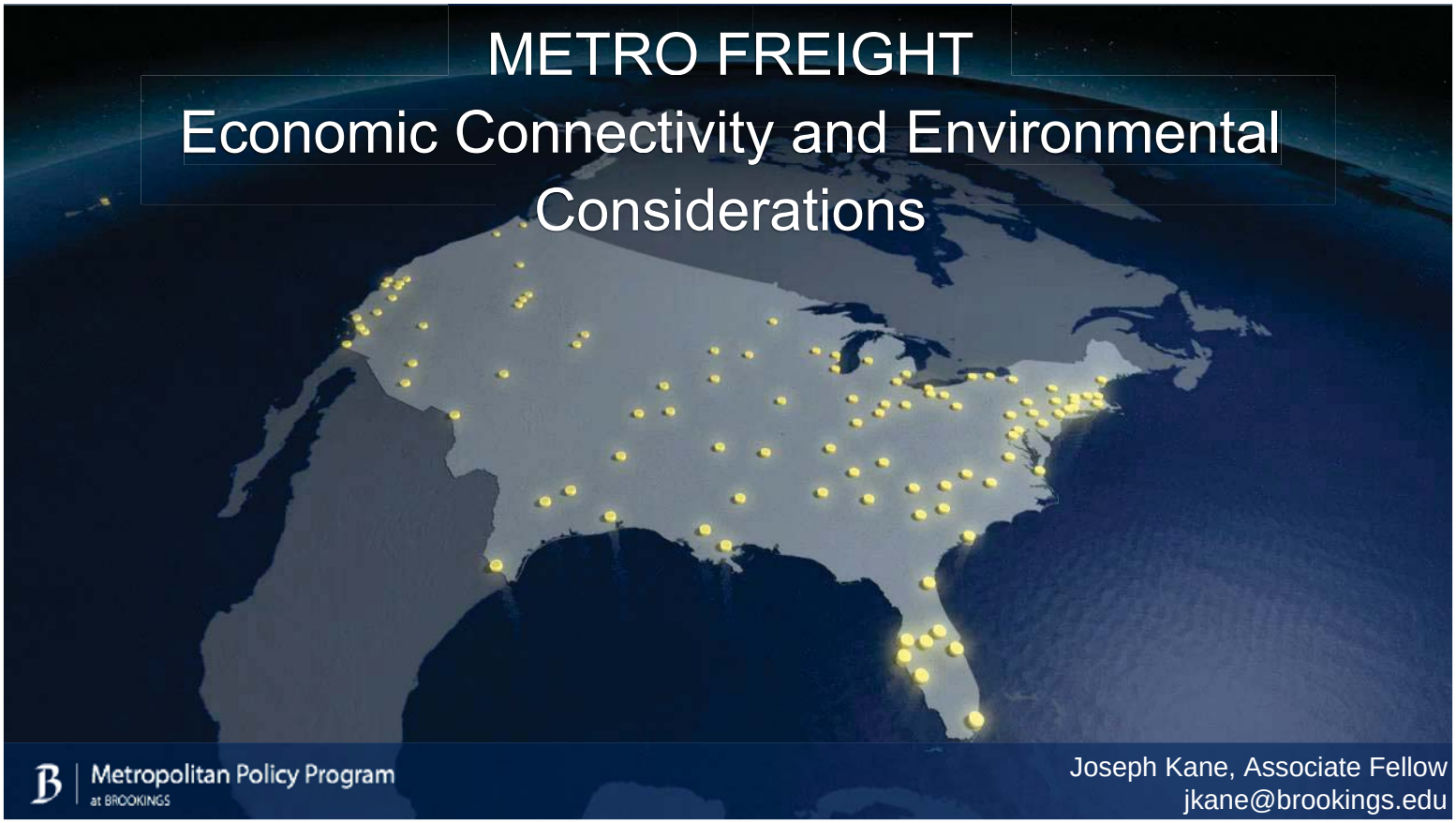
METRO FREIGHT
Economic Connectivity and Environmental Considerations



Metropolitan Policy Program at BROOKINGS

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Project Background

SUMMARY: The Metro Freight research series examines how metro areas often serve as key cogs in the country's domestic and international goods trade networks, with a particular focus on economic connectivity.

Project Background

Research Products

- New Goods Trade Database
- Three Data Interactives
- Six Reports
- Twenty Blogs/Policy Briefs
- Animated Video

Top 100 Metros

Share of US Totals

75% GDP

66% population

12% land area

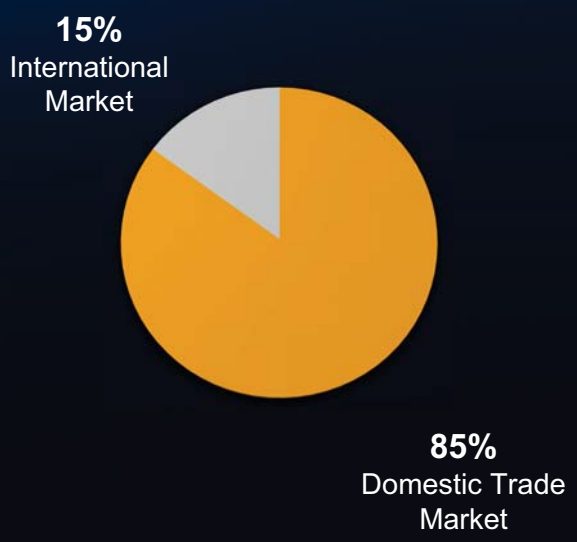
Recalibrating National Trade

$17.2 trillion

domestic trade market

Source: Brookings Institution

National Trade Components



80 percent

traded value starts or ends in large metro areas

Source: Brookings Institution

What Affects Trading Relationships?

Population

Complementary Industries

Logistics Workforce

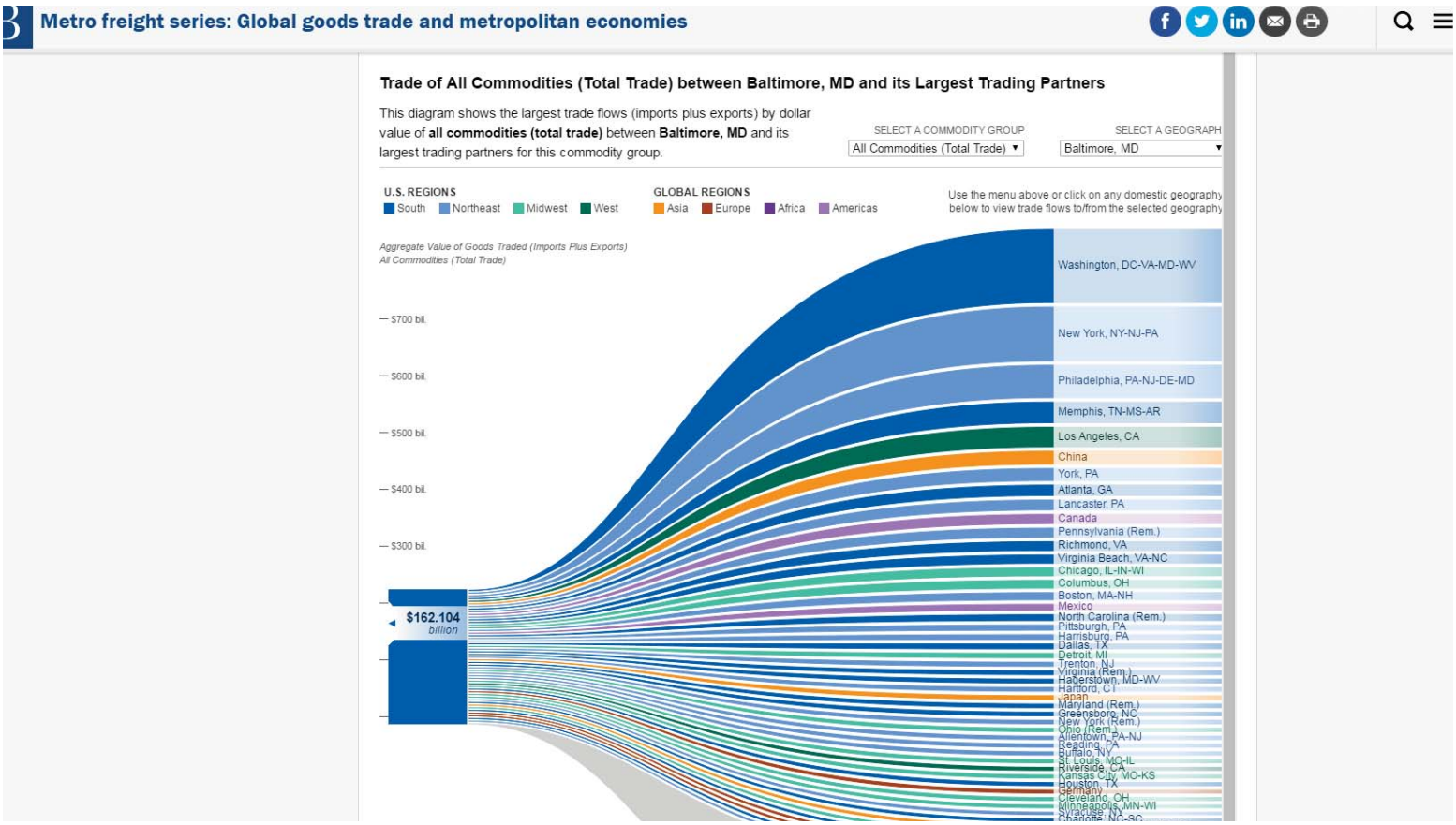
Distance between Markets

Detroit
$111 billion
Transportation Equipment

Minneapolis
$24 billion
Precision Instruments

San Jose
$102 billion
Electronics

Houston
$125 billion
Chemicals + Plastics

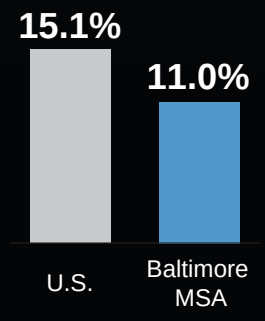


Baltimore Metro Freight Dashboard

Total Goods Trade

$162.1 b

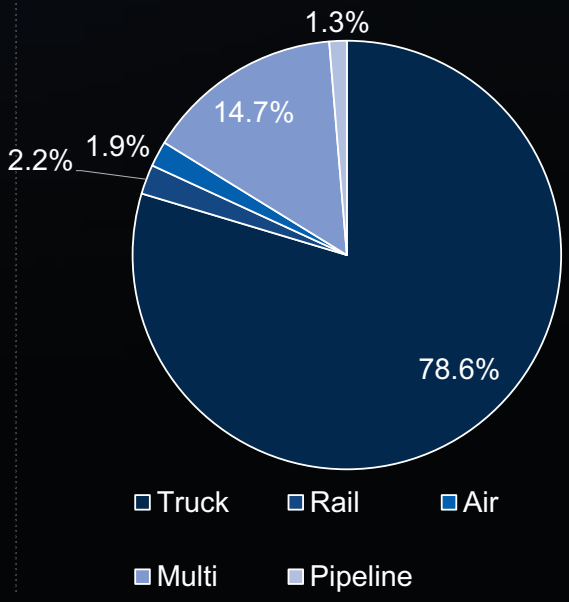
International Trade Share



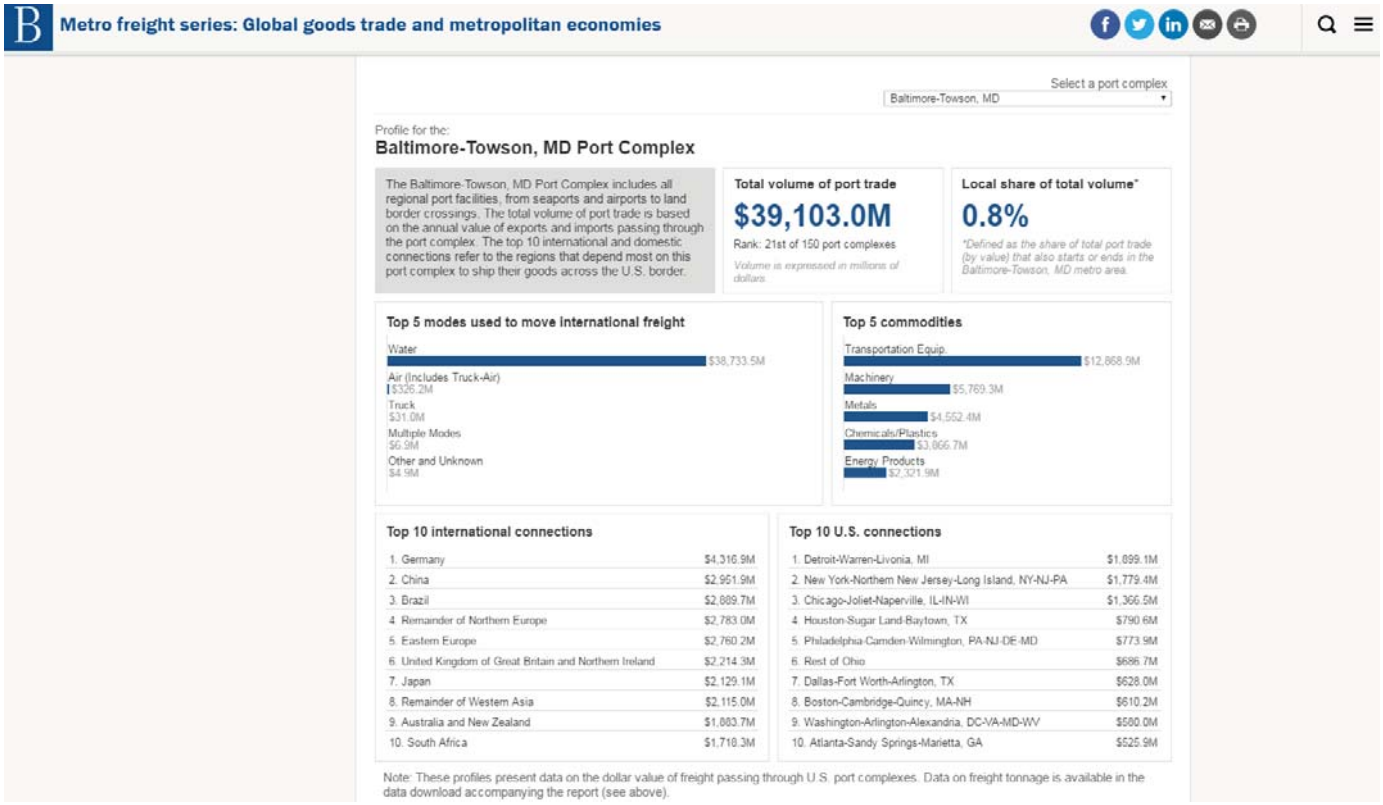
Top Trading Partners ($b)

1	Washington, DC MSA	$20.5
2	New York MSA	$15.1
3	Philadelphia MSA	$9.1
4	Memphis MSA	$5.8
5	Los Angeles MSA	$5.5
6	China	$3.6
7	York PA MSA	$3.4
8	Atlanta MSA	$2.9
9	Lancaster PA MSA	$2.8
10	Canada	$2.6
	Top 10 Totals	**$71.3**

Transportation Modes



Source: Brookings MetroFreight Series



Metro freight series: Global goods trade and metropolitan economies

Select a port complex: Baltimore-Towson, MD

Profile for the:

Baltimore-Towson, MD Port Complex

The Baltimore-Towson, MD Port Complex includes all regional port facilities, from seaports and airports to land border crossings. The total volume of port trade is based on the annual value of exports and imports passing through the port complex. The top 10 international and domestic connections refer to the regions that depend most on this port complex to ship their goods across the U.S. border.

Total volume of port trade

$39,103.0M

Rank: 21st of 150 port complexes

Volume is expressed in millions of dollars.

Local share of total volume*

0.8%

**Defined as the share of total port trade (by value) that also starts or ends in the Baltimore-Towson, MD metro area.*

Top 5 modes used to move international freight

Water	$38,733.5M
Air (Includes Truck-Air)	$326.2M
Truck	$31.0M
Multiple Modes	$6.9M
Other and Unknown	$4.9M

Top 5 commodities

Transportation Equip.	$12,868.9M
Machinery	$5,769.3M
Metals	$4,552.4M
Chemicals/Plastics	$3,866.7M
Energy Products	$2,321.9M

Top 10 international connections

1. Germany	$4,316.9M
2. China	$2,951.9M
3. Brazil	$2,889.7M
4. Remainder of Northern Europe	$2,783.0M
5. Eastern Europe	$2,760.2M
6. United Kingdom of Great Britain and Northern Ireland	$2,214.3M
7. Japan	$2,129.1M
8. Remainder of Western Asia	$2,115.0M
9. Australia and New Zealand	$1,883.7M
10. South Africa	$1,718.3M

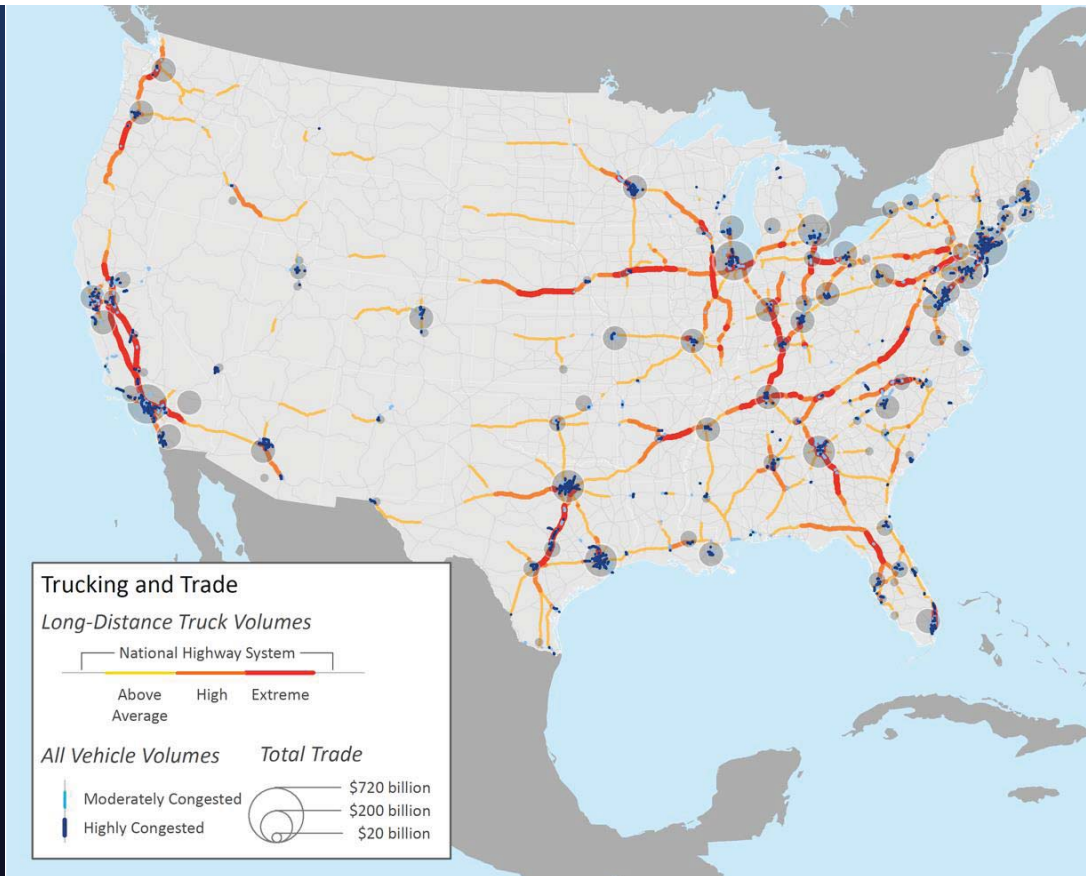
Top 10 U.S. connections

1. Detroit-Warren-Livonia, MI	$1,899.1M
2. New York-Northern New Jersey-Long Island, NY-NJ-PA	$1,779.4M
3. Chicago-Joliet-Naperville, IL-IN-WI	$1,366.5M
4. Houston-Sugar Land-Baytown, TX	$790.6M
5. Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	$773.9M
6. Rest of Ohio	$686.7M
7. Dallas-Fort Worth-Arlington, TX	$628.0M
8. Boston-Cambridge-Quincy, MA-NH	$610.2M
9. Washington-Arlington-Alexandria, DC-VA-MD-WV	$580.0M
10. Atlanta-Sandy Springs-Marietta, GA	$525.9M

Note: These profiles present data on the dollar value of freight passing through U.S. port complexes. Data on freight tonnage is available in the data download accompanying the report (see above).

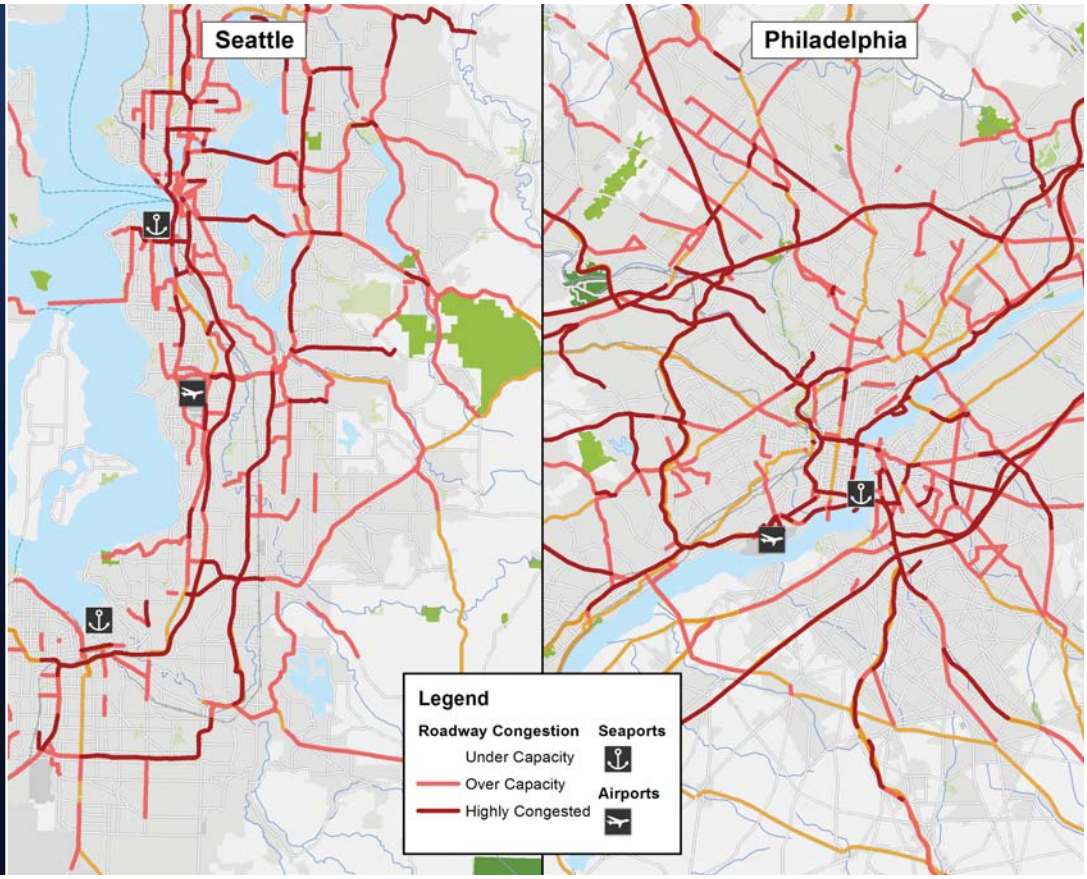
Source: Brookings Institution

Specific places matter in our freight network, many of which face growing congestion that ripples nationwide



Source: Brookings MetroFreight Series and FAF

Congestion is especially bad in metro cores, limiting logistical efficiencies, resulting in delays, and added pollution



Source: Brookings MetroFreight Series and FAF

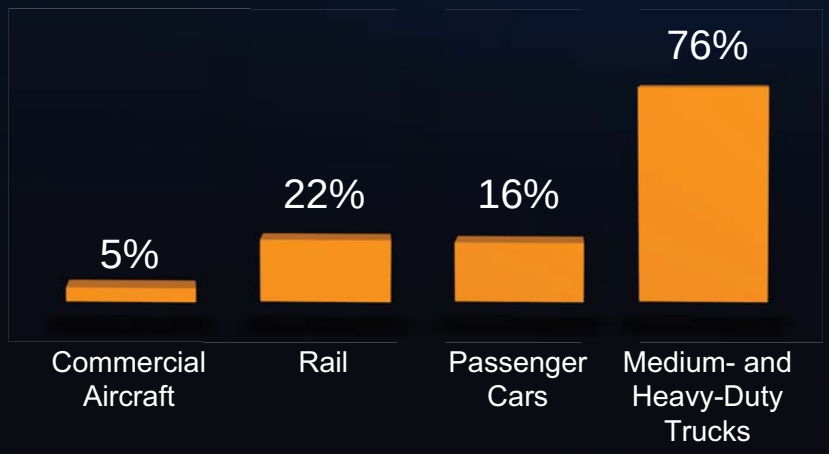
Projected Growth in Vehicle Miles Traveled (VMT): Spring 2016

Vehicle Class	Compound Annual Growth Rates					
	Low Economic Growth Outlook*		Baseline Economic Growth Outlook*		High Economic Growth Outlook*	
	2014 - 2034 (20 Year)	2014 - 2044 (30 Year)	2014 - 2034 (20 Year)	2014 - 2044 (30 Year)	2014 - 2034 (20 Year)	2014 - 2044 (30 Year)
Light-Duty Vehicles	0.69%	0.44%	0.81%	0.47%	0.80%	0.46%
Single-Unit Trucks	1.31%	1.05%	1.73%	1.50%	2.00%	1.72%
Combination Trucks	1.59%	1.44%	2.08%	1.87%	2.48%	2.24%
Total	0.76%	0.53%	0.92%	0.61%	0.96%	0.65%

Source: FHWA

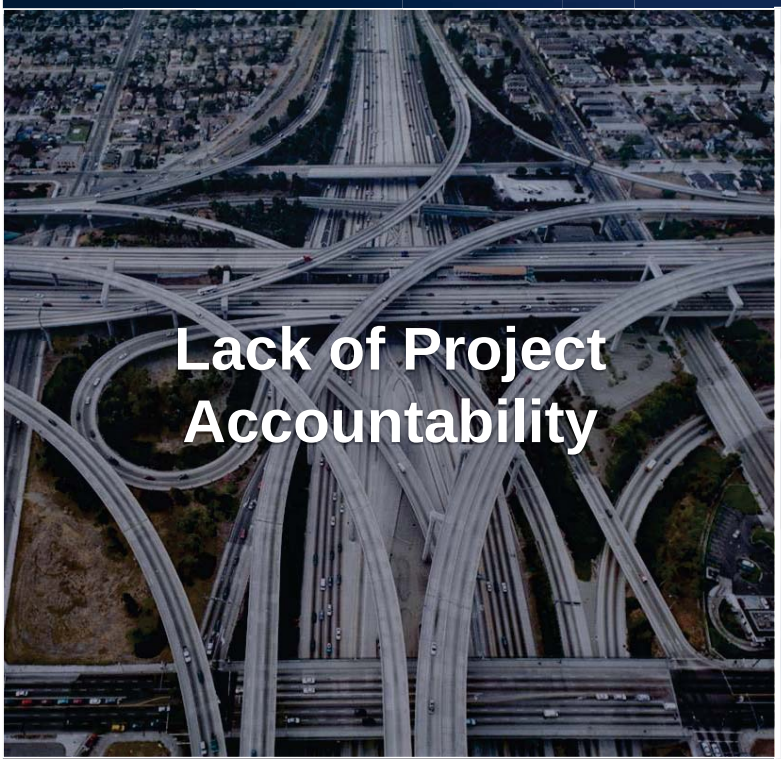
Change in GHG Emissions

1990 to 2014



Source: Brookings analysis of EPA data

Many Policies Sidestep Economic and Environmental Priorities



We need a new federalist freight policy framework:

FEDERAL

Maintain current assets while prioritizing investment in congested places

STATE

Form stronger partnerships with neighboring states and local metro areas

LOCAL

Innovate land uses to grow industry and assist first- and last-mile freight

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