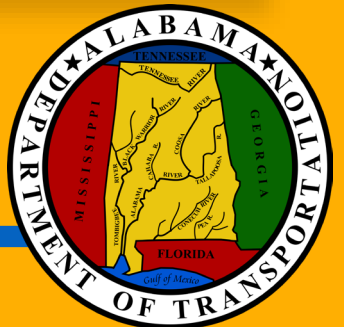


# ALDOT Statewide Freight Plan Update

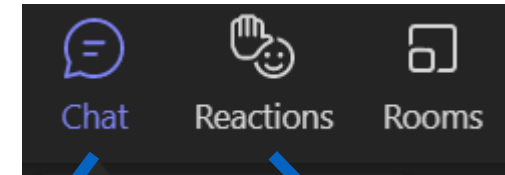
*Freight Advisory Committee Meeting*

*August 11, 2022*



# Teams Webinar

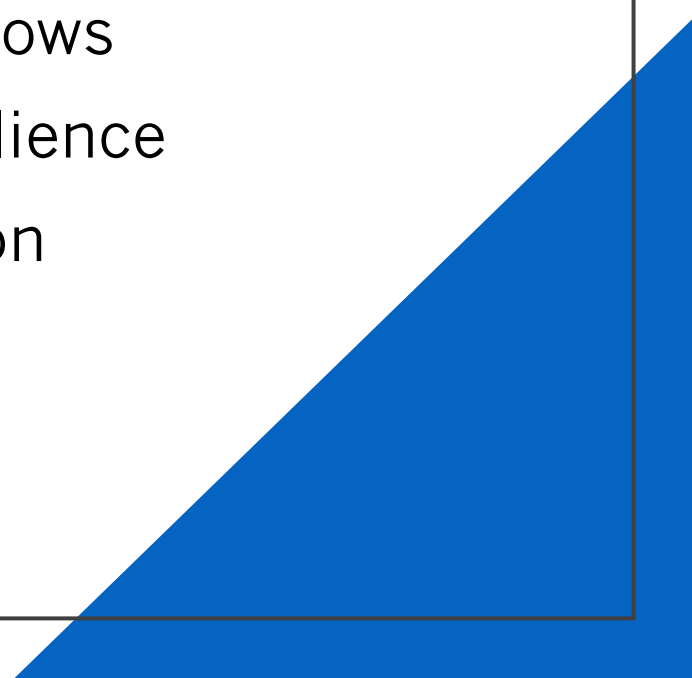
- Please keep your computer audio or phones on “mute”.
- Click “Reactions” to raise your hand to speak.
- You may also ask questions or enter comments in the Chat window, and we will pause periodically during the presentation to address questions or comments.



Click “Chat” to ask a question or leave a comment

Click “Reactions” and raise your hand to indicate you’d like to speak

# Agenda

- Plan Purpose and Background
  - Freight Network
  - Freight Generators
  - Commodities and Flows
  - Freight System Resilience
  - Additional Discussion
  - Next Steps
- 

# Plan Purpose and Background

# Plan Purpose

- Update of the 2017 Statewide Freight Plan
- Integrate freight planning efforts statewide and provide input into the Statewide Transportation Plan
- Consider new federal freight planning requirements from the Infrastructure Investment and Jobs Act (IIJA)
- Engage statewide freight stakeholders (public and private sector) to better understand freight needs, challenges, and priorities
- Identify existing and future forecast deficiencies in the freight network, and develop programs and strategies to improve freight mobility and support the freight-based economy statewide

# Mission

To promote the **efficient and safe movement of goods** in a manner that **increases economic competitiveness** and **promotes environmental responsibility** throughout the State of Alabama.

# Goals

- **Improve reliability and reduce congestion** on the National Multimodal Freight Network (NMFN) within the state.
- **Improve connectivity between all modes** of freight transportation and address supply chain issues throughout the state.
- **Coordinate with Metropolitan Planning Organizations (MPOs)** and other agencies during the development/update of the Statewide Freight Plan.
- **Ensure a state of good repair** along freight network facilities throughout the state.

# Goals

- **Improve economic benefits by supporting public and private sector investment** on the statewide freight network.
- **Promote the safety, security, efficiency, and resiliency** of multimodal freight transportation.
- Promote the use of **ITS technologies to improve the safety, efficiency, and reliability** on the statewide freight network.
- **Promote and enhance both the human and natural environment** while enhancing the performance of the statewide freight network.

# Outcomes

- Establishment of **freight goals and performance measures**
- **Evaluation and assessment of the freight network**, including existing and projected commodity flows, interaction between modes, truck bottlenecks, and truck parking
- **Update Freight Investment Plan**
- Continued **coordination among the Freight Advisory Committee (FAC)**

# Freight Advisory Committee (FAC) – Invited Members

- Alabama Railway Association
- Railroads - CSX, NS, BSNF, GWRR
- Huntsville & Madison County RR Authority
- Terminal Railway AL State Docks
- Southeast Association of Rail Shippers
- OnTrack North America
- Alabama Trucking Association
- Airport Authorities – Birmingham, Mobile, Montgomery, Huntsville-Madison County
- Alabama State Port Authority
- Port of Florence
- AL Dept of Commerce
- AL Law Enforcement Agency
- AL League of Municipalities
- ALDOT – Bureaus and Region Offices
- MPOs – Montgomery, Huntsville, Birmingham, South AL RPC
- FHWA
- Federal Motor Carrier Safety Administration
- Maritime Administration
- Poarch Band of Creek Indians

# Your Role on the FAC

- Share your experiences with the freight network, including priorities and needs
- Provide guidance on freight program activities and projects
- Facilitate conversations among the state, regions, modal providers, and related agencies and organizations to improve freight mobility and position Alabama for continued economic growth

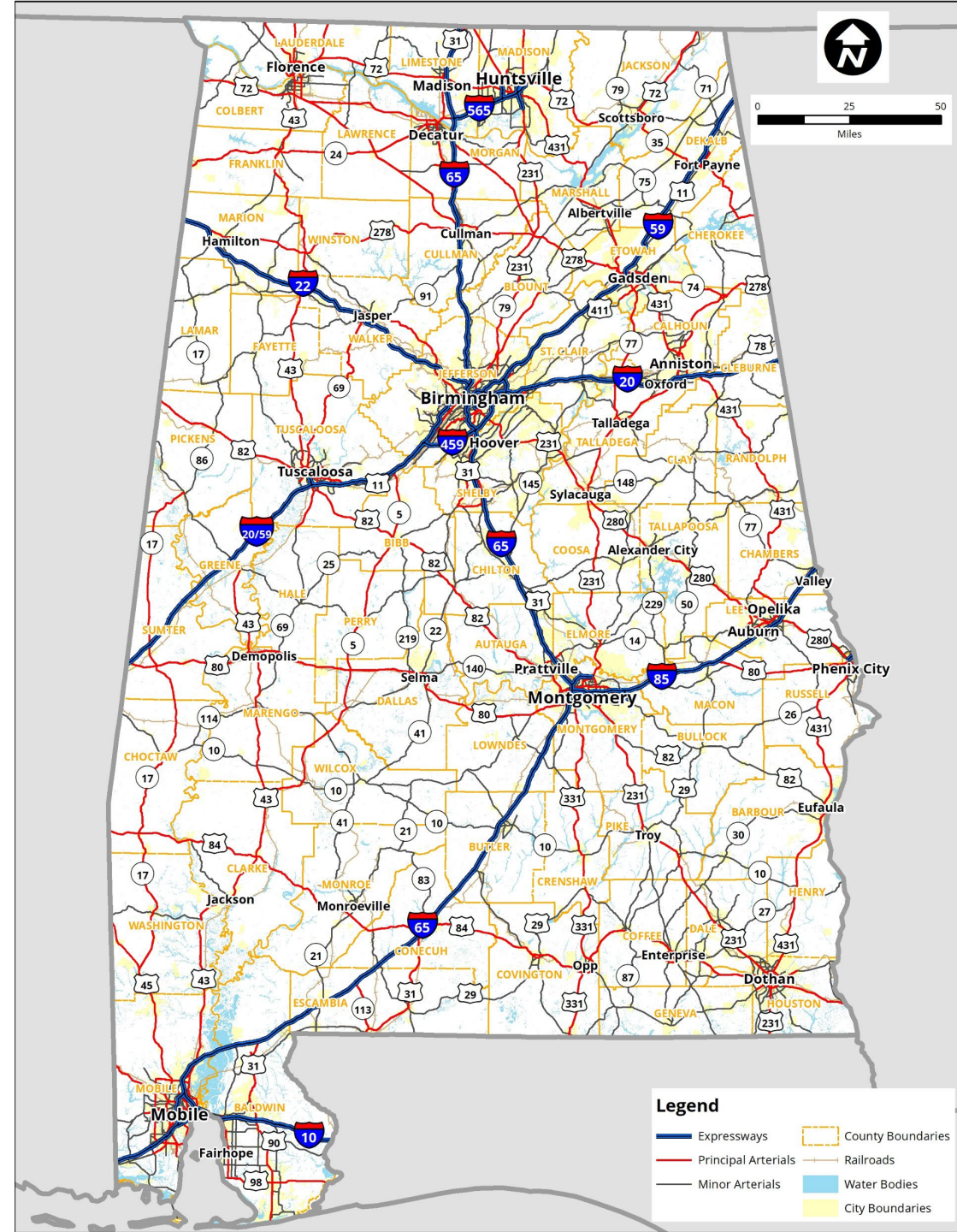
# Freight Network

# Alabama Roadway Network

Approximately 100,000 miles of centerline roadway, including 10,940 miles of state roadways

- 1,004 miles of interstates
- 9,720 miles of arterials
- 21,985 miles of collectors
- 67,462 miles of local roads

Source: 2020 Highway Statistics Series



# National Highway Freight Network

- Developed under FAST Act to strategically direct Federal resources and policies to improve US highways on the freight network
- Eligible for funding from the National Highway Freight Program (\$25.8M for Alabama in FY 2022)
- Delineated into primary and non-primary highway freight systems
- Over 1,700 miles of roadway within Alabama, including interstates and interstate bypasses
- Also includes intermodal connectors in Birmingham, Decatur and Mobile

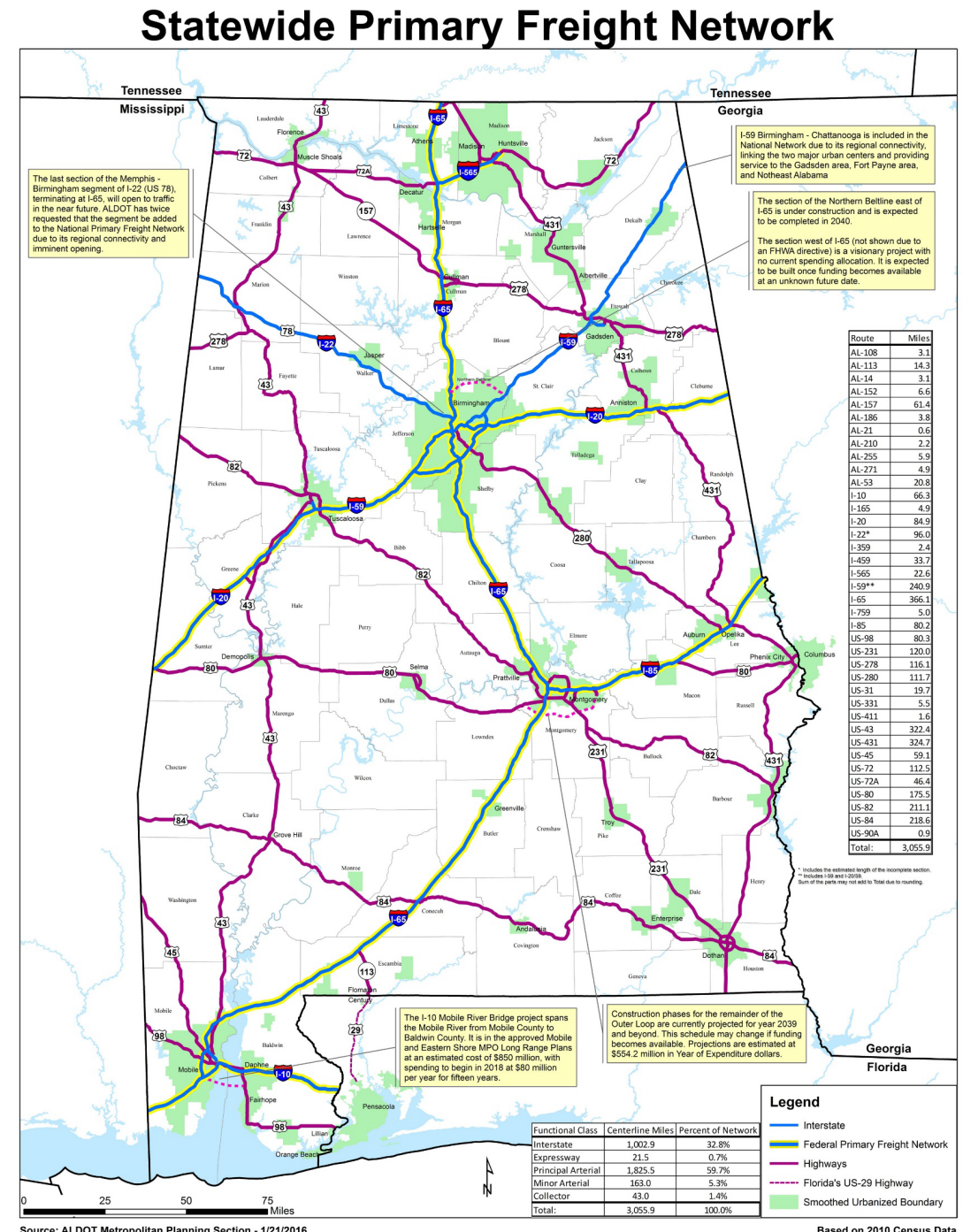
Source: 2020 Highway Statistics Series



# Statewide Primary Freight Network

- Developed during previous Statewide Freight Plan Update
- Based on several factors, such as:
  - Presence on NFHN
  - Truck Traffic Characteristics
  - Connectivity to Major Industrial Facilities

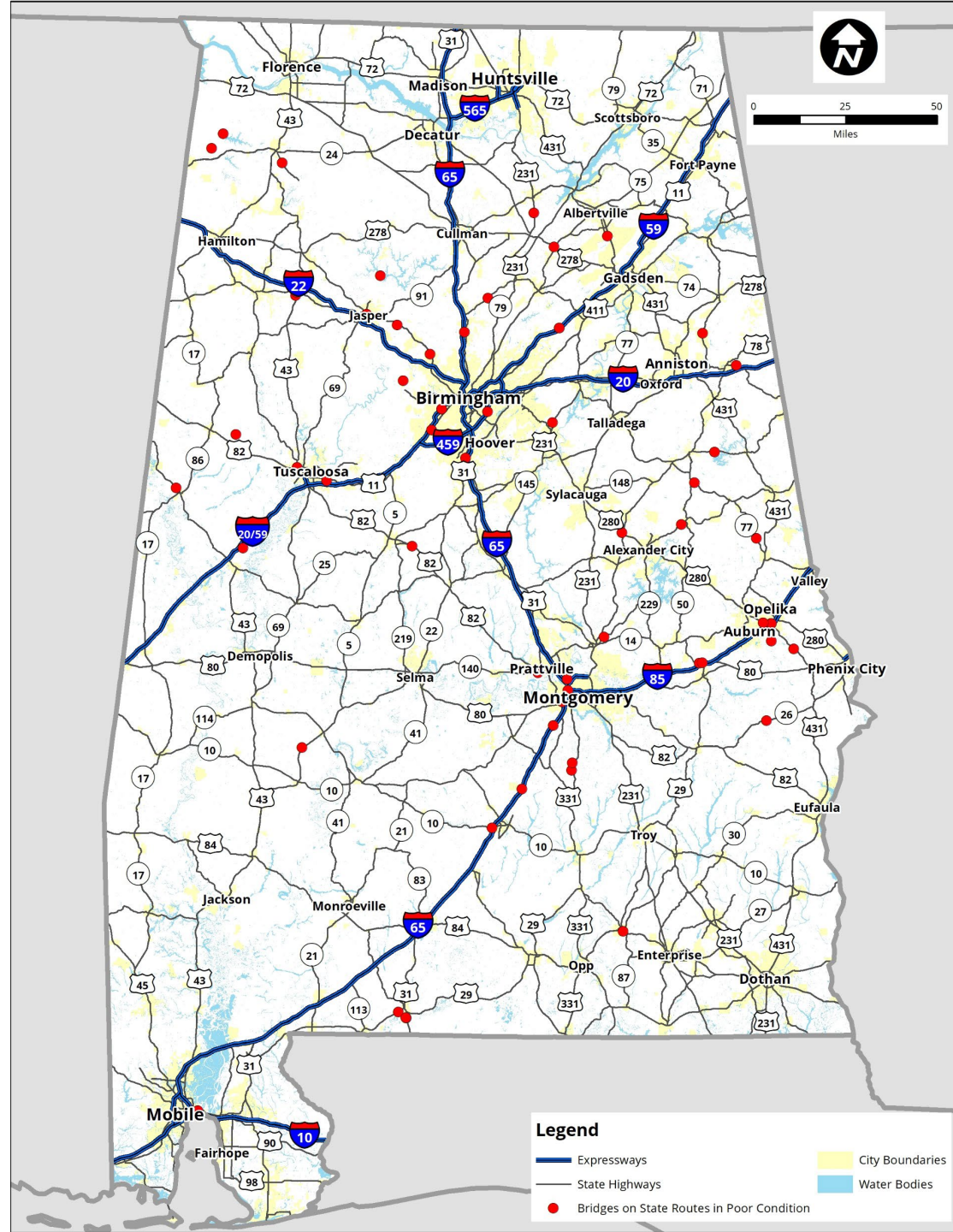
Source: 2017 ALDOT Freight Plan



# Bridges

- Over 16,000 bridge structures in Alabama
  - Many bridges fall along NHFN routes, state routes, and other arterials which carry truck traffic
  - 5,429 along interstates, and US and state highways
  - Statewide, only 4% of bridges are in poor condition

Source: 2021 National Bridge Inventory (NBI)



# Railroads

- Over 4,318 miles of railroads within Alabama
- Class I (3,022 miles) – Norfolk Southern, CSX, Burlington North & Santa Fe, and Canadian National/Illinois Central Railroad
- Class II (287 miles) – Alabama & Gulf Coast Railway (AGR)
- Class III (1,009 miles) – 27 shortline railroads
- CRISI Grant Applications
  - Alabama-USA Corridor - First phase would include improvements along 280 miles of railroad corridor linking Port of Mobile with McCalla Intermodal Facility in Birmingham.
  - Black Belt and Central Alabama Freight Rail Improvement Project – For two short railroads in north and south Alabama, operated by GWRR, would replace 24 miles of rail, resurface 20 crossings and turnouts, construct two rail cars storage sidings, and other infrastructure improvements.

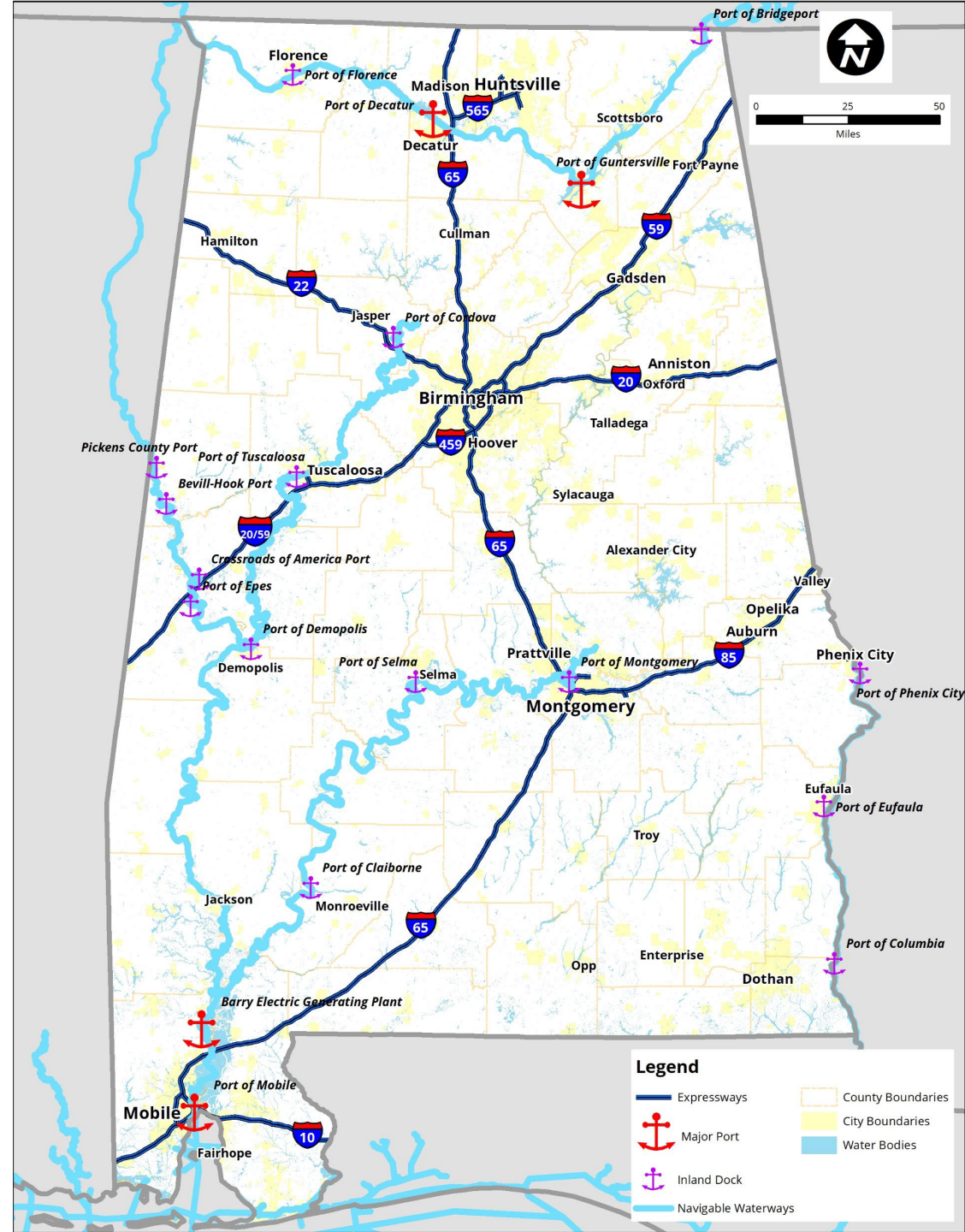
Source: Federal Railroad Administration



# Ports

- Port of Mobile
  - Moves approximately 58 million tons of cargo annually
  - Access to I-10, I-65, five Class I railroads, and Mobile Aeroplex at Brookley
- Nine inland docks along 15,000 miles of navigable waterways, some with access to rail spurs and industrial facilities
  - Florence, Bridgeport, Cordova, Demopolis, Selma, Montgomery, Eufaula, Columbia, Axis

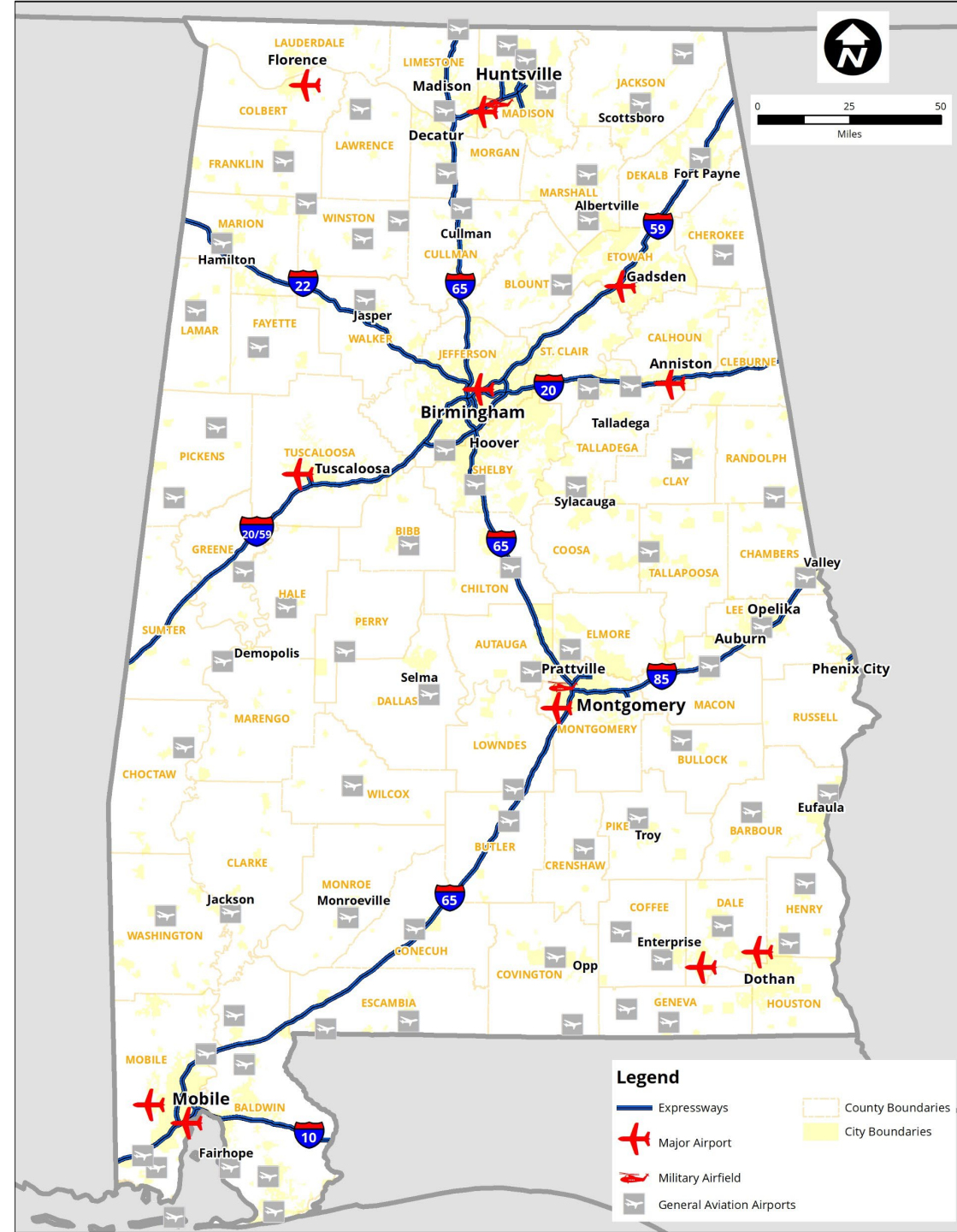
Source: Bureau of Transportation Statistics



# Airports

- 11 major airports
- Birmingham, Huntsville, and Montgomery airports handle the most air cargo, along with airports at military installations
- BIL provides \$15B for airport projects, including runways, taxiways, terminal, airport-transit connections and roadway projects (\$28.2M for Alabama in FY 2022)

Source: Federal Aviation Administration

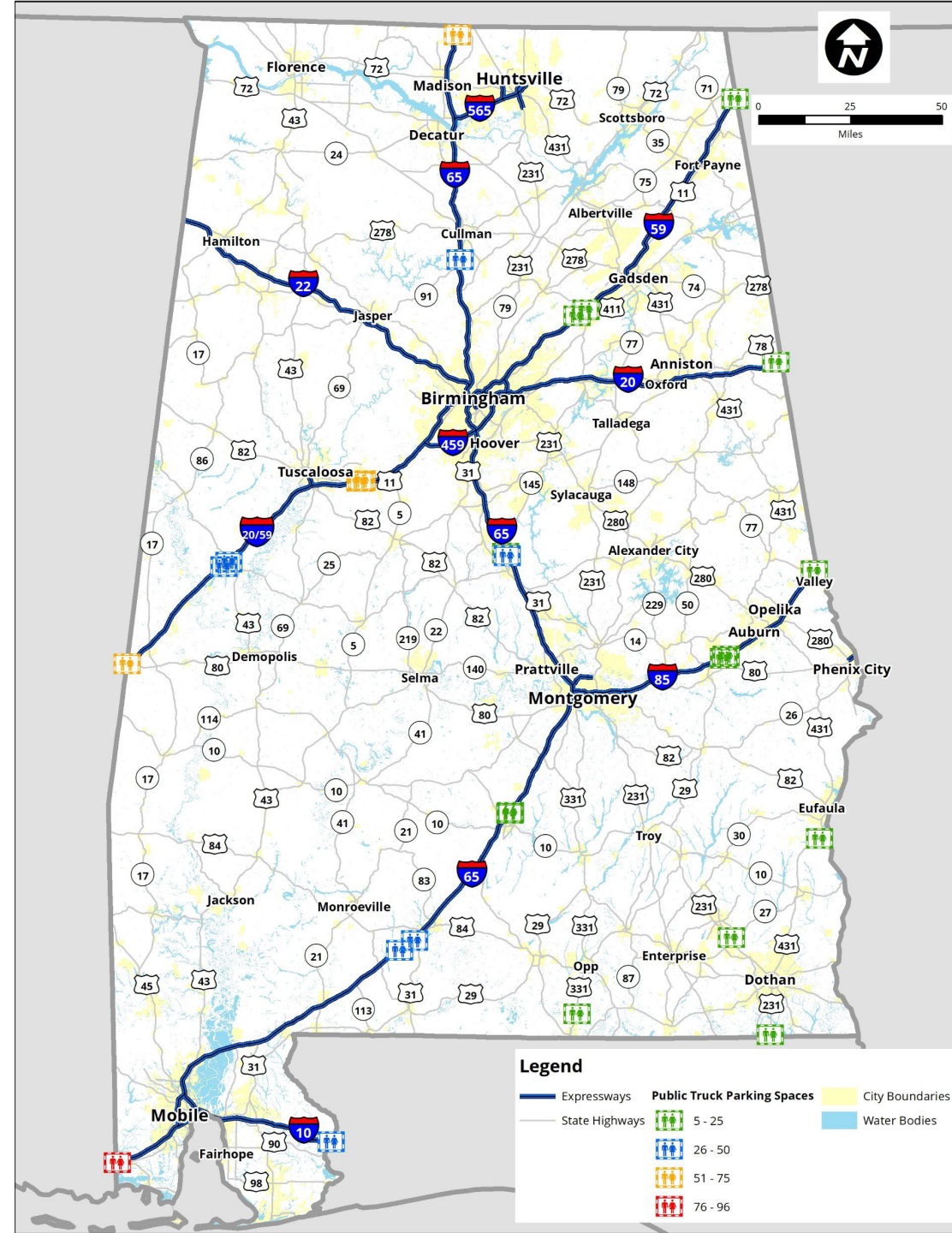


# Truck Parking

# Public Truck Parking

- Approximately 720 truck parking spaces at rest areas and welcome centers along interstates
- Most truck parking at Grand Bay Welcome Center (Mobile) – 96 spaces
- No public truck parking along I-22
- Conducting inventory at other locations, such as weigh stations and private truck stops, to assess truck parking needs across the state
- *Where is truck parking a challenge? Are there specific corridors or areas with a lack of sufficient truck parking spaces?*

Source: ALDOT



# Truck Flow and Bottlenecks

# Truck Traffic

- I-20 carries the greatest volume of trucks in Alabama, especially between Birmingham and Georgia
- I-65 is the primary north-south truck route, carrying the greatest volume between Birmingham and Tennessee
- Only a small portion of I-10 through southern Alabama, but serves as a critical connection for Port of Mobile and truck traffic between Louisiana and Florida
- I-85, I-59, and I-65 (south of Birmingham) carry less truck traffic, but facilitate important connections statewide
- Among other highways, US 231 (Montgomery to Dothan), US 72 (from Decatur towards Louisiana), and US 280 (Opelika to Phenix City) carry upwards of 2,500 trucks per day

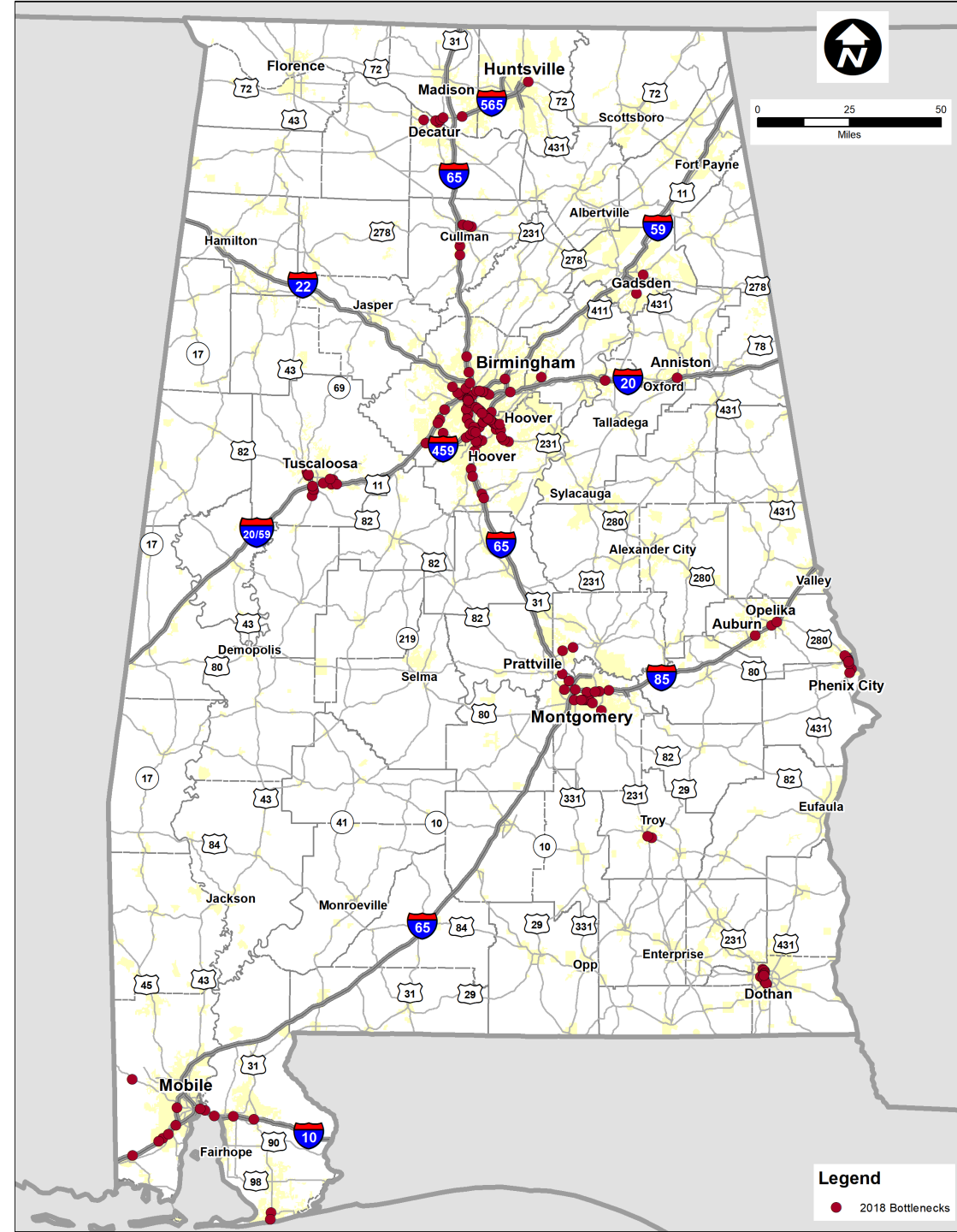
Source: FHWA



# Truck Bottlenecks

## ALDOT Truck Bottleneck Study (2020)

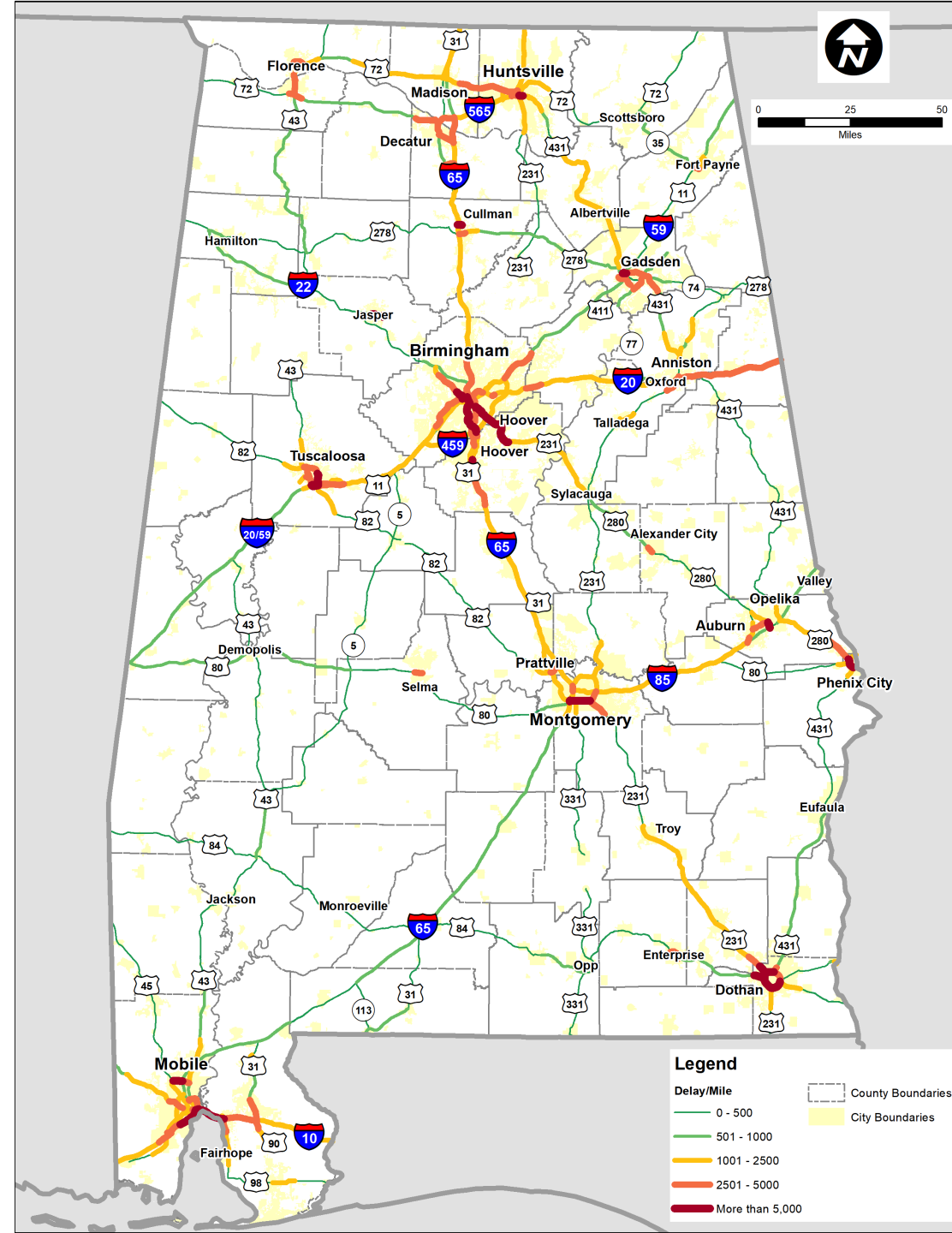
- Based on 2018 traffic data
- Identified based on volume-to-capacity ratio and truck percentage
- Shows the greatest number of truck bottlenecks along interstates in and around major cities – Birmingham, Montgomery, Mobile, Tuscaloosa, Huntsville
- Bottlenecks also present along US highways near Decatur, Dothan, and Phenix City



# Truck Bottlenecks

## FHWA Freight Mobility Trends

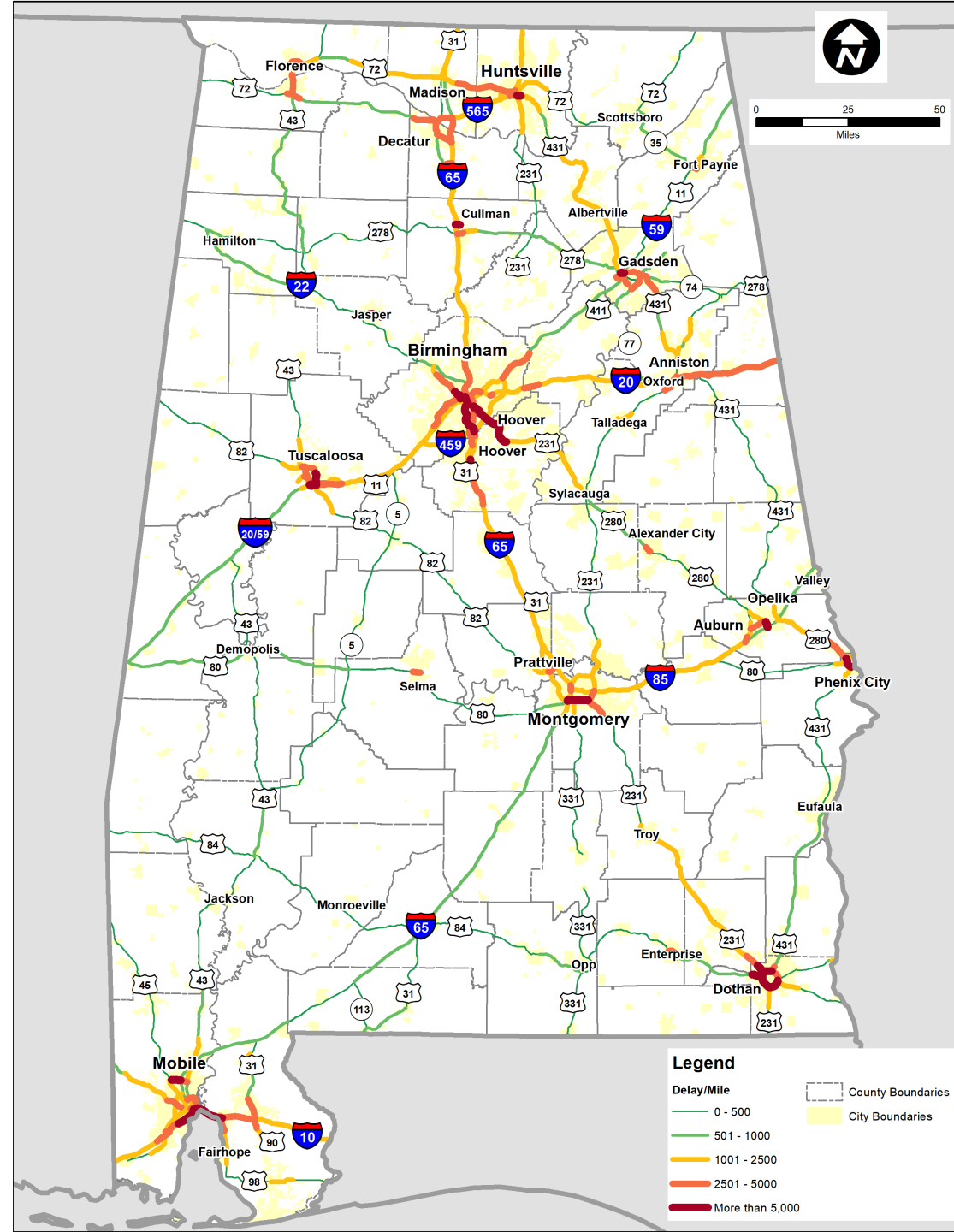
- Based on 2021 traffic data
- Measured by Delay per Mile
- Shows bottlenecks along segments of roadways
- Most significant truck bottlenecks in and around cities, including Birmingham, Mobile, Montgomery, and Dothan
- Also shows truck bottlenecks along interstates and highways between cities
  - I-65 – From Decatur to Birmingham to Montgomery
  - I-20 – From Tuscaloosa to Birmingham to Georgia
  - I-85 – From Montgomery to Georgia
  - US 431 – From Gadsden towards Huntsville
  - US 231 – From Dothan to Troy



# Truck Bottlenecks

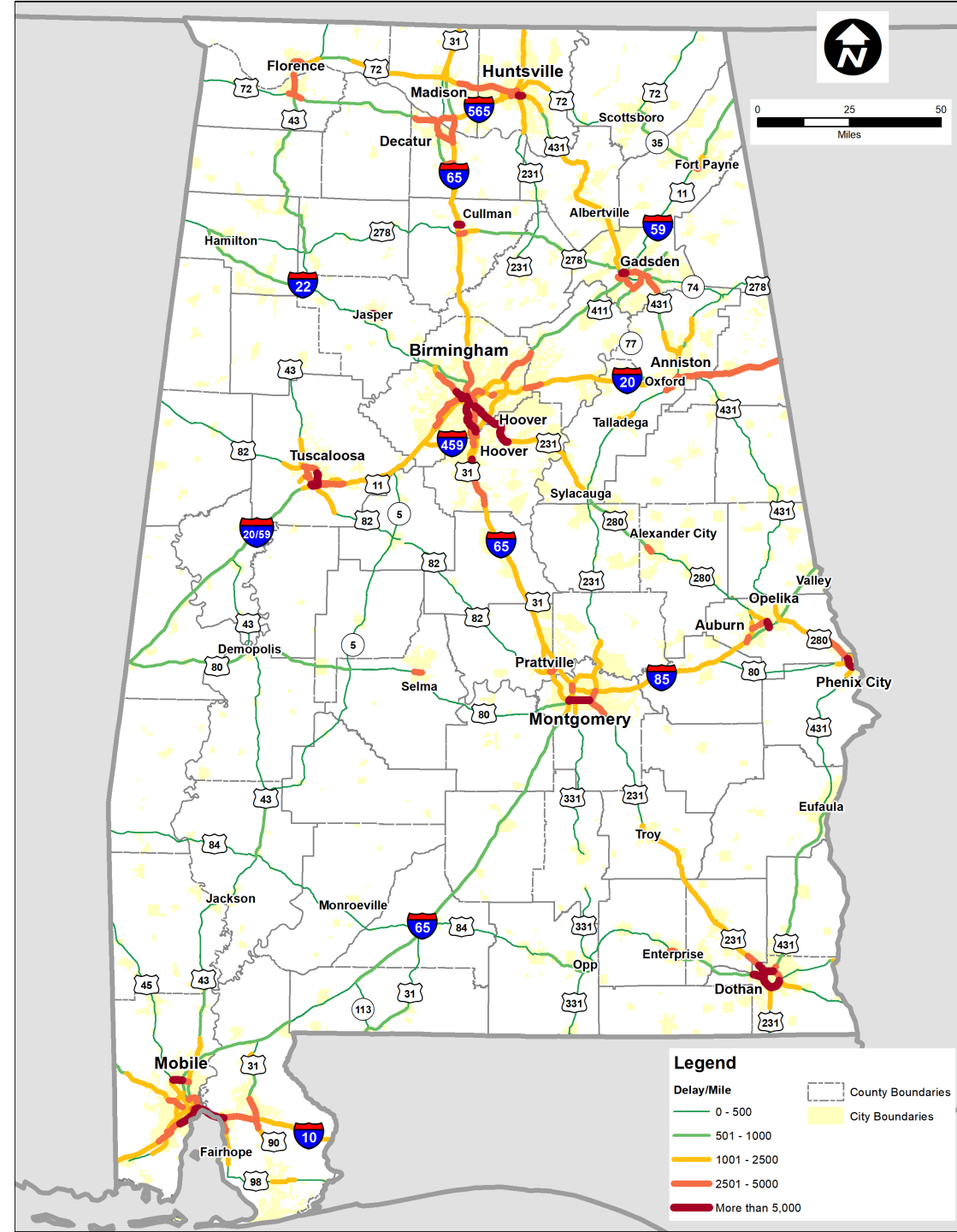
Top 25 Freight Bottlenecks based on Delay/Mile in Alabama (2021)

Rank	Urban Area	Road	Beginning Intersection	Ending Intersection	Delay/Mile
1	Mobile area	I-10	US-98 to	Old Spanish Trail	8743.00
2	Birmingham	I-65	1 <sup>st</sup> Ave North	US-31	7909.00
3	Birmingham	I-65	12th CT N	1 <sup>st</sup> Ave N	7494.00
4	Birmingham	I-65	Oxmoor Road	Lakeshore Pky	7241.00
5	Birmingham	I-65	Lakeshore Pky	Montgomery Hwy	6137.00
6	Birmingham	I-65	County Rd 52	1 <sup>st</sup> St S	6076.00
7	Mobile	I-10	Old Spanish Trail	I-65	5603.00
8	Birmingham	I-65	Montgomery Hwy	John M Harbert III Fwy	5564.00
9	Tuscaloosa	I-20/I-59	I-359	McFarland Blvd E	5154.00
10	Mobile area	I-10	US-98	Old Spanish Trail	4843.00
11	Birmingham	I-20/I-59	I-20/I-59 Interchange	US-31	4813.00
12	Birmingham	I-59	Liles Ln	Chalkville Rd	4511.00
13	Birmingham	I-65	I-459/I-65 Interchange		4436.00
14	Tuscaloosa	I-20/I-59	Skyland Blvd E	McFarland Blvd E	4250.00
15	Birmingham	I-65	Decatur Hwy	Oxmor Road	3905.00
16	Gadsden	AL-77	3 <sup>rd</sup> St W/I-11	Steele Station Road	3893.00
17	Tuscaloosa	AL-13	Fosters Ferry Road	University Blvd	3871.00
18	Tuscaloosa	I-20/I-59	McFarland Blvd	Skyland Blvd	3575.00
19	Birmingham	I-65	1 <sup>st</sup> St	16 <sup>th</sup> Ave	3517.00
20	Birmingham	I-65	16 <sup>th</sup> Ave	1 <sup>st</sup> St	3501.00
21	Birmingham	I-20	Dawson St	Kelley Creek Rd	3491.00
22	Tuscaloosa	I-359	15 <sup>th</sup> St	Skyland Blvd	3328.00
23	Mobile	US-98	I-65	Shelton Beach Rd	3208.00
24	Mobile	I-10	Theodore Dawes Rd	Government Blvd	3182.00
25	Gadsden	AL-77	Steele Station Rd	3 <sup>rd</sup> St SW	3096.00



# Truck Bottlenecks

- *Do you observe truck bottlenecks in these areas?*
- *Are there additional bottlenecks along highways or at intermodal facilities?*
- *Where are some areas or portions of the freight network where freight bottlenecks will grow or worsen over the next several years?*

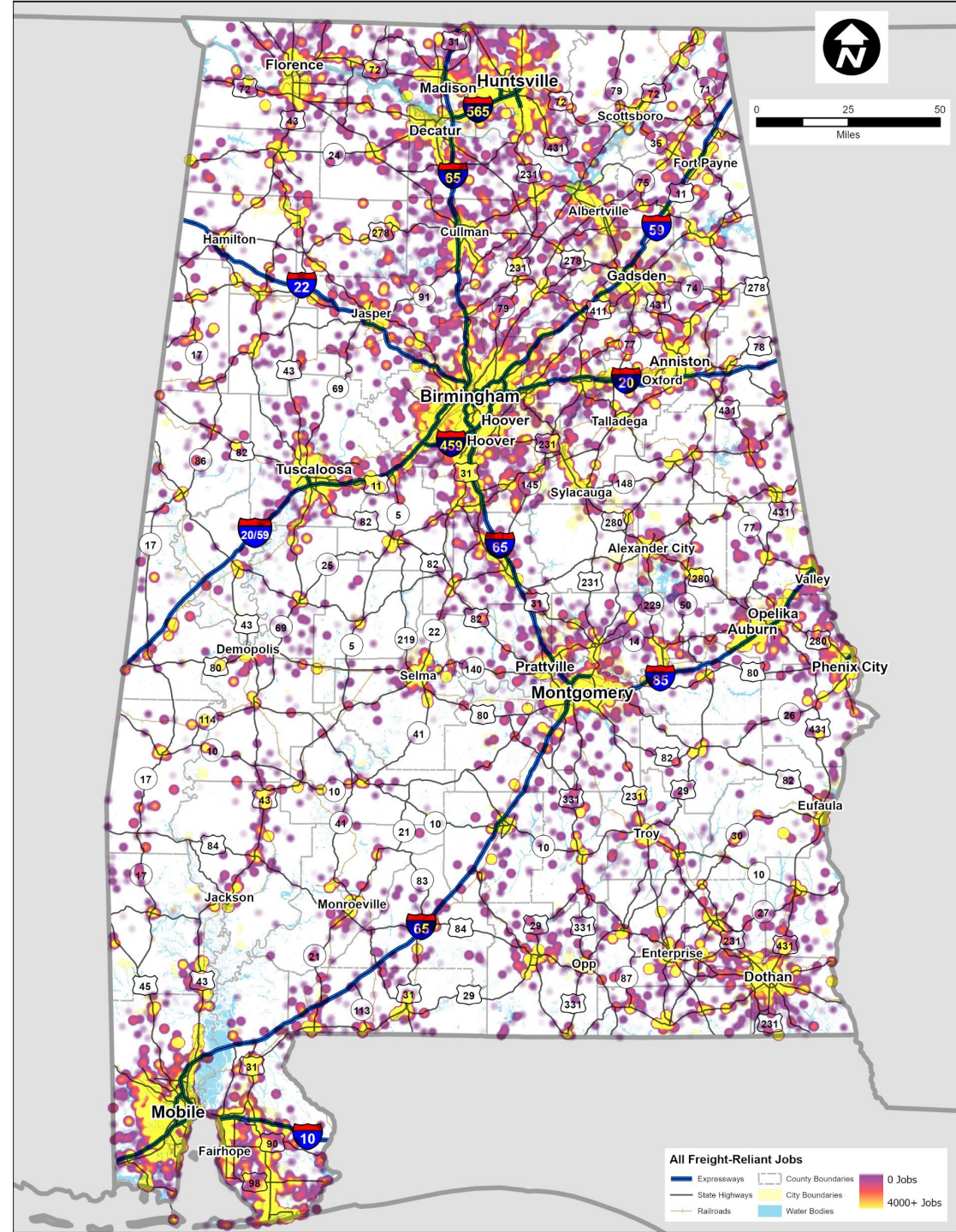


# Freight Generators

# Freight-Related Job Centers

- Based on analysis of agriculture, utility, construction, manufacturing, and wholesale and retail trade employment across the state
- Greatest concentration of freight-related employment in Birmingham, Mobile, Montgomery, Huntsville, and Dothan; along some interstate corridors; and across northern, southeast, and southwest Alabama

Source: Longitudinal Employer-Household Dynamics (US Census Bureau)

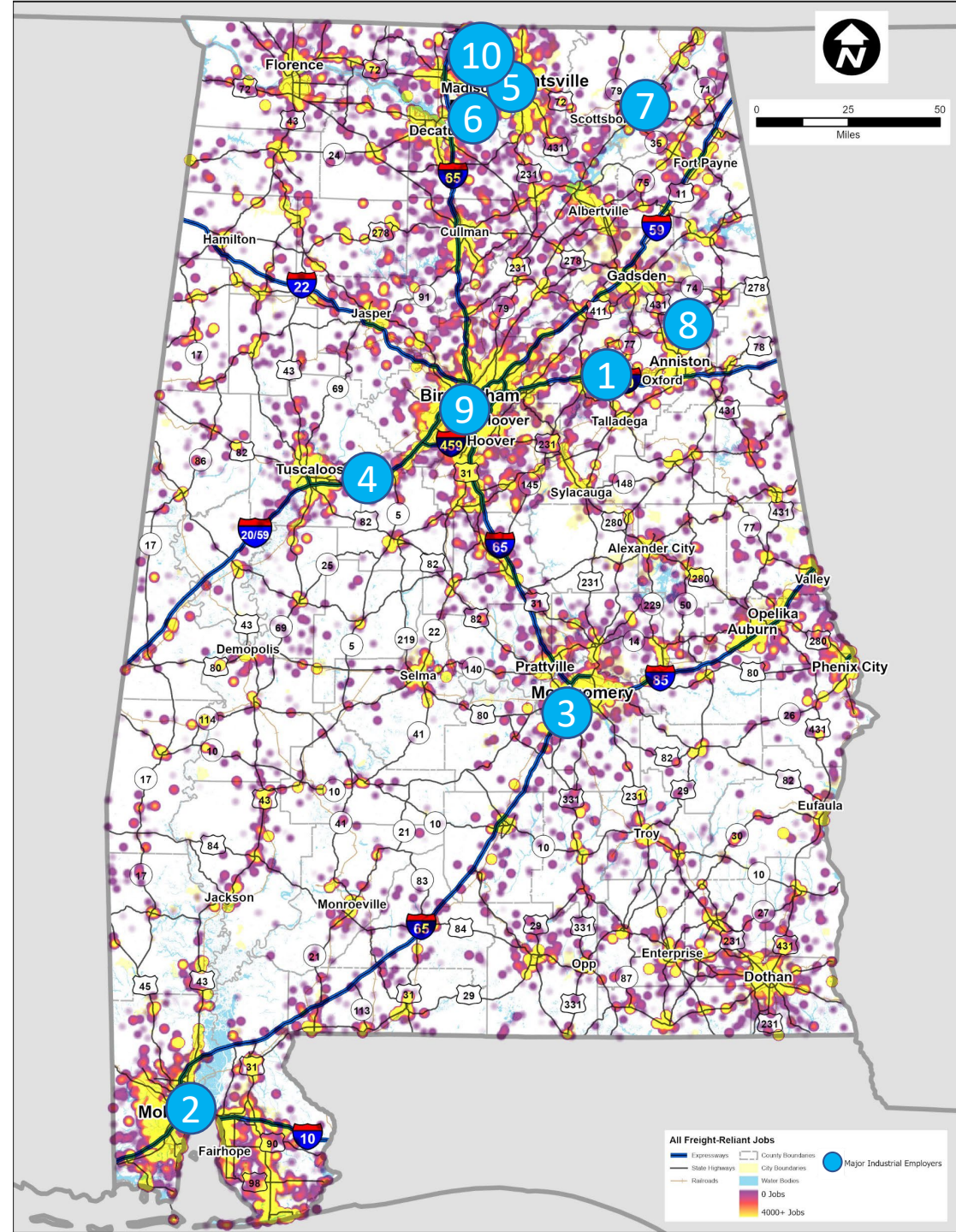


# Freight-Related Jobs and Major Industrial Employers

Rank	Company	Employees	City
1	Honda Manufacturing of Alabama, LLC	4,500	Lincoln
2	Austal USA	4,000	Mobile
3	Hyundai Motor Manufacturing Alabama, LLC	3,000	Montgomery
4	Mercedes-Benz US International, Inc.	3,000	Vance
5	Dynetics, Inc.	2,500	Huntsville
6	The Boeing Co.	2,500	Huntsville
7	Maples Industries, Inc.	2,350	Scottsboro
8	Calderys	2,300	Jacksonville
9	Buffalo Rock Co.	2,200	Birmingham
10	Mazda Toyota Manufacturer USA	1,800	Huntsville

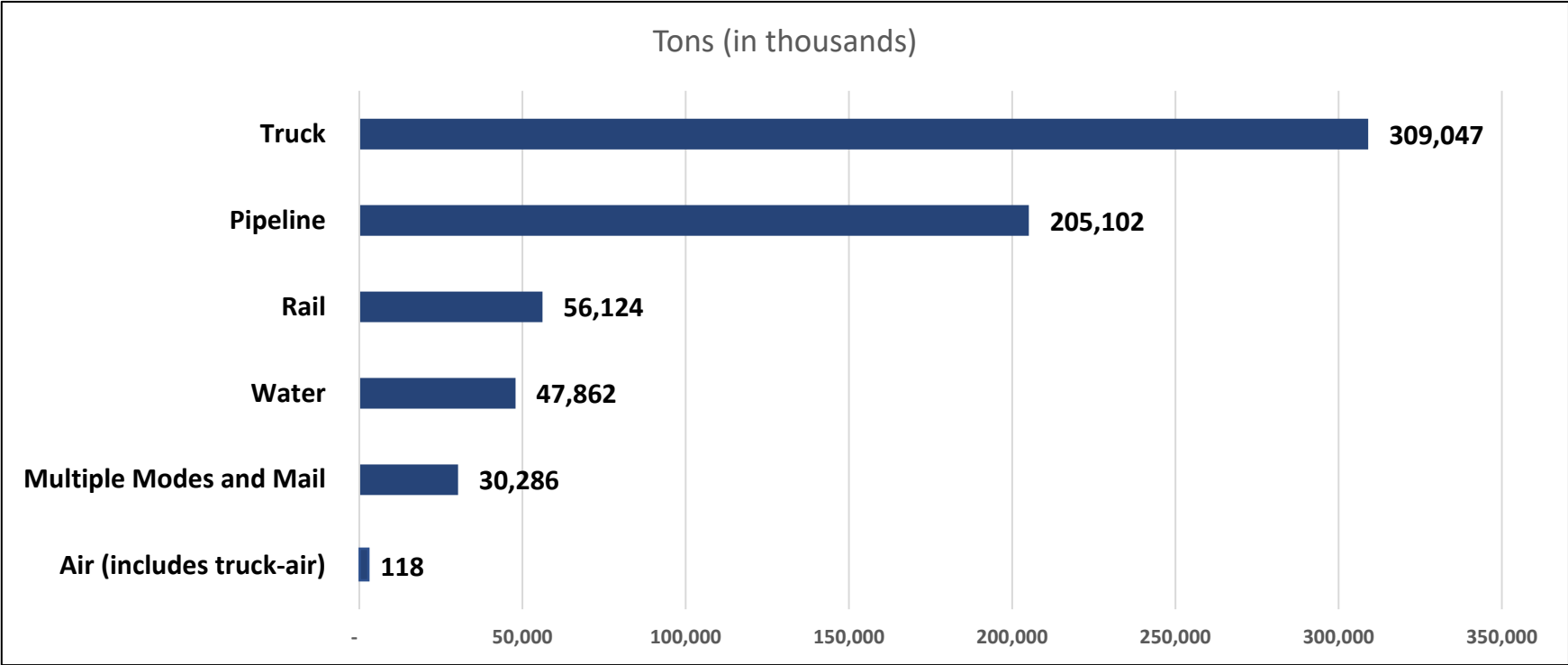
*Where are other significant freight generators? Are there new or planned developments that will generate significant freight volumes in the coming years? How is the increase in e-commerce affecting freight mobility?*

Source: Industry Select



# Commodities and Flows

# Commodity Flow by Mode



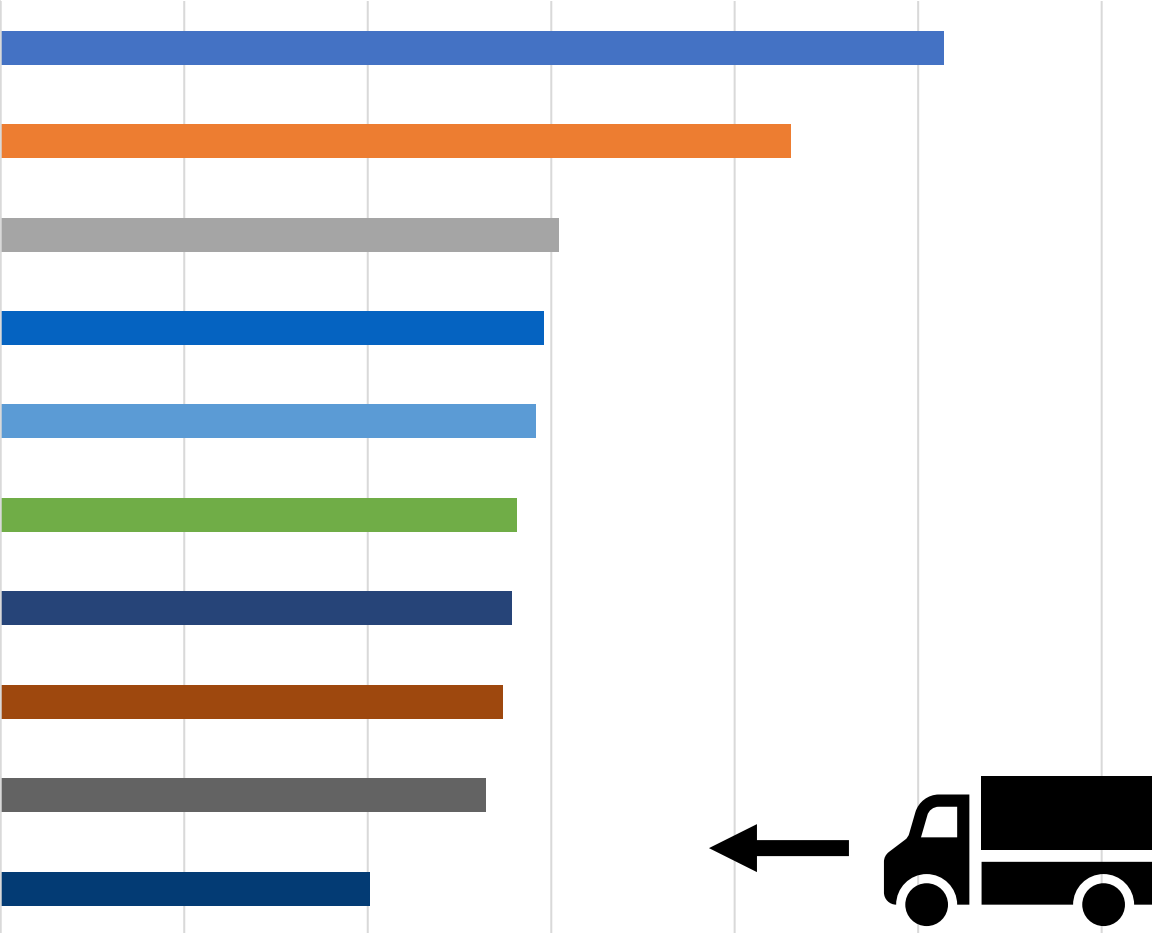
Source: Freight Analysis Framework 5.3

# Top Commodities by Truck - Inbound

Tons (in Thousands)

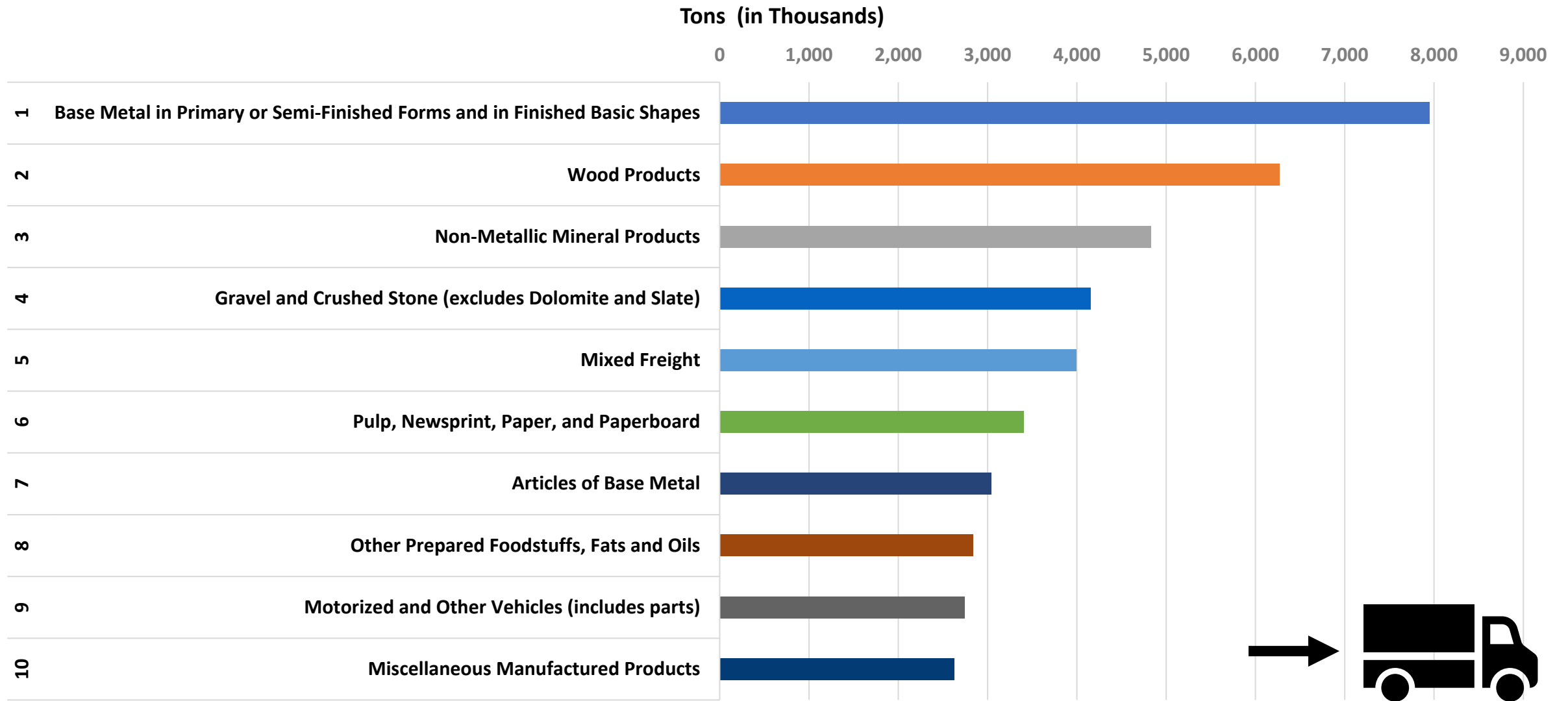
0 1,000 2,000 3,000 4,000 5,000 6,000

1	Base Metal in Primary or Semi-Finished Forms and in Finished Basic Shapes
2	Wood Products
3	Agricultural Products (excludes Animal Feed, Cereal Grains, and Forage Products)
4	Other Prepared Foodstuffs, Fats and Oils
5	Plastics and Rubber
6	Non-Metallic Mineral Products
7	Mixed Freight
8	Basic Chemicals
9	Motorized and Other Vehicles (includes parts)
10	Pulp, Newsprint, Paper, and Paperboard

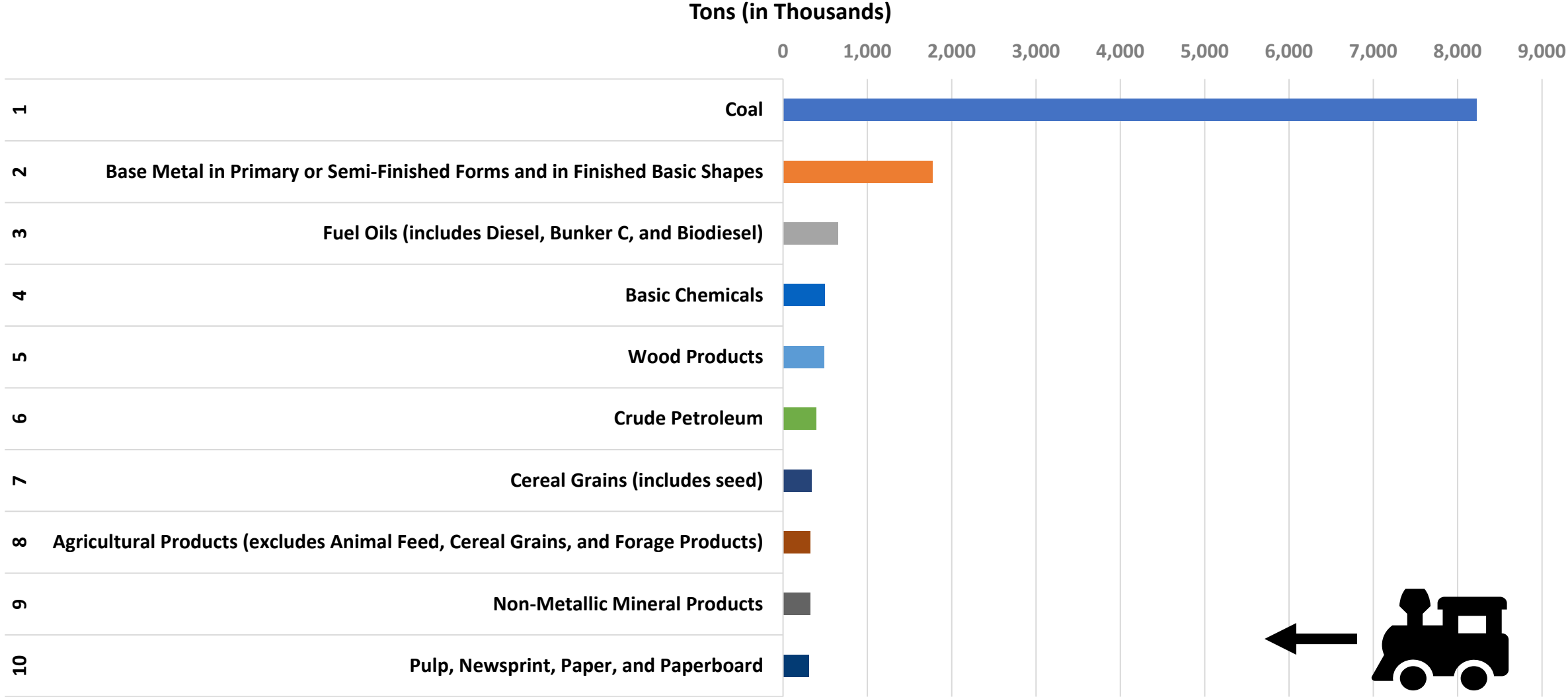


Source: Freight Analysis Framework 5.3

# Top Commodities by Truck - Outbound



# Top Commodities by Rail - Inbound

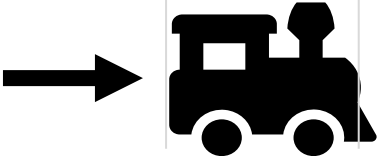
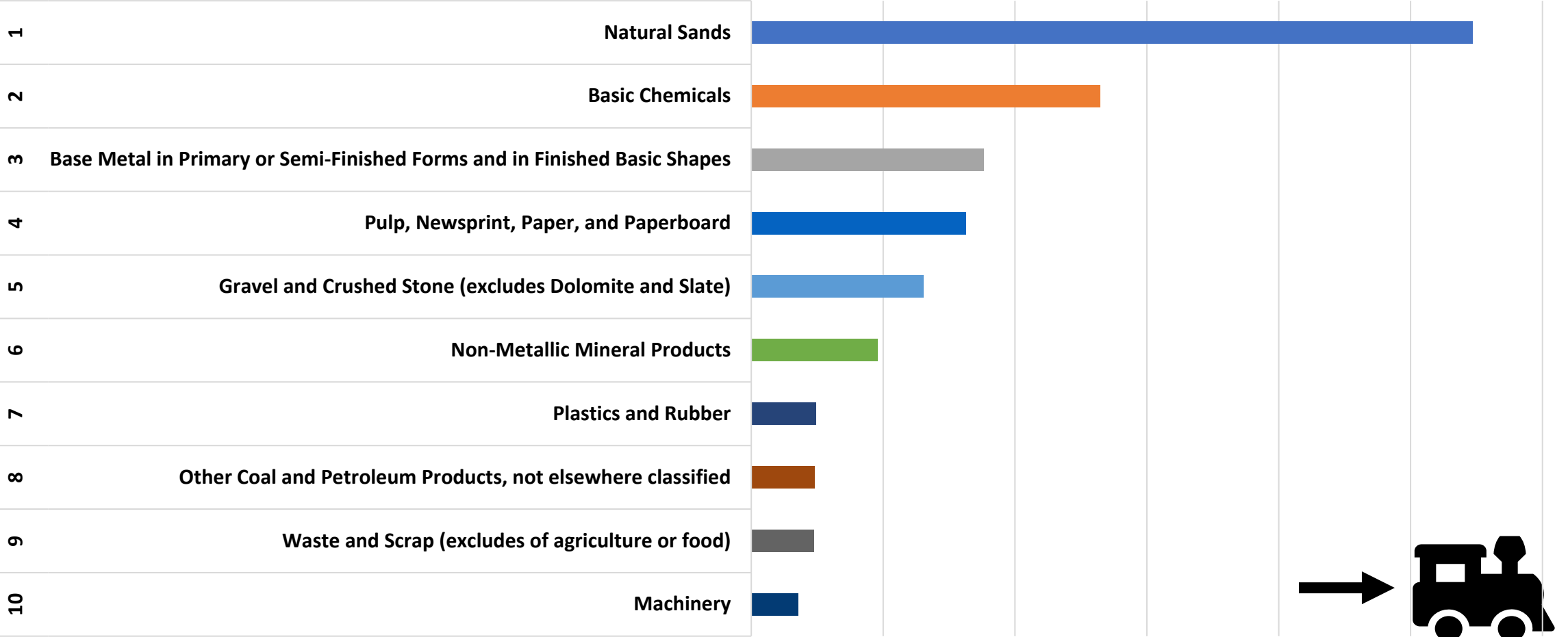


Source: Freight Analysis Framework 5.3

# Top Commodities by Rail - Outbound

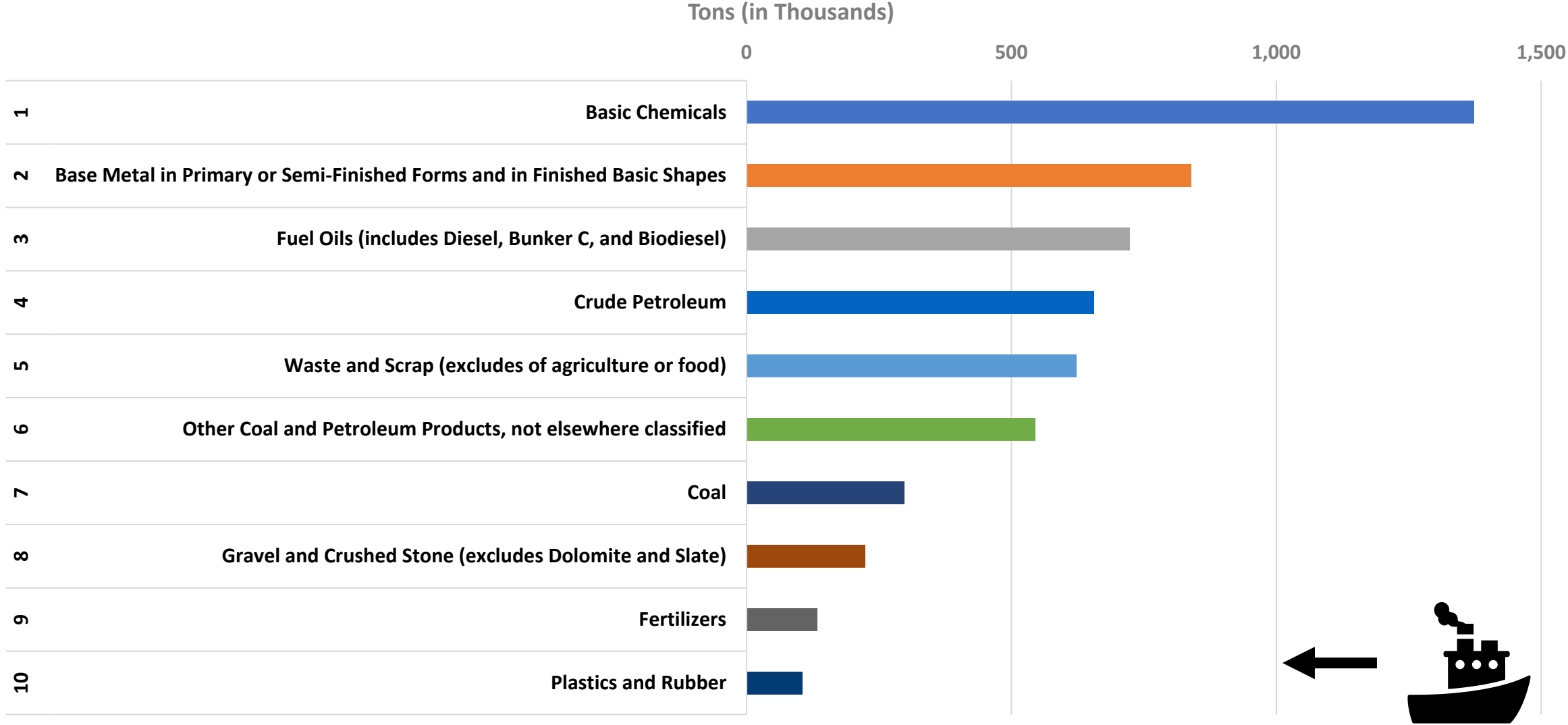
Tons (in Thousands)

0 1,000 2,000 3,000 4,000 5,000 6,000



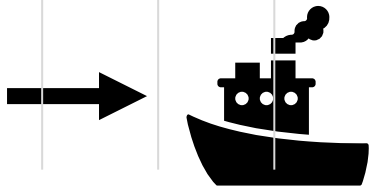
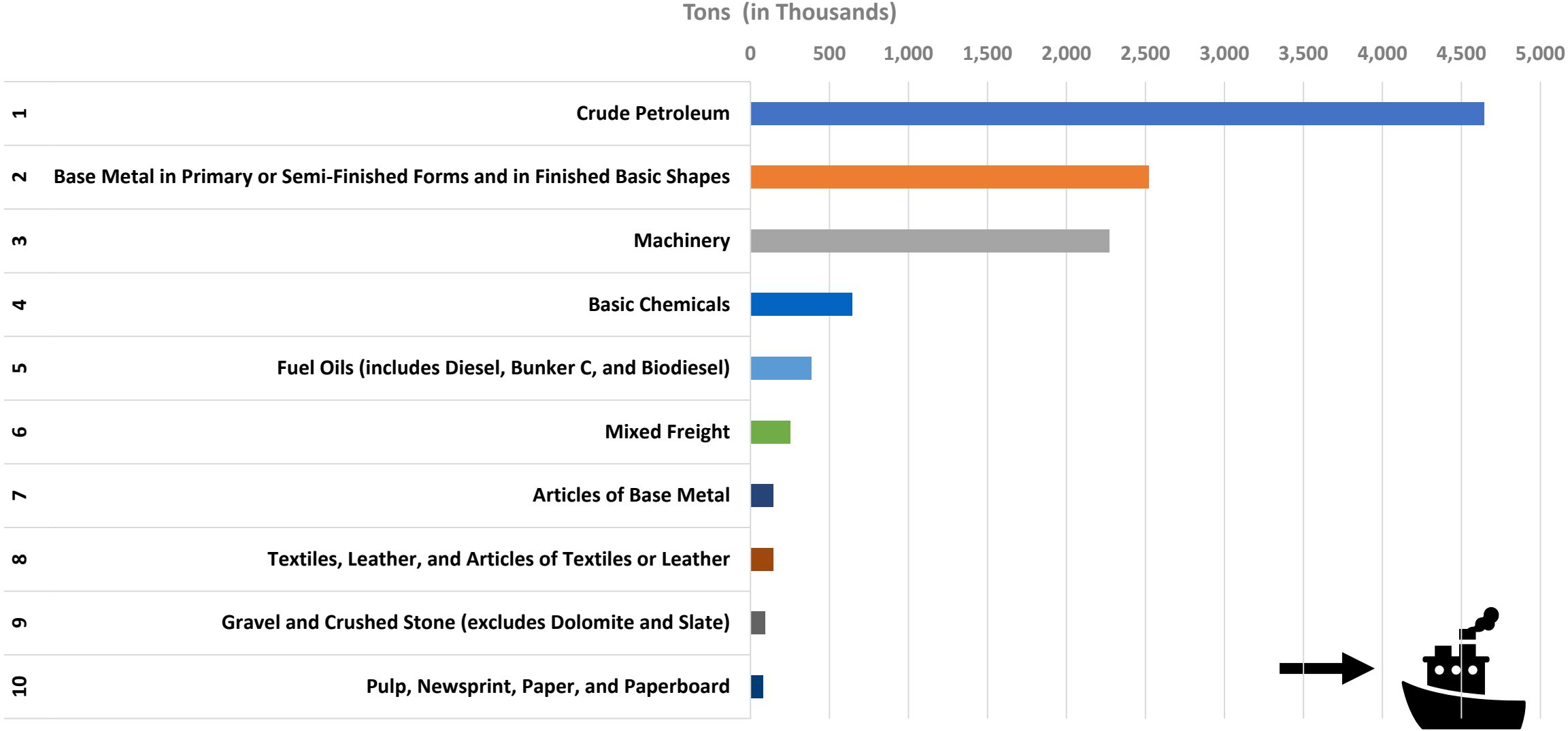
Source: Freight Analysis Framework 5.3

# Top Commodities by Water - Inbound



Source: Freight Analysis Framework 5.3

# Top Commodities by Water - Outbound

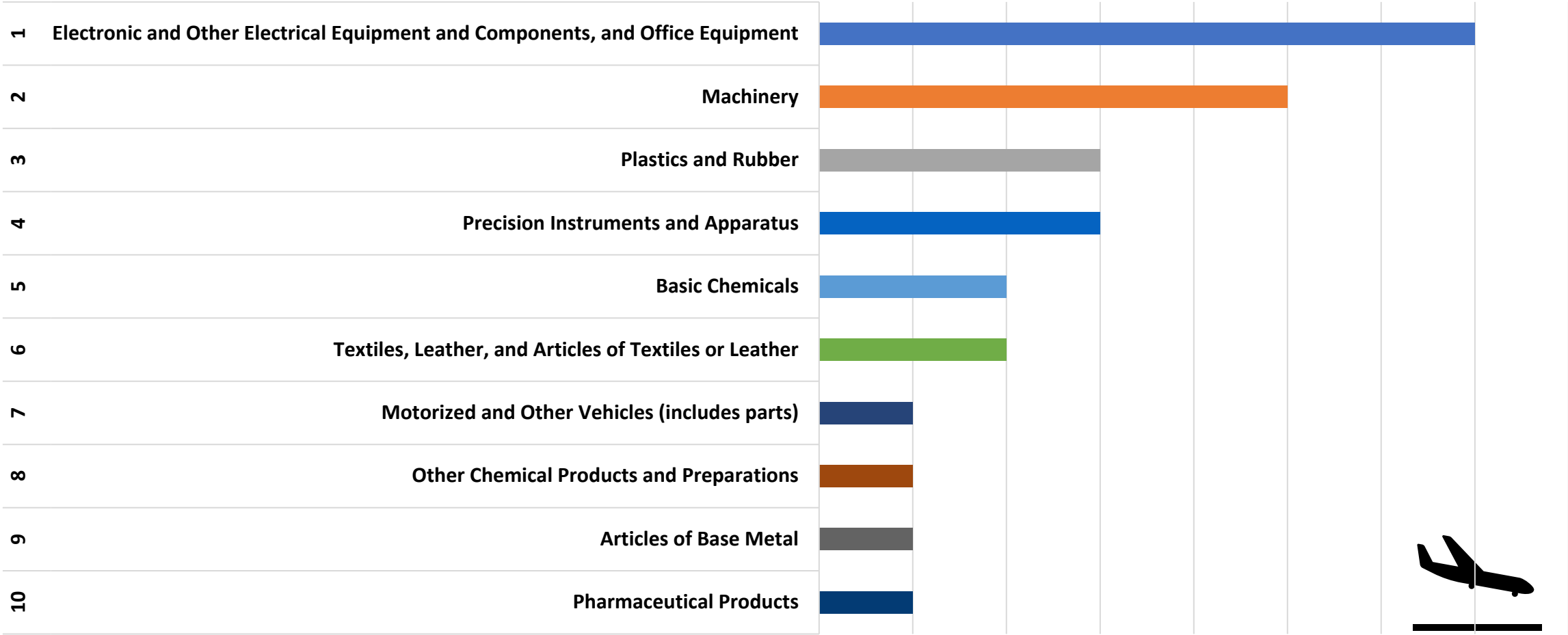


Source: Freight Analysis Framework 5.3

# Top Commodities by Air - Inbound

Tons (in Thousands)

0 1 2 3 4 5 6 7 8

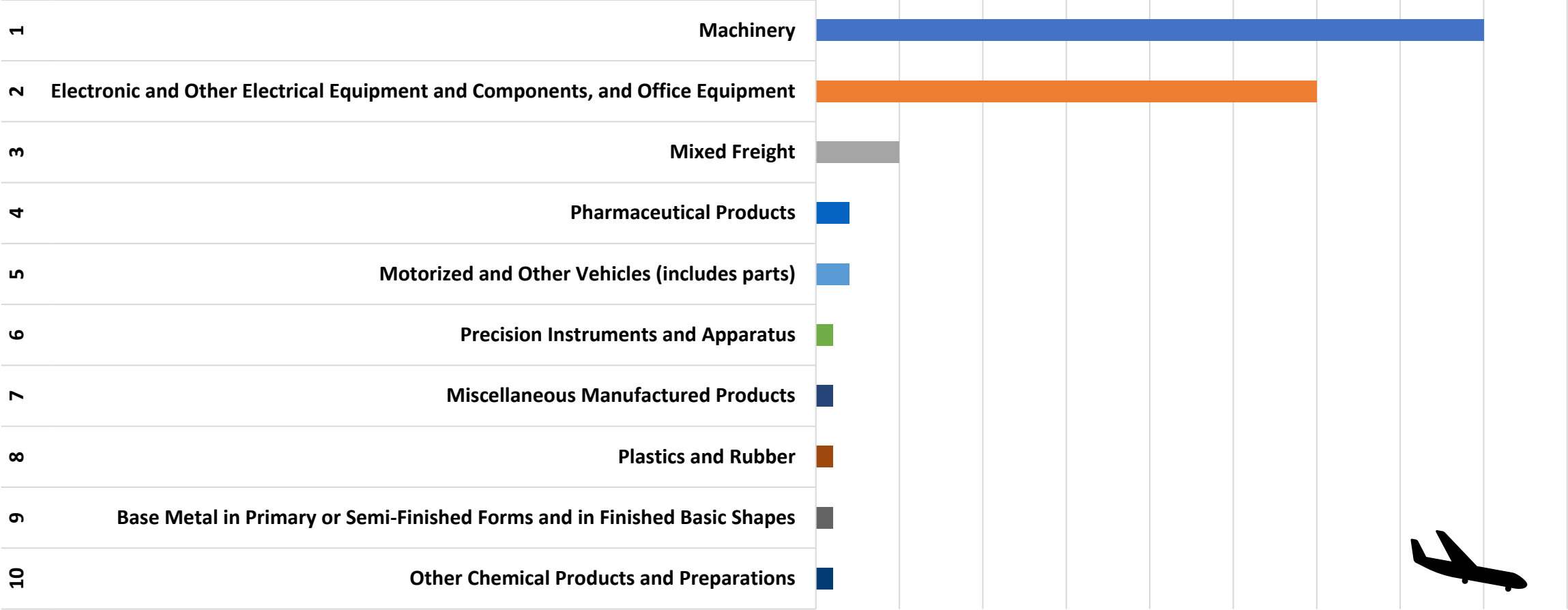


Source: Freight Analysis Framework 5.3

# Top Commodities by Air – Outbound

Tons (in Thousands)

0 5 10 15 20 25 30 35 40 45



Source: Freight Analysis Framework 5.3

# Freight System Resilience

# Freight System Resilience

- Freight System Resilience: the ability of the freight transportation network system to reduce the impacts of disruptions and maintain freight mobility
- Common sources of disruption:
  - *Extreme Weather/Natural Disasters – Hurricanes/tropical storms, flooding, tornadoes, ice, extreme heat, etc.*
  - *People-Induced – Crashes, construction, demand surges, disruptions in the supply chain, pandemics, etc.*
  - *Institutional – Asset management and aging infrastructure, limited funding, increasing traffic congestion, etc.*
  - *Economics – Market conditions, technology disruptions, environmental factors, recession, trade agreements, etc.*



Source: Network Rail

# Freight System Resilience

- *How do severe weather events, tropical storms, flooding, or other natural disasters impact freight mobility?*
- *What are the greatest threats to the supply chain?*
- *What are other causes of disruptions within the freight network?*



Source: CBS News

# Additional Discussion

# Additional Discussion

## *IIJA-related inquiries:*

- *Do you have concerns about the impact of freight on local air quality? Where is this the greatest concern?*
- *Have you observed impacts upon flooding and stormwater runoff, particularly in heavy industrial areas?*
- *Do you have any concerns about the development of industrial areas and freight movement related to natural habitats?*



Source: Schoel

# Next Steps

- Incorporate your feedback today into assessment of freight needs
- Coordinate with additional stakeholders as needed, including MPOs and ALDOT Region offices
- Develop draft Freight Plan
- Present draft program of projects to FAC this fall
- Finalize Freight Investment Plan

# Thank You!

**Toni Arrington**

[arringtont@dot.state.al.us](mailto:arringtont@dot.state.al.us)

ALDOT Freight Coordinator

**Megha Young**

[megha.young@greshamsmith.com](mailto:megha.young@greshamsmith.com)

Consultant Project Manager

