



Integrated Corridor Freight Planning (ICFP) I-75 South from Atlanta to Macon

Georgia Planning Association (GPA)
Fall Conference

October 10, 2013



Presenters



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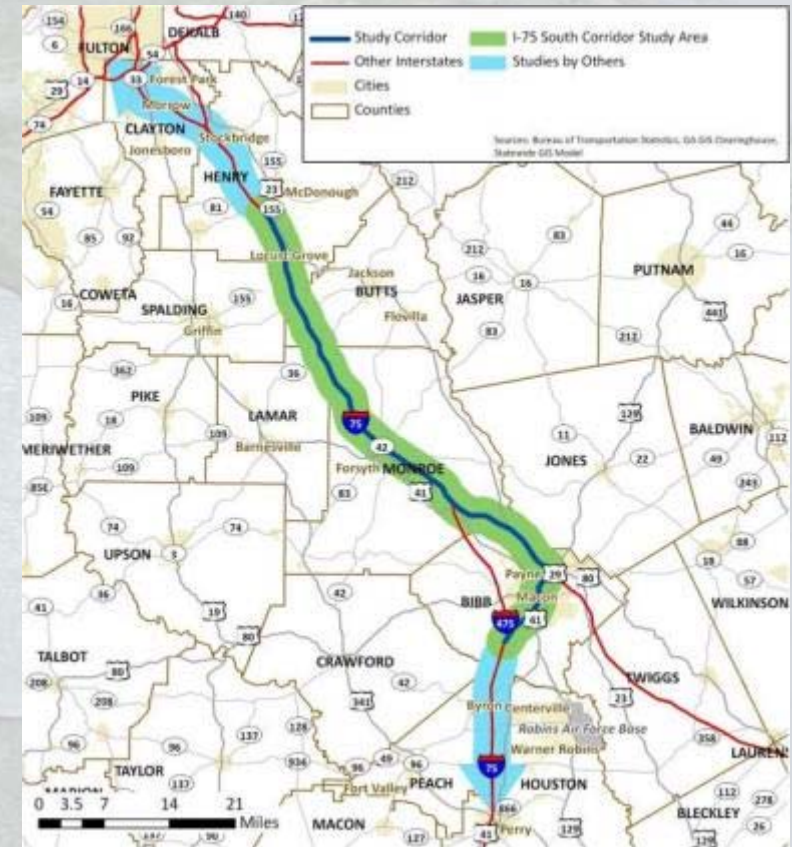
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Atlanta, Georgia



Presentation Agenda



- **Study Overview**
 - Purpose and Goals
 - I-75 Corridor Conditions
- **Integrated Corridor Freight Planning (ICFP) Process**
 - Background
 - Methodology
 - Implementation
 - Alternative Applications
- **Questions / Group Discussion**



The background is an aerial photograph of the I-75 corridor in Georgia. A semi-transparent white rectangular box highlights the study area. The text 'Study Overview' and 'Purpose and Goals' is centered within this box. A small yellow arrow points from the text 'I-75 South Corridor' to the highlighted area.

Study Overview

I-75 South Corridor

Purpose and Goals

Why Study the I-75 South Corridor?



- **Statewide Strategic Transportation Plan (2010-2030), April 2010**
- **IT3**

- **Broad Investment Categories**

- People Mobility in Metro Atlanta and Rest of State
- Freight Transport

- **Partnerships with MPOs and Locals**

- Demand Management
- Regional and Local Transit Planning
- Considerations for State Investments
- Last-mile Connectivity for People and Freight
- Coordination of Transportation Investments with Development Patterns



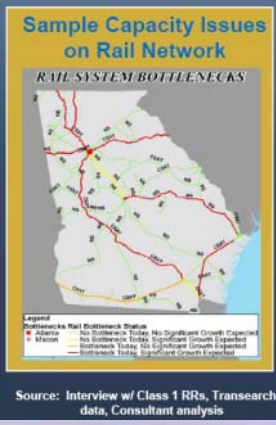
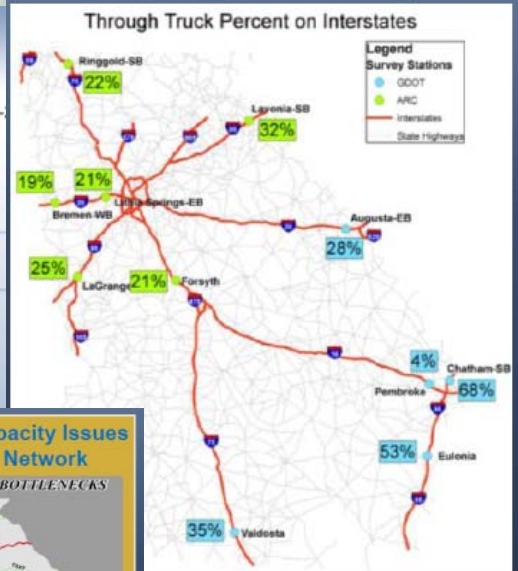
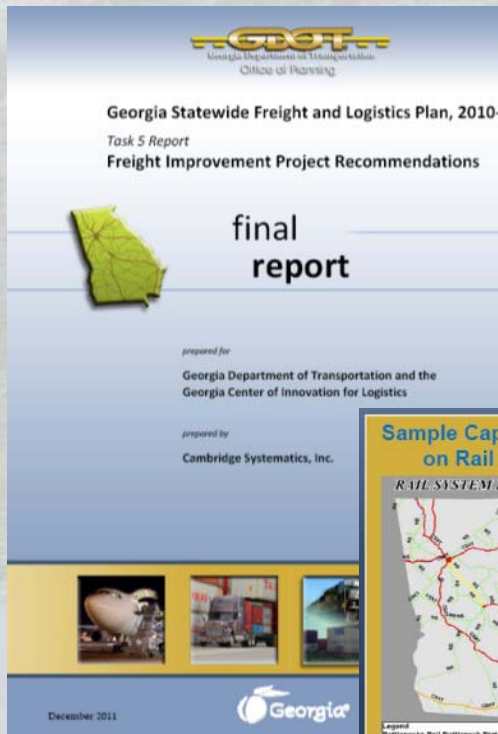
South Corridor

Why Study the I-75 South Corridor?



Statewide Freight and Logistics Plan February 2012

- **Highway Needs Identified**
 - Increase I-75 Capacity
 - Reconstruct I-75/I-16 Interchange
- **Rail Needs Identified**
 - Rail-freight Deficiencies from Atlanta to Florida
- **Airport / Port Related Needs Identified**
 - Last-mile Transportation Projects



Expected Study Results



- **Conceptual Improvements and Projects**
- **Specific Interchange Area Recommendations (i.e. Access Management; Land Use; Operational)**
- **Identify Multimodal Connectivity Improvements**
- **Action Plan with Specific Implementation Steps Identified**
- **Review and Compilation of Adopted Land Use Plans and Comprehensive Plans**

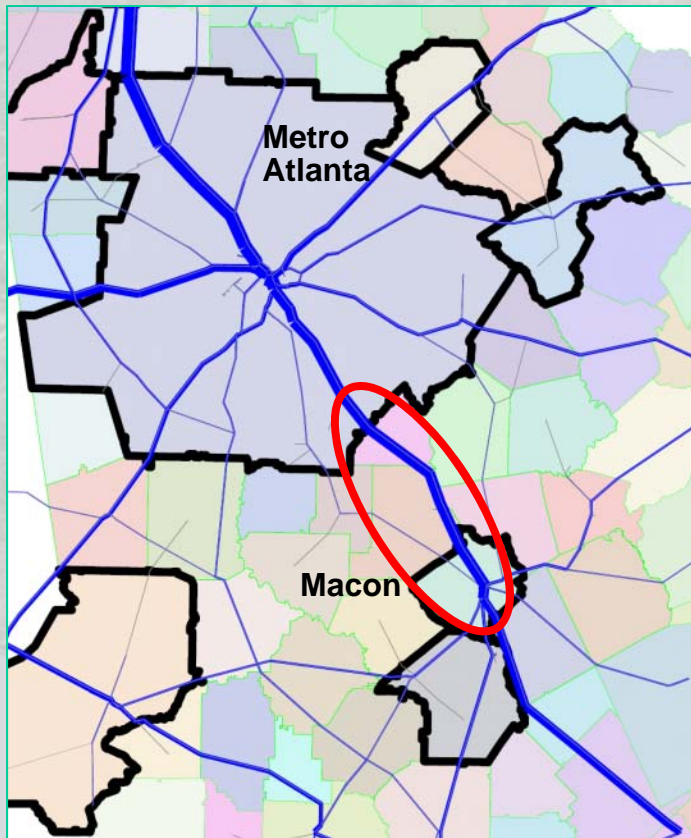


Why Study the I-75 South Corridor?



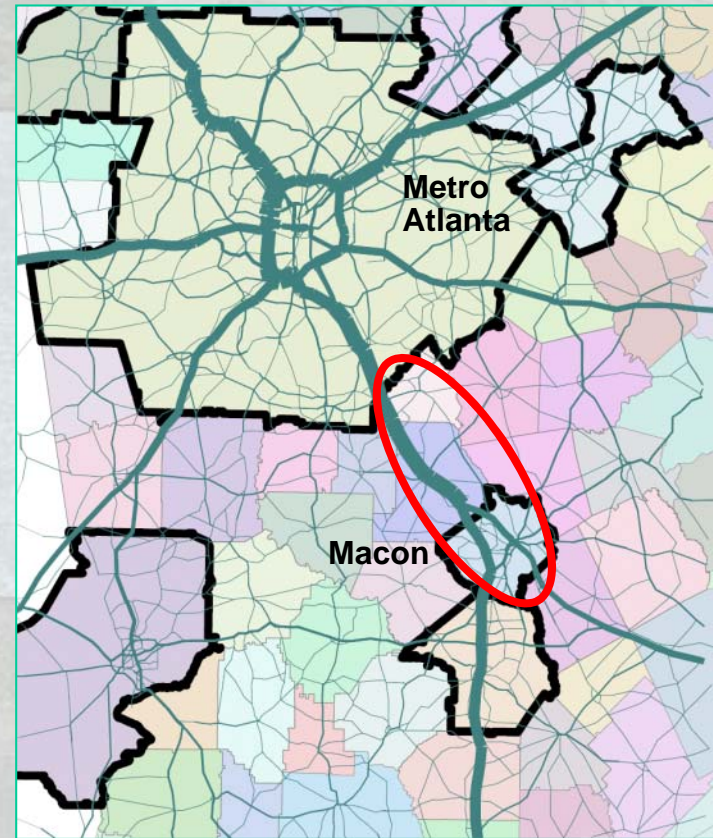
RAIL

2006 Total Freight Flow Band (Annual)



TRUCK

2006 Freight Volume Band (Daily)

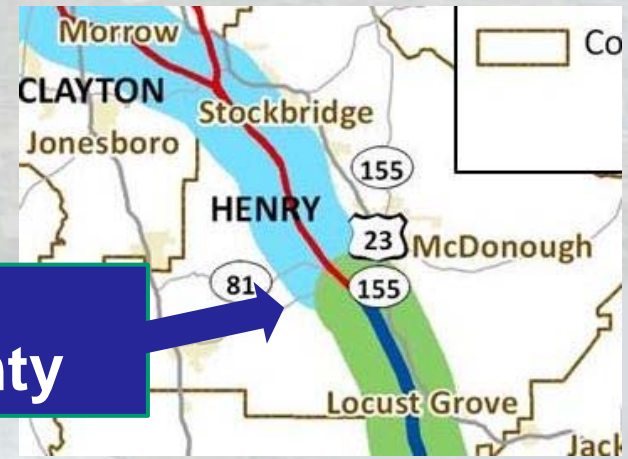


Source: GDOT Statewide Travel Demand Model

Approximate Study Area



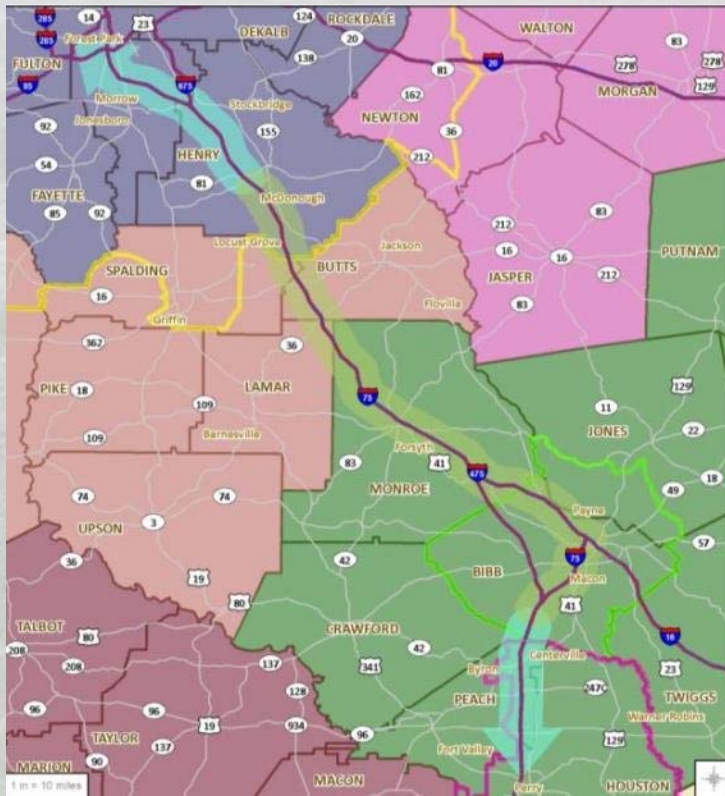
SR 155 in Henry County



Sardis Church Road in Bibb County



Coordination with Planning Partners

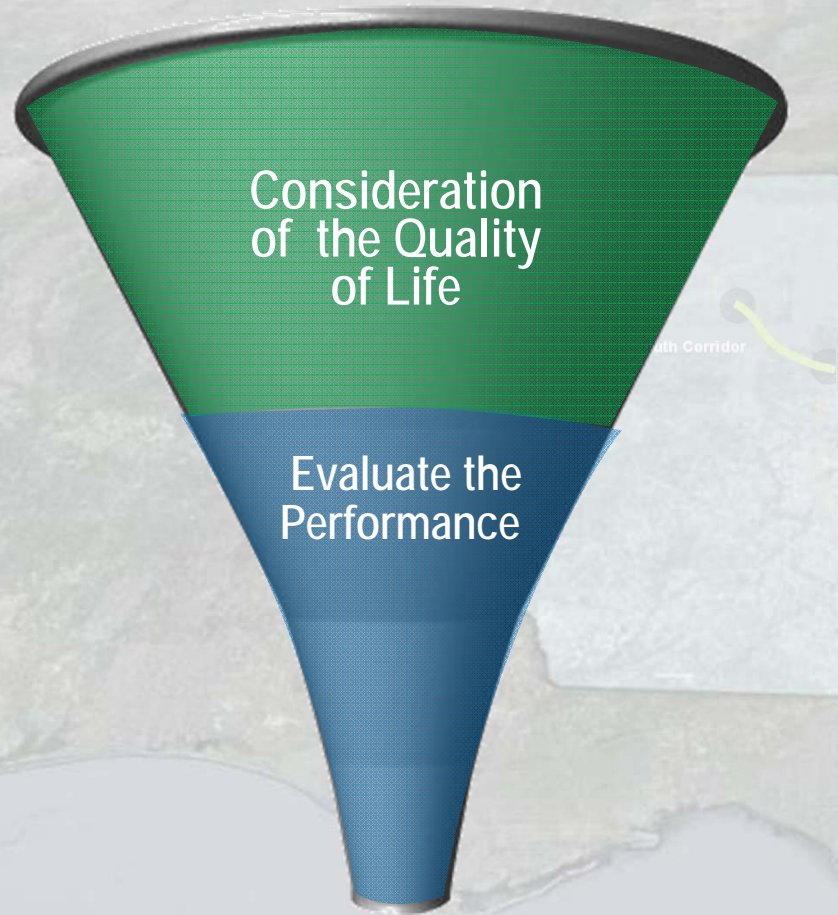


Regional Commission		MPO	
Atlanta Regional Commission	Atlanta Regional Commission	Atlanta Regional Commission	Atlanta Regional Commission
Middle Georgia	Macon Area Transportation Study	Macon Area Transportation Study	Macon Area Transportation Study
Northeast Georgia	Warner Robins Area Transportation Study	Warner Robins Area Transportation Study	Warner Robins Area Transportation Study
River Valley			
Three Rivers			

Sources: Atlanta Regional Commission, Bureau of Transportation Statistics, U.S. Census Bureau

- **MPOs**
 - Atlanta Regional Commission (ARC)
 - Macon Area Transportation Study (MATS)
- **Regional Commissions**
 - ARC
 - Three Rivers
 - Middle Georgia
- **GDOT District 3**
- **Counties and Associated Cities**
 - Henry
 - Lamar
 - Spalding
 - Monroe
 - Butts
 - Bibb

Steering Committee / Stakeholder Identified Study Goals



Goals Not in Priority Order

Goals: Quality of Life

- Enhance / Maintain Quality of Life
- Enhance Natural, Historic, and Community Resources
- Maintain Community Character
- Improve Intergovernmental Coordination
- Enhance Facility Function

Goals: Performance-Based

- Mobility for People and Goods
- Connectivity / Accessibility to Regional Activity Centers
- Safety
- Enhance Multimodal Transportation Options
- Support Economic Sustainability
- Expand Role as Major Logistics Hub

Source: I-75 South Corridor Study Steering Committee and Stakeholders

A topographic map of Georgia is shown in a light, semi-transparent style. A yellow line highlights the I-75 corridor running north-south through the center of the state. A small inset map of the United States is positioned behind the main map, with a yellow dot indicating Georgia's location.

Study Overview

I-75 South Corridor

I-75 Corridor Conditions

Demographics: Population and Employment



- **Population: 2010 to 2040**
 - Projected to Grow by 49%
 - Majority of Growth Concentrated in Spalding, Henry, Clayton
- **Employment: 2010 to 2040**
 - Projected to Grow by 60% from 2010 to 2040
 - Significant Portion in Spalding, Henry, Clayton

I-75 South Corridor

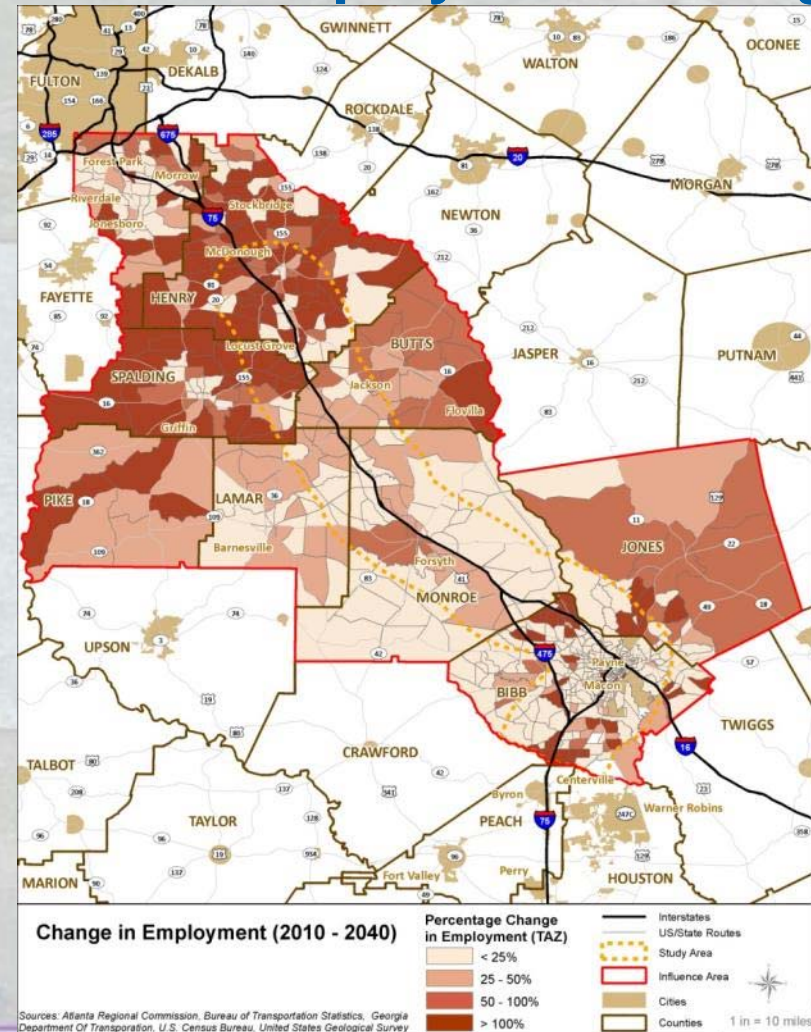
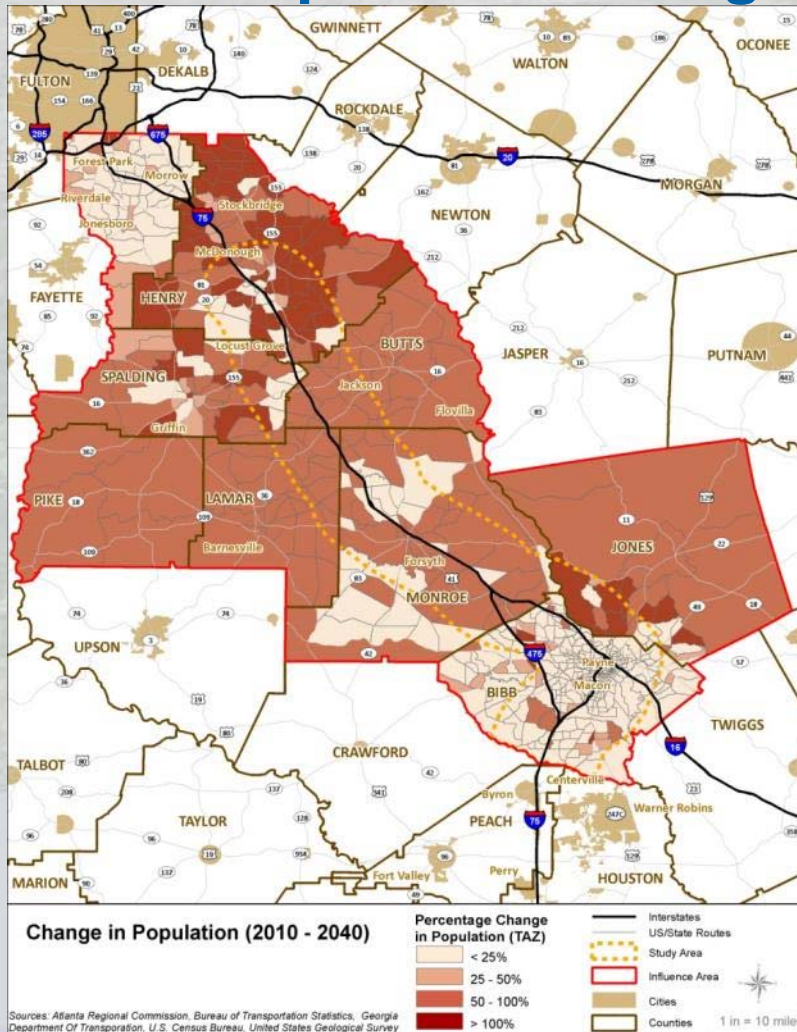
Counties	2010		2040		Projected Growth	
	Population	Employment	Population	Employment	Population	Employment
Clayton, Henry & Central Spalding	535,326	179,148	853,808	303,636	59%	69%
Remainder of Spalding, Butts, Lamar & Monroe	102,340	28,327	165,027	44,050	61%	56%
Bibb & Jones	168,657	107,070	184,037	156,553	9%	46%
Total	806,323	314,545	460,722	504,239	49%	60%

Sources: Atlanta Regional Commission, Macon Area Transportation Study, and Georgia Department of Transportation Statewide Travel Demand Models

Projected Population and Employment Change (2010-2040)



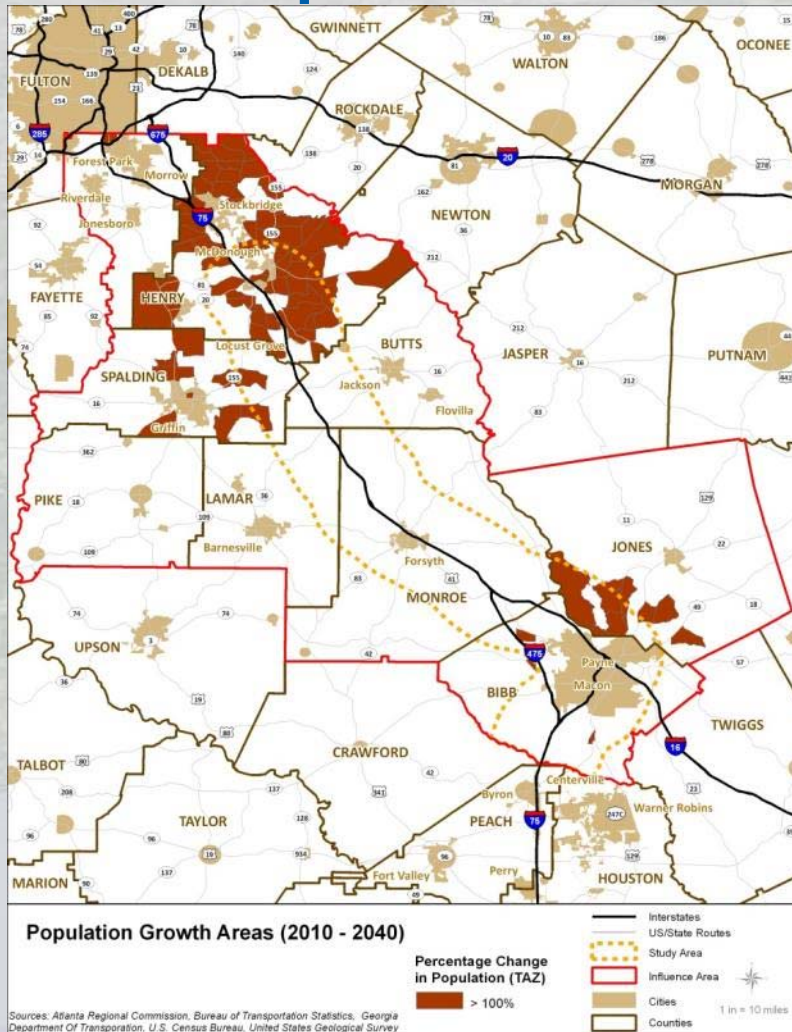
Percent Population Change Percent Employment Change



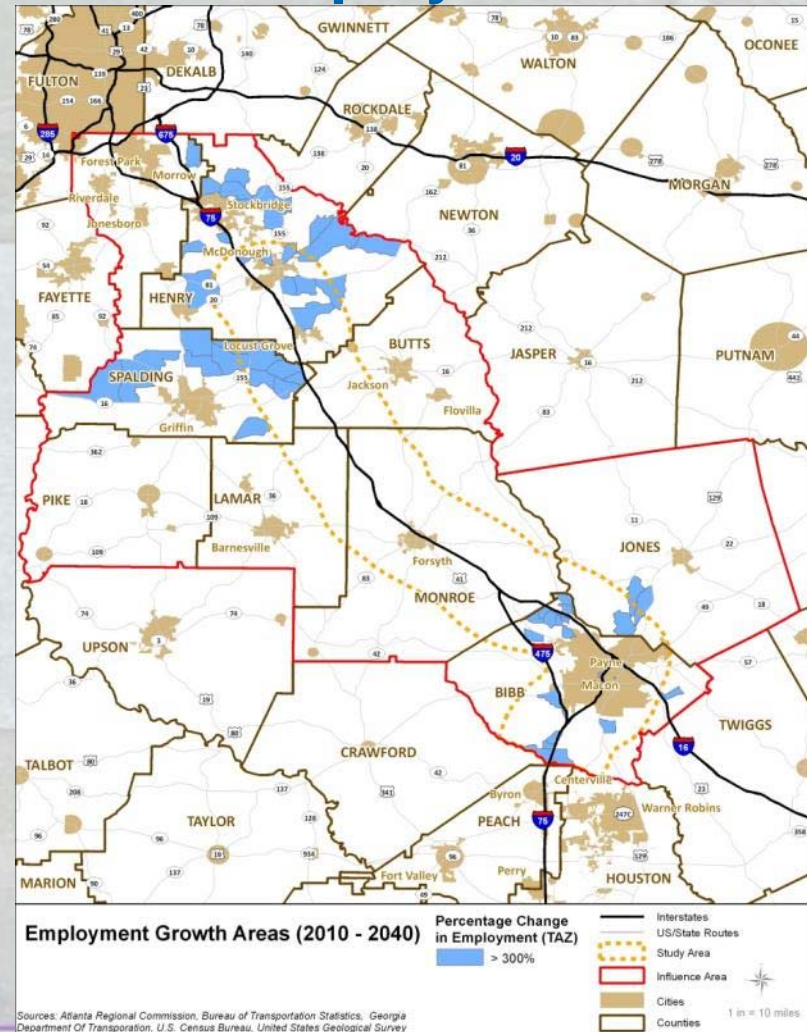
Projected High Growth Areas: 2010-2040



Population



Employment



Land Use



- **Existing Land Use Mapping**
 - Simplified Land Use Palette
 - 8 Land Use Categories
 - Single Family Residential
 - Multi-Family Residential
 - Public-Institutional
 - Commercial
 - Industrial
 - Park-Recreation-Conservation
 - Agriculture-Forestry-Open Space
 - Transportation-Communication-Utilities
- **Future Land Use Mapping**
 - Same 8 Land Use Categories
 - Additional Mixed Use Category

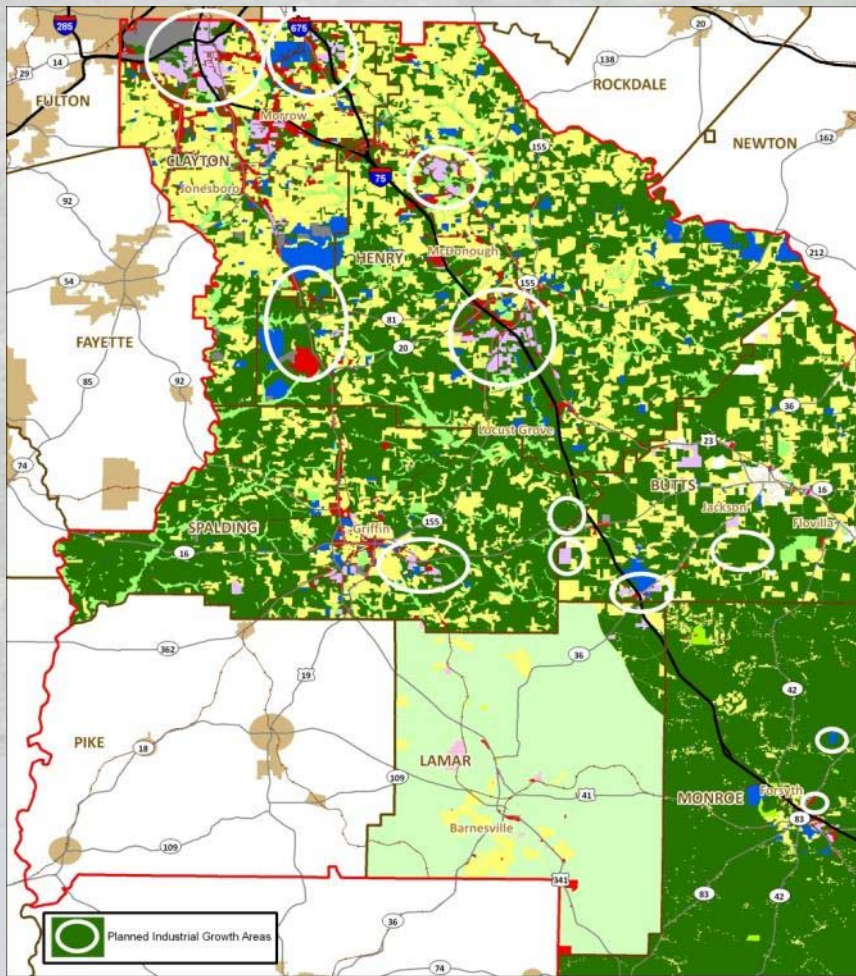
LAND USE DATA SOURCES

- ARC LandPro
- Three Rivers Regional Commission
- Middle Georgia Regional Commission

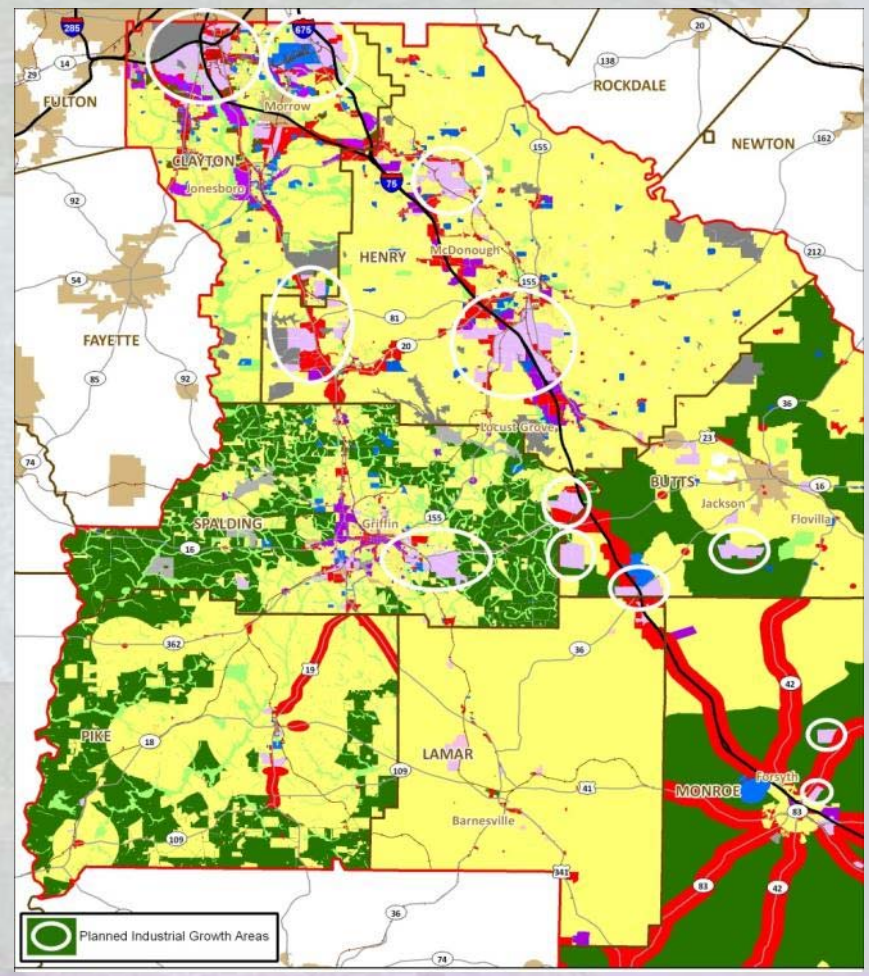
Land Use: Northern and Central Segments



Existing



Future

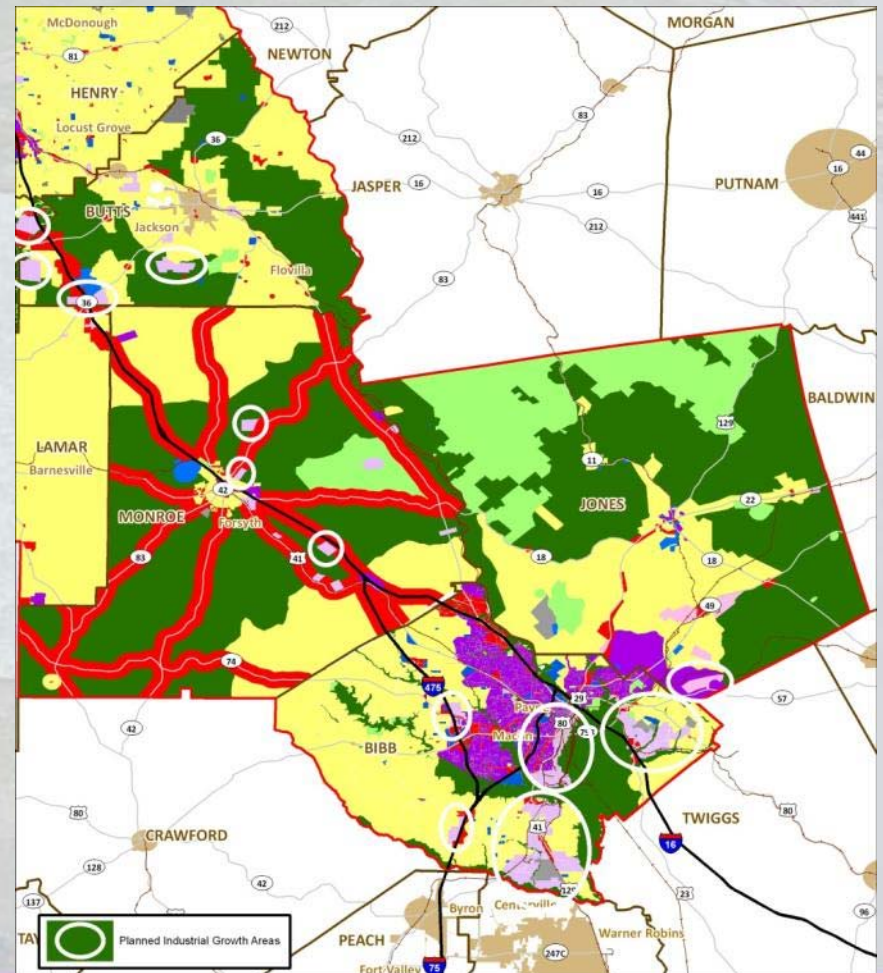
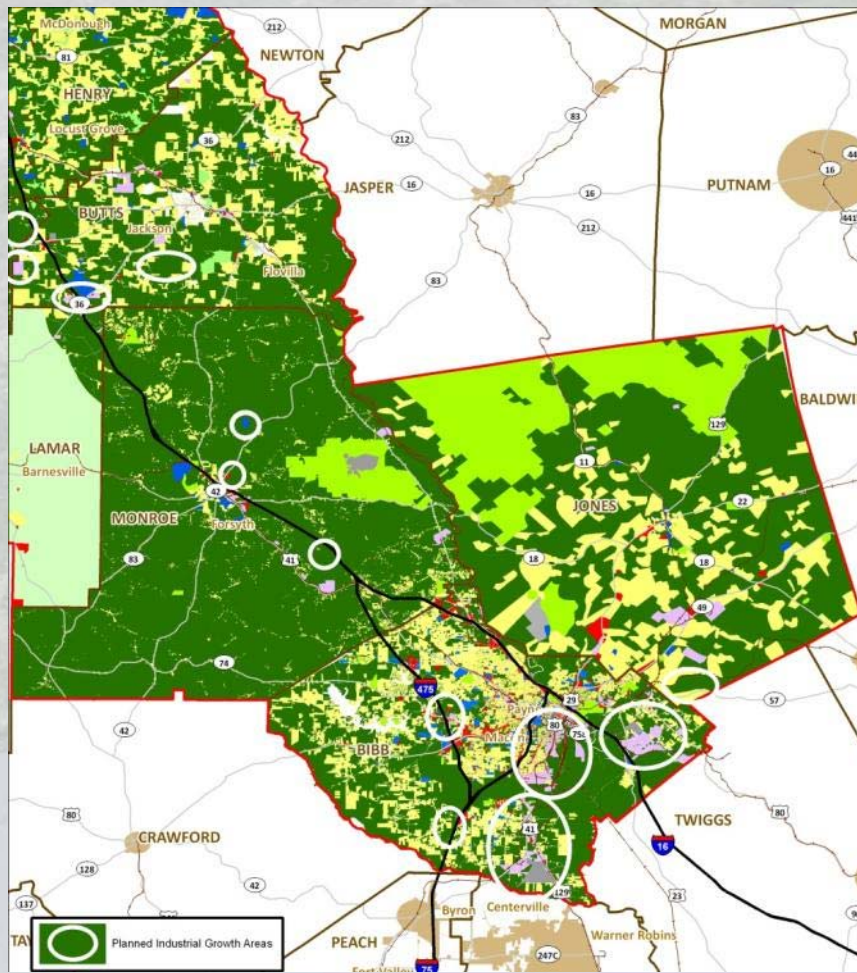


Land Use: Southern Segment



Existing

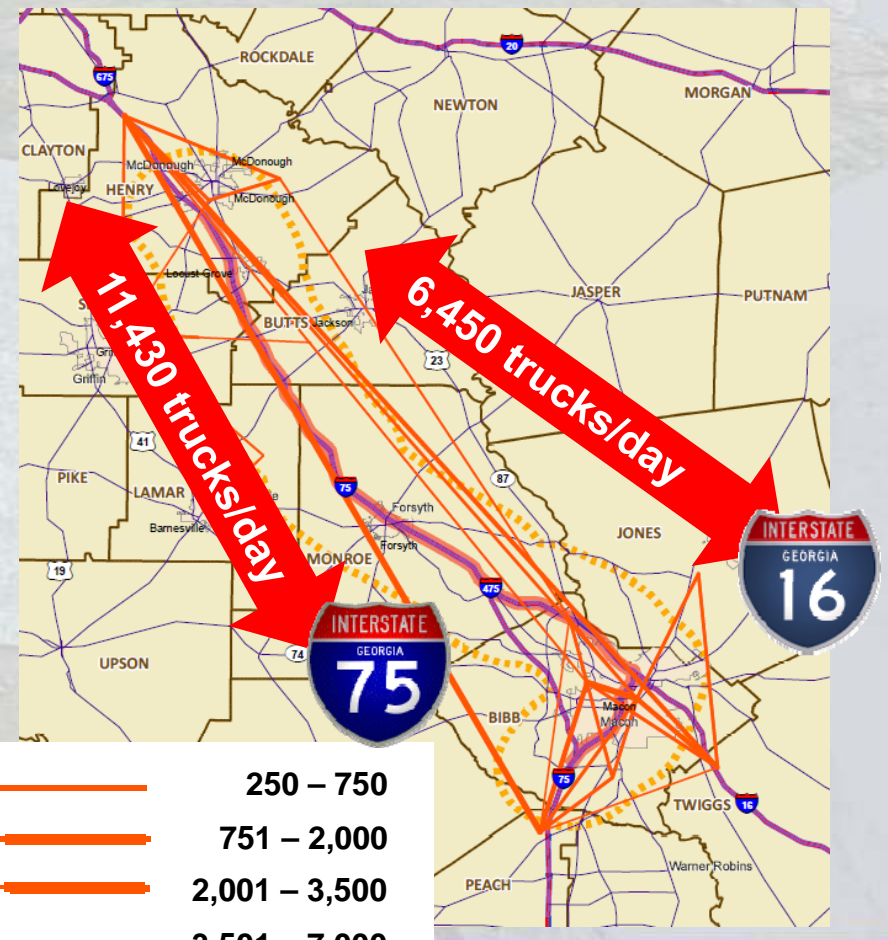
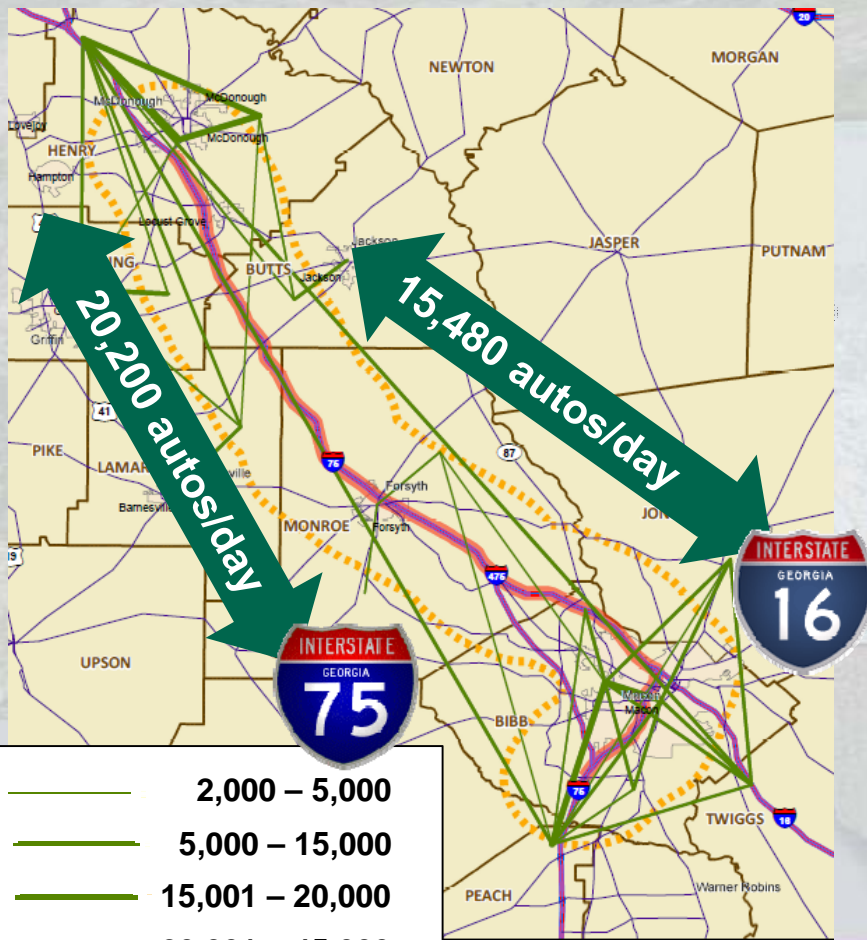
Future



Travel Demand – Year 2010

Passenger Car Bandwith Ranges (autos/day)

Truck Bandwith Ranges (trucks/day)



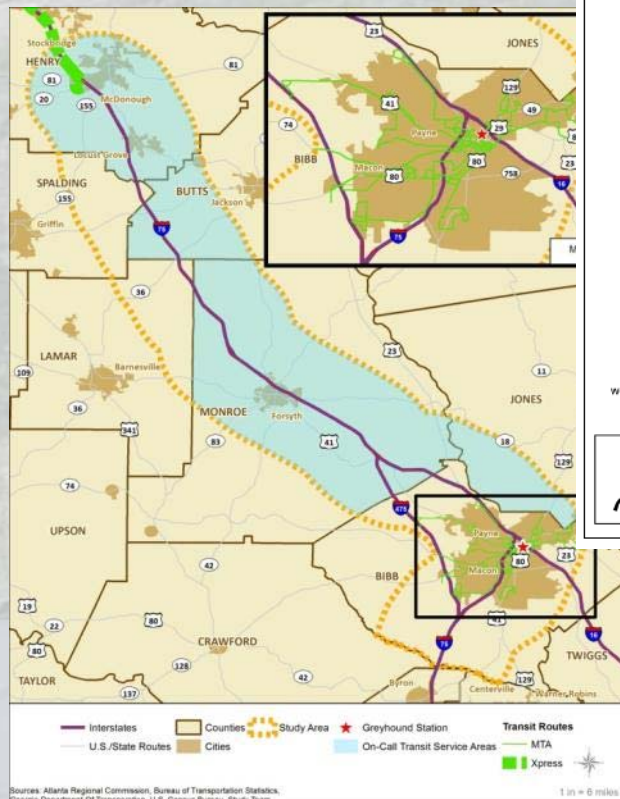
	2,000 – 5,000
	5,000 – 15,000
	15,001 – 20,000
	20,001 – 45,000

	250 – 750
	751 – 2,000
	2,001 – 3,500
	3,501 – 7,000

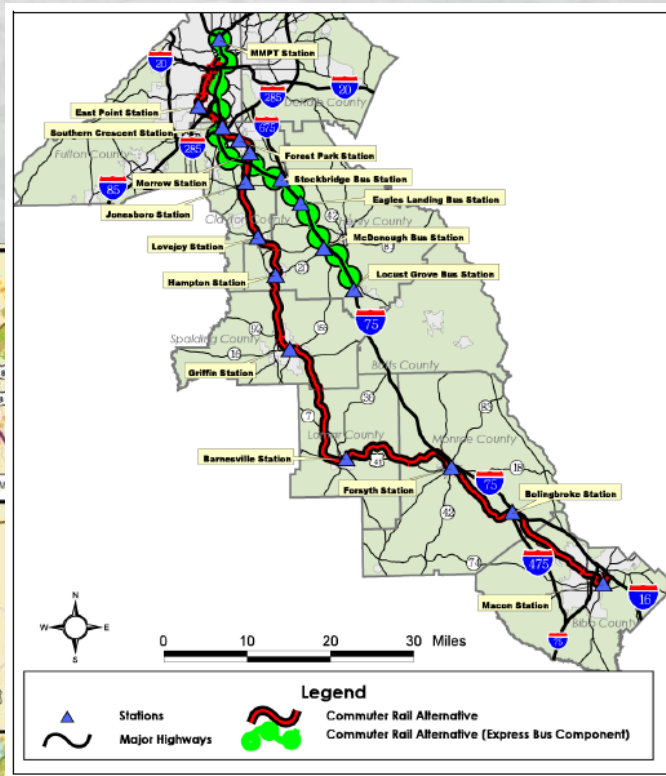
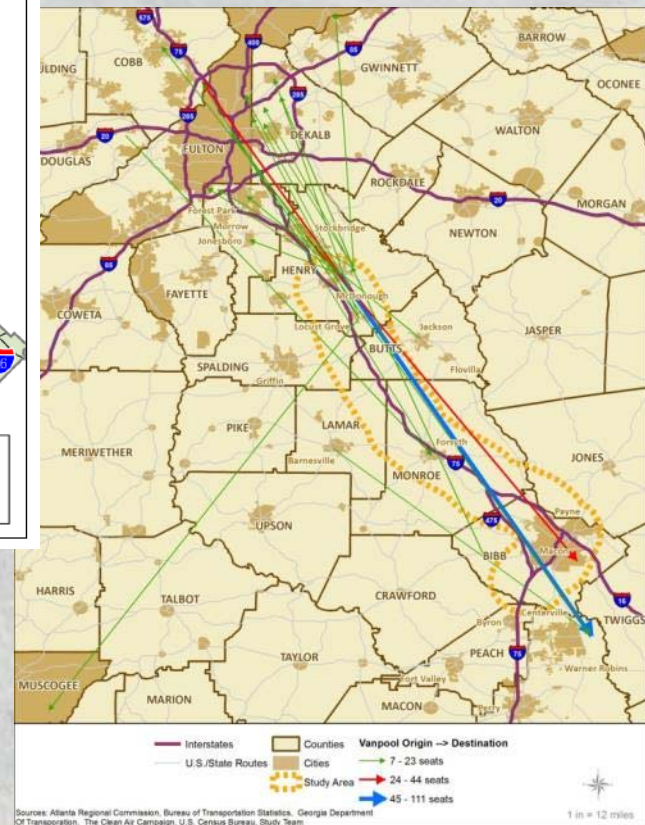
Source: ARC, MATS, and GDOT Statewide Model

Transit

Express and Local Bus



Private Vanpool



Passenger Rail

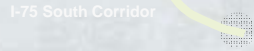
Sources: GRTA, Clean Air Campaign, ARC, MATS, Georgia Rail Consultants

Summary of Transportation Issues / Needs



• Roadway Capacity

- Locations Within Henry County
- Locations Within Macon/Bibb County
- Large Number of Through Truck Movements
- Locations Along Parallel Corridors
- Interchange Capacity Deficiencies



• Operational

- I-16/I-75 Interchange
- Existing Operational Deficiencies in Other Macon Area Interchanges
- Locations Along Parallel Corridors
- Interchange Capacity Deficiencies
- Truck Parking

Summary of Transportation Issues / Needs



• Rail

- Through Freight Shipments May Increase by 30% by 2040
- Increased Congestion Due to Recent and Anticipated Port-related Growth
- Bottleneck Between Atlanta and Macon
- Approved Environmental Assessment for Passenger Rail

• Transit

- Limited Transit Through / Within Corridor
 - Express Service in North Corridor (Atlanta region)
 - Local Service in South Corridor (Macon)
 - Limited Private-Sector Vanpool Services



A topographic map of Georgia is shown, with a light blue shaded area in the central and southern parts of the state representing the Integrated Corridor Freight Planning (ICFP) region. The map shows terrain features like mountains and rivers.

Integrated Corridor Freight Planning (ICFP) *Background*

Corridor Mobility

I-75 South Major Corridor Transportation Modes



Auto



**Truck
Freight**



**Rail
Freight**



Transit

Land Use



**Existing
and
Future**

Integrated Corridor Freight Planning (ICFP)



ICFP – Unique Aspects

- Assess and optimize overall transportation system performance by **simultaneously** planning improvements for **integrated multimodal systems**.
- Unlike conventional planning where improvements are identified **independently** by mode and then compete for limited available funding.



A topographic map of Georgia is shown, with a light blue shaded area in the central and southern parts of the state representing the Integrated Corridor Freight Planning (ICFP) study area. The map shows terrain features like mountains and rivers.

Integrated Corridor Freight Planning (ICFP) *Methodology*

Integrated Corridor Freight Planning (ICFP)



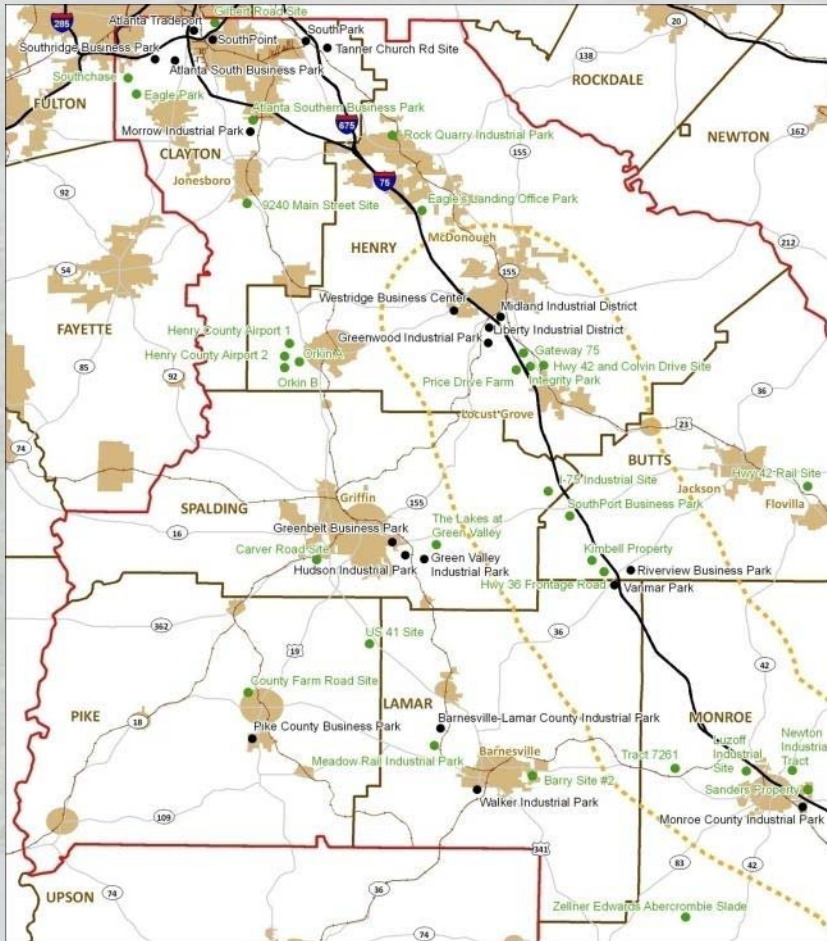
Identify Freight Hotspots

Identify Existing/Future Deficiencies

Asses Truck Freight Routing

Develop Recommendations

Potential Freight Hotspots



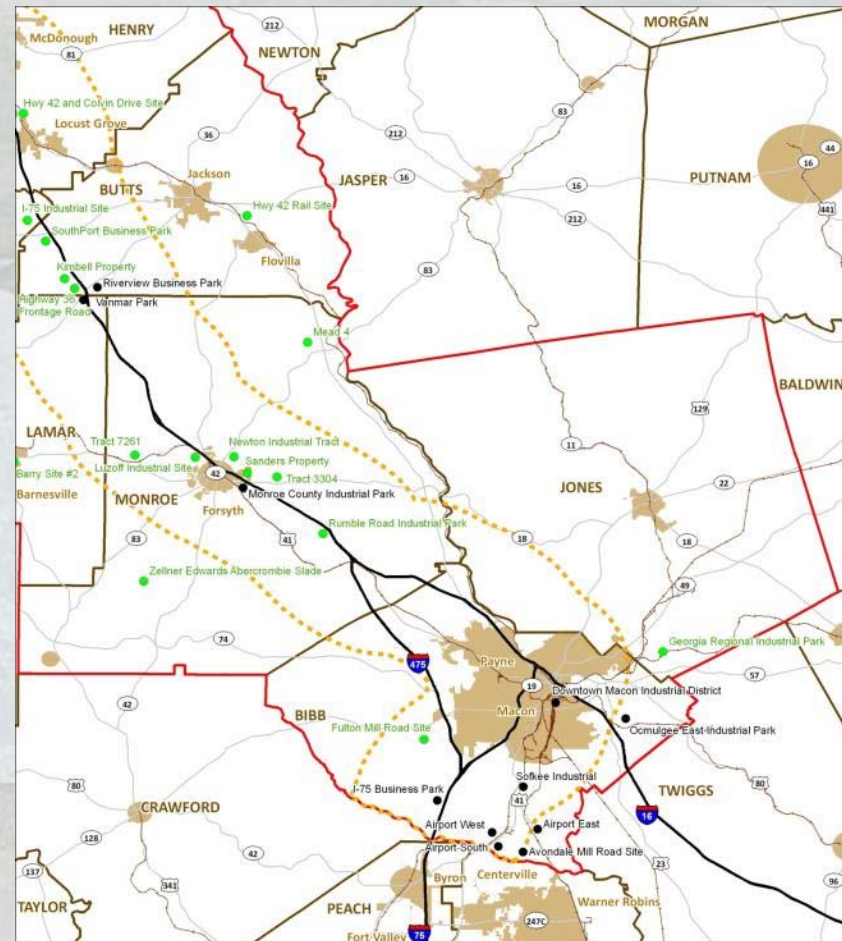
Economic Development Sites
Northern Influence Area

Proposed Industrial Sites
● Existing Industrial Park
● Greenfield Location

— Interstates
— US/State Routes
— Study Area
— Influence Area
■ Cities
□ Counties

Sources: Jones County Development Authority, Macon Economic Development Commission, Middle Georgia Regional Commission, Pike County Chamber of Commerce, Spalding County Development Authority, Butts County IDA, Georgia EMC.

1 in = 5 miles



Economic Development Sites
Southern Influence Area

Proposed Industrial Sites
● Existing Industrial Park
● Greenfield Location

— Interstates
— US/State Routes
— Study Area
— Influence Area
■ Cities
□ Counties

Sources: Jones County Development Authority, Macon Economic Development Commission, Middle Georgia Regional Commission, Pike County Chamber of Commerce, Spalding County Development Authority, Butts County IDA, Georgia EMC.

1 in = 6 miles

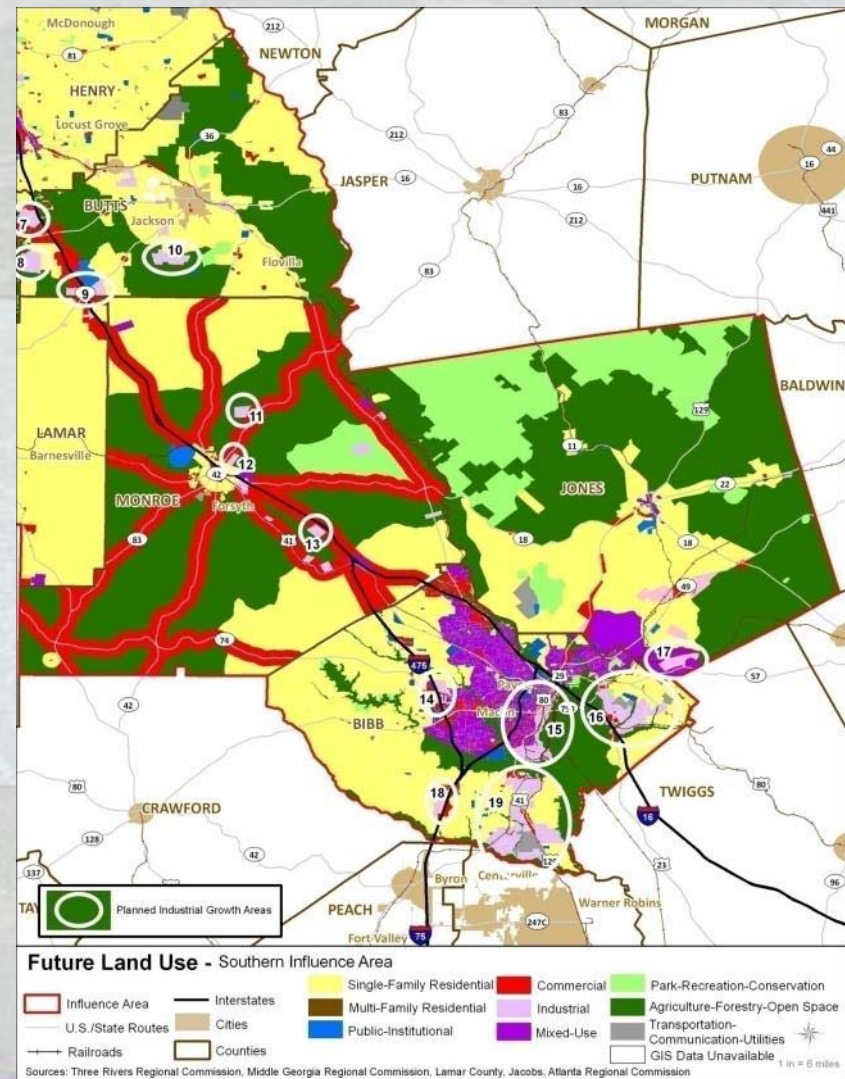
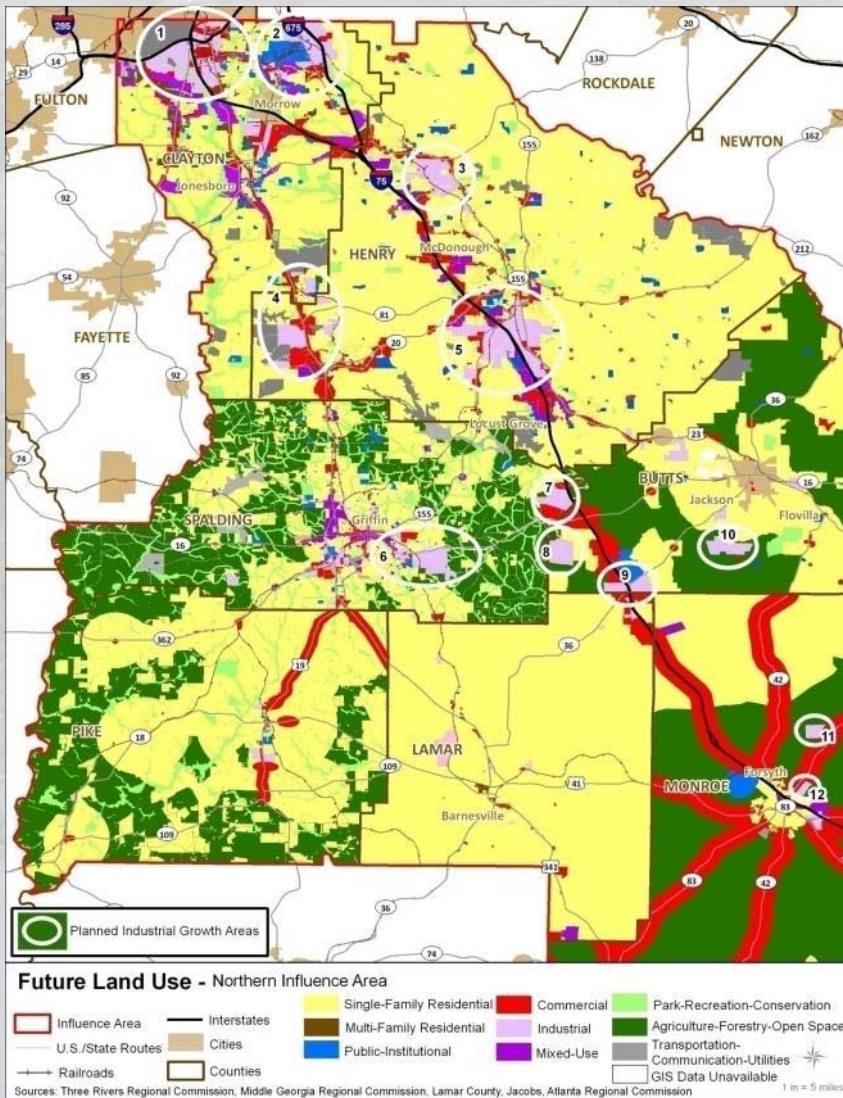
Potential Freight Hotspots



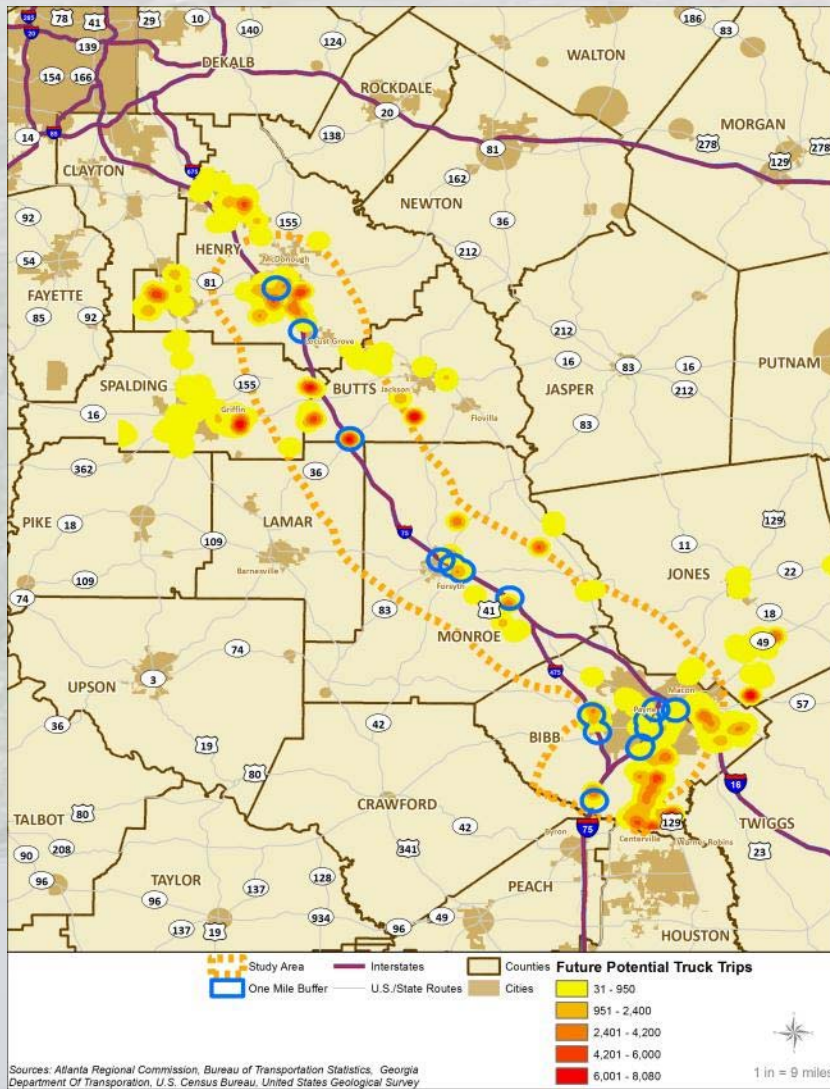
Map ID	Description	Existing Industrial Acres	Future Industrial Acres	Change	Growth Rate
1	Hartsfield-Jackson International Airport Area	3,336	3,441	105	3%
2	Ft. Gillem Area	765	2,543	1,778	232%
3	Stockbridge Industrial Area	866	1,807	941	109%
4	Hampton and Lovejoy Area	97	1,899	1,802	1,854%
5	McDonough Industrial Area	1,912	4,776	2,863	150%
6	Griffin Industrial Area	360	1,679	1,319	366%
7	Spalding County I-75 Area	0	787	787	--
8	Butts/Spalding County Line	336	921	586	174%
9	Exit 201 – SR 36 and I-75 Area	277	814	537	194%
10	Butts County Greenfield Site	0	795	795	--
11	Monroe County Greenfield Site	0	337	337	--
12	Forsyth SR 83 Site	0	160	160	--
13	Planned Rumble Road Industrial Park	0	318	318	--
14	Exit 5 – SR 74 and I-475 Area	151	468	317	210%
15	Downtown Macon Industrial District	2,432	2,452	20	0.8%
16	Ocmulgee East Industrial Park Area	1,510	2,915	1,405	93%
17	Planned GA Regional Industrial Park	0	736	736	--
18	Exit 153 – Sardis Church Rd and I-75 Area	0	435	435	--
19	Middle GA Regional Airport Industrial Area	1,199	5,594	4,395	366%

Sources: ARC, Three Rivers RC, Middle Georgia RC.

Potential Freight Hotspots

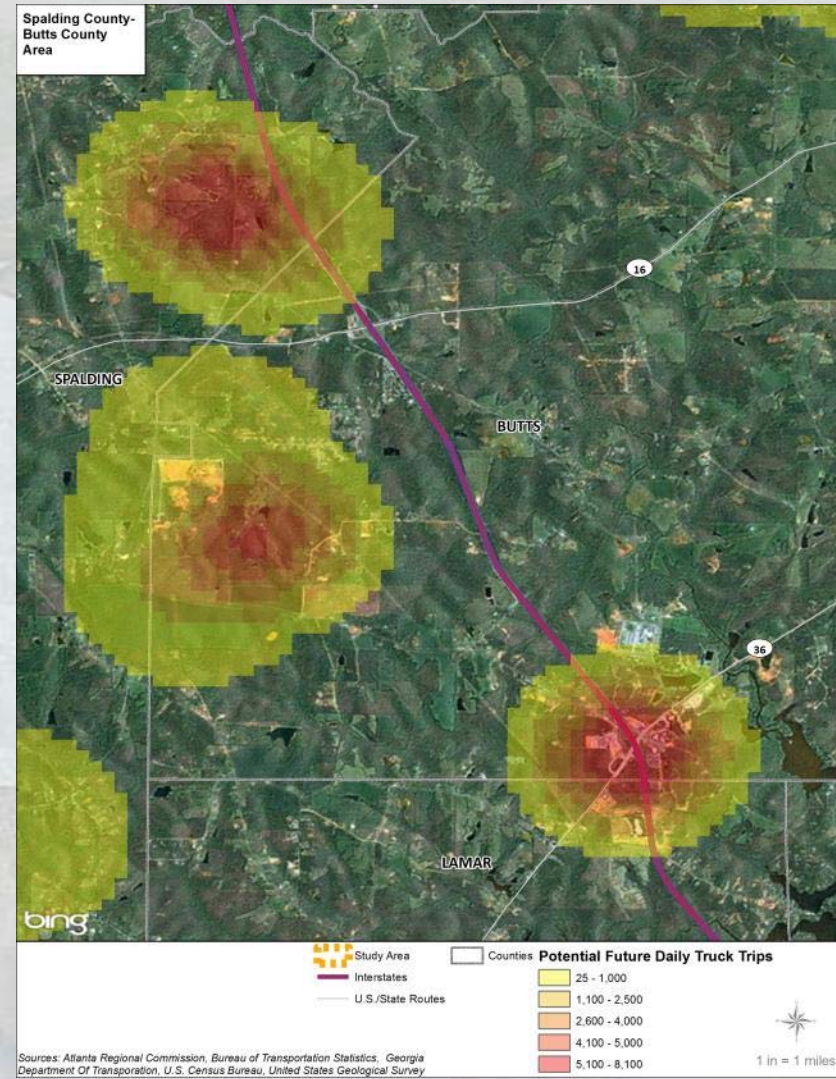
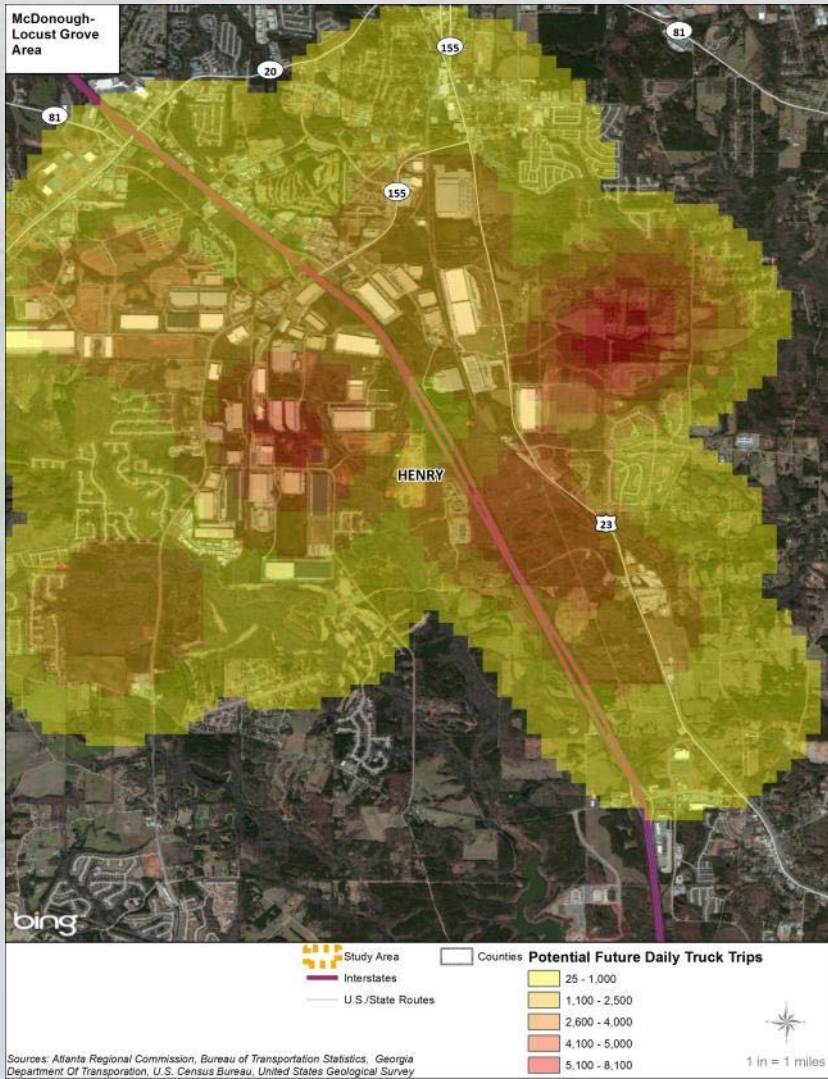


Potential Freight Hotspots

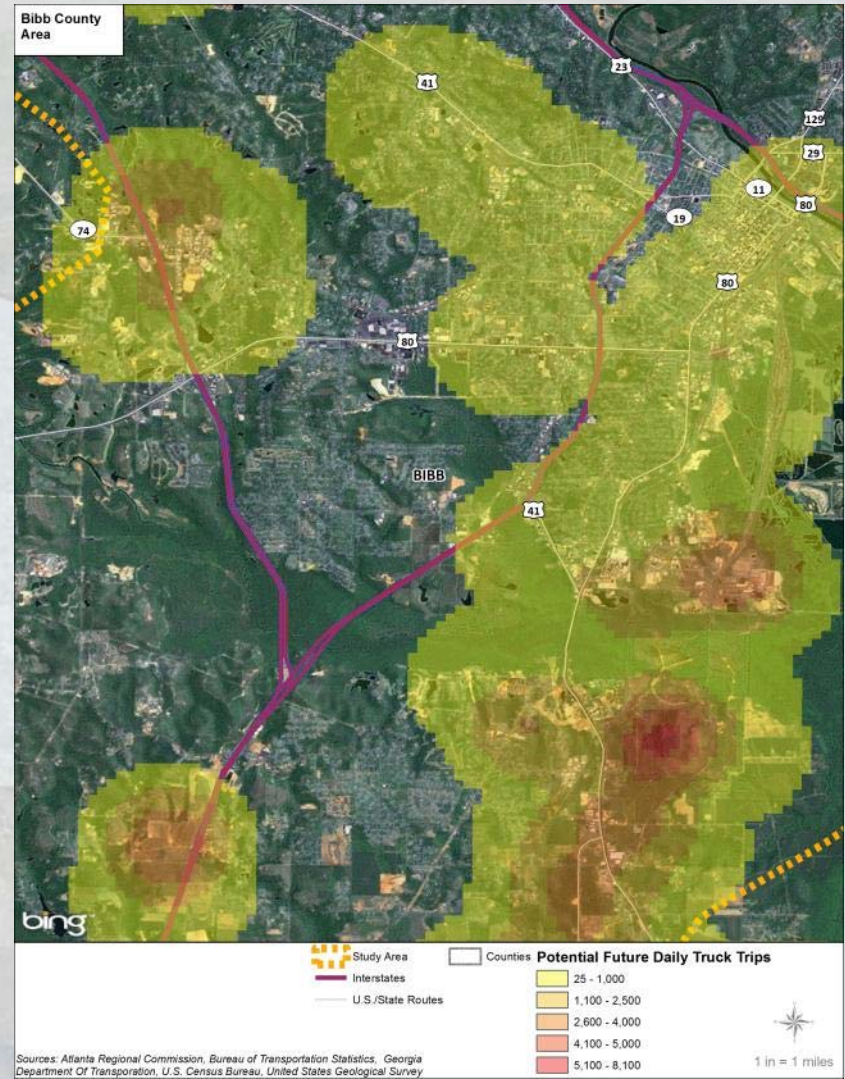
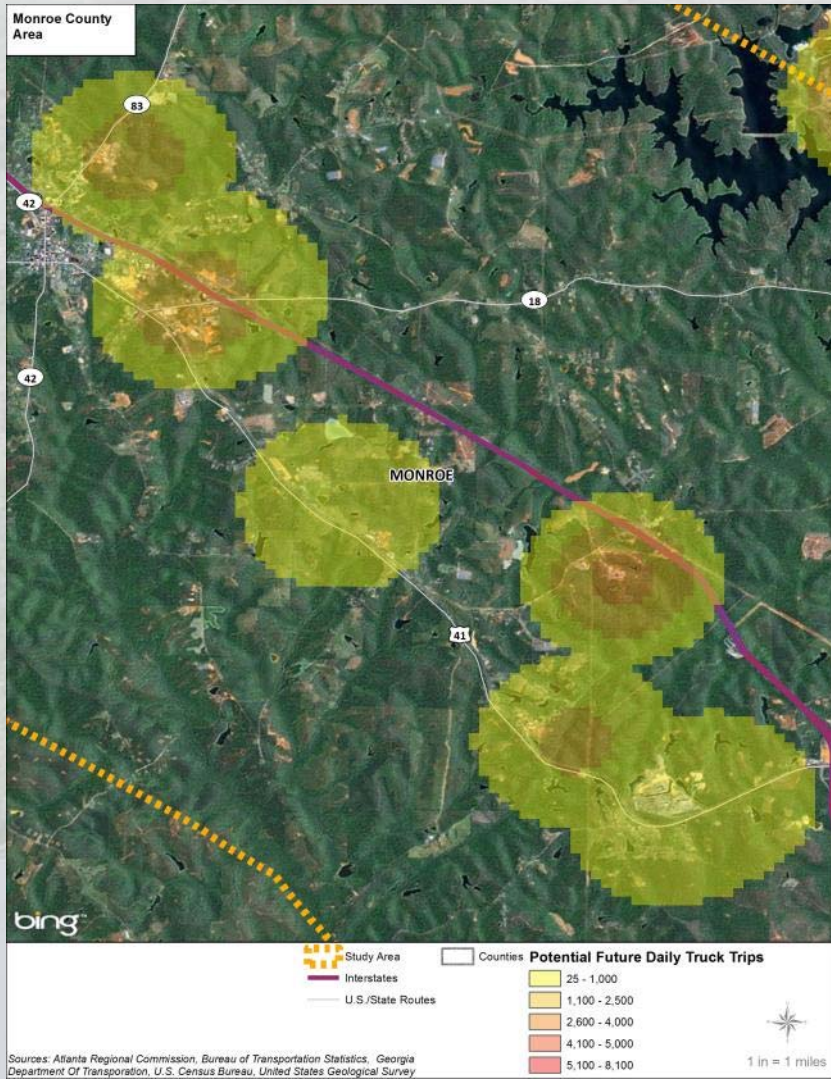


- **Determined Areas of Future Industrial Land Use**
- **Calculated Buildable Land Areas / Warehouse Sizes**
- **Estimated Potential Daily Truck Trips Based upon Institute of Transportation Engineers (ITE) Trip Generation Methodologies**

Potential Freight Hotspots



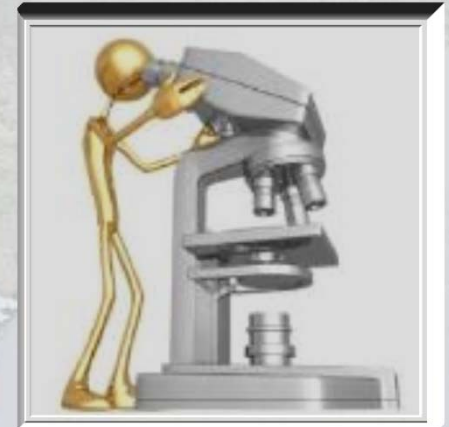
Potential Freight Hotspots



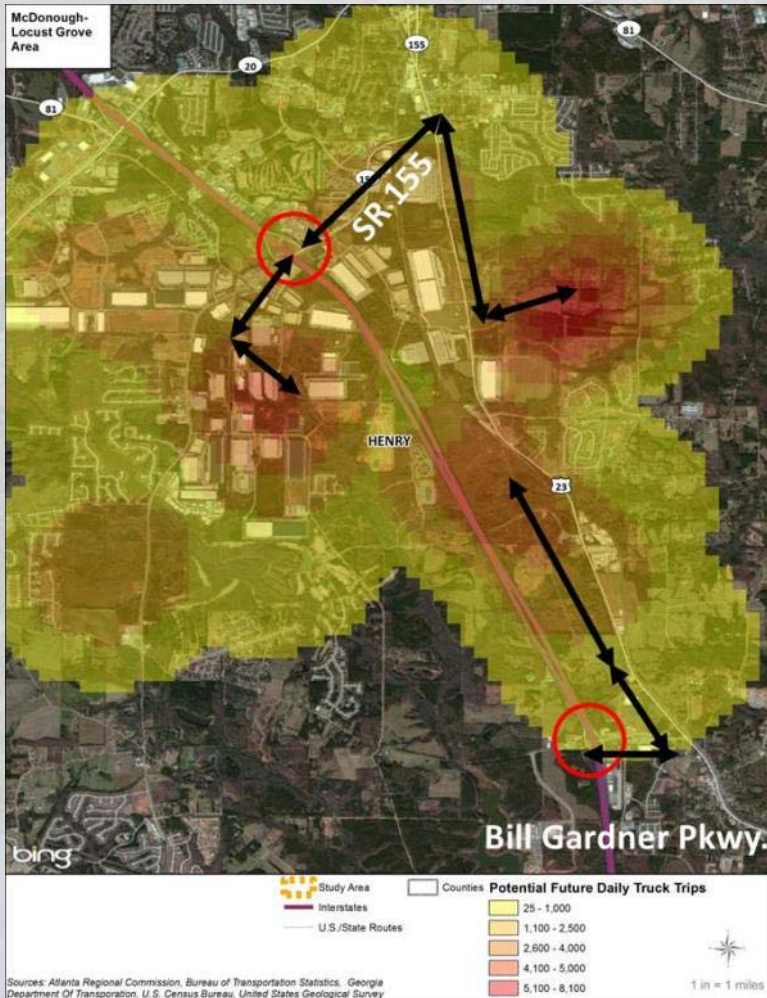
ICFP Analysis Methodology



- **Traffic / Capacity**
 - 2040 Horizon Year
 - No Build Scenario
- **Comprehensive Assessment**
 - Trucks
 - Autos
- **Solutions Other than New Interchanges**
- **Consistency with Existing Plans**



SR 155 / Bill Gardner Parkway Area Integrated Corridor Freight Planning (ICFP)

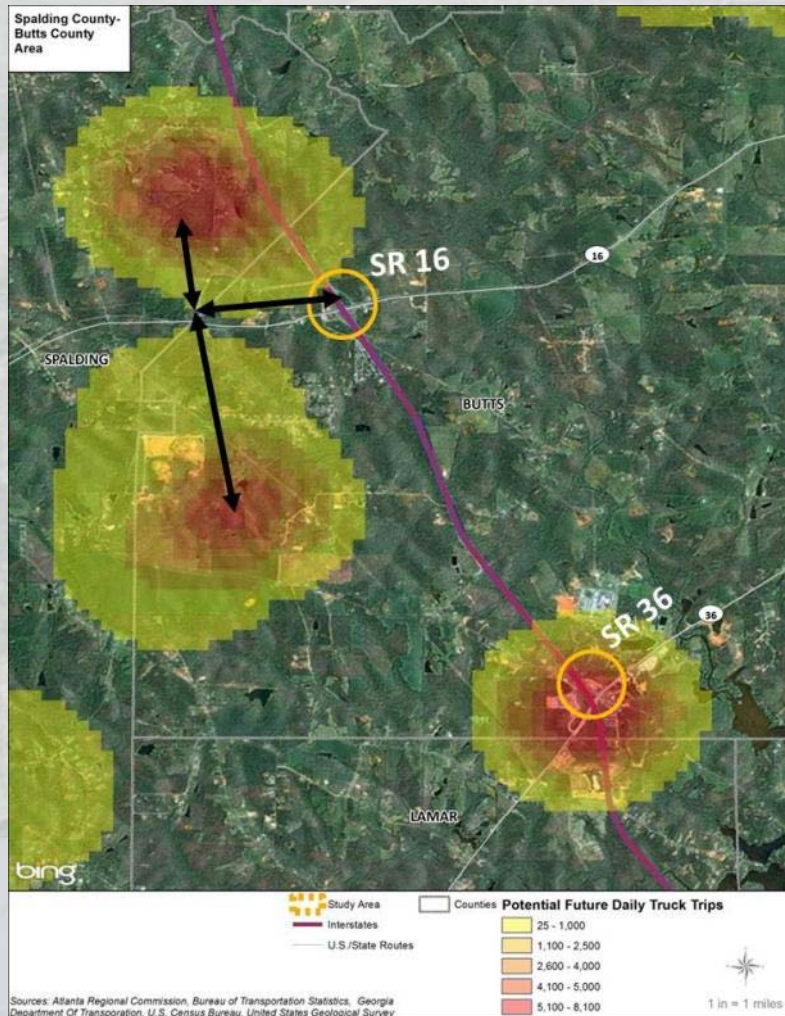


↔ Likely route to freight hotspot

○ Interchange <= LOS D 2040 No-Build Scenario

- I-75 Interchanges at SR 155 and Bill Gardner projected to operate at poor LOS and will experience increasing truck volumes by 2040
- Could improved access help alleviate congestion at existing interchanges?

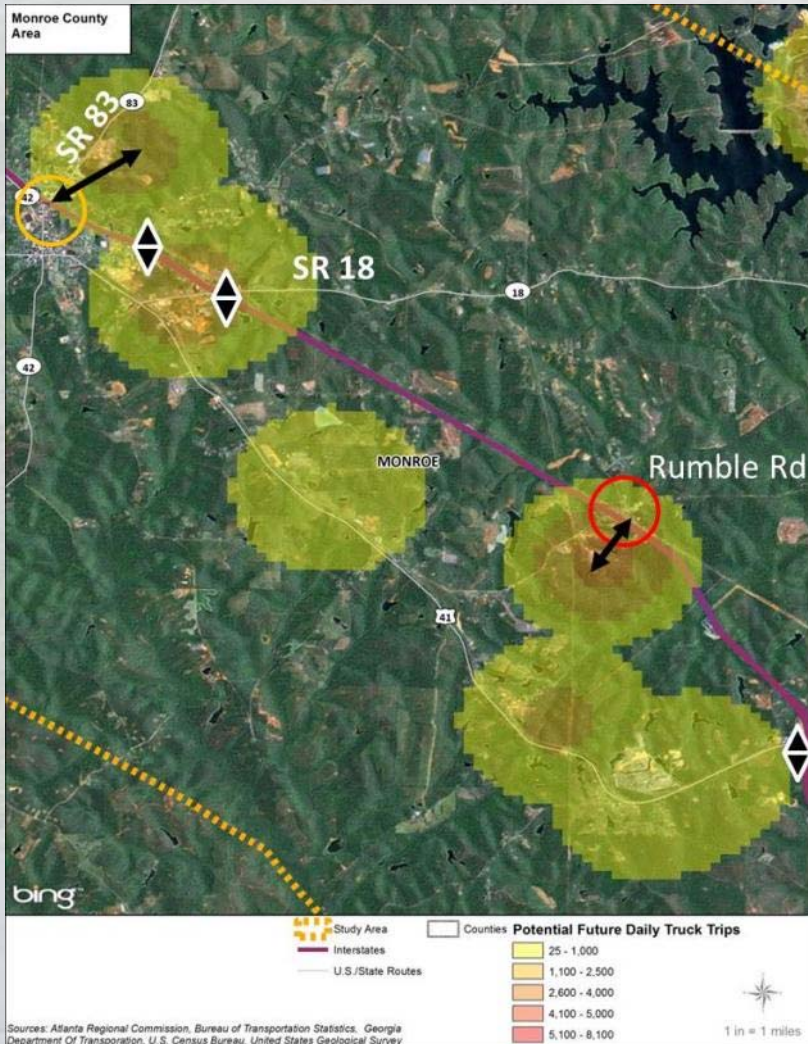
Spalding – Butts County Integrated Corridor Freight Planning (ICFP)



- ↔ Likely route to freight hotspot
- Interchange ≤ LOS D 2040 No-Build Scenario
- Interchange = LOS C 2040 No-Build Scenario

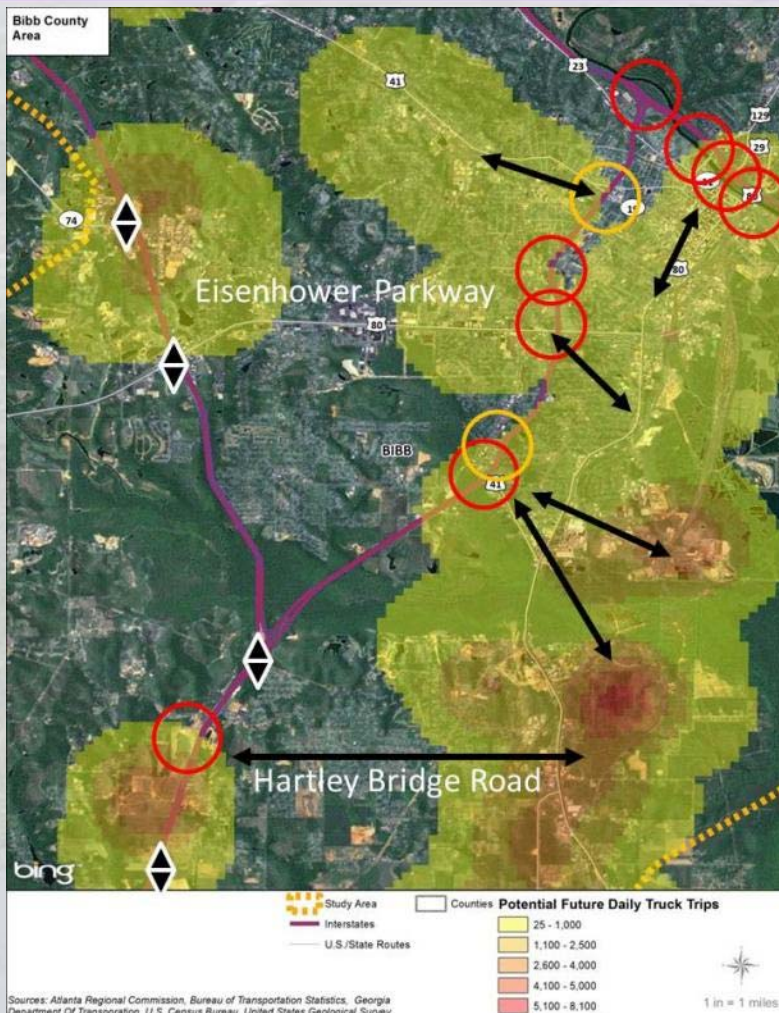
- I-75 Interchanges at SR 116 and SR 36 projected to operate at satisfactory LOS by 2040
- Existing access will likely be satisfactory based upon local land use plans

Monroe County / North Bibb County Integrated Corridor Freight Planning (ICFP)



- I-75 Interchanges at Rumble Road projected to operate at poor LOS and will experience increasing truck volumes by 2040
- Could improved access help alleviate congestion at existing interchanges?

Macon Area Integrated Corridor Freight Planning (ICFP)

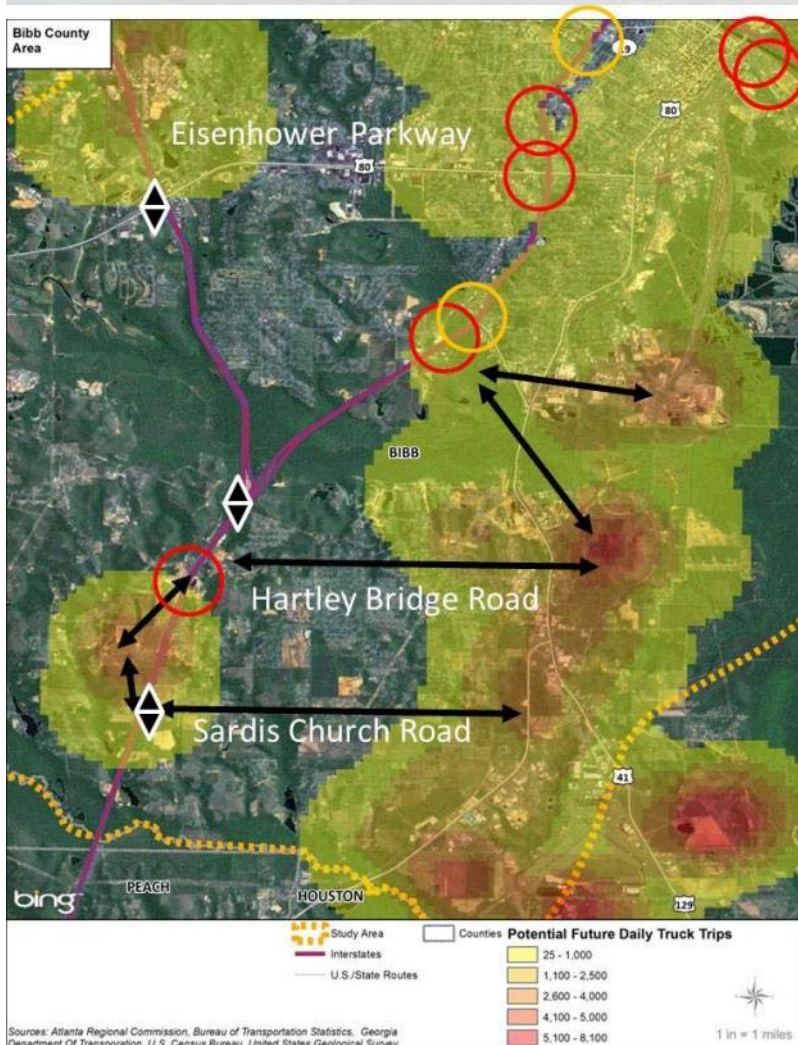


- ↔ Likely route to freight hotspot
- Interchange ≤ LOS D 2040 No-Build Scenario
- Interchange = LOS C 2040 No-Build Scenario
- ◄ Interchange > LOS C 2040 No-Build Scenario

- I-75 Interchanges at numerous locations within downtown Macon projected to operate at poor LOS and will experience increasing truck volumes by 2040
- Could improved access help alleviate congestion at existing interchanges?

Sources: Atlanta Regional Commission, Bureau of Transportation Statistics, Georgia Department of Transportation, U.S. Census Bureau, United States Geological Survey

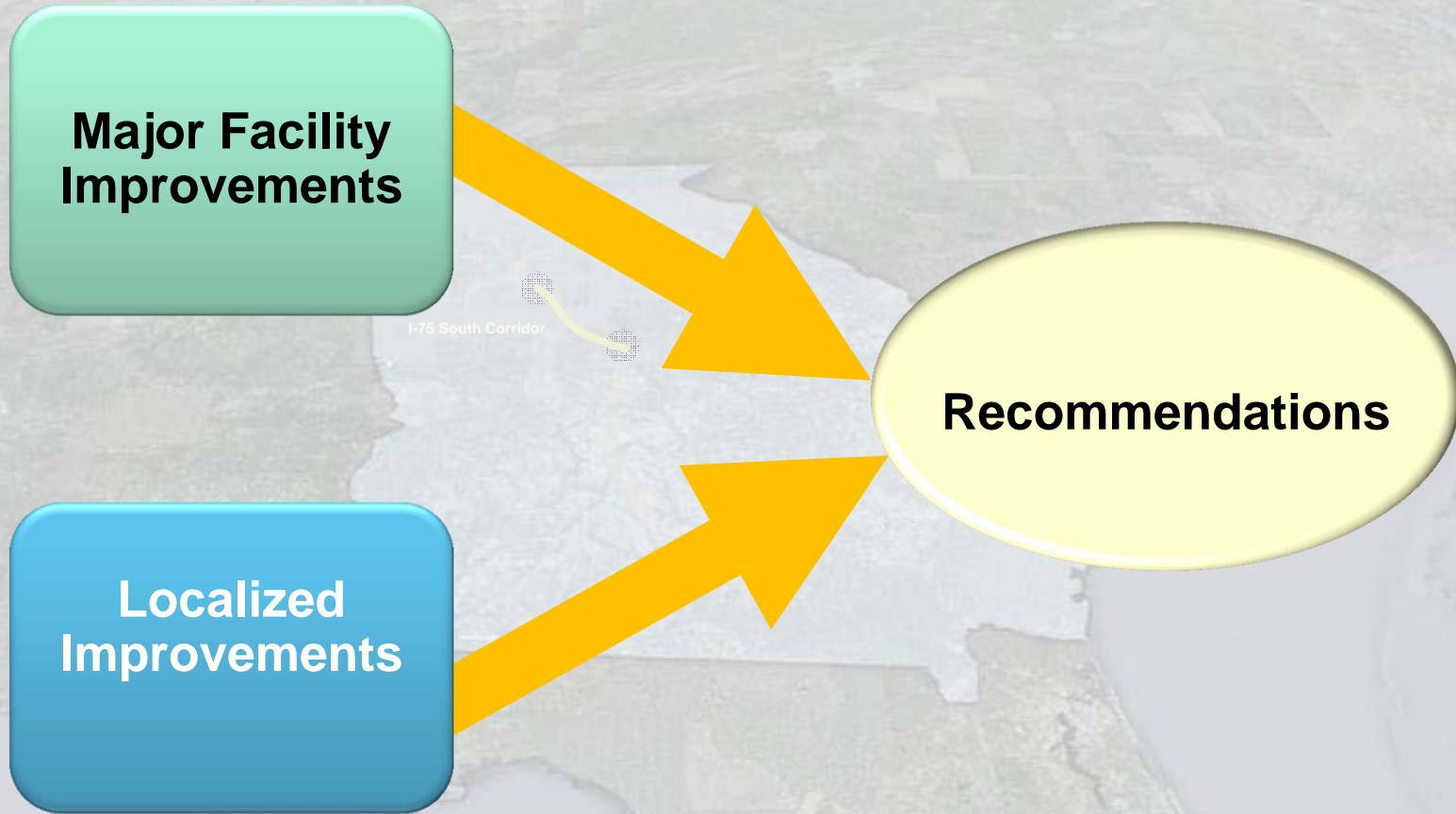
South Bibb County Integrated Corridor Freight Planning (ICFP)



- Likely route to freight hotspot
- Interchange \leq LOS D 2040 No-Build Scenario
- Interchange = LOS C 2040 No-Build Scenario
- Interchange $>$ LOS C 2040 No-Build Scenario

- **I-75 Interchanges within South Bibb projected to operate at satisfactory LOS, with exception of Hartley Bridge Road, and will experience increasing truck volumes by 2040**
- **Could improved access help alleviate congestion at existing interchanges?**

Analysis Components



Analysis Components

Major Facility Improvements

- **Managed Highway Lanes**
- **General Purpose Highway Lanes**
- **Capacity Additions to Parallel Facilities**
- **Freight Mode Shift**
- **Passenger Rail**

Localized Improvements

- **Interchange Improvements**
- **Ramp Intersections**
- **Truck Freight Accommodations**
- **Transit Enhancements**
- **Access Management**

Sample “Major Facility” Projects



- **2040 Existing + Committed (Funded) Projects and Additional Projects Analyzed Inside and/or Outside the I-75 Right-of-Way**

- **Additional Capacity to Parallel Facilities**

- US 41
- US 23 / SR 42

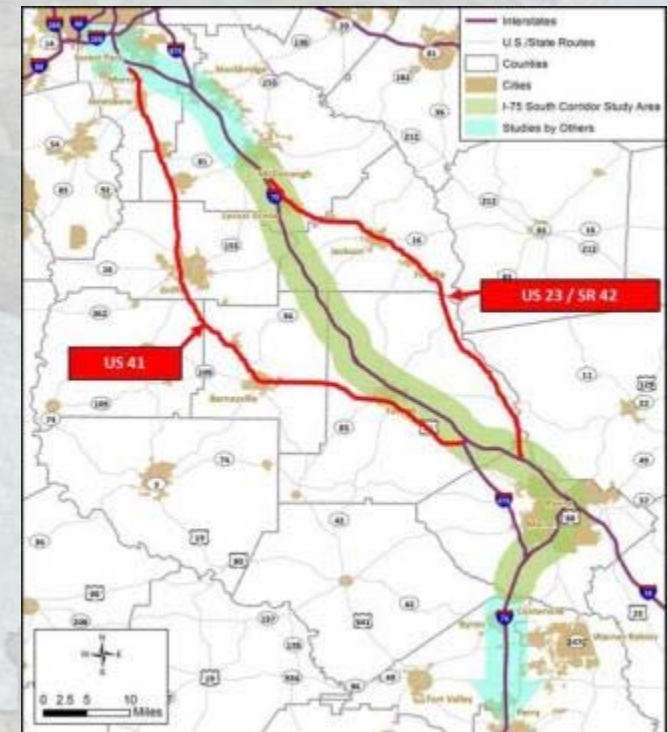
- **Construct Frontage Road Sections**

- Jodeco Road to SR 155 (Henry County)
- SR 16 to Colwell Road (Butts County)

- **Potential Freight Mode Shift: Truck To Rail**

- NS “S” Line
- NS “H” Line

- **Construct Passenger Rail**



Potential Shift from Truck to Rail ?



	Norfolk Southern "H" Line	Norfolk Southern "S" Line
Cities Intersected	McDonough and Jackson	Griffin
Existing No. of Tracks	One (1)	One (1)
Double Stack Vertical Clearance	Yes	No
Trains / Day	18 - 20	Six (6)
Siding Spacing	10 - 15 miles	10 - 15 miles
Potential Alternative to Increase Capacity	Construct double track	Establish Double-Stack Vertical Clearance
Existing Available Capacity	Six (6) to 10 double-stack trains / day	--
Additional Capacity with Alternative Implemented	40 trains / day	14 trains / day
Potential Maximum Trucks that Could be Removed from Highway Network	8,800 trucks	6,160 trucks
<i>Conversions:</i>		
<i>* 110 car train handles 440 containers</i>		
<i>* There is one (1) container per truck</i>		
<i>* 110 car train can remove 440 trucks from the highway</i>		
<i>Source: Norfolk Southern</i>		

Potential Shift from Truck to Rail ?

“S” Line: Double-Stack Vertical Clearance Needed to Increase Capacity

- Today: 6 trains / day
- Potential: 14 trains / day
- Equivalent: 6,160 trucks / day

“H” Line: Double Track Needed to Increase Capacity

- Today: 18-20 trains / day
- Potential: 40 trains / day
- Equivalent: 8,800 trucks / day



Integrated Corridor Freight Planning (ICFP) *Implementation*

Implementation



- **ICFP Developed Through Collaborative Planning Effort**
 - Local, Regional and State Partners
 - Goals, Analysis, Findings and Forthcoming Recommendations
- **Implementation Ideas?**
 - **Local Jurisdictions**
 - Comprehensive Planning / Land Use
 - Integration - Local Transportation and Development Initiatives
 - **Corridor/Regional Planning Council**
 - Develop Through a Multi-jurisdictional Effort
 - Include all Local, Regional and State Planning Partners
 - Periodically Review Land Use and Development Consistency Across Jurisdictions

A topographic map of Georgia is shown, with a semi-transparent white rectangular area highlighting the central and southern parts of the state, representing the ICFP study area.

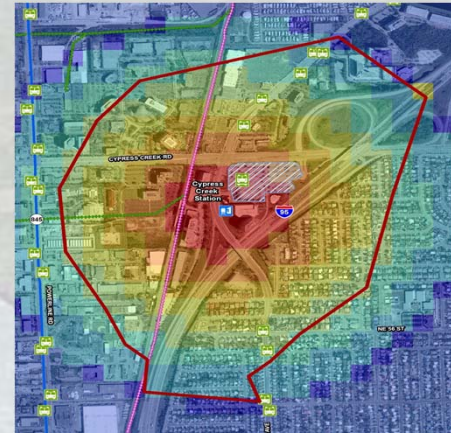
Integrated Corridor Freight Planning (ICFP)

Alternative Applications

Alternative Applications

- **Varying Geographies**

- Statewide
- Regional
- Inter/Intra County
- Corridor
- Facility



- **Other Modes ?**

- Auto to Transit
- Bike/Ped to Transit



Group Discussion

I-75 South Corridor



www.dot.ga.gov/I75South