

# FHWA Mid-South Megaregion Workshop

Memphis, Tennessee; December 8<sup>th</sup>, 2016



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**Federal Highway Administration  
Office of Planning**

**Washington, D.C.**



**U.S. Department of Transportation  
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# Introduction

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This report reviews and highlights key content and outcomes identified at the Mid-South Megaregion Workshop held on December 8, 2016 in Memphis Tennessee. Sponsored by the Federal Highway Administration's (FHWA) Office of Planning, Environment, & Realty (HEP), the event examined shared regional issues of concern among transportation decision makers and stakeholders in the Mid-South Megaregion. The Mid-South Megaregion comprises critical highway infrastructure, passenger and freight rail, and seaports that go beyond state and agency boundaries to support the national economy. Effective transportation infrastructure, which links together neighborhoods, towns, cities to regions, and regions to megaregions is essential to strong economic growth in a global economy. Similar to other workshops conducted by FHWA, this event joined together transportation officials from across the Mid-South Megaregion to identify how states and Metropolitan Planning Organizations (MPOs) can better communicate, coordinate statewide freight and rail plan development, and identify common approaches to address traffic congestion and aging infrastructure at a megaregion level.

## Overview of the Workshop

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### The Need for a Mid-South Megaregion Workshop

In 2015, FHWA convened an internal working group to discuss how best to address the topics of megaregions and multi-jurisdictional planning. This working group, combined with years of research, led to the identification of five key issues, thereby establishing a megaregions framework for FHWA. The five key issues include:

1. Economic Vitality
2. Environment/Air Quality
3. Freight
4. Infrastructure/Congestion
5. Safety

Beginning in 2016, FHWA facilitated a series of workshops and peer exchanges for transportation stakeholders on these key issues. Each event focused on issues specific to that megaregion, and included efforts to create dialogue regarding common transportation topics of mutual concern across jurisdictional boundaries. The Mid-South Megaregion, which links the states of Alabama, Arkansas, Louisiana, Mississippi, and Tennessee, includes 45 MPOs, encompasses some of the country's most critical freight infrastructure, including waterways, highways, seaports, railroads, and the United States' busiest cargo airport, Memphis International Airport. However, as stated in the Mid-South Megaregion White Paper (Appendix D) that was provided to participants before the event, major transportation freight flows in the Mid-South Megaregion are challenged by aging infrastructure that has not expanded to accommodate increases in freight volume. The need for multi-jurisdictional collaboration is exemplified by the Mississippi River, which connects and facilitates access for the Mid-South Megaregion to an extensive system of inland waterways that allows for critical commodities to reach

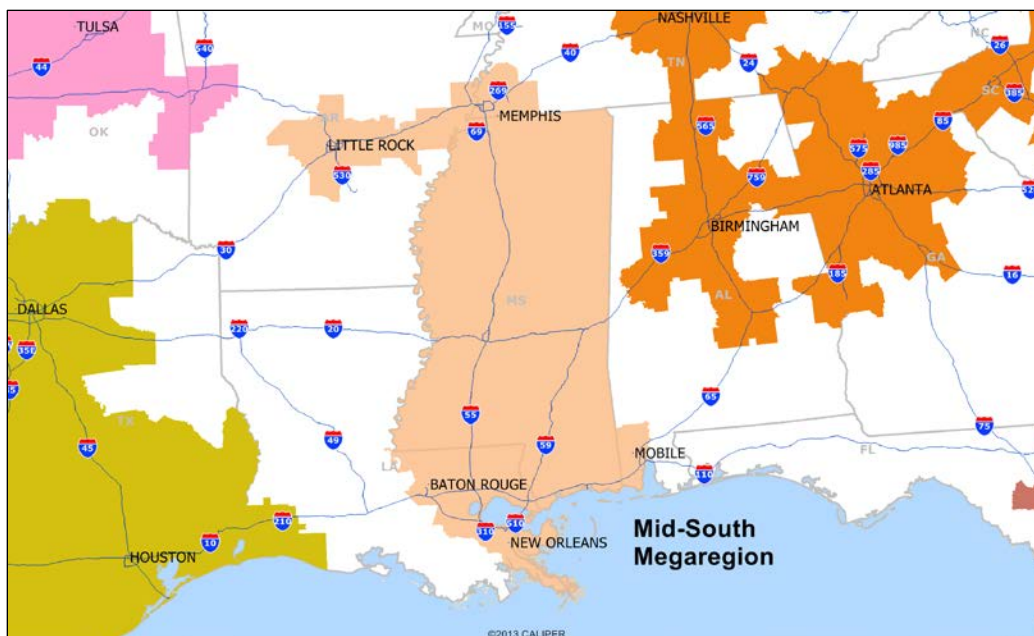
export markets in a cost-competitive manner.

In addition to engaging regional partners, this event provided an opportunity for participants to interact with representatives of peer entities along the Mississippi River, specifically the [St. Louis Regional Freightway, Bi-State Development](#), and the [East-West Gateway Council of Governments](#). Having recently implemented a regional freight district within the St. Louis metropolitan region, these organizations have made significant progress collaborating on regional freight infrastructure planning and coordination during the past two years. By sharing their recent experience with Mid-South stakeholders, participants garnered insight into potential jurisdictional structures and processes that address regional/multi-jurisdictional planning and encourages them to consider the feasibility of implementation in their region.

Image 1 is a map of the Mid-South Megaregion, as outlined by the Federal Highway Administration. It shows the Mid-South Megaregion (peach), alongside the Piedmont Megaregion (orange), the Texas Triangle Megaregion (gold), and the Central Plains Megaregion (pink).

### Image 1. Map of the Mid-South Megaregion

Source: FHWA Office of Planning



## Workshop Description

FHWA hosted the one day workshop in Memphis, TN on December 8<sup>th</sup>, 2016. Facilitated by FHWA Office of Planning staff, this event was attended by representatives of the Alabama Department of Transportation (ALDOT), Arkansas Department of Transportation (AHDOT), Louisiana Department of Transportation and Development (LaDOTD), Mississippi Department of Transportation (MDOT), and Tennessee Department of Transportation (TDOT). Also present were staffs from select MPOs and

regional planning districts/ commissions of the included states, FHWA Division Administrators and their staff, and staff from the University of Memphis.

Appendix A of this report provides the agenda for this workshop. Appendix B provides a list of key contacts and organizers. Appendix C provides a full list of the participants that attended the event. Appendix D is the white paper that was provided to participants prior to the workshop that describes megaregion transportation infrastructure and planning considerations that link the five Mid-South states of Alabama, Arkansas, Louisiana, Mississippi, and Tennessee.

Structured around a combination of presentations, multi-state peer panels, and moderated discussions on freight challenges and planning efforts, the workshop featured numerous transportation planning practitioners and leaders from the Mid-South Megaregion. The FHWA Office of Freight Management and Operations, alongside the FHWA Office of Planning, presented updates on the National Highway Freight Program (NHFP). They took questions on the FAST Act State Freight Plan Requirements, as well as the *Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies* (FASTLANE) grant program. Throughout the workshop, participants discussed potential areas for cooperation, strategies for improving freight movement, and best practices for planning at the scale of their megaregion. Participants concluded the event by identifying topics for future discussion and focus.

## Key Content and Outcomes

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During the workshop, transportation planning practitioners and leaders, along with specialists from FHWA's Office of Planning, the Tennessee Department of Transportation, and the University of Memphis delivered presentations and led moderated discussions on issues of mutual concern, including population growth, infrastructure maintenance challenges, and project funding. Informed by participant's public, private, and academic experiences in regional transportation and freight planning within the Mid-South Megaregion, this workshop addressed key demographics listed in the white paper, as well as existing and on-going freight challenges. These efforts resulted in the sharing of common interests and projects of mutual concern, alongside important emerging challenges, trends, and opportunities to enhance partnerships across jurisdictional boundaries.

### Welcome & Introductions

#### ***Gloria Shepherd, Federal Highway Administration***

Ms. Shepherd opened the workshop by highlighting how important these events are to FHWA. She discussed how this workshop presents the agency with opportunities to learn from stakeholders and collaboratively engage the multitude of challenges affecting their region, particularly the shared issues of economic vitality, environment/air quality, freight, infrastructure/congestion, and safety. She stated that an efficient freight network is necessary for both the regional and national economy to flourish. Ms. Shepherd noted that freight is like water; it is not burdened by state lines. Ms. Shepherd gave a

challenge that FHWA would like to see cohesive, connective planning networks that provide a framework for interjurisdictional cooperation.

***Pragati Srivastava, Memphis Metropolitan Planning Organization***

Ms. Srivastava expressed how excited she was by the selection of Memphis to host this event. As part of their planning process, regional collaboration and cooperation has long been central to the ethos of the Memphis MPO, which is a bi-state organization that covers four counties in Tennessee and Mississippi. Given the geography of greater Memphis, coordination with the West Memphis MPO, opposite the Mississippi River in Arkansas, is a necessity. As the Administrator of the Memphis MPO, she hoped to use this workshop to enhance collaboration with partners in the Mid-South Megaregion and identify opportunities for freight planning since Memphis is home to an economy that features a strong freight and logistics sector.

***Dr. Marty Lipinski, University of Memphis-Intermodal Freight Transportation Institute***

Dr. Lipinski noted that the University of Memphis is an active member of the Freight Advisory Committee (FAC)-West District, which draws members from the Tri-State Area surrounding Memphis. He also mentioned that the Intermodal Freight Transportation Institute at the University of Memphis conducts a number of research studies related to freight transport of regional and national significance. More information on the University of Memphis Intermodal Freight Transportation Institute may be found here: [University of Memphis Intermodal Freight Transportation Institute](#)

## **Goals and Objectives for the Workshop**

***James Garland, FHWA Office of Planning***

Mr. Garland expressed the desire for an interactive workshop, where participants could engage in dialogue on issues related to freight planning in the Mid-South Megaregion. The desired outcomes for this workshop were shared as follows:

- Are we ready for the rise of the Megaregion in the Mid-South? If the answer is “no”, how do we answer this call to action collectively?
- Establishing a list of action items to ensure transportation stakeholders are better prepared for the ‘rise of the megaregion’
- Creating a foundation for critical ongoing dialogue between jurisdictional bodies across the Mid-South Megaregion
- Addressing questions related to updates of required freight planning efforts under the recently passed Fixing America's Surface Transportation Act or "FAST Act".

These goals and objectives build around the knowledge garnered from other workshops conducted throughout the country with local, state, and Federal transportation officials who are working together to identify how states and MPOs can coordinate statewide freight and rail plan development, and identify common approaches to ongoing challenges that necessitate regional solutions.



# Overview of Megaregions: Emerging Trends and Opportunities

*James Garland, FHWA Office of Planning*  
*Spencer Stevens, FHWA Office of Planning*

Many planning issues are larger than a single MPO or state. Numerous concerns span organizational boundaries, including freight. Enhanced coordination recognizes the mutual needs, goals, and objectives of the region and allows for greater efficiencies at state and local levels. Because of this, megaregions are a natural continuation of FHWA's Every Day Counts (EDC-3) effort on Regional Models of Cooperation. The EDC-3 effort provides a framework and process for State DOTs and MPOs to develop multi-jurisdictional transportation plans and agreements to improve communication, collaboration, policy implementation, technology and performance management across agency boundaries. Regional Models of Cooperation will be a continued foundation of FHWA's Megaregions workshops and webinars. More information on FHWA's Every Day Counts-3/Regional Models of Cooperation effort may be found here: [FHWA's Every Day Counts-3/Regional Models of Cooperation](#)

Key issues for megaregions include topics such as safety, freight, infrastructure, congestion, economic vitality, and environmental and air quality. Increasingly, conversations and research are beginning to focus on the impact of automated and connected vehicle technologies, which have a clear connection to the need for enhanced cooperation across state lines, especially with regard to safety and operability. At the Mid-Atlantic Megaregion Workshop in King of Prussia, PA (December 6<sup>th</sup>, 2016), emerging technologies, such as connected vehicles, were a major focus of the event.

A number of conceptualizations and maps for megaregions within the United States were shared, including a recently created projection based on 4,000,000 commuter flows and patterns.<sup>1</sup> Also shared were megaregion trends that FHWA identified in collaboration with the Georgia Institute of Technology. Those maps, based on data sets related to population, freight flows, census information, and MPO boundaries, were just one way megaregions can be visualized. The presenters stressed that there is nothing prohibitive about working or communicating outside of a megaregion boundary, and that the maps shared were not finalized or authoritative. Instead, it was suggested that the maps catalyze discussions about multi-jurisdictional planning. Flexibility is encouraged when defining megaregions based on the problems that need to be addressed. Mr. Garland supported the notion that participants not to fixate on the boundaries, but instead use them to create context and address issues needing multi-jurisdictional solutions.

## Overview of the Freight Activities in the Mid-South Megaregion

*Marty Lipinski, University of Memphis*

Memphis is a freight-centric region, with approximately 10.4% of the region's jobs related to logistics

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<sup>1</sup> Dash Nelson G, Rae A (2016). An Economic Geography of the United States: From Commutes to Megaregions. PLoS ONE 11(11)

and transportation. The city could be considered “Quadra-modal” given its access to water, air, rail, and road infrastructure. Dubbed America’s Aerotropolis by the Memphis Chamber of Commerce, multiple Fortune 500 corporations take advantage of their proximity to Memphis International Airport for distribution of their products to domestic and international consumers.

However, there is a significant drayage issue within the region, due to disconnect between commercial facilities and regional freight infrastructure, which creates substantial congestion, especially during the peak morning and evening hours. Drayage is the transport of goods over a short distance, often as part of a longer move. These issues are exacerbated by dwindling infrastructure capacity at the regional level. Recent commercial and industrial developments in the region include the newly developed Memphis Regional Intermodal Facility, an anchor of Norfolk Southern’s Crescent Corridor rail route. As noted in the Mid-South Megaregion White Paper, the 2,500-mile Crescent Corridor has the potential to compete with trucks transporting intermodal containers across 13 states, and provides direct routes from the Mid-South to the Northeast with connections to Mexico and Los Angeles. According to Dr. Lipinski, an increasing number of distribution centers are now being built near this facility, but primarily on the Mississippi side of the border.

### ***Pragati Srivastava, Memphis MPO***

Memphis created a tristate FAC, including members from Tennessee, Mississippi and Arkansas, to begin constructing Memphis MPO’s regional freight plan. Their regional freight plan asks questions such as: Who do we trade with? Who are our peers? What types of freight move through our region? Ms. Srivastava noted that it is important to understand how things have changed over time, so that antiquated information and data do not hinder future projections. She also discussed the importance of convincing leaders, both public and private, that megaregional cooperation and planning is critical to the competitiveness of their region. Due to the diversity of the region’s transportation network, the Memphis MPO wants to incorporate numerous multimodal projects into their planning efforts.

### ***Dan Pallme, Tennessee Department of Transportation***

According to Mr. Pallme, the strengths of this region are centered on its access to extensive air, river, rail, and road networks. Mr. Pallme noted the complexity of regional planning, as well as the fierce competition for new development that often arises between jurisdictions within the same region. He cited recent commercial development in Northern Mississippi, related to the Memphis Regional Intermodal Facility, demonstrating how differences in regulation and business climate can create challenges for collaborative planning. He also presented a series of questions that he felt needed to be integrated into regional planning efforts for the Mid-South Megaregion, including how to evaluate the impact of the recently completed expansion of the Panama Canal. The white paper provided for this workshop notes that gulf coast U.S. seaports are well-situated for the increase in cargo that is expected from the recent expansion of the Panama Canal. Preparations at gulf coast ports included installation of larger cranes and dredging channels to accommodate container ships with nearly two and one-half times the capacity of current Panamax vessels (the largest ships that now transit the canal).

Another focus was how to accommodate the changing dynamic of freight flows in the region, particularly the subtleties of online/electronic retail economy, which presents unique infrastructure challenges for planners. Mr. Pallme also presented on how technology will eventually alter the operation of State DOTs, and discussed barriers facing the implementation of those technological advances as it relates to regulatory antiquities or overlap. He concluded by noting that the future for the Mid-South Megaregion was bright considering its strengths related to population, multimodality, terrain, weather, cost of living, and workforce.

## ***Freight by State: A Moderated Discussion***

***Marty Lipinski, University of Memphis (Moderator)***

Dr. Lipinski moderated the first discussion of the workshop and commenced by introducing the invited State DOT representatives from Alabama, Arkansas, Louisiana, Mississippi and Tennessee. Each DOT shared recent freight activities in their state, the status of their State Freight Plans, and discussed their efforts to enact the National Highway Freight Program.

**Alabama:** In 2010, Alabama DOT (ALDOT) completed a statewide freight study, and in 2016 released their State Freight Plan. The state has also prepared a rail plan. These planning documents have helped them to better understand freight movements across Alabama. Currently, about 80% of freight is moved by truck within the state. It was noted that timber is a major commodity for trucks in Alabama, which is primarily constrained to local roads due to legal restrictions. ALDOT noted that Alabama expects freight movement to increase by 40% by 2040. The operational impact of freight movement within Alabama is primarily felt on the interstate system. The state has identified numerous sites as candidates for capacity increases across the system. In their estimation, two thirds of the interstate system will need at least one additional lane by 2035. Alabama has a FAC that involves their MPOs, as well as representatives from inland ports, seaports, airports, and rail agencies. The State DOT led a series of consultations across the state with multiple meetings incorporating a wide range of stakeholders. These meetings were helpful in identifying existing and potential future freight bottlenecks.

**Arkansas:** Arkansas DOT (AHDT) serves an important conduit for freight connectivity in the Mid-South Megaregion because it maintains three Class 1 freight railroads within the state, and multiple Interstates, including I-30, I-40, I-49 and I-55. The important role Arkansas plays in regional freight movement was demonstrated by the difficulties encountered when I-40 closed due to flooding in 2011. This closure had a tremendous impact on freight movement across the region, since many trucks diverted to state highways, affecting routes in other states. In Arkansas, 43% of economic output is freight dependent, and 50% of employment is freight dependent. The state's rail plan was approved in 2016, while the planning process for the state's freight plan is expected to be complete and approved in 2017. With regards to freight, safety is of high concern due to the number of crashes on certain high volume routes. AHDT noted that incidents along I-40 are causing considerable impact.

**Louisiana:** Louisiana's current freight plan is MAP-21 compliant, but not yet FAST Act compliant. The state is currently updating the plan to include required aspects such as the delay caused by freight

movement. It was noted that an important export of the state is oil and gas, which is considered a critical national commodity. Louisiana does maintain a FAC, and during the development of the current freight plan they held meetings to exchange updates and feedback with key stakeholders. Included in their FAC are modal advocacy organizations, ports, railroads, private industry, motor and freight business associations, the Louisiana Planning Council, state police, and economic development organizations. Essentially, it is a diverse group of stakeholders tasked with providing feedback as part of the state freight plan amendment process, which is important to becoming FAST ACT compliant. To identify their freight network, the state utilized a tiered methodology that features a combination of truck percentage on roadways, tonnage, and other factors to establish a ranking.

**Mississippi:** Completed in 2011, the state's first rail plan was recently updated in 2015. The state has a long history of cooperation with neighboring states, as the representative from Mississippi DOT (MDOT) noted that Mississippi's largest MPO is actually in Tennessee. Mississippi plans to submit a number of FAST Lane grants this year. For example, MDOT believes that a section of I-69 that currently terminates near the state line is well positioned for funding. MDOT argued that the route should expand and undergo further upgrades to provide additional connectivity to neighboring states. The state is also looking to make continued improvements to its bridges to ensure efficient freight flow, and in 2013 initiated their state freight plan to accomplish this goal, with their FAC formed the following year. MDOT noted that it was good to have interaction and input from various freight representatives to help inform decision making. Mississippi's FAC includes membership from the state's MPOs, as well as public, private and academic sector representatives, and was most active during the development of the freight plan.

**Tennessee:** Tennessee DOT (TDOT) completed their freight plan in 2015, and will update for FAST Act compliance by the summer of 2017. Currently, there are approximately 60 freight related projects under construction in TN, and a total of 169 projects identified for funding in the statewide freight plan. They have a statewide FAC, as well as three divisional FACs. They have found FACs to be a valuable method for keeping industry updated on upcoming investments. For each regional FAC, the state works with its university partners to help identify and organize prospective stakeholders. It was noted that the time commitment is substantial for FAC members, and they consider that one of the most difficult aspects to overcome when facilitating sessions. In terms of research, Tennessee has awarded over \$1 million for freight related research, ranging from fuels to truck parking. Recently, TDOT and the Federal Motor Carrier Safety Administration (FMCSA) teamed up on the project, dubbed SmartPark. The goal of this project is to reduce illegal and dangerous parking practices by connecting truckers with available parking via smart phone applications.

## **Improving Collaboration to Advance the Future of Freight**

***Jim Wild, Executive Director East-West Gateway Council of Governments***  
***John Nations, President / Chief Executive Officer of Bi-State Development***  
***Mary Lamie, Executive Director St. Louis Regional Freightway***

Much like Memphis, St. Louis encompasses a multi-state, multi-county region. In the St. Louis area, the East-West Gateway Council of Governments is made up of 24 members, split between the states of Illinois and Missouri. Much like Western Tennessee, Eastern Missouri is a confluence of interstates,

airports, and waterways that features one of the largest inland ports in the United States. In providing the narrative for the creation of the St. Louis Regional Freightway, Mr. Wild cited the importance of past data collection efforts, including a regional freight study that incorporated over 75 partners.

One of the primary recommendations from that culmination of planning and past research was the need to implement a regional freight district, and pursue a coordinated effort regarding the location of future infrastructure. It was decided that Bi-State Development, an interstate compact, should lead the pursuit of this district, as they maintained the necessary experience, relationships, and institutional prowess for the freight district to work. The East-West Gateway Council of Governments provided a portion of the initial financing, which was critical to implementing the freight district.

The effort to form a regional freight district for the St. Louis area culminated with the creation of the St. Louis Regional Freightway in 2014. Led by Executive Director, Mary Lamie, the St. Louis Regional Freightway looks to strengthen the St. Louis region by increasing job growth through manufacturing and logistics. This is accomplished by:

- Building on regional successes
- Promoting industry specializations
- Current Regional Clusters: Advanced manufacturing, logistics, & agriculture
- Strengthening intermodal connections
- Increasing the efficiency of the regional freight network
- Enabling E-Commerce growth
- Building strategic partnerships across the nation with peer cities

Involvement and cooperation from the private sector has been key to the success of the St. Louis Regional Freightway. Currently, the organization is structured around three core committees, including Needs Analysis and Freight Development, Marketing, and Policy. These committees serve to facilitate the organization's goals.

Also discussed, was the collaborative process led by the St. Louis Regional Freightway to develop a focused project list of regional freight priorities. It was decided to pursue two portfolios, one focused on the direct improvement of the multi-modal freight network, and the other for projects that improve access to the multi-modal freight network. Representatives included in this process indicated that the highest priorities for regional freight infrastructure in the St. Louis area were the replacement of the Merchants Rail Bridge and the Interstate 270 Mississippi River Bridge.

Over the next year the St. Louis Regional Freightway will continue developing partnerships and facilitating the industrial site selection process that is already incorporated and prominently featured on their website. Another priority will be to continue documenting existing economic conditions to better identify network hindrances and more strategically explain system constraints to external parties with the goal of further strengthening the St. Louis region.

# **FAST and Freight: New Opportunities for Expanding the Concept of Megaregions**

***Tamiko Burnell, FHWA Office of Freight Management and Operations  
Spencer Stevens, FHWA Office of Planning***

FHWA's Office of Freight Management and Operations in coordination with the Office of Planning presented an overview of the FAST Act, paying particular attention to the National Highway Freight Program (NHFP), and FAST Act State Freight Plan Requirements. In addition, they discussed the Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE) Grants.

The presentation began by reviewing important facts regarding the NHFP, specifically the federal funding breakdown and eligible project types. Noting that states have broad flexibility in addressing the trends, needs, and issues of their freight system, the presenters described in detail the designation of the Primary Highway Freight System (PHFS), Critical Rural Freight Corridors (CRFCs), and Critical Urban Freight Corridors (CUFCs). It was stressed that there is no deadline for designating and certifying CRFCs and CUFCs. These designations may occur at any time, and may be full or partial designations of the CUFCs or CRFCs mileage. The two types do not need to be designated at the same time. Designations and certification may be provided to FHWA on a rolling basis. It is important, however, that these decisions be data driven, and that selection criteria feature collaboration with neighboring states.

An important consideration when forming a FAST Act compliant State Freight Plan, is the inclusion of representatives from critical commodities on the designated FAC, which requires consultation during the formation of the plan. Other requirements include the identification of significant freight systems, and a discussion of how the plan will improve the ability of the state to meet national multimodal freight policy goals. The State Freight Plan should also feature descriptions on how the state will incorporate innovative technologies and operation strategies that improve the safety and efficiency of freight movement, and a description of improvements that may be required to reduce system deterioration due to heavy vehicle usage. A consideration of any significant congestion or delay caused by freight movements should be included, and a list of priority projects/investment plan provided. This list/investment plan should include a description as to how funds would be invested and matched for these projects.

The presenters encouraged those working on State Freight Plans to utilize their FHWA Divisional Office as an initial point of contact, and reminded participants that great planning facilitates great implementation. As best practices and exemplary plans become evident, FHWA will facilitate instructional webinars or facilitate additional question and answer sessions with those entities.

## **Moderated Discussions on Freight Challenges**

***Moderated by Dan Pallme, Tennessee Department of Transportation***

Dan Pallme, Tennessee Department of Transportation, moderated a discussion between representatives of the Arkansas, Alabama, Louisiana, Tennessee, and Mississippi State Departments of Transportation

on the challenges facing freight movement in the Mid-South Megaregion. Mr. Pallme guided panelists through the identification of challenges facing their respective states, potential solutions to a handful of shared issues, and actionable next steps that workshop participants could utilize to begin addressing the identified issues.

### ***Freight Challenges***

- Funding
- Coordination
- Truck Parking

During this discussion representatives cited funding as the largest challenge facing freight movement in their region. An obvious challenge cited by the panelists was how to maintain a state of good repair while still addressing new capacity and facility challenges. Participants noted that some states are facing billion dollar backlogs for both capacity enhancements and required maintenance within the next decade.

Another noted difficulty was the high level of coordination needed between stakeholders to ensure a successful project. Panelists discussed the difficulties of moderating the interests of all parties, particularly more powerful members of their FACs. Panelists indicated that most State DOTs had only limited capacity to support the level of coordination needed for regional projects or issues. It was noted that coordination difficulties were exacerbated by the differing fiscal years and funding cycles of states within the Mid-South Megaregion.

Tennessee noted that an important challenge facing their state and the broader region was the availability of truck parking. Remarking on “Jason’s Law”, which was established under MAP-21 to provide a national priority on addressing the shortage of long-term truck parking, Tennessee noted that the state had a current shortage of approximately 1500 spaces, which is essentially double the number of spaces currently available for truck drivers. Given the state’s strong freight and logistics sector addressing this shortage is of key importance.

### ***Potential Solutions***

- Increase Revenue Sources (Gas Tax and Bonds)
- Required Plan Review

Between participants, there was lively discussion regarding solutions to address the identified funding shortfalls. Potential solutions identified by some panelists included the posting of transportation related bonds. When questioned, panelists indicated that the gas tax had not increased in their state since the late 1980s or early 1990s. Due to the fact that fixed, per-gallon gas tax rates have stagnated while construction costs have grown, tax revenues have fallen short of infrastructure spending needs in all of the states represented. Improved fuel efficiency of new vehicles and political pressure not to raise taxes has also contributed to these shortfalls. To address the issue, participants suggested that planners attempt to motivate political leaders by ensuring that the business community maintains a vested interest in the quality of the state’s transportation network and lobby for needed funding streams.

## **Image 2. Moderated Discussion: Freight Challenges**

Source: Volpe, National Transportation Systems Center



One solution proposed to advance coordination efforts between states within the Mid-South Megaregion would be to require the review of plans created by neighboring entities and the solicitation of comments from neighboring governments when creating or updating planning documents. This would create increased awareness regarding the activities and plans of neighboring entities in a cost-effective manner, and allow for the identification of inconsistencies with new proposals being developed. Similar efforts have been undertaken by other states, but at a smaller scale. In 2002, Michigan Planning Commissions were required to begin reviewing and responding to the proposed plans of a neighboring entity or county, which could serve as a similar model for plan review requirements within the Mid-South Megaregion.

### ***Next Steps to Improve Freight Movement***

- The inclusion of funding considerations in corridor planning studies.
- Continued participation in forums, programs and other workshops
- Further consideration of truck parking and its important safety considerations.

Panelists agreed that funding considerations need to take greater prominence when undertaking corridor or project planning. It was suggested that the identification of funding sources and revenue streams for needed maintenance receive more attention during the initial stages of project development.

Moving forward, panelists noted the importance of events such as the FHWA Mid-South Megaregion Workshop, and their continued participation in similar forums and programs, including the Institute for Trade and Transportation Studies (ITTS). ITTS provides research data and expert opinions to its members concerning the effects of commercial freight movements on domestic and international activities, with reference to infrastructure and transportation needs, and safety implications.



The importance of truck parking was cited not only as a safety matter by panelists, but as a quality of life issue for both the drivers and their surrounding community. It was agreed that greater attention is needed for this issue, and that regional tools, such as TDOT's SmartPark application, are an excellent first step to ensuring this issue is adequately addressed.

## **Closing Remarks and Topics for Future Discussion**

***James Garland and Spencer Stevens, FHWA Office of Planning***

Before introducing the concluding speakers, Mr. Garland engaged participants with topics for consideration at future events or workshops. Below, these topics are listed:

- Identification of new funding opportunities for freight related infrastructure and coordination
- Improved coordination between states related to planning efforts
- Better incorporation of rural infrastructure into state based plans
- Planning for the E-Commerce economy
- Incentive programs and aligning regulations within the region
- "Problemsheds"
- Identifying opportunities system redundancy and resiliency
- Accommodation of unique freight

Nearly all of the topics identified by participants at the Mid-South Megaregion Workshop relate to freight planning, which is a natural fit for the scale of the megaregion because freight networks are typically quite large and spatially dispersed. As the Mid-South Megaregion plans for an economy based around E-Commerce, it will be important that jurisdictions within the region align incentive programs and regulations to ensure that cooperation takes precedent over competition. Unless examined at the scale of the megaregion, the full impact of freight decisions made at the local or municipal level cannot be understood. Similar to the St. Louis Regional Freightway, the Mid-South and its sub-regions need to identify the most effective locations for new infrastructure while avoiding duplication of services or programming. It is important, however, that the identification of these selected sites and projects take a data-driven approach. Maintaining precise or fixed boundaries are not required for decisionmakers in the Mid-South to form useful and opportunistic partnerships to address the identified issues related to freight planning, environmental concerns, or creating a redundant and resilient transportation network. Viewing these shared regional issues of concern as "problemsheds" that utilize flexible boundaries pertinent to a specific issue is ideal for addressing issues that cross boundaries such as state lines.

Given its significant number of international access points, primarily Memphis International Airport and the multitude of major ports situated along the Gulf of Mexico, the Mid-South Megaregion is well-positioned to respond to the needs of the global marketplace, as well as the domestic freight industry, which increasingly requires an interconnected, reliable, multi-modal system to facilitate the flow of goods. However, to take advantage of their geographically advantageous situation, the region must continue to identify opportunities for regional freight related infrastructure and enhance the coordination of its planning efforts.

# Appendices

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## Appendix A: Peer Exchange Agenda

### Mid-South Megaregion Freight Workshop December 8, 2016 Memphis, Tennessee

Time	Topic	Presenters
8:00-8:15	<b>Welcome/Introductions</b>	<ul style="list-style-type: none"> <li>Gloria Shepherd, FHWA</li> <li>Pragati Srivastava, Memphis MPO</li> <li>Marty Lipinski, University of Memphis</li> </ul>
8:15-8:30	<b>Goals and Objectives for the Day</b>	<ul style="list-style-type: none"> <li>James Garland, FHWA Office of Planning</li> </ul>
8:30-9:15	<b>Overview on Megaregions: Emerging Trends and Opportunities</b>	<ul style="list-style-type: none"> <li>James Garland, FHWA Office of Planning</li> <li>Spencer Stevens, FHWA Office of Planning</li> </ul>
9:15-10:00	<b>Overview of the Freight Activities in the Mid-South Megaregion</b>	<ul style="list-style-type: none"> <li>Pragati Srivastava, Memphis MPO</li> <li>Marty Lipinski, University of Memphis</li> <li>Dan Pallme, Tennessee Department of Transportation</li> </ul>
10:00-10:15	<b>Break</b>	
10:15-12:00	<b>Freight By State: A Moderated Discussion: Marty Lipinski, University of Memphis</b>	<p>Each State DOT in the Mid-South Megaregion (AL, AR, LA, MS, and TN) will be asked to spend five to seven minutes to discuss:</p> <ul style="list-style-type: none"> <li>Different Freight Activities in Their State</li> <li>Status of State Freight Plans</li> <li>Efforts to Enact the National Highway Freight Program</li> </ul>
12:00-1:45	<b>WORKING LUNCH</b>	
12:00-1:45	<b>Improving Collaboration to Advance the Future of Freight</b>  <b>Introduction of Guest Speakers, Pragati Srivastava, Memphis MPO</b>	<ul style="list-style-type: none"> <li>John Nations President &amp; Chief Executive Officer of Bi-State Development</li> <li>Mary Lamie, Executive Director St. Louis Regional Freightway</li> <li>Jim Wild, Executive Director East-West Gateway Council of Governments</li> </ul>

Time	Topic	Presenters
1:45-2:45	<b>FAST and Freight-New Opportunities for Expanding the Concept of Megaregions</b>	<ul style="list-style-type: none"> <li>• Tamiko Burnell, FHWA Office of Freight Management &amp; Operations</li> <li>• Spencer Stevens, FHWA Office of Planning</li> </ul>
2:45-3:30	<b>Open Discussions on Freight Challenges</b>	<p>Dan Pallme, Tennessee Department of Transportation</p> <ul style="list-style-type: none"> <li>• Share the biggest challenges on freight in your state, along with brainstorming potential solutions</li> </ul>
3:45-4:45	<b><i>Break</i></b>	
4:45-5:00	<b>Closing Remarks and Next Steps</b>	<ul style="list-style-type: none"> <li>• James Garland, FHWA Office of Planning</li> <li>• Pragati Srivastava, Memphis MPO</li> <li>• Marty Lipinski, University of Memphis</li> <li>• Derrell Turner, Federal Highway Administration</li> </ul>
5:00	<b>ADJOURN</b>	

# Appendix B: Key Contacts

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# Mid-South MEGAREGION



U.S. Department of Transportation  
**Federal Highway Administration**



## INTRODUCTION

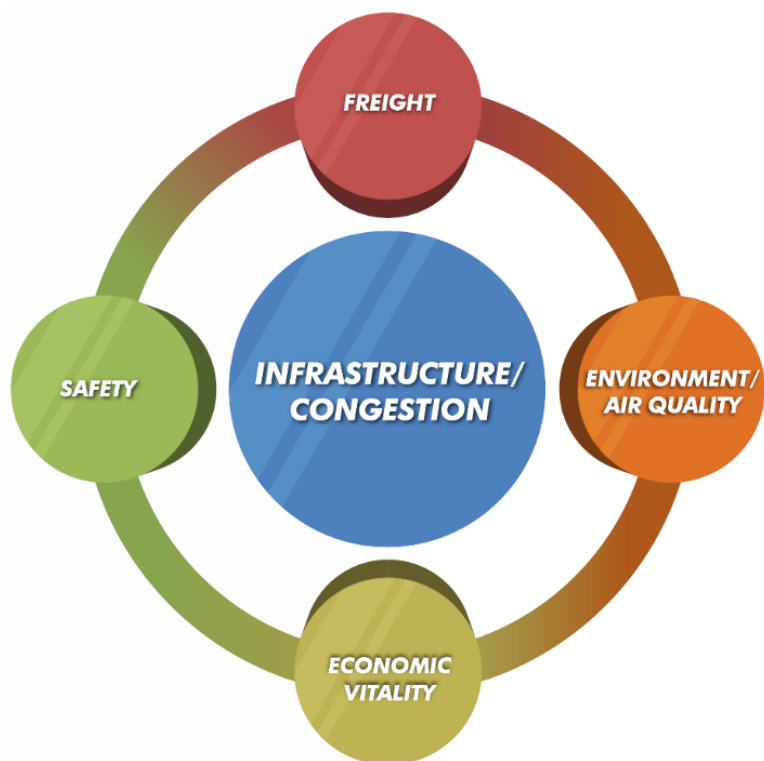
This paper describes megaregion-level transportation infrastructure planning considerations linking the five Mid-South states including Alabama, Arkansas, Louisiana, Mississippi, and Tennessee. The area comprises critical highway infrastructure, passenger and freight rail, and seaports that go beyond state and agency boundaries to support the national economy. Effective transportation infrastructure, which links together neighborhoods, towns, and cities to regions – and regions to megaregions – is essential to economic growth in a global economy.

At workshops conducted around the country local, state, and Federal transportation officials are joining together to identify how states and Metropolitan Planning Organizations (MPOs) can better connect with each other, coordinate statewide freight and rail plan development, and identify common approaches to address traffic congestion and aging infrastructure at a megaregion level.

Megaregions are characterized as networks of urban centers and their surrounding areas, connected by existing economic, social, and infrastructure relationships.<sup>1</sup> Transportation infrastructure provides the structure within and between cities metropolitan areas in the region. There are 45 MPOs in the Mid-South Megaregion, each of which plays an important role with regard to coordinated, comprehensive transportation planning activities.



Existing Mid-South megaregional collaboration activities include several interstate corridor studies, the Gulf Coast Study, the Gulf Coast High Speed Rail Corridor, Annual Freight in the Southeast Conference, the NS Crescent Corridor, and the CSX Southern Corridor.



## IMPORTANCE OF MEGAREGIONS

Potential benefits of megaregions planning include enhancing economic development across jurisdictional boundaries, sharing best practices, promoting the collection, sharing, and use of data and information, and addressing projects or services that enhance the mobility of people and goods. A megaregional approach provides opportunities to identify common tracking and performance metrics to understand regional needs and challenges and to meet peer staff and partners from other states and agencies to advance coordination.

Key aspects of planning for megaregions include strategic planning, technical analysis, coordinating funding mechanisms, and identifying common approaches to address congestion at a megaregional level. The megaregion approach offers a framework for inter-jurisdictional cooperation, rather than state or local government competition for funds and projects.<sup>2</sup>

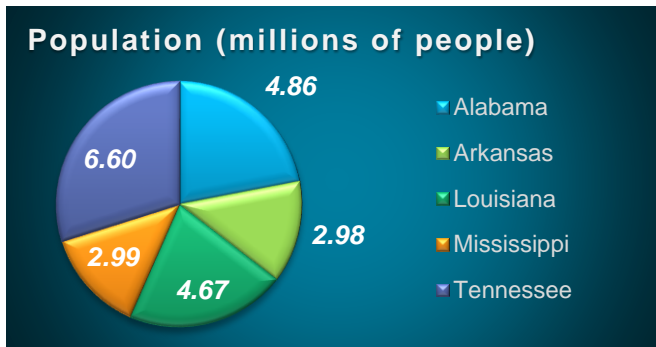
<sup>1</sup> Ross et al., 2009.

<sup>2</sup> Ross et al., 2009.



## POPULATION

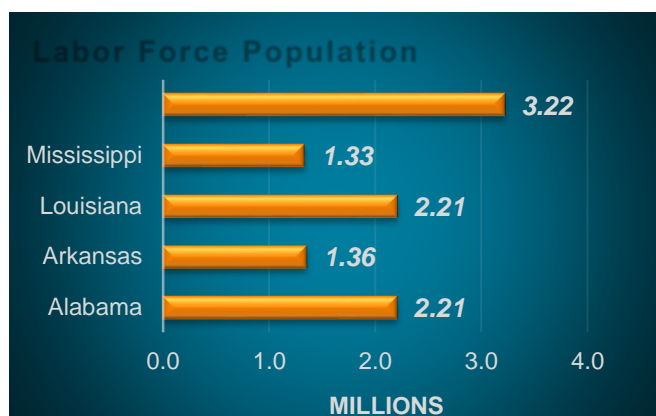
The total population of the region is 22,100,539, or seven percent of the total United States population. Alabama, Louisiana, and Tennessee have the largest populations, most of which is concentrated around the urbanized areas of Memphis, Mobile, and New Orleans.<sup>3</sup> Population growth and expansion of economic activities over the last several decades are placing stress on roadways, airports, transit, and shipping infrastructures. Planning and implementation of transportation infrastructure improvements at the megaregion level can be more coordinated and comprehensive than the piecemeal improvements that occur at the level of an individual jurisdiction.



## EMPLOYMENT

Freight-related sectors across the region have seen steady growth since the global economic downturn in 2008-2009. The infrastructure most heavily used by key freight industry supply chains in the Mid-South include automotive, advanced manufacturing, petrochemical products, plastics, and agriculture. Louisiana is the #2 in chemical manufacturing in the U.S.

With the presence of oil and gas reserves in the Gulf Coast states, the region contains one-half of the U.S. oil refineries producing refined petroleum products. The abundance of shale oil and gas is also creating jobs in those industries that support the energy industry. Chemical manufacturing is also on the rise in the Mid-South, due to cheap shale gas, resulting in more hazmat transported by rail, truck, and barge.



## MAJOR TRANSPORTATION FREIGHT FLOWS

Freight traffic in the Mid-South Region relies heavily on the Inland Waterway System and rail and roadway connectivity. Freight flow is challenged by an aging infrastructure that has not expanded with freight volume increases.

## WATERWAYS

Our nation enjoys a vast inland waterways system, a combination of rivers and canals, locks, and dams that allow critical commodities to reach export markets in a cost-competitive manner. The Gulf Intracoastal Waterway extends more than 1,100 miles from Florida's Panhandle to Texas, passing through the Mid-South Megaregion. This navigable inland waterway serves as an important route for barges, with several sections furnishing access to major gulf ports in the Megaregion. The Mississippi River bisects the Megaregion, connecting to the Gulf Intracoastal Waterway in Louisiana and providing access to an extensive system of inland waterways.



## HIGHWAYS

Major highway freight flows include I-40 from Nashville to Little Rock through Memphis, from Jackson to Baton Rouge along U.S. 55, from Huntsville to Birmingham along I-65, from Birmingham to Memphis along I-22 and U.S. 78, and from Gulfport to Lafayette along I-10. Over the next several decades, transportation infrastructure within urbanized areas in the U.S. will face a wide range of challenges. Vehicle Miles Traveled (VMT) have increased significantly due to increased average personal trip length, population growth, decreased vehicle occupancy, lack of sufficient transit services and longer commutes due to highly dispersed regional development patterns.

<sup>3</sup> U.S. Census, Population estimate as of July 2015.



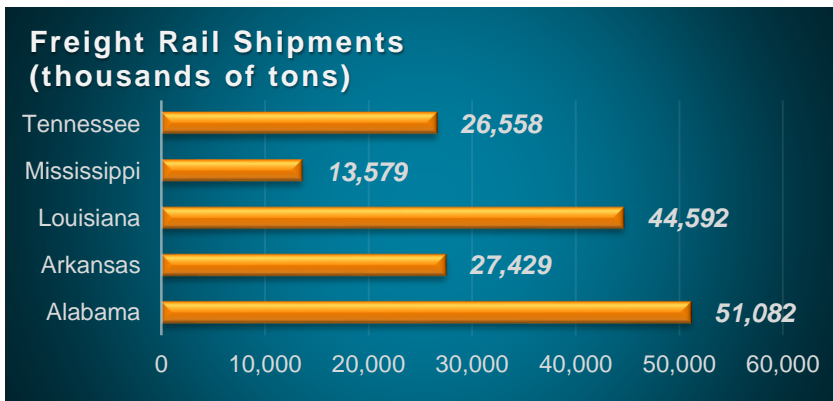
## RAILROADS



The Mid-South Megaregion has one of the largest networks of freight railroads in the United States, second only to Chicago. Six out of seven Class I freight railroads traverse the region, connecting the Southern Cities of Birmingham, Chattanooga, Little Rock, Memphis, Mobile, Montgomery, Nashville, New Orleans, and Shreveport.

Regional passenger rail efforts will add capacity to the existing transportation system, reduce need to expand existing highway facilities, enhance economic development and promote tourism. The Southern Rail Commission, a joint compact between the states of Alabama, Louisiana, and Mississippi has helped to maintain Amtrak passenger rail service in the Mid-South and promoted passenger rail projects in the Gulf Coast states, including the Gulf Coast High-Speed Passenger Rail Corridor, the LA Super

Region Rail Authority, the Crescent Corridor in Alabama, Baton Rouge to New Orleans Study (2013), and the Mississippi Gulf Coast Rail Feasibility Study (2014).



#	Railroad	State(s)
1	BNSF	AR, AL, MS, TN
2	CN	LA, MS, TN
3	CSX	AL, LA, MS, TN
4	KCS	LA, MS
5	NS	AL, LA, MS, TN
6	UP	AR, LA, TN

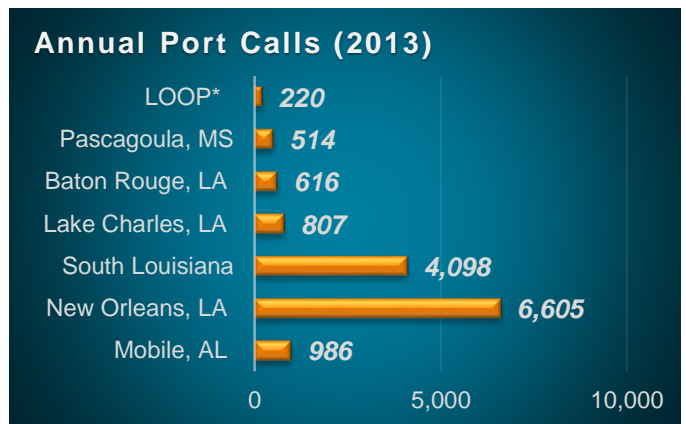
Railroads also connect distribution centers, ports, and cities within the region, primarily transporting coal, raw materials, agricultural products, pulp and paper products, chemicals, frozen poultry, and petroleum products.

CSX is promoting the “Southern Corridor” that links Chicago to Tampa, connecting St. Louis and Memphis to Nashville, Birmingham, and Atlanta. The corridor already has double-stack clearance to enhance freight shipments throughout the Mid-South.

Norfolk Southern is promoting the “Crescent Corridor” which parallels I-81 along the Appalachian Mountains connecting the Mississippi River Delta to the consumer-rich Northeast. The 2,500-mile corridor has the potential to compete with trucks transporting intermodal containers across 13 states, and provides direct routes from the Mid-South to the Northeast with connections to Mexico and Los Angeles.

## SEAPORTS

The Mid-South Megaregion is dominated by the Mississippi River, which, with the rest of the inland waterway system, allows our nation to export most of its agricultural products to countries around the world. The five Ports on the Lower Mississippi River constitute the world’s largest port complex, including the Port of New Orleans, Port of Greater Baton Rouge, Port of South Louisiana, Port of St. Bernard, and the Port of Plaquemines. Together these ports represent 500 million tons of shipped





goods per year, 60 percent of the nation's grain for export, and 20 percent of the nation's coal and petroleum products. Top imports include iron, rubber, coffee, and forest products; top exports include chemicals, paper, and poultry.

Gulf coast U.S. seaports have prepared for the increase in cargo that is expected after the recent expansion of the Panama Canal. Preparations at gulf coast ports included installation of larger cranes and dredging channels to accommodate container ships with nearly two and one-half times the capacity of current Panamax vessels, the largest ships that now transit the canal.

### INFRASTRUCTURE CHALLENGES

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The nation's highway infrastructure is now more than 50 years old and rail infrastructure is much older. Despite the projected increases in travel demand, the Megaregion is not programmed to dramatically expand transportation capacity. If VMT grew to keep pace with population growth, the region would still require new highway lane-miles to maintain today's ratio of travel demand to available roadway space. Railroads are facing challenges to maintain rail infrastructure while sharing tracks with proposed passenger rail services. Implementing additional rail passenger service along the Gulf Coast High-Speed Rail Corridor will require partnerships among the states. Unlike other corridors where one state can be the dominant partner, the states of the Southern Rail Commission are truly interdependent. High priority needs for the waterway corridors and ports include deepening the Mississippi River, dredging channels along the coast, and lock infrastructure repair or replacement. Annual improvements to waterways infrastructure are important as exports are expected to increase, and are necessary to alleviate congestion on roads and rail that are at capacity.

### MEGAREGION CHALLENGES

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The concept of megaregions provides a new focus on identifying, prioritizing, and addressing mobility challenges and opportunities. However, planning and political boundaries do not account for natural resource extents or political, economic, and cultural relationships within regions, which may form a foundation for addressing mobility needs and priorities. Critical transportation needs do not respect these formal boundaries of states, MPOs, and public transit service areas. Planning across these boundaries to address freight and passenger transportation needs is a major challenge, receiving increasing attention at Federal, state, and local levels. Ideally, megaregions should be defined with a balance of planning and political boundaries along with the economic, environmental, and cultural links within and between regions.

### MEGAREGION STUDIES AND PLANS

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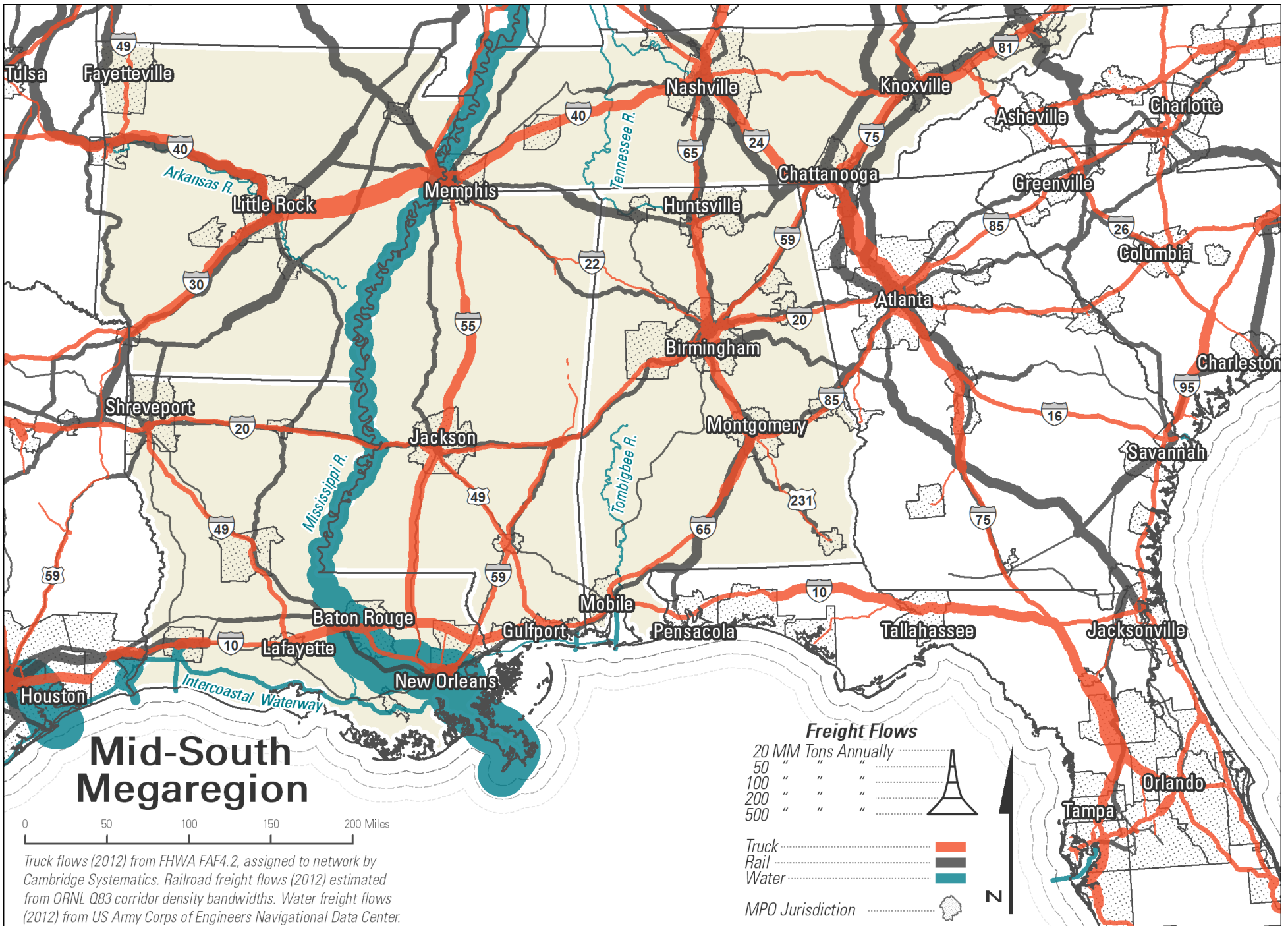
- Metropolitan Planning Organizations and Transportation Planning for Megaregions (Volpe, 2014).
- Megaregions: Literature Review of Organizational Structures and Finance of Multi-jurisdictional Initiatives and the Implications for Megaregion Transportation Planning in the U.S. ( Dr. Catherine L. Ross, Georgia Institute of Technology, 2011).

### MID-SOUTH REGION FREIGHT AND RAIL PLANS

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All states are now required to develop freight plans as a result of the Fixing America's Surface Transportation (FAST) Act of December, 2015. Below is a list of statewide freight and rail plans in the region, most of which were developed recently.

- Alabama Statewide Freight Plan (2016).
- Alabama Rail Plan Update (2014).
- Arkansas Long Range Intermodal Transportation Plan (in progress).
- Arkansas State Rail Plan (in progress).
- Mississippi Statewide Freight Plan (2015).
- Mississippi State Rail Plan (2011).
- Tennessee Statewide Multimodal Freight Plan (2016).
- Louisiana State Rail Plan (2015).



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