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# Appendix C

## *Database Descriptions*

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# Appendix C. Database Descriptions

Appendix C contains descriptions of the following:

1993 Commodity Flow Survey (CFS)  
Transearch  
Freight Transportation and Logistics Service  
U.S. Imports/Exports of Merchandise on CD-ROM  
U.S. Exports of Domestic and Foreign Merchandise by State/Region/Port  
(state of Export Tapes)  
U.S. Exports by State of Origin of Movement (MISER State of Export)  
U.S. Exports and Imports Transshipped via Canadian Ports Annual Report  
The Directory of U.S. Importers/Exporters  
National Transportation Statistics, Annual Report  
U.S. Air Freight Origin Traffic Statistics  
U.S. Air Carrier Traffic and Capacity Data by Nonstop Segment and On-  
Flight Market (Form 41 Schedule T-100)  
Airport Activity Statistics of Certificated Route Air Carriers  
Worldwide (North American) Airport Traffic Report  
ICC Carload Waybill Sample  
Freight Commodity Statistics  
North American Trucking Survey (NATS)  
LTL Commodity and Market Flow Database  
Truck Inventory and Use Survey (TIUS)  
Nationwide Truck Activity and Commodity Survey (NTACS)  
State Estimates of Truck Traffic  
Port Import/Export Reporting Service (PIERS)  
U.S. Waterborne General Imports (Exports) and Inbound (Outbound)  
Intransit Shipments  
Waterborne Commerce and Vessel Statistics  
Ship Movements Database  
World Sea Trade Service  
Lock Performance Monitoring System (PMS)  
St. Lawrence Seaway Traffic Reports  
Annual Report Lake Carriers' Association  
Exports from Manufacturing Establishments  
Fresh Fruit and Vegetable Shipments by Commodities, States, and Months  
Fresh Fruit and Vegetable Arrival Totals for 23 Cities  
Quarterly Coal Report  
Natural Gas Monthly  
Natural Gas Annual  
Petroleum Supply Monthly  
Grain Transportation

Additional information on transportation data sources is now available in the **Directory of Transportation Data Sources**, available on paper, diskette, or CD-ROM from the Bureau of Transportation Statistics (BTS) of the U.S. Department of Transportation. The initial (December 1993) release of this publication describes 285 transportation data sources produced by Federal agencies. Future releases will also cover non-Federal data sources. Other BTS products include a CD-ROM compilation of databases of transportation facilities for use with GIS software (**National Transportation Atlas Data Bases**).

Abbreviations used in this appendix are summarized in Exhibit C.1.

## **Exhibit C.1 Abbreviations Used in Appendix C**

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BEA	Bureau of Economic Analysis, U.S. Department of Commerce
BTS	Bureau of Transportation Statistics, U.S. Department of Transportation
CFR	Code of Federal Regulations
CIF	Customs, insurance, and freight value at port of import
DWT	Deadweight tons
FAA	Federal Aviation Administration
FAS	Free alongside ship value at port of export
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
HS	Harmonized Scheduled of Foreign Trade
ICC	Interstate Commerce Commission
MISER	Massachusetts Institute of Social and Economic Research
NTAR	National Transportation Analysis Region
PIERS	Port Import/Export Reporting System, Journal of Commerce
PMS	Performance Monitoring System (U.S. Army Corps of Engineers)
SIC	Standard Industrial Classification
SITC	Standard International Trade Classification
STCC	Standard Transportation Commodity Code
USBOC	U.S. Bureau of Census, U.S. Department of Commerce
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
VMT	Vehicle-miles of travel

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### 1993 Commodity Flow Survey (CFS)

- Source: Bureau of Transportation Statistics, USDOT
- Mode: All modes
- Description: This survey will capture shipment data from manufacturing, mining, wholesale and selected retail and service establishments. The shipment data will include distance distributions and origin-destination flows by commodity type, mode, shipment size and value. The Bureau of the Census will conduct the CFS as part of future quinquennial Economic Censuses, and it is expected the first quarterly survey will cover 24 million shipments for over 200,000 establishments. It is expected that the survey results will be expanded to industry aggregates based on other 1992 data. A fourth-quarter supplemental survey covering the use and availability of transportation facilities and equipment is also planned.
- Structure: Proposed tabulations include a 5-digit STCC commodity summary at the national level and a geographic summary (by state and BEA-based National Transportation Analysis Regions - NTARS) at the 3-digit STCC level.
- Data Source: 1993 CFS Survey
- Scope: Originating shipment activity for all U.S. establishments with one or more employees in the industry sectors cited above.
- Availability: The 1993 CFS will cover 1992 activity for publication in 1995
- Comments: The survey will be limited to shipments by U.S.-based establishments which will limit coverage of import shipments. The impact of confidentiality requirements on the available detail is unknown.

#### Freight Demand Characteristics\*

- Commodity: 5-digit STCC (national); 3-digit STCC (regional); SIC-based summary planned; hazardous materials also designated.
- O/D: State; 89 National Transportation Analysis Regions (NTARs) based on aggregations of BEAs; foreign country for exports.
- Routing: Port of exit for exports
- Shipment: Weight and value
- Transport: Mode (air/surface parcel, private and for-hire truck, rail, inland waterway, deep sea, pipeline, air and other); distances estimated using modal networks; containerized shipments identified.
- Other: On- and off-site facility type; equipment use by type; rail car ownership; responsibility for choice of mode (supplemental survey)

\* Based on anticipated public data

### Transearch

- Source:** Reebie Associates (Greenwich, CT)
- Mode:** Water, air, rail and truck
- Description:** Traffic statistics between 183 Business Economic Areas (BEA) by mode of transport and commodity. Data base incorporates modal data from various sources.
- Structure:** Detail available by origin/destination BEA, 4-digit STCC commodity and mode (private/for-hire truckload, LTL, rail carload/intermodal, water and air)
- Data Sources:** Traffic flow data: state-to-state data for a sample of movements by 2-digit SIC from a significant number of truckload and LTL carriers, ICC Carload Waybill Sample, Corps of Engineers Waterborne Commerce Statistics, FAA Airport Activity Statistics, Census of Transportation - Commodity Transportation Survey (1977), Bureau of Census Foreign Trade Statistics, commodity-based sources (e.g., Departments of Agriculture and Energy).
- Traffic production and shipment data: Survey of Manufactures, AAR Freight Commodity Statistics, county employment and population data, inter-industry trade patterns.
- Scope:** Truck (all manufacturing industries and some other); rail, domestic waterborne, and domestic air (all industries).
- Availability:** Data reports are available in a variety of formats (by origin/destination market, commodity, or traffic lane); annual data available about 15 months after end of period.
- Comments:** The accuracy of this data base will differ by mode and commodity based on the timeliness and accuracy of the data source. The limited number of carriers providing truck data may produce some regional or commodity biases. Forecast estimates are also available.

### Freight Demand Characteristics

- Commodity:** 4-digit STCC (5-digit available for rail and water)
- O/D:** State; 183 U.S. BEAs (some Canadian province data is also available); can also be customized at the county or zip code level
- Routing:** Highway routings have been imputed from O/D data
- Shipment:** Total weight
- Transport:** Mode of transport, number of transportation units
- Other:**

**Freight Transportation and Logistics Service**

- Source: DRI/McGraw-Hill (Lexington, MA)
- Mode: Barge, rail and truck
- Description: Historical and forecast data for commodity and modal traffic and cost, rate and equipment demand.
- Structure: This set of over 400 data series can be categorized as:  
Commodity traffic by mode and region  
Financial and operating data by mode and carrier  
Rate and cost data by mode, region and carrier  
Transportation equipment supply and demand by mode.
- Data Source: Proprietary
- Scope: Not available.
- Availability: Available in both printed and on-line electronic formats.
- Comments: Detailed information on the contents of this data base were not provided to the study team. DRI/McGraw Hill also produces the World Trade Sea Service trade route forecasts.

Freight Demand Characteristics

- Commodity: STCC (detail differs by mode)
- O/D: Regional detail available for rail only.
- Routing: Not available.
- Shipment: Cargo tonnage by mode
- Transport: Equipment volumes by mode and type of equipment
- Other: Cost and rate profiles; equipment fleet size.

## U.S. Imports/Exports of Merchandise on CD-ROM

- Source:** U.S. Bureau of the Census, Data User Services Division
- Mode:** All modes combined; water; air
- Description:** These monthly CD-ROMs contain the most detailed published Census data on U.S. foreign trade imports and exports.
- Structure:** The detailed Customs files are aggregated separately for imports and exports by commodity, Customs District of exit, unloading and entry, foreign country, domestic origin for exports, foreign origin for re-exports, and rate provision category (imports only). Summary files are also available for U.S. Customs Districts, commodity and foreign country.
- Data Source:**
- Import – U.S. Customs Entry Summary (Form 7501)
- Export – Shipper's Export Declaration (SED)
- (filed electronically or in hard copy)
- Scope:** All government and nongovernment shipments of merchandise between U.S. Customs territories and foreign countries. Low value shipments (less than \$2,501 for exports and less than \$1,251 for imports) are not reported; all data for these shipments are estimated from historical statistics without commodity detail. The import statistics cover both "General Imports" (all shipments entering the U.S. economy including those destined for foreign trade zones) and "Imports for Consumption" (only those shipments actually clearing Customs).
- Availability:** The CD-ROM is available for purchase on a subscription or ad hoc basis about 4 months after close of period (month or year).
- Comments:** The Bureau of Census is prevented by law from publishing statistics at a level of detail that could be used to identify individual shipper's activity. The estimated data for low-value shipments accounts for a significant portion of air traffic weight. Comparable data is available on magnetic tape for shipments of merchandise between the United States and Puerto Rico and shipments from the United States to the Virgin Islands (EM595/EA695).

### Freight Demand Characteristics

- Commodity:** 10-digit Harmonized Code with concordance available to SITC (Revision 3), Standard Industrial Classification (SIC), BEA end-user category, and USDA agricultural product code.
- O/D:** Foreign country of origin/destination; no domestic origin/destination (beyond imputation based on district of entry/exit)
- Routing:** U.S. Customs District of exit (Exports); or unloading and entry (Imports).



**U.S. Imports/Exports of Merchandise on CD-ROM (continued)**

- Shipment: Value and quantity (all modes combined); value and weight (vessel and air separately) – monthly and year-to-date. Import value statistics cover Customs value, C.I.F. value and dutiable value, while export statistics show F.A.S. value at the port of export. Value for surface and pipeline modes (combined) can be derived by subtraction; for commodities for which quantities are given in units of weight (generally for bulk commodities), weight for surface and pipeline modes (combined) can also be derived by subtraction.
- Transport: C.I.F. value and import freight charges for vessel and air (imports)
- Other: Number of shipment documents filed; calculated duty (imports)

**U.S. Exports of Domestic and Foreign Merchandise  
by State/Region/Port (State of Export Tapes)**

- Source:** U.S. Bureau of the Census, Data User Services Division
- Mode:** All modes combined; water; air
- Description:** These extracts of the export detailed ("net") files providing commodity and routing profiles for state/region-country combinations are available on a quarterly and annual basis.
- There is no allocation of shipments where state of export is unknown (see MISER).
- Structure:** The three combinations are:
- SOE1 State of origin by foreign country of destination by 2-digit SIC commodity (EQ912/EA917)
- SOE2 Domestic region of origin by foreign country of destination by 4-digit SITC commodity and domestic port and district of export (EQ932/EA937)
- SOE3 State of origin by foreign country of destination by domestic port and district of export (EQ952/EA957)
- Data Source:**
- Import – U.S. Customs Entry Summary (Form 7501)
- Export – Shipper's Export Declaration (SED)
- (filed electronically or in hard copy)
- Scope:** All exports of domestic and foreign merchandise.
- Availability:** Tapes are available for purchase on a subscription or ad hoc basis about 4 months after close of period (month or year).
- Comments:** The "state of export" data use general aggregations to preserve confidentiality, and are only available in tape format (except for an expanded extract provided by MISER as detailed below). The "state" data has some limitations based on requirements to aggregate the available data and problems with ambiguous state assignments for selected flows. The "state of export" may not accurately reflect the true origin of export shipments, particularly for commodities which may be stored at the export port and lose origin identity, or when corporate locations are reported instead of production state.

Freight Demand Characteristics

- Commodity:** 2-digit SIC (SOE1) and 4-digit SITC (SOE2)
- O/D:** State or region (SOE2) of origin and foreign country of destination
- Routing:** U.S. port and district of export (SOE1 and SOE2)

**U.S. Exports of Domestic and Foreign Merchandise  
by State/Region/Port (State of Export Tapes) (continued)**

Shipment: Total value (all modes), total value and weight (vessel and air),  
containerized weight and value (vessel)

Transport: Vessel, air and "all other" value; containerized weight and value  
(vessel and air)

Other: None

**U.S. Exports by State of Origin of Movement  
(MISER State of Export)**

- Source: Massachusetts Institute for Social and Economic Research (MISER) – University of Massachusetts – Amherst
- Mode: All modes; water; air
- Description: MISER utilizes the raw data from USBOC's state of export tapes EQ912 and EA917 to develop a modified file for state, country and SIC industry flows which reallocates shipments with unknown state or SIC designations.
- Structure: Aggregated by state of export, foreign country of import, and 2-digit SIC commodity group.
- Data Source: U.S. Bureau of the Census' EQ912 and EA917 magnetic tapes.
- Scope: All exports of domestic and foreign merchandise.
- Availability: MISER provides reports and data files by state, which are also available on the National Trade Data Bank CD-ROM issued by the U.S. Department of Commerce. Lag time is approximately 6 months.
- Comments: The "state of export" may not accurately reflect the true origin of export shipments, particularly for commodities which may be stored at the export port and lose origin identity, or when corporate locations are reported instead of production state.

**Freight Demand Characteristics**

- Commodity: 2-digit SIC
- O/D: State of origin and foreign country of destination
- Routing: Not available
- Shipment: Total value (all modes), containerized and total value and weight (water and air).
- Transport: Vessel, air and "all other" value; containerized weight and value (vessel and air)
- Other: None

## U.S. Exports and Imports Transshipped via Canadian Ports Annual Report

- Source: Maritime Administration
- Mode: Water and surface (rail and truck combined)
- Description: This annual report estimates U.S.-international commodity flows moving via Canadian ports based on foreign trade statistics. Trade value is estimated by 4-digit Harmonized commodity code, foreign country, and U.S. Customs District based on the residual value of surface exports (after vessel and air value are removed) moving via northern border Districts. Weight is then estimated based on the average value per pound by commodity for vessel shipments.
- Structure: Detail available by U.S. Customs District of import/export, foreign country, and 4-digit HS commodity code.
- Data Source: Bureau of Census EA-622 and IA-245 tapes from import and export documents
- Scope: All import and export shipments to overseas destinations using a Canadian border Customs District and not moving via vessel or air.
- Availability: Annual printed report available up to eighteen months after period.
- Comments: Estimating procedure assumes a uniform weight and value relationship by commodity for all countries and between vessel and surface modes.

### Freight Demand Characteristics

- Commodity: 4-digit Harmonized Schedule
- O/D: Foreign country of origin/destination
- Routing: U.S. Customs District of exit/entry
- Shipment: Value and estimated weight
- Transport: Surface traffic only (no rail-truck breakdown)
- Other:

### The Directory of U.S. Importers/Exporters

- Source: The Journal of Commerce (New York, NY)
- Mode: All modes (not mode specific)
- Description: These annual directories identify U.S. importers and exporters by state with a cross reference by name, product description and HS commodity code. The descriptive fields include address, key personnel, commodity description, foreign countries, ports, employees, shipment value, and modes utilized.
- Structure: Individual listings are single establishments identified by name and location; there may be multiple listings for some companies.
- Data Source: Proprietary listing updated annually; PIERS import and export activity statistics are used to update list.
- Scope: Identified companies involved in foreign trade; PIERS update restricted to waterborne users who may also use other modes.
- Availability: Annual directory available at beginning of year; CD-ROM and diskette extracts are also available.
- Comments: All data items may not be available for all listings. In some cases, corporate location may be listed and not actual origin/destination locations. The directory may miss shippers using air or surface modes exclusively. It is unclear whether or how listings are purged from directory.

### Freight Demand Characteristics

- Commodity: Actual commodity descriptions cross-referenced to 10-digit Harmonized Schedule
- O/D: Address of importer/exporter (may not indicate true origin/destination), foreign country markets served/utilized
- Routing: List of ports; modes utilized without allocation of volume.
- Shipment: Total shipment value (if available)
- Transport: See Routing
- Other: Bank, broker, and freight forwarder.

## National Transportation Statistics, Annual Report

- Source:** Bureau of Transportation Statistics, USDOT
- Mode:** All
- Description:** A compendium of selected transportation-related data sources with modal profiles of revenues, expenses, fleet sizes, employment and traffic. Historical data are provided for 10 years in most cases, and back to the 1950s for some. Information on energy in transportation (e.g., fuel consumption) and the transportation of energy-related commodities is also provided. Longer-term trend data and comprehensive mode "tree diagrams" are also available for certain items. Prepared by Volpe National Transportation Systems Center for BTS.
- Structure:** Detail available by mode and annual time period.
- Data Source:** Various published sources for each mode
- Scope:** All transportation activity covered by various sources
- Availability:** Annual printed report is available about 19 months after end of period (e.g., 1988 modal profiles appeared in June 1990 report).
- Comments:** This source presents multi-modal information in a common format. Similar statistics are published in *Transportation in America - A Statistical Analysis of Transportation in the United States (Annual Report)* by the Eno Foundation for Transportation.

### Freight Demand Characteristics\*

- Commodity:** Not available
- O/D:** Not available
- Routing:** Not available
- Shipment:** Total traffic by mode
- Transport:** Average length of haul, and vehicle-, passenger- and ton-miles by mode
- Other:**
- Financial (operating revenue and expenses by type of operation, government expenditures)
  - Inventory (number of companies, vehicles and employees, mileage of highways and pipelines)

\* The level of detail varies significantly by mode.

### U.S. Air Freight Origin Traffic Statistics

- Source: The Colography Group (Marietta, Georgia)
- Mode: Air
- Description: Annual domestic and export shipment statistics for selected air-cargo producing industries by U.S. geographical location groups. The data base combines data in three areas: (1) industrial use of expedited cargo, (2) trends in industrial production for top air cargo industries, and (3) geographic locations of these industries. Based on government data sources and Colography's sales lead surveys.
- Structure: Data items are provided by geographic location group (county, state, "market area") and 4-digit SIC industry group
- Data Source: Colography plant surveys (air cargo frequency, weight, value, employment per plant); Department of Commerce and other industry studies (production value trends and unit prices); Department of Commerce County Business Pattern survey (plant location).
- Scope: Highest air cargo producing industries at 4-digit SIC level (accounting for at least 90 percent of total shipments); 73 industries were covered in 1991.
- Availability: Data base extracts and summary reports available directly from Colography; annual data available in May of following year with revised/estimated data available by special request.
- Comments: This data base is one of few that make the direct connection between cargo flows and industrial location patterns; however, it does not associate cargo production with transportation patterns (e.g., airport or carrier).

#### Freight Demand Characteristics

- Commodity: Industry-based (4-digit SIC industry)
- O/D: State, county and "market area" of origin. Destinations characterized as domestic or foreign but not otherwise distinguished. Colography-defined "market areas" are aggregates of counties corresponding to local hinterland of U.S. airports or customized set of counties.
- Routing: Not available
- Shipment: Annual domestic and export shipment weight, value and number of shipments (with weight and number of shipments shown by shipment size categories).
- Transport: Shipment size categories corresponding to standard market classifications in air freight industry (express, heavy freight).
- Other: Total employment and number of plants (total and by employment size) by area.



**U.S. Air Carrier Traffic and Capacity Data  
by Nonstop Segment and On-Flight Market (Form 41 Schedule T-100)**

- Source: Federal Aviation Administration
- Mode: Air
- Description: Traffic, operating and capacity statistics by nonstop and on-flight market segment for Form-41 large certificated air passenger carriers (those operating aircraft with more than 60 seats or payload capacity of 18,000 pounds). Only passenger carriers file, but both passenger and freight operations are covered. The "nonstop segment" data refers to all traffic on a single nonstop segment of a flight, while the "on-flight market" data refers to traffic on one or more segments of a single flight. All-cargo carriers are not covered.
- Structure: Airport-to-airport segment or market pairs by carrier and aircraft type (for segment data)
- Data Source: Monthly T-100 electronic filings of U.S. Form 41 air passenger carriers
- Scope: All scheduled revenue operations of reporting U.S. and foreign air passenger carriers.
- Availability: Data services provide extracts of domestic data about 3 months after filing date; may also provide partial filings as available. International data is withheld for three years. Access to the data is available through independent services such as Data Base Products (Dallas, TX) or BACK Associates (Stamford, CT), or on magnetic tape direct from FAA.
- Comments: Routing information available for domestic movements only. The limited coverage of carrier filings restricts the value of the freight data, particularly in markets where all-cargo service or hub-and-spoke systems are prevalent.

**Freight Demand Characteristics**

- Commodity: Not available
- O/D: Not available
- Routing: Non-stop segments (shipment from A to C via B shows up in A-B and B-C segments); On-flight markets (shipment from A to D using flight over A-B connecting to B-C-D flight will show up in A-B and B-D markets).
- Shipment: Segment (revenue freight tons by carrier and equipment type); market (enplaned freight and mail tons by carrier)
- Transport: Segment (departures and aircraft hours by carrier and equipment type); carrier; equipment type
- Other:

### Airport Activity Statistics of Certificated Route Air Carriers

- Source:** Federal Aviation Administration
- Mode:** Air
- Description:** This report summarizes the filings of Schedule T-3 reports by U.S. Form-41 large certificated air carriers (those operating aircraft with more than 60 seats or payload capacity of 18,000 pounds). Airport statistics on departures and enplaned freight are shown for scheduled and non-scheduled service by carrier.
- Structure:** Annual or monthly enplanement data by airport, carrier and type of service (scheduled/non-scheduled); departure data by airport, carrier, type of service and equipment type.
- Data Source:** Schedule T-3 reports filed by U.S. Form 41 air carriers (as specified in CFR 14, Part 241).
- Scope:** All operations for passenger and freight carriers required to file with USDOT
- Availability:** Calendar year printed reports are available by August or September; monthly and quarterly data base versions are available sooner. International data is withheld for three years. The detailed T-3 data is also available in electronic formats from independent data services such as Data Base Products (Dallas, TX) and BACK Associates (Stamford, CT).
- Comments:** There are significant gaps in this data base, due to suppression of international data, the restriction to large certificated carriers, the lack of standard filings for carrier partnerships, and the lack of deplaned and in-transit statistics. Carriers which do not file the T-3 may account for a significant portion of individual airports' traffic. The T-3 data can be combined with T-100 data (see preceding page) as is done by Data Base Products. Also, freighter versions of aircraft are not separately designated.

#### Freight Demand Characteristics

- Commodity:** Not available
- O/D:** Airport of enplanement
- Routing:** Carrier with no routing information
- Shipment:** Enplaned tons of freight (express and non-express) and mail (priority, non-priority and foreign).
- Transport:** Departures by service type (scheduled or non-scheduled) and equipment type.
- Other:**

### **Worldwide (North American) Airport Traffic Report**

- Source:** Airports Council International (ACI) and Airports Council International North America (ACI-NA)
- Mode:** Air
- Description:** Annual passenger and freight traffic and operating statistics for major airports responding to ACI survey.
- Structure:** Airport
- Data Source:** ACI survey of airports
- Scope:** All commercial passenger and freight operations at participating airports
- Availability:** Annual hard-copy report available in June of next year; reporting period may differ by country (e.g., fiscal vs. calendar years); worldwide report includes some U.S. airports.
- Comments:** This source represents carrier statistics as collected and compiled by individual airports, as compared to carrier-filed statistics with FAA. The availability of deplaned statistics, as well as operations of carriers not required to file with the FAA, make this a more reliable source for total traffic than the Form 41 statistics. Some inconsistencies across airports regarding treatment of transshipments, etc.

#### Freight Demand Characteristics

- Commodity:** Freight, express or mail
- O/D:** Domestic/international flight
- Routing:** Airport
- Shipment:** Type of shipment (freight and express or mail) plus total international freight plus mail
- Transport:** Total weight by airport and direction (enplaned or deplaned); airport domestic and international aircraft operations by aircraft and type
- Other:**

### ICC Carload Waybill Sample

- Source:** Interstate Commerce Commission/Association of American Railroads
- Mode:** Rail (with some identification of intermodal activity)
- Description:** A stratified sample of rail carload waybills for all classes of railroads based on traffic volume containing detailed data on traffic, commodity, revenue, and routing characteristics. The data are collected for the ICC under contract by AAR. Traffic and revenue values can be expanded to annual values based on the sampling ratios. Proprietary data identifying specific railroads, rail equipment and station locations are eliminated from the 151-field master file (MF) to produce an annual public use file (PUF) of 62 fields.
- Structure:** Individual records represent single rail shipments
- Data Source:** Actual waybills filed in hard copy or in machine-readable-input (MRI) format by the terminating railroad.
- Scope:** A sample of all railroad freight waybills for movements terminating on U.S. railroads that meet minimum filing requirement (4,500 carloads per year within last 3 years or 5 percent or more of any state's traffic). Canadian originating traffic is included, if reported by a U.S. railroad. The sampling rate varies based on the number of carloads on the waybill and the method of filing, with higher sampling for larger shipments and for MRI railroads.
- Availability:** The Master File is proprietary and not available to the public. The annual Public Use File is available on tape from the AAR about the end of July. The PUF for 1988-1992 is also available on CD-ROM from BTS. The Federal Railroad Administration produces an annual summary of traffic by STCC between five freight-rate territories. ALK Associates produces an annual summary with traffic density maps by commodity and car type, commodity carload volumes, and state-level inbound and outbound volumes by commodity.
- Comments:** Specific problems include:
- the billing of multi-car shipments as single car movements
  - over-reporting of revenues for contract movements
  - the use of billed (minimum tariff) vs. actual weight
  - the rebilling of through movements as local.
- Also, terminating traffic for some non-reporting Class II and III railroads is not covered due to reporting thresholds and fee-based arrangements with major railroads.

## ICC Carload Waybill Sample (continued)

### Freight Demand Characteristics

- Commodity: 7-digit STCC on MF; 2- to 5-digit STCC on PUF excluding hazardous materials (STCC 49) and bulk materials in boxcars (STCC 50) which are classified separately.
- O/D: Origin and destination of rail movement identified by BEA Region. Intermodal, import, export and mini-bridge shipments are flagged. MF also contains 6-digit Standard Point Location Code (SPLC) and a Freight Station Accounting Code.
- Routing: Interchange states and number of interchanges (PUF); Full railroad and station itinerary (MF)
- Shipment: Billed and actual tons, carloads, trailers, containers, and revenue (sample and expanded universe totals); date of shipment/waybill
- Transport: Equipment type, shipment and expanded revenue by type (freight, transit, miscellaneous), short line miles, number of interchanges, number of intermodal units (PUF and MF); carrier and equipment type, design, capacity, dimensions, and ID number (MF). Short line miles is the shortest rail distance between origin and destination.

### Freight Commodity Statistics

Source:	Association of American Railroads
Mode:	Rail
Description:	Quarterly and annual summaries of commodity statistics for all U.S. Class I railroads collected since 1964. Individual railroad's statistics are combined for publication into the Eastern and Western Districts based on corporate headquarter locations.
Structure:	Traffic aggregated by Eastern/Western District and 2- to 5-digit Standard Transportation Commodity Code (STCC)
Data Source:	Railroad reports filed with ICC
Scope:	All commodity traffic for U.S. Class I railroads (revenues greater than \$94.4 million in 1987 dollars)
Availability:	Published reports available from AAR about five months after end of quarter (latest release is currently behind schedule)
Comments:	Class II and III carriers, accounting for about 9 percent of total revenues, are not required to file this report.

### Freight Demand Characteristics

Commodity:	2-, 3-, 4- and 5-digit STCC; some shipments cannot be classified at the 5-digit level based on available documentation or mixed loadings, so higher-level groupings may not be fully described at disaggregated levels.
O/D:	Not available
Routing:	Not available
Shipment:	Total tons for the following type of shipment: (1) Originated and terminated (2) Originated and delivered to another carrier (3) Received and terminated (4) Received and delivered to another carrier  The published report provides the following combinations:  Revenue Freight Originated(1)+(2)  Revenue Freight Terminated(1)+(3)  Total Freight Traffic(1)+(2)+(3)+(4).
Transport:	Freight revenue and carloads by commodity for originated freight, terminated freight, and total freight.
Other:	None

**North American Trucking Survey (NATS)  
(replaces National Motor Transportation Data Base)**

- Source: Association of American Railroads
- Mode: Truck
- Description: Information on a sample of predominantly long-haul truckload movements, operator characteristics, and annual VMT of driver.
- Structure: Each record corresponds to a truckload shipment.
- Data Source: Survey of drivers conducted at 46 truck stops under contract by Arthur D. Little, Inc. Each driver is asked about current movement and preceding loaded movement.
- Scope: A sample of predominantly long-haul truckload movements using sampled truck stops.
- Availability: Database is proprietary. However, AAR often cooperates with federal and state agencies when requested.
- Comments: First-time collection in 1993. Discontinued August 1994. Replaced the similar National Motor Transportation Data Base (NMTDB) conducted for AAR by Transportation and Research Marketing (of Challis, Idaho). The probability that any truckload shipment will be sampled is approximately proportional to its length of haul.

Freight Demand Characteristics

- Commodity: STCC (3-digit for major commodities)
- O/D: City and state of origin and destination.
- Routing: Not available.
- Shipment: Weight in tons.
- Transport: Trailer type
- Other: Annual VMT of driver; operator characteristics (private, for-hire, owner-operator); additional questions included as needed.

### LTL Commodity and Market Flow Database

- Source:** American Trucking Associations (ATA)
- Mode:** Truck (LTL)
- Description:** Traffic lane statistics for all LTL shipments of subscribing carriers. These carriers have access to resulting database with carrier detail obscured. Weight, revenue, shipment, piece and mileage statistics are categorized by origin/destination pairings, length of haul, commodity type, and weight. International origins and destinations are included.
- Structure:** Flow data is disaggregated by traffic lane (zip3-to-zip3 or foreign area), length of haul, commodity classification, weight class, service code, intermodal indication, and interline indication; disclosure restrictions may require additional aggregation.
- Data Source:** Collected under contract to ATA by Martin Labbe Associates from subscribing carriers.
- Scope:** All shipments for subscribing carriers excluding intra-company and pooled shipments.
- Availability:** Standardized reports and data files only available to subscribing carriers; available one week after all carrier data is received.

**Comments:**

#### Freight Demand Characteristics

- Commodity:** Categorized by service type (standard, non-standard delivery time, special equipment/handling)
- O/D:** Origin/destination zip codes or foreign area (Canada, Mexico, Asia, Europe or Other)
- Routing:** Mileage.
- Shipment:** Weight, number of shipments, and number of pieces.
- Transport:** Ton-miles, revenue, service type, intermodal and interline indication.
- Other:** Intermodal shipments are identified.



### Truck Inventory and Use Survey (TIUS)

- Source: U.S. Bureau of the Census
- Mode: Truck
- Description: A vehicle-based survey of truck, van and minivan annual activity conducted by the Bureau of Census as part of the quinquennial Census of Transportation based on vehicle registrations. The survey covers ownership, equipment type, leasing activity, configuration, dimensions, capacity, mileage and commodities carried.
- Structure: Individual sample vehicles identified by a serial number and state of registration
- Data Source: 1987 Census of Transportation Truck Inventory and Use Survey Forms (TC-9501/9502) sent to owners of 134,000 vehicle out of a universe of 45 million vehicles with a response rate of 78 percent (105,000 vehicles).
- Scope: All state-registered vehicles except buses, automobiles, mobile homes, motorcycles, and vehicles owned by government.
- Availability: The 1987 TIUS public use tape and national summary report were released in August 1990.
- Comments: This data base provides vehicle type, ownership and operating characteristics which can be associated with the type of use (type of business and commodities). No geographic detail is available beyond identifying vehicles by state of registration and range of operation. Sample values can be expanded to the universe within state and vehicle type stratum. Safety data was aggregated in the public use tape to address problems of confidentiality.

#### Freight Demand Characteristics (on Public Use Tape)

- Commodity: Percent of annual mileage for 26 commodity categories including non-freight activity (personal, idle, and empty haul use) and (separately) for 17 categories of hazardous material.
- O/D: Not available
- Routing: Not available
- Shipment: Not available
- Transport: Percent of annual miles outside of designated "base" state and percent by range of operation categories.
- Other: Type of business in which vehicle was used; for for-hire vehicles: type of operations, kind of carrier, and jurisdiction served.
- Vehicle (make, year, dimensions, body/trailer type, capacity, axle and operating configuration, equipment, maintenance)
- Acquisition/Disposition (year, method, lease/ownership)

**TIUS (continued)**

Utilization (annual and lifetime mileage, fuel efficiency, state of operation, type of use, Hazmat activity, commodity types, accident incidence)

## Nationwide Truck Activity and Commodity Survey (NTACS)

- Source:** Oak Ridge National Laboratory (ORNL)
- Mode:** Truck
- Description:** A detailed survey (conducted every five years) of trip characteristics and other information for trucks identified in the Truck Inventory and Use Survey (TIUS). The survey was conducted by the U.S. Bureau of the Census for FHWA, FRA and USDOT's Office of the Secretary. Annual, weekly and sample day (over one- and two-day intervals) activity was measured during the 12-month period from October 29, 1989 to October 27, 1990 (known as 1990 survey). The public use tape (PUT), available from ORNL, consists of three files:
- NTAC1 NTACS Annual/General Activity (1990)
  - NTAC2 NTACS Sample Day/Week Activity (1990)
  - NTAC3 TIUS Annual/General Activity/Characteristics (1987)
- Structure:** Each data record represents a sample response for a single truck as identified by the Truck Identifier (Region of registration, type of commodity/haul, vehicle type, and sample stratum ID number)
- Data Source:** USBOC survey forms NTACS-1 for short-haul and non-freight vehicles and NTACS-2 for long-haul commodity haulers with above data
- Scope:** The sample universe includes all trucks operating during the sample period (October 1989-October 1990), registered in one of the 50 states or DC on July 1, 1987, and which responded to the 1987 TIUS survey.
- Availability:** The 1990 public use tape was released at the end of 1992.
- Comments:** The 1990 NTACS public use tape is considered of poor quality due to low response rates and other non-sampling problems, and it required extensive imputation for certain data items.

### Freight Demand Characteristics

- Commodity:** 26 TIUS commodity categories (including empty) plus Hazmat categories
- O/D:** Sample day cargo load and discharge patterns \*
- stop location
  - type of place (e.g., warehouse, port)
- Routing:** Sample day cargo routing patterns \*
- detailed stop locations

**NTACS (continued)**

- type of stop activity (e.g., pick up, delivery)
- arrival and departure time
- Shipment: 1987 percent of total mileage by commodity (TIUS)
- 1990 sample day weight by commodity and load/discharge stop \*
- Transport: Annual
  - weeks of operation
  - annual mileage
  - number of states
  - top 3 states of operation \*
  - Canada/Mexico \*
  - type of use
  - configuration and body/trailer type
- Sample Day
  - ton-miles for top commodity
  - days of week and time of day use
  - number of stops
  - type of use
  - mileage
  - type of highways
  - fuel use and tolls
  - dimensions, capacity and load
- Other: Vehicle (model year, ownership, operation)

\* Master File Only

### State Estimates of Truck Traffic

- Source: State highway agencies
- Mode: Truck
- Description: Estimates of annual average daily traffic (AADT) of trucks for selected sections of road, and truck VMT by vehicle configuration for several systems of roads.
- Structure: State estimates of the distribution of VMT across vehicle classes (including nine or ten truck classes) by highway functional system are submitted annually to FHWA in Lotus 123 files. Estimates of total AADT, percent single-unit trucks, and percent combination trucks (and an extensive amount of additional data), are submitted annually to FHWA in a uniform ASCII format for a sample of highway sections on magnetic tape or diskette. States may have substantial additional truck AADT and VMT estimates in various formats.
- Data Source: Vehicle counts collected by state and local highway agencies.
- Scope: Data from automatic vehicle classifiers used at a small number (typically 50 to 100) permanent count sites in each state and at a larger number of temporary count sites; and counts of total traffic volume (without vehicle classification) collected at an even larger number of sites. Counts at temporary sites are most frequently collected for a 48-hour weekday period once every three years.
- Availability: AADT estimates for single-unit and combination trucks for selected sections of nonlocal road and VMT estimates for nine classes of truck by highway functional system are incorporated into FHWA's Highway Performance Monitoring System and are available from FHWA. Additional AADT estimates are available from individual state highway agencies.
- Comments: The most common "factoring" procedures currently used for estimating truck AADT from 48-hour weekday classification counts fail to reflect the lower truck volumes that occur on weekends, producing overestimates of truck AADT that apparently average about 30 percent. For sections on which only volume counts are collected, truck AADT is estimated using total AADT for the section and estimated truck AADT on other sections.

#### Freight Demand Characteristics

- Commodity: Not available.
- O/D: Not available.
- Routing: Not available.
- Shipment: Not available.

**State Estimates of Truck Traffic (continued)**

Transport: VMT for nine truck configurations (distinguished by numbers of trailers and numbers of axles) plus, in some states, separate VMT estimates for four-tire trucks; AADT generally for two or three types of truck (distinguished by length or numbers of trailers).

Other: None.

### Port Import/Export Reporting Service (PIERS)

- Source: The Journal of Commerce  
Two World Trade Center, 27th Floor, New York, NY 10048
- Mode: Water
- Description: The Journal of Commerce PIERS data contains detailed shipment information for most U.S. waterborne foreign trade including shipments entering or exiting Puerto Rico. Bill of lading data are collected from electronically-filed Customs manifest data or directly from hard copy reports.
- Structure: Each data record represents a single shipment as listed on the manifest.
- Data Source: Vessel manifests – hard copy or Customs Automated Manifest System (AMS)
- Scope: Excludes manually-filed manifest data at smaller ports.
- Availability: The most recent 24 months of complete data are available on-line on a subscription basis with customized reporting and data base development also available. Historical months are archived and available. A complete month's data is available the first Monday of the fourth week following the end of the month, although individual vessel's activity may be available sooner.
- Comments: This is the most timely and detailed source for waterborne foreign trade shipments. Shipper names must be withheld at the request of the shipper. The designated U.S. O/D may represent a corporate location or distribution point, rather than the true origin and destination. TRADE, Inc. (San Mateo, California) provides a comparable data base of vessel manifest information.

### Freight Demand Characteristics

- Commodity: 6-digit Harmonized, 7-digit PIERS Comcode (loosely based on 1979 TSUSA), and actual manifest/bill of lading description.
- O/D: U.S. shipper/consignee and foreign shipper (import only)
- name
  - U.S. city of origin/destination (as recorded)
  - foreign country of import/export (city for export)
- Routing: U.S. port of loading/unloading
- Foreign port of ultimate origin/destination
  - Foreign port of transshipment
  - No inland mode designation.

**PIERS (continued)**

- Shipment: Shipment weight and value  
– Package type and quantity.
- Transport: Carrier and vessel name  
– Container size, number and estimate of cubic volume utilized  
– Package type
- Other: U.S. port date, linkage to other company information for importers/exporters is available



**U.S. Waterborne General Imports (Exports)  
and Inbound (Outbound) Intransit Shipments**

- Source: U.S. Bureau of the Census, Data User Services Division
- Mode: Water
- Description: Port-to-port flows of U.S. foreign trade and intransit shipments with commodity, vessel type and country detail available on monthly (TM) and annual (TA) magnetic tapes.
- Structure: Detailed records are aggregates based on commodity, type of vessel service, U.S. port, foreign port, and foreign country.
- Data Source: Import – U.S. Customs Entry Summary (Form 7501)  
Export – Shipper's Export Declaration (SED)  
(filed electronically or in hard copy)
- Scope: All government and nongovernment waterborne shipments of merchandise between U.S. Customs territories and foreign countries including intransit shipments. Low value shipments (less than \$2,501 for exports and less than \$1,251 for imports) are not reported and are estimated from historical statistics without commodity detail.
- Availability: Tapes are available for purchase on a subscription or ad hoc basis about 4 months after close of period (month or year). Also included in U.S. Waterway Data CD-ROM available from BTS and from the Corps of Engineers.
- Comments: The Bureau of Census is prevented by law from publishing statistics at a level of detail that could be used to identify individual shipper's activity. The estimated low-value shipments may include a significant amount of air traffic. The Maritime Administration publishes summary data by trade route in United States Oceanborne Foreign Trade Routes.

Freight Demand Characteristics

- Commodity: SITC (Revision 3) and 6-digit Harmonized Code
- O/D: Foreign country of origin/destination; no domestic origin/destination.
- Routing: U.S. Customs Port (USBOC Schedule D classifications) to foreign port (USBOC Schedule K classifications) flows
- Shipment: Value and weight
- Transport: Type of vessel service (liner, non-liner, tanker); import freight charges and containerized percentage.
- Other: None

## Waterborne Commerce and Vessel Statistics

- Source:** U.S. Army Corps of Engineers
- Mode:** Water
- Description:** Statistics on the commercial movement of domestic and foreign cargo for U.S. ports and waterways. The Corps of Engineers collects the domestic data directly from carriers who report vessel movements and cargo activity by port and dock. The foreign statistics are developed from Bureau of Census foreign trade statistics which are enhanced with detailed vessel movement information. The master file of individual dock-to-dock commodity flows is proprietary, but the following summarized extracts of the cargo and vessel activity are produced:
- Commodity tons by commodity, type (foreign/domestic, coastwise, internal, local), and direction (inbound/outbound, upbound/downbound) for individual ports, harbors, and other waterways and components thereof (printed report and data tape)
  - Vessel trips by draft, vessel type and direction for individual ports, harbors, and other waterways and components thereof (printed report and data tape)
  - Commodity tons by commodity group and state of origin and destination (or foreign) (public domain data base on diskette)
  - State and principal ports tonnage summary
  - *Transportation Lines of the United States* which lists the location, vessel characteristics, and area of operation for vessel operators.
- Structure:** The master file contains data for unique combinations of origin and destination channel dock locations, commodity, month of shipment, and carrier type. The public sources provide detail by year of shipment, commodity, and type and direction of movement for individual ports, harbors, and waterway segments.
- Data Source:** Vessel Operation Report - Statement of Freight and Passengers Carried (Corps of Engineers Form 3925) for domestic movements; Bureau of Census U.S. Waterborne Exports and General Imports revised to include channel codes.
- Scope:** All domestic and foreign waterborne movements of merchandise to or from U.S. ports including Puerto Rico and the Virgin Islands.
- Availability:** See description above for data products. Annual data are available about 18 months after the end of the year. Also included in U.S. Waterway Data CD-ROM available from BTS and from the Corps of Engineers.

**Waterborne Commerce and Vessel Statistics (continued)**

Comments: In the past, there were problems with the accuracy and timeliness of reporting which the Corps is addressing through advanced processing of filings and estimating procedures. Calendar year 1991 estimated statistics were published in October 1992 showing domestic commodity traffic by general cargo type, waterway and direction.

Freight Demand Characteristics

Commodity: 4-digit Commodity Classification for Domestic Waterborne Commerce

O/D: Dock-to-dock flows (master tape); port/harbor/channel segment throughput (port summary); state-to-state (public domain data base). Origin and destination of vessel may be inferred from flow type categories (e.g., internal, coastwise). No foreign country detail for international shipments

Routing: Data is provided for specific route elements; specific routing patterns are not available beyond inferred routing based on O/D combination

Shipment: Shipping weight (tons)

Transport: Number of vessels by direction, type and draft.

Other:

### Ship Movements Database

- Source: Lloyd's Maritime Information Services (New York, New York)
- Mode: Water
- Description: This database contains reported current movements of over 30,000 merchant vessels engaged in international waterborne trade covering over 2 million movements per year. The database is updated daily from information gathered by Lloyd's Agents located at principal ports around the world. This data base can be used to develop vessel service patterns on international trade routes.
- Structure: Vessel name and port of call
- Data Source: Lloyd's Agents in over 5,000 worldwide ports
- Scope: International movements of tankers and combination vessels over 6,000 DWT, dry bulk carriers over 10,000 DWT, and all other vessel types over 5,000 DWT.
- Availability: Available on-line on a subscription basis or in extract form by request.
- Comments: Can be correlated with vessel cargo activity (e.g., PIERS) to determine cargo routing patterns.

#### Freight Demand Characteristics

- Commodity: Not available
- O/D: Not available
- Routing: Port-to-port vessel itineraries
- Shipment: Total tons transported inferable from capacity (from same source) and assumed load factor (not provided)
- Transport: Arrival and departure date plus vessel characteristics
- Other:

### World Sea Trade Service

- Source:** DRI/McGraw-Hill (Lexington, Massachusetts)
- Mode:** Water
- Description:** Historical and forecast ocean traffic for over 700 major trade routes by commodity group and vessel category (defined by cargo type, service type and size). Quarterly reports are provided in a variety of formats and forecasts include short-term quarterly estimates for a two-year period and long-term estimates.
- Structure:** Trade route (country/region pairs), vessel category, commodity group, and historical and forecast period.
- Data Source:** Country-based foreign trade statistics
- Scope:** All waterborne shipments covered in international data sources
- Availability:** Quarterly reports and data extracts are available.
- Comments:**

#### Freight Demand Characteristics

- Commodity:** 20 SITC-based commodity groups (additional detail available for certain countries)
- O/D:** Foreign country of origin and destination (based on ports of lading and discharge; transshipment activity not identified)
- Routing:** Trade routes as defined by coast/country/region pairs at various levels of detail; port detail is available for certain trade routes.
- Shipment:** Total weight and containerloads
- Transport:** Number of containerloads
- Other:**

### Lock Performance Monitoring System (PMS)

- Source: U.S. Army Corps of Engineers
- Mode: Water
- Description: Performance and flow statistics for all commercial and non-commercial lockages at Corps of Engineers-managed locks. The master file is summarized to produce traffic and performance summaries in quarterly reports. Lockage activity can be correlated with information on wind, weather and surface conditions collected in separate shift log.
- Structure: Data records correspond to individual lockages identified by lock and chamber and the lockage start date and time.
- Data Source: Individual lockage reports completed at time of lockage by lock personnel.
- Scope: All activity at Corps-owned or -operated locks.
- Availability: Summary of Lock Statistics printed on quarterly basis within 6 months; "key" lock traffic data available within 2 months; detailed file available for special studies only. Also included in U.S. Waterway Data CD-ROM available from BTS and from the Corps of Engineers.
- Comments: Commodity categorization is done by lock personnel and may vary in detail and accuracy based on level of communications with the tow. This is a useful source for "closed" systems clearly defined by lock locations, but does not identify origin and destination points or inter-system movements.

#### Freight Demand Characteristics

- Commodity: 2-digit commodity codes unique to PMS
- O/D: Not available. (It may be possible to track distinctive tow movements from lock-to-lock within a single river system and infer O/D.)
- Routing: See O/D
- Shipment: Shipment weight
- Transport: Barge type, dimensions, commodity type and weight (for each barge); lock processing characteristics for tow (type, direction, number of cuts, processing times, delay factors)
- Other:

### **St. Lawrence Seaway Traffic Reports**

- Source:** The St. Lawrence Seaway Authority (SLSA) and the Saint Lawrence Seaway Development Corporation
- Mode:** Water
- Description:** Annual statistics on cargo and vessel activity on the Saint Lawrence Seaway segregated by section: Montreal-Lake Ontario and the Welland Canal. Activity data are provided in a variety of cross-references between groupings of commodities, toll classifications, origins and destinations, type of transit, and vessel type.
- Structure:** Individual tables provide cargo and vessel activity statistics for both sections, individually and combined.
- Data Source:** Filings with SLSA
- Scope:** All vessel activity transiting SLS locks including non-cargo activity.
- Availability:** Annual printed summary available within first quarter of following year.
- Comments:** 20-year historical summaries are available for certain characteristics; seasonal traffic statistics also shown.

#### **Freight Demand Characteristics**

- Commodity:** 53 commodity-based classifications grouped as agricultural products, animal products, mine products, forest products and manufactures and miscellaneous; toll classification groups based on cargo type (bulk, grains, government-aid, containers, and general cargo).
- O/D:** U.S., Canada or foreign
- Routing:** Tabular summaries relate to two sections of waterway; also designates type of transit (inland, coastal, overseas, non-cargo)
- Shipment:** Cargo weight by vessel type, direction, and other characteristics.
- Transport:** Number and total gross registered tons (GRT) of vessel transits by class and type of vessel; distribution of transits and cargo by vessel size categories.
- Other:** Traffic revenue and flag of vessel.

### Annual Report – Lake Carriers' Association

- Source: Lake Carriers' Association (LCA)
- Mode: Water
- Description: Annual report contains traffic statistics for Great Lakes and included waterways.
- Structure: Tabular summaries of seasonal traffic and vessel activity by commodity, origin/destination.
- Data Source: Data collected by LCA members.
- Scope: All commercial vessel activity on Great Lakes.
- Availability: Printed annual report.
- Comments: Statistics are geared toward monitoring bulk movements, canal utilization, and seasonal patterns of trade. The limited scope of operations on the Great Lakes and the specialized vessel fleet permits comprehensive coverage of activity.

#### Freight Demand Characteristics

- Commodity: Five dry bulk groups plus petroleum and grains.
- O/D: Not available
- Routing: Origin port or lake; destination lake for some commodities
- Shipment: Net tons and number of shipments; largest annual shipment by commodity group.
- Transport: Number of vessel transits and commodity flows for canals; flag of carrier.
- Other: Fleet description; lake draft levels.



### **Exports from Manufacturing Establishments**

- Source: U.S. Bureau of the Census
- Mode: All modes combined
- Description: This annual report includes estimates of export value and export-related employment for manufacturing industries by state of production. Both direct exports and indirect support for exporting industries are covered. Direct export activity is modified to match with foreign trade statistics, while indirect support (i.e., inputs to export manufacturers) is estimated based on BEA input/output relationships. Employment in auxiliary non-manufacturing industries related to transportation and shipment of exports is also estimated.
- Structure: State of production and 3-digit SIC industry code
- Data Source: Annual Survey of Manufactures
- Scope: All manufacturing establishments
- Availability: Annual report is available within 3 years of period end.
- Comments: This source differs from the foreign trade "State of Export" data base which uses F.A.S. value at the port of export and a definition of "state of export origin" which is not restricted to production location.

### **Freight Demand Characteristics**

- Commodity: 3-digit SIC industry group (detail may be suppressed for confidentiality)
- O/D: State of production
- Routing: Not available
- Shipment: Shipment value (F.O.B.) for direct and supporting exports.
- Transport: Not available
- Other: Employment for direct and supporting exports.

### Fresh Fruit and Vegetable Shipments by Commodities, States and Months

- Source:** U.S. Department of Agriculture, Agricultural Marketing Service, Fruit and Vegetable Division, Market News Branch
- Mode:** Rail, truck, piggyback, air, water and total all modes.
- Description:** This report provides detailed information for fresh fruits and vegetables including mode of transport, origin, and seasonal patterns.
- Structure:** The most detailed data covers commodity, origin, mode, market type (domestic or export), tonnage, and month of shipment.
- Data Source:** Domestic data is collected from various sources including Federal marketing order administrative committees, Federal-State inspection service, shippers and transportation agencies. Import data comes from the Bureau of Census, except imports from Mexico which are obtained from records of the Animal and Plant Health Inspection Service of USDA.
- Scope:** Domestic data covers all rail refrigerated and piggyback shipments, and available data from other modes and export. Truck data for Arizona and Florida represent interstate shipments only.
- Availability:** Annual report for calendar year available in March of next year.
- Comments:** Separate data collection by mode presents problems with aggregation and double counting. Partial coverage of non-rail shipments limits applicability to whole market. The coverage of mode of transport for multi-modal shipments is unclear.

#### Freight Demand Characteristics

- Commodity:** Individual fruits and vegetables with some grouping of minor commodities and mixed load shipments; domestic and export commodities are listed separately.
- O/D:** U.S. state (with 4-district detail for California) or foreign country of origin; domestic or export destination group.
- Routing:** Not available
- Shipment:** Cargo weight by month and year.
- Transport:** Mode of transport for domestic shipments (rail refrigerated cars, piggyback, truck, air and water).
- Other:**

**Fresh Fruit and Vegetable Arrival Totals  
for 23 Cities**

- Source: U.S. Department of Agriculture, Agricultural Marketing Service, Fruit and Vegetable Division, Market News Branch
- Mode: Rail, truck, air and water.
- Description: This report provides transport flow information for fresh fruits and vegetables for the top 23 U.S. and 4 Canadian city destinations including mode of transport, origin and seasonal patterns. Detailed information for Eastern and Western cities are available in separate reports (FVAS-1 and -2) or in summary form (FVAS-3).
- Structure: The most detailed data for each city covers tonnage by commodity, origin, mode, market type (domestic or export), and month of shipment.
- Data Source: Data is collected from various government and industry sources.
- Scope: Domestic coverage based on completeness of various sources; imports include all shipments moving through regular market channels for each city.
- Availability: Annual report for calendar year available in March of next year.
- Comments: Partial coverage of shipments may limit applicability to whole market, although use of constant sources make time series comparisons consistent. The coverage of mode of transport for multi-modal shipments is unclear.

**Freight Demand Characteristics**

- Commodity: Individual fruits and vegetables with some grouping of minor commodities and mixed load shipments.
- O/D: U.S. state or foreign country origin; city of destination.
- Routing: Not available
- Shipment: Cargo weight by month and year.
- Transport: Mode of transport (rail, truck, air and water).
- Other:

## Quarterly Coal Report

- Source:** U.S. Department of Energy, Energy Information Administration
- Mode:** All modes
- Description:** Quarterly summary of U.S. coal production, distribution, foreign trade, receipts, consumption, and stocks. This description covers only the distribution statistics related to freight transportation.
- Structure:** Tabular summaries of quarterly tonnage for combinations of key characteristics.
- Data Source:** Form EIA-6 and Bureau of Census foreign trade statistics
- Scope:** All U.S. companies which own, or purchase and distribute more than 50,000 tons of coal per year; an estimated 99% of total U.S. production activity.
- Availability:** Printed report available within 5 months of quarter's end.
- Comments:** State-to-state flows are not included.

### Freight Demand Characteristics

- Commodity:** Coal (with some data broken in categories defined by origin or physical properties such as BTU content)
- O/D:** U.S. state or foreign country of origin and (separately) destination country or U.S./Canadian sector (electric generation, coke plants, industrial plants, residential and commercial); no O/D pairs.
- Routing:** Customs District for imports and exports.
- Shipment:** Weight
- Transport:** Principal mode (rail, inland waterway, Great Lakes, ocean port, truck, slurry); no intermodal designations.
- Other:**

### Natural Gas Monthly

- Source: U.S. Department of Energy, Energy Information Administration
- Mode: Pipeline and Water
- Description: Monthly statistics on production, consumption, pipeline flows, and prices.
- Structure: Tabular summaries of monthly activity (measured in cubic feet) for combinations of key characteristics.
- Data Source: Form EIA-759 and 857.
- Scope: All activity for generating electric utilities (EIA-759) and a sample of companies delivering natural gas to consumers (EIA-857).
- Availability: Monthly printed report available within 2 months.
- Comments:

#### Freight Demand Characteristics

- Commodity: Natural Gas
- O/D: Foreign country for imports and exports; state of production; deliveries by state and type of use (residential, industrial, utility); no O/D pairs.
- Routing: Volumes by pipeline company
- Shipment: Monthly volume (cubic feet) and average price data
- Transport: Mode (pipeline or LNG vessel) for imports and exports
- Other: Financial information for pipeline companies.

## **Natural Gas Annual**

- Source:** U.S. Department of Energy, Energy Information Administration
- Mode:** Pipeline and water
- Description:** Annual summary of state-based production, supply, disposition, consumption, and prices.
- Structure:** Tabular summaries of monthly activity (measured in cubic feet) for combinations of key characteristics.
- Data Source:** Form EIA-176 and FPC-14 (for transportation data)
- Scope:** All activity for companies that deliver natural gas to consumers or that transport gas across state lines (EIA-176); all import and export activity (FPC-14).
- Availability:** Monthly printed report available within 2 months.
- Comments:** The annual report provides state-level detail not available in quarterly reports.

### **Freight Demand Characteristics**

- Commodity:** Natural gas
- O/D:** State or country of production or consumption; State-based receipts and deliveries at state borders of export, intransit, or interstate shipments.
- Routing:** Not available
- Shipment:** Volume (cubic feet) and prices
- Transport:** Mode (pipeline or LNG vessel) for imports and exports
- Other:**

### **Petroleum Supply Monthly**

- Source:** U.S. Department of Energy, Energy Information Administration
- Mode:** Pipeline, tanker, barge
- Description:** Monthly report on U.S. petroleum supply and disposition, production, foreign trade, government shipments, and inventories.
- Structure:** Tabular summaries of monthly activity (barrels) for combinations of key characteristics.
- Data Source:** Form EIA-812, 813, 814 and 817.
- Scope:** All activity captured by survey of refiners, blenders, plant operators, transporters and importers.
- Availability:** Monthly printed report available within 2 months.
- Comments:**

#### Freight Demand Characteristics

- Commodity:** Separate statistics for crude oil and primary petroleum products
- O/D:** Foreign country for imports and exports; U.S. O/D inferable based on port routing.
- Routing:** Imports: traffic by country, multi-state Petroleum Administration for Defense (PAD) of entry and commodity. Exports: traffic by commodity and country or PAD of exit. Domestic PAD-to-PAD traffic flows by mode (may include foreign transshipments).
- Shipment:** Volume in barrels.
- Transport:** Mode (pipeline, tanker and barge)
- Other:**

## Grain Transportation

- Source: U.S. Department of Agriculture, Agricultural Marketing Service (AMS)
- Mode: Rail, water
- Description: Weekly report on grain transportation activity including U.S. export inspection volumes, U.S. rail car loadings, rail deliveries to port by coast, barge movements by commodity and river lock, major export sales by commodity, number of vessel calls, average commodity prices, and freight rate for ship charters. Data for latest and several prior weeks are shown.
- Structure: Tabular summaries as described above.
- Data Source: Various including Corps of Engineers, St. Lawrence Seaway Authority, shippers and ports.
- Scope: Activity for grain commodities as reported to AMS.
- Availability: 4-page weekly report available within 2 weeks
- Comments:

### Freight Demand Characteristics

- Commodity: Total grain; wheat, corn, and soybeans for export sales and barge movements.
- O/D: Not available
- Routing: U.S. coast for exports; inland river lock for barge traffic.
- Shipment: Total volume (in bushels) inspected for export, tons of barge movements or export sales, carloads (total and delivered to port by coast); average prices
- Transport: Modal volume (total rail carloadings and delivered to export ports, barge movement tons); Gulf Coast grain vessel call activity; ship charter rates.
- Other: