Freight in Megaregions

Catherine L. Ross, Harry West Professor

Georgia Institute of Technology

"Talking Freight"

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CQGRD

Overview

Megaregions

The Architecture of the Megaregion

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Megaregion Freight Peer Exchange

Conclusion

Questions ?

References

Megaregions are networks of urban centers and surrounding areas connected by economic, social, and infrastructure relationships.

Megaregions represent a new and potentially beneficial context for American transportation planning

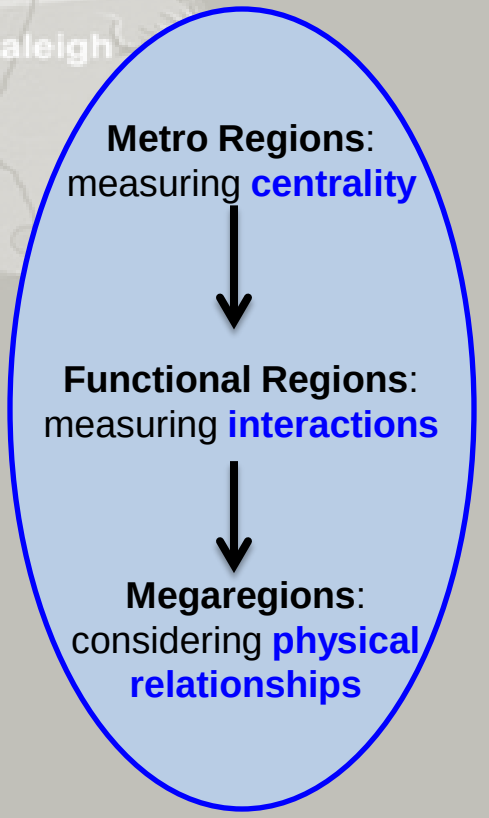
Planning paradigm for global context

Megaregions
Definition

Metro regions are urban centers and their **metropolitan sphere of influence** which comprise the core of the megaregion.

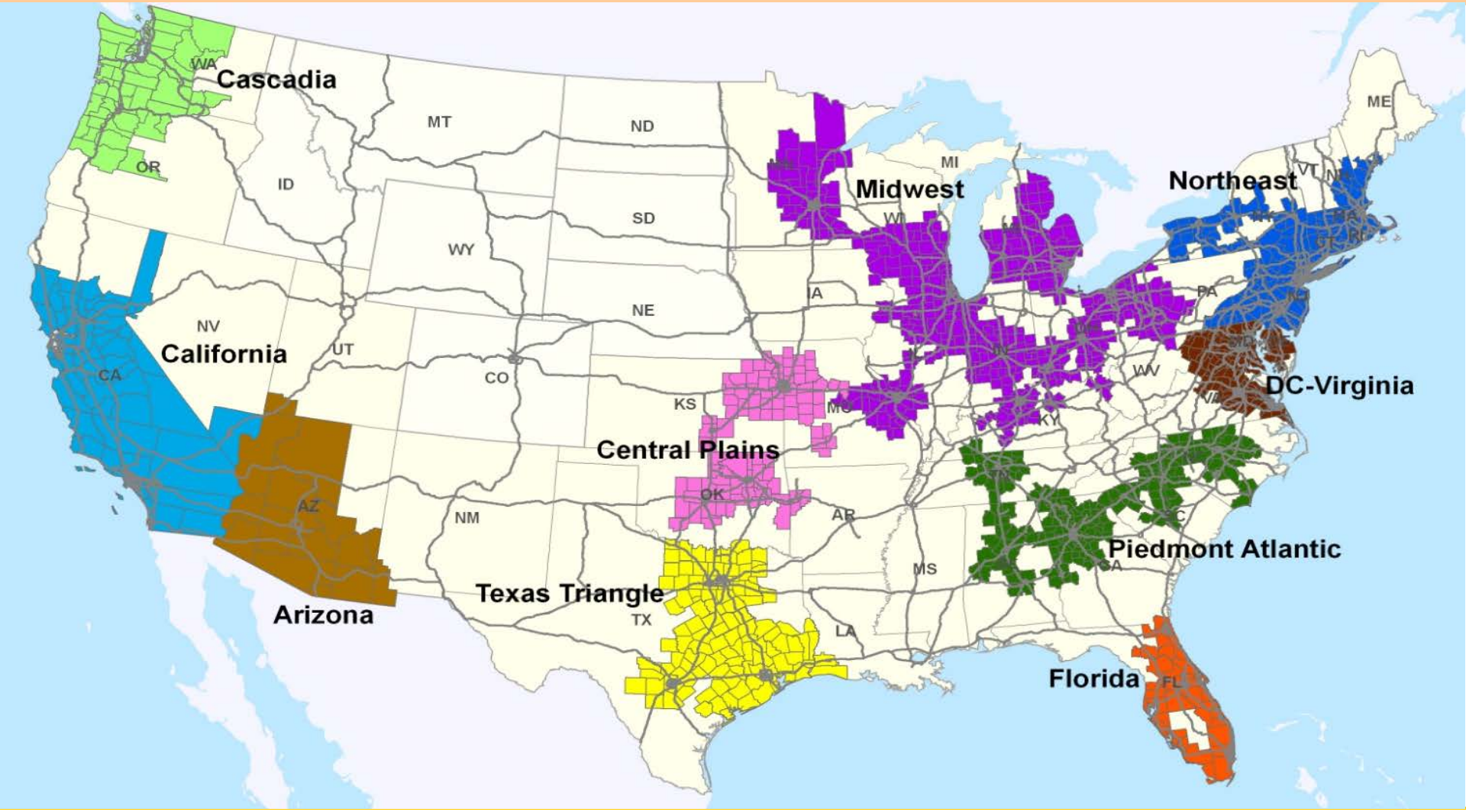
Functional regions are groups of metro regions linked through **economic interaction** and **geographic proximity**.

A *megaregion* is a functional region with an additional layer of shared **social, cultural, and environmental characteristics**.



Megaregions

Ten American Megaregions



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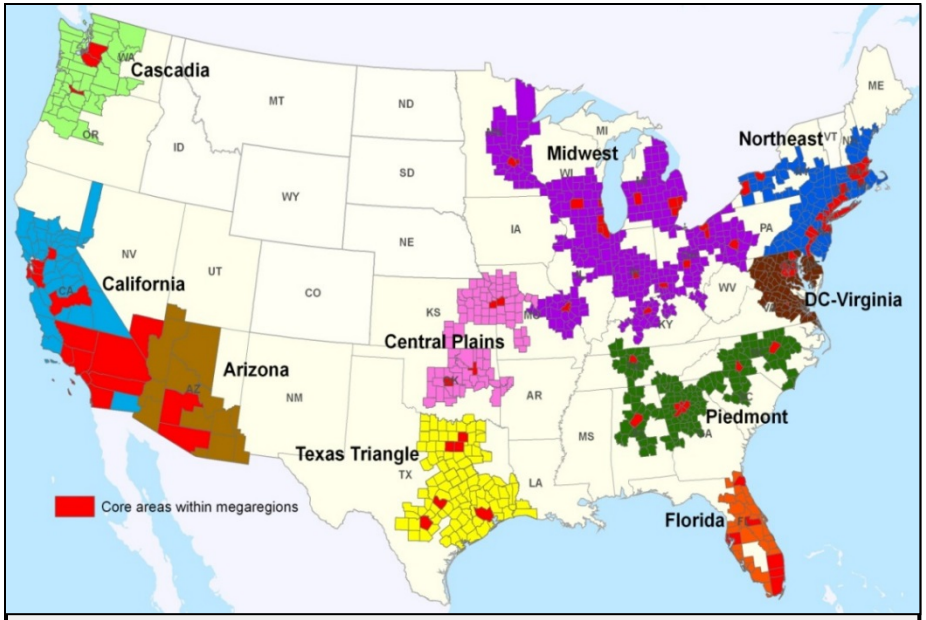
Megaregions

Why Megaregions Matter

	MEGAREGION	NON-MEGAREGION
Area	29.6%	70.4%
Population (2008)	76.54%	23.46%
Employment (2008)	76.98%	23.02%
GRP (2008)	81.47%	18.53%
Fortune 500 companies revenue (2008)	92.07%	7.93%
Patents (2008)	86.77%	13.23%



10 megaregions account for 30% of national territory and 75% of the nation's population and employment.

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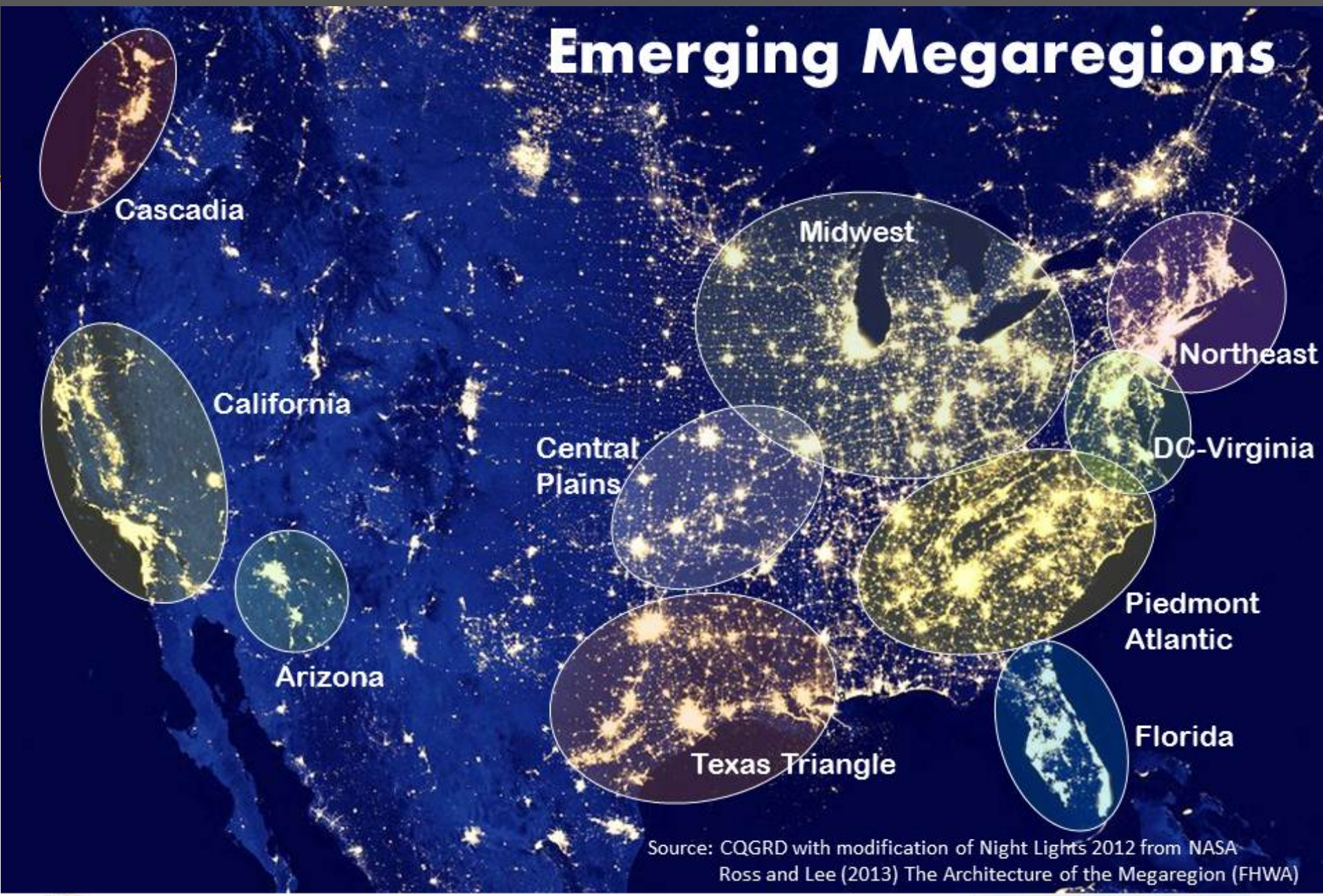

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Challenges at Home
Freight Dynamics

Declining Transportation Funding

- Decreasing fuel tax revenues
- Backlog of infrastructure maintenance
- Budgetary austerity

Projected Congestion Increases

- Highway capacity increases in megaregions needed to maintain truck mobility

Major Freight Dynamics

Freight Movement Changes

- Panama Canal expansion diverting traffic to East Coast
- Competition from Mexico and Canada with West Coast ports

Performance Orientation

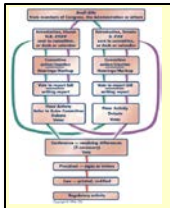
- MAP-21 codified the need for performance metrics in transportation planning
- Affects state DOTs and MPOs

Image sources: http://www.telegraph.co.uk/news/newstopics/howaboutthat/7568714/Cash-strapped-county-offers-Hollywood-chance-to-blow-up-decaying-bridge.html, http://www.fhwa.dot.gov/publications/publicroads/05sep/02.cfm, http://www.flickr.com/photos/agnaldo_pereira_miguel/6927211094/in/photostream/, http://www.distributedsun.com/images/uploads/funds/radiance_icon_large.jpg

Challenges at Home
Freight Dynamics

Pollution and Climate Change

- Need for alternate fuels
- Freight infrastructure vulnerabilities to climate change



Political Gridlock

- Response to funding shortfalls and aging infrastructure
- Business climate uncertainty

Major Freight Dynamics

Aging Infrastructure

- Bridge and roadways maintenance backlog linked with funding shortfall

Safety

- Challenges with increased road and rail traffic

Image sources: http://blogs.dnv.com/lng/2011/02/top-ten-future-fuels-for-shipping/, http://www.lexisnexis.com/help/cu/the_legislative_process/how_a_bill_becomes_law.htm, http://www.oregon.gov/ODOT/rail/Pages/crosssafe.aspx, http://www.boston.com/news/local/massachusetts/articles/2009/10/10/aging_infrastructure_of_bridge_alarms_motorist/

The Architecture of the Megaregion

The Architecture of the Megaregion

Purpose

- Document if and how megaregion planning is **occurring today**
- Benchmark with **existing multi-jurisdictional and megaregion organizations** domestically and abroad
- Develop key megaregion **spatial and decision making concepts** in an American context
- Propose **frameworks for implementing** megaregion transportation planning
- Identify tools for **overcoming obstacles** to implementation

The Architecture of the Megaregion
Geography

Geographic Flexibility: Ensure flexible structures to address different geographic problem boundaries and scales

Connected Cities and Focal Points: Highlight most impactful gateways, cities, and corridors

Identity and Branding: Identify and promote unique megaregion strengths

The Architecture of the Megaregion
Governance

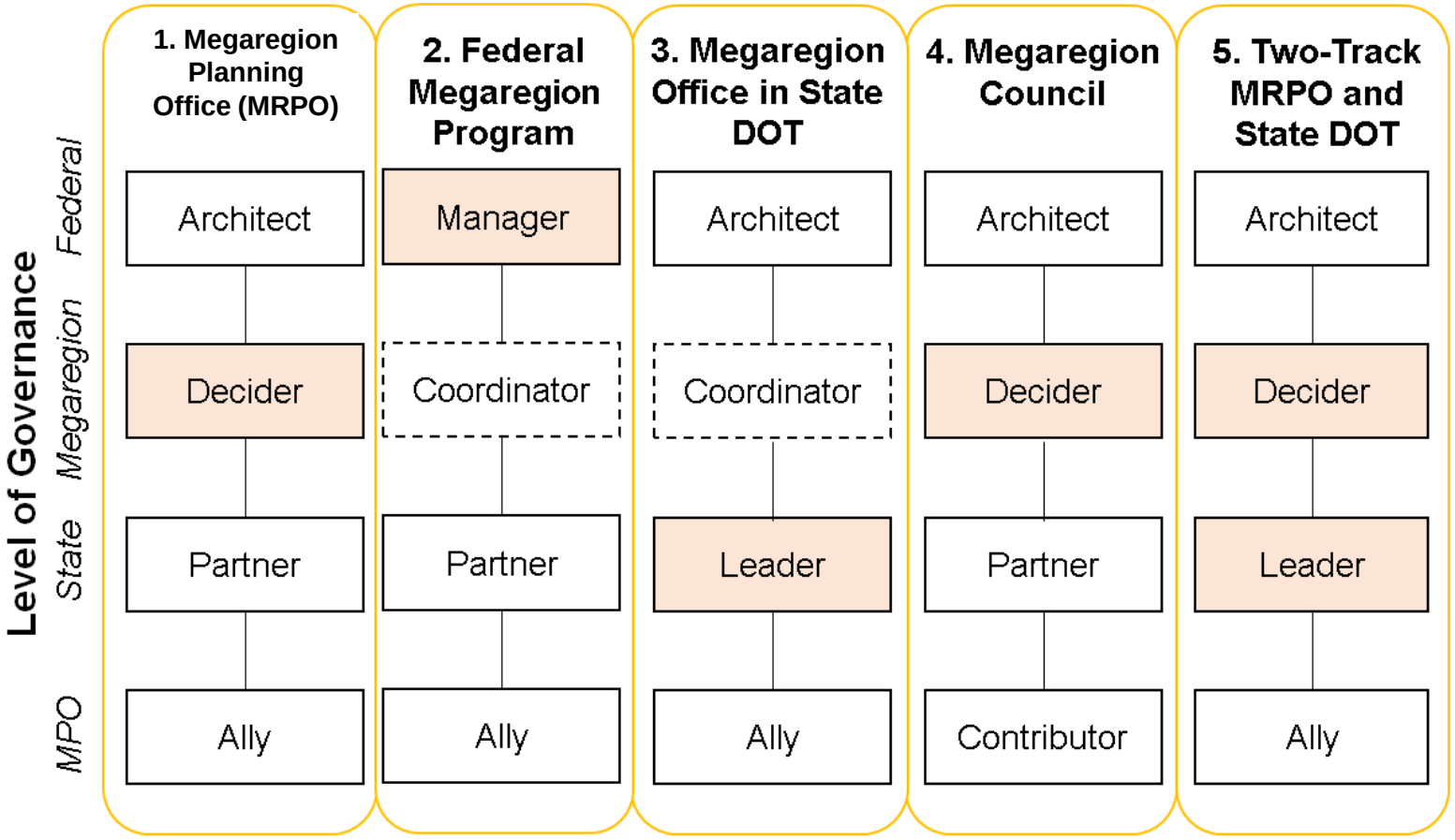
Structure: Proposed five structures that address megaregion planning leadership and coordination

Process Integration: Align megaregion planning with existing federal transportation planning process

Marketing: Develop megaregion economic development function

The Architecture of the Megaregion

Governance



Legend

- Formal Body
- Informal Body
- Lead Decision Making Body(ies)

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The Architecture of the Megaregion
Implementation

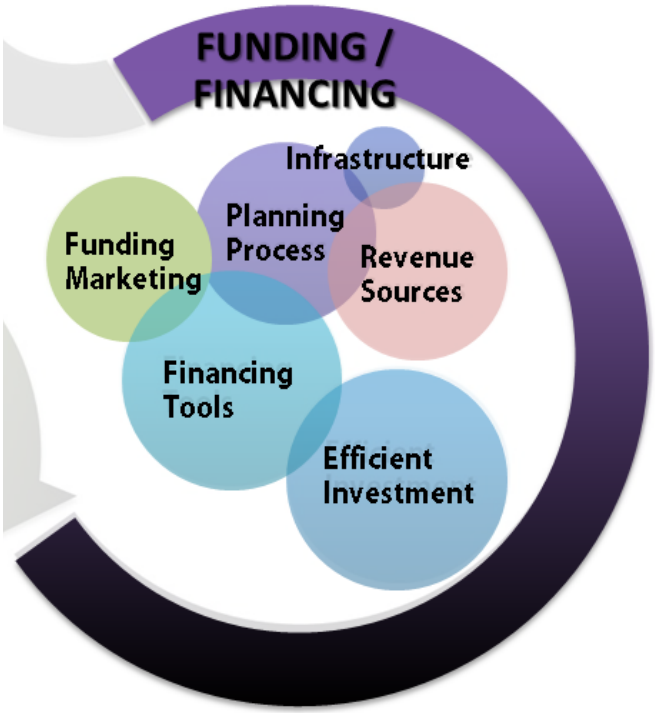
Legislation: Define megaregion planning roles in federal legislation

Institutionalize Megaregion Planning: Create a structure that supports planning long-term

Performance Management: Create megaregion performance measures to support performance management

The Architecture of the Megaregion

Funding and Financing



Efficient Funding: Create federal funding structure that promotes efficient and equitable transportation

Promote Private, Local, and State Investment: Use federal funding to leverage non-federal investment

Retool Financing Tools for the Megaregion: Make new and existing financing tools appropriate for multi-jurisdictional transportation

Megaregion Survey

Megaregion Survey
Introduction

"The Architecture of the Megaregion," supported by FHWA

Purpose: Explore implications on current planning approaches and entities

Scope: 384 MPOs, 50 states, and one territory

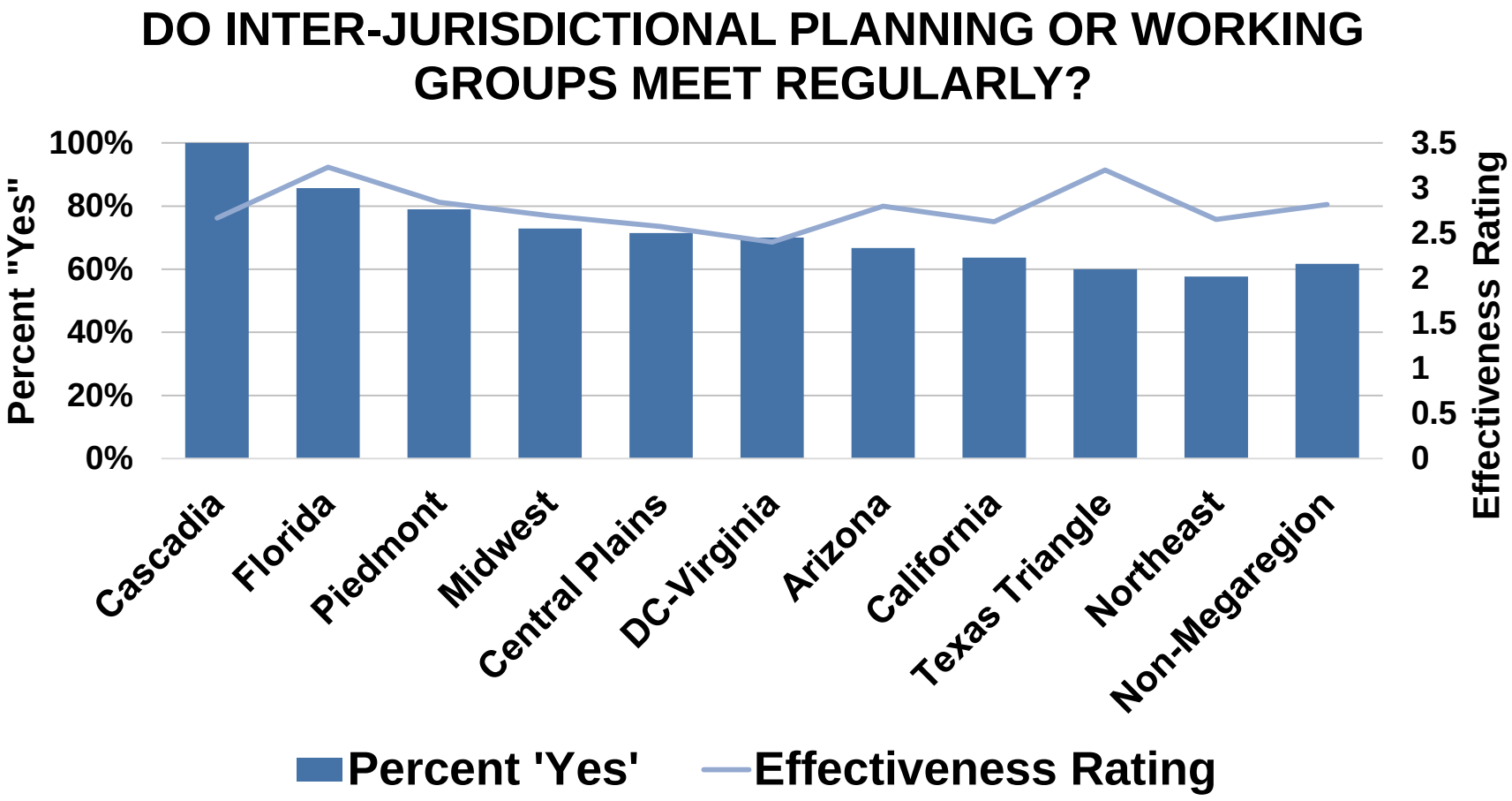
Responses:

	Sent	Received	Response Rate
MPOs	384	191	49.7%
DOTs	51*	22	43.1%

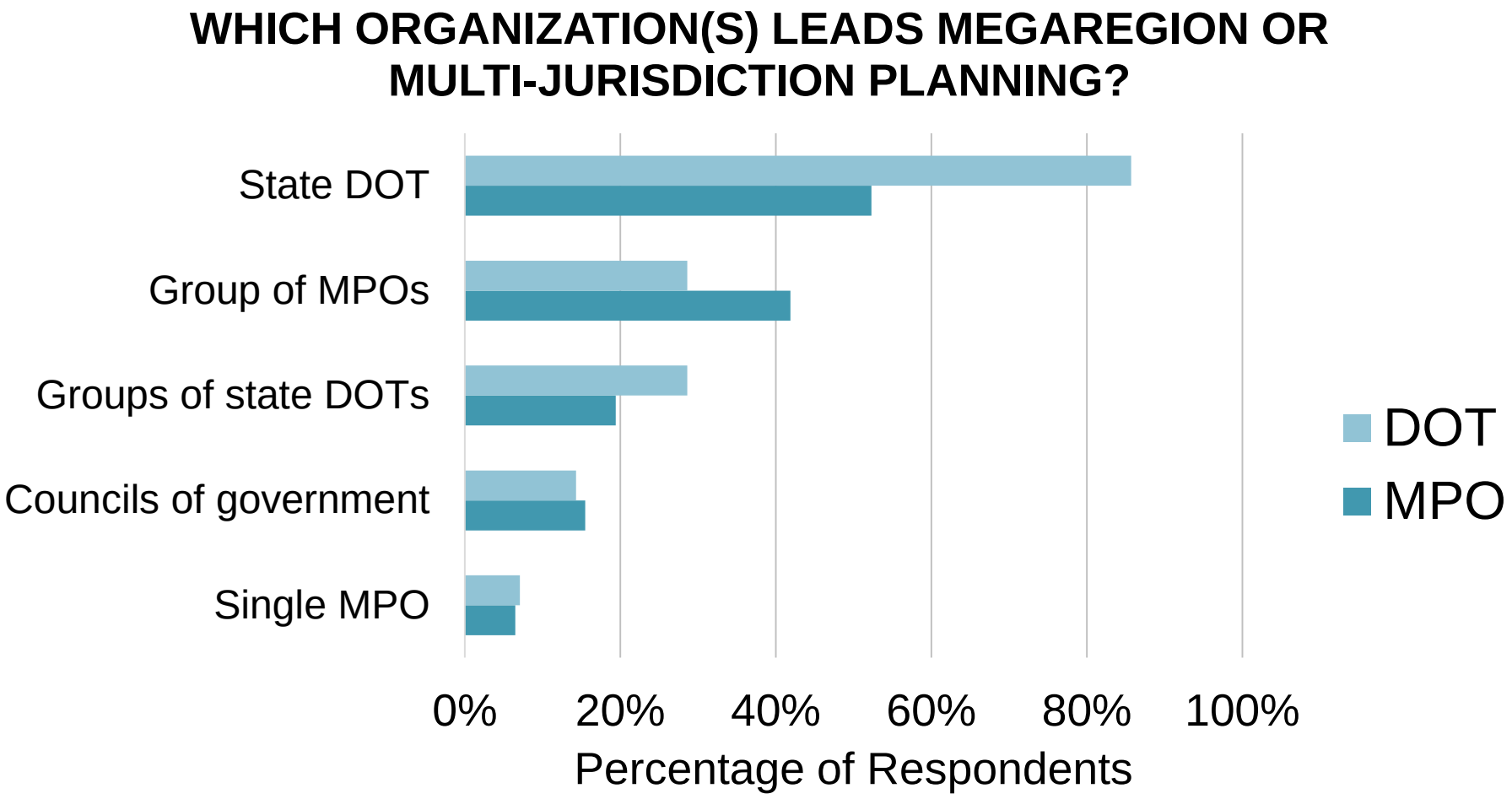
***Survey also distributed to Puerto Rico DOT**

Megaregion Survey

Geography



Megaregion Survey
Governance



Survey Findings

Projects

Main megaregion project types that are occurring

- Intercity passenger rail planning and studies
- Interstate highway projects
- Corridor-based studies and projects
- Freight studies and projects

Geography

Proximity and state borders hinder organizational interaction

DOTs and large MPOs most likely to work across boundaries

Survey Findings

Governance

- Governance involved multiple actors in informal and even contested processes
- Megaregion transportation planning currently characterized by multiple actors in ad hoc processes

Funding and Financing

- Funding and financing more stagnant for MPOs than DOTs
- MPOs and DOTs prefer federal funding (belies practice)

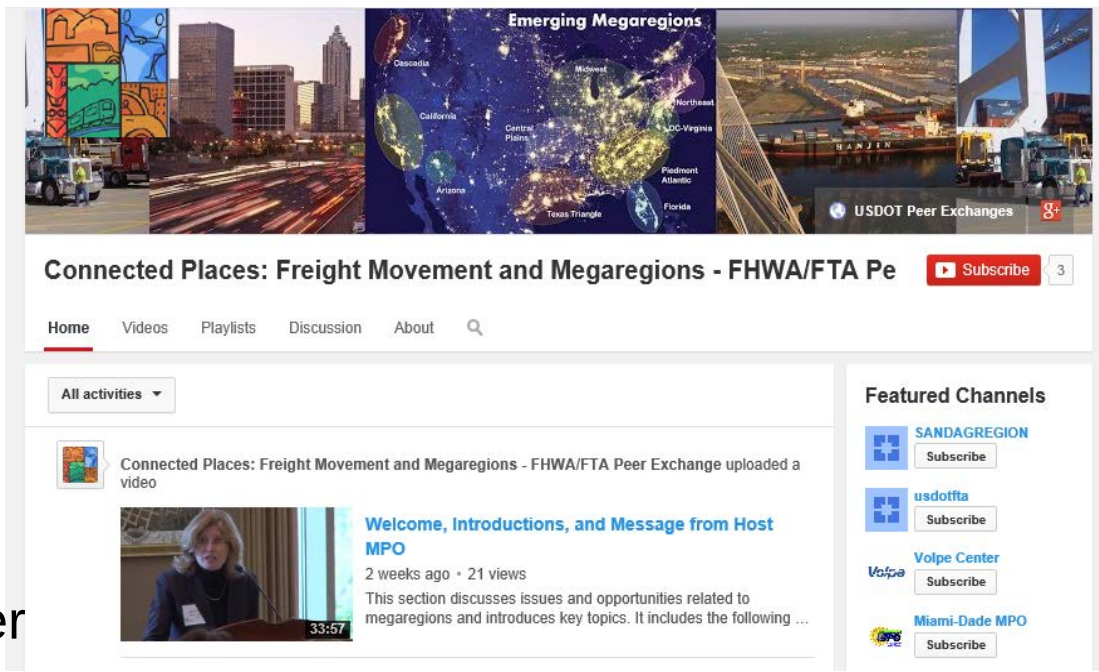
Megaregions Freight Peer Exchange

Peer Exchange
Background

Date: November 6-7, 2013

Participants

- 6 MPOs
- 4 State DOTs
- 2 Private Partners
- 3 Research Centers
- Mayors and Local Reps
- FHWA, FTA, and Volpe Center
- Airport and Seaport Directors
- Intergovernmental Organizations
- Georgia Economic Development



www.youtube.com/ConnectedPlaces

Peer Exchange
Lessons Learned

Disconnect between private and public sectors

Private-sector freight characteristics

- Freight companies are diverse (e.g., scale, speed, mode, cargo)
- Shipments need to be faster, better, cheaper, and more reliable
- Infrastructure funding can have unintended consequences
- Supply chain “half-life” is short (~5 years)

Private-sector freight trends

- Night deliveries
- Delivery consolidation (i.e., less-than-truckload)
- Intermodal freight

Peer Exchange
Lessons Learned

Planners need the right data for megaregions

Freight initiatives in the megaregion need to be prioritized

Synergies with health, safety, economic development, and other functions

Leverage existing planning organizations

“Spread the word, talk the talk, and walk the walk”

Questions ?

References

Ross, C., Barringer, J., Yang, J., Woo, M., Danner, A., West, H., … Meyer, M. (2009). *Megaregions: Delineating Existing and Emerging Megaregions* (No. FHWA-BAA-HEPP-02-2007). Center for Quality Growth and Regional Development.

Ross, C., Woo, M., West, H., Meyer, M., & Amekudzi, A. (2011). *Megaregions: Literature Review of Organizational Structures and Finance of Multi-jurisdictional Initiatives and the Implications for Megaregion Transportation Planning in the U.S. (Deliverable 1)* (No. DTFH61-11-C-00003). Center For Quality Growth and Regional Development. Retrieved from http://www.fhwa.dot.gov/planning/megaregions/reports/megaregions_report_2011/

Ross, C., Woo, M., Lee, D., West, H., Meyer, M., & Amekudzi, A. (2012). *Megaregions: Gap and Opportunity Analysis for the U.S. Megaregions (Deliverable 2)* (No. DTFH61-11-C-00003). Center for Quality Growth and Regional Development.

Center for Quality Growth and Regional Development. (2013). *Megaregions Freight Movement Peer Exchange* (Draft).

Ross, C., Lee, D., & West, H. (2013a). *Megaregions: A Framework for Megaregion Planning (Deliverable 4)* (Unpublished No. DTFH61-11-C-00003). Center for Quality Growth and Regional Development.

Ross, C., Lee, D., & West, H. (2013b). *Megaregions: Implications of a Megaregion Approach (Deliverable 3)* (Unpublished No. DTFH61-11-C-00003). Center For Quality Growth and Regional Development.