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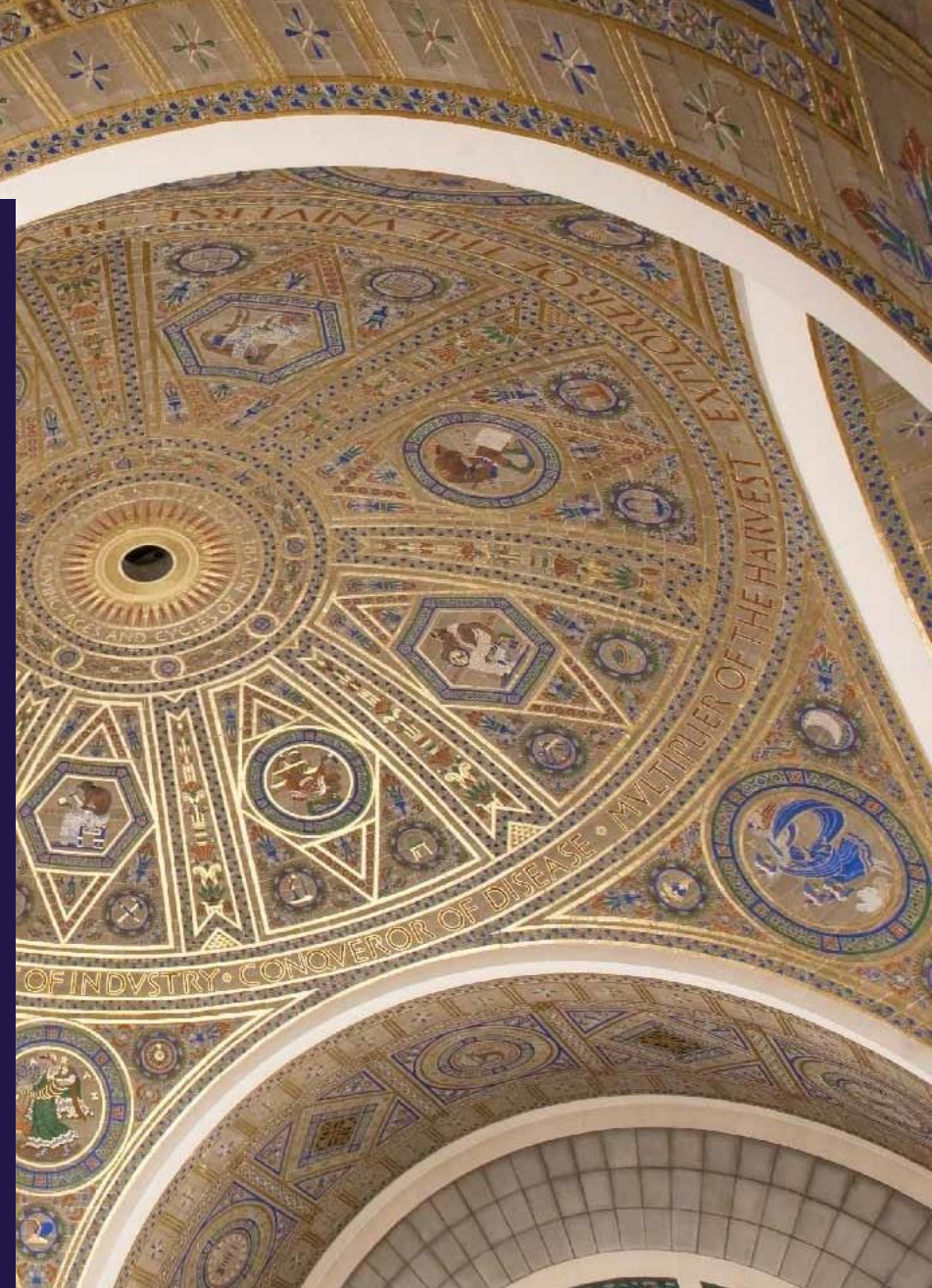
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TRB TRANSPORTATION RESEARCH BOARD

TRB Webinar: Building and Sustaining a Competitive Economy

October 21, 2025

12:00PM – 1:30 PM



AICP Credit Information

1.5 American Institute of Certified Planners Certification Maintenance Credits

You must attend the entire webinar

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Purpose Statement

This webinar will explore how transportation benefits and costs influence the development of a strong, competitive economy. Presenters will discuss how transportation supports economic growth and supply chain resilience, examine strategies to align infrastructure investment with economic development goals, and highlight performance measures that demonstrate the economic impact of transportation systems.

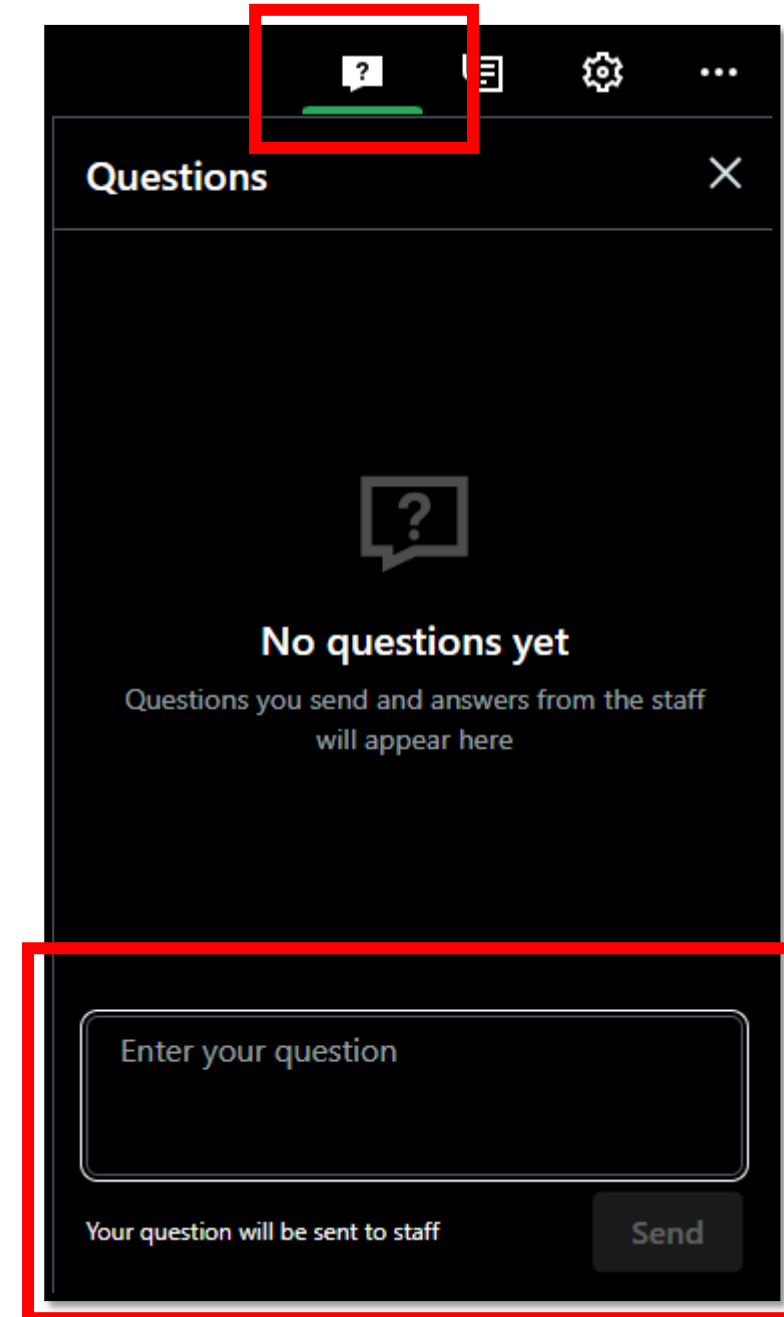
Learning Objectives

At the end of this webinar, you will be able to:

- (1) Describe the ways in which transportation is an enabler of economic activity and an indicator of economic health
- (2) Consider strategies that align transportation infrastructure with economic development goals
- (3) Describe the role of transportation in supply chain logistics, and how it affects economic outcomes

Questions and Answers

- Please type your questions into your webinar control panel
- We will read your questions out loud, and answer as many as time allows



The screenshot shows a dark-themed mobile application interface for a webinar Q&A session. At the top, a navigation bar contains several icons: a question mark icon (highlighted with a red box), a list icon, a settings gear icon, and a three-dot menu icon. Below the navigation bar is a header titled "Questions" with a close button (X) on the right. The main content area displays a large question mark icon and the text "No questions yet" followed by "Questions you send and answers from the staff will appear here". At the bottom, there is a text input field with the placeholder "Enter your question" (highlighted with a red box). Below the input field, the text "Your question will be sent to staff" is displayed next to a "Send" button (also highlighted with a red box).

Today's presenters



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U.S. Department of Transportation
Bureau of Transportation Statistics

Transportation and the Economy: Concepts and Statistics

Rolf R. Schmitt

TRB Webinar on Building and Sustaining a Competitive Economy
October 21, 2025



Transportation and the Economy

- Transportation as *an economic activity*
 - \$750 billion spent on motor vehicles and parts and another \$449 billion on fuel and lubricants
 - \$617 billion in personal consumption of transportation services
 - \$167 billion in public investment and \$342 billion in private investment
 - 16 million workers in transportation and transportation-related industries



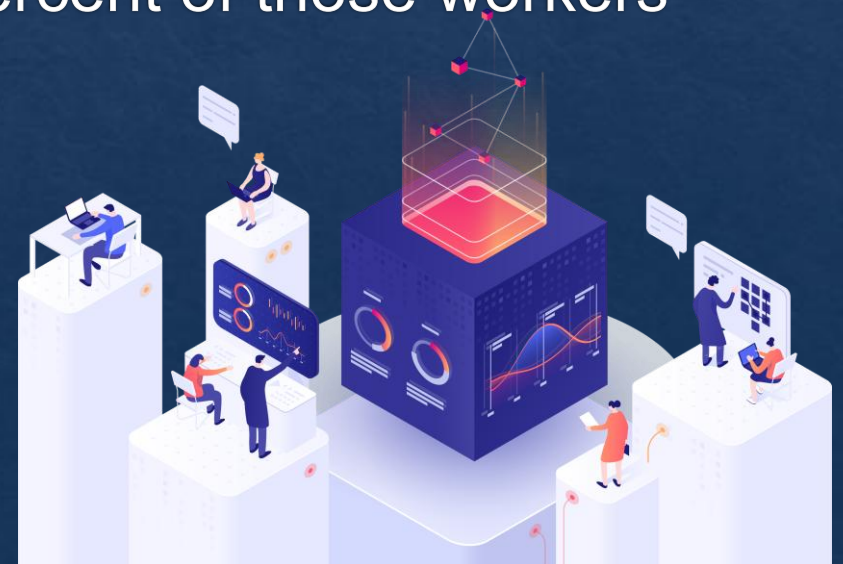
Transportation and the Economy

- Transportation as *a contributor to the economy*
 - Transportation accounts for almost 10 percent of final demand
 - Value added by for-hire and own-account transportation services to the production of goods and services is 5 percent of GDP



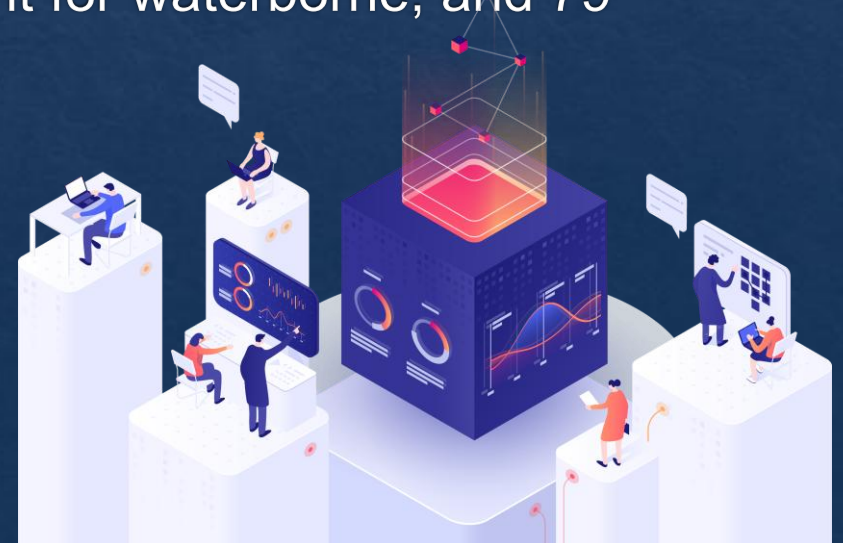
Transportation and the Economy

- Transportation as *an enabler of economic activity*
 - Connecting producers, suppliers, and markets: over 50 million tons of freight valued at more than \$51 billion move each day.
 - Connecting workers to businesses: about 136 million workers travel by personal vehicle, public transit, and bicycle an average of 28 minutes from home to their worksite, and 9 percent of those workers commute to places more than an hour away.



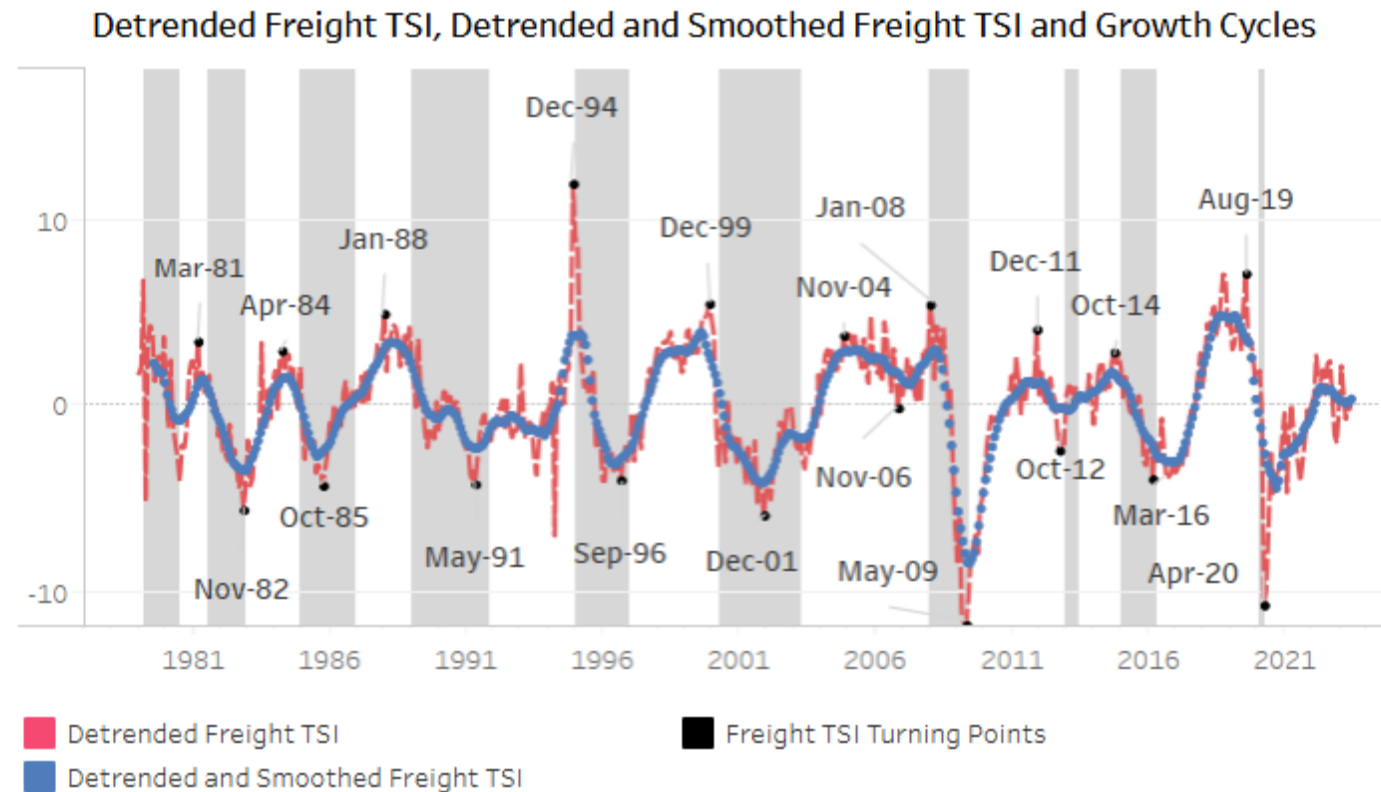
Transportation and the Economy

- Transportation as *a cost*:
 - \$1.9 trillion (10.1percent) of total national household spending.
 - Over the past 20 years, the overall cost of transportation to households increased 66 percent, including 32 percent for new and used motor vehicles, 85 percent for fuel, and 160 percent for motor vehicle insurance
 - Over the past 20 years, the cost of transportation to businesses increased 64 percent for air transport, 108 percent for rail, 98 percent for waterborne, and 79 percent for trucking



Transportation and the Economy

- Transportation as *a surrogate measure of economic health*

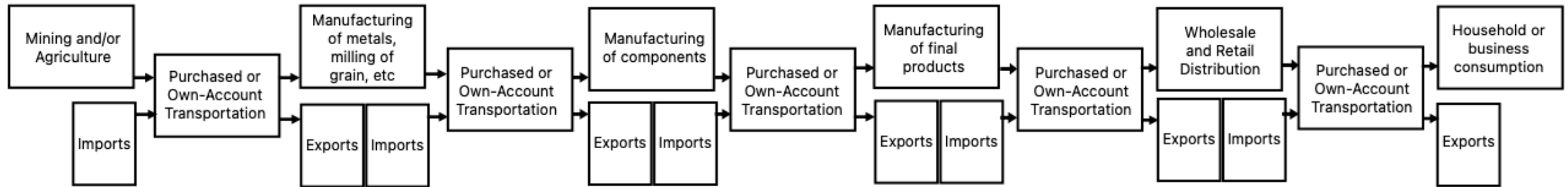


Economics vary across the Four Worlds of Transportation

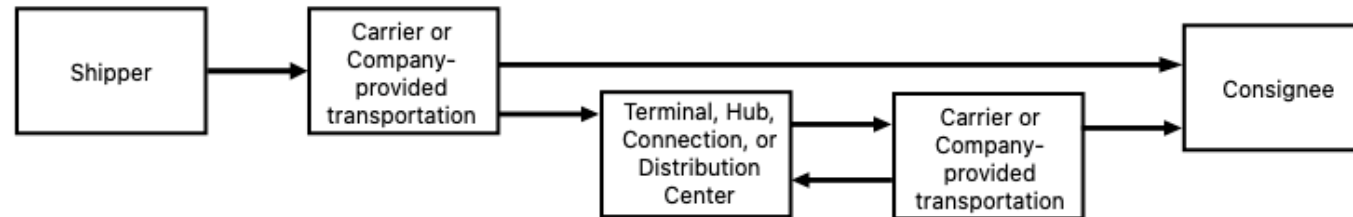
- Passenger transportation
 - Local
 - Long distance
 - Long distance effects on local
- Freight transportation
 - High-value high-velocity
 - Bulk freight systems



Total Supply Chain



Transportation Supply Chain within Each "Purchased or Own-Account Transportation" Box



The role of freight transportation in supply chains



Additional thoughts

- Freight transportation is not just for manufacturing; services need freight infrastructure as well
 - The hospital example
- The economy changes faster than transportation infrastructure
 - The Key Bridge example



Sources of statistics on transportation and the economy

- Transportation Economic Trends (<https://data.bts.gov/stories/s/28tb-cpjy>)
- Transportation Services Index (<https://data.bts.gov/stories/s/9czv-tjte>)
- Transportation Satellite Account (<https://www.bts.gov/satellite-accounts>)
- Freight Analysis Framework (<https://www.bts.gov/faf>)
- Freight and Supply Chain Indicators (<https://www.bts.gov/freight-indicators>)
- Census Commuting Data
(<https://www.census.gov/topics/employment/commuting/guidance/acs-1yr.html>)



For further information

WWW.BTS.GOV

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An official website of the United States government [Here's how you know](#)

Find the latest Coronavirus-related transportation statistics on the [BTS COVID-19 landing page](#)

United States Department of Transportation

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July 2021 Freight Transportation Services Index (TSI)



July Airline Industry Employment Ticks Up Nearly 1% from June, Remains 3.7% Below Pre-Pandemic July 2019



U.S. Airlines July 2021 Fuel Use Up 9.6% from June but 20% Lower than in Pre-Pandemic July 2019

What statistics does BTS have, and where can I find what I'm looking for?



Comparing Post-9/11 Air Travel to COVID-19 Disruptions

What shape will a recovery take?

Data Highlights

Transit and Ground Passenger Transportation Employment
382K June 2021, +83.K from 2020

Docked Bikeshare Trips, Largest 5 Systems
3.54M May 2021, +1.53M from 2020

Heavy Truck Sales
38.3K May 2021, +14.7K from 2020

North American Transborder Freight
\$109B May 2021, up \$52.9B from 2020

General Aviation Fatalities
18 June 2021, -12 from 2020

Regular Gasoline Prices
\$3.06/gal June 2021, +\$1.00/gal from 2020

Newsroom

July 2021 Freight Transportation Services Index (TSI)
SEPTEMBER 9, 2021

COVID & Transportation

Learn how the COVID-19 pandemic has affected freight and passenger transportation in the U.S.



U.S. Department of Transportation
Bureau of Transportation Statistics

Transportation in Supply Chain Logistics and in the Economy: Subject to Disruption

**Transportation Research Board Webinar
October 21, 2025**

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Director, Transportation Consulting

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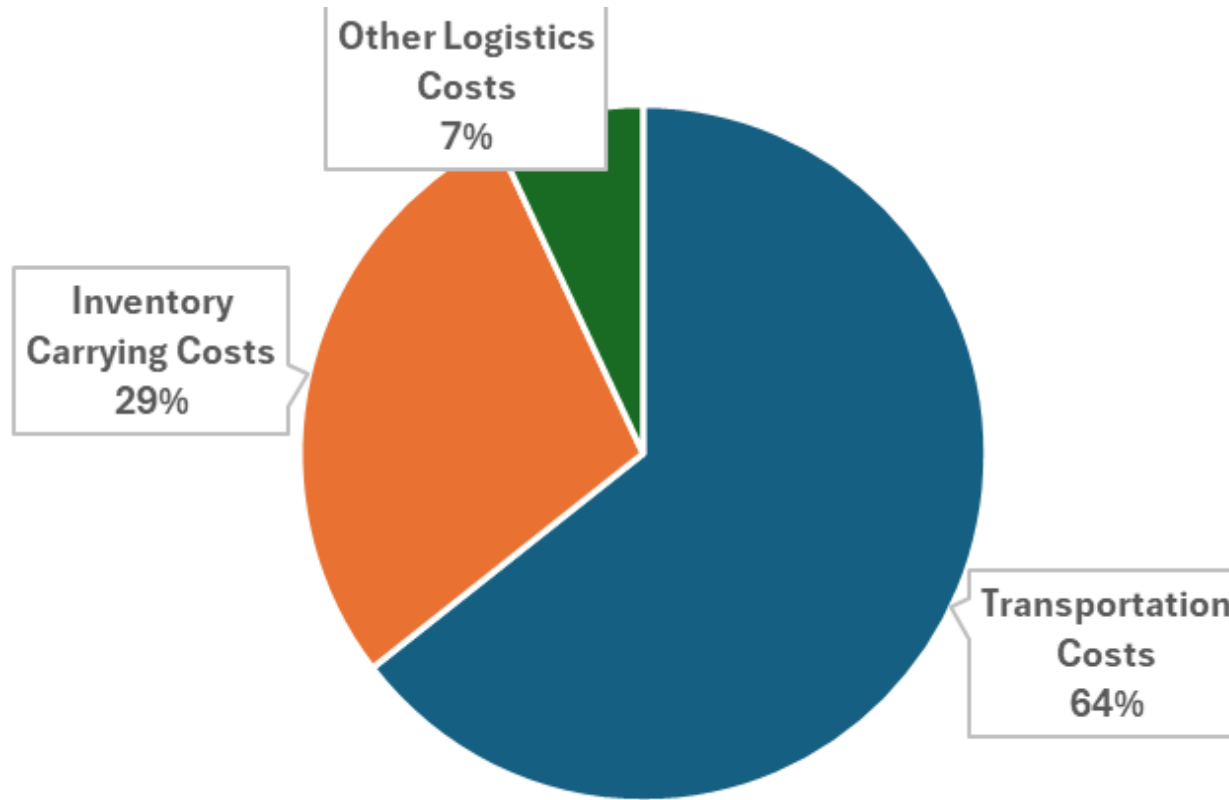
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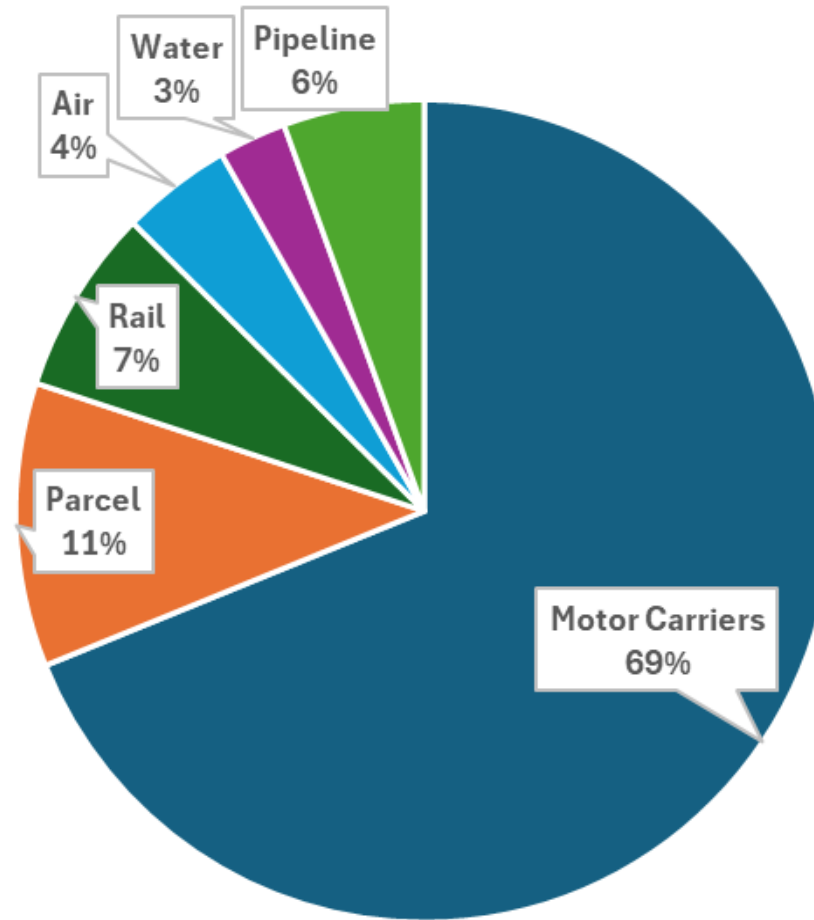
Transportation is typically the largest portion of supply chain logistics costs

In 2024, transportation was 64% of total US business logistics costs



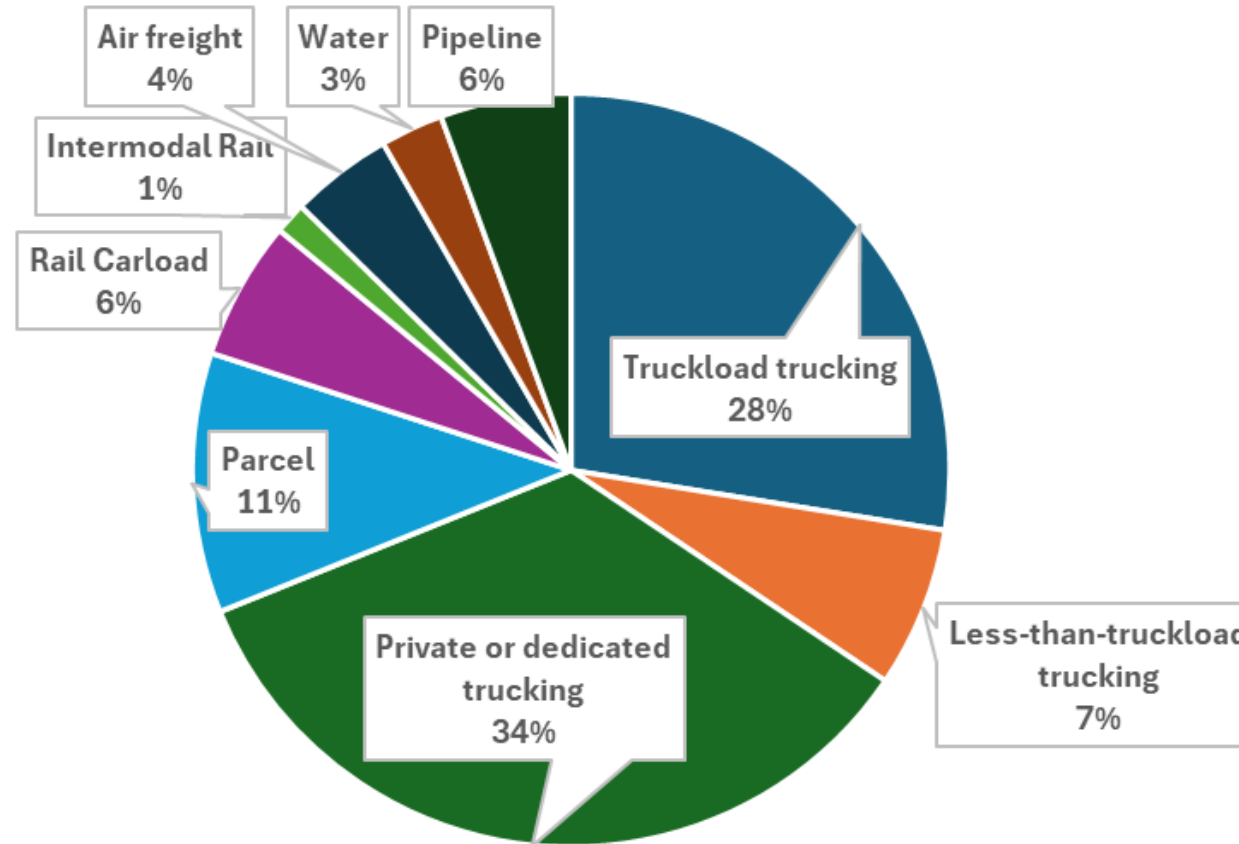
Source: CSCMP State of Logistics Report, 2025

Within supply chain logistics transportation costs, trucking has the largest share. Parcel is a growing share that also includes some trucking



Source: CSCMP State of Logistics Report

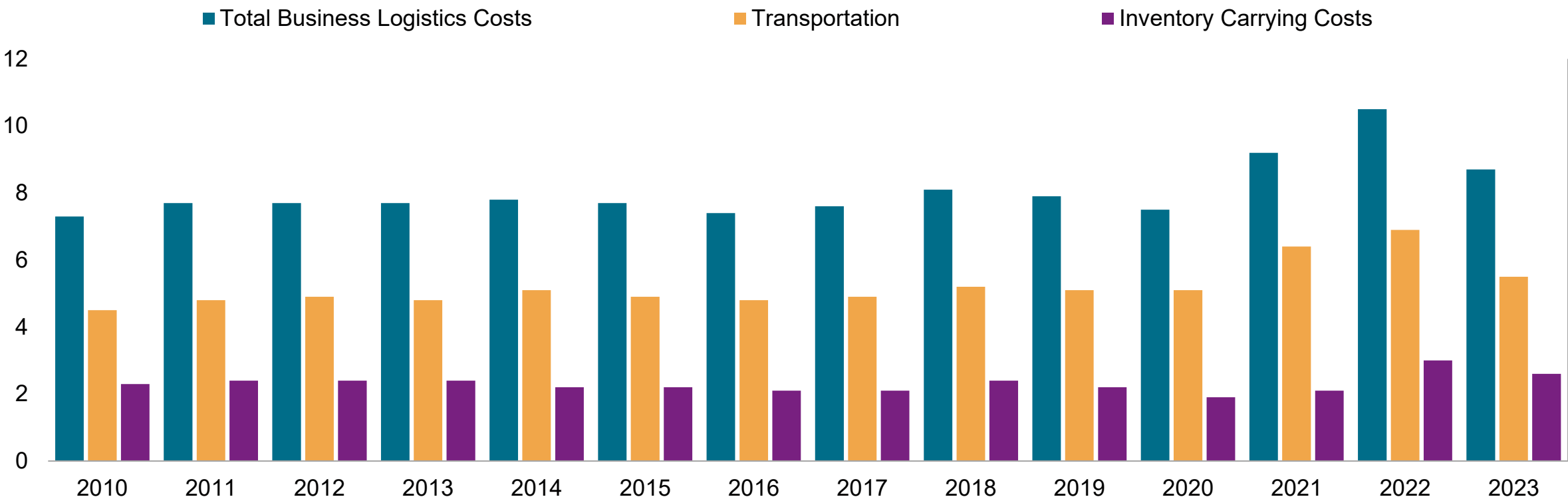
Within the modal shares of supply chain logistics transportation costs, private trucking is the largest cost category while intermodal rail is the smallest



Source: CSCMP State of Logistics Report

Transportation, inventory and total US business logistics costs as a share of the economy can be considered a performance measure where less is better

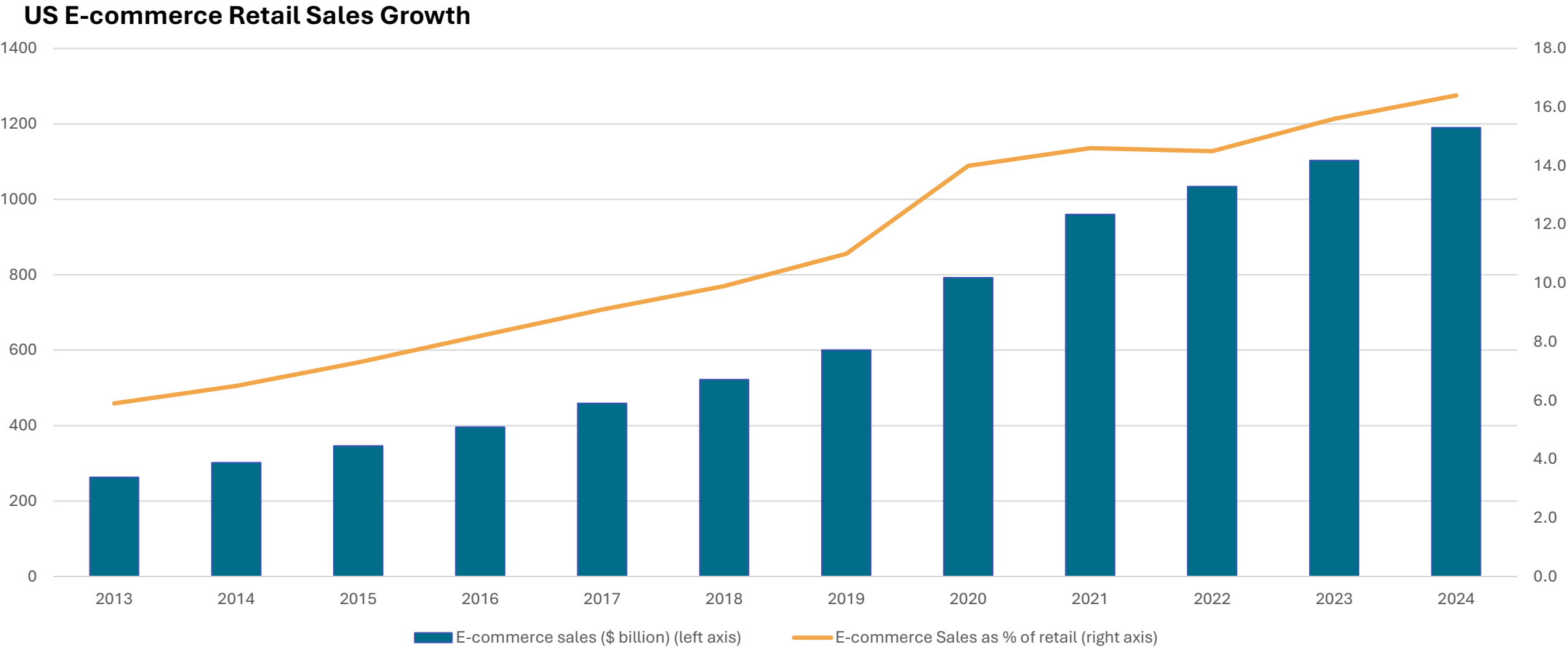
Percent of nominal US Gross Domestic Product



Data compiled June. 17, 2025.
Source: CSCMP State of Logistics Reports
© 2025 S&P Global.

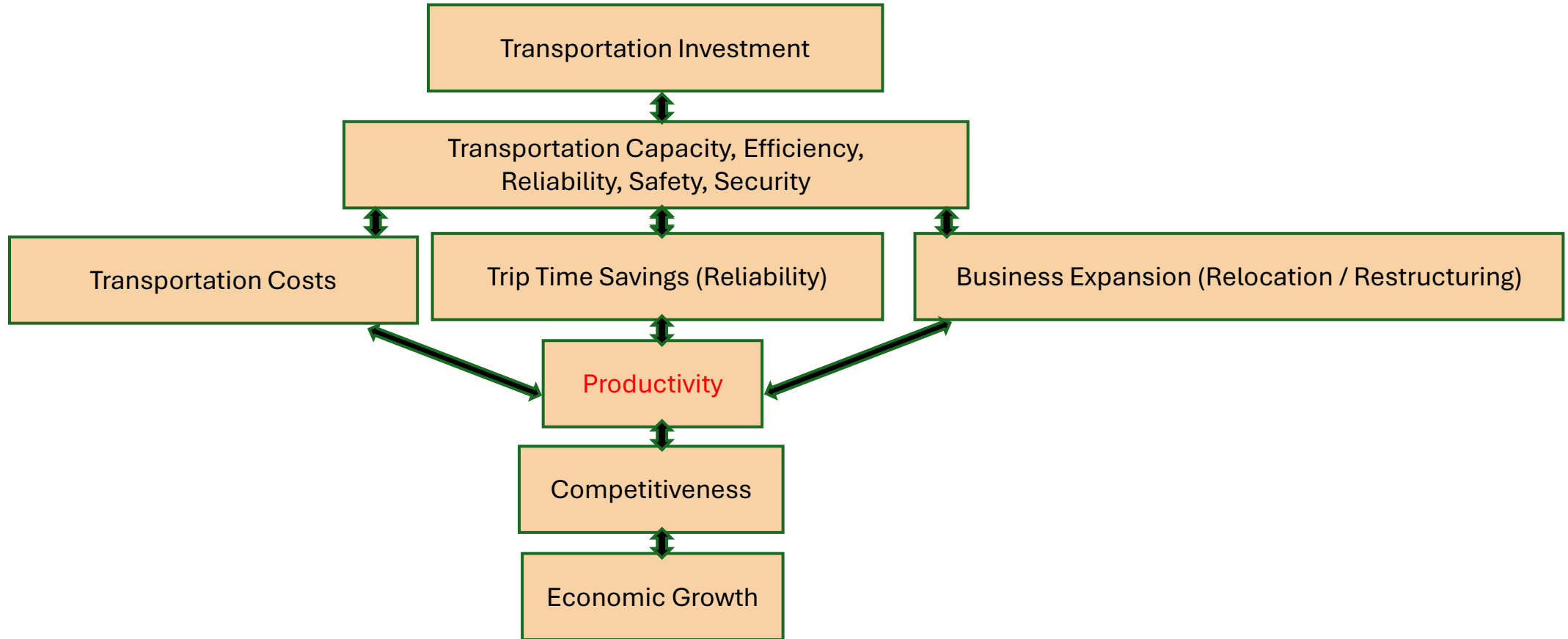
E-Commerce retail sales demand growth has shifted freight transportation demand

- Tripling of E-Commerce sales in 7 years (2015-2022) disrupted supply chains 2020-2023
- Supply chain transportation performance suffered across all modes: strained capacity, stranded assets
- A transformative disruption, unlike disruptions from which a ‘return to normal’ is possible



Source: CSCMP State of Logistics Report; US Census Bureau Quarterly Retail E-Commerce Sales Report

Transportation affects economic outcomes through its role as a production factor. More efficient and reliable transport increases productivity and economic growth



Source: S&P Global adapted from US DOT FHWA, 2002

Long-term effects of how a transportation system disruption affects the economy are in the details characterizing the disruption

- **Economic geography** of the disruption? (e.g., Port of Baltimore hinterland market by commodity; what goods/labor use Key Bridge routes)
- **Duration** of the disruption? (and variance by product / firm / worker)
- What are the **inventories** and what **substitutes** exist for the disrupted goods?
- What **transportation system substitutes** exist and what capacity is available for re-routing / temporary storage?
- How **resilient** and complex are the **supply chains** for the disrupted goods?
- With costs sunk into substitutes, **what pre-disruption demand won't return?**
- How well can labor / capital markets **reallocate resources?** (adjustment costs)
- How much in **government assistance** and **insurance payouts** and when?

Performance Measures for Transportation's Role in the Economy

- Beyond FHWA's 23 CFR Part 490 National Performance Management Measures
- FHWA Truck Travel Time Reliability (TTTR) Index measurement and truck freight bottleneck quantification are Interstate operations/planning oriented
- **BTS Transportation Satellite Accounts** data available with a lag, as is the BTS Port Performance Freight Statistics program, as one mode-specific example.
- **FLOW / freight fluidity measures** of travel times, network speeds, facility dwell times, system reliability measures, transportation energy use, commodity volumes / freight equipment handled per unit of system capacity
- These measures over time reveal system performance aspects serving the economy, if correlated to economic measures (e.g., GDP / industry sector output)
- For supply chain logistics, CSCMP's **US Business Logistics Costs** measures quantify transportation's role serving businesses in the economy annually.

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Market Intelligence

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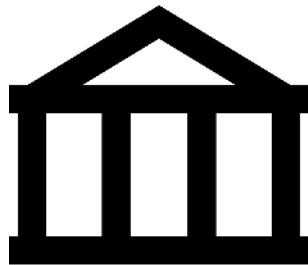
Rural Transportation and Economic Wellbeing

Carrie Kissel
National Association of Development Organizations and
NADO Research Foundation



About the National Association of Development Organizations

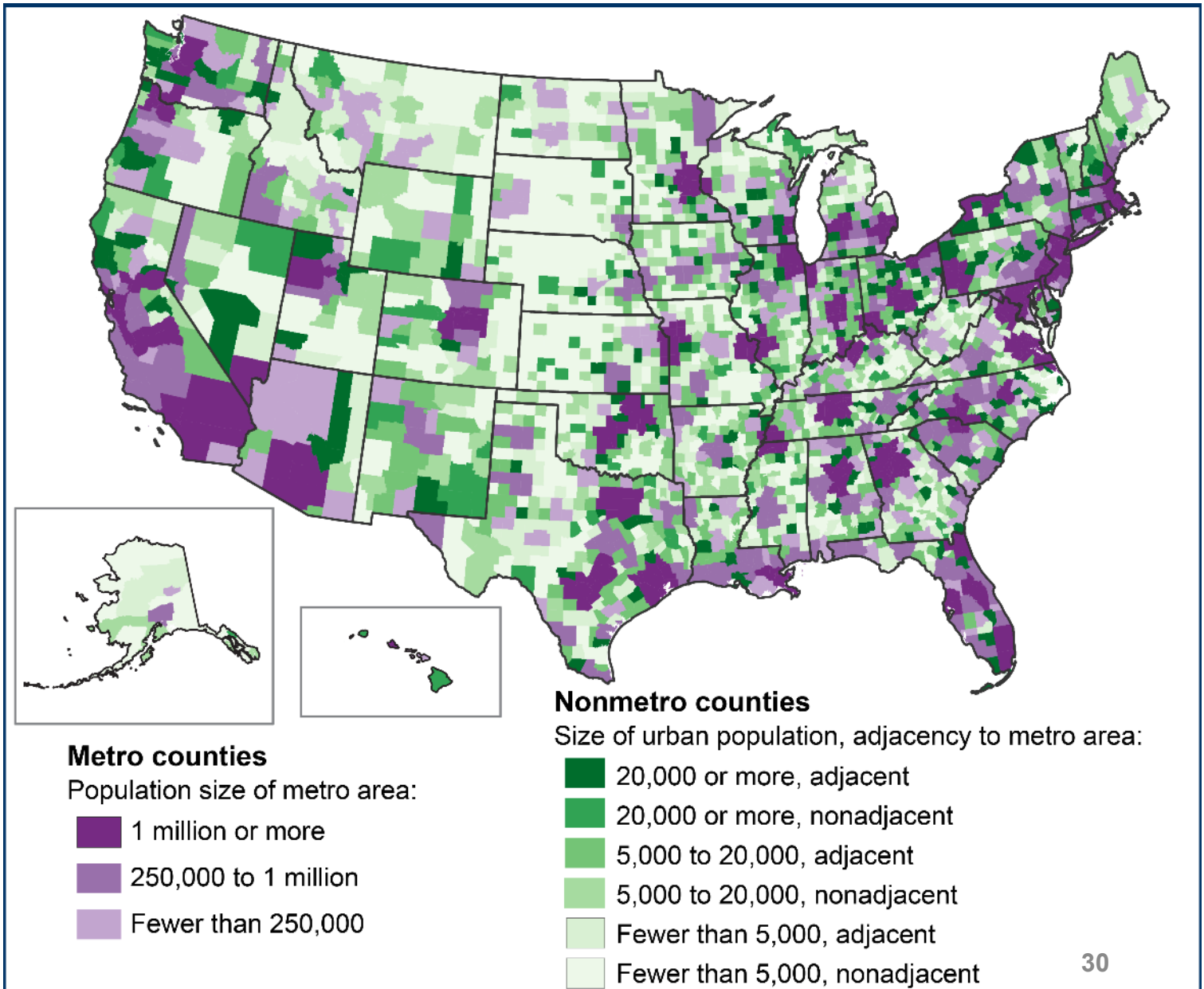
- National association for 540 regional development organizations, including the network of Rural Transportation Planning Organizations (RTPOs/RPOs)
- Promote public policies that strengthen local governments, communities and economies through the regional strategies, coordination efforts and program expertise of the nation's regional development organizations
- Through the NADO Research Foundation, develop training and resources



What is rural?

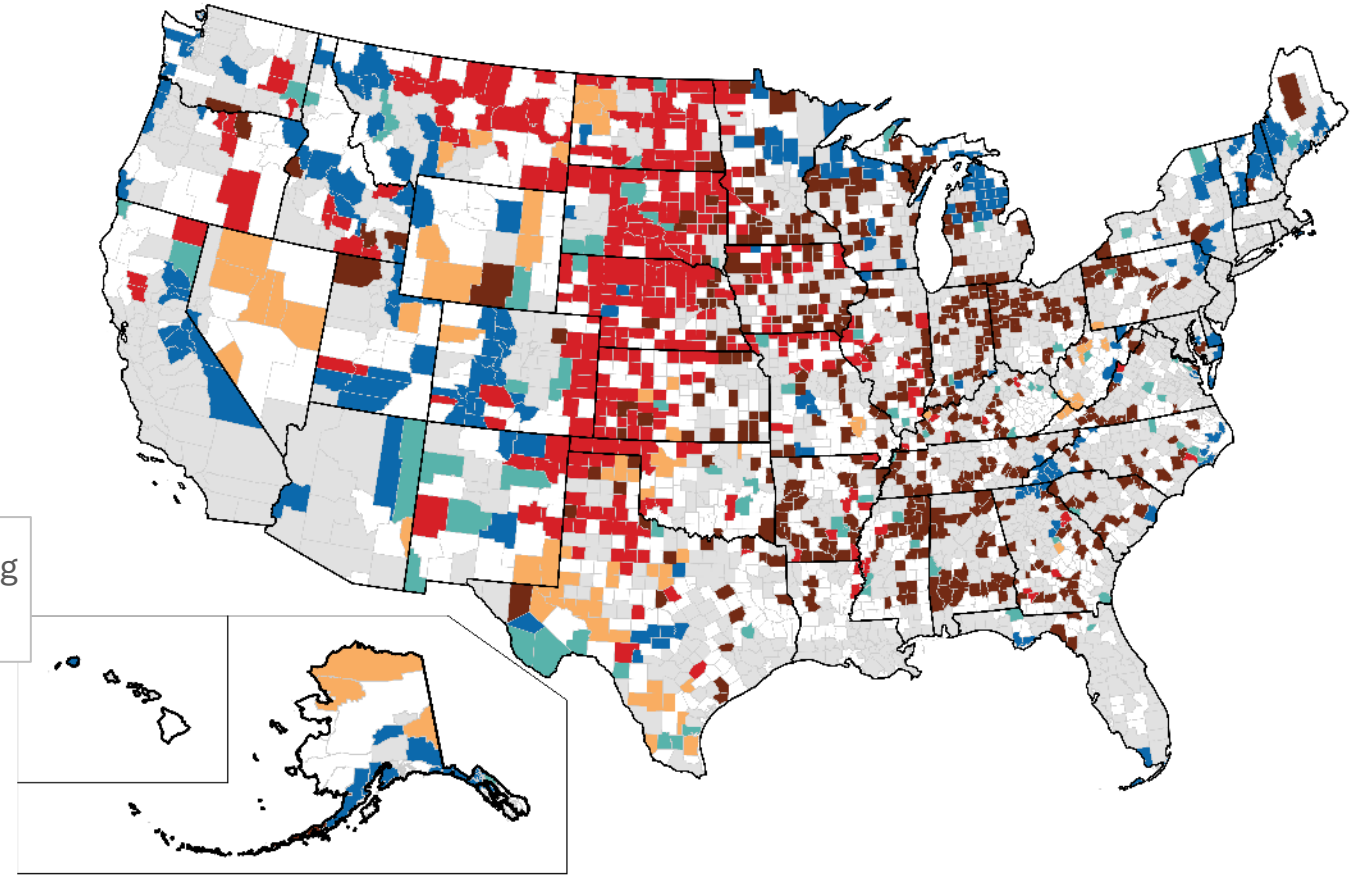
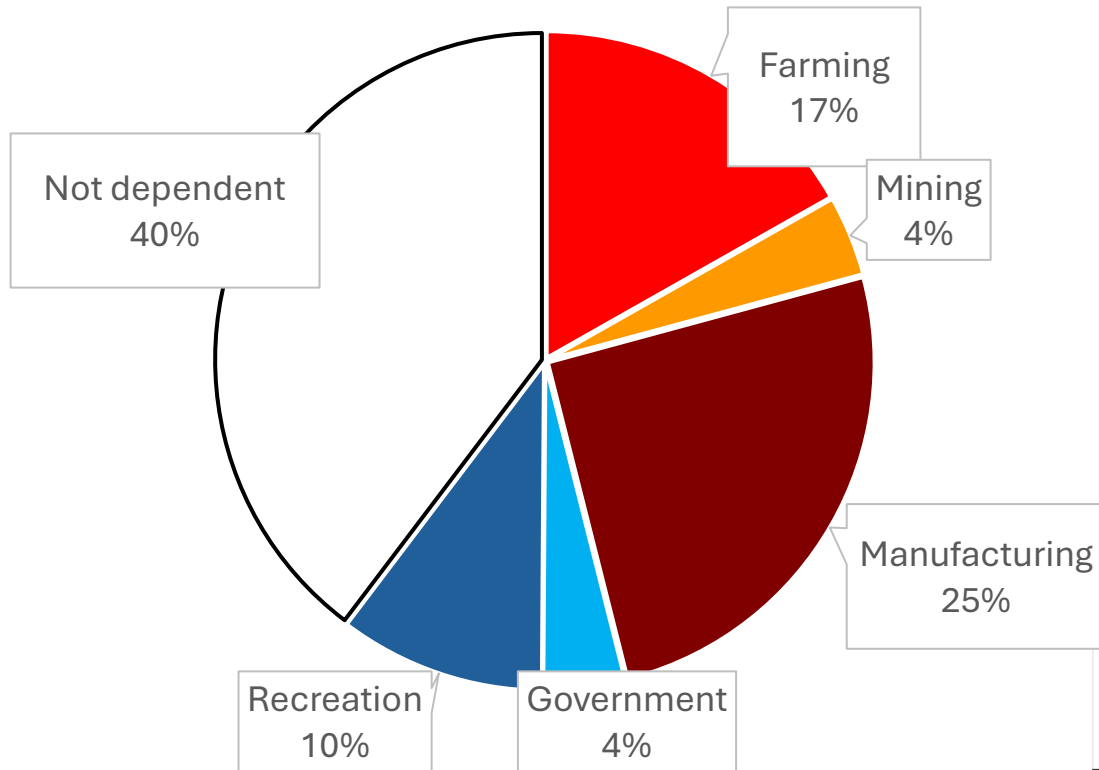
2023 Rural-Urban Continuum Codes

Source: USDA Economic Research Service using data from OMB and Census



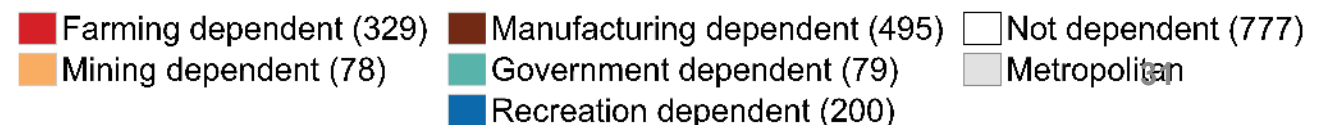
Rural County Economy Types

Nonmetropolitan county industry dependence, 2025 edition



1958 nonmetro counties. Each county has one economy type. Source: USDA ERS County Typology 2025

Industry dependence of nonmetropolitan counties (number of counties)



What does this mean for transportation?

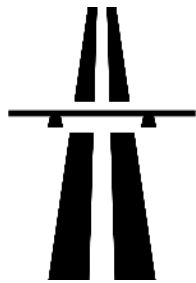
Economic wellbeing:

- Some people follow jobs, some jobs follow people
- Important economic activities, but limited tax base
- Freight requires well-maintained infrastructure for reliable movement
 - Through rural places
 - From rural origins
 - To rural destinations



Rural Transportation Priorities

- Regional planning and development organizations (which serve local governments and residents, often under contract to state DOTs) report their top transportation priorities are:
 - Preservation and maintenance of existing facilities/service
 - Economic development/economic resilience
 - Safety



Aligning Public and Private Efforts

- *What are the strategies that align transportation infrastructure with economic development goals, including land use considerations?*



Transportation + Economic Resilience

What we've heard from practitioners

- Economic ***resilience*** should be a goal of transportation investment; ability to withstand economic shocks
- Job creation
- Job retention
- Workforce development/access to opportunity
- Placemaking and rooted economies



How Do We Get There?



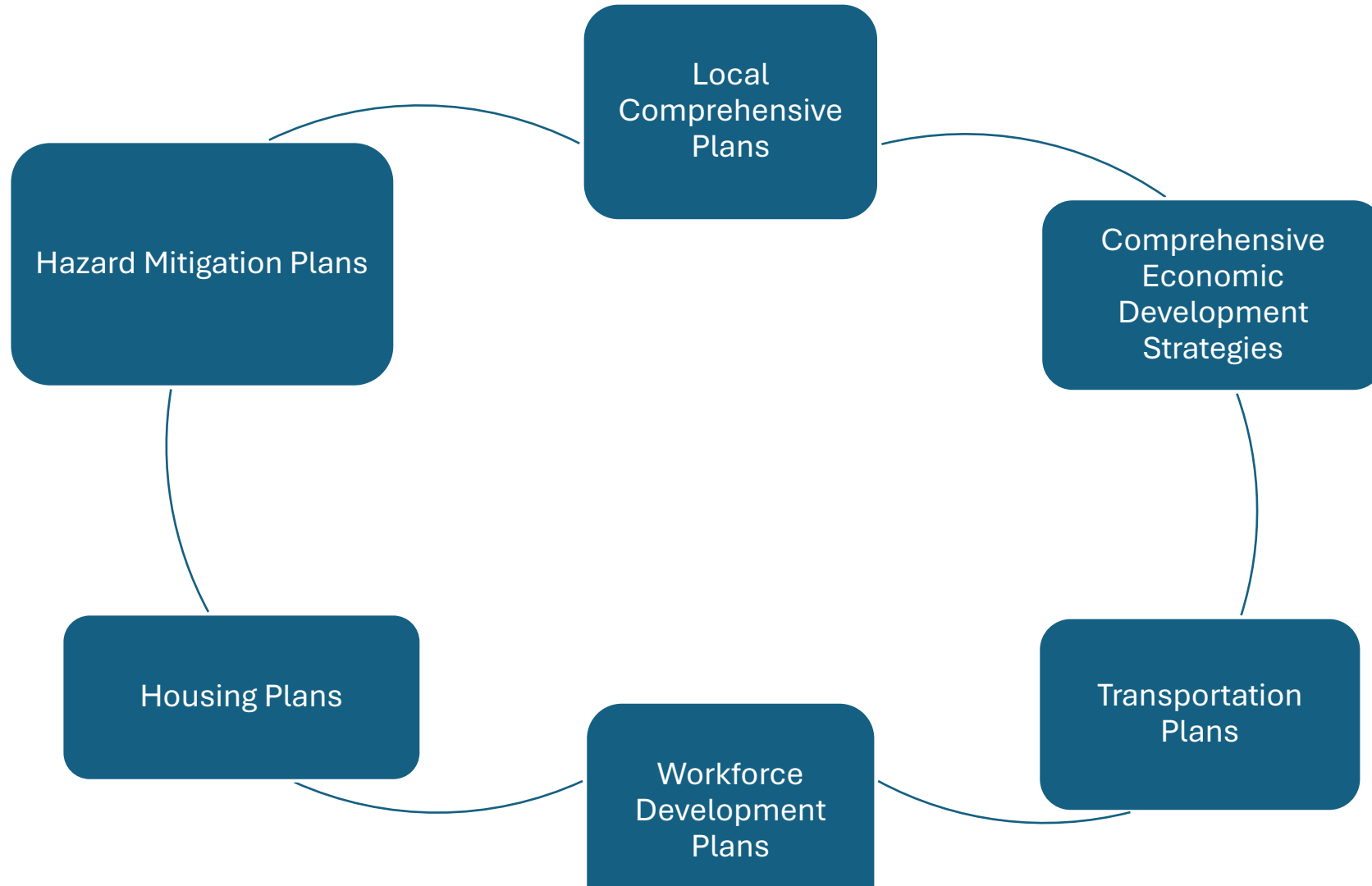
Photo courtesy Southern Tier Central Regional
Planning and Development Board

Broad Engagement



Photo courtesy Lower Savannah COG

Link Existing Planning Processes and Programs



Combining Planning Processes

Chittenden Co RPC (VT) ECOS Plan

CHITTENDEN COUNTY REGIONAL ECOS PLAN UPDATE



Environment Community Opportunity Sustainability

The Chittenden County Regional Planning Commission (CCRPC) is currently updating the Regional Plan for Chittenden County and is **seeking community input on many topics** like housing, climate, energy, land use, and more to inform our goals and priorities for the next eight years.

WHAT IS THE CHITTENDEN COUNTY REGIONAL PLANNING COMMISSION?

The CCRPC is one of 11 regional planning commissions (RPCs) in Vermont. RPCs play a crucial role in connecting communities and State government.

WHAT IS THE ECOS REGIONAL PLAN?

The ECOS Plan is the Regional Plan for Chittenden County that was first published in 2013. Regional plans:

- ✓ guide development in a manner that is consistent with the State's planning goals;
- ✓ set goals to meet community needs based on maps, data, and community involvement;
- ✓ consider social and economic benefits and consequences of policies.

Regional Plans must also define what "substantial regional impact" means in development review.

	Required MTP Elements (United State Code, 23 CFR 450.324)	Strategy to Address: Where/How
1	Consider the following planning factors: (A) support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency; (B) increase the safety of the transportation system for motorized and nonmotorized users; (C) increase the security of the transportation system for motorized and nonmotorized users; (D) increase the accessibility and mobility of people and for freight; (E) protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns; (F) enhance the integration and connectivity of the transportation system, across and between modes, for people and freight; (G) promote efficient system management and operation;	The transportation projects and strategies, and the indicators identified to measure transportation progress, are based on the ECOS transportation goal on page 3, ECOS Supplement #5 and the issues, trends, observations that follow that goal: <i>"Provide accessible, safe, efficient, interconnected, secure, equitable and sustainable mobility choices for our region's businesses, residents and visitors."</i> Factors related to safety, environmental protection, respect for land use and economic development patterns, system integration/connectivity, efficiency and preservation, are directly reflected in recommended projects and strategies in the project list on pages 83 - 92 ECOS Supplement #5. Economic vitality, security, accessibility and mobility, as well as themes from the other planning factors, are core elements to be found in ECOS goals and sub goals on discussed throughout the ECOS plan 2018 draft. The ECOS high priority strategies and follow up actions identified in ECOS plan page 48 take into consideration the themes from the planning factors as well.



Connect to Implementation



Measuring Progress

- *What are performance measures that can demonstrate the impact of these strategies?*
- *Or, how do we know if the needle is moving in the right direction?*



NADO's Research on Gauging Impact

Integrating Economic Resilience in Performance-based Transportation Planning

Measuring Rural Wealth Creation A Guide for Regional Development Organizations

NADO Research Foundation

November 2016

wealthworks Evaluation Framework

The framework

Rural wealth creation is an approach to community and economic development that is demand-driven, focusing on market opportunities that capitalize on a community's existing assets or underutilized resources. Wealth creation is intentionally inclusive, building lasting livelihoods for those who may not have been at the table before, and it supports local ownership and control of assets. This evaluation framework, developed by real-world practitioners, describes a series of indicators for measuring wealth creation impacts.

Efforts to build rural wealth organize partners into a value chain focused on meeting a particular market demand. A WealthWorks value chain is a network of people, businesses, organizations, and agencies addressing a market opportunity to meet demand for specific products or services. A value chain might focus on an industry or sector

alliance, including entities that supply a sector with goods and services, groups representing demand for that industry's products, investors, and support partners. The partners in a value chain participate because it advances their interests while also building wealth within the region.



Value chains benefit from identifying an organization or business to serve as the coordinator to keep track of partners' actions and weave them together.

Together, these partners seek to improve the stocks of assets in their communities. Wealth creation activities work on building

more than one type of community capital without harming other community assets. The eight forms of capital used in the WealthWorks approach are:

- Built Capital: the stock of fully functioning constructed infrastructure
- Financial Capital: the stock of unencumbered monetary assets invested

in other forms of capital or financial instruments

- Individual Capital: the stock of skills and physical and mental healthiness of people in region
- Intellectual Capital: the stock of knowledge, innovation, and creativity or imagination in a region
- Natural Capital: the stock of unimpaired environmental assets (e.g., air, water, land, flora, fauna) in a region
- Political Capital: the stock of power and goodwill held by individuals, groups, and/or organizations that can be held, spent, or shared to achieve desired ends
- Social Capital: the stock of trust, relationships, and networks that support civil society
- Cultural Capital: the stock of practices that reflect values and identity rooted in place, class, or ethnicity

These forms of community capital, along with the wealth-building principles of local ownership and control of assets and inclusive economies, form the basis of wealth creation evaluation.

- <https://www.nado.org/integrating-economic-resilience-in-performance-based-transportation-planning/>
- <http://www.nado.org/wp-content/uploads/2016/12/MeasuringWealthCreationRDOsFinal.pdf>
- http://www.nado.org/wp-content/uploads/2019/02/evalframework_final.pdf



Research Findings

- Take a systems perspective to understand economic resilience goals, regional prosperity, and transportation's role
- Embed measurement into the regional planning process
- Measure regional wellbeing across several emphasis areas
- Repurpose measures used by partners where appropriate
- Develop transportation project prioritization criteria
- Communicate progress over time to establish a feedback loop
- Intentionally include economic development stakeholders, including both private sector leaders and intended beneficiaries, throughout the transportation planning process



Investing in Transportation

- *What are strategies that rural areas can take to attract and implement private and public sector investment in their transportation infrastructure?*



Borrowing from Rural Development

- Wealth Creation Value Chains:
 - networks of partners that “work together for mutual benefit to create value in response to market demand” (Ratner & Levy 2014)
- Adapting for public goods (beyond market demand)
 - Many state and federal programs are oversubscribed
 - Limited local government budgets
 - Partner mapping builds energy and support for shared priorities



Who cares? Why do they care?

- Who are the potential partners for this transportation effort?
- How would they justify engaging on this issue?
- What is their self interest?
- What are the shared interests from multiple partners?
- Is there a common interest (public good)?



Identify Partners' Pain Points

- Mobility efforts:
 - Employee access to work
 - Customer access to goods or services
 - Reducing business costs (such as missed appointments)
 - Public and private sector roles



April 2023

Commuter Co-Op Vermont

Prepared By: Karalyn Clouser and Natalie Villwock-Witte, Western Transportation Institute at Montana State University

Prepared For: National Association of Development Organizations and the Southern Georgia Regional Commission

Program Overview

Commuter Co-Op is a statewide vanpool program administered by the Vermont Agency on Transportation's (VTrans') Go! Vermont Program (<https://www.connectingcommuters.org/>). Go! Vermont provides residents with information and resources for travel options from public transit, to bicycling and walking, to vanpool.

The Commuter Co-Op vanpool program in Vermont has been providing



Connect with NADO

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Visit us online: www.NADO.org | www.RuralTransportation.org

In-person events:

- National Regional Transportation Conference (July 21-23, Atlanta)
<https://www.nado.org/2026-nrtc/>
- NADO Annual Training Conference (Oct 26-29, Reno)
<https://www.nado.org/atc2026/>



Today's presenters



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OCTOBER 22, 2025

[Hardening the Electricity Transmission and Distribution System for Increased Reliability](#)

OCTOBER 22, 2025

[Report Release Webinar: Early Relational Health: Building Foundations for Child, Family, and Community Well-Being](#)

<https://www.nationalacademies.org/trb/events>

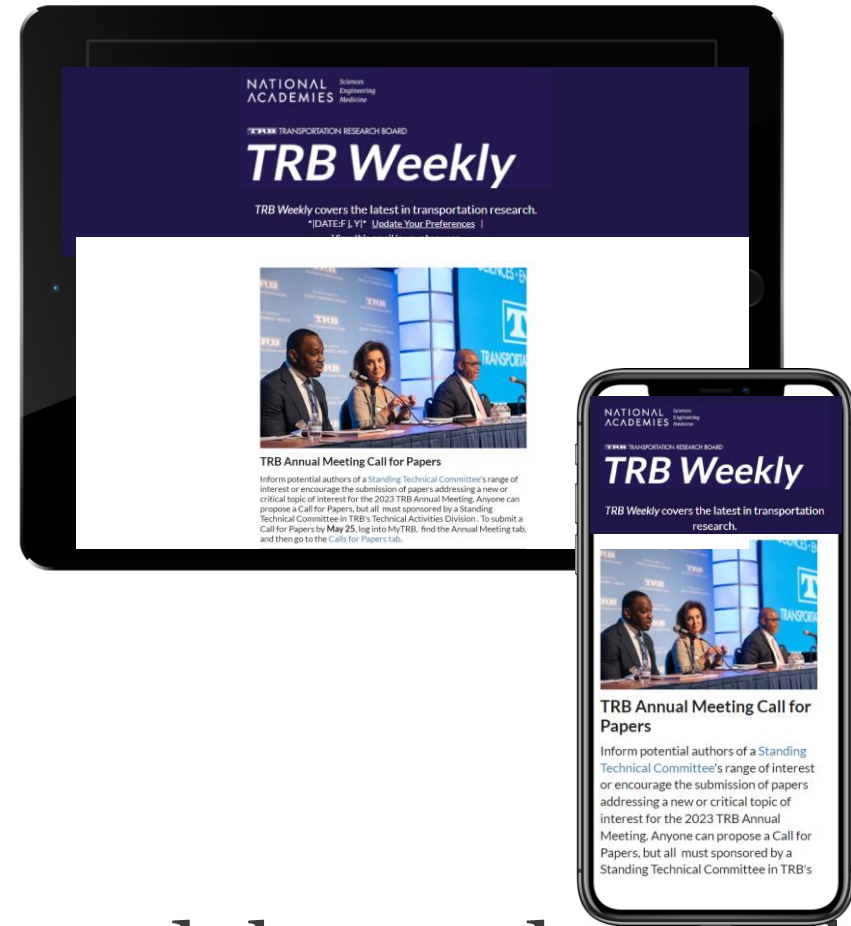


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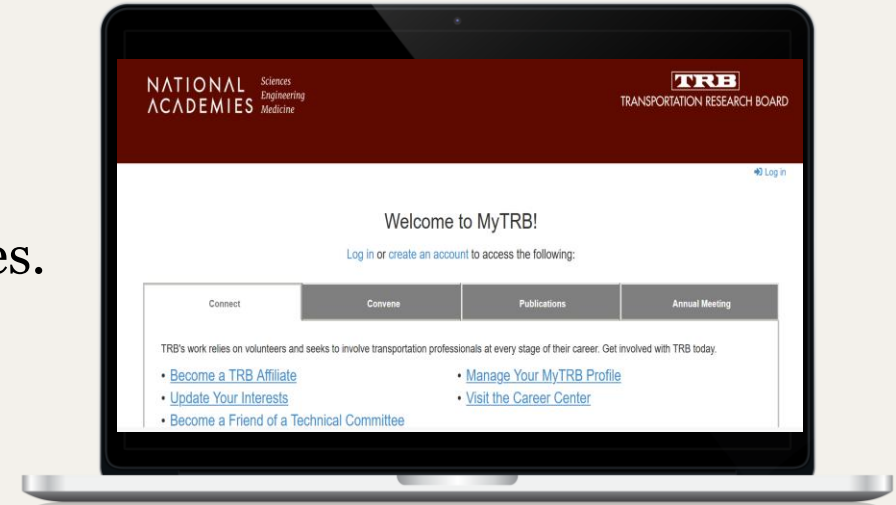


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