

Transportation Statistics in the Economic Census and Other Data Programs

Transportation Research Board

**The Economic Census: Uses for the Transportation Community Workshop
National Academy of Science
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Economic Programs with Transportation Statistics from the Census Bureau

Economic Census

- Commodity Flow Survey
- Transportation Census

County Business Patterns

Current Transportation Programs

- Service Annual Survey
- Quarterly Services Survey

Other Economic Programs with Transportation Statistics

Economic Census Commodity Flow Survey

- Partnership between Census and Bureau of Transportation Statistics
- Primary source of information about freight movement in the United States
- As part of the Economic Census, conducted every 5 years, for years ending in 2 and 7
- Only source of nationwide data on movement of goods from origin to destination by all modes of transportation
- Data are used by policy makers and transportation planners for assessing the demand for transportation facilities and services, energy use, safety risk and environmental concerns

Economic Census Commodity Flow Survey (continued)

- Data items published:
 - Shipment value
 - Tons (weight)
 - Ton-miles
 - Average miles per shipment
- Data published by:
 - Commodity
 - Mode
 - Distance shipped
 - North American Industry Classification System (NAICS)
 - Hazardous shipment characteristics
 - Export shipment characteristics
- Geography: US, state, and selected CFS defined metro area

Economic Census

2012 Commodity Flow Survey

Metropolitan Areas

- Albany-Schenectady-Amsterdam, NY
- **Allentown-Bethlehem-Easton, PA-NJ**
- Atlanta-Sandy Springs-Gainesville, GA-AL
- Austin-Round Rock-Marble Falls, TX
- Baltimore-Towson, MD
- Baton Rouge-Pierre Part, LA
- Beaumont-Port Arthur, TX
- Birmingham-Hoover-Cullman, AL
- Boston-Worcester-Manchester, MA-RI-NH
- Buffalo-Niagara-Cattaraugus, NY
- Charleston-North Charleston-Summerville, SC
- Charlotte-Gastonia-Salisbury, NC-SC
- Chicago-Naperville-Michigan City, IL-IN-WI
- Cincinnati-Middletown-Wilmington, OH-KY-IN
- Cleveland-Akron-Elyria, OH
- Columbus-Marion-Chillicothe, OH
- Corpus Christi-Kingsville, TX
- Dallas-Fort Worth, TX
- Dayton-Springfield-Greenville, OH
- Denver-Aurora-Boulder, CO
- Detroit-Warren-Flint, MI
- El Paso, TX
- **Fort Wayne-Huntington-Auburn, IN**
- **Fresno-Madera, CA**
- Grand Rapids-Muskegon-Holland, MI
- Greensboro--Winston-Salem--High Point, NC
- Greenville-Spartanburg-Anderson, SC
- Hartford-West Hartford-Willimantic, CT
- Honolulu, HI
- Houston-Baytown-Huntsville, TX
- Indianapolis-Anderson-Columbus, IN
- Jacksonville, FL
- Kansas City-Overland Park-Kansas City, MO-KS
- **Knoxville-Sevierville-La Follette, TN**
- Lake Charles-Jennings, LA
- Laredo, TX

Economic Census

2012 Commodity Flow Survey

Metropolitan Areas (continued)

- Las Vegas-Paradise-Pahrump, NV
- Los Angeles-Long Beach-Riverside, CA
- Louisville/Jefferson Cnty--Elizabethtown--Scottsville, KY-IN
- Memphis, TN-MS-AR
- Miami-Fort Lauderdale-Pompano Beach, FL
- Milwaukee-Racine-Waukesha, WI
- Minneapolis-St. Paul-St. Cloud, MN-WI
- Mobile-Daphne-Fairhope, AL
- Nashville-Davidson--Murfreesboro--Columbia, TN
- New Orleans-Metairie-Bogalusa, LA
- New York-Newark-Bridgeport, NY-NJ-CT-PA
- Oklahoma City-Shawnee, OK
- **Omaha-Council Bluffs-Fremont, NE-IA**
- Orlando-Deltona-Daytona Beach, FL
- Philadelphia-Camden-Vineland, PA-NJ-DE-MD
- Phoenix-Mesa-Glendale, AZ
- Pittsburgh-New Castle, PA
- Portland-Vancouver-Hillsboro, OR-WA
- Raleigh-Durham-Cary, NC
- Richmond, VA
- Rochester-Batavia-Seneca Falls, NY
- Sacramento--Arden-Arcade--Yuba City, CA-NV
- Salt Lake City-Ogden-Clearfield, UT
- San Antonio-New Braunfels, TX
- San Diego-Carlsbad-San Marcos, CA
- San Jose-San Francisco-Oakland, CA
- Savannah-Hinesville-Fort Stewart, GA
- Seattle-Tacoma-Olympia, WA
- St. Louis-St. Charles-Farmington, MO-IL
- **Stockton, CA**
- Tampa-St. Petersburg-Clearwater, FL
- Tucson, AZ
- Tulsa-Bartlesville, OK
- Virginia Beach-Norfolk-Newport News, VA-NC
- Washington-Arlington-Alexandria, DC-VA-MD-WV
- Washington-Baltimore-No Virginia, DC-MD-VA-W
- Wichita-Winfield, KS

Economic Census Commodity Flow Survey (continued) Status

- Currently collecting data for survey year 2012 from mining, manufacturing, wholesale, publishing, and selected retail and auxiliary establishments
- Sample size of 102,000 establishments, collecting shipment data for over 5 million shipments
- Each sampled establishment receives a survey form each quarter to report data for a sampled week in the quarter.

Economic Census Commodity Flow Survey (continued) Improvements

- Utilize Optical Character Recognition (OCR)
- Electronic reporting - 2 options:
 - Interactive system to enter shipment data
 - Download/upload spreadsheet of shipment data
- Online “How to Sample Shipment Records” video
- New questions on temperature control shipments and rush deliveries

Economic Census Commodity Flow Survey (continued) Products

- 2012 products will be available through American FactFinder on Census.gov:
 - CFS Preliminary Estimates available December 2013
 - CFS Final Estimates available December 2014
 - Geographic Area Series
 - Export Series
 - Hazardous Materials Series
- 2007 and 2002 products are currently accessible through American FactFinder on Census.gov

Economic Census

2007 Commodity Flow Survey Products

Geographic Area Series Tables

- Shipment Characteristics by Origin Geography by:
 - Mode: 2007 & 2002
 - Total Modal Activity: 2007 & 2002
 - Distance Shipped: 2007 & 2002
 - Shipment Weight: 2007 & 2002
 - NAICS: 2007
 - Commodity: 2007 & 2002
 - Commodity Mode: 2007
 - Commodity by Distance Shipped: 2007
 - Commodity by Shipment Weight: 2007
 - Mode by Distance Shipped: 2007
 - Mode by Shipment Weight: 2007
 - NAICS by Mode: 2007
 - NAICS by Distance Shipped: 2007
 - NAICS by Shipment Weight: 2007
 - NAICS by Commodity: 2007
 - Destination Geography: 2007
 - Destination Geography by NAICS by Mode: 2007
- Shipment Characteristics by Destination State by:
 - Origin Geography by Mode: 2007
 - Origin Geography by Commodity: 2007
- Shipment Characteristics by Origin State by:
 - Destination State by Mode: 2007
 - Destination State by Commodity: 2007
 - Destination State by Commodity by Mode: 2007
- Shipment Characteristics by Destination Geography by:
 - Origin Geography: 2007
 - NAICS by Mode: 2007
 - NAICS by Mode: 2007
- Shipment Characteristics by Destination Metro Areas by Mode: 2007
- Shipment Characteristics by Commodity by:
 - Shipment Weight by Distance Shipped for the US: 2007
 - Mode by Distance Shipped for the US: 2007
 - Mode by Shipment Weight for the US: 2007
- Shipment Characteristics by NAICS by Mode by:
 - Distance Shipped for the US: 2007
 - Shipment Weight for the US: 2007
 - Commodity for the US: 2007

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2007 Commodity Flow Survey Products (continued)

Hazardous Materials Tables

- Shipment Characteristics by:
 - Mode for the US: 2007 & 2002
 - Hazardous Class for the US: 2007 & 2002
 - UN Number for the US: 2007
 - Mode by Hazardous vs. Nonhazardous for the US: 2007
 - Origin State: 2007
 - Destination State: 2007
 - Mode by Hazardous Class for Division for the US: 2007 & 2002
 - Mode by UN Number for the US: 2007
 - Commodity by Hazardous vs. Nonhazardous for the US: 2007
 - NAICS for the US: 2007
 - NAICS by Mode for the US: 2007
 - Commodity for the US: 2007 & 2002
- Shipment Characteristics by:
 - Commodity by Truck Modes by Intrastate vs. Interstate for the US: 2007
 - Commodity for the US: 2007 & 2002
 - Commodity by Truck Modes by Intrastate vs. Interstate for the US: 2007
 - Commodity by Mode by Intrastate vs. Interstate for the US: 2007
 - UN Number by Truck Modes by Intrastate vs. Interstate for the US: 2007
 - UN Number by Mode by Intrastate vs. Interstate for the US: 2007
- Shipment Characteristics for:
 - Toxic by Inhalation for the US: 2007 & 2002
 - Packaging Group I for the United States: 2007 & 2002
 - Exports by Country of Destination: 2007

Economic Census

2007 Commodity Flow Survey Products

Export Series Tables

- Shipment Characteristics by:
 - Commodity by Export Mode: 2007 & 2002
 - Domestic Mode: 2007 & 2002
 - Destination Country: 2007 & 2002
 - Export Mode by Destination Country: 2007 & 2002
 - Commodity: 2007 & 2002
 - Originating State: 2007
 - NAICS: 2007

Economic Census

Transportation and Warehousing Sector (NAICS 48-49)

Covers establishments with activity in NAICS:

- 481 Air Transportation
- 483 Water Transportation
- 484 Truck Transportation
- 485 Transit and Ground Passenger Transportation
- 486 Pipeline Transportation
- 487 Scenic and Sightseeing Transportation
- 488 Support Activities for Transportation
- 492 Couriers and Messengers
- 493 Warehousing and Storage

Economic Census Transportation and Warehousing Sector (NAICS 48-49)

Excludes establishments with activity in NAICS:

- 482 Rail Transportation
- 491 Postal Service

Economic Census

Transportation and Warehousing Sector (NAICS 48-49)

- Had over 219,000 establishments with over \$639 billion in revenue and more than 4.4 million employees in 2007
- Mailed 165,336 questionnaires in 2007
- Returned questionnaires – 83.3%
- For the 2012 Economic Census, estimated size of universe:
 - Mail universe 163,000
 - Single-unit establishments – 81,000
 - Multi-unit establishments – 55,000
 - Classification forms – 27,000
 - Non-mail universe 45,000
 - Total estimated universe 208,000 establishments

Truck Transportation – Questionnaire Detail

- Months in operation
- Operational status
- Revenue
- Employment and Payroll
- Kind of business (NAICS)
- Detail of revenue (Product Lines)
- Special inquiries
 - Analysis of operating revenue
 - Purchased transportation
 - Franchise
 - Revenue generating equipment
 - Construction activity for pipelines
 - Cost of purchased transportation

Economic Census

Transportation and Warehousing Sector (NAICS 48-49)

Basic Data from the 2007 Economic Census

		Establishments (number)	Revenue (\$1,000)	Annual Payroll (\$1,000)	Employees (number)
481	Air Transportation	5,661	146,612	26,120	478,157
483	Water Transportation	1,721	34,447	4,544	75,997
484	Truck Transportation	120,390	217,833	58,266	1,507,923
485	Transit and Ground Passenger Transportation	17,791	26,465	9,844	444,925
486	Pipeline Transportation	2,529	25,718	3,219	36,964
487	Scenic and Sightseeing Transportation	2,542	2,448	653	24,386
488	Support Activities for Transportation	42,130	86,596	24,579	608,385
492	Couriers and Messengers	13,004	77,877	20,431	557,195
493	Warehousing and Storage	13,938	21,921	25,526	726,451
Total for NAICS 48-49 Covered by the 2007 Economic Census		219,706	639,916	173,183	4,454,383

2007 Economic Census – Product Line Detail for Transportation – Related Products and Percents

- Air Transportation
 - Domestic (71.1%) vs. International (23%)
 - Scheduled (87%) vs. non-scheduled (8.6%)
 - Passenger (89.2%) vs. freight (6%)
- Water Transportation
 - Freight (48.2%)
 - Towing and tugboat (8.5%)
 - Passenger (1.6%)
 - Cruises and sightseeing (32.6%)
 - Other (9.1%)
- Trucking and Warehousing
 - Moving services (5.5%)
 - Freight transportation (45.8%)
 - Truckload and less-than-truckload (38%)
 - Storage and handling of goods (10.7%)
- Transit and Ground Transportation
 - Long distance (11.3%) vs. local (75%)
 - Fixed (55.5%) vs. non-fixed route (30.5%)
- Pipelines
 - Natural gas (63.9%)
 - Crude oil (12.7%)
 - Refined petroleum (17.1%)
 - Sale of energy (2.8%)
 - Other (3.5%)
- Transportation Services
 - Freight arrangement (28.5%)
 - Freight forwarding and customs brokerage (19.3%)
 - Aircraft maintenance and repair (13.8%)
 - Other (38.4%)

2012 Economic Census – Product Line Detail Changes Affecting Transportation

- Air Transportation
 - Reorganized air freight – perishable vs. non-perishable
 - Added more detail – bulk liquids and gases, automobiles, and other goods
 - Minor wording changes to reflect current product line structure
- Water Transportation
 - Minor wording changes to reflect current product line structure
- Trucking and Warehousing
 - Minor wording changes to reflect current product line structure
- Transit and Ground Transportation
 - Minor wording changes to reflect current product line structure
- Pipelines
 - Minor wording changes to reflect current product line structure
- Transportation Services
 - No longer breaking out domestic vs. international freight transportation arrangement
 - Minor wording changes to reflect current product line structure

Economic Census

Transportation and Warehousing - Publications

- Industry series
 - The series present, by kind of business for the United States, general statistics for establishments of firms with payroll on number of establishments, revenue, payroll, and employment; comparative statistics for 2007 and 2002; and product lines. The data in industry reports are preliminary and subject to change.
- Geographic area series
 - The series present, by kind of business for the United States, states, and metropolitan and micropolitan statistical areas, general statistics for establishments of firms with payroll on number of establishments, revenue, payroll, and employment. Greater kind-of-business detail is shown for larger areas.

Economic Census

Transportation and Warehousing - Publications (continued)

- Product lines
 - Presents product lines data for establishments of firms with payroll by kind of business. Data are presented for the United States only.
- Establishment and firm size
 - Presents revenue, payroll, and employment data for the United States by revenue size, by employment size, and by legal form of organization for establishments of firms with payroll; and by revenue size (including concentration by largest firms), by employment size, and by number of establishments operated (single-units and multi-units) for firms with payroll.

Economic Census

Transportation and Warehousing - Publications (continued)

- Miscellaneous subjects
 - Presents data for a variety of industry-specific topics for establishments of firms with payroll. Presentation of data varies by kind of business. Examples of data for transportation and warehousing include:
 - Purchased transportation by motor freight carrier for the U.S. and States
 - Revenue-generating equipment for passenger transportation for the U.S. and States
 - Cost of arranged transportation by mode of shipping for the U.S. and States
 - Construction activity by pipelines for the U.S. and States

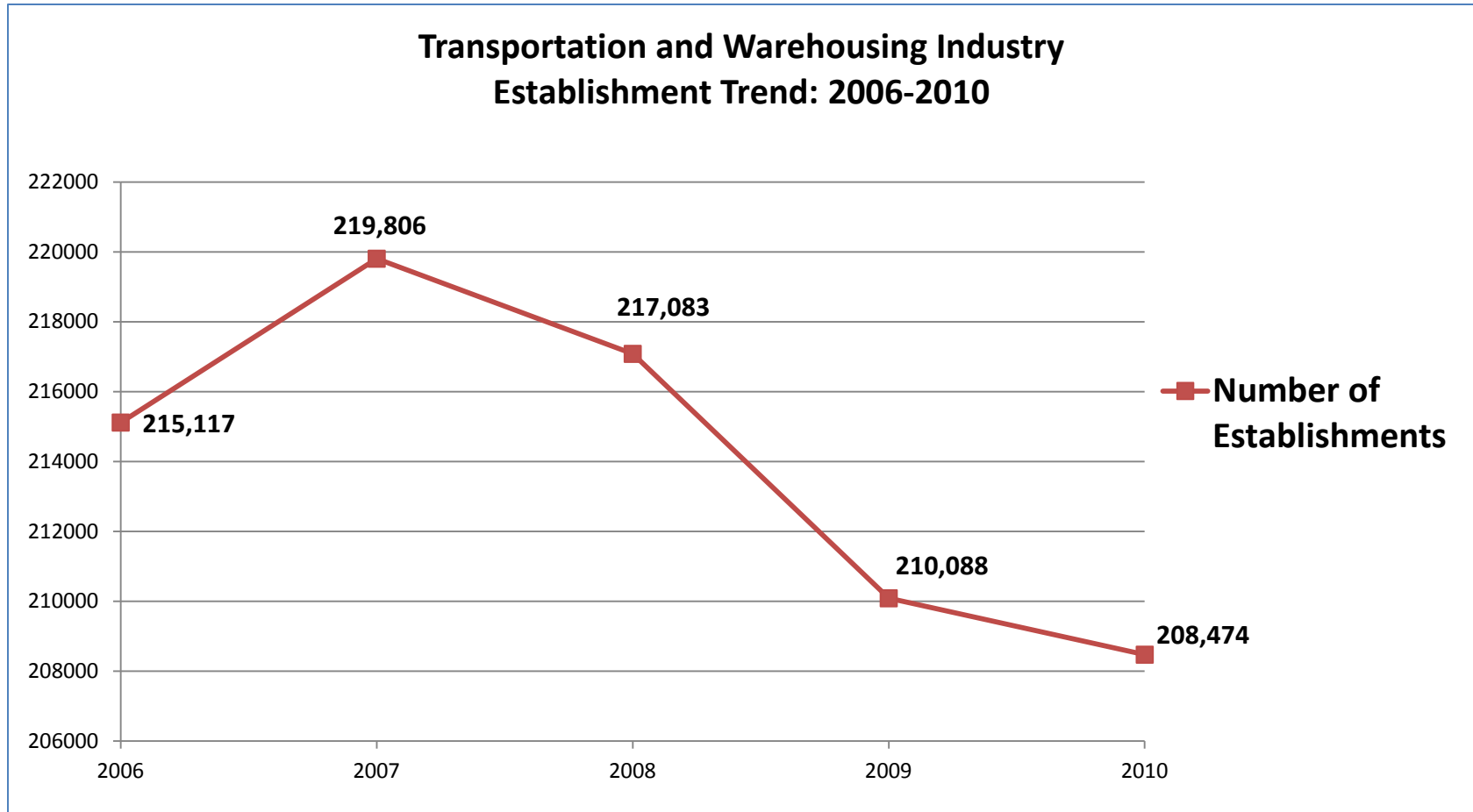
County Business Patterns (CBP)

- County Business Patterns is an annual publication that provides economic data by industry for most businesses with paid employees.
- Data items include the number of Establishments, Employment, First-quarter Payroll, and Annual Payroll.
- Data originates from administrative records received from the Internal Revenue Service, Social Security Administration, and Bureau of Labor Statistics, as well as from the Economic Census & Company Organization Survey data collections.
- Publication Formats
 - American FactFinder (factfinder2.census.gov)
 - CBP Web Site (www.census.gov/econ/cbp/)

County Business Patterns (CBP)

- CBP covers data at the U.S., State, County, Metropolitan Statistical Area (MSA) level; ZIP Code level data, Puerto Rico and the Island Areas.
- More than 1,000 industries are covered at the 6-digit NAICS level by Employment Size and Legal Form of Organization.
 - 2- thru 6-digit NAICS detail is available for the Transportation and Warehousing sector
- The 2010 County Business Patterns Statistics published roughly 208,000 businesses in the Transportation and Warehousing industry (Sector 48-49). Between 2009 and 2010, employment dropped to 4.0 million employees, a decline of 3.5% from 2009. (2010 CBP Statistics released on June 26, 2012)

County Business Patterns (CBP)



County Business Patterns (CBP)

Top Employer Counties and U.S total for
Transportation and Warehousing (NAICS 48-49) in 2010

Geographic area name	Number of establishments	Paid employees for pay period including March 12	Annual payroll (\$1,000)
United States	208,474	4,011,989	166,790,049
Los Angeles County, California	6,513	144,931	6,615,528
Cook County, Illinois	4,557	101,269	4,730,511
Harris County, Texas	2,666	92,945	5,551,762
Dallas County, Texas	1,503	61,139	2,760,566
Queens County, New York	2,156	57,106	2,796,375
Maricopa County, Arizona	1,773	53,926	2,295,485
Miami-Dade County, Florida	2,906	49,728	2,179,035
Shelby County, Tennessee	957	46,523	1,820,398
Fulton County, Georgia	624	44,528	2,319,518
San Bernardino County, California	1,403	43,000	1,709,886

County Business Patterns (CBP)

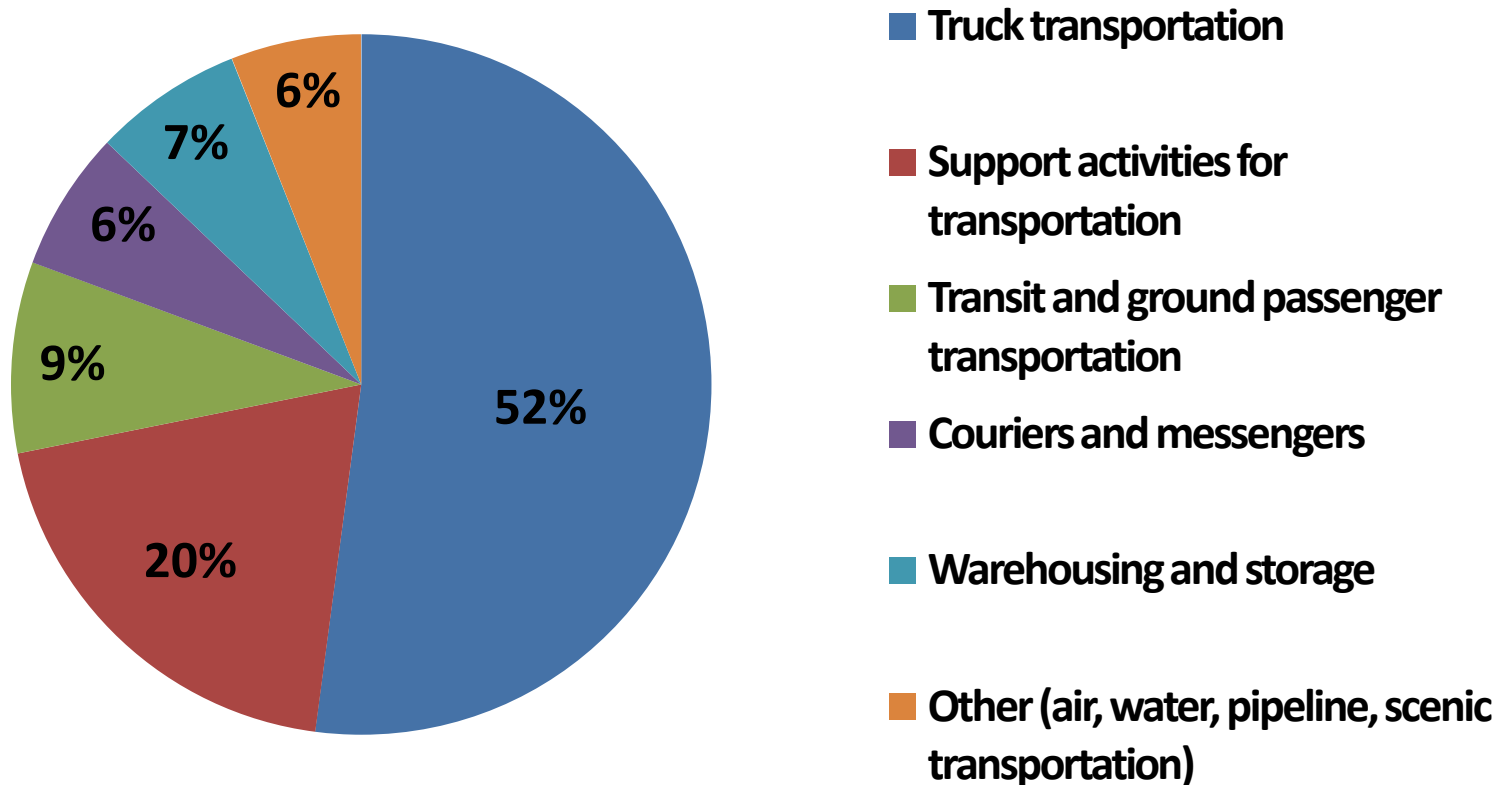


2010 Transportation Quick Facts:

- Corporations/ S-Corps are the most common legal forms of organization in this sector, accounting for 79% of businesses.
- Of the top employer counties, Cook County, Illinois had the highest increase in establishments in 2010, with 5% growth from 2009.
- The Southeast Region had the highest concentration of Truck Transportation establishments (36,601).
- The highest concentration of Transit and Ground Passenger transportation establishments is in the Northeast Region (6,571).

County Business Patterns (CBP)

Major Transportation and Warehousing Operations in 2010



Service Annual Survey

NAICS	Timeline		Percent of GDP
	Mail	Publish	
Utilities, Air Transportation, Water Transportation, Transit and Ground Transportation, Pipeline Transportation, Scenic and Sightseeing Transportation, Transportation Support, Monetary Authorities-Central Banks, Real Estate, Insurance Carriers, Lessors of Nonfinancial Intangible Assets, and Educational Services (22, 481, 483, 485, 486, 487, 488, 521, 524, 531, 533, 61)	January 2010 ✓	1Q 2011 ✓ (2009 survey Estimates)	55%

Quarterly Services Survey

NAICS	Timeline		Percent of GDP
	Mail	Publish	
Ambulatory Health Care Services and Social Assistance (621, 624)	March 31, 2009 ✓	Sept 9, 2009 ✓ (1Q & 2Q 2009)	20%
Truck Transportation, Courier Services, Warehousing, Rental and Leasing Services, Arts, Entertainment, and Recreation, and Other Services (484, 492, 493, 532, 71, 81)	June 30, 2009 ✓	Dec 10, 2009 ✓ (2Q & 3Q 2009)	30%
Monetary Authorities – Central Banks, Commercial Banking, Savings Institutions, and Nondepository Credit Intermediation, and Securities, Commodity Contracts, and Other Financial Investments and Related Activities, Insurance Carriers (521, 522, 523, 524)	Sept 30, 2009 ✓	Mar 11, 2010 ✓ (3Q & 4Q 2009)	38%
Utilities, Air Transportation, Water Transportation, Transit and Ground Transportation, Pipeline Transportation, Scenic and Sightseeing Transportation, Transportation Support, Real Estate, Lessors of Nonfinancial Intangible Assets, and Educational Services (22, 481, 483, 485, 486, 487, 488, 531, 533, 61)	June 30, 2010 ✓	Early March 2011 ✓ (2Q, 3Q & 4Q 2010)	55%

Other Economic Programs with Transportation Statistics

- Transportation – Related Manufacturing Industries (Motor Vehicles, Aircraft, Truck Trailers, Ship and Boat Building) Statistics are Available from ...
 - Annual Survey of Manufactures (conducted annually, except for years ending in 2 and 7, at which time ASM statistics are included in the manufacturing sector of the Economic Census)
 - Provides statistics on employment, payroll, supplemental labor costs, costs of materials consumed, operating expenses, value of shipments, value added by manufacturing, detailed capital expenditures, fuels and electric energy used, and inventories
 - Provides statistics for each state and the District of Columbia
 - Manufacturers' Shipments, Inventories, and Orders (the M3 Survey provides broad-based, monthly statistical data on economic conditions in the manufacturing sector)
 - Measures current industrial activity and provides an indication of future business trends

Other Economic Programs with Transportation Statistics (continued)

- Transportation – Related Data on International Trade



Transportation-Related Data on International Trade

- MOT's available in Census Bureau foreign trade data products
 - Air; Vessel; Containerized Vessel
 - Value; Shipping Weight; Import Charges
- Available with:
 - Detailed commodity
 - Country of Origin/Destination
 - Port of Export/Unlading
 - State of Export/Import
- Time series data are available monthly, January 2002 – present (January 2003 for port data)
- Available online at <http://www.usatradeonline.gov/>

Transportation-Related Data on International Trade (continued)

- Overland (mail, truck, rail, pipeline, other) data available from the *North American Transborder Freight Database*, collected by the Census Bureau for the Bureau of Transportation Statistics
 - http://www.bts.gov/programs/international/transborder/TBDR_Q_A.html
- MOT is based on how the goods entered or left the U.S.
 - For example, a product leaves the U.S. on a truck, gets on a plane in Canada bound for China – trade data would show an overland shipment to China.
 - For more info:
<http://www.census.gov/foreign-trade/guide/>

Thank You!