METRO TRADE
Regional Economies and the Role of Freight Transportation
Better Growth: We Need More Jobs

Post-Recession U.S. Jobs Gap
Since start of recession

Payroll Count Jobs Gap
Growth-Based Jobs Gap

Better Incomes: We Need Rising Wealth for the Economy and for People

Change in Output Per Capita and Median Household Income Since 1990

- Output per capita: +$13,772
- Median income: -$1,310

Greater Inclusion: We Need to Extend Opportunity

Unemployment Rate by Race
2014Q4

<table>
<thead>
<tr>
<th>Race</th>
<th>Total</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.7%</td>
<td>10.8%</td>
<td>6.6%</td>
<td>4.9%</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Unemployment Rate by Age
Recession through 2014Q4

<table>
<thead>
<tr>
<th>Age Group</th>
<th>2007</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 to 19 years old</td>
<td>16%</td>
<td>18%</td>
</tr>
<tr>
<td>20 to 24 years old</td>
<td>8%</td>
<td>11%</td>
</tr>
<tr>
<td>25 and Older</td>
<td>4%</td>
<td>5%</td>
</tr>
</tbody>
</table>

To prosper, public leaders are beginning to recognize the importance of trade.
Trade prioritization requires a new perspective on freight trends.
What’s the future of American freight planning and investment?
To prosper, public leaders are beginning to recognize the importance of trade.
Global Competition Is Fierce, with Growth Shifting Away from the United States

Global Economic Growth

- 22.8% US
- 17.5% BIC Countries

Source: International Monetary Fund, World Economic Outlook Database, October 2013
Global Competition Is Fierce, with Growth Shifting Away from the United States

Global Economic Growth

20.6% US

25.9% BIC Countries

2018

Source: International Monetary Fund, World Economic Outlook Database, October 2013
Since 1950 the global urban population has tripled in size, and will reach 5 billion by 2030.

$21$ trillion

Global middle class consumption in 2000


Source: OECD
Rapid Urbanization Is Fueling the Growth of a Global Middle Class

Since 1950 the global urban population has tripled in size, and will reach 5 billion by 2030.


$31 \text{ trillion}

global middle class consumption in 2020

Source: OECD
Second, Technological Advances Are Rapidly Disrupting Markets

McKinsey & Company: $33 trillion per year
maximum estimated global economic impact of 12 technology platforms through 2025

Traded Sectors Are the Engines of Local and National Economic Growth

Advanced industries drive exports and innovation

Share of U.S. Totals

- Jobs: 8.9%
- GDP: 17.9%
- Exports: 81.2%
- Patents: 90.3%
- R&D: 57.5%

Source: Brookings Institution, forthcoming
STEM Jobs Offer a Hefty Wage Premium Over Jobs in Other Fields

STEM Job Wage Premium by Degree Attainment

In thousands

All Goods Producing Industries—Not Just AI’s—Still Matter

22% share of economic output in goods producing industries

Source: Brookings Analysis of Moody’s Economy.com Data
Trade-Related Infrastructure Jobs Are an Equity Driver

6,600,000
trade-related infrastructure jobs

Source: Brookings Institution
Trade prioritization requires a new perspective on freight trends
What Affects Trading Relationships?

Population
Complementary Industries
Logistics Workforce
Distance between Markets
Electronics trade demonstrates long-distance flows
Meanwhile, mixed freight travels shorter distances
77 percent share of trade crossing state borders

Source: Brookings Institution
U.S. International Trade

NAFTA vs. BRICS, Japan, Korea, 2012

Canada

Mexico

Canada

$1.2 tn

$1.2 tn

South Africa

Russia

India

Brazil

Korea

Japan

China
Share of U.S. Value in Imports to the United States

- European Union: 2%
- China: 4%
- Canada: 25%
- Mexico: 40%
Detroit  $111 billion  Transportation Equipment

Minneapolis  $24 billion  Precision Instruments

San Jose  $102 billion  Electronics

Houston  $125 billion  Chemicals + Plastics
80 percent traded value starts or ends in large metro areas

Source: Brookings Institution
Specific places matter in our freight network, many of which face growing congestion that ripples nationwide.
Congestion is especially bad in metro cores, limiting logistical efficiencies for key freight assets.

Source: Brookings MetroFreight Series and FAF
Urban Trucking Has Far Outpaced Passenger Vehicles and Population

Source: Brookings analysis of BFHWA and Census data
E-commerce Will Only Intensify Trucking Volumes

E-Commerce as Share of All Retail Sales

Source: Brookings analysis of Census data
How does this play-out in Minnesota?
Minnesota Freight Dashboard

Total Goods Trade

$393.0 b

International Trade Share

15.1% 17.0%

U.S. MN

Top Trading Partners

1 Minneapolis-St. Paul $28.5
2 Non-Metro Minnesota $26.5
3 Chicago $19.2
4 China $13.7
5 Non-Metro Wisconsin $11.0
6 Canada $10.9
7 Non-Metro Iowa $10.7
8 Mexico $8.0
9 Los Angeles $7.3
10 Rochester (MN) $7.1

Top 10 Totals $142.9

Transportation Modes

Source: Brookings MetroFreight Series
Minnesota is an average freight-producing state ... but with clear industrial strengths

**Industrial Location Quotients**

- Agriculture / Food: 1.6
- Stones / Ores: 0.8
- Energy Prods.: 0.3
- Chemicals / Plastics: 0.5
- Wood / Paper Prods.: 1.6
- Textiles / Leather: 0.4
- Metals / Clay / Glass: 0.7
- Machinery: 1.0
- Electronics: 1.3
- Transport Equip.: 0.4
- Precision Instruments: 2.5
- Furniture Products: 1.0
- Pharmaceuticals: 0.3
- Tools / Mfg. Products: 1.2
- TOTAL: 1.1

Source: Brookings analysis of Moody's data
Non-Metro Minnesota trades agriculture in surrounding region

Source: Brookings Institution
Meanwhile, MSP’s precision instruments are a more global industry

Source: Brookings Institution
What’s the future of American freight planning and investment?
A Structural Change to the Federal Budget

2012

- 57.4% mandatory spending
- 6.3% interest
- 36.3% discretionary spending

2023

- 61.6% mandatory spending
- 14.4% interest
- 24.0% discretionary spending

INFRASTRUCTURE
EDUCATION
HOUSING
DEFENSE
R&D
Federal and State Policies Sidestep Economic Priorities

Lack of Project Accountability

Ambiguous Metrics
Lane Mileage Has Not Kept Up with Population

- Freeways
- Other Principal Arterials
- Total Mileage
- Population

Source: Brookings analysis of Census and FHWA data
Intermodal Volumes Grew Faster Than All Other Modes

Source: Brookings analysis of BTS and BEA data
Transportation Funding Increases Since 2008

- **Approved Gas Tax Increase**
- **Debating Gas Tax Increase**
- **Passed Ballot Measure**
PORT MIAMI

Deep Dredge Project

$220 million project, **funded solely through state & local resources**

Port of Miami Tunnel

Innovative **public-private partnership**

Intermodal Rail Reconstruction Project

Financed with competitively-awarded federal funds to a **partnership of the port, county & railway**
How do we get more done?
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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