



Overview
Draft National Freight Strategic Plan
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Washington State Transportation Commission
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Draft National Freight Strategic Plan



Pictured: L-R

Renee Trueblood of Interstate Distributors, Seattle Mayor Ed Murray, USDOT Secretary Anthony Foxx, Port of Seattle CEO Ted Fick, Senator Maria Cantwell

Trade is an important and growing component of our economy, equivalent in value for (both goods and services) to approximately 30 percent of our GDP. Every year, we import and export more than two billion tons of products, worth an estimated four trillion dollars.

Key Trends and Challenges in Freight Transportation:



1. *Expected Growth in Freight Tonnage.*

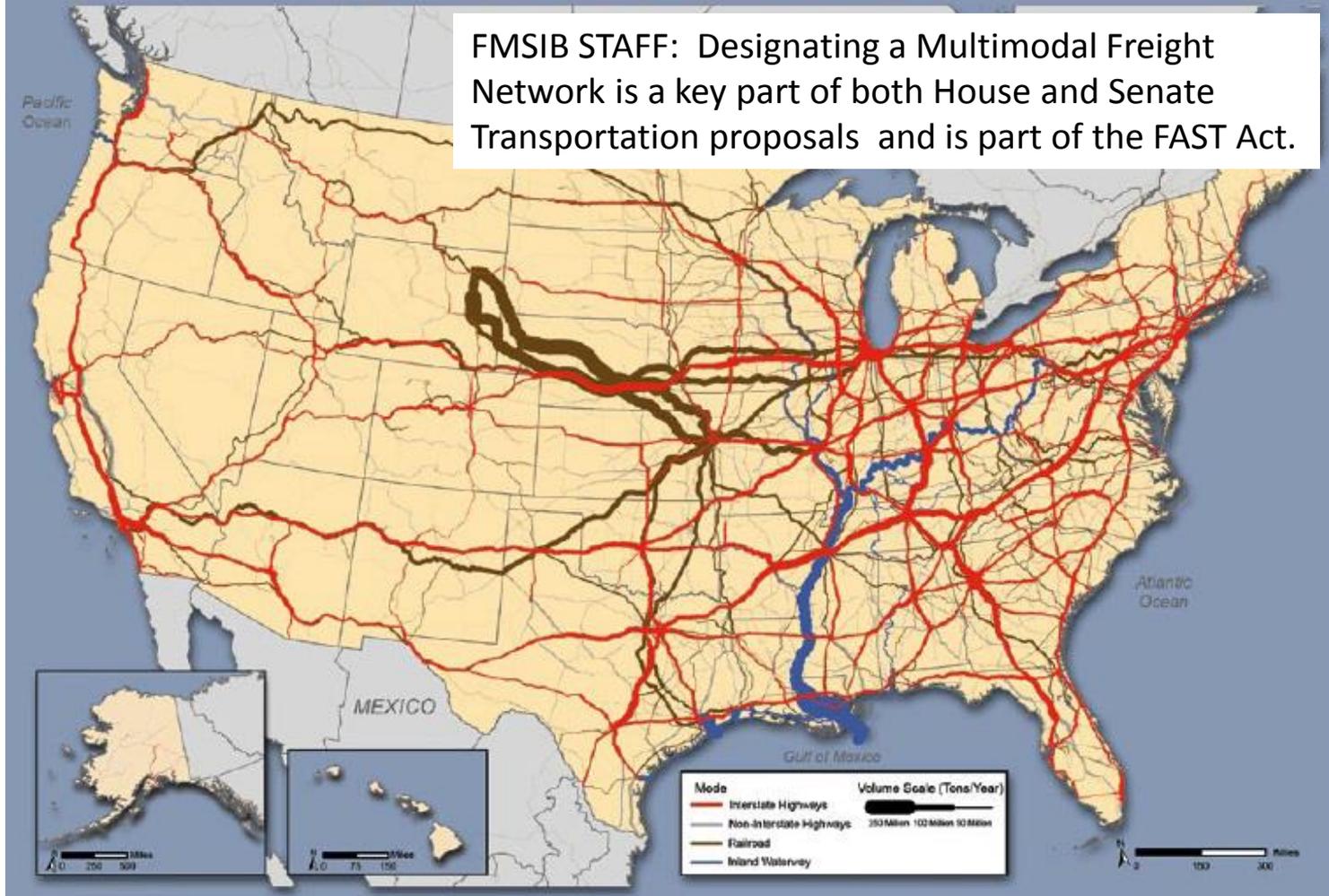
- The U.S. economy is expected to double in size over the next 30 years.
- By 2045, the nation's population is projected to increase to 389 million people, compared to 321 million in 2015. (It's equal to adding 6.9 Washington States)
- Americans will increasingly live in congested urban and suburban areas, with fewer than 10 percent living in rural areas by 2040 (compared to 16 percent in 2010 and 23 percent in 1980).
- Freight movements across all modes are expected to grow by roughly 42 percent by the year 2040 to meet these population demands. (i.e. Multimodal shipments are predicted to more than double.)

Key Trends and Challenges in Freight Transportation:



Figure 3-1. Freight Flows by Highway, Railroad, and Waterway: 2010

FMSIB STAFF: Designating a Multimodal Freight Network is a key part of both House and Senate Transportation proposals and is part of the FAST Act.



Key Trends and Challenges in Freight Transportation:

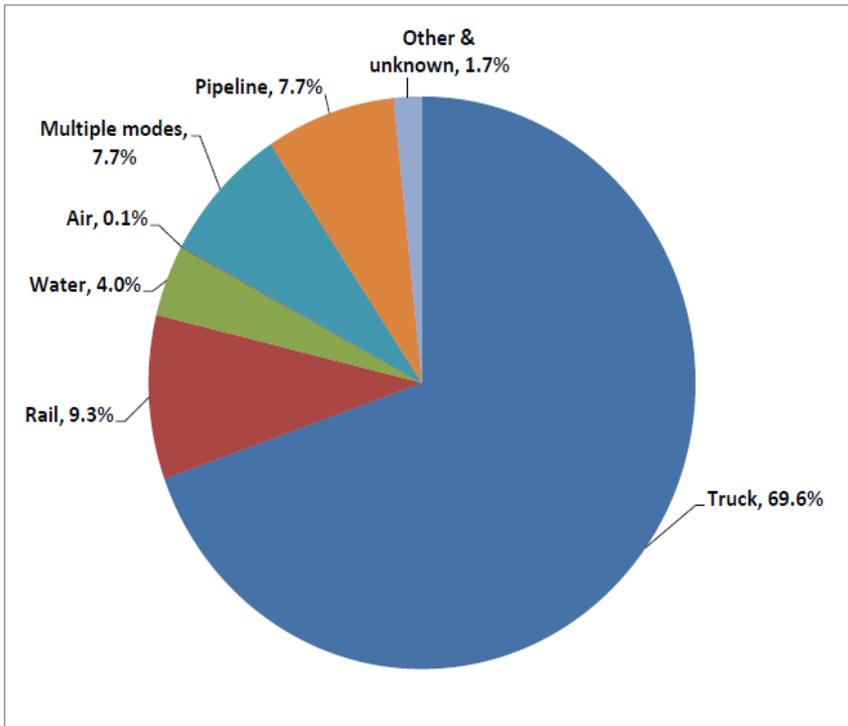
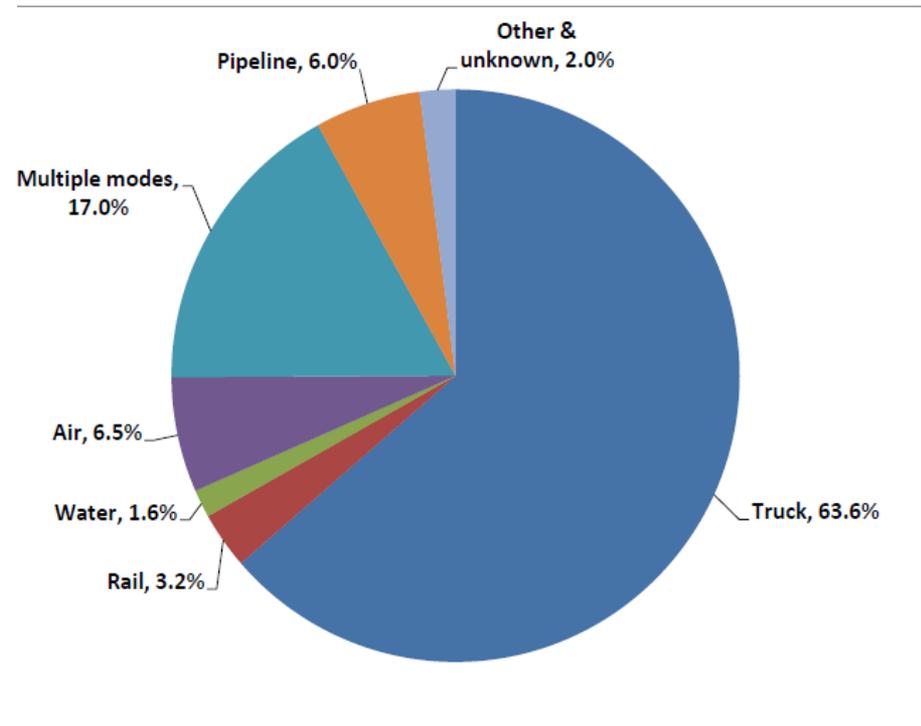


Figure 2. Tonnage of U.S. Shipments by Mode (2013)

(Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, version 3.6, 2015)



Value of U.S. Shipments by Mode (2013)

(Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework, version 3.6, 2015)

Key Trends and Challenges in Freight Transportation:



U.S. Ton-Miles of Freight (in Millions)

BTS Special Tabulation

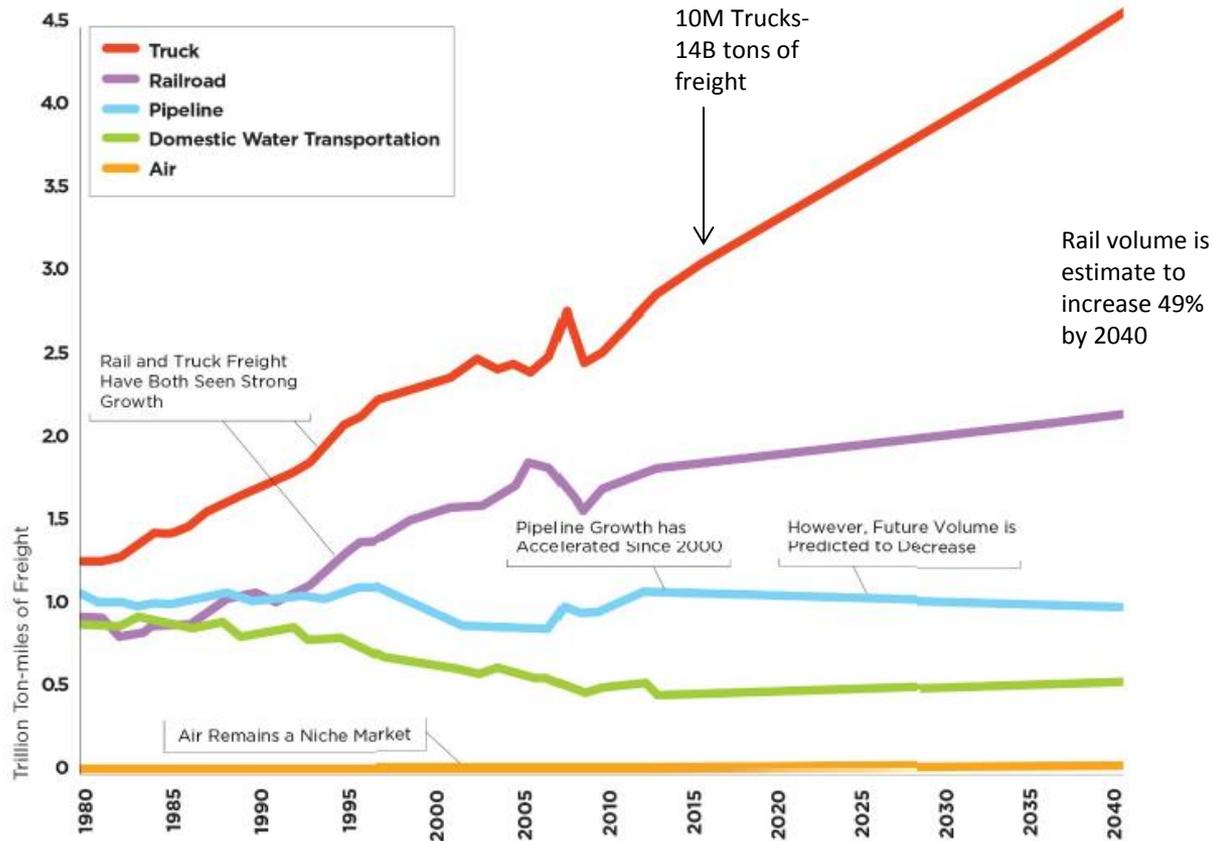


Figure 4. Expected Growth of U.S. Ton-Miles of Freight (in millions)

(Source: Beyond Traffic)

Key Trends and Challenges in Freight Transportation:



System Performance and the Cost of Congestion

By 2040, nearly **30,000** miles of our busiest highways will be clogged on a daily basis.

Truck congestion wastes **\$27 billion** in time and fuel annually.

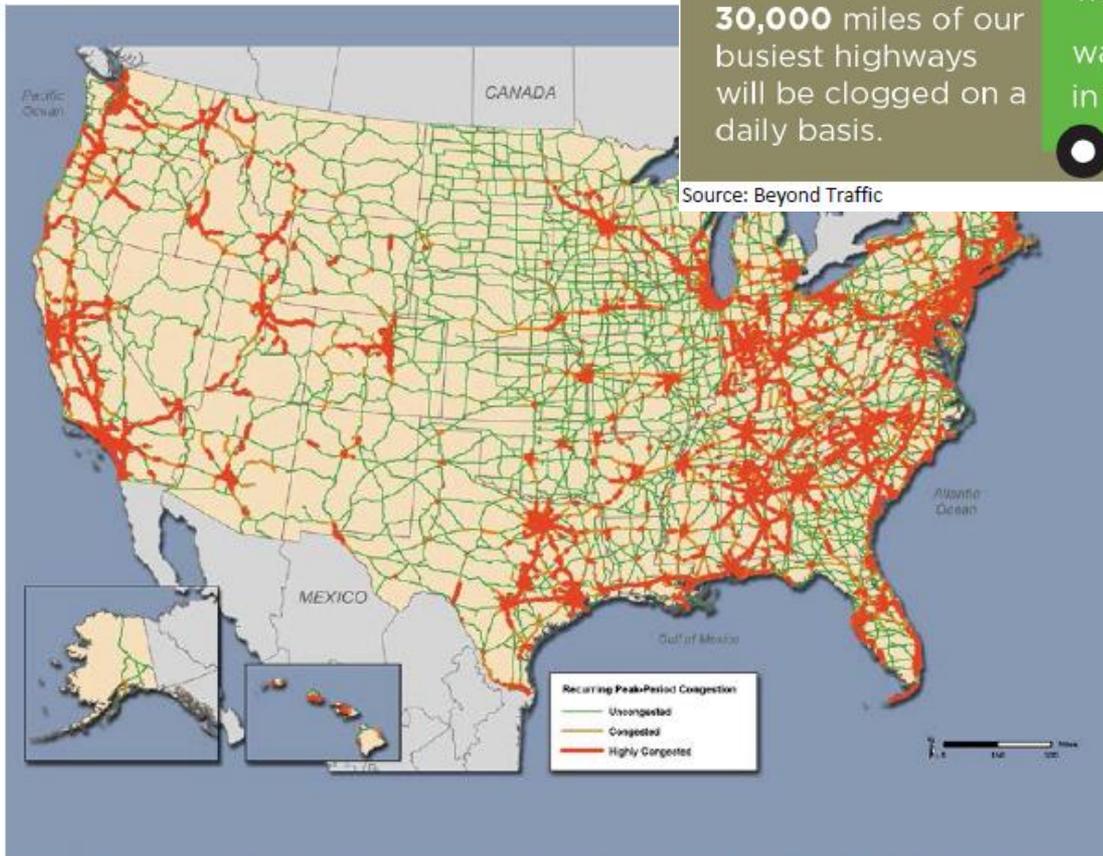


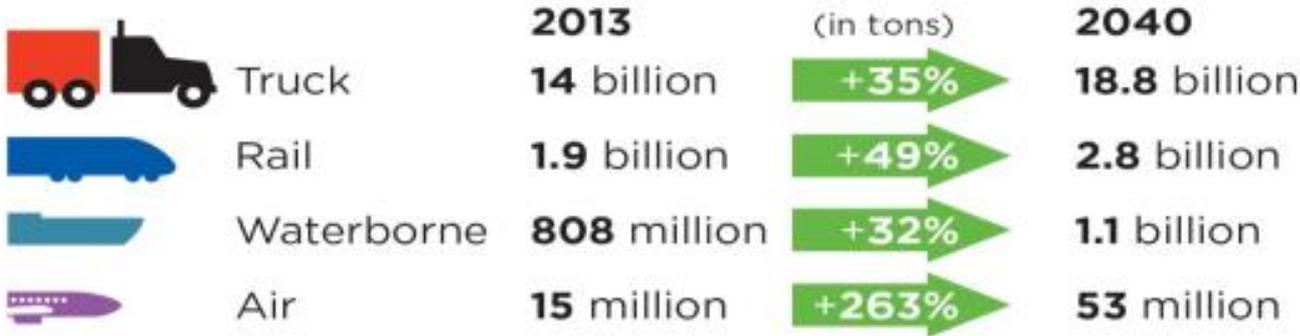
Figure 6. Peak-Period Congestion on the National Highway System: 2040

Key Trends and Challenges in Freight Transportation:



Freight Movement is Multimodal

Every mode of transportation moves freight, but trucking is the primary mode of freight travel.



55
million tons
of freight
move across
our nation
every day

Source: Beyond Traffic

From 1998 to 2012:

- Freight tonnage increased 29%
- Real GDP increased 33%

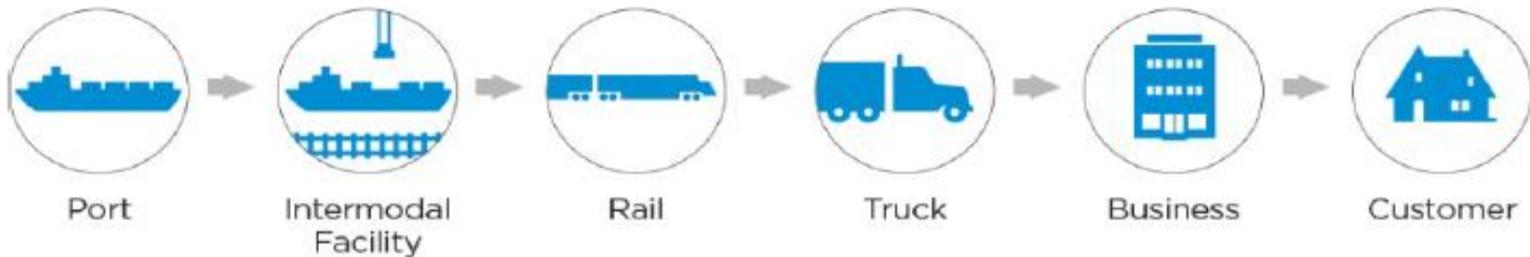
This indicates the US is shifting from a manufacturing economy to a more service oriented economy. It also reflects purchasing higher value, lower weight products (electronics, pharmaceuticals).

Key Trends and Challenges in Freight Transportation:



Intermodal Freight

Intermodal freight, one of the fastest growing sectors of the freight market, involves the transportation of goods in containers using multiple modes of transportation.



Source: Beyond Traffic

“By some calculations, logistics and transportation costs have declined from 16 percent of GDP to 8 percent over the past 30 years. Logistics costs as a share of the American economy are some of the lowest in the world, comparing favorably with Europe and less than half those in China.”

Key Trends and Challenges in Freight Transportation:

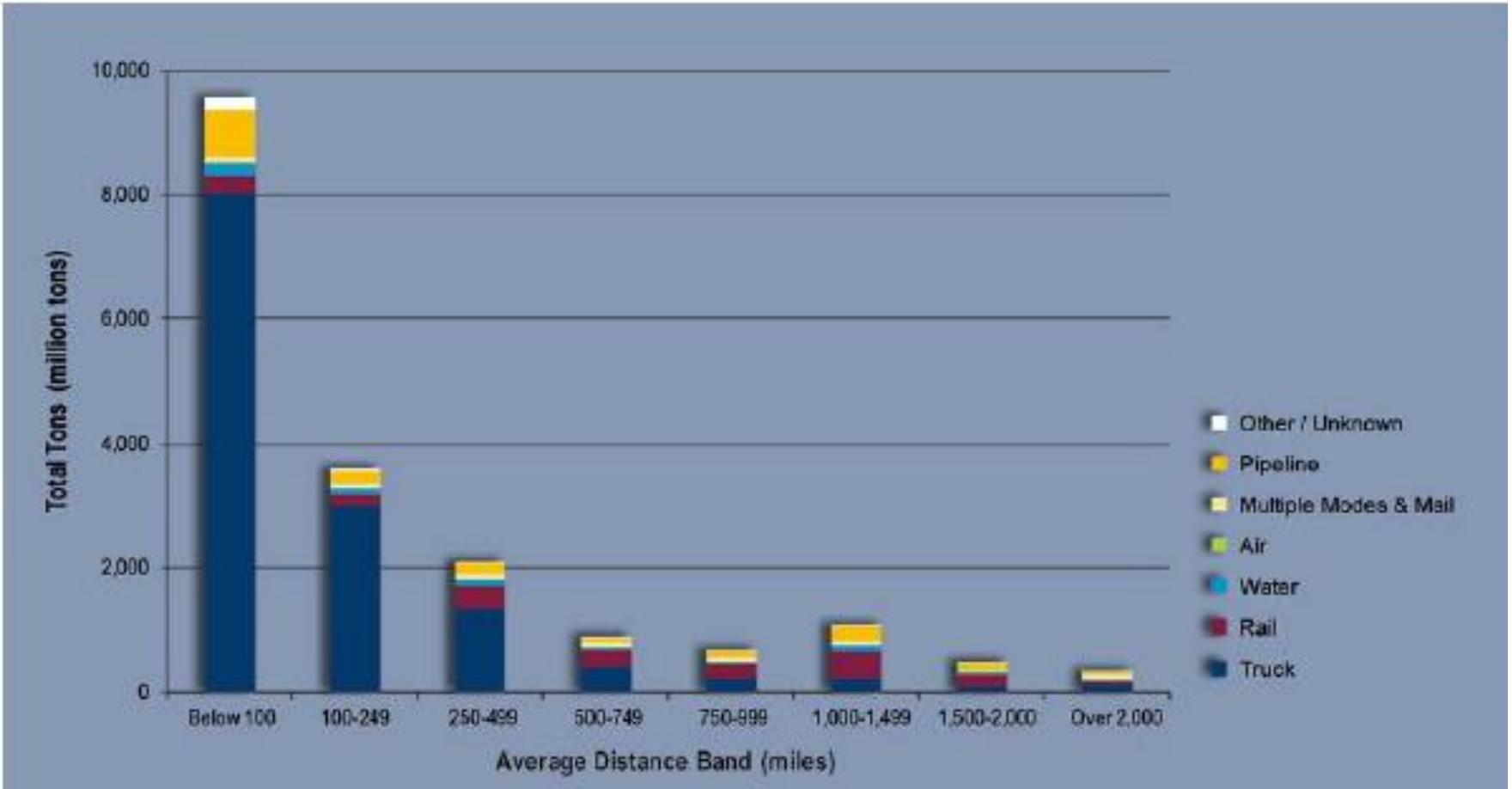


Figure 7. Total Freight Tonnage by Distance Band: 2007

Key Trends and Challenges in Freight Transportation:

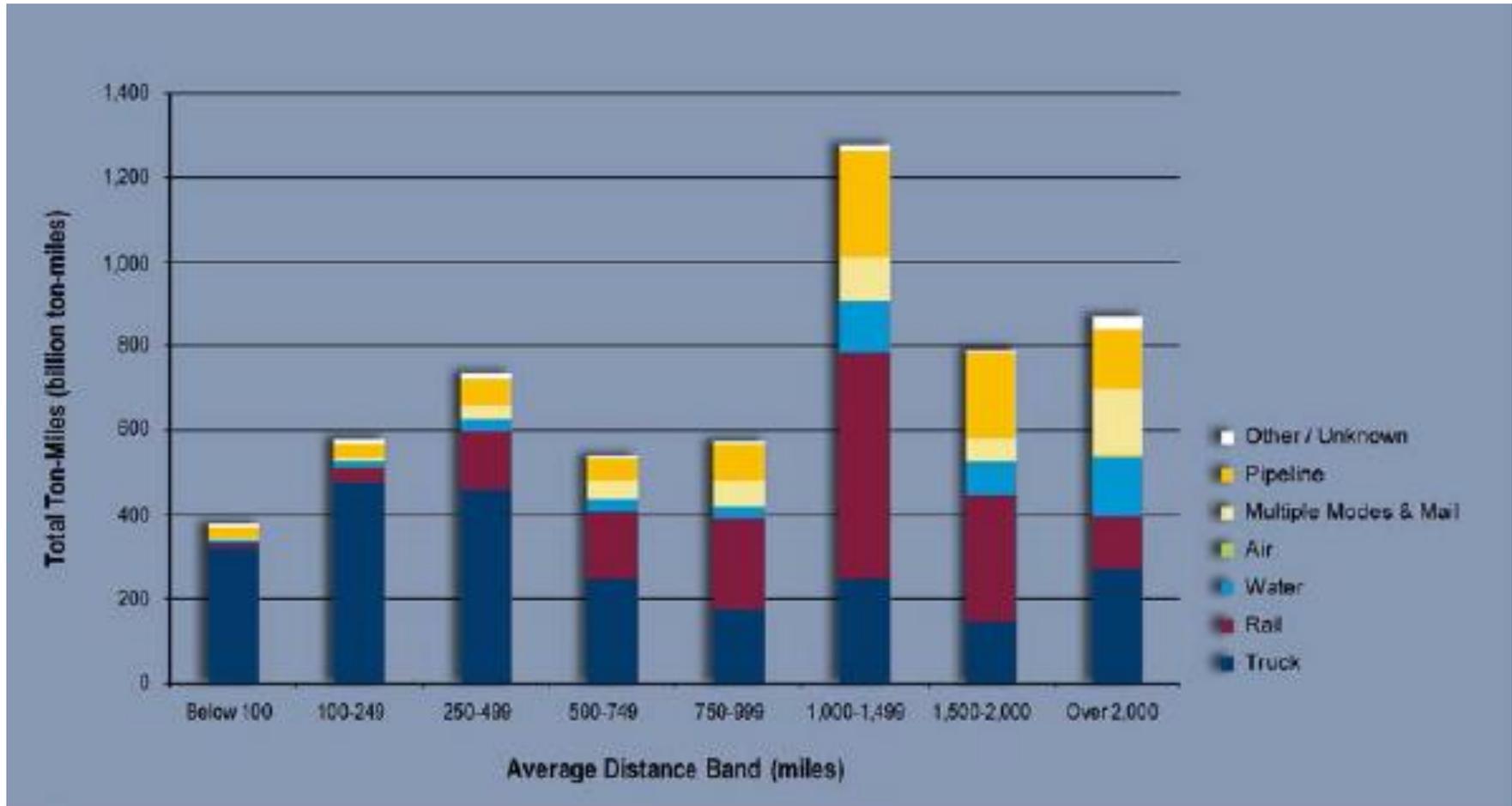
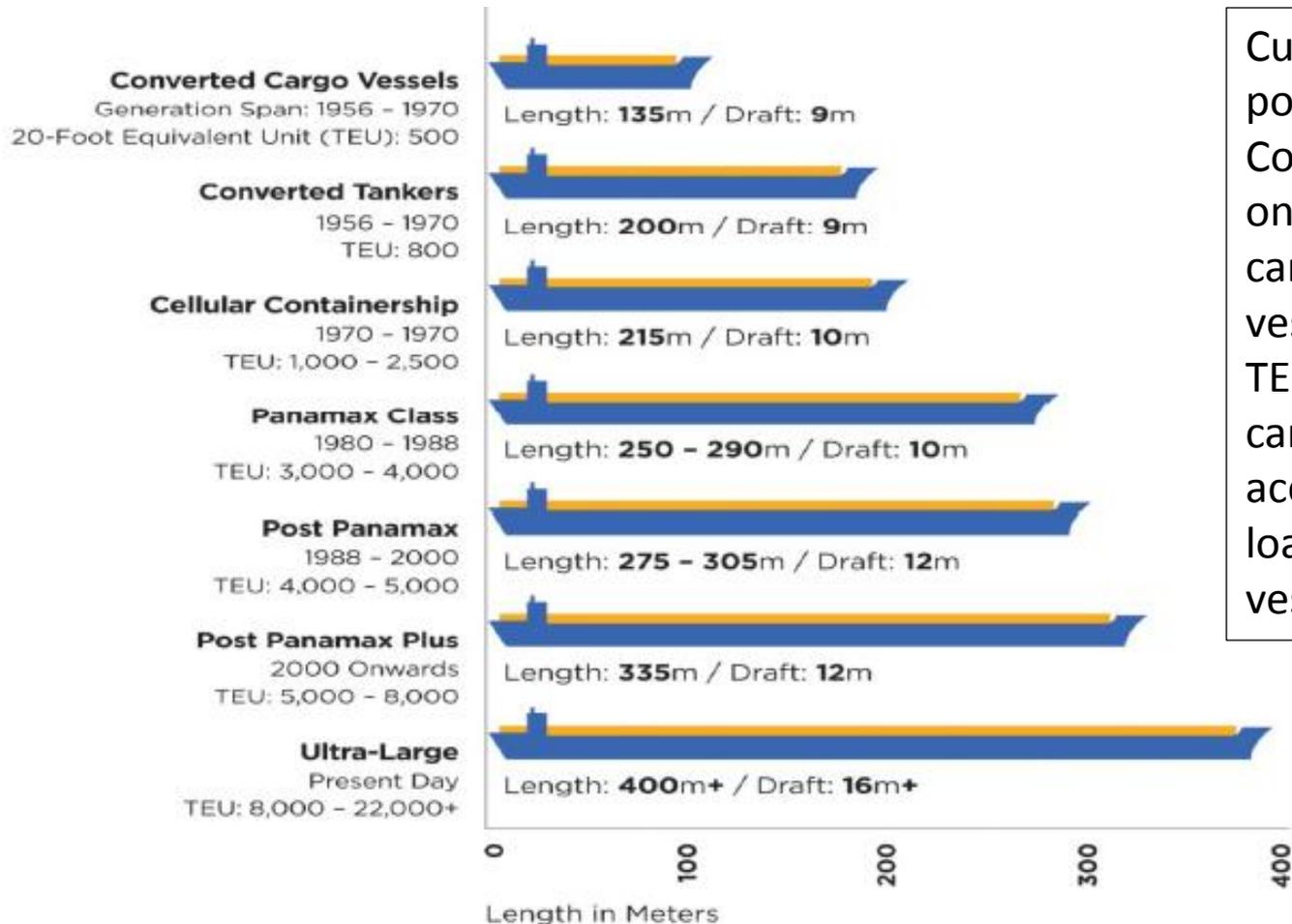


Figure 8. Total Freight Ton-Miles by Distance Band: 2007

Key Trends and Challenges in Freight Transportation: Ship Size



Currently, only four ports on the East Coast and four ports on the West Coast can accommodate vessels over 10,000 TEUs and no port can currently accommodate a fully loaded 18,000 TEU vessel.

Figure 9. Growth in Ship Size over Time (Source: Beyond Traffic)

Key Trends and Challenges in Freight Transportation: Workforce



Top 20 Jobs in Transportation Subsectors by 2012-2022 Projected Total Job Openings due to Growth & Separations

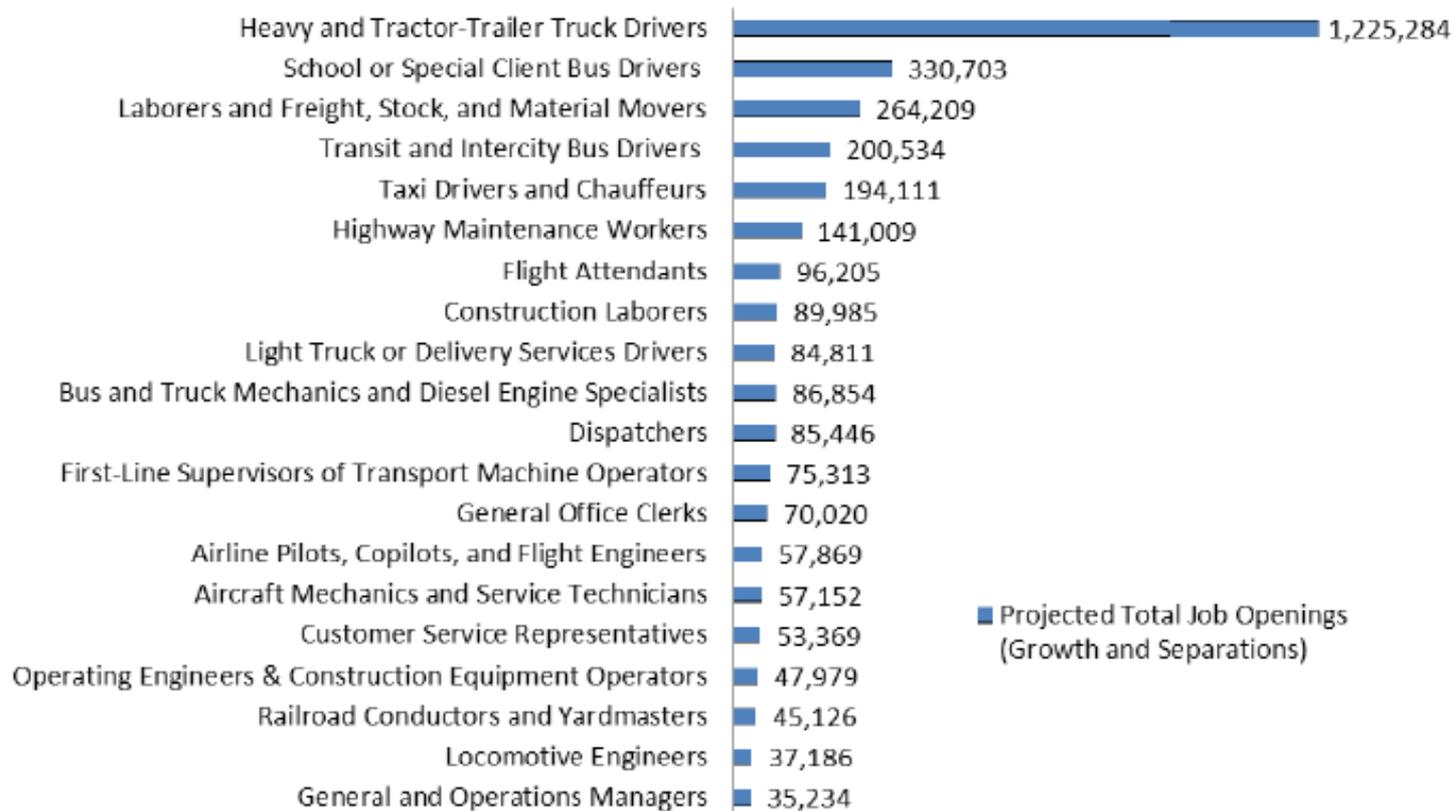


Figure 10. Top 20 Jobs in Transportation Subsectors by 2012-2022

Key Trends and Challenges in Freight Transportation:



2. *Underinvestment in the Freight System.*

- Numerous studies have identified the need for more and better directed investment in freight infrastructure.
- There are seldom public-sector funds dedicated to them and they do not compete well with non-freight projects because of the manner in which public investments are evaluated.
- They (projects) often involve multiple transportation modes, jurisdictions, and stakeholders, each of which may have different objectives or operate under different investment timeframes.
- There may be adequate private sector financing to invest in privately owned freight railroad and pipeline infrastructure....but may not include features to generate public benefits ...unless the private sector believes its investments in these features will result in compensation through freight rates.
- There is growing recognition that the workforce needed to build, maintain, and operate the system—including truck drivers, railroad engineers, skilled planners, and others—will be insufficient unless further investment is made in education, recruitment, and training.

Key Trends and Challenges in Freight Transportation:



3. *Difficulty in Planning and Implementing Freight Projects.*

- Most of our publicly owned freight system (apart from the waterway system) is planned and managed by State and local governments, as well as by Metropolitan Planning Organizations (MPOs).
- These agencies must work with each other and a broad array of Federal and private sector partners, including freight railroads, trucking companies, and pipeline companies.
- This decentralized approach has many benefits, including greater flexibility to identify and react to local needs.
- But when it comes to freight projects, especially those with national-level impacts, this approach presents a number of challenges such as fragmented decision-making.

Key Trends and Challenges in Freight Transportation:



3. *Difficulty in Planning and Implementing Freight Projects.*

The multiplicity of freight stakeholders makes freight planning and coordination difficult. Many participants are involved in maintaining and improving the movement of freight on our nation's transportation system. Included in the mix of participants are:

- More than 40 different U.S. government agencies, including nine organizations within the U.S. DOT
- 52 State DOTs (including those of the District of Columbia and Puerto Rico)
- Many other State agencies that influence transportation decisions, such as State environmental agencies, police/highway patrol agencies, or redevelopment authorities
- Regional and multistate coalitions, ranging from the Mississippi Valley Freight Coalition, to the National Center for Freight and Infrastructure Research and Education, to the Maine DOT Industrial Rail Access Program, to the Alameda Corridor project, to the Interstate 95 Corridor Coalition, among many others
- 342 MPOs
- Thousands of local governments, including counties, municipalities, townships, and special districts
- Hundreds of special transportation authorities such as port and airport authorities and single-purpose agencies such as toll authorities
- 566 Tribal governments
- Many thousands of private entities, including trucking and railroad companies, third- and fourth-party logistics companies, terminal operators, and a vast array of others

Key Trends and Challenges in Freight Transportation:



4. *Continued Need to Address Safety, Security, and Resilience.*

- Recent trends show impressive improvements in freight safety.
- There was a 27 percent increase in freight ton-miles for all surface modes between 1990 and 2011, but freight-related fatalities across all modes declined by 33 percent over that same period.
- More progress must be made. (i.e. Target Zero in Washington State)
- Specific risks associated with our physical and cyber infrastructures—ranging from transport of crude oil by rail to climate change—create vulnerabilities that must be addressed.

Key Trends and Challenges in Freight Transportation: Resilience



4. *Continued Need to Address Safety, Security, and Resilience.*

- Aging infrastructure
- Increasing frequency and severity of weather events
- Escalating threats of climate change
- Presence of major trading centers and freight hubs in coastal areas
- Severe congestion
- Dependence on foreign companies for overseas trade

Key Trends and Challenges in Freight Transportation: Resilience



Top Ten U.S. Ports in 2014 (by Value of Cargo)

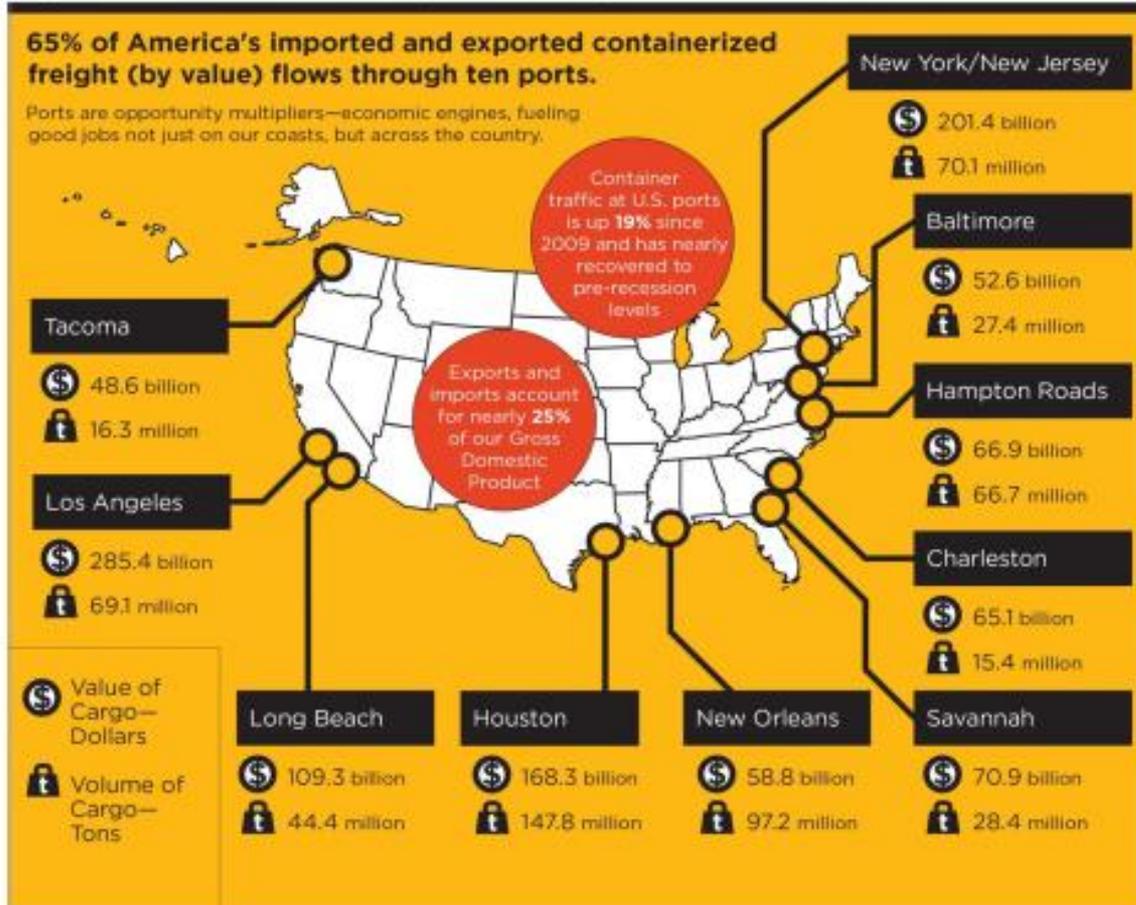


Figure 15. Top Ten U.S. Ports in 2014

(Source: Beyond Traffic)

Key Trends and Challenges in Freight Transportation:



5. *Increased Global Economic Competition.*

- Our economy is increasingly reliant on international trade.
- Many imported goods or goods produced for export are carried overseas in ships that continue to grow in average size.
- Ports must address congestion, dimensional, and equipment-shortage challenges generated by bigger, new-generation container ships as well as the larger bulk ships now able to transit the expanded Panama Canal with grain and energy exports.
- Port authorities are investing to modernize their facilities by dredging harbors, raising bridges, automating and expanding container yards, purchasing larger ship-to-shore cranes, and improving roads and rail connections to surface infrastructure.
- Where port congestion occurs, supply chains are increasingly able to react by changing supply sources, routes, and transportation modes. Even so, notable incidents of congestion (particularly at ports) have occurred over the last several years, most recently due to management-labor disputes on the U.S. West Coast.
- Land border crossings also face rising commercial traffic and congestion; from 1995 to 2012, surface trade between the U.S. and Mexico quadrupled from approximately \$100 billion to \$400 billion per year.
- Additionally, we have recently experienced a surge in domestic energy production and increased domestic manufacturing and assembly work. Ensuring that these products can efficiently reach both domestic and international markets is critical to the long-term success of these industries.

Key Trends and Challenges in Freight Transportation:



6. *Application and Deployment of New Technologies.*

- The freight industry is experiencing a technological revolution as information and communications technologies are applied to optimize global supply chains.
- Better data collection and analysis capabilities will enable faster and more accurate analysis of freight routes, travel times, and infrastructure capacity.
- Advanced automation will increase productivity in the freight industry and change the skill sets needed to work in freight, requiring skilled workers to maintain and operate new technologies.
- Technology will also automate and expedite inspection processes, improving safety and lowering costs.
- Growth in autonomous vehicle technologies may soon transform freight transportation, allowing for increased throughput and more reliable trips on existing capacity.
- Technologies such as positive train control and the Federal Aviation Administration's Next Generation air traffic control systems should also provide additional benefits.

Key Trends and Challenges in Freight Transportation: Disclaimers!



- Projections of these trends are subject to significant amounts of uncertainty.
- New technologies and products may be developed and deployed more quickly than expected; geopolitical events and recessions may suddenly alter growth, trade, and production patterns; and adverse effects of climate change on our coastal cities may arrive sooner.
- As demonstrated by recent fluctuations in oil and coal markets, even near-term freight projections made less than a decade ago can change dramatically.
- The recent severe economic recession upended many projections for both short-term and long-term growth at ports and facilities across the nation.
- The ability of modern supply chain management to respond dynamically to building congestion at one location by using less congested ports or changing freight distribution patterns can alter projections of location-specific delays.



Strategies: A Three Pronged Approach

- Strategies to Address Infrastructure Bottlenecks
- Strategies to Address Institutional Bottlenecks
- Strategies to Address Financial Bottlenecks



Strategies to Address Infrastructure Bottlenecks



- Reduce congestion to improve performance of the freight transportation system
- Improve the safety, security, and resilience of the freight transportation system
- Facilitate intermodal connectivity
- Identify major trade gateways and multimodal national freight networks/corridors
- Mitigate impacts of freight projects/movements on communities (public health emphasis)
- Support research and promote adoption of new technologies and best practices

Strategies to Address Institutional Bottlenecks



- Streamline project planning, review, permitting, and approvals
- Facilitate multijurisdictional, multimodal collaboration and solutions
- Improve coordination between public and private sectors
- Ensure availability of better data and models
- Develop the next generation freight transportation workforce

Strategies to Address Financial Bottlenecks



- Ensure dedicated freight funding
- Use existing grant programs to support freight



Washington State Freight Advisory Committee **Federal** Recommendations

1. The next authorization of the Federal Transportation Act should include dedicated freight transportation funding.
 - a. Dedicated transportation funding should not come at the expense of current programs.
 - i. Consistent, stable federal funding is needed and is preferable to increased federal match dollars as an incentive. For freight projects, an increase of five percent for federal matching funds is often insignificant relative to overall project funding.
 - ii. Federal match percentage increases for one program typically result in a commensurate reduction in percentage match (or available Federal funds) at the state level for a different transportation program.
 - b. Work with Congress and USDOT to improve the freight provisions in MAP-21 by raising the 27,000 mile threshold in the Primary Freight Network (PFN). In the designation of the PFN and in National Strategic Freight Planning, require USDOT to use multimodal methodology and assign higher priority to international trade corridor gateways (including ports, first/last mile connectors, and recognize multimodal hubs and intermodal connectors).
 - c. Work with Congress to support funding streams for dedicated freight-related programs such as TIGER, Projects of Regional and National Significance, and other programs dedicated to the multimodal-multi-jurisdictional freight mobility improvements.
 - d. Work with Congress to re-authorize the Short-line Tax Credit on a minimum of a five-year cycle to ensure short-line capital programs can be properly developed and efficiently administered.
 - e. Work with Congress to expand Section 130 of the Highway Safety Improvement program for grade crossing improvements and separations.
- ✓ 2. Pass the Maritime Goods Movement Act to strengthen the competitiveness of American ports and address issues with the Harbor Maintenance Tax.

Washington State Freight Advisory Committee **Federal** Recommendations



- ✓ 3. Increase revenue to the Inland Waterways Trust Fund so it can adequately pay for major construction and rehabilitation projects. This could be done by increasing the existing diesel tax, imposing lockage or towboat fees, or revising the cost share formula.
- ✓ 4. Work with Congress to make Section 214 of the Water Resources Development Act of 2000 permanent to address ongoing permit wait times and backlogs.
- 5. Work with the FAA and Congress to allow Airport Improvement Program (AIP) grants to be available to air cargo airports for intermodal projects that meet regional freight mobility objectives that support air freight activity. AIP grant spending levels should be protected and used only for aviation-related purposes.
- 6. The U.S. Customs and Border Protection's Vehicle and Cargo Inspection System screening facility should pursue new technology, such as "Rapiscan," which can allow up to 35 mph scanning speed.
- 7. Create an Office of Freight Mobility and Federal Compliance within USDOT to facilitate prioritization of freight projects of national significance and to expedite NEPA permitting.
- 8. Work with federal agencies for standard regulations for trailer size and weight limits.
- 9. Work with Congress to revise the definition of interstate travel to allow 18-20 year old drivers to drive the in-state leg of an interstate shipment. This would help alleviate the state and national driver shortage and create a career path.

Strategies to Address Infrastructure Bottlenecks



Draft National Freight Plan

- Reduce congestion to improve performance of the freight transportation system
 - Work with private sector stakeholders and other partners to make strategic investments in technology research that support congestion mitigation and help facilitate overall freight flows (i.e. E-Manifest)
- Improve the safety, security, and resilience of the freight transportation system
- Facilitate intermodal connectivity
- **Identify major trade gateways and multimodal national freight networks/corridors**
 - **Strategic Highway and Rail Network, Americas Marine Highway Routes**
- Mitigate impacts of freight projects and movements on communities (public health emphasis)
- Support research and promote adoption of new technologies and best practices

WA Freight Advisory Committee

- Work with Congress and USDOT to improve the freight provisions in MAP-21 by raising the 27,000 mile threshold in the Primary Freight Network (PFN). In the designation of the PFN and in National Strategic Freight Planning, require USDOT to use multimodal methodology and assign higher priority to international trade corridor gateways (including ports, first/last mile connectors, and recognize multimodal hubs and intermodal connectors).
- The U.S. Customs and Border Protection's Vehicle and Cargo Inspection System screening facility should pursue new technology, such as "Rapiscan," which can allow up to 35 mph scanning speed.

Strategies to Address Institutional Bottlenecks



Draft National Freight Plan

- Streamline project planning, review, permitting, and approvals
- Facilitate multijurisdictional, multimodal collaboration and solutions
- Improve coordination between public and private sectors
- Ensure availability of better data and models
- Develop the next generation freight transportation workforce

WA Freight Advisory Committee

- Federal regulations should not interfere with modal competition.
- Create an Office of Freight Mobility and Federal Compliance within USDOT to facilitate prioritization of freight projects of national significance and to expedite NEPA permitting.
- Work with federal agencies for standard regulations for trailer size and weight limits.
- Work with Congress to revise the definition of interstate travel to allow 18-20 year old drivers to drive the in-state leg of an interstate shipment. This would help alleviate the state and national driver shortage and create a career path.
- The NEPA or environmental clearance process should be streamlined and a common environmental clearance process should be adopted across federal agencies with overlapping jurisdiction or funding stakes in aviation projects and intermodal projects in which aviation is involved either directly or indirectly.
- Work with the FAA and Congress to allow Airport Improvement Program (AIP) grants to be available to air cargo airports for intermodal projects that meet regional freight mobility objectives that support air freight activity. AIP grant spending levels should be protected and used only for aviation-related purposes.

Strategies to Address Financial Bottlenecks



Draft National Freight Plan

- Ensure dedicated freight funding, i.e. develop a new Federal funding program under Title 49 USC dedicated to multimodal freight projects
- Use existing grant programs to support freight, i.e. TIGER

WA Freight Advisory Committee

The next authorization of the Federal Transportation Act should include dedicated freight transportation funding.

- a. Dedicated transportation funding should not come at the expense of current programs.
 - i. Consistent, stable federal funding is needed and is preferable to increased federal match dollars as an incentive. For freight projects, an increase of five percent for federal matching funds is often insignificant relative to overall project funding.
 - ii. Federal match percentage increases for one program typically result in a commensurate reduction in percentage match (or available Federal funds) at the state level for a different transportation program.

Work with Congress to support funding streams for dedicated freight-related programs such as TIGER, Projects of Regional and National Significance, and other programs dedicated to the multimodal-multi-jurisdictional freight mobility improvements.

Work with Congress to re-authorize the Short-line Tax Credit on a minimum of a five-year cycle to ensure short-line capital programs can be properly developed and efficiently administered.

Work with Congress to expand Section 130 of the Highway Safety Improvement program for grade crossing improvements and separations.



Performance Objectives/Measures

| MAP-21 National Policy Goal ³³ | Performance Objectives | Performance Measure |
|---|---|--|
| <p>6. Improve the economic efficiency of the national freight network.</p> | <ul style="list-style-type: none"> • A sponsor of a project from any freight transportation mode (or combinations of modes) seeking Federal discretionary funds for that project should show that the project's combined benefits to the nation exceed its total costs, to the extent that the Federal government can require such information from the sponsor and the project is not statutorily required. Projects with benefits that exceed costs would promote economic efficiency. • The average time to deliver large projects should be reduced by 33 percent from 2012 levels by 2025 and by 50 percent from 2012 levels by 2035 through the use of best planning, environmental review, contracting, and construction practices, so that States and local agencies can be more responsive to identified freight transportation needs. | <ul style="list-style-type: none"> • Number and percentage of complete benefit-cost analyses for projects seeking Federal discretionary funds, for which the Federal government can require such information, with public and non-jurisdictional benefits and costs clearly identified and commensurate with public funding. • Number of months to move from project proposal to the opening of the project for use in freight movement, with particular focus on the time required to complete Federal environmental and permitting requirements. |
| <p>7. Reduce the environmental impacts of freight movement on the national freight network.</p> | <ul style="list-style-type: none"> • Reduce NO_x and PM-10 criteria emissions from all domestic surface and waterborne freight transportation by at least 40 percent by 2025 and by 70 percent by 2035 compared to 2012 levels, through new standards for cleaner and more fuel efficient trucks, trains, vessels, support for new technologies and alternative fuels, and emphasizing multimodal transportation solutions. • Continued improvements in engine technologies, including the use of new fuels (such as natural gas or hydrogen) and vehicles built from lighter materials, should reduce fuel consumption and emissions from all forms of freight vehicles. • Reduce the number of people exposed to significant aircraft noise by 2018 to less than 300,000 people. | <ul style="list-style-type: none"> • Total tons of criteria emissions by emission type, as measured by EPA in the National Emissions Inventory. • Total tons of GHG emissions produced by freight transportation activity as measured by EPA in its Inventory of U.S. GHG Emissions and Sinks. • Significant noise is defined as Day-Night Average Sound level 65 decibels or greater |

All need additional review

National State Freight Advisory Committee Comments



- Strong support for the Department's efforts to develop a multimodal freight network map-this is in addition to the MAP-21, highway only designation
- Provide a Vision
- Expand the focus beyond the current Administration
- Increase safety focus
- Increase focus on private and public funding
- Provide a future focus in the plan to provide a National signal to States, local governments, MPOs and private sector
- Better address an implementation strategy
- Better and more critical data collection



Next steps for Washington State

- Work with WSDOT, Metropolitan Planning Organizations, stakeholders for a unified response
- Provide draft to Washington State Freight Advisory Committee for review and comment
 - Broad statements of concurrence for framing issues.
 - Points of emphasis:
 - Multimodal Freight Network
 - Primary Freight Network
 - Specific Policies
 - Performance measures

FAST Act-A 5 year Bill.



The National Highway Freight Network and what it means for Washington State:

- 816 Miles/1.99%: Washington State's proportion of the National Highway Freight Network
- Urban corridor designation (10% of WA's network)
- Rural corridor designation (20% of WA's network)
- Interstate system

National Grant Programs:

- Nationally Significant Freight and Highway Projects (\$4.5B)
- Consolidated Rail Infrastructure and Safety Improvements (\$1.1B)

Washington State freight formula funding (\$100M est.)