

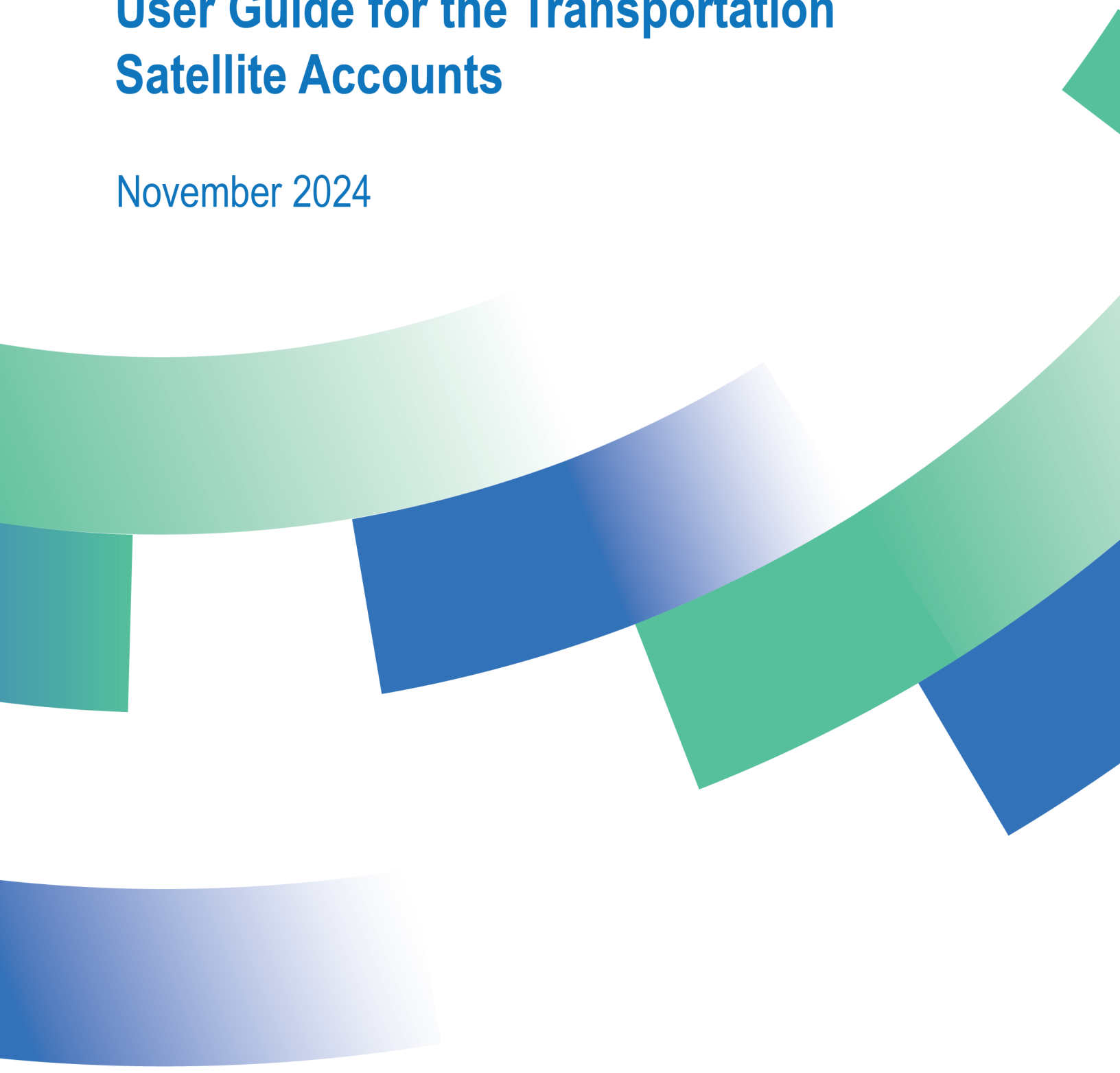


U.S. Department of Transportation  
Office of the Secretary of Transportation

**Bureau of Transportation Statistics**

# User Guide for the Transportation Satellite Accounts

November 2024



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### Abstract

This document provides instructions on how to retrieve data from the Bureau of Transportation Statistics' Transportation Satellite Accounts and the steps involved to answer specific questions, such as the contribution of in-house versus for-hire transportation to the economy.

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## Acronyms and Abbreviations

BEA	Bureau of Economic Analysis
BTS	Bureau of Transportation Statistics
GDP	Gross domestic product
HPTS	Household production of transportation services
I-O account	Input-output account
TSAs	Transportation Satellite Accounts

# 1. Introduction

The Transportation Satellite Accounts (TSAs) provide a comprehensive means for measuring the contribution of transportation services to the national economy. The TSAs capture transportation activities carried out by (1) the for-hire transportation sector for a fee, (2) non-transportation industries for their own purposes, and (3) households using a personal vehicle.

This document provides instructions on how to retrieve data from the TSAs and the steps involved to answer specific questions, such as the contribution of in-house versus for-hire transportation to the economy. For methodology, answers to frequently asked questions, data, visualizations, past presentations, and previous reports, see the following:

## 1.1. METHODOLOGY

- [Methodology](#)
- [Frequently Asked Questions](#)

## 1.2. INTERACTIVE VISUALIZATIONS

- [Contribution of Transportation Services to the Economy and the Transportation Satellite Accounts](#)
- [Transportation Used to Produce Goods and Services](#)
- [Industry Snapshots](#): industries' use of transportation, including the amount of transportation used and the number employed in transportation occupations.

## 1.3. ARCHIVED DATA AND REPORTS AND PRESENTATIONS

- Previous releases of the TSAs. Previous releases not comparable to the current data.
  - [2002-2006](#) (published 2014)
  - [1997](#) (published 2011)
  - [1996](#) (published 1999)
- Previous releases of Industry Snapshots
  - [2015](#)
  - [2016](#)
  - [2017](#)
- Previous presentations: [Webinar](#)

## 2. Scope and Key Concepts

### 2.1. SCOPE

The TSAs are a series of tables showing how industries interact with each other and with the rest of the U.S. economy. The tables include the following:

- Make
- Use
- Direct requirements
- Total requirements
  - Commodity by commodity
  - Industry by commodity

### 2.2. KEY CONCEPTS

These sections provide definitions and explanations of key terms. The values shown for the make, use, and requirements tables are theoretical and do not reflect data for a particular year.

#### 2.2.1. Definition of For-Hire Transportation

For-hire transportation consists of the services provided by transportation firms to industries and the public on a fee-basis. Examples of for-hire transportation include airlines, railroads, transit agencies, common carrier trucking companies, and pipelines.

#### 2.2.2. Definition of In-House Transportation

In-house transportation consists of the services provided by businesses and households for their own use. Business in-house transportation consists of the services carried out by non-transportation industries using privately owned and operated vehicles of all body types, used primarily on public rights of way. The dollar value of business in-house transportation includes the support services to store, maintain, and operate those vehicles. A baker's delivery truck is an example of business in-house transportation activity. The TSAs classify large in-house transportation activities as for-hire transportation activity because the U.S. input-output (I-O) accounts already capture them in for-hire transportation. Examples of large in-house transportation activity classified as for-hire transportation include large trucking fleets operated by retail and wholesale companies that directly employ truck drivers (not as independent contractors) like Target, Walmart, Home Depot, and Amazon (excluding Amazon Flex where individuals use their own vehicles to deliver Amazon packages).

#### 2.2.3. Definition of Household Transportation

Household transportation covers transportation activity carried out by households for their own use through the use of a motor vehicle. The TSAs measure the contribution of household transportation activity as the depreciation of owning and operating a motor vehicle. The TSAs do not include the time households spend operating a private motor vehicle for personal use because the I-O accounts, by design, do not include unpaid labor, volunteer work, and other non-market production.



## 2.2.4. Make Table

The Make Table provides the dollar value of transportation services each transportation industry makes.

The Make Table shows the dollar value of the commodities, also known as goods and services, *produced* by each industry. Commodities appear in the columns and industries in the rows, as shown in Table 1. The entries across a row represent the dollar value of the commodity produced by an industry. An industry may produce more than one commodity. The diagonal cells in the Make Table (bolded in Table 1) show the dollar value of the commodity produced by the industry that is the “primary” producer. The values in the off-diagonal cells in the Make Table show the dollar value of the commodity produced as secondary products. As shown in Table 1, the *row* for manufacturing shows that the manufacturing industry produced \$5,603,320 million of manufactured products and secondarily, \$689 million of agriculture and mining products and \$37,431 million of other products for a total production of \$5,641,440 million. The *column* for manufacturing shows that the manufacturing industry produced 99 percent of all manufactured products (\$5,603,320 million / \$5,638,934 million). The agriculture and mining industry produced the remaining 1 percent of manufactured products as secondary products.

**Table 1. Example Make Table in the Transportation Satellite Accounts (\$ millions)**

		Commodity								Total industry output
		Agriculture, mining	Manufacturing	For-hire transportation		In-house transportation		Household transportation	Other	
				Truck	Other	Truck	Other			
Industry	Agriculture, mining	961,960	35,614	0	0	0	0	0	2,890	1,000,464
	Manufacturing	689	5,603,320	0	0	0	0	0	37,431	5,641,440
	For-hire transportation	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Truck	0	0	293,451	973	0	0	0	2,484	296,908
	Other	0	0	259	695,616	0	0	0	670,374	1,366,249
	In-house transportation	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Truck	0	0	0	0	414,159	0	0	0	414,159
	Other	0	0	0	0	0	84,645	0	0	84,645
	Household transportation	0	0	0	0	0	0	808,575	0	808,575
	Other	2,306	0	0	0	0	0	0	20,386,088	20,388,394
	Total commodity output	964,955	5,638,934	293,710	696,589	414,159	84,645	808,575	21,099,267	30,000,834

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Transportation Satellite Accounts, available at [www.bts.gov/satellite-accounts](http://www.bts.gov/satellite-accounts) as of November 2024.

Note: For-hire transportation consists of the services provided by transportation firms to industries and the public on a fee-basis. Business in-house transportation consists of the transportation activity carried out by non-transportation industries for their use. Household production of transportation includes only travel in motor vehicle owned, leased, or rented and operated by households themselves. “Other” for-hire transportation includes: transit and passenger ground transportation (excluding state and local government passenger transit); sightseeing transportation and transportation support; parcel delivery, courier, and messenger services (excluding U.S. Postal Service); warehousing and storage; and other transportation and support activities. “Other” in-house transportation includes: air, rail, water transportation.

NA = Data not available.

## 2.2.5. Use Table

The Use Table shows the following:

- the dollar value of transportation services used by an industry, and
- the contribution of each transportation mode to the economy as measured by gross domestic product (GDP).

The Use Table shows the dollar value of each commodity an industry needs to produce goods and services. The rows in the Use Table show the dollar value of the commodities. The sum of each row is the gross output of that commodity. For example, the for-hire truck transportation *row* in Table 2 shows the dollar value of for-hire truck transportation services used by each industry—the sum of which equals the total dollar value of all for-hire truck transportation services used in the economy (total commodity output). The agriculture and mining industry used \$7,370 million of for-hire truck transportation services, while the manufacturing industry used \$72,364 million. Final users consumed \$137,636 million of for-hire truck transportation services.

Each *column* in the Use Table displays the industries and final users that use the commodities. The columns can be thought of as the recipe for producing output. For example, the manufacturing *column* in Table 2 shows that the manufacturing industry required inputs from multiple areas of the economy, including \$843,779 million of agricultural and mining products, \$1,887,005 million of manufacturing products, \$72,364 million of for-hire truck transportation services, \$69,059 million of other for-hire transportation services, and \$832,763 million of other goods and services. The manufacturing industry additionally carried out \$67,774 million of in-house truck transportation activity and \$3,068 million of other in-house transportation activity to produce output. In total, the manufacturing industry needed \$3,775,812 million of commodities (\$843,779 million + \$1,887,005 million + \$72,364 million + \$69,059 million + \$67,774 million + \$3,068 million + \$832,763 million) to produce manufacturing products.

The Use Table also shows the dollar value each industry adds to GDP. For each industry, there is a row called “value-added,” which appears below the rows listing the commodities used by the industry to produce output. Value-added is the income generated by production. More specifically, it is the value of the industry’s sales to other industries and final users less the value of its purchases from other industries. The sum of the value-added by each industry is equal to GDP for the Nation. In Table 2, the value-added *row* (outlined in green) shows that the for-hire truck transportation industry contributed \$124,017 million to GDP. In-house truck transportation operations contributed \$172,093 million and households contributed \$129,175 million in owning and operating a personal motor vehicle for their own purposes. Other for-hire transportation industries contributed \$1,044,153 million and other in-house transportation operations contributed \$31,094 million. In total, transportation activity contributed \$1,500,532 million to the economy. GDP is equal to \$10,731,981 million and is the sum of the value added by all industries. Transportation activity accounted for 14 percent of GDP, in this example.

For more information on GDP, see [What is gross domestic product \(GDP\)?](#)

**Table 2. Example Use Table in the Transportation Satellite Accounts (\$ millions)**

		Industry								Total final uses	Total commodity output
		Agriculture, mining	Manufacturing	For-hire transportation		In-house transportation		Household transportation	Other		
				Truck	Other	Truck	Other				
Commodity	Agriculture, mining	132,005	843,779	0	1,170	0	0	0	81,237	-93,236	964,955
	Manufacturing	112,139	1,887,005	75,269	103,694	78,707	35,750	228,924	1,324,569	1,792,877	5,638,934
	For-hire transportation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Truck	7,370	72,364	3,378	2,506	0	0	2,941	67,515	137,636	293,710
	Other	13,481	69,059	29,313	90,256	0	0	10,239	480,943	3,298	696,589
	In-house transportation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Truck	18,008	67,774	0	0	0	0	0	328,377	0	414,159
	Other	2,396	3,068	0	0	0	0	0	84,645	-5,464	84,645
	Household transportation	0	0	0	0	0	0	0	99,357	709,218	808,575
	Other	110,531	832,763	64,931	124,470	163,359	17,801	437,296	11,160,464	8,187,652	21,099,267
	Total intermediate inputs	395,930	3,775,812	172,891	322,096	242,066	53,551	679,400	13,627,107	NA	NA
Total value added		604,534	1,865,628	124,017	1,044,153	172,093	31,094	129,175	6,761,287	10,731,981	NA
Total industry output		1,000,464	5,641,440	296,908	1,366,249	414,159	84,645	808,575	20,388,394	NA	30,000,834

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Transportation Satellite Accounts, available at [www.bts.gov/satellite-accounts](http://www.bts.gov/satellite-accounts) as of November 2024.

Note: Final uses refers to the purchase of goods to satisfy current wants or needs. In other words, the goods they purchase are not used in the production of another good. For-hire transportation consists of the services provided by transportation firms to industries and the public on a fee-basis. Business in-house transportation consists of the transportation activity carried out by non-transportation industries for their use. Household production of transportation includes only travel in motor vehicle owned, leased, or rented and operated by households themselves. Total final use is negative if the negative contribution of imports offsets the positive contributions of other final uses (household final consumption, government final consumption, investment, changes in inventories, and exports of goods and services). Changes in inventories also can be negative — if the ending inventory exceeds the beginning inventory of the commodity — and likewise can cause total final use to be negative. “Other” for-hire transportation includes: transit and passenger ground transportation (excluding state and local government passenger transit); sightseeing transportation and transportation support; parcel delivery, courier, and messenger services (excluding U.S. Postal Service); warehousing and storage; and other transportation and support activities. “Other” in-house transportation includes: air, rail, water transportation.

NA = Data not available.

## 2.2.6. Direct Requirements Table

The Direct Requirements Table shows the importance of transportation in the production process, i.e., the dollar value of transportation services an industry requires to produce one dollar of output.

The Direct Requirements Table shows the dollar value of each commodity used by an industry per dollar of industry output. The table is similar to the Use Table except that the values are per dollar of industry output rather than absolute dollars. For example, the manufacturing *column* in Table 3 shows that the manufacturing industry required 1¢ (0.0128 \*100) of for-hire truck transportation services, 1¢ (0.0122 \*100) of other for-hire transportation services, 1¢ (0.0120 \*100) of in-house truck transportation operations, 0.05¢ (0.0005 \*100) of other in-house transportation operations to produce one dollar of output. In total, the manufacturing industry required 3.75¢ ((0.0128 + 0.0122 + 0.0120 + 0.0005) \*100) of transportation services and operations to produce a dollar of output.

When represented per dollar of industry output, the importance of transportation in the production process can be measured relative to other industries. The manufacturing industry required 3.75¢ of transportation services to produce a dollar of output, whereas the agriculture and mining industry required 4.13¢. Industries producing more output tend to use a larger dollar value of transportation services because of their greater output. They, however, may use transportation services less intensely than industries producing less output (again measured in absolute dollars) if they require less transportation services per dollar of industry output. This may result, for example, from greater production efficiency and/or from consuming transportation services that cost less. Table 2 shows that the manufacturing industry produces more output and uses more transportation services than the agriculture and mining industry. The agriculture and mining industry, however, requires more transportation services per dollar of output (4.13¢) than the manufacturing industry (3.75¢) (Table 3).

The importance of transportation in the production process also can be measured relative to all other inputs. Table 3 shows that the manufacturing industry requires more agriculture and mining products (14.96¢) to produce a dollar of output than transportation services, thus making agriculture and mining a more important input in the production of manufacturing products.

**Table 3. Example Direct Requirements Table in the Transportation Satellite Accounts  
(dollars required per dollar of output)**

		Industry							
		Agriculture, mining	Manu- facturing	For-hire transportation		In-house transportation		House hold transportation	Other
				Truck	Other	Truck	Other		
Commodity	Agriculture, mining	0.132	0.150	0.000	0.001	0.000	0.000	0.000	0.004
	Manufacturing	0.112	0.335	0.254	0.076	0.190	0.422	0.283	0.065
	For-hire transportation								
	Truck	0.007	0.013	0.011	0.002	0.000	0.000	0.004	0.003
	Other	0.014	0.012	0.099	0.066	0.000	0.000	0.013	0.024
	In-house transportation								
	Truck	0.018	0.012	0.000	0.000	0.000	0.000	0.000	0.016
	Other	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.004
	Household transportation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
	Other	0.111	0.148	0.219	0.091	0.394	0.210	0.541	0.547
Total value added		0.604	0.331	0.418	0.764	0.416	0.367	0.160	0.332
Total industry output		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Transportation Satellite Accounts, available at [www.bts.gov/satellite-accounts](http://www.bts.gov/satellite-accounts) as of November 2024.

Note: For-hire transportation consists of the services provided by transportation firms to industries and the public on a fee-basis. Business in-house transportation consists of the transportation activity carried out by non-transportation industries for their use. Household production of transportation includes only travel in motor vehicles owned, leased, or rented and operated by households themselves.

### 2.2.7. Commodity by Commodity Direct Requirements Table

The Commodity by Commodity Direct Requirements Table (Table 4) shows the inputs needed to deliver a dollar of a given commodity to final users. The data read down a *column*. As shown in Table 4, providing one dollar of manufactured products to final users, required 28¢ (0.2787 \*100) of agriculture and mining products, 160¢ (1.6025 \*100) of manufacturing products, 2¢ (0.0243 \* 100) of for-hire truck transportation services, 4¢ (0.0361 \*100) of other for-hire transportation services, 3¢ (0.0335 \* 100) of in-house truck transportation operations, less than 1¢ (0.0022 \* 100) of other in-house transportation operations, and 40¢ (0.4039 \* 100) of products from other industries. In total, every dollar of for-hire transportation services provided to final users requires \$23.81 of inputs (as shown by the total commodity requirement at the bottom of the manufacturing column). Delivering one dollar of manufactured products to final users requires more than one dollar of inputs because not all of the manufactured products reach final consumers. Some of the manufactured products are used as an input in the production of manufactured products themselves or in the production of another good.

The values in the Commodity by Commodity Direct Requirements Table differ from the values in the Direct Requirements Table because commodities may be produced by more than one industry. For example, the agriculture industry is the primary producer of agricultural and mining

products (as seen in the Make Table — Table 1) but other industries, such as the manufacturing industry, are secondary producers that also make agricultural and mining products. The amount of transportation services required to deliver a dollar of a commodity to final users, depends on the amount required by all industries (primary and secondary) making the commodity.

**Table 4. Example Commodity by Commodity Requirements Table in the Transportation Satellite Accounts (dollar required per dollar delivered to final users)**

		Commodity							
		Agriculture, mining	Manu- facturing	For-hire transportation		In-house transportation		Household trans- portation	Other
				Truck	Other	Truck	Other		
Commodity	Agriculture, mining	1.194	0.279	0.082	0.371	0.061	0.301	0.092	0.575
	Manufacturing	0.238	1.603	0.460	1.785	0.341	1.681	0.522	2.173
	For-hire transportation	NA	NA	NA	NA	NA	NA	NA	NA
	Truck	0.013	0.024	1.020	0.055	0.006	0.029	0.014	0.091
	Other	0.026	0.036	0.143	6.501	0.006	0.025	0.010	0.370
	In-house transportation	NA	NA	NA	NA	NA	NA	NA	NA
	Truck	0.029	0.034	0.016	0.071	1.014	0.055	0.030	0.269
	Other	0.003	0.002	0.002	0.014	0.001	3.004	0.002	0.055
	Household transportation	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000
	Other	0.261	0.404	0.451	2.567	0.664	1.712	0.925	15.612
Total commodity output requirement		1.766	2.381	2.174	11.364	2.094	6.806	2.594	19.146

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Transportation Satellite Accounts, available at [www.bts.gov/satellite-accounts](http://www.bts.gov/satellite-accounts) as of November 2024.

Note: For-hire transportation consists of the services provided by transportation firms to industries and the public on a fee-basis. Business in-house transportation consists of the transportation activity carried out by non-transportation industries for their use. Household production of transportation includes only travel in motor vehicles owned, leased, or rented and operated by households themselves.

NA = Data not available.

## 2.2.8. Industry by Commodity Total Requirements Table

The Industry by Commodity Total Requirements Table shows the following:

1. the dollar value of transportation services required to fulfill the demand from final users in the economy, and
2. the demand transportation industries generate for output from non-transportation industries

The Industry by Commodity Total Requirements Table shows the production needed by an industry to deliver one dollar of a given commodity to final users. The table is useful for measuring the *direct* and *indirect* effects of transportation activity on the economy. The *direct* effect is the amount of transportation output required to fulfill demand. This can be seen in Table 5. The columns show the amount of output that each industry (shown on a row) must produce to provide final users with one dollar of the commodity listed at the column head. The for-hire truck transportation industry, for example, must produce \$1.02 of output to provide final users with one dollar of truck transportation services (Table 5). A portion of the for-hire truck transportation industry's output will be used as an input by other industries and hence, will not reach final users. For this reason, the truck transportation industry must produce more than one dollar of truck transportation services to deliver a dollar of output to final users.

The Industry by Commodity Total Requirements Table can also be used to measure the *indirect* effects of transportation activity on the economy. The *indirect* effect is the demand transportation industries generate for output from non-transportation industries. The for-hire truck transportation industry, for example, requires fuel and tires in order to produce truck transportation services. In the industry by commodity total requirement table, the values below the transportation columns are the amount of industry (e.g., in natural resources and mining, construction, etc.) output needed to provide a dollar of transportation services to final users. For example, to provide final users with one dollar of for-hire truck transportation services, the manufacturing industry must provide 46¢ ( $0.4591 \times 100$ ) of output (outlined in green in Table 5).

The value of the products needed to produce a dollar of transportation services for final consumption is given by the total industry output requirement at the bottom of the transportation columns in the industry by commodity total requirement table. As shown in Table 5, one dollar of for-hire truck transportation services delivered to final users requires \$2.17 of products (\$0.0842 from the agriculture and mining industry, \$0.4591 from the manufacturing industry, etc.). Output will increase by a larger amount when a larger number of commodities are required to support the increase and/or when the required commodities are more costly to produce.



**Table 5. Example Industry by Commodity Total Requirements Table in the Transportation Satellite Accounts (dollars required per dollar delivered to final users)**

		Commodity							
		Agriculture, mining	Manu- facturing	For-hire transportation		In-house transportation		Household trans- portation	Other
				Truck	Other	Truck	Other		
Industry	Agriculture, mining	1.192	0.288	0.084	0.382	0.063	0.311	0.095	0.590
	Manufacturing	0.239	1.596	0.459	1.789	0.341	1.679	0.520	2.604
	For-hire transportation	NA	NA	NA	NA	NA	NA	NA	NA
	Truck	0.013	0.024	1.020	0.060	0.006	0.029	0.014	0.093
	Other	0.026	0.035	0.144	6.220	0.015	0.057	0.039	0.281
	In-house transportation	NA	NA	NA	NA	NA	NA	NA	NA
	Truck	0.029	0.034	0.016	0.071	1.014	0.055	0.030	0.269
	Other	0.003	0.002	0.002	0.014	0.001	3.004	0.002	0.055
	Household transportation	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000
	Other	0.263	0.402	0.449	2.829	0.653	1.672	0.895	15.254
Total industry output requirement		1.766	2.381	2.174	11.364	2.094	6.806	2.594	19.146

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Transportation Satellite Accounts, available at [www.bts.gov/satellite-accounts](http://www.bts.gov/satellite-accounts) as of November 2024.

Note: For-hire transportation consists of the services provided by transportation firms to industries and the public on a fee-basis. Business in-house transportation consists of the transportation activity carried out by non-transportation industries for their use. Household production of transportation includes only travel in motor vehicles owned, leased, or rented and operated by households themselves.

NA = Data not available.

### 2.2.9. Final User

Final users refers to those in the economy who purchase goods to satisfy current wants or needs. In other words, the goods they purchase are not used in the production of another good.

### 2.2.10. Value Added

Value-added is the income generated by production. More specifically, it is the value of the industry's sales to other industries and final users less the value of its purchases from other industries. In the TSA Use Table, value-added is the sum of three components: (1) compensation to employees, (2) taxes on production and imports less subsidies, and (3) gross operating surplus. In the TSA Use Table, the sum of the value-added by each industry is equal to GDP for the Nation.

### 2.2.11. Gross Domestic Product

GDP measures the value of final goods and services produced in the United States in a given time period. GDP appears in the Use Table and can be measured in three ways: (1) sum of value added, (2) sum of total final uses, and (3) total output less total intermediate inputs (see Table 6).

In the TSA Use Table, GDP is larger than in the I-O Use Table because the TSA Use Table adds the contribution of household travel by personal motor vehicle to the table.



### 3. TSA Data Structure

BTS developed a tool that allows users to create and view customizable tables with data from the TSAs. Data can be filtered by TSA table, level of detail, industry and commodity, and year. Data are available in current dollars. The data tabulation tool starts with a pre-set table showing the dollar value of transportation services produced by industries in the latest year. BTS also developed preset tables that show the following:

- dollar value of transportation services produced by industry,
- dollar amount of transportation services used by industries,
- contribution of (total value-added by) transportation services to gross domestic product,
- commodities used by transportation industries to produce output (dollars), and
- commodities used by transportation industries to produce output (per dollar of output).

These tables can be used as a starting point, through the dropdown options above the table; additional complexity can be added to the tables. The tool can also be used to create custom tables. By clicking the headline “Or Create Custom Table (or customize table selected above),” tables can be customized by source table, level of detail, commodity and industry, and reference year. The data in the table can be downloaded into a CSV file. Figure 1 and Figure 2 provide sample views of the TSA data tabulation tool user interface.

**Figure 1. TSA Data Tabulation Tool User Interface**

### Transportation Satellite Account Tables

▼ How to view the Transportation Satellite Account data

#### About the Transportation Satellite Account data

The Transportation Satellite Accounts (TSAs) provide a comprehensive means for measuring the contribution of transportation services to the national economy. The TSAs capture transportation activities carried out by: (1) the for-hire transportation sector for a fee, (2) non-transportation industries for their own purposes, and (3) households using a personal vehicle.

- **For-hire transportation** consists of the services provided by transportation firms to industries and the public on a fee-basis. Airlines, railroads, transit agencies, common carrier trucking companies, and pipelines are examples of for-hire transportation industries.
- **In-house transportation** consists of the services provided by businesses and households for their own use. Business in-house transportation consists of the services carried out by non-transportation industries using privately owned and operated vehicles of all body types, used primarily on public rights of way. The dollar value of the business in-house transportation includes the support services to store, maintain, and operate those vehicles. A bakerâ€™s delivery truck is an example of business in-house transportation activity. Large in-house transportation activities such as the trucking fleet for Target, Walmart or Home Depot are part of for-hire transportation activity.
- **Household transportation** covers transportation activity carried out by households for their own use through the use of a motor vehicle. The contribution of household transportation activity is equal to the depreciation of owning and operating a motor vehicle. The time households spend operating a private motor vehicle for personal use is not included, because it is not within the scope of the U.S. Input-Output (I-O) accounts, upon which the TSAs are built. The I-O accounts, by design, do not include unpaid labor, volunteer work, and other non-market production.

The TSAs use the same structure as the U.S. Input-Output (I-O) accounts and consist of four tables:

1. Make (the dollar value of transportation services each transportation industry makes),
2. Use (the dollar value of the transportation services used by each industry in the economy),
3. Direct requirements (the dollar value of transportation services required to produce one dollar of each product), and
4. Total requirements (the dollar value of the inputs required to produce one dollar of transportation).

View selections from these four tables using the "View Selected Tables" (under Filters) or view the entire table using "Create Custom Table". Tables selected under "View Selected Tables" can be customized further by opening the "Create Custom Table" accordion.

Data can be downloaded for the displayed table using the "Download Table as CSV" button or all data for each of the four tables can be downloaded using the links under "Links to Raw Data".

▼ Filters:

View Selected Tables

Or Create Custom Table (or customize table selected above)

Table Name	Level of Detail	Reference Year	Items (listed in order that appear in table)
Use	Sector	2022	<div><div>Select commodity(ies) to show on rows</div><div>Leisure and hospitality</div><div>Other services</div><div>Scrap, used and secondhand goods</div><div>In-house air transportation</div></div> <div><div>Select industry(ies) to show on columns</div><div>Natural resources and mining</div><div>Construction</div><div>Manufacturing products</div><div>Wholesale and retail trade</div></div>

► Links to raw data

**Figure 2. Figure 2. Sample TSA View\***

Click to sort column. Only one column can be sorted at a time.

Download Table as CSV file.  
Full dataset at [data.bts.gov](https://data.bts.gov)

Row Id	Row Code	Row Label	01 Natural resources and mining	02 Construction	03 Manufacturing products	04 Wholesale and retail trade	05 Utilities
12	481	For-hire air transportation	512	1357	6012	9620	8
13	482	For-hire rail transportation	4914	3151	31438	569	28
14	483	For-hire water transportation	2092	1386	4734	138	2
15	484	For-hire truck transportation	18390	36140	120450	28672	15
16	485	Transit and ground passenger transportation	64	695	1406	2192	16
17	486	Pipeline transportation	11236	500	20422	192	80
18	4AA	Other for-hire transportation	1469	0	25278	235805	118
19	47OT.481	In-house air transportation	0	0	0	0	
20	47OT.482	In-house rail transportation	77.9648959	0	0	0	
21	47OT.483	In-house water transportation	0	711.8508967	795.3867722	0	
22	47OT.484	In-house truck transportation	23331.33084	69118.45873	106017.2409	251955.4035	2998.5189
23	HPTS	Household production of transportation services	0	0	0	0	

\* The values shown in the table may differ from those obtained from future releases of the TSAs

### 3.1. DOWNLOADING DATA

The full dataset can be [downloaded](https://data.bts.gov).

### 3.2. TROUBLESHOOTING

Having trouble?

Contact BTS: 202-366-DATA(3282) or [answers@dot.gov](mailto:answers@dot.gov).

Or [ask a librarian](#).

## 4. TSA Use Cases

Data featured in the following use cases are as of September 2024. BTS updates all years of data with each annual release. Therefore, the current numbers for a given year may differ from the numbers in the images below.

### 4.1. USE CASE 1 – TRANSPORTATION PRODUCED BY NON-TRANSPORTATION SECTORS

#### Question

How much transportation do non-transportation sectors produce?

#### Procedure

Tabulate commodities made by all sectors except for-hire transportation from the TSA Make table in the latest year.

#### Analysis Steps

1. Using your web browser, proceed to the [TSA data tabulation tool](#).
2. In the “Filters” section of the TSA data tabulation tool, click on the section titled “Or Create Custom Table (or customize table selected above).” This will display a set of several different “Filter” types.
3. Specify the individual filter settings as follows:
  - a. For the “Table” filter, select “Make”
  - b. For the “Level of Detail” filter, select “Sector”
  - c. Select the most recent year in the “Year” filter
  - d. For the “Select industry(ies) to show on rows” filter, select the all but the in-house and for-hire transportation sectors, also excluding “total commodity output.” To select multiple sectors, hold down the CTRL key while clicking on each of the non-transportation sectors until they are selected (as indicated by a grey background).
  - e. For the “Select commodity(ies) to show on columns” filter, select the in-house and for-hire transportation sectors (they are preceded by the word in-house and for-hire except transit and passenger ground transportation; pipeline transportation; and other for-hire transportation, which are for-hire transportation sectors but not preceded by the word for-hire transportation). To select multiple commodities, hold down the CTRL key while clicking on each of the transportation sectors until they are selected (as indicated by a grey background).
  - f. Data read across the rows. Each row is an industry. If the industry produces transportation, there will be a value in the column for that transportation mode.

Alternatively, from “View Selected Tables,” select “Dollar value of transportation services made by an industry.”

Figure 3 shows a sample view of the Use Case 1 data tabulation tool user interface.

**Figure 3. Tool Filter Settings and Resulting Output Data Table: Transportation Produced by Non-Transportation Sectors in the Most Recent Year\***

Click to sort column. Only one column can be sorted at a time.

Download Table as CSV file.

Full dataset at [data.bts.gov](#)

Industry (row)	481 For-hire air transportation	482 For-hire rail transportation	483 For-hire water transportation	484 For-hire truck transportation
Natural resources and mining	0	0	0	
Construction	0	0	0	
Manufacturing products	0	0	0	
Wholesale and retail trade	0	0	0	
Utilities	0	0	0	
Information	0	0	0	
Financial services	0	0	0	
Professional and business services	0	0	0	
Education and health services	0	0	0	
Leisure and hospitality	0	0	0	
Other services	0	0	0	
Household production of transportation services	0	0	0	
Government	0	137	485	
Total (all industries)	0	137	485	

\* The values shown in the table may differ from those obtained from future releases of the TSAs

## 4.2. USE CASE 2 – CONTRIBUTION OF TRANSPORTATION TO THE ECONOMY

### Questions

How much does transportation contribute to the economy?

### Procedure

Tabulate the dollar value of the value added by transportation industries from the TSA Use table in the latest year.

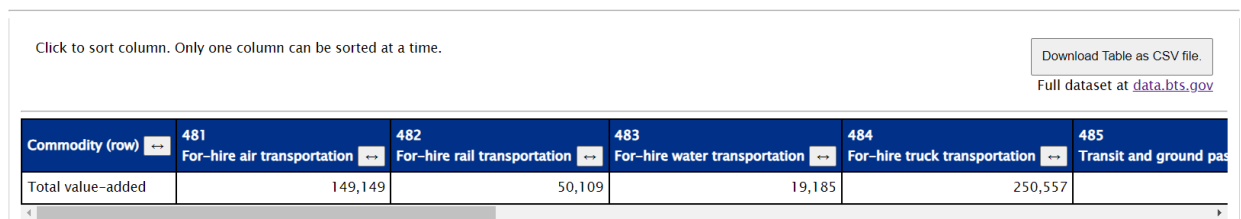
### Analysis Steps

1. Using your web browser, proceed to the [TSA data tabulation tool](#).
2. In the “Filters” section of the TSA data tabulation tool, click on the section titled “Or Create Custom Table (or customize table selected above).” This will display a set of several different “Filter” types.
3. Specify the individual filter settings as follows:
  - a. For the “Table” filter, select “Use”
  - b. For the “Level of Detail” filter, select “Sector”
  - c. Select the most recent year in the “Year” filter
  - d. For the “Select commodity(ies) to show on rows” filter, select “Total value-added”
  - e. For the “Select industry(ies) to show on columns” filter, keep the selected for-hire and in-house transportation modes. To select multiple sectors, hold down the CTRL key while clicking on each of the non-transportation sectors until they are selected (as indicated by a grey background).
  - f. Data read down the columns. The total value-added is the current dollar contribution of the transportation mode to gross domestic product.

Alternatively, from “View Selected Tables,” select “Contribution of (total value-added by) transportation services to gross domestic product.”

Figure 4 shows a sample view of the Use Case 2 data tabulation tool user interface.

**Figure 4. Tool Filter Settings and Resulting Output Data Table: Contribution of Transportation to the Economy in the Most Recent Year\***



The screenshot shows the TSA data tabulation tool interface. At the top, there is a instruction: "Click to sort column. Only one column can be sorted at a time." and a button "Download Table as CSV file." Below this, a link says "Full dataset at [data.bts.gov](https://data.bts.gov)". The main part of the interface is a table with 6 columns. The first column is "Commodity (row)" with a dropdown arrow. The other five columns are labeled with commodity codes and descriptions: "481 For-hire air transportation", "482 For-hire rail transportation", "483 For-hire water transportation", "484 For-hire truck transportation", and "485 Transit and ground pas". Each of these columns has a dropdown arrow. The bottom row of the table shows the "Total value-added" for each category: 149,149 for air, 50,109 for rail, 19,185 for water, and 250,557 for truck. The last column (485) is partially cut off.

Commodity (row)	481 For-hire air transportation	482 For-hire rail transportation	483 For-hire water transportation	484 For-hire truck transportation	485 Transit and ground pas
Total value-added	149,149	50,109	19,185	250,557	

\* The values shown in the table may differ from those obtained from future releases of the TSAs

### 4.3. USE CASE 3 – AMOUNT OF TRANSPORTATION REQUIRED TO PRODUCE ONE DOLLAR OF OUTPUT

#### Question

How much transportation is required to produce one dollar of output?

#### Procedure

Tabulate transportation commodities used by non-transportation industries from the TSA Use table in the latest year.

#### Analysis Steps








1. Using your web browser, proceed to the [TSA data tabulation tool](#).
2. In the “Filters” section of the TSA data tabulation tool, click on the section titled “Or Create Custom Table (or customize table selected above).” This will display a set of several different “Filter” types.
3. Specify the individual filter settings as follows:
  - a. For the “Table” filter, select “Direct Requirements”
  - b. For the “Level of Detail” filter, select “Sector”
  - c. Select the most recent year in the “Year” filter
  - d. For the “Select commodity(ies) to show on rows” filter, select the in-house and for-hire transportation sectors (they are preceded by the word in-house and for-hire except transit and passenger ground transportation; pipeline transportation; and other for-hire transportation, which are for-hire transportation sectors but not preceded by the word for-hire transportation). To select multiple commodities, hold down the CTRL key while clicking on each of the non-transportation sectors until they are selected (as indicated by a grey background).
  - e. For the “Select industry(ies) to show on columns” filter, “Natural Resources and Mining” through “Other Services” and then “Government.” To select multiple sectors, hold down the CTRL key while clicking on each of the non-transportation sectors until they are selected (as indicated by a grey background).
  - f. Data read down the columns. The value in each row for a column is the dollar amount of transportation (for the specified mode) required to produce one dollar of output by the industry (the industry listed at the top of the column).

Figure 5 shows a sample view of the Use Case 3 data tabulation tool user interface.

**Figure 5. Tool Filter Settings and Resulting Output Data Table: Amount of Transportation Required to Produce One Dollar of Output in the Most Recent Year\***

Click to sort column. Only one column can be sorted at a time.

Download Table as CSV file.  
Full dataset at [data.bts.gov](https://data.bts.gov)

Commodity (row) 	01 Natural resources and mining 	02 Construction 	03 Manufacturing products 	04 Wholesale and retail trade 	05 Utilities 	06 Information 
For-hire air transportation	0.0003	0.0006	0.0009	0.0018	0.0013	
For-hire rail transportation	0.0033	0.0014	0.0046	0.0001	0.0042	
For-hire water transportation	0.0014	0.0006	0.0007	0.0000	0.0004	
For-hire truck transportation	0.0125	0.0161	0.0174	0.0054	0.0028	
Transit and ground passenger transportation	0.0000	0.0003	0.0002	0.0004	0.0024	
Pipeline transportation	0.0076	0.0002	0.0030	0.0000	0.0117	
Other for-hire transportation	0.0010	0.0000	0.0037	0.0441	0.0172	
In-house air transportation	0.0000	0.0000	0.0000	0.0000	0.0000	
In-house rail transportation	0.0001	0.0000	0.0000	0.0000	0.0000	
In-house water transportation	0.0000	0.0003	0.0001	0.0000	0.0000	
In-house truck transportation	0.0158	0.0308	0.0153	0.0472	0.0044	

\* The values shown in the table may differ from those obtained from future releases of the TSAs

## **4.4. USE CASE 4 – INPUTS REQUIRED TO DELIVER ONE DOLLAR OF IN-HOUSE TRUCK TRANSPORTATION SERVICES TO FINAL USERS**

### **Question**

What inputs are required to deliver one dollar of in-house truck transportation services to final users (consumers)?

### **Procedure**

Tabulate commodities required to deliver one dollar of in-house truck transportation services to final users from the TSA Total Requirements Table: Commodity by Commodity in the latest year.

### **Analysis Steps**

1. Using your web browser, proceed to the [TSA data tabulation tool](#).
2. In the “Filters” section of the TSA data tabulation tool, click on the section titled “Or Create Custom Table (or customize table selected above).” This will display a set of several different “Filter” types.
3. Specify the individual filter settings as follows:
  - a. For the “Table” filter, select “Total Requirements: Commodity by Commodity”
  - b. For the “Level of Detail” filter, select “Sector”
  - c. Select the most recent year in the “Year” filter
  - d. For the “Select commodity(ies) to show on rows” filter, select all items. To select multiple commodities, hold down the CTRL key while clicking on each of the non-transportation sectors until they are selected (as indicated by a grey background).
  - e. For the “Select commodity(ies) to show on columns” filter, select “In-house truck transportation”
  - f. Data read down the columns. Providing one dollar of in-house truck transportation to final users requires the dollar value of the commodities listed on the rows. The total at the bottom of the column is the total dollar value of the commodities required to deliver one dollar of in-house truck transportation to final users.

Figure 6 shows a sample view of the Use Case 4 data tabulation tool user interface.



**Figure 6. Tool Filter Settings and Resulting Output Data Table: Transportation Required to Deliver One Dollar of In-House Truck Transportation to Final Users in the Most Recent Year\***

Click to sort column. Only one column can be sorted at a time.

Download Table as CSV file.  
Full dataset at [data.bts.gov](https://data.bts.gov)

Commodity (row) ↕	47OT.484 In-house truck transportation ↕
Natural resources and mining	0.0339
Construction	0.0130
Manufacturing products	0.1934
Wholesale and retail trade	0.0671
Utilities	0.0441
Information	0.0375
Financial services	0.2915
Professional and business services	0.2348
Education and health services	0.0003
Leisure and hospitality	0.0186
Other services	0.0389
For-hire air transportation	0.0018
For-hire rail transportation	0.0014

\* The values shown in the table may differ from those obtained from future releases of the TSAs

## **4.5. USE CASE 5 – AMOUNT OF OUTPUT THE FOR-HIRE TRUCK TRANSPORTATION INDUSTRY MUST PRODUCE TO DELIVER ONE DOLLAR OF FOR-HIRE TRUCK TRANSPORTATION SERVICES TO FINAL USERS**

### **Question**

How much output must the for-hire truck transportation industry produce to provide final users with one dollar of for-hire truck transportation services?

### **Procedure**

Tabulate dollar value of output the for-hire truck transportation industry must produce to deliver one dollar of for-hire truck transportation services to final users from the TSA Total Requirements Table: Industry by Commodity in the latest year.

### **Analysis Steps**

1. Using your web browser, proceed to the [TSA data tabulation tool](#).
2. In the “Filters” section of the TSA data tabulation tool, click on the section titled “Or Create Custom Table (or customize table selected above).” This will display a set of several different “Filter” types.
3. Specify the individual filter settings as follows:
  - a. For the “Table” filter, select “Total Requirements: Industry by Commodity”
  - b. For the “Level of Detail” filter, select “Sector”
  - c. Select the most recent year in the “Year” filter
  - d. For the “Select industry(ies) to show on rows” filter, select “For-hire truck transportation”
  - e. For the “Select commodity(ies) to show on columns” filter, select “For-hire truck transportation”
  - f. Data read across the rows. The value in each column is the dollar value of output the industry (listed on the row) must produce to deliver one dollar of the commodity listed on the column to final users. A portion of the for-hire truck transportation industry’s output will be used as an input by other industries and hence, will not reach final users. For this reason, the truck transportation industry must produce more than one dollar of truck transportation services to deliver a dollar of for-hire truck transportation services to final users.

Figure 7 shows a sample view of the Use Case 5 data tabulation tool user interface.

**Figure 7. Tool Filter Settings and Resulting Output Data Table: Manufacturing Output Required to Provide Final Users with One Dollar of In-house Truck Transportation Services\***

► Links to raw data

Click to sort column. Only one column can be sorted at a time.

Download Table as CSV file.

All data are in current dollars.

Full dataset at [data.bts.gov](https://data.bts.gov)

Industry (row) ▾	484 For-hire truck transportation ▾
For-hire truck transportation	0.0244

\* The values shown in the table may differ from those obtained from future releases of the TSAs