



NOTICE - Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

In correspondence pertaining to this report, please refer to this Census File Number (CFM)

Employer Identification (EI) Number

Please complete this form and RETURN TO: **BUREAU OF THE CENSUS**
1201 East Tenth Street
Jeffersonville, IN 47134-0001

DUE DATE: 30 DAYS AFTER RECEIPT

NOTE - Please read the accompanying instructions before answering the questions.

CENSUS USE ONLY

Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.

Item 1 - EMPLOYER IDENTIFICATION NUMBER

Is the Employer Identification (EI) Number shown in the label the SAME as that used for this establishment on its latest 1989 Employer's Quarterly Federal Tax Return, Treasury Form 941?

094 1 YES 2 NO - Enter current EI No. →

(9 digits)

HOW TO REPORT DOLLAR FIGURES

Value figures may be reported in dollars or rounded to thousands.

Example: If a figure is \$1,125,628, report either Preferred Alternative

Mil- lions (000)	Thou- sands (00)	Dol- lars (000)
1	125	628

Item 2 - PHYSICAL LOCATION OF ESTABLISHMENT

Answer items a, b, c, and d

NOTE: P.O. boxes or rural routes are not physical locations.

a. Same as shown in mailing label. If different, indicate change. →

NUMBER AND STREET

CITY, TOWN, VILLAGE, ETC. STATE ZIP CODE

b. Is this establishment physically located inside the legal boundaries of the city, town, village, etc.?

095 1 YES 2 NO 3 No legal boundaries 4 Don't know

c. Type of municipality where physically located

096 1 City, village, or borough 2 Town or township 3 Other or don't know

d. Name of county where physically located

Item 6 - DOLLAR VOLUME

If the answer to item 5b was "YES," skip to part b; otherwise, complete part a and skip to item 7.

Mil. Thou. Dol.

	Mil.	Thou.	Dol.
a. OPERATING REVENUE (taxable) in 1989	010		
b. REVENUE AND EXPENSES (tax-exempt) in 1989	011		
(1) REVENUE	012		
(2) EXPENSES (including payroll)	013		

Item 7 - PAYROLL AND EMPLOYMENT

a. Payroll in 1989, before deductions

	Mil.	Thou.	Dol.
(1) Total ANNUAL payroll	014		
(2) FIRST QUARTER payroll (Jan. - Mar.)	015		

b. Employment in 1989

Number of paid employees for the pay period including March 12, 1989 (include both full- and part-time employees)

Item 3 - OPERATIONAL STATUS

Number of months

a. How many months during 1989 did this firm or organization actively operate this establishment?

002

b. Mark (X) the ONE box which best describes this establishment at the end of 1989.

- 001 1 In operation
- 2 Temporarily or seasonally inactive
- 3 Ceased operation - Give date →
- 4 Sold or leased to another operator - Give date at right AND enter name, etc., below →

Figures only

Month	Day	Year

NAME OF NEW OWNER OR OPERATOR

NUMBER AND STREET

CITY STATE ZIP CODE

Item 4 - ORGANIZATIONAL STATUS

Mark (X) the ONE box which best describes this establishment during 1989.

- 003 1 Individual proprietorship 0 Corporation
- 2 Partnership 9 Other - Specify →
- 3 Cooperatives (taxable)
- 4 Cooperative (tax-exempt)
- 5 Governmental - Specify →

Item 5 - TAX STATUS

a. Is this establishment operated on a not-for-profit basis?

005 1 YES 2 NO - SKIP to item 6

b. Was all or part of the income of this establishment or organization exempt from Federal income taxes under section 501 or 521 of the Internal Revenue Code?

004 1 YES 2 NO

Item 8 - KIND OF BUSINESS OR ACTIVITY

Mark (X) the ONE box which best describes the business or activity that accounted for the MAJOR portion of this establishment's revenue in 1989.

Electric service

- Generating plant-type 020
 - Fossil steam 491111
 - Internal combustion 481121
 - Nuclear 491131
 - Hydro 481141
 - Other - Describe 491151

Other kind of electric service facility - Describe 481191

Gas production and distribution

- Natural gas transmission only 492201
- Natural gas distribution only 492401
- Natural gas transmission and distribution 492301
- Mixed, manufactured, or liquefied petroleum gas production and/or distribution 492501

Complete all items

Combination electric and gas and other utility services

- Electric (primarily) and other services combined 493101
- Gas (primarily) and other services combined 493201
- Other combined utilities - Describe 493901

- Water supply (except irrigation) 497101
- Steam and air conditioning supply 496101

ITEM 8 CONTINUED ON PAGE 2

Item 8 - KIND OF BUSINESS OR ACTIVITY - Continued

Irrigation system 070

Providing water 497101 } Complete all items

NOT providing water 9072100 }

Sanitary services

Sewerage system 495201

Refuse system (collection and disposal of refuse by processing or destruction) 495301 } Skip to item 10

Other sanitary services - Describe 495901 }

Other utility-related activities

Heating and air conditioning contractors 9171100

Electrical work contractors 9173100

Household appliance store 9572200

Fuel oil dealer 9598300 } Skip to item 13

Liquefied petroleum (LPI) gas dealer 9598400 }

Other utility-related activity - Describe 9000000 }

Other kind of activity - Describe 777777

Item 9 - SOURCES OF REVENUE

Revenue may be reported either in dollar figures (see example on page 1), or as percentages (in whole percents) of the total - see example below. Please do NOT combine data for two or more detail lines. Estimates are acceptable.

Sources of revenue	Census use	If figure is 38.76% of total receipts:			
		Mil.	Thou.	Dol.	Per-cent
					39
					38.78
1. Sales of energy or resources					
a. Electricity	901	531			932
b. Natural gas	902				
c. Manufactured or mixed gas	903				
d. Steam or air-conditioning	904				
e. Water	905				
2. Natural gas transmission	910				
3. Sales of merchandise					
a. Household appliances	360				
b. Other merchandise	380				
4. All other revenue - Describe in REMARKS section if this is the largest source of revenue					375
5. TOTAL - Sum of lines 1 through 4 should equal Item 6a. Tax-exempt establishments - leave blank					300
6. Subsidies, contributions, gifts, or grants					
a. From Federal, state, and local governments					870
b. From all others					875
7. TOTAL REVENUE - Sum of lines 1 through 4 and line 6 should equal Item 6b(1) - Taxable establishments - leave blank					399

Item 10 - REVENUE BY CLASS OF CUSTOMER

Report the approximate percentage of your 1989 revenue (Item 6) to each of the customer classes listed. Report in whole percents.

a. Residential	821
b. Commercial	822
c. Industrial	823
d. Governmental (except utilities)	824
e. Government owned utilities	825
f. Private utilities (including co-ops, etc.)	826
g. Other - Describe	827
h. TOTAL - Sum of lines a through g should add to 100 percent	100%

Item 11 - EXPORTED ENERGY

a. Did this establishment export energy or resources to customers in Canada and Mexico?

615 YES - Continue with b NO - Skip to item 12

b. Report the approximate percentage of your 1989 revenue (Item 6) from exports to customers in Canada and Mexico? Report in whole percents 616

Item 12 - CONSTRUCTION ACTIVITY

a. Did THIS ESTABLISHMENT have any employees on the payroll engaged in construction, renovation, or maintenance and repairs of buildings, structures, or lines? (Exclude employees engaged only in such activities as janitorial services, cleaning, lawn maintenance, etc.)

583 YES - Continue with b NO - Skip to item 13

b. Report the expenditures in 1989 for the construction work done by these employees. (Include labor and materials. Exclude land and the value of production machinery and equipment not an integral part of a structure.)

	Mil.	Thou.	Dol.
584			
Report in whole percents			
c. What percentage was for:	585		
(1) Buildings and structures			
(2) Lines and equipment	586		
(3) TOTAL - Sum of lines (1) and (2) should add to 100 percent	100%		
d. What percentage was for:	587		
(1) New construction	588		
(2) Renovations	589		
(3) Maintenance and repairs	590		
(4) TOTAL - Sum of lines (1) through (3) should add to 100 percent	100%		

NOTE

Answer Item 13 only if your Census File Number (CFN), shown in the address label of this report form, begins with a zero.

Item 13 - OWNERSHIP, CONTROL, AND LOCATIONS OF OPERATION

a. Is this company owned or controlled by another company?

087 YES → NO

EI No. (9 digits)

b. Does this company own or control any other company or companies?

088 YES → NO

EI No. (9 digits)

c. How many establishments were operated under the EI Number shown in the address label (or as corrected in item 1) at the end of 1989? →

Number 089

If more than one, provide the physical location address and other information indicated below for each establishment. The headquarters location should be listed on line 1, followed by other locations. If book figures are not available, estimates are acceptable. Continue with the same format in REMARKS (or attach a separate sheet) if necessary.

NAME, ADDRESS, AND ZIP CODE	1989		
	Mil.	Thou.	Dol.
1	Revenue 081		
	Annual payroll 082		
	Census use 088		
2	Revenue 081		
	Annual payroll 082		
	Census use 088		

REMARKS - Please use this space for any explanations that may be essential in understanding your reported data.

Item 14 - CERTIFICATION - This report is substantially accurate and has been prepared in accordance with instructions.

Period covered by this report → FROM: Mo. Year TO: Mo. Year

Name of person to contact regarding this report - Print or type

Telephone → Area code Number Extension

Signature of authorized person Date

NOTICE - Response to this inquiry is required by law (Title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

FORM CB-2(E)(X)
(8-1-90)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

**CENSUS OF TRANSPORTATION, COMMUNICATIONS,
AND UTILITIES - 1989 PRETEST
EVALUATION SUPPLEMENT**

Please complete this form and RETURN TO
BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, IN 47134-0001

NOTE

Please provide the following information regarding the questionnaire and return with the form in the enclosed envelope. Your responses will be used in the planning process to develop census questionnaires for the 1992 Economic Censuses.

1. Considering the time you spent reading instructions, compiling and reviewing information, and recording your answers, how long did it take you to complete the questionnaire?

030 _____ Hours 031 _____ Minutes

2. Did you report data for a single physical location (airline terminal, radio or television station, power plant, etc.)?

032 Yes

2 No - Please describe the physical locations covered by your report _____

3. Please identify the inquiries that had faulty or confusing instructions or were particularly difficult to report; also, provide a brief description of the problem.

Inquiry No. Problem description

033 _____

034 _____

035 _____

4. If this establishment is part of a multi-establishment firm (one that regularly conducts business at two or more physical locations), can you report revenue for each establishment?

036 Yes

2 No - Please explain _____

5. Were inquiries consistent with standard definitions and recordkeeping requirements for your kind of business?

037 Yes

2 No - Please explain _____

6. Do you have suggestions for improving the questionnaire (e.g., by changing the format, changing terminology or definitions)?

038 Yes - Please describe _____

2 No

c.3

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