Freight Analysis Framework Version 6 Getting Started Guide for the Data Tabulation Tool (DTT)

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Abstract

This guide provides an overview of the Freight Analysis Framework Version 6 (FAF6) Data Tabulation Tool, a web-based interface for extracting and visualizing customized subsets of FAF6 data. It describes the available flow types, selection options, tabulation procedures, and visualization features for total, domestic, import, and export flows. The guide is intended to help users access, interpret, and display FAF6 data for analysis and reporting.

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1. Introduction to Data Tabulation Tool

The Data Tabulation Tool (DTT) is a web-based interface that allows Freight Analysis Framework (FAF) users to create customized subsets of FAF Version 6 (FAF6) data through easy-to-use drop-down menus. Users can choose one of three types of FAF6 data: Total Flows, Domestic Flows, and Foreign Trade Flows. In the “Flow Type” drop-down menu, Foreign Trade Flows appear as two separate selections: Import Flows and Export Flows. Refer to Appendix A for more detailed definitions of these flows. Users can use the DTT to extract data and to visualize their extracted subsets. Please note that the colors in the figures throughout the remainder of this document were adapted to the publisher's style guidelines and may differ from the colors that appear in the DTT.

2. Data Tabulation

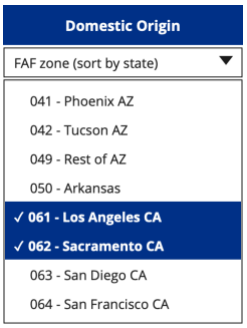
2.1. TABULATION OF TOTAL FLOWS

By default, the DTT provides a selection for Total Flows. When a user focuses on a menu, a tool tip describes that menu. To make multiple selections from a menu, activate each desired option according to your platform's standard process for multiple-item selection (for example, use the Ctrl key for Windows, Command key for Mac, or Space Bar or Enter key for screen reader). The following additional data selection categories are available in the DTT:

- ***Year***: The tool currently offers 2022 as the only year selection. The release of future FAF6 data products will include additional years.
- ***Measure***: The options are "tons" and "value."
- ***Origin–Destination Geography***:
  - ***Domestic Origin***: Focus on the "Domestic Origin" button and select from options "All Domestic Origins Combined" or "Select All/Specific Domestic Origins" to obtain data on associated shipments at the desired domestic origin geography.
    - **All Domestic Origins Combined** is not origin specific; it provides the total of freight movements originating within the U.S., including both domestic shipments and the domestic legs of foreign trade shipments.
    - **Select All/Specific Domestic Origins** allows selection from options "FAF zone (sort by state)," "FAF zone (alphabetical order)," or "State." FAF zone selections provide a drop-down menu for the 134 FAF regions. The default setting selects all regions; you can select one or multiple regions as needed. For ease of use, the listing of FAF regions provides two options (one by state name and another by alphabetical order of the FAF zone name). State selection provides a drop-down menu for the 50 states and Washington, DC. The default setting selects all states; you can select one or multiple states as needed. Users can also select both FAF regions and states from a map. To do this, first select the U.S. map icon and then select the desired zone or state. Figure 1 shows examples in which users selected (A) FAF zones "061-Los Angeles CA" and "062-Sacramento CA" as Domestic Origin from the drop-down menu, (B) the same two FAF regions using the map, (C) Arkansas and Connecticut as Domestic Origin from the drop-down menu, and (D) the same two states using the map.

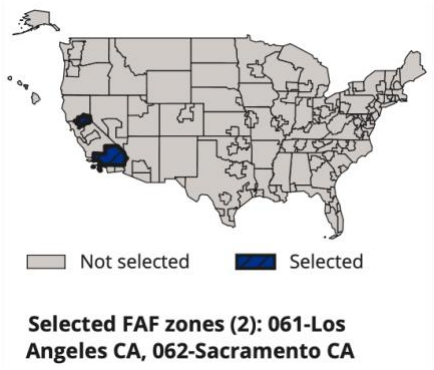
Figure 1. Selection of Domestic Origin

A. Zone Selections From the Drop-Down Menu



Source: BTS.

B. Zone Selections From the Map



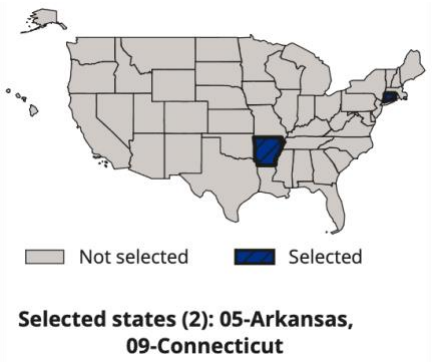
Source: BTS.

C. State Selections From the Drop-Down Menu



Source: BTS.

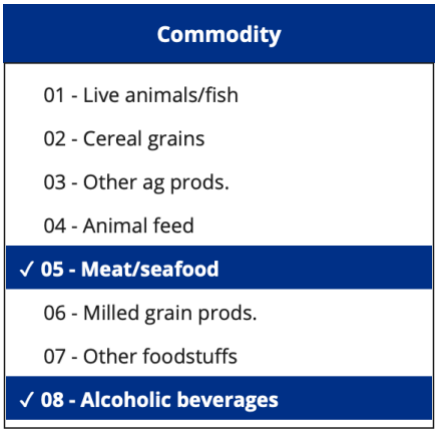
D. State Selections From the Map



Source: BTS.

- ***Domestic Destination***: Focus on the "Domestic Destination" button and select from options "All Domestic Destinations Combined" or "Select All/Specific Domestic Destinations" to obtain data on associated shipments at the desired domestic-destination geography.
  - **All Domestic Destinations Combined** is not destination specific; it provides the total freight movements terminating within the U.S., including domestic shipments and domestic legs of foreign trade shipments.
  - **Select All/Specific Domestic Destinations** allows selection from "FAF zone (sort by state)," "FAF zone (alphabetical order)," or "State." As with the "Domestic Origin" selection, the FAF zone options provide a drop-down menu of the 134 FAF regions, listed either by state name or in alphabetical order by FAF zone name. The State option provides a drop-down menu of the 50 states and Washington, DC. In both cases, the default setting selects all entries; users can select one or multiple entries as needed. Users can also select FAF regions and states from a map by selecting the U.S. map icon and then selecting the desired zone or state.
- ***Commodity***: Focus on the "Commodity" button and select from options "All Commodities Combined" or "Select All/Specific Commodities."
  - **All Commodities Combined** is not commodity specific and provides total freight moved of all commodities as a whole.
  - **Select All/Specific Commodities** provides a drop-down menu for commodity types. The default setting selects all commodities; you can select one or multiple commodities as needed. Figure 2 shows a case in which the commodity selections are "05-Meat/seafood" and "08-Alcoholic beverages."

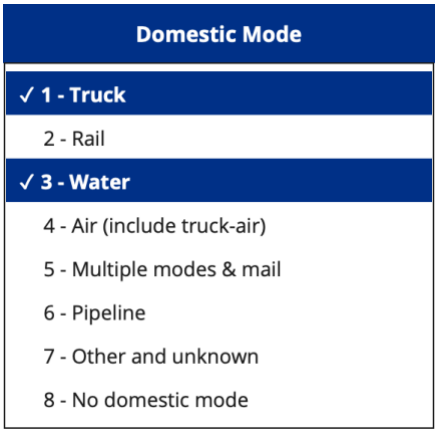
Figure 2. Selection of Commodity



Source: BTS.

- ***Mode & Distance***:
  - ***Domestic Mode***: Focus on the "Domestic Mode" button and select from options "All Domestic Modes Combined" or "Select All/Specific Domestic Modes."
    - **All Domestic Modes Combined** is not mode specific and provides total freight moved by all modes as a whole.
    - **Select All/Specific Domestic Modes** provides a menu for domestic modes. The default setting selects all modes; you can select one or multiple modes as needed. Figure 3 shows a case in which the domestic mode selections are "1-Truck" and "3-Water."

Figure 3. Selection of Domestic Mode



Source: BTS.

  - ***Distance Band***: This is not currently available; a future FAF6 data product release will include the activation of this selection.
- ***Display Output Labels as Descriptive***: This button provides the option to select the output label display styles. The options for labels are either descriptive (e.g., "1-Truck" for mode) or numeric (e.g., "1" for mode). The default setting selects descriptive labels; adjusting the button position enables numeric output labels.

After making all desired selections, select the "Run" button. The screen will show results under the "Extracted Data" tab, with an option to download a comma-separated value (CSV) file.

Users can select a column heading in the resulting table to sort the displayed values by that variable; selecting the same heading again reverses the sort order.

2.2. TABULATION OF DOMESTIC FLOWS

To obtain Domestic Flows, select "Domestic Flows" from the "Flow Type" drop-down menu. The procedure for tabulation is similar to that of Total Flows. Refer to Section 2.1 for details.

2.3. TABULATION OF FOREIGN TRADE FLOWS

The DTT also allows users to obtain specific flows of foreign trade (i.e., imports and exports). To activate the options for Import Flows, users need to select "Import Flows" from the "Flow Type" drop-down menu. The following additional data selection categories are available for Import Flows:

- ***Year***: The tool currently offers 2022 as the only year selection. The release of future FAF6 data products will include additional years.
- ***Measure***: The options are "tons" and "value."
- ***Origin–Destination Geography***:
  - ***Foreign Origin***: Focus on the "Foreign Origin" button and select from options "All Foreign Origins Combined" or "Select All/Specific Foreign Origins."
    - **All Foreign Origins Combined** is not origin specific; the option presents the total volume of freight entering the U.S. from all foreign countries as a whole.
    - **Select All/Specific Foreign Origins** provides a menu for foreign origins. The default setting selects all foreign origins; you can select one or multiple foreign origins as needed.
  - ***US Entry Region***: Focus on the "US Entry Region (Domestic Origin)" button and select from options "All US Entry Regions Combined" or "Select All/Specific US Entry Regions." Refer to Section 2.1 for more details related to these options.
  - ***Domestic Destination***: Focus on the "Domestic Destination" button and select from options "All Domestic Destinations Combined" or "Select All/Specific Domestic Destinations." Refer to Section 2.1 for more details related to these options.
- ***Commodity***: Focus on the "Commodity" button and select from options "All Commodities Combined" or "Select All/Specific Commodities." Refer to Section 2.1 for more details related to these options.
- ***Mode & Distance***:
  - ***Foreign In-Mode***: Focus on the "Foreign In-Mode" button and select from options "All Foreign In-Modes Combined" or "Select All/Specific Foreign In-Modes."
    - **All Foreign In-Modes Combined** is not mode specific; it provides data for total freight volume moved from the selected Foreign Origin to the selected zone of entry (i.e., US Entry Region).
    - **Select All/Specific Foreign In-Modes** provides a menu for foreign in-modes. The default setting selects all modes; you can select one or multiple modes as needed.
  - ***Domestic Mode***: Focus on the "Domestic Mode" button and select from options "All Domestic Modes Combined" or "Select All/Specific Domestic Modes." Refer to Section 2.1 for more details related to these options.
  - ***Distance Band***: Refer to Section 2.1 for details related to this option.
- ***Display Output Labels as Descriptive***: Refer to Section 2.1 for details related to this option.

After completing all desired selections, select the “Run” button. The screen will show results under the “Extracted Data” tab, with an option to download a CSV file.

To activate the options for Export Flows, users need to select “Export Flows” from the “Flow Type” drop-down menu. The following additional data selection categories are available for Export Flows:

- ***Year***: The tool currently offers 2022 as the only year selection. The release of future FAF6 data products will include additional years.
- ***Measure***: The options are “tons” and “value.”
- ***Origin–Destination Geography***:
  - ***Domestic Origin***: Focus on the “Domestic Origin” button and select from options “All Domestic Origins Combined” or “Select All/Specific Domestic Origins.” Refer to Section 2.1 for more details related to these options.
  - ***US Exit Region***: Focus on the “US Exit Region (Domestic Destination)” button and select from options “All US Exit Regions Combined” or “Select All/Specific US Exit Regions.” Refer to Section 2.1 for more details related to these options.
  - ***Foreign Destination***: Focus on the “Foreign Destination” button and select from options “All Foreign Destinations Combined” or “Select All/Specific Foreign Destinations.”
    - **All Foreign Destinations Combined** is not destination specific; the option presents the total volume of freight leaving the U.S. as a whole.
    - **Select All/Specific Foreign Destinations** provides a menu for foreign destinations. The default setting selects all foreign destinations; you can select one or multiple foreign destinations as needed.
- ***Commodity***: Focus on the “Commodity” button and select from options “All Commodities Combined” or “Select All/Specific Commodities.” Refer to Section 2.1 for more details related to these options.
- ***Mode & Distance***:
  - ***Domestic Mode***: Focus on the “Domestic Mode” button and select from options “All Domestic Modes Combined” or “Select All/Specific Domestic Modes.” Refer to Section 2.1 for more details related to these options.
  - ***Foreign Out-Mode***: Focus on the “Foreign Out-Mode” button and select from options “All Foreign Out-Modes Combined” or “Select All/Specific Foreign Out-Modes.”
    - **All Foreign Out-Modes Combined** is not mode specific; it provides data for total freight volume moved from the selected zone of exit (i.e., US Exit Region) to the selected Foreign Destination.
    - **Select All/Specific Foreign Out-Modes** provides a menu for foreign out-modes. The default setting selects all modes; you can select one or multiple modes as needed.
  - ***Distance Band***: Refer to Section 2.1 for details related to this option.
- ***Display Output Labels as Descriptive***: Refer to Section 2.1 for details related to this option.

After completing all desired selections, select the “Run” button. The screen will show results under the “Extracted Data” tab, with an option to download a CSV file.

NOTE OF CAUTION about determining value and tons for an individual region or state

The DTT was designed to help users select customized subsets of the FAF6 database (which includes over 1.9 million records) for further analysis or use in other applications. That is, instead of downloading the entire database, users can select specific records of interest or obtain data at higher levels of aggregation as needed.

However, users should exercise caution when using this online tool to generate summary "tabulations." For example, when the DTT is used to generate a combined total flow for domestic shipments originating in Kansas (i.e., Kansas to all states), the results include both (1) freight moving within the state (e.g., Kansas to Kansas) and (2) all freight leaving the state (e.g., Kansas to all other states). To identify only the freight moving out of a specific state, users must therefore perform two steps. First, obtain the total for shipments moving from the desired origin. Second, obtain the within-state total by selecting the same state as both origin and destination, then subtract that result from the total obtained in the first step.

3. Data Visualization

The visualization feature requires extracted data from the DTT as input. To activate it, select the "Interactive Tabulation and Chart" button located with the extracted data table. The tool can generate several types of tabulations and charts, including a two-way pivot table, a table bar chart, horizontal and vertical bar charts, an area chart, a pie chart, a Sankey diagram, and an origin–destination (O-D) flow map. The DTT web page also provides pregenerated quick charts that demonstrate how to effectively use the visualization feature. These quick charts vary by flow type and are available under the "Quick Chart Generation" tab.

3.1. VISUALIZATION OF TOTAL FLOWS

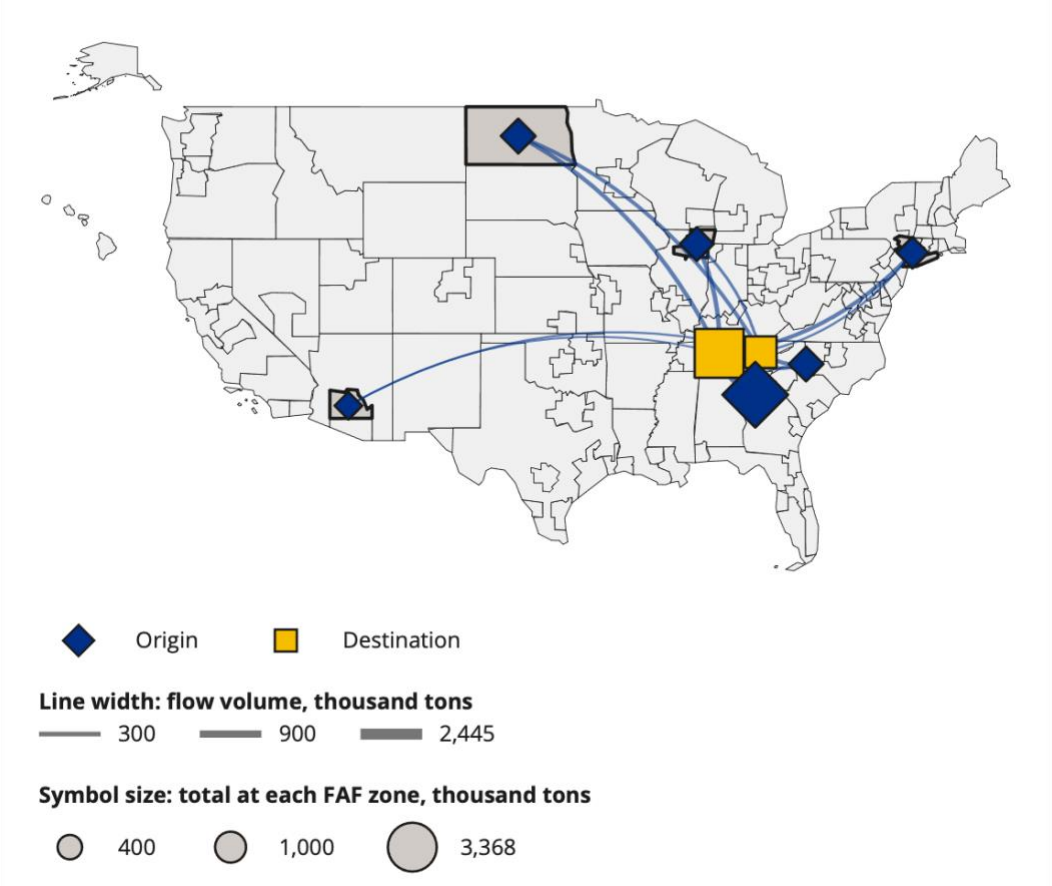
The following example demonstrates how to use the visualization feature to generate charts and tables for Total Flows. Table 1 lists the inputs entered in the DTT to extract the data and produce the visualizations that follow.

Table 1. DTT Input Selections for the Total Flows Example

Flow type	Measure	Domestic origin	Domestic destination	Commodity	Domestic mode
Total flows	Tons	• 041-Phoenix AZ • 131-Atlanta GA • 171-Chicago IL-IN-WI (IL Part) • 363-New York NY-NJ-CT-PA (NY Part) • 371-Charlotte NC-SC (NC Part) • 380-North Dakota	• 472-Nashville TN • 473-Knoxville TN	All Combined	• 1-Truck • 2-Rail • 5-Multiple modes & mail

After completion of data extraction from the DTT (refer to Section 2.1), select the "Interactive Tabulation and Chart" button to display a two-way table. From the Chart Selector drop-down menu, select "O-D Flow" to produce a flow map (Figure 4). In the figure, lines connect the center points of the origin and destination FAF zones. Line thickness varies with the volume of flow (i.e., tonnage) moving from origin to destination, and the size of each center point varies with the total volume associated with that zone. The figure shows origin center points as dark blue diamonds and destination center points as yellow squares. Select the "Show Legend" button to display the legend or select "Hide Legend" to remove it.

Figure 4. O-D Flow Map for Total Flows

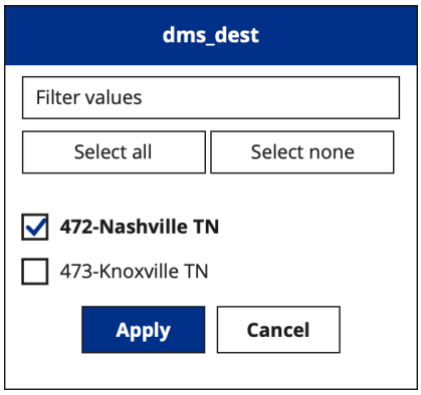


Source: BTS.

The user can further filter the selection using the drop-down menu associated with each variable name. For example, Figure 5-A shows “472-Nashville TN” selected as the destination zone, and Figure 5-B shows 1-Truck and 2-Rail selected as the domestic modes. After making all desired selections, select the “Apply” button to update the flow map.

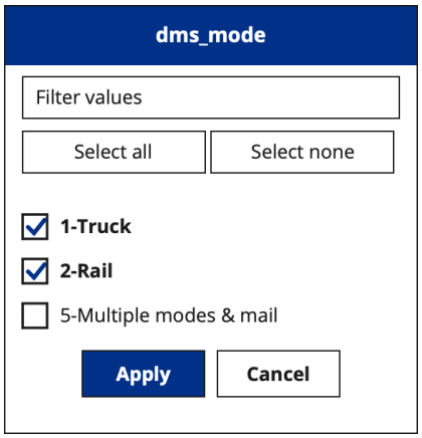
Figure 5. Selection of Domestic Destination and Domestic Mode

A. Destination Zone Selection



Source: BTS.

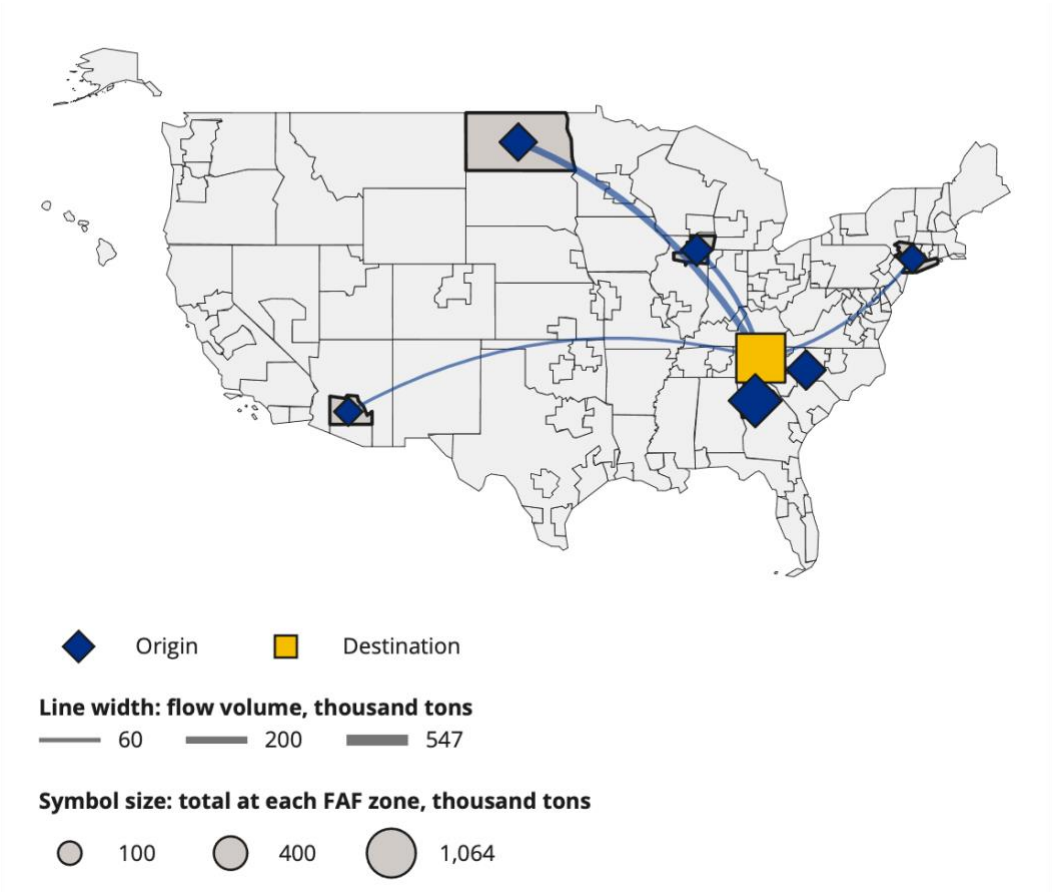
B. Domestic Mode Selection



Source: BTS.

If you select any zone that is in your selection of origin and destination zones, the updated flow map will show only flows coming to or going out of that zone. In particular, if the zone is in the destination zone list, the flow map will show all flows coming to it; and if the zone is in the origin zone list, the flow map will show all flows going out of it. Figure 6 shows the updated map when you select “473-Knoxville TN” zone (a destination zone in our example).

Figure 6. O-D Flow Map for Knoxville TN FAF Zone



Source: BTS.

Using the Chart Selector drop-down menu, you can generate other tables and charts. Select “Table” from the menu to generate a two-way pivot table, shown in Figure 7-A. The default setting selects cell value as the sum of all records. You can change it to show value in percentages. Available types of percentage values are percent of total, percent of rows, and percent of columns. Figure 7-B shows the value in which the user selects “percent of total.” The data are downloaded as a CSV file for further processing.

Figure 7. Two-Way Table for Domestic Origin and Destination

A. Table With Summed Values

Domestic destination / Domestic origin	472-Nashville TN	473-Knoxville TN	Total
131-Atlanta GA	2,445.3	546.7	**2,992.0**
380-North Dakota	233.2	176.4	**409.6**
371-Charlotte NC-SC (NC Part)	192.7	213.5	**406.2**
171-Chicago IL-IN-WI (IL Part)	276.9	75.4	**352.3**
363-New York NY-NJ-CT-PA (NY Part)	206.0	29.4	**235.3**
041-Phoenix AZ	14.1	22.7	**36.8**
Total	**3,368.2**	**1,064.1**	**4,432.3**

All values in thousand tons.

Source: BTS.

B. Table With Percentage Values

Domestic destination / Domestic origin	472-Nashville TN	473-Knoxville TN	Total
131-Atlanta GA	55.2%	12.3%	**67.5%**
380-North Dakota	5.3%	4.0%	**9.2%**
371-Charlotte NC-SC (NC Part)	4.3%	4.8%	**9.2%**
171-Chicago IL-IN-WI (IL Part)	6.2%	1.7%	**7.9%**
363-New York NY-NJ-CT-PA (NY Part)	4.6%	0.7%	**5.3%**
041-Phoenix AZ	0.3%	0.5%	**0.8%**
Total	**76.0%**	**24.0%**	**100.0%**

All values in percent of total.

Source: BTS.

Including more than one variable in the tabulation is possible. To do this, move the desired variable to the list of row or column variables. Figure 8 shows an updated table, which considers the “dms_mode” variable as a column variable in addition to the “dms_dest” variable.

Figure 8. Two-Way Table for Domestic Origin, Destination, and Mode

Domestic destination	472-Nashville TN	473-Knoxville TN	472-Nashville TN	473-Knoxville TN	472-Nashville TN	473-Knoxville TN	
Domestic mode / Domestic origin	1-Truck	1-Truck	5-Multiple modes & mail	5-Multiple modes & mail	2-Rail	2-Rail	Total
131-Atlanta GA	1,942.9	500.0	501.8	43.1	0.5	3.6	**2,992.0**
380-North Dakota	113.3	9.2	39.6	123.3	80.3	43.9	**409.6**
371-Charlotte NC-SC (NC Part)	134.8	184.1	45.7	18.4	12.2	11.0	**406.2**
171-Chicago IL-IN-WI (IL Part)	241.1	58.9	29.9	13.1	5.9	3.4	**352.3**
363-New York NY-NJ-CT-PA (NY Part)	188.8	14.7	16.5	13.3	0.7	1.4	**235.3**
041-Phoenix AZ	12.4	22.1	1.7	0.7	—	—	**36.8**
Total	**2,633.3**	**789.1**	**635.2**	**211.9**	**99.7**	**63.2**	**4,432.3**

All values in thousand tons. — Not applicable.

Source: BTS.

Another option available in the visualization feature is a table with a bar chart. To generate this table, select “Table Bar chart” from the drop-down menu. Figure 9 shows the output for this selection.

Figure 9. Table Bar Chart for Domestic Origin and Destination

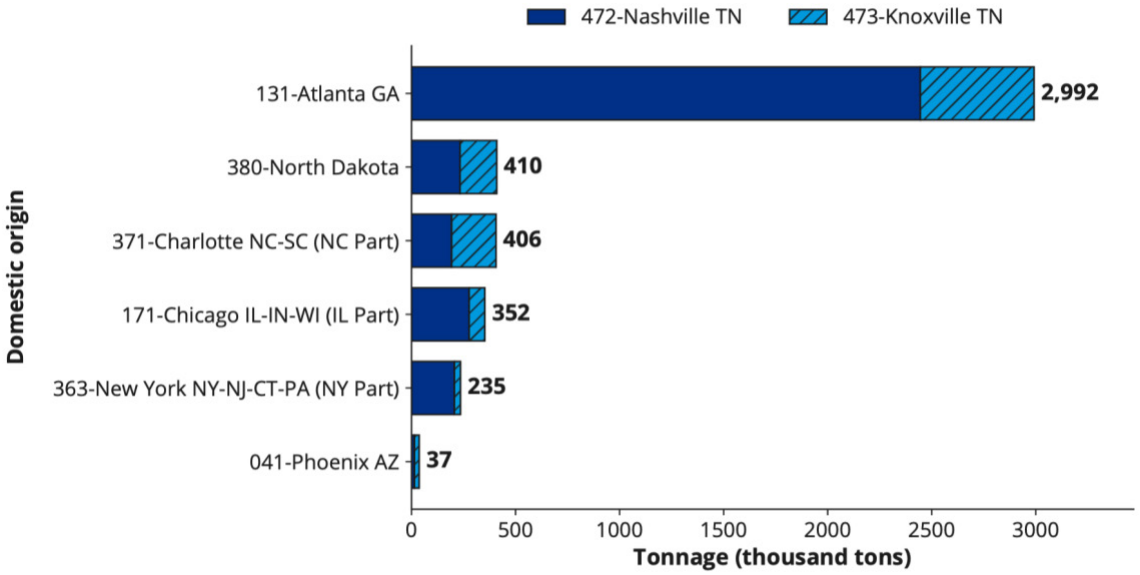
Domestic destination Domestic origin	472-Nashville TN	473-Knoxville TN	Total
131-Atlanta GA	2,445.3	546.7	2,992.0
380-North Dakota	233.2	176.4	409.6
371-Charlotte NC-SC (NC Part)	192.7	213.5	406.2
171-Chicago IL-IN-WI (IL Part)	276.9	75.4	352.3
363-New York NY-NJ-CT-PA (NY Part)	206.0	29.4	235.3
041-Phoenix AZ	14.1	22.7	36.8
Total	3,368.2	1,064.1	4,432.3

All values in thousand tons.
Bar length is proportional to the value within its column.

Source: BTS.

The visualization feature enables generation of vertical and horizontal bar charts. Select “Bar Chart (Horizontal)” from the drop-down menu to generate a bar chart in which the *y*-axis shows the origin FAF zones (Figure 10). The stacked bars for each origin FAF zone show flows associated with destination FAF zones. You can add/edit title and axis labels by selecting on the associated texts. Additional options are available when you focus on the plot area, such as zoom, pan, and saving plot as PNG.

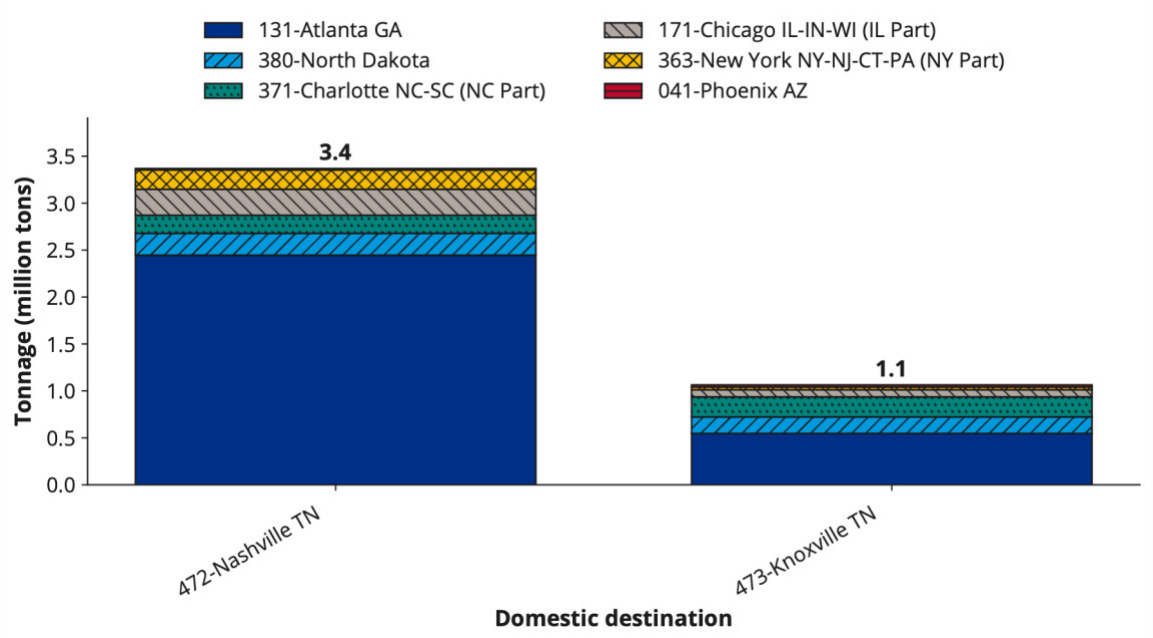
Figure 10. Horizontal Bar Chart



Source: BTS.

For a vertical bar chart, select “Bar Chart (Vertical)” from the drop-down menu to generate a bar chart in which the *x*-axis shows the destination FAF zones (Figure 11). The stacked bars for each destination FAF zone show flows associated with origin FAF zones.

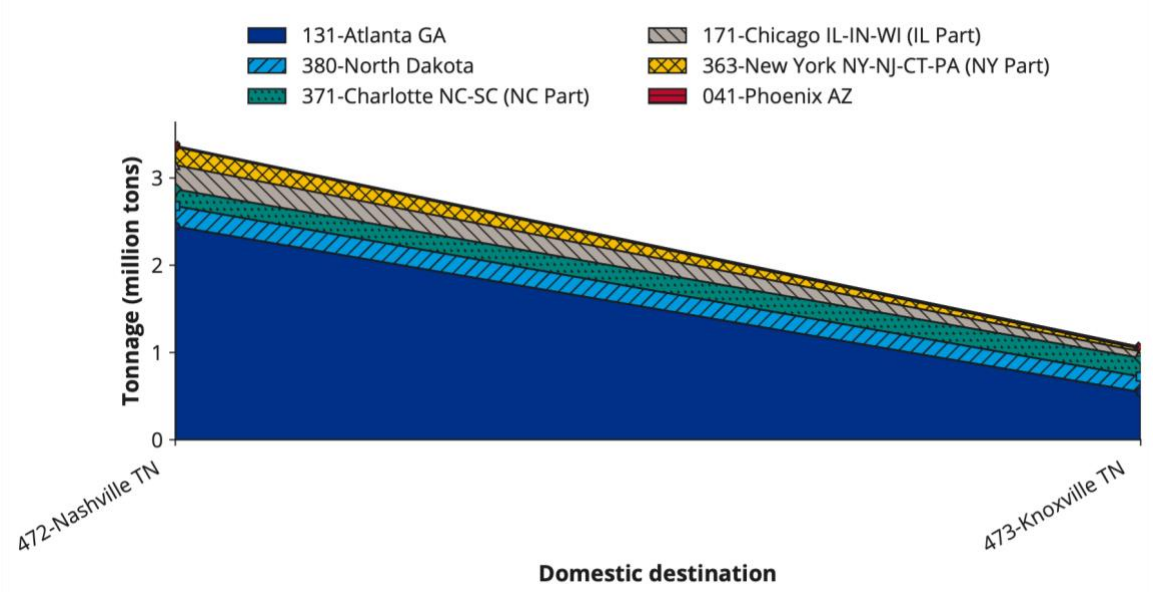
Figure 11. Vertical Bar Chart



Source: BTS.

An area chart is a line chart that displays quantitative data using colored sections between the axis and lines. To generate this chart, select “Area Chart” from the drop-down menu. Figure 12 presents a generated plot in which the *x*-axis displays the destination FAF zones. This chart shares the same display options as those used in bar charts.

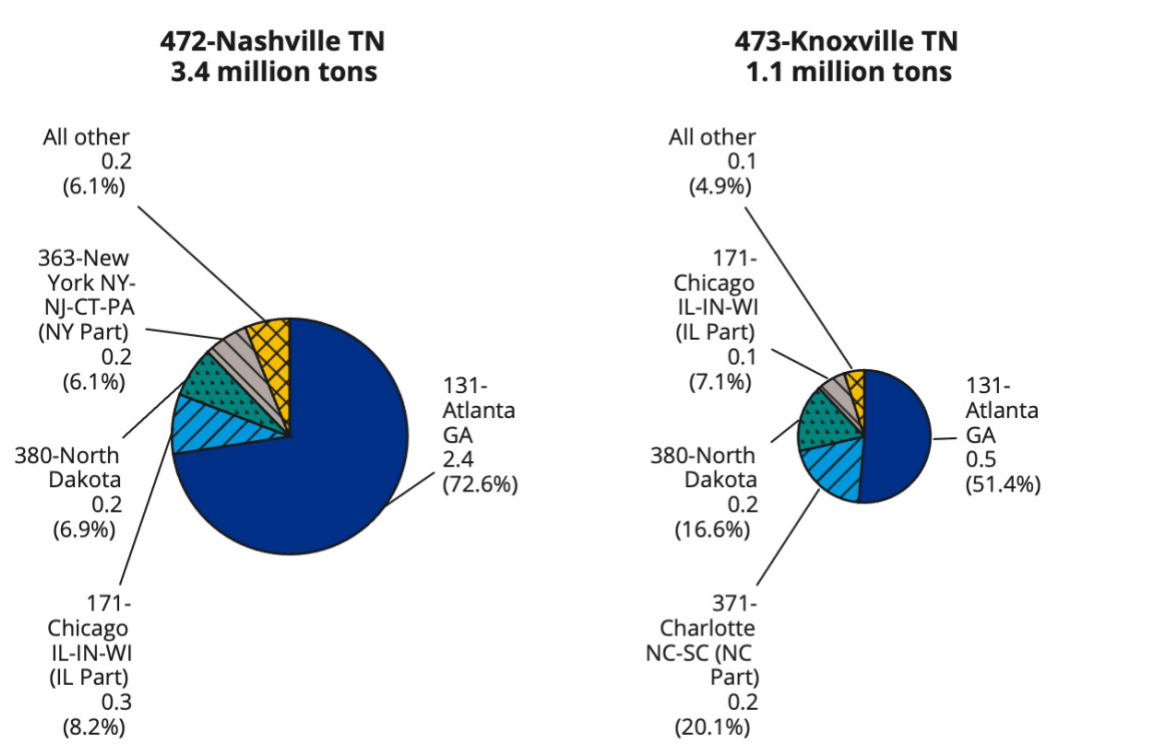
Figure 12. Area Chart



Source: BTS.

To generate a pie chart, select “Pie Chart” from the drop-down menu. The screen will display two pie charts for two destination FAF zones (Figure 13). Sections in each pie represent origin FAF zone shares in terms of flow tonnage.

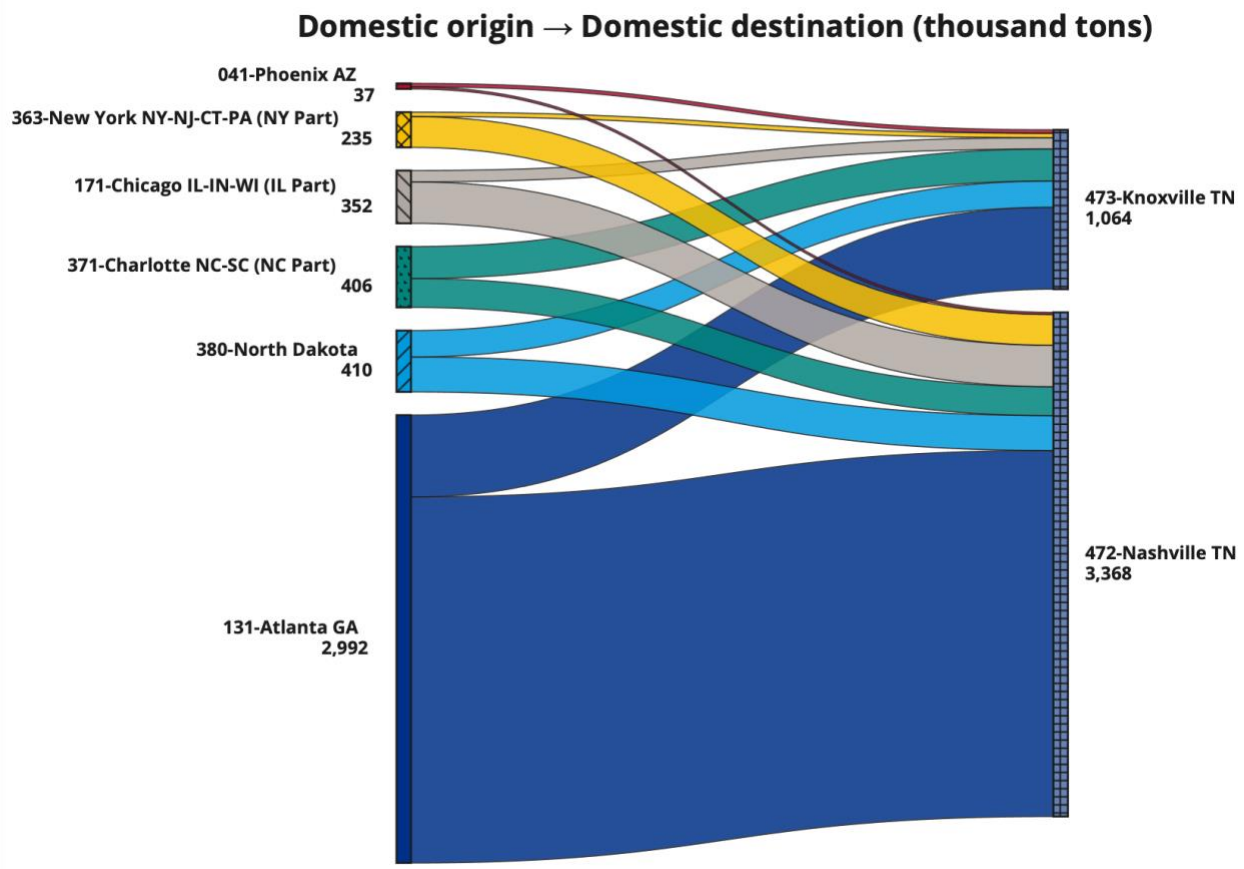
Figure 13. Pie Chart



Source: BTS.

And finally, to generate a Sankey diagram, select “Sankey” from the drop-down menu. In the displayed flow diagram, the width of each flow from origin FAF zone to destination FAF zone is proportional to the tonnage (Figure 14).

Figure 14. Sankey Diagram



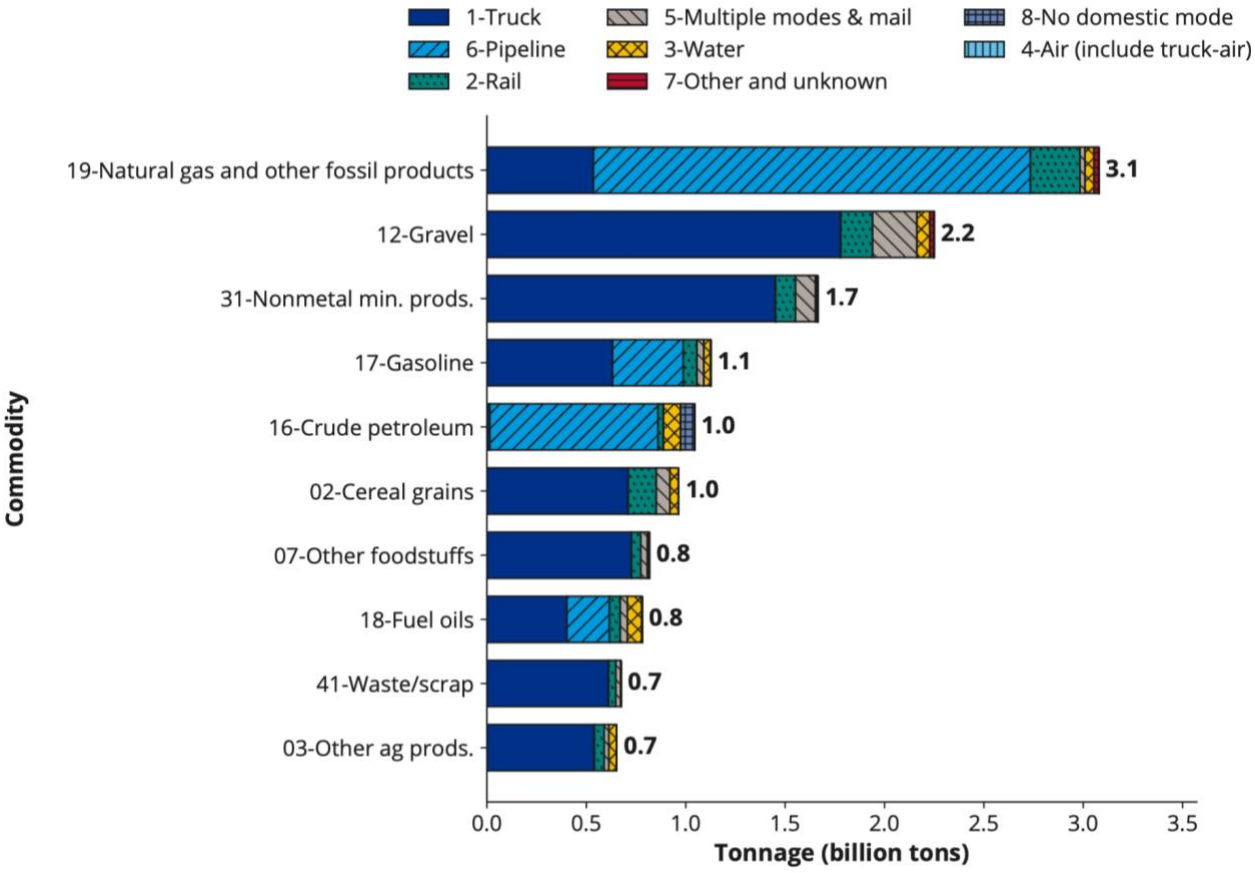
Source: BTS.

The DTT web page provides six pregenerated charts, available under the "Quick Chart Generation" tab. These charts are intended as tutorials or guides that demonstrate how to effectively use the visualization feature. For "Total Flows," the charts are the following:

- Total tonnage by domestic mode
- Total tonnage by commodity
- Total value by destination state and mode
- Total tonnage by commodity and mode
- Total tonnage by commodity, mode, and destination state
- State-level O-D flows by tonnage

Select the desired chart to generate it. In addition to the chart, the web page will display the corresponding pre-extracted data. Figure 15 shows the result of selecting "Total tonnage by commodity and mode."

Figure 15. Tonnage by Commodity and Domestic Mode



Source: BTS.

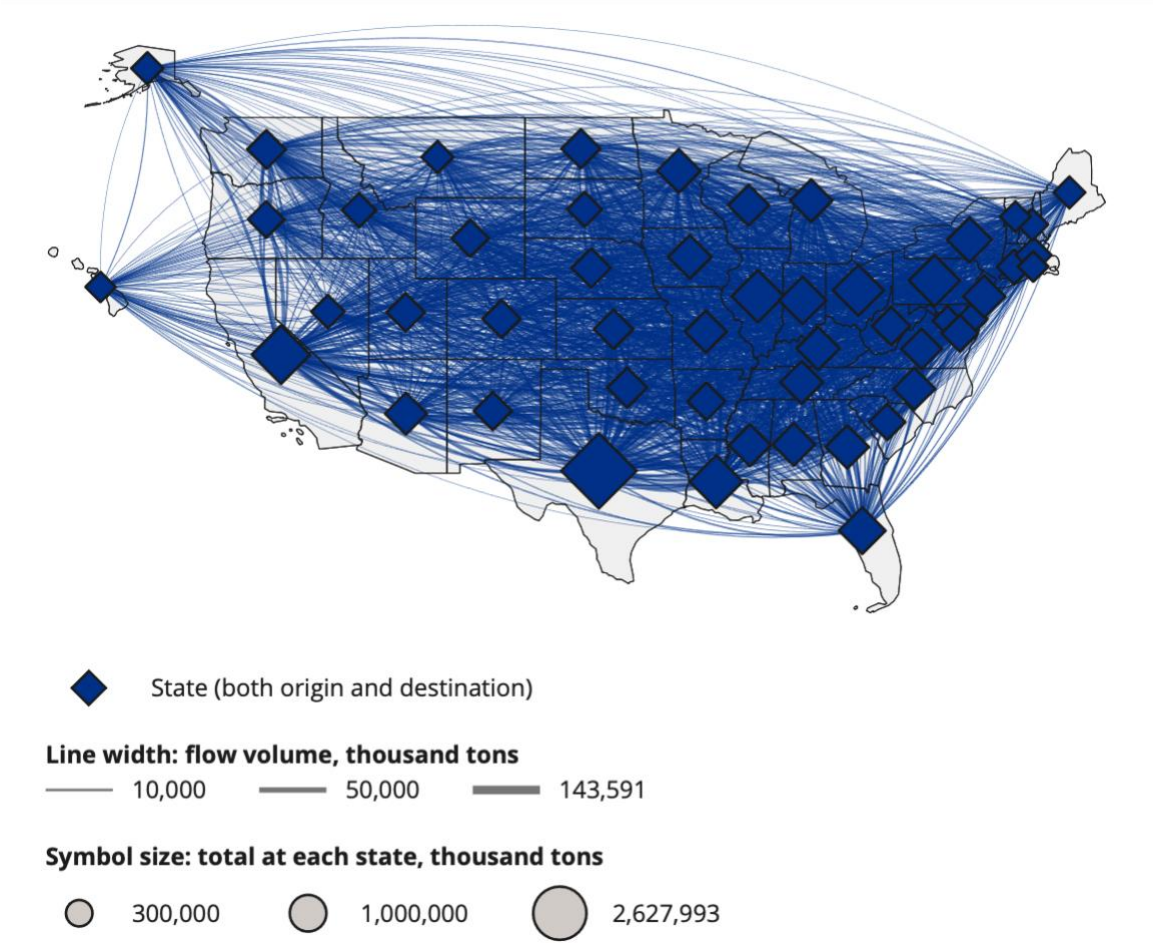
3.2. VISUALIZATION OF DOMESTIC FLOWS

Users can apply a procedure similar to that used in the Total Flows to generate various charts and tables for the Domestic Flows. Refer to Section 3.1 for details. Additionally, when you select "Domestic Flows" from the "Flow Type" drop-down menu, the DTT web page provides the following six pregenerated charts:

- Total tonnage by domestic mode
- Total tonnage by commodity
- Total value by origin state and mode
- Total tonnage by commodity and mode
- Total tonnage by commodity, mode, and origin state
- State-level O-D flows by tonnage

Figure 16 shows the chart for "State-level O-D flows by tonnage."

Figure 16. State-Level Domestic O-D Flows by Tonnage



Source: BTS.

3.3. VISUALIZATION OF FOREIGN TRADE FLOWS

For imported shipments, we use the inputs shown in Table 2 in DTT to create a visualization based on the extracted data.

Table 2. DTT Input Selections for the Import Flows Example

Flow type	Measure	Foreign origin	U.S. entry region	Domestic destination	Commodity	Foreign in-mode	Domestic mode
Import flows	Tons	• 801-Canada • 806-SW & Central Asia	• 380-North Dakota • 483-Corpus Christi TX • 486-Houston TX • 539-Rest of WA	• 171-Chicago IL-IN-WI (IL Part) • 229-Rest of LA • 486-Houston TX • 489-Rest of TX • 531-Seattle WA • 539-Rest of WA	All Combined	All Combined	All Combined

After completion of data extraction from the DTT (refer to Section 2.3), select the “Interactive Tabulation and Chart” button. In the displayed two-way pivot table, the row variable is fr_orig, and the column variable is dms_orig. Edit the table to include fr_orig and dms_orig as the row variables and dms_dest as the column variable. Figure 17 shows the updated table.

Figure 17. Two-Way Table for Foreign Origin, Domestic Origin, and Domestic Destination

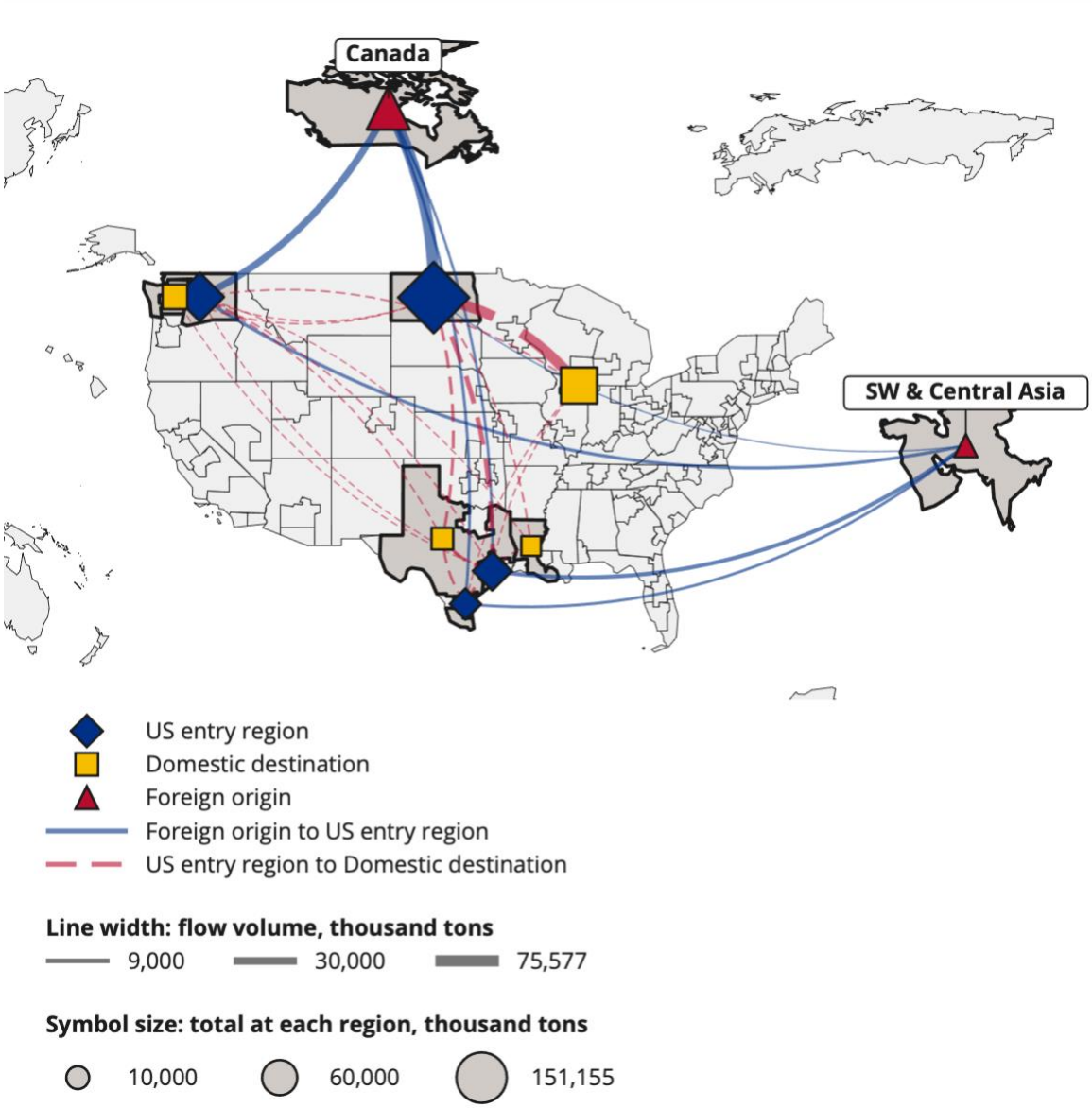
Foreign origin	Domestic destination US entry region	171-Chicago IL-IN-WI (IL Part)	486-Houston TX	531-Seattle WA	539-Rest of WA	489-Rest of TX	229-Rest of LA	Total
801-Canada	380-North Dakota	64,114.4	8,911.3	58.6	13.6	2,234.4	245.0	**75,577.3**
801-Canada	539-Rest of WA	131.4	84.0	12,905.4	12,055.4	77.3	2.3	**25,255.7**
806-SW & Central Asia	486-Houston TX	22.1	3,527.9	1.1	0.5	2,455.0	23.6	**6,030.2**
806-SW & Central Asia	539-Rest of WA	0.0	—	2,935.2	52.4	—	—	**2,987.6**
806-SW & Central Asia	483-Corpus Christi TX	7.4	1,456.6	—	—	549.1	—	**2,013.1**
801-Canada	483-Corpus Christi TX	—	1,203.7	—	—	590.4	—	**1,794.1**
801-Canada	486-Houston TX	0.0	932.7	—	—	352.6	0.1	**1,285.3**
806-SW & Central Asia	380-North Dakota	0.0	—	—	—	—	—	**0.0**
Total		**64,275.4**	**16,116.1**	**15,900.3**	**12,121.8**	**6,258.7**	**270.9**	**114,943.3**

All values in thousand tons. — Not applicable.

Source: BTS.

Follow the procedures presented in Section 3.1 to generate other tables and charts (i.e., table bar chart, horizontal and vertical bar charts, area chart, pie chart, Sankey, and O-D flow) using the extracted data. Figure 18 shows the O-D flow map.

Figure 18. O-D Flow Map for Import Flows



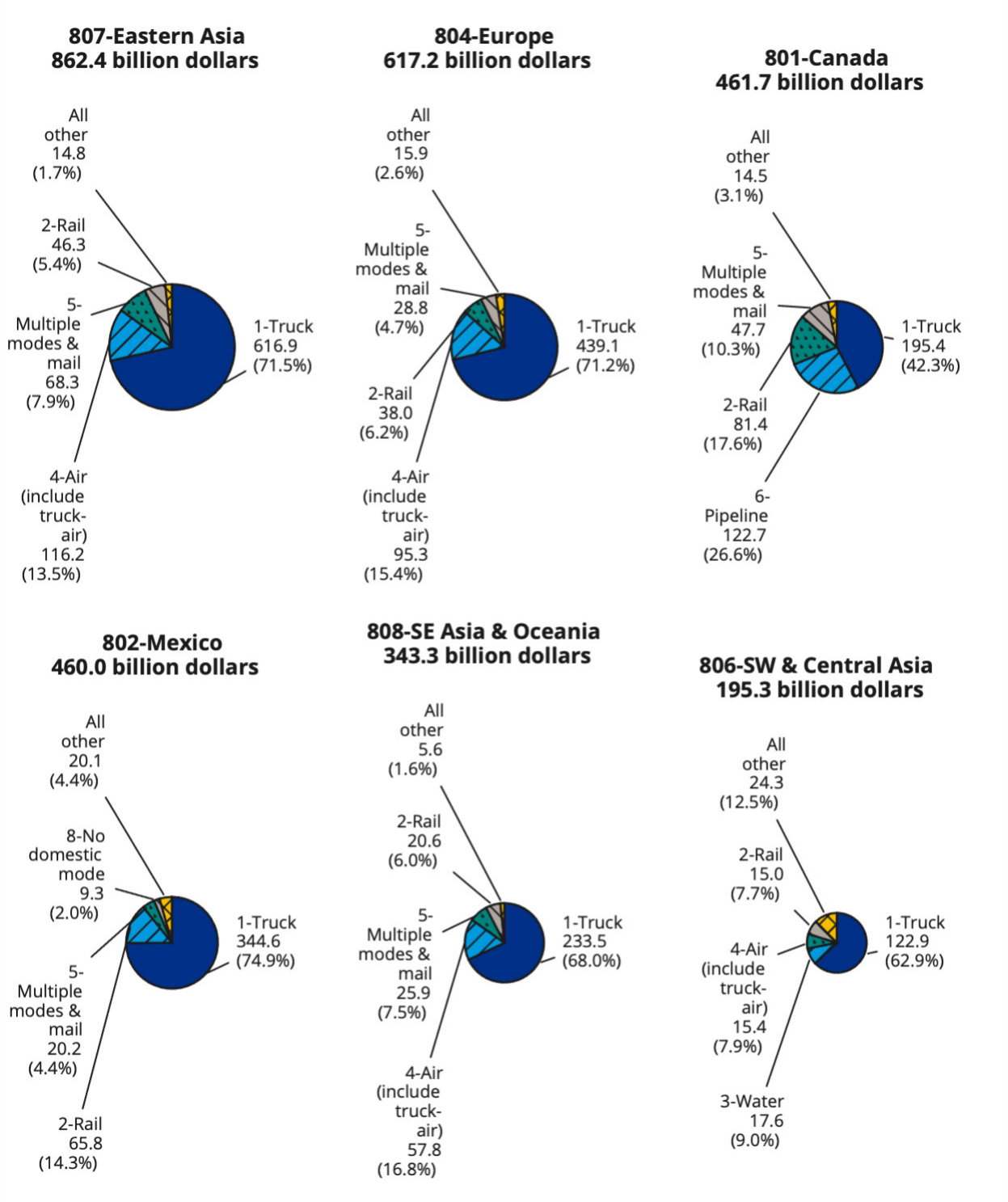
Source: BTS.

The DTT web page provides the following six pregenerated charts for Import Flows:

- Total import value by foreign region
- Total import tonnage by commodity
- Total import value by foreign region and mode
- Total import value by foreign region and commodity
- Total import tonnage by foreign region, commodity, and mode
- State-level import flows by tonnage

Figure 19 shows the chart for "Total import value by foreign region and mode."

Figure 19. Total Import Value by Foreign Region and Domestic Mode



Source: BTS.

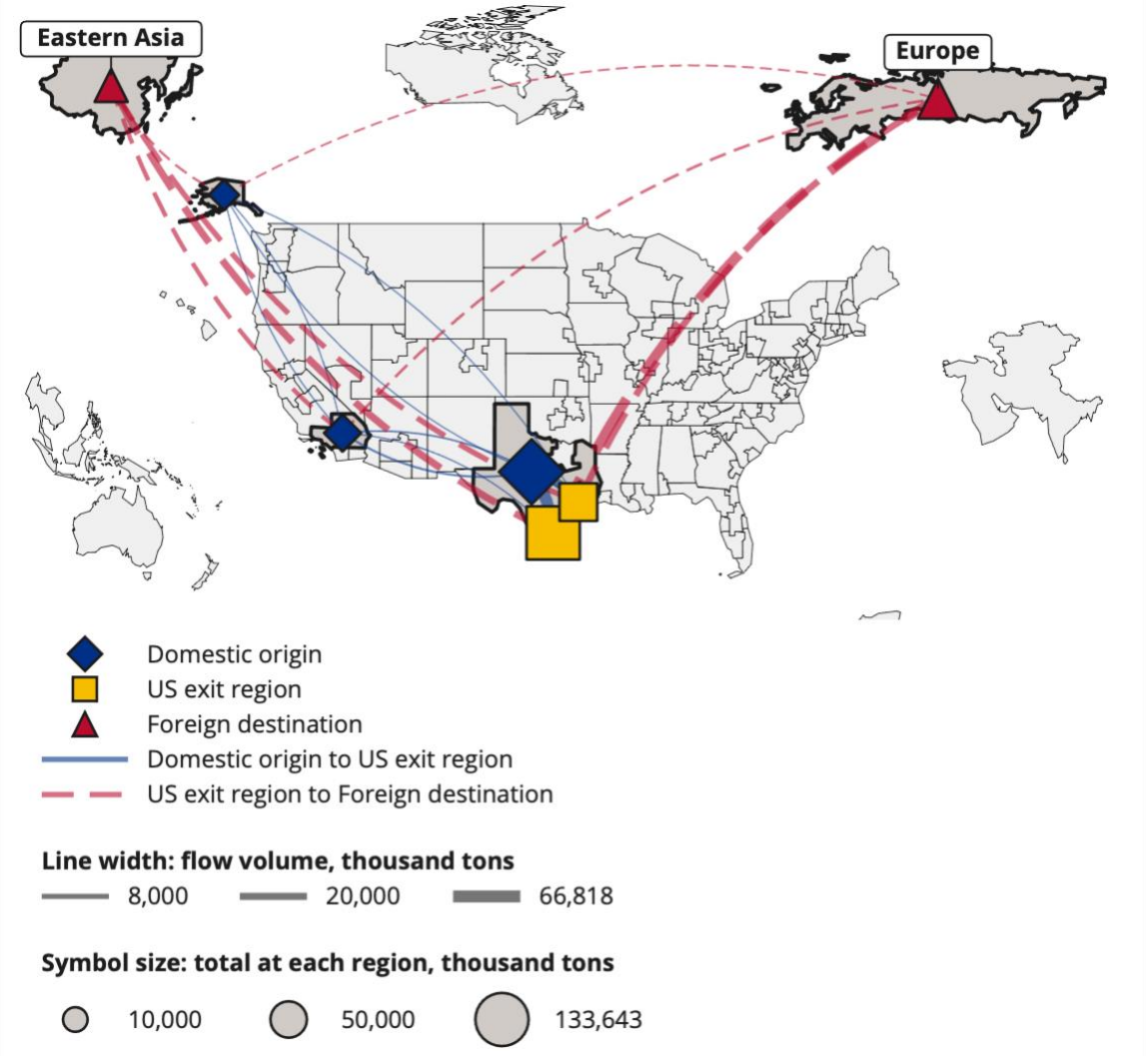
For exported shipments, we use the inputs shown in Table 3 in DTT to create a visualization based on the extracted data.

Table 3. DTT Input Selections for the Export Flows Example

Flow type	Measure	Domestic origin	U.S. exit region	Foreign destination	Commodity	Domestic mode	Foreign out-mode
Export flows	Tons	• 020-Alaska • 061-Los Angeles CA • 489-Rest of TX	• 020-Alaska • 061-Los Angeles CA • 483-Corpus Christi TX • 486-Houston TX	• 804-Europe • 807-Eastern Asia	All Combined	All Combined	All Combined

After completion of data extraction from the DTT (refer to Section 2.3), select the "Interactive Tabulation and Chart" button to display a two-way table. From the Chart Selector drop-down menu, select "O-D Flow" to produce a flow map in which the row variable is dms_orig and the column variable is dms_dest. Edit the map to include dms_orig as the row variable and dms_dest and fr_dest as the column variables. Figure 20 shows the updated O-D flow map.

Figure 20. O-D Flow Map for Export Flows



Source: BTS.

You can follow the procedures presented in Section 3.1 to generate other tables and charts (i.e., table, table bar chart, horizontal and vertical bar charts, area chart, pie chart, and Sankey) using the extracted data. Figure 21 shows a table bar chart.

Figure 21. Table Bar Chart for Export Flows

US exit region / Foreign destination / Domestic origin	483-Corpus Christi TX 804-Europe	483-Corpus Christi TX 807-Eastern Asia	486-Houston TX 804-Europe	486-Houston TX 807-Eastern Asia	061-Los Angeles CA 807-Eastern Asia	061-Los Angeles CA 804-Europe	020-Alaska 807-Eastern Asia	020-Alaska 804-Europe	Total
489-Rest of TX	46,398.9	20,418.8	17,060.3	10,361.7	445.4	1.3	1.1	0.0	94,687.6
061-Los Angeles CA	3.9	—	137.6	2.6	5,353.1	1,355.3	5.7	0.0	6,858.3
020-Alaska	—	—	0.1	0.0	0.5	0.2	670.4	265.8	936.9
Total	**46,402.9**	**20,418.8**	**17,198.0**	**10,364.4**	**5,799.0**	**1,356.7**	**677.2**	**265.8**	**102,482.8**

All values in thousand tons. — Not applicable.
Bar length is proportional to the value within its column.

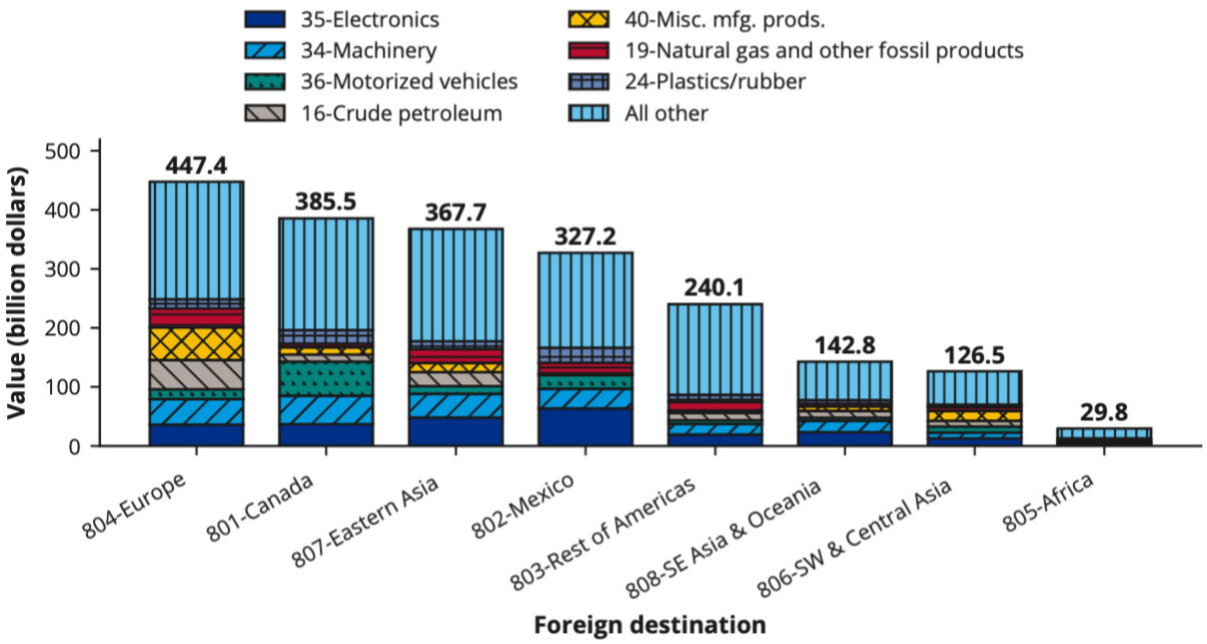
Source: BTS.

The DTT web page provides the following six pregenerated charts for Export Flows:

- Total export value by foreign region
- Total export tonnage by commodity
- Total export value by foreign region and mode
- Total export value by foreign region and commodity
- Total export tonnage by commodity, mode, and foreign region
- State-level export flows by tonnage

Figure 22 shows part of the chart for “Total export value by foreign region and commodity.”

Figure 22. Total Export Value by Foreign Region and Commodity



Source: BTS.

4. Reference

BTS. 2026. *FAF6 Data Tabulation Tool*. Washington, DC: Bureau of Transportation Statistics. https://faf.ornl.gov/faf6/dtt_total.aspx. Last accessed September 1, 2026.

Appendix A. Glossary of Terms

Table 4. Glossary of Terms Used in this Report

Term	Definition
Total Flows	Contains the data associated with freight moved between domestic origins and domestic destinations and includes both domestic and foreign shipments. For import shipments, the origin of the flow is zone of entry (the FAF region or state of entry); for export shipments, the destination of the flow is zone of exit (the FAF region or state of exit). Mode of transportation for Total Flows is the mode used within and between domestic regions or states.
Domestic Flows	Contains only shipments associated with domestic freight moved between domestic origins and domestic destinations. This type of flow does not include foreign trade flows, and the mode of transportation is the mode used within domestic regions or states.
Import Flows	Contains data associated with freight moved from foreign origins to domestic destinations. Geographies for this flow data include Foreign Origin, U.S. Entry Region (Domestic Origin), and Domestic Destination. Mode of transportation consists of two parts: (1) foreign mode used between a foreign origin zone and a zone of entry in the U.S. and (2) domestic mode used between the zone of entry and its domestic destination.
Export Flows	Contains data associated with freight moved from domestic origins to foreign destinations. Geographies for this flow data include Domestic Origin, U.S. Exit Region (Domestic Destination), and Foreign Destination. Mode of transportation consists of two parts: (1) domestic mode used between the domestic origin of the shipment and its zone of exit and (2) foreign mode used between the zone of exit and foreign destination.
U.S. Entry Region	FAF region or state where an import enters the U.S. (i.e., domestic origin of the given shipment). This term refers to the entire region or state and does not limit the entry to any single location.
Foreign In-Mode	Mode used between a foreign origin region and the U.S. entry region for the imported goods.
U.S. Exit Region	FAF region or state where an export leaves the U.S. (i.e., domestic destination of the given shipment). This term refers to the entire region or state and does not limit the exit to any single location.
Foreign Out-Mode	Mode used between the U.S. exit region and a foreign destination region for the exported goods.

List of Abbreviations, Acronyms, and Initialisms

AZ	Arizona
BTS	Bureau of Transportation Statistics
CA	California
CSV	comma-separated value
CT	Connecticut
DC	Washington, District of Columbia
DTT	Data Tabulation Tool
FAF	Freight Analysis Framework
FAF6	Freight Analysis Framework, version 6
GA	Georgia
IL	Illinois
IN	Indiana
LA	Louisiana
NC	North Carolina
NJ	New Jersey
NY	New York
O-D	origin–destination
PA	Pennsylvania
PNG	portable network graphics
SC	South Carolina
SW	southwest
TN	Tennessee
TX	Texas
U.S.	United States

US	United States
WA	Washington
WI	Wisconsin