



Leveraging Transportation Routes for New Opportunities in Rural Areas

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Economic Development Program

- Founded in 1982
- 30 hrs MSED program (1 yr)
- Executive Hybrid Format (In-Person/On-Line Classes)
- Applied curriculum aligned with IEDC

True South Basic Economic Development Course

September 11 -14, 2017, in Hattiesburg, MS at The University of Southern Mississippi Trent Lott National Center

Center for Logistics, Trade, and Transportation (CLTT)

Created by Gulf Region industry and government to foster economic development thru transportation

Outline

1. Transportation & Site Selection
2. 10 Trends in Transportation & Economic Development that we are following
3. EDOs and DOTs need to be working together more

Area Development's 2016 Critical Site Selection Factor

1. Availability of Skilled Labor
2. Highway Accessibility
3. Quality of Life
4. Occupancy Or Construction Costs
5. Available Buildings
6. Labor Costs
7. Corporate Tax Rate
8. Proximity to Major Markets
9. State and Local Incentives
10. Energy Availability and Costs

Transportation
and logistics related
costs as a percentage
of sales range from 9%
to 14% for mfg.

2013 Third-Party
Logistics Study

How to determine transportation competitiveness?

IEDC Data Points	
Industrial Location Transportation Infrastructure Profile	
Access	
Highway Linkage	
2 or 4 Lane	
Distance to 4 Lane Highway	
Internal Site Access	
Mass Transit Service Distance from Building	
Bus	
Distance to Airport in Miles	
Nearest Port	
Name	
Type	
Distance in Miles	
Rail Service (if applicable)	
Carrier	
Main or Branch Line	
Spur Yes or No, if No: Distance to Rail	
Line	
Barge Facilities at Site	
Name of River, Lake, etc.	
Channel Depth	
Turning Basin	
Storage Capabilities	

Informal talks with Site Location Consultants:

- Static metrics for screening
- Optimal location methods
 - Quotes from 3PLs
 - Transportation modeling
 - E.g., Llamasoft

Rural River Ports: Cargo Handling Economic Development Organizations

IEDC Data Points Related to Ports

Nearest Port (Name, City, Miles from Area)
River, Lake, or Ocean
Channel Depth
Turning Basin
Barging Facilities
General Cargo Facilities
Containerized Facilities
Storage Facilities
Highways Serving Port
Railways Serving Port
Number of Freight Forwarders Serving Area

From RFI review.

1. Reliability of transportation access to and from the port,
2. Cargo handling equipment and capabilities,
3. Size of barges that the port can handle,
4. Ability to handle oversize loads, fees and charges at the port, and
5. Work stoppages at the port and the specific circumstances of the event. :

Source: Kern, T, and C. Miller (2015) *Improving Port-Based Economic Development Websites*
Poster presented at the 2015 Mississippi Water Resources Conference Jackson, MS

New Dynamics of Freight

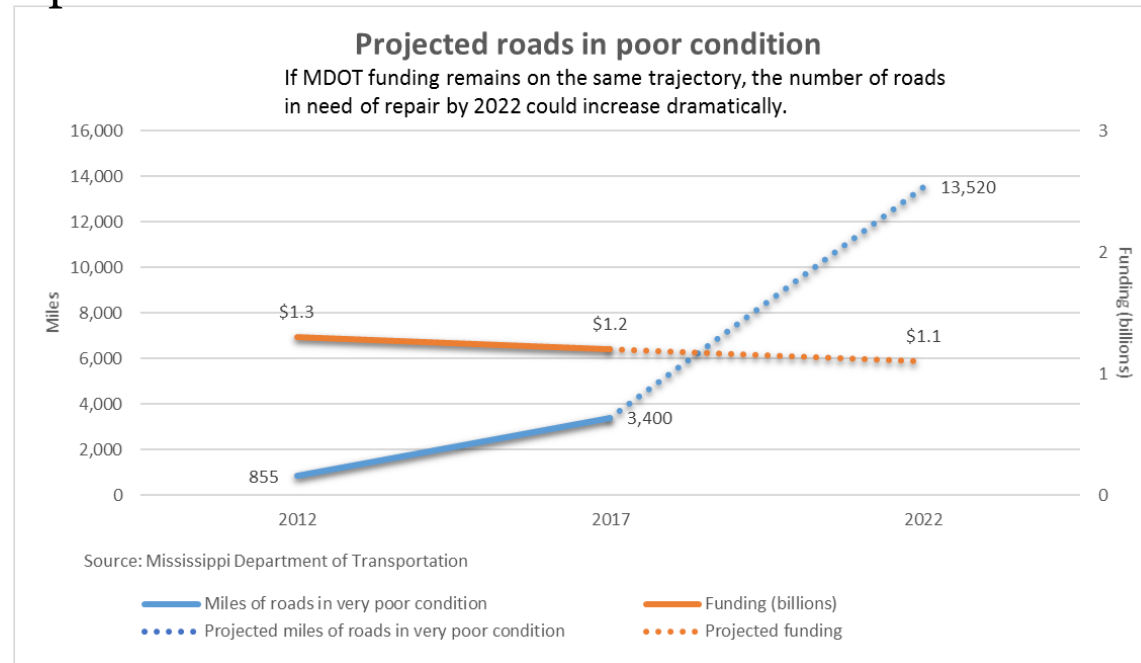
1. Financing challenges
2. Logistics clusters
3. Transload facilities (e.g., inland ports, intermodal)
4. Expansion of freight capacity e.g., Panama Canal
5. Gateways/corridors for moving freight
6. Reshoring/nearshoring of manufacturing
7. New energy sources
8. Changing national and global demographics and consumption patterns e.g., megaregions, on-line shopping, aging workforce
9. Technology e.g., driverless vehicles, drones, 3D print
10. Connecting Economic Development & Transportation

Need for Innovative Financing

- Not enough public funding for maintenance
 - Read IEDC's (2016) *Critical Condition: Infrastructure for Economic Development*
- Need to find sources of funding for new infrastructure investment
 - Public/private partnerships

14 river ports in Mississippi need \$300m for capital projects

- Support 125,700 jobs & 16% of state economy (Cambridge Systematics, 2016)
- Multimodal Transportation Improvement Program (MTIP) \$10m annually



Source: Mississippitoday.org

Logistics Clusters

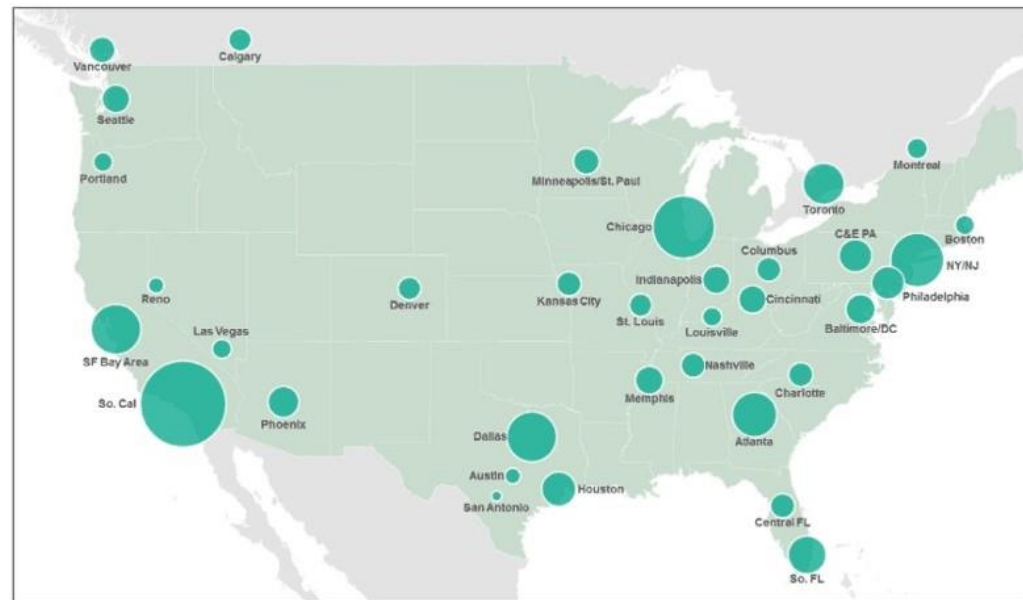
“Geographically-concentrated sets of logistics-related companies, distributors and the logistics functions of retailers and manufacturers” that are more competitive because of their co-location

Current Research: Do logistics clusters innovate like industrial clusters?

Adoption of CNG as innovation being studied

Having a group of smart industry experts in a setting where they can share ideas and learn from each other on a particular topic leads to new and better ideas.

- *Informal nature of knowledge flow*
- *Short feedback loops*
- *Examples: Silicon Valley & Hollywood*



Source: Sheffi, Y. (2012). *Logistics clusters: delivering value and driving growth*

Intermodal Facilities

- Growing (?) trend and sophistication.
- Lots of types of Intermodal Freight Facilities (IFF)
- Increasing use of ED incentives

NETWORK APPALACHIA

Intermodal Corridors of Commerce (Existing and in Development)



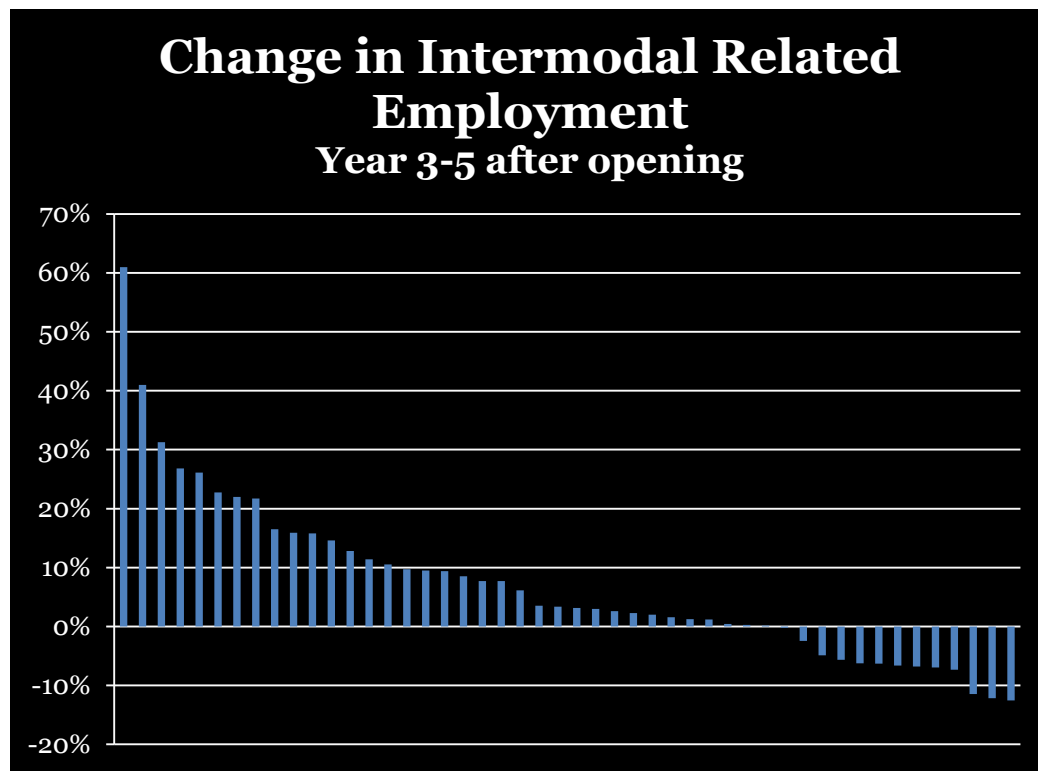
Job Creation and Intermodal Facilities

Examined 183 rail-to-truck containerized freight facilities on job growth

A lead agency should be designated and a public-private task force or coordinating group that is open and flexible should be established.

Need to explicitly consider local area needs and priorities, as well as environmental concerns and mitigation requirements.

Perhaps most importantly there must be buy-in from the community and the private sector freight carriers



Establishments of Gateways & Freight Corridors

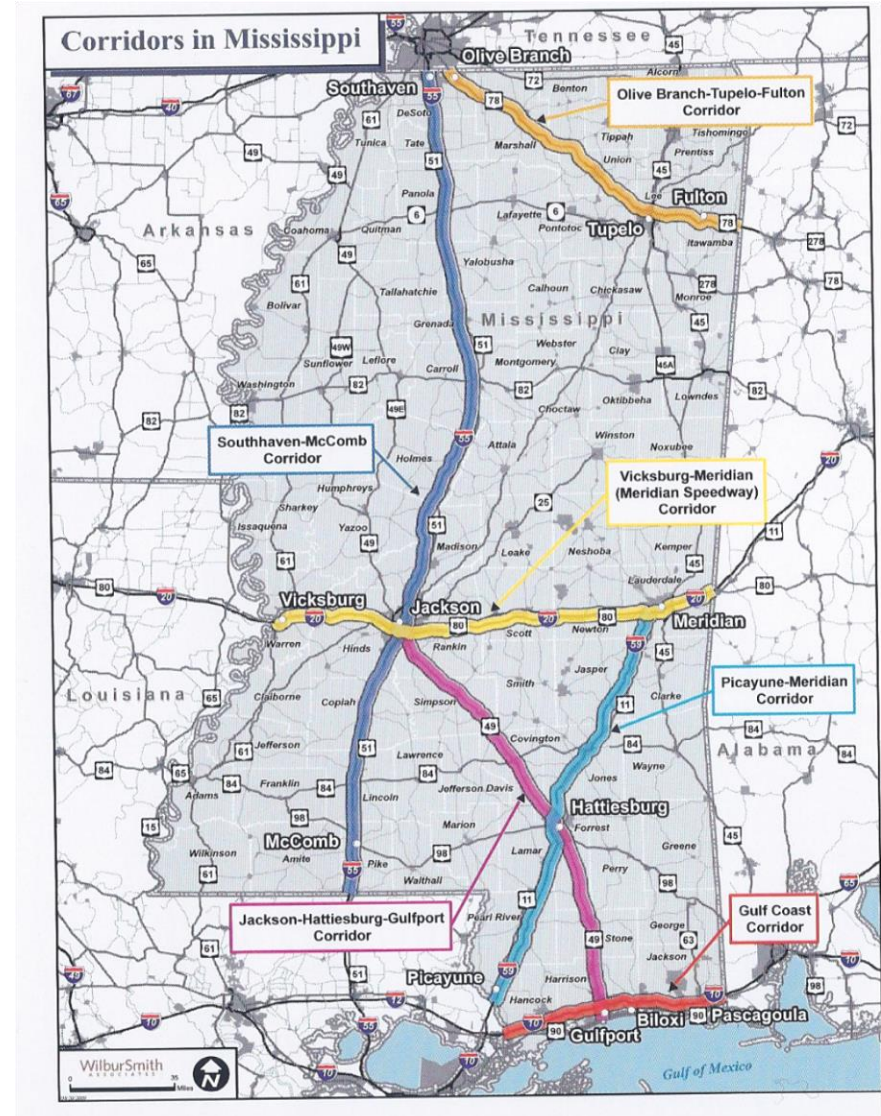
MS Goods Movement Study: Freight Master Plan

- Transeconomy: Freight Transportation + Economy = Jobs.
- Prioritized corridor-based improvements strategies to enhance freight movement

Do you know your state's freight corridors and gateways?

Review your state's MAP-21 freight plans

Get to know your State DoT and their Freight Advisory Council



Expansion of Freight Capacity

- Large expansion of international freight capacity since 2000, but over built?

U.S. freight volumes will at least double by 2020

2003 AASHTO Report

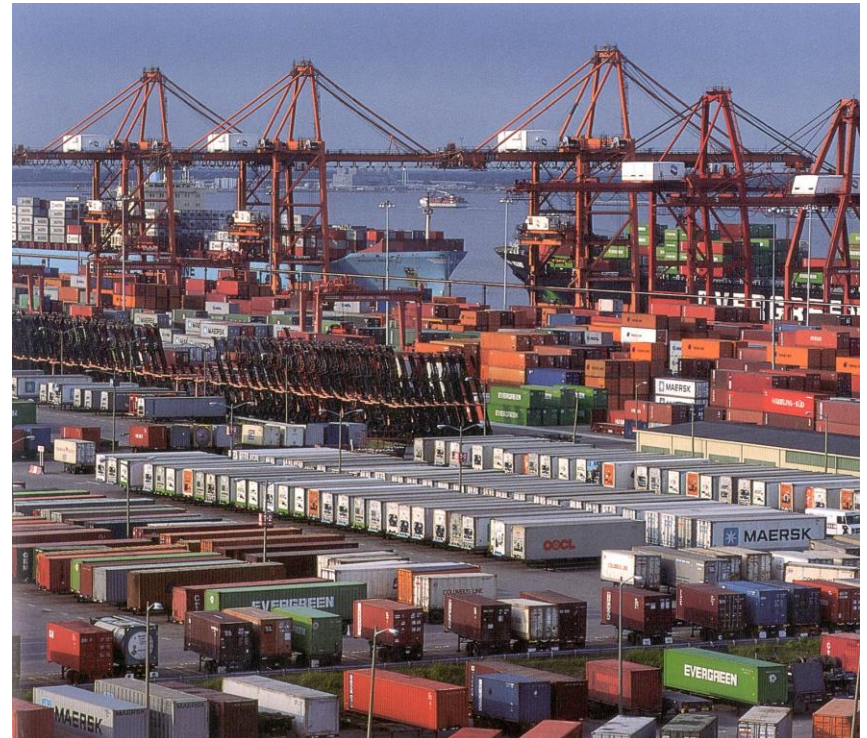
Panama Canal Expansion

Prince Rupert

Post Panamax vessels

Rail Renaissance era

About every coastal port expanded

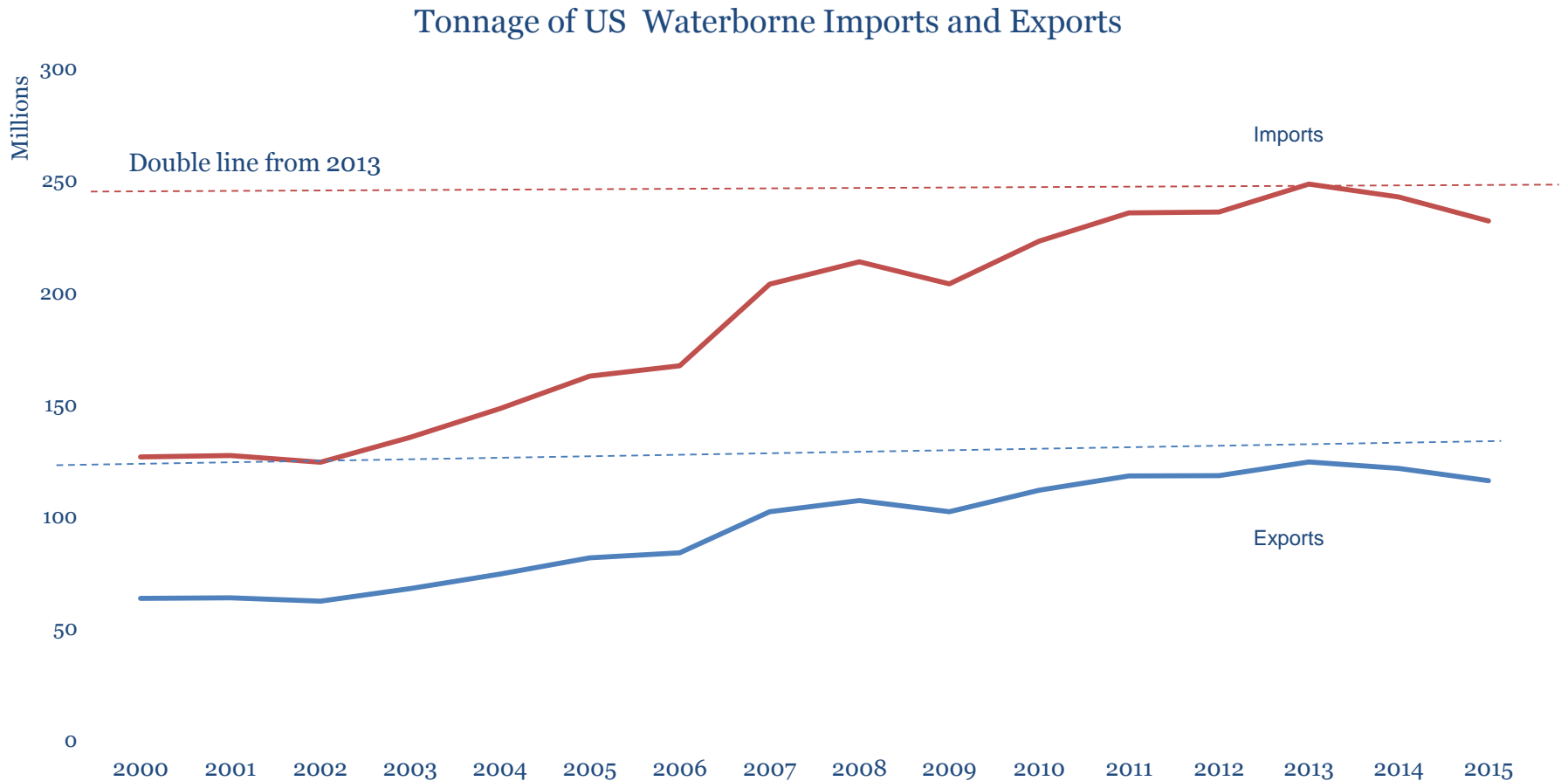


Modeled Areas for Increased Freight



Kim, Jaehoon, Michael Anderson, MD Sarder, and **Chad Miller** (2015) Multimodal Freight Distribution & Economic Development due to International Capacity Expansion International Journal of Traffic and Transportation Engineering 4(2): 60-74.

Slow down in globalization?



Reshoring

- Certain industries are expected to continue to reshore
- Regions should consider reshore target industries
- Reshored industries are likely to locate where they can find a strong proximate supplier network
- Efficient regional transportation is important with links to key strategic ports

331 Primary metal

332 Fabricated metals

326 Plastics and rubber

336 Transportation goods

335 Appliances/electrical equipment

315 Apparel

334 Computers and electronics

333 Machinery

339 Misc. Mfg.

337 Furniture

311 Food Mfg.

314 Textiles

316 Leather

327 Mineral Mfg.

321 Wood

322 Paper

334 Electronics

Changing Energy Sources

- Natural Gas, Biomass, and Fracking

Economic development opportunities and challenges if/when reemergence of oil & gas booms

- Need for transportation planning
- Economic development strategies

Miller, Chad and Joel Bolton (2016) Economic Development Strategies for Fracking: The Case of the Tuscaloosa Marine Shale Play. Journal of Energy and Development 41(1): 201-222.



Tuscaloosa Marine Shale Region Rig

Short Lines and Moving Biomass

- Est \$225m to establish a 50 mile stretch to link two short-lines
- Help attract wood pellet facilities and chip mills particularly if the Port of Pascagoula proceeds with its plans to invest in wood pellet handling facilities.

Wood Pellet Transportation Costs	
Transportation Medium	Cost per Ton (\$)
Existing rail	48.00
Truck	20.00-22.00
Barge	5.00
New rail to Pascagoula	10.00

Measells, M.K., S.C. Grado, J.E. Henderson, **C.R. Miller**. "Rail connection viability for the forest product industry in Southeast Mississippi." Pages 36-42 in *Proceedings of the 2013 Southern Forest Economics Workers Annual Meeting*, "Changing Forestry and Forest Economics and Policy." Auburn, Alabama, March 10-12, 2013



Source: Rail
Authority of
East Mississippi

Press-Register
graphic

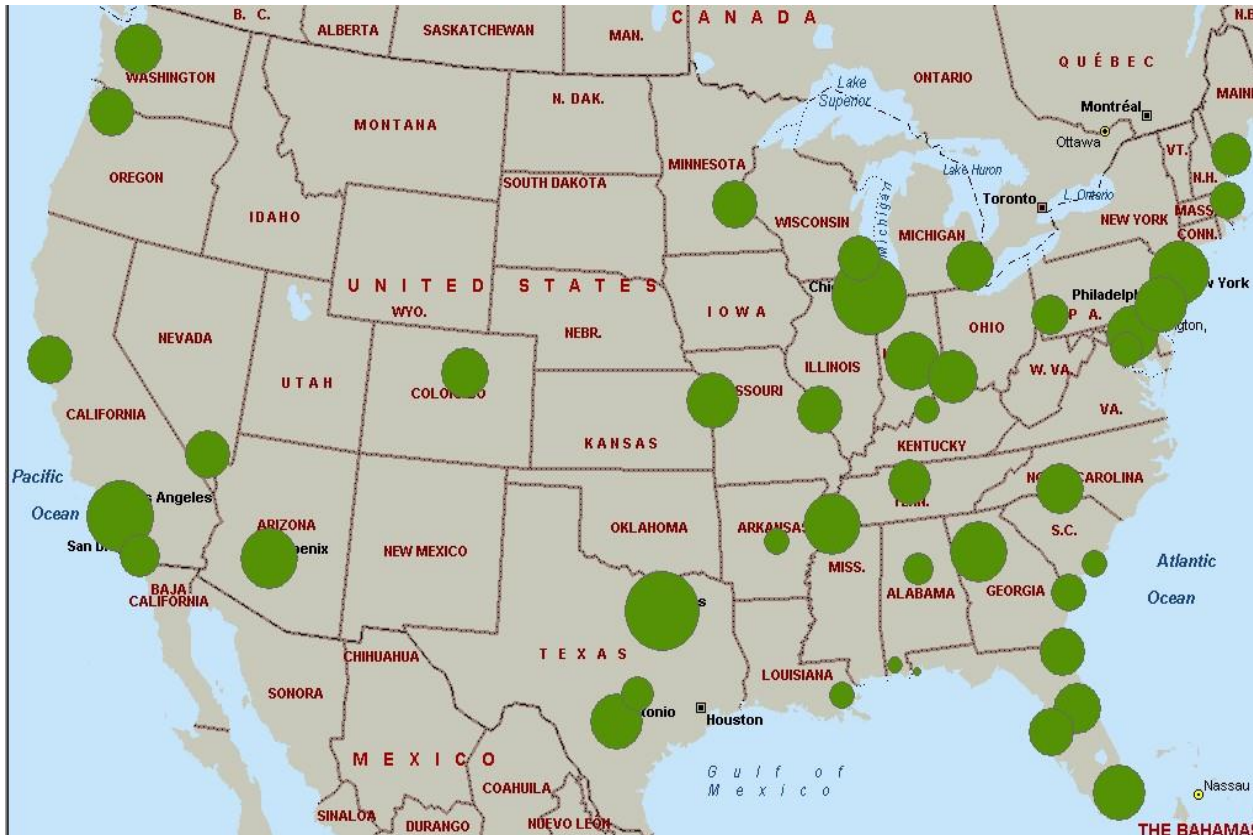
Technology Changes

- Driverless vehicles e.g., truck platooning
- 3D Printing/Additive Mfg.
 - Could change supply chains e.g., medical eqpt.
- Unmanned aerial/aquatic systems e.g., Drones
 - Ocean Task Force with U.S. Navy
 - DHS Common Unmanned Aircraft Systems (UAS) Facility at Camp Shelby



Changing Geography of Warehousing

National centralization and metropolitan decentralization “logistics sprawl”



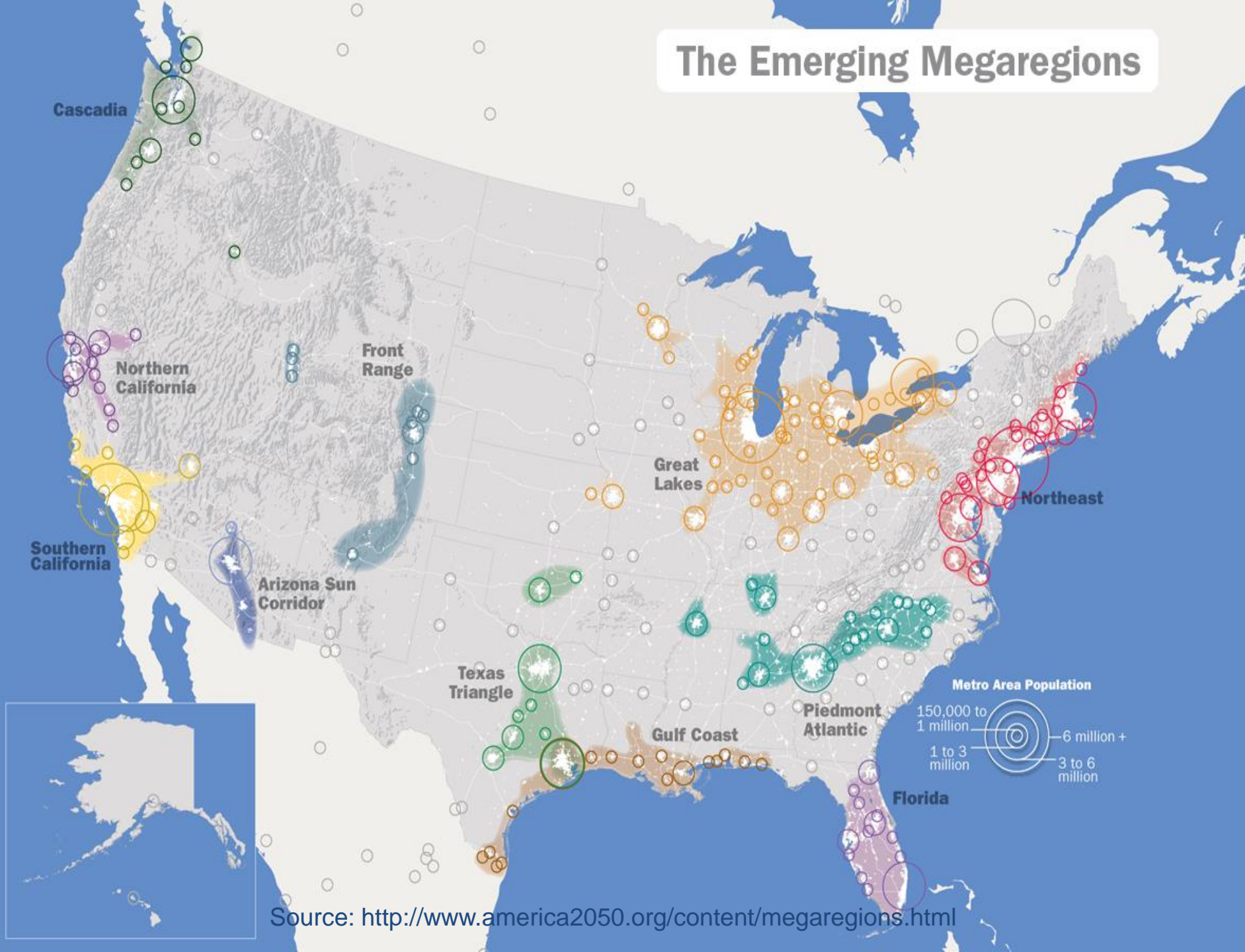
Path of Goods Movement (POGM) to determine whether transportation & warehousing should be a target industry



Shift-Share Analysis of Warehousing Jobs (NAICS 493)-MSA Level

Public Policy Implications of the Projected Realignment of Warehouses in South Mississippi due to the Panama Canal Expansion (2012) prepared for the National Center for Freight and Infrastructure Research and Education (CFIRE) Consortium

The Emerging Megaregions



Source: <http://www.america2050.org/content/megaregions.html>

Conclusions:

Need to better connect EDOs and DOTs

Rural EDOs need to understand their transportation assets

Possible Blue Ocean strategies leveraging transportation

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