I-75 South Corridor and Subarea Master Planning Study

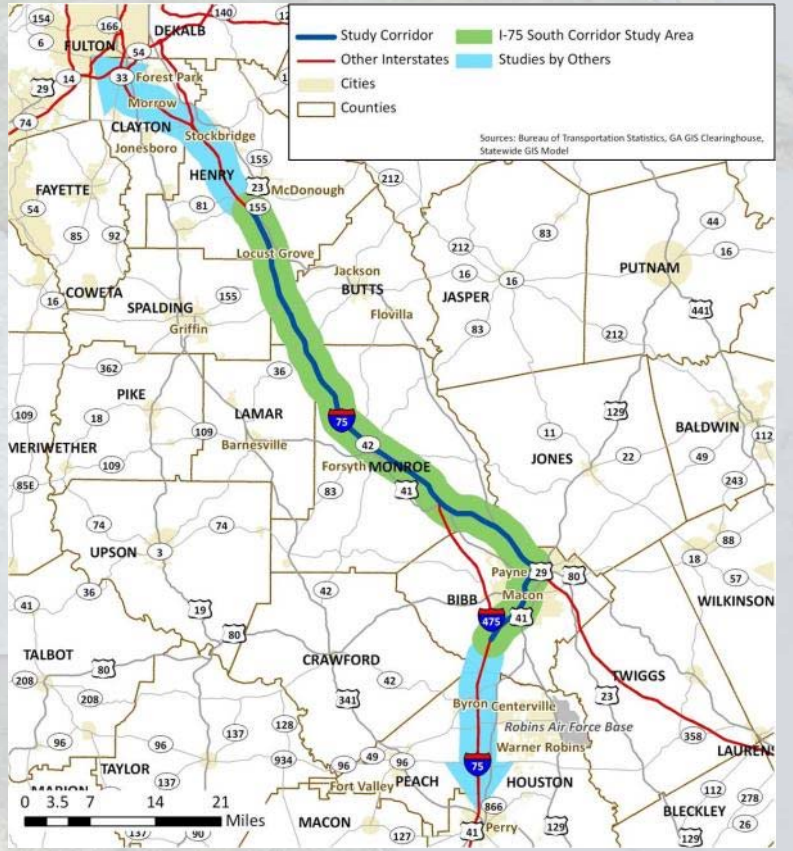
Joint Meeting of the
Project Steering Committee (PSC) and Stakeholder Committee

February 21, 2013

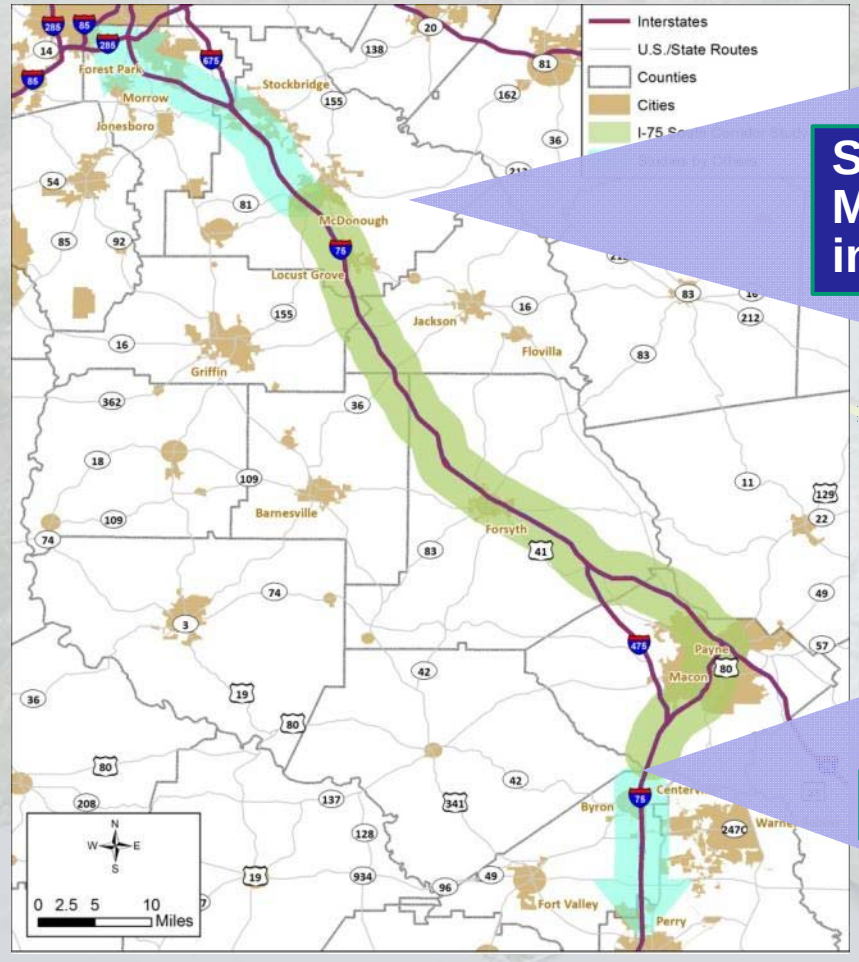
Georgia Department of Transportation
Office of Planning

Agenda

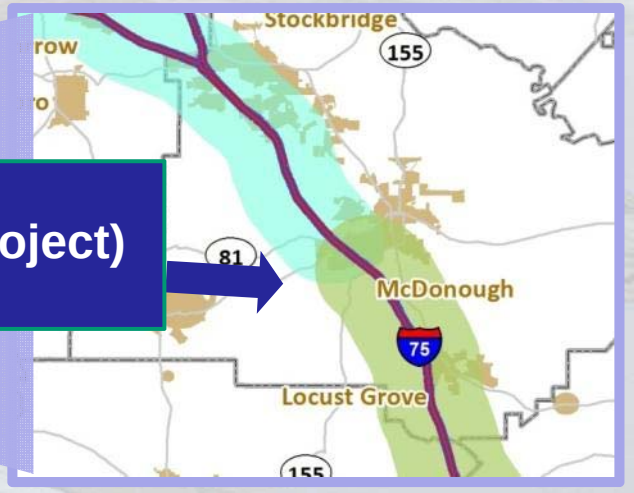
- Introductions
- Review of Study Expectations and Refined Study Goals
- Summary of Corridor Conditions
- Group Discussion
  - Existing and Future Conditions: Preliminary Needs
  - Potential Performance Measures
- Integrated Corridor Planning (ICP)
- Project Status and Next Steps



Project Study Area



SR 155 (South of Managed Lanes Project) in Henry County



South Bibb County

Expected Study Results

- Conceptual Improvements and Projects
- Specific Interchange Area Recommendations
- Identify Multimodal Connectivity Improvements
- Action Plan with Specific Implementation Steps Identified
- Coordination with Adopted Land Use Plans and Comprehensive Plans

Rivertrader Dr
Rivertrader Dr
Rivertrader Dr

Updated Study Goals

I-75 South Corridor Study Goals
• Ensure Efficient Regional and Interstate **Mobility** for **People** and **Goods**
• Provide **Connectivity** and **Accessibility** to Regional Activity Centers
• Enhance and Improve **Safety** for All Users
• Preserve and Enhance **Environmental**, **Cultural**, and **Historic Resources**, as well as **Quality of Life**
• Utilize and Recommend Transportation Designs that **Enhance Facility Function** and Compatibility, While **Maintaining Community Character**
• Invest in Infrastructure that **Supports Economic Sustainability** and Viability
• Consider **Multimodal Transportation Options** Evaluated in Previous Studies
• Assist in Expanding **Georgia's Role** as a **Major Logistics Hub** for Global Commerce
• **Improve Intergovernmental Coordination** for Successful Infrastructure Development

Steering and Stakeholder Committees

- **Previous Meetings and Workshops**
  - **Reviewed and Refined Study Goals With Committees**
  - **Reviewed and Discussed Existing Conditions and Future Development**
  - **Summarized Issues, Concerns, and Needs Identified and Mapped by Committee Members**

Capacity/Connectivity	Freight	Land Use	Environmental
Lack of effective parallel facilities	Truck Parking	Existing and planned development impacts	Air quality
I-75 congestion affects mobility on local streets	Anticipated increase in truck volumes		

Summary of Corridor Conditions

- *Demographics*
- *Environmental Resources*
- *Land Use*
- *Transportation*

Demographics: Population and Employment

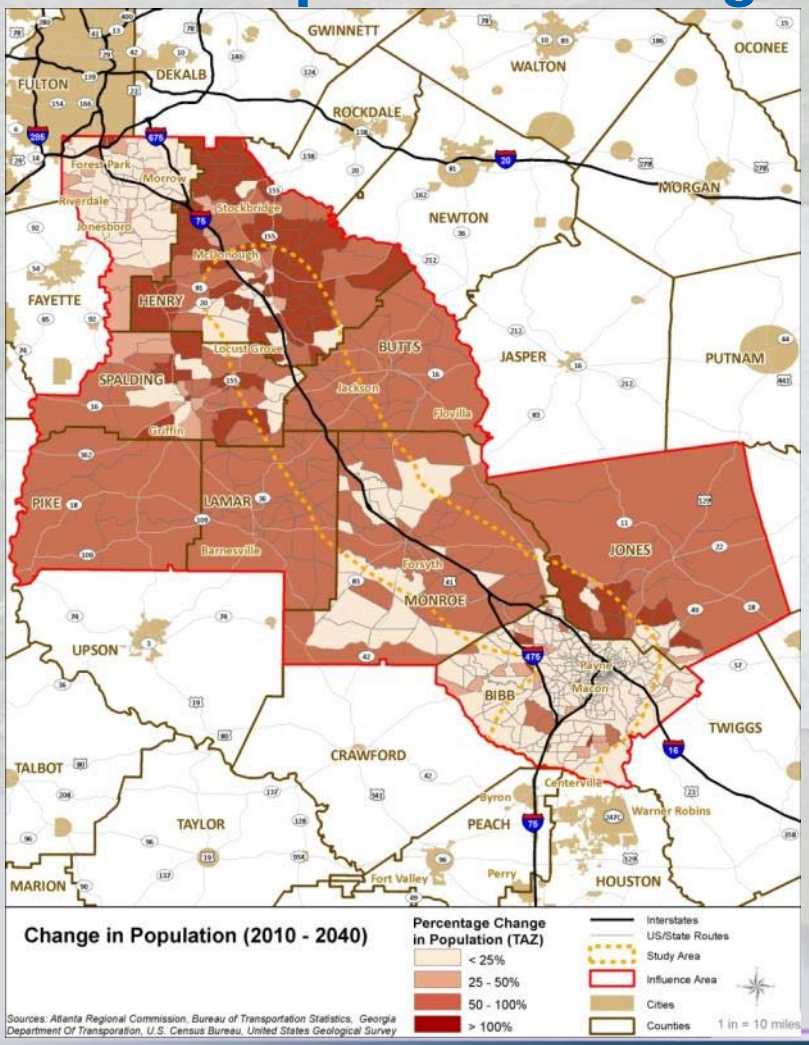
- **Population: 2010 to 2040**
  - **Projected to Grow by 49%**
  - **Majority of Growth Concentrated in Spalding, Henry, Clayton**
- **Employment: 2010 to 2040**
  - **Projected to Grow by 60% from 2010 to 2040**
  - **Significant Portion in Spalding, Henry, Clayton**

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%***

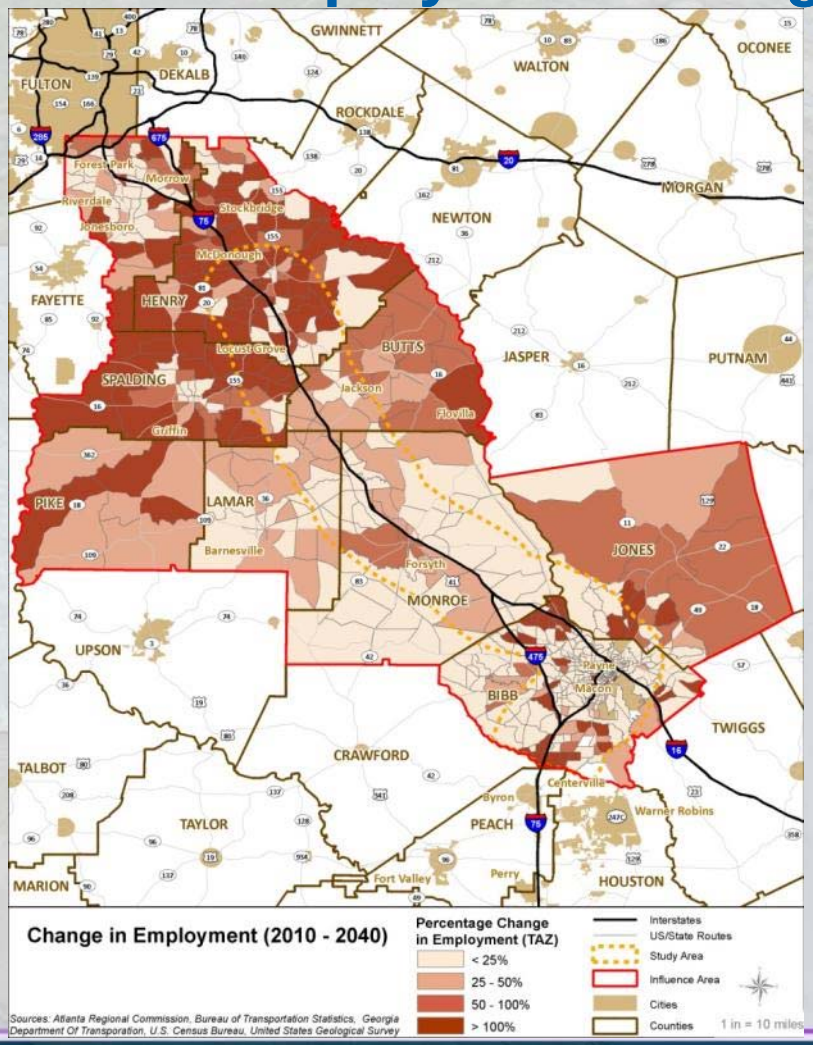
Sources: Atlanta Regional Commission, Bureau of Transportation Statistics, United States Census Bureau, and United States Geologic Survey

Projected Population and Employment Change (2010-2040)

Percent Population Change

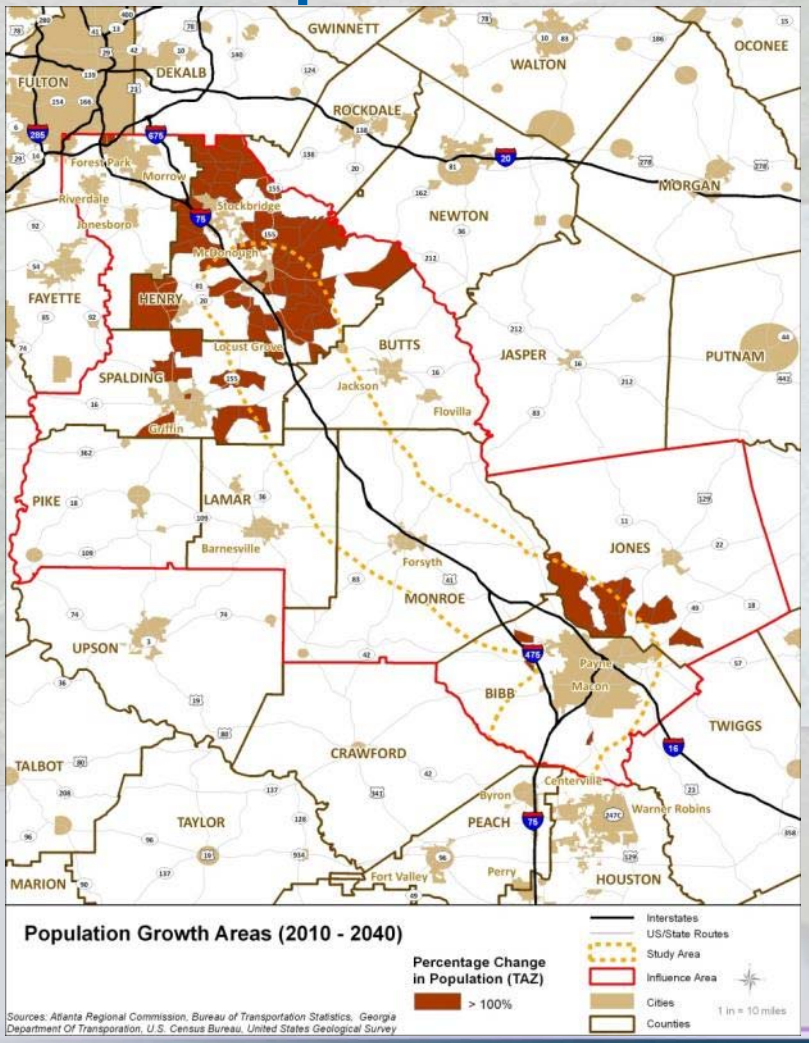


Percent Employment Change

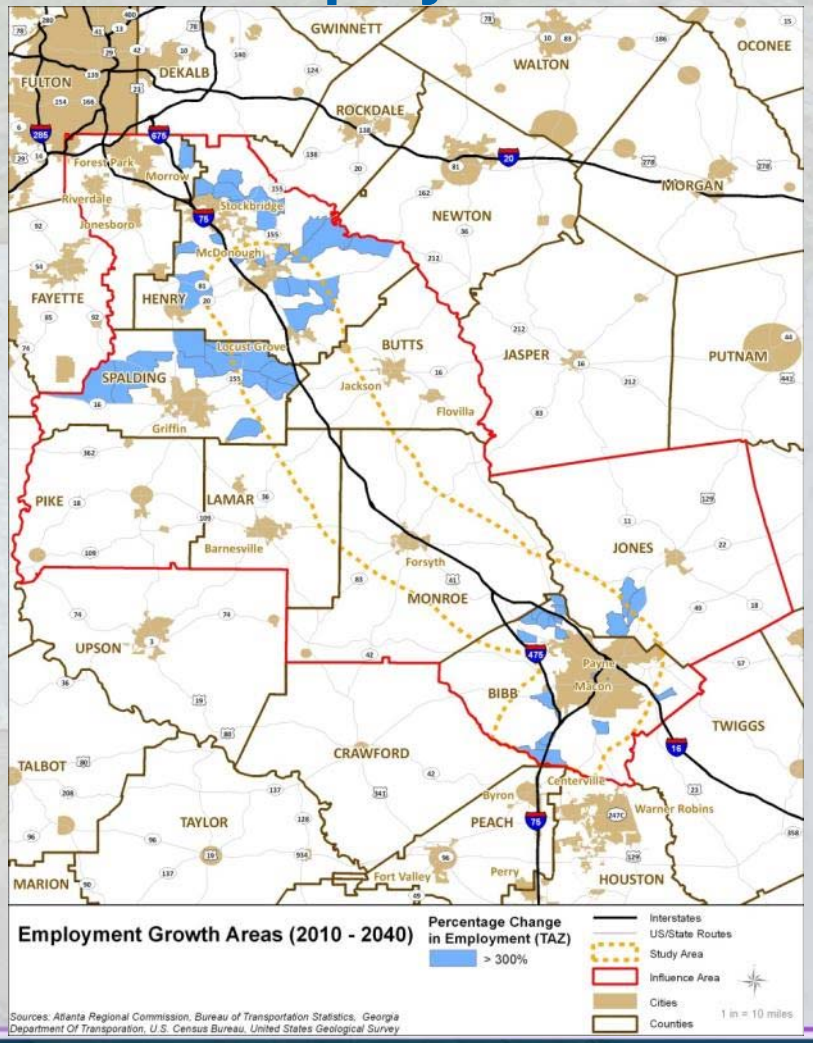


Projected High Growth Areas: 2010-2040

Population

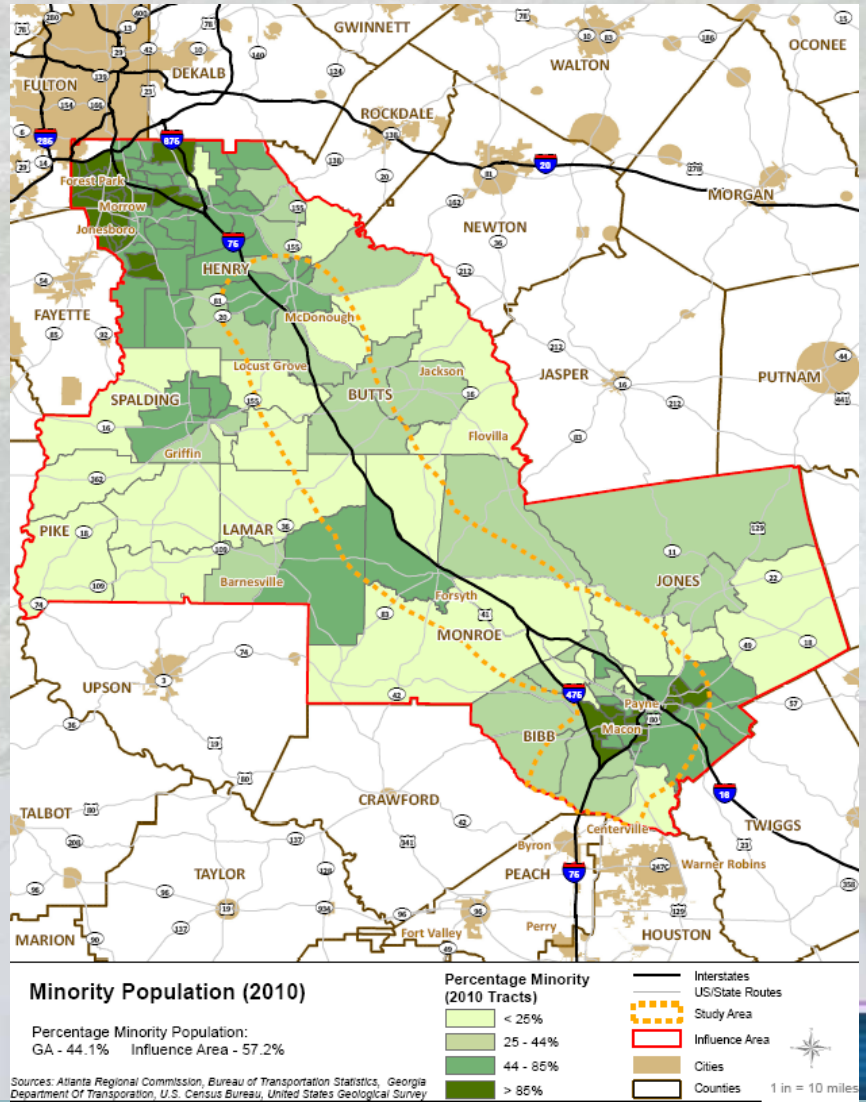


Employment

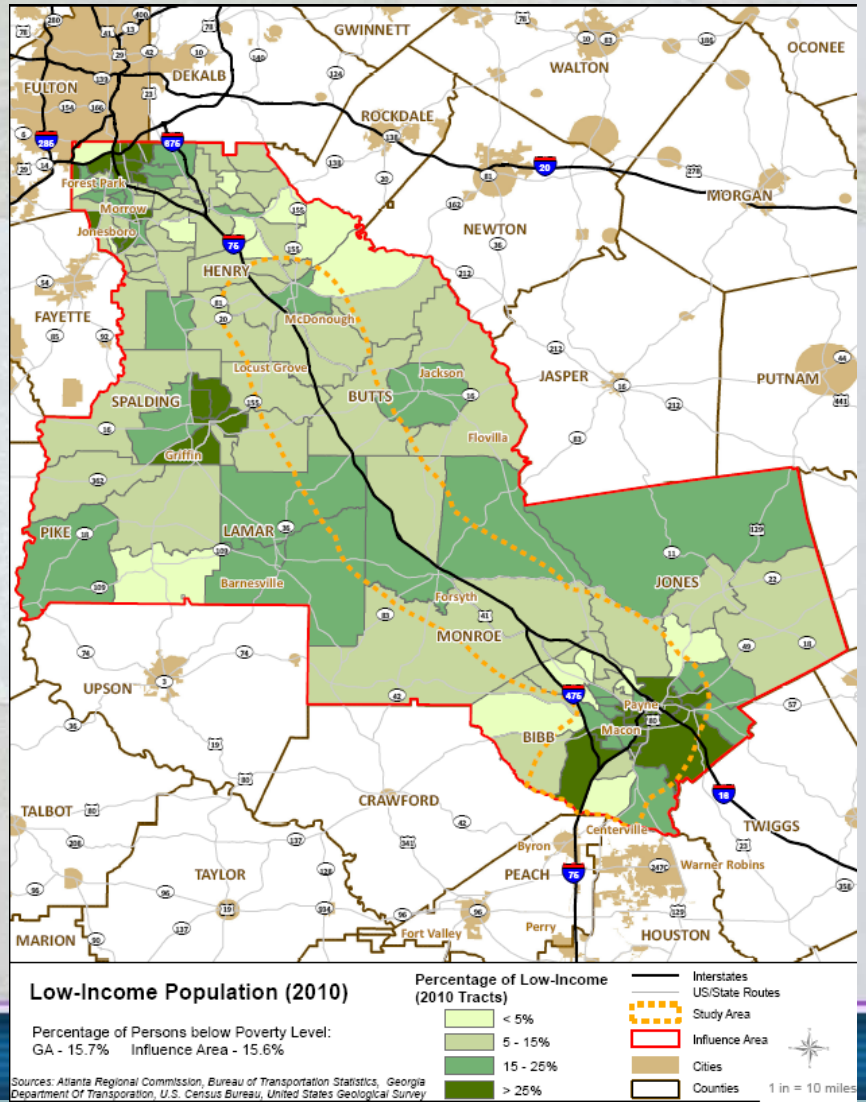


Environmental Justice

Minority Population



Low-Income Population



Environmental Resources

- **Environmental Screening**
  - **Identification of Sensitive Areas that May be Impacted by Potential Transportation Projects**

Environmental Resources	Resource Area / Number
Wetlands	57 Square Miles
Water Bodies	28 Miles and 1.28 Square Miles
Historical Sites and Properties	77
Public Lands	17.99 Acres
Churches and Cemeteries	192 and 77
Potentially Hazardous Sites	366
Threatened and Endangered Species	*Specific Location Data Not Available*
Archaeologically Sensitive Areas	*Specific Location Data Not Available*

Sources: FEMA, NWI, ARC, US Census Bureau, BTS, National Historic Registry, USGS, GA DNR, US EPA, US Fish and Wildlife, Team Analysis

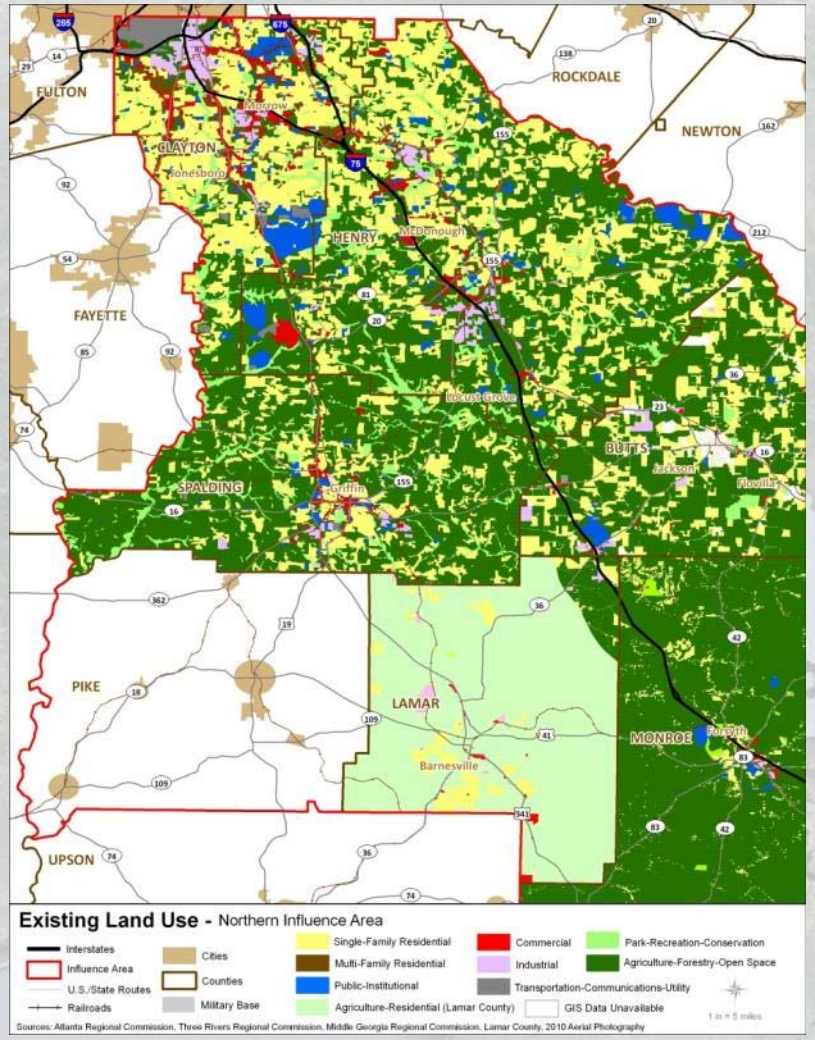
Land Use

- **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

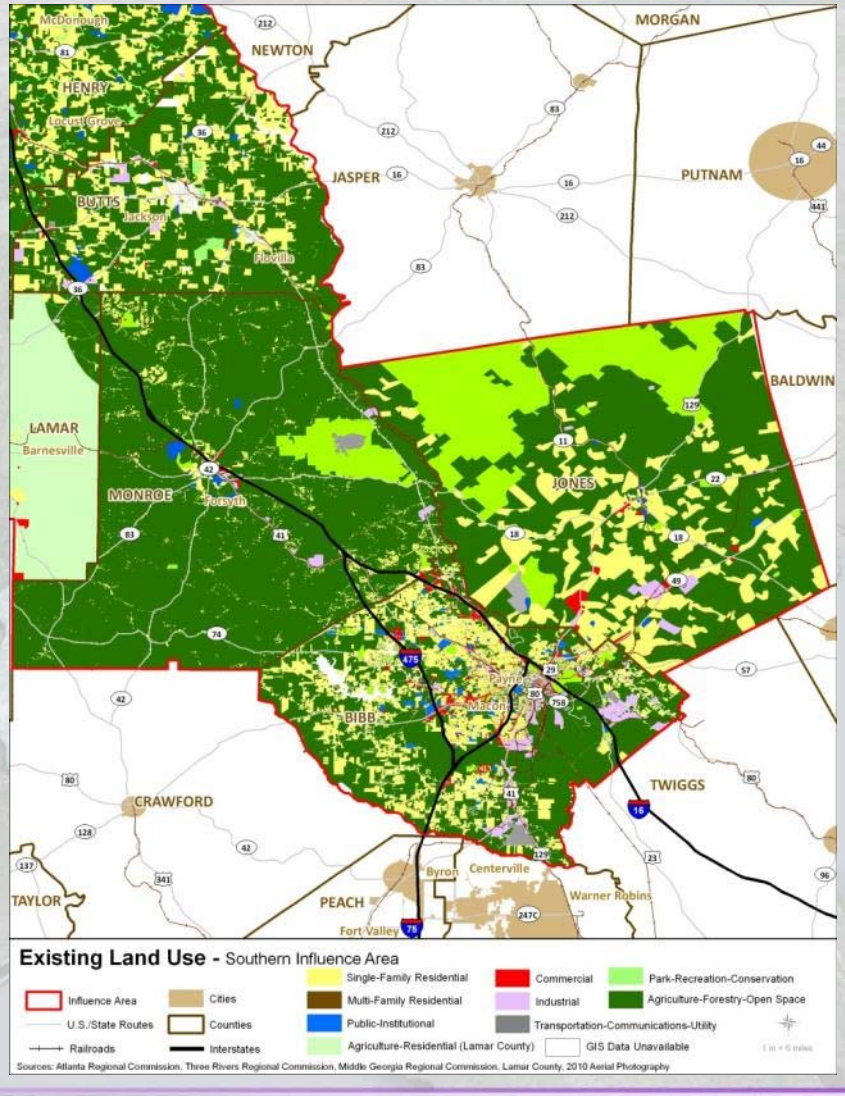
- ARC LandPro
- Three Rivers Regional Commission
- Middle Georgia Regional Commission

Existing Land Use: Northern and Central Segments



Sources: ARC LandPro data, Three Rivers RC data, Middle Georgia RC data, Study Team Analysis

Existing Land Use: Southern Segment



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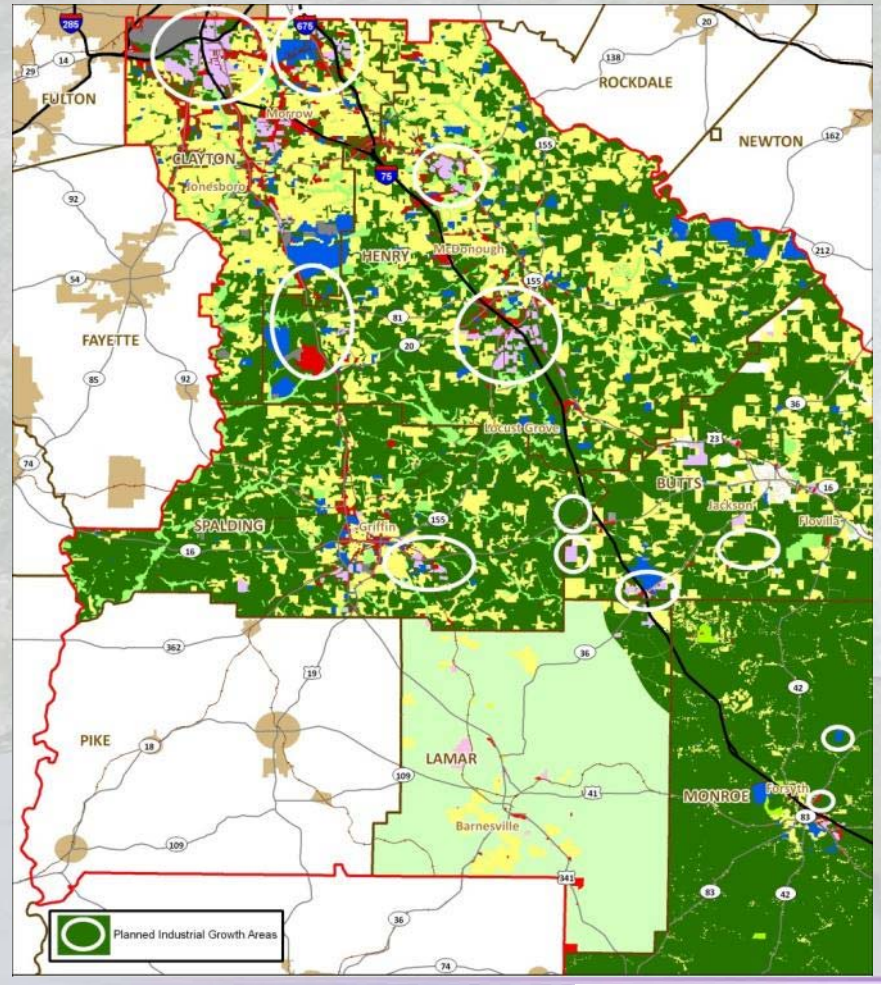
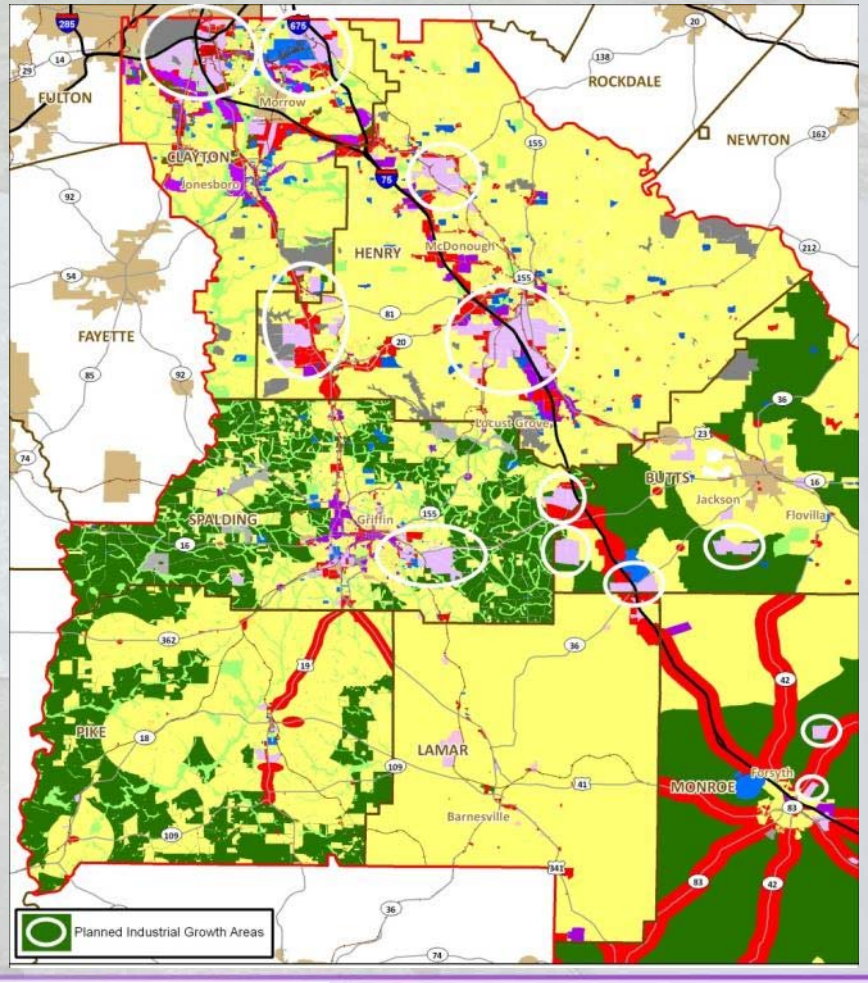
Land Use:
Northern and Central Segments

Existing



Future



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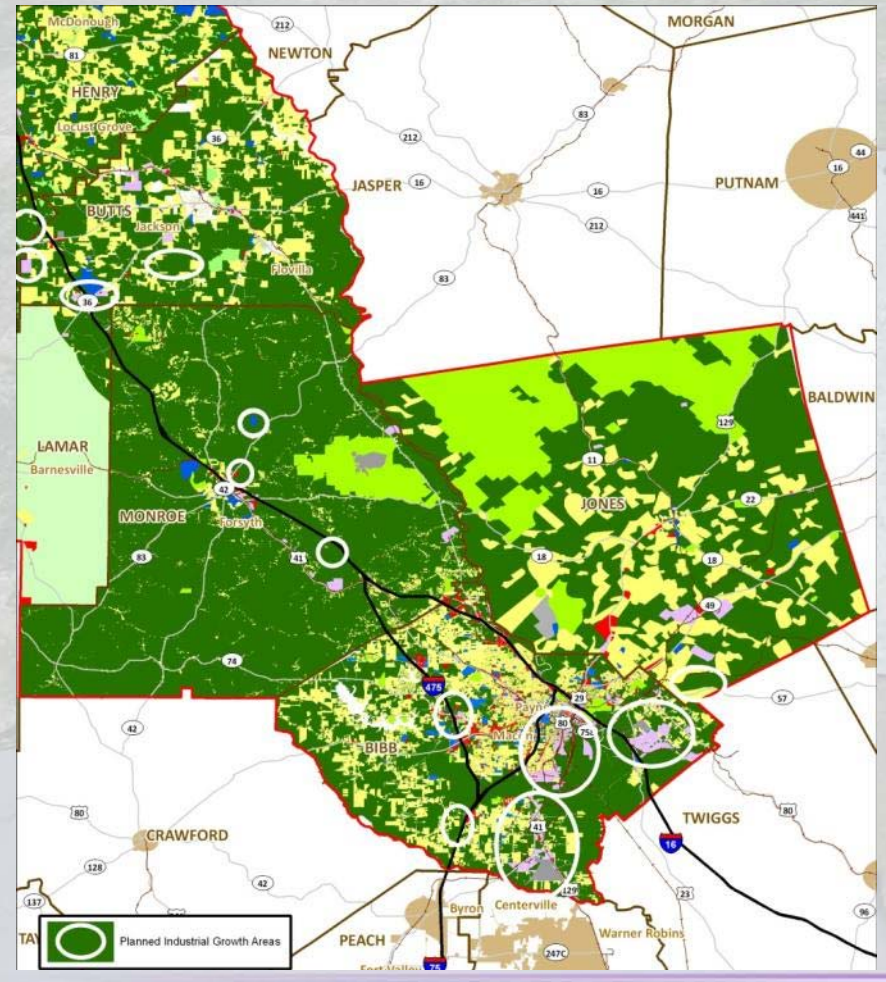
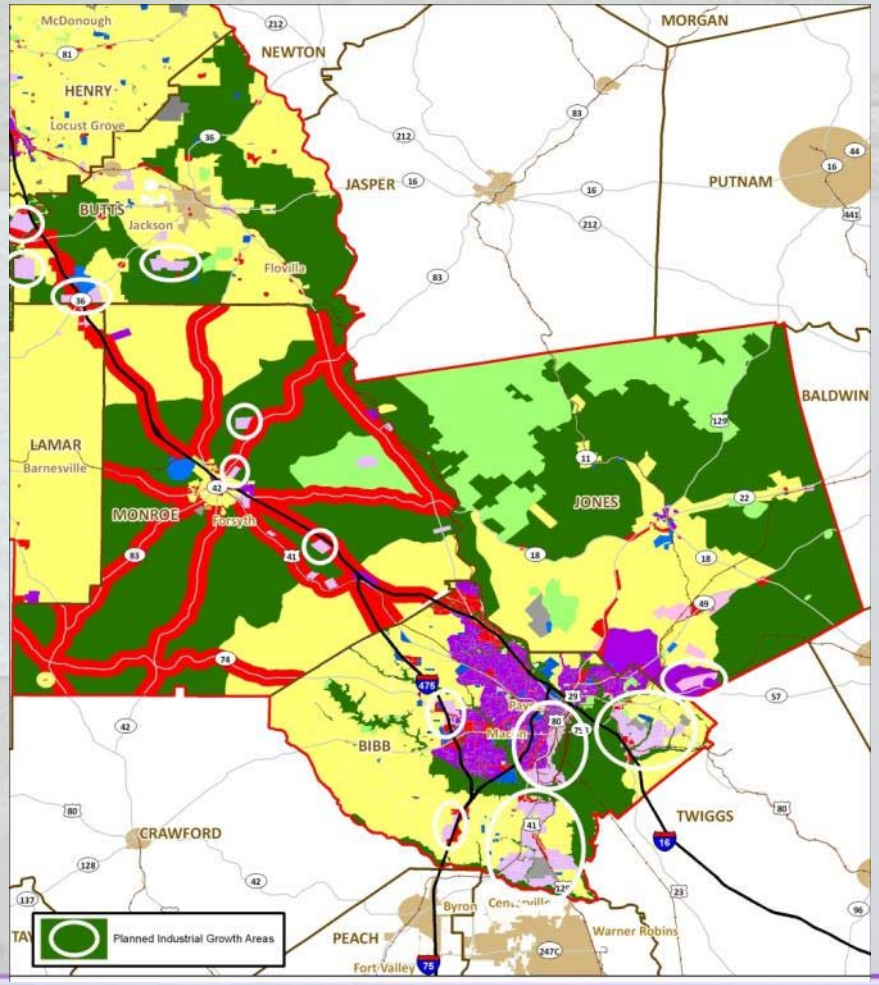
Land Use: Southern Segment

Existing



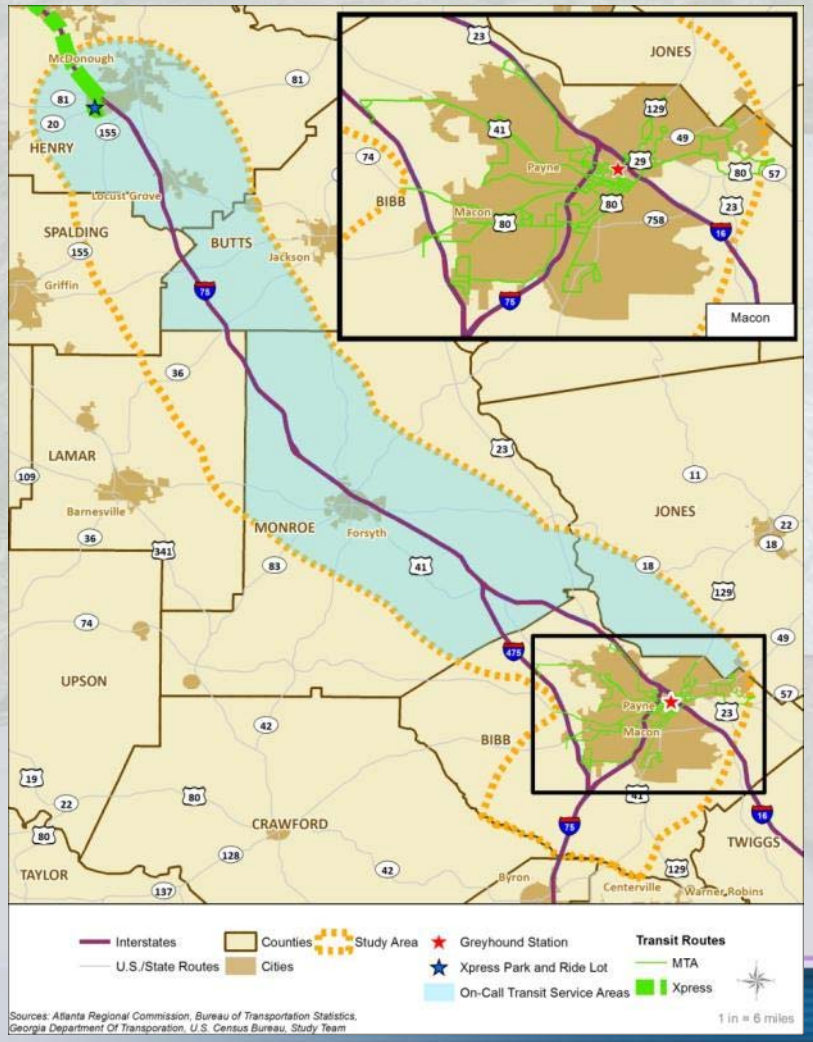
Future



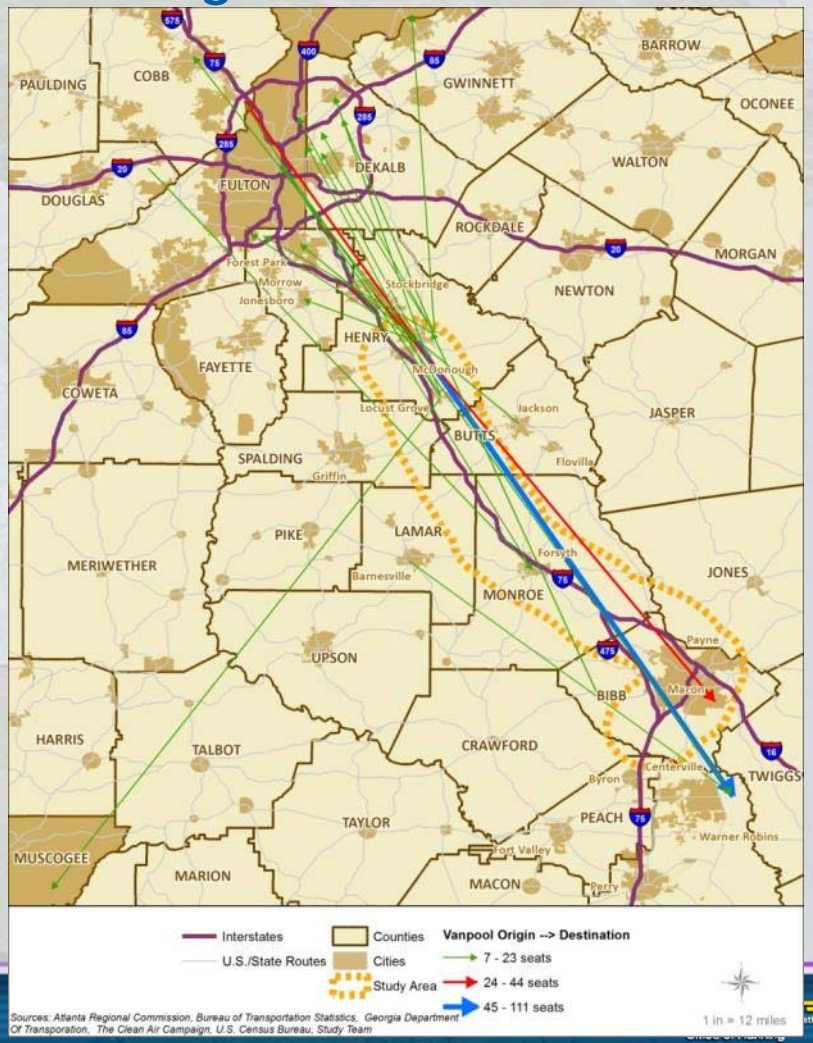
Sources: ARC LandPro data, Three Rivers RC data, Middle Georgia RC data, Study Team Analysis

Transit

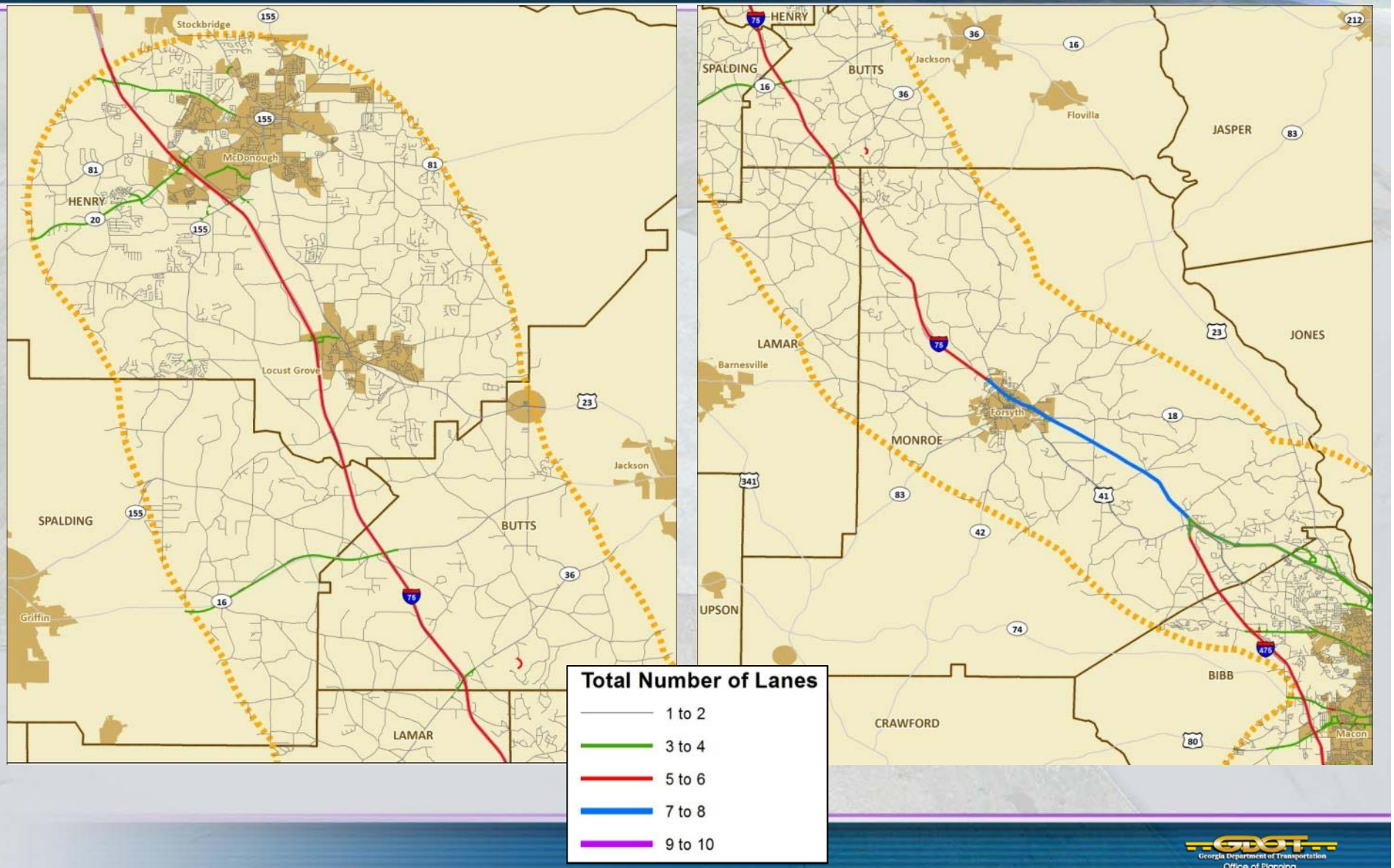
Public Transit Routes



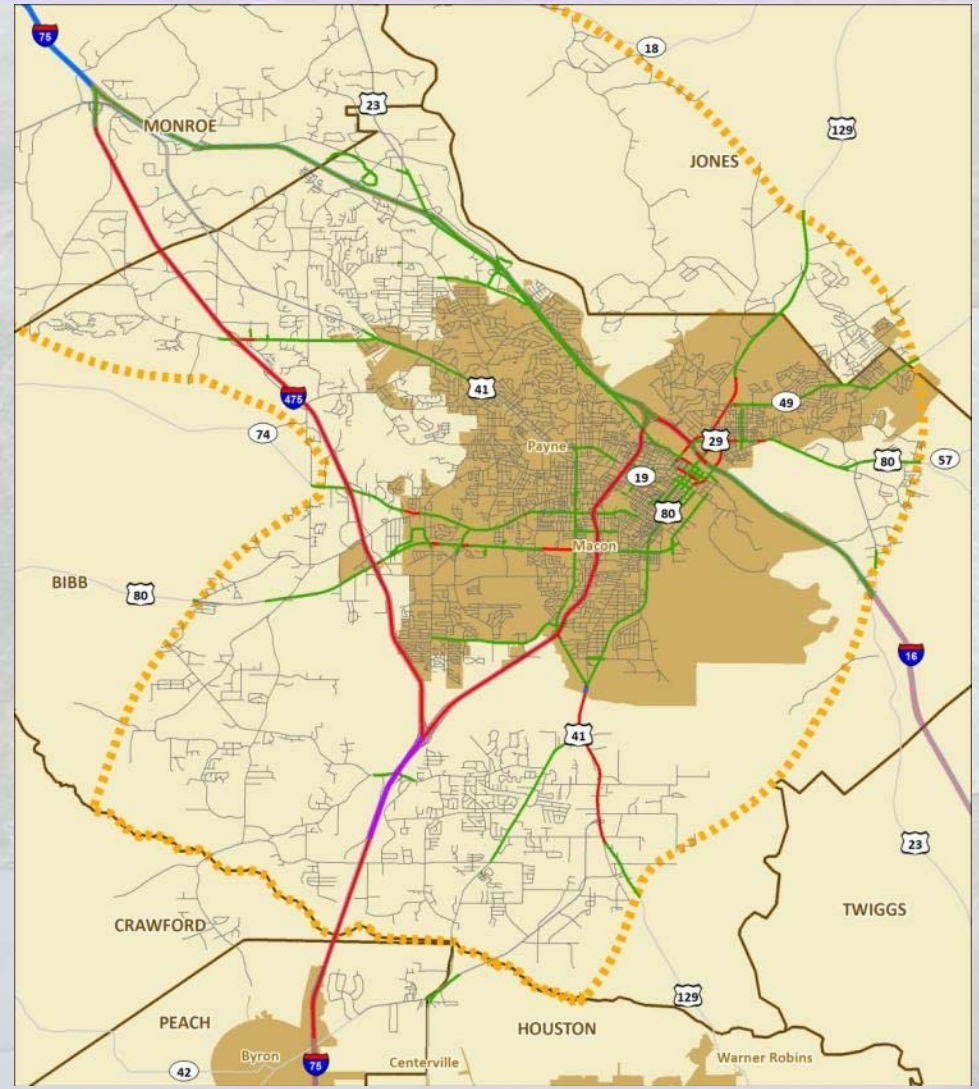
Publicly-Subsidized Vanpools
Origins & Destinations



Transportation: Number of Lanes Northern and Central Segments



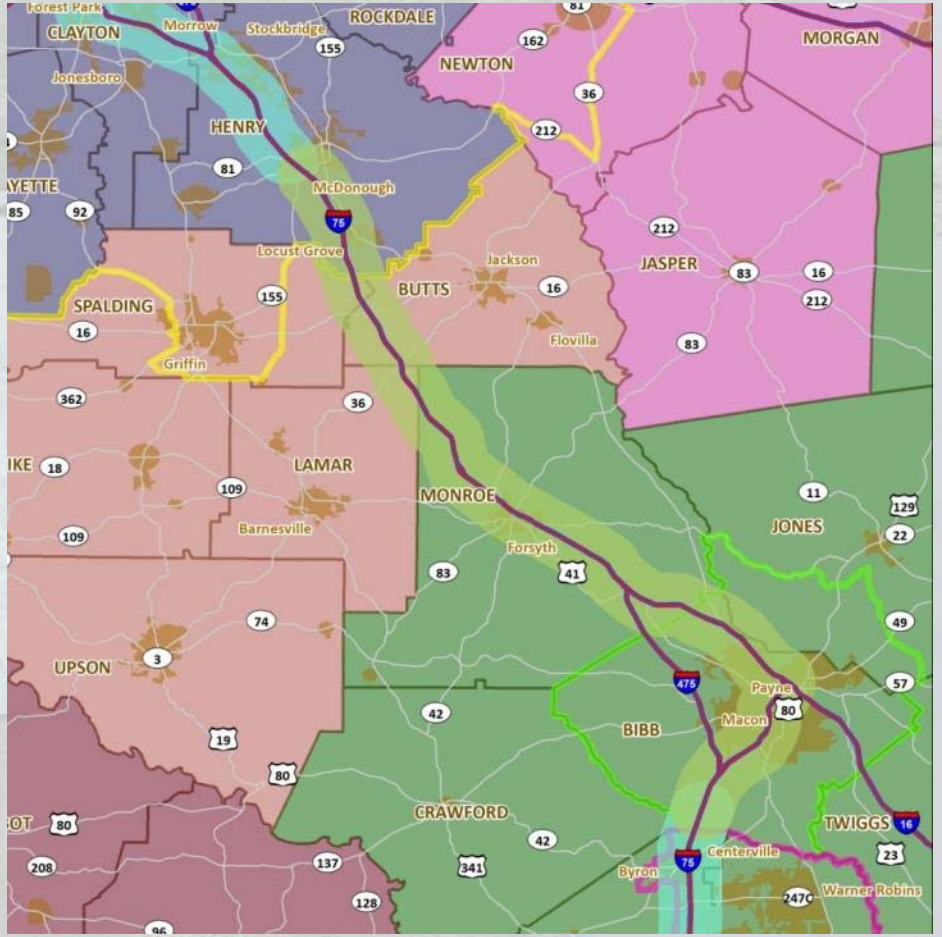
Transportation: Number of Lanes Southern Segment



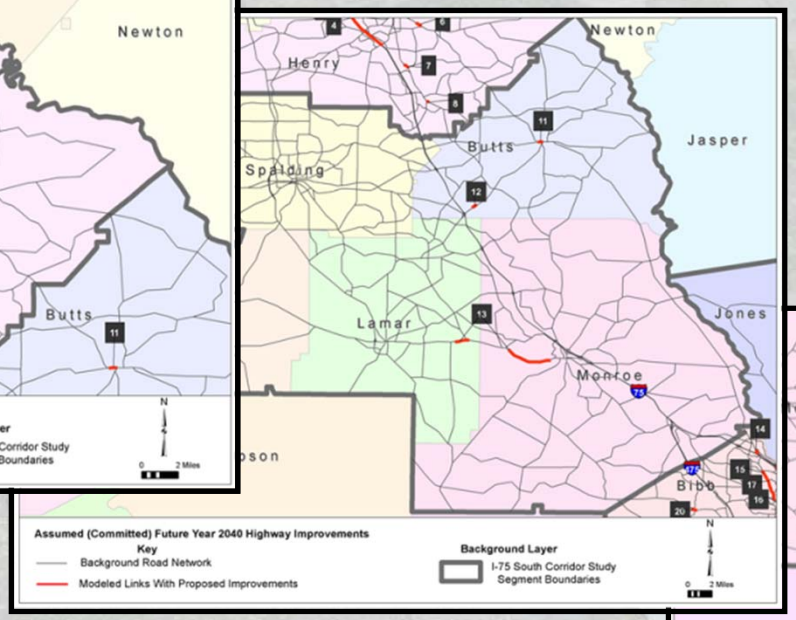
- **Limited North-South Routes**
- **Majority of Non-Interstate Facilities are Two Lanes**

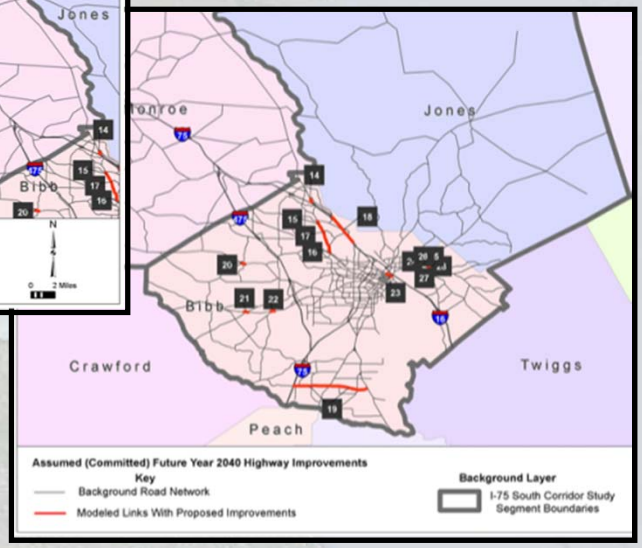
Travel Demand Modeling

- **Combined Data from Three Models**
  - ARC Model (2040)
  - MATS Model (2035)
  - GDOT Statewide Model
- **Evaluated 2010 and 2040 with Existing and Committed Projects "2040 E+C".**
  - Committed Projects are Those with Funding



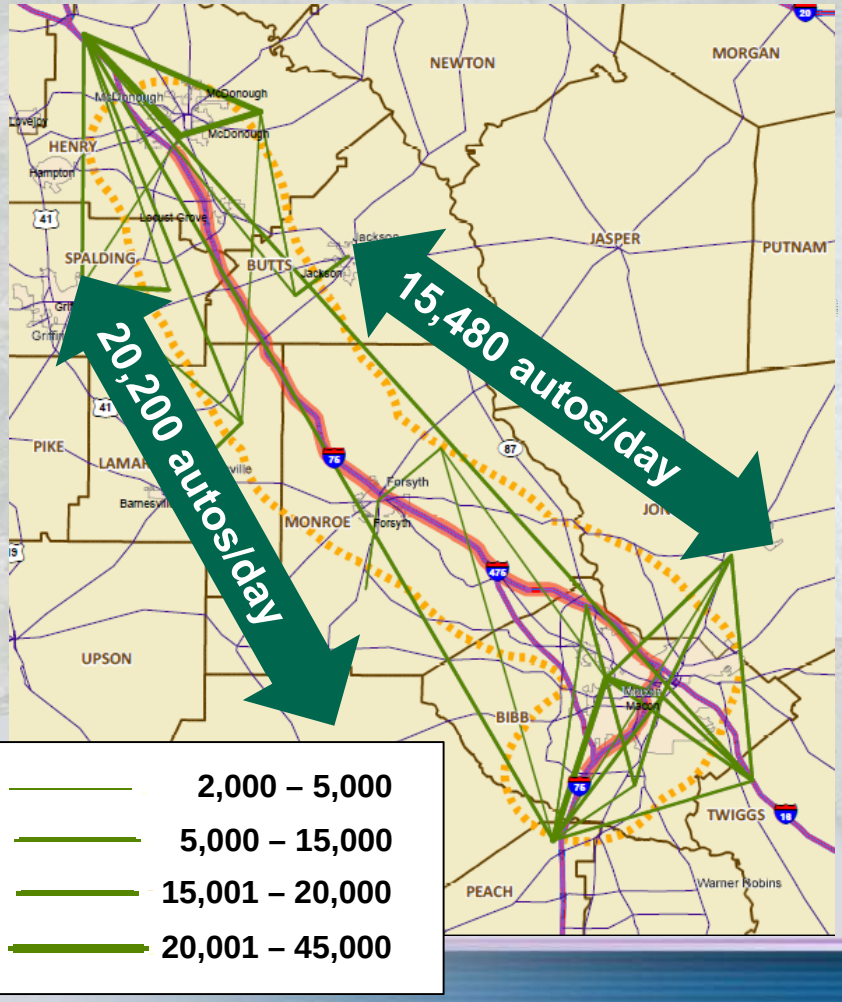
Existing + Committed (E+C) Projects



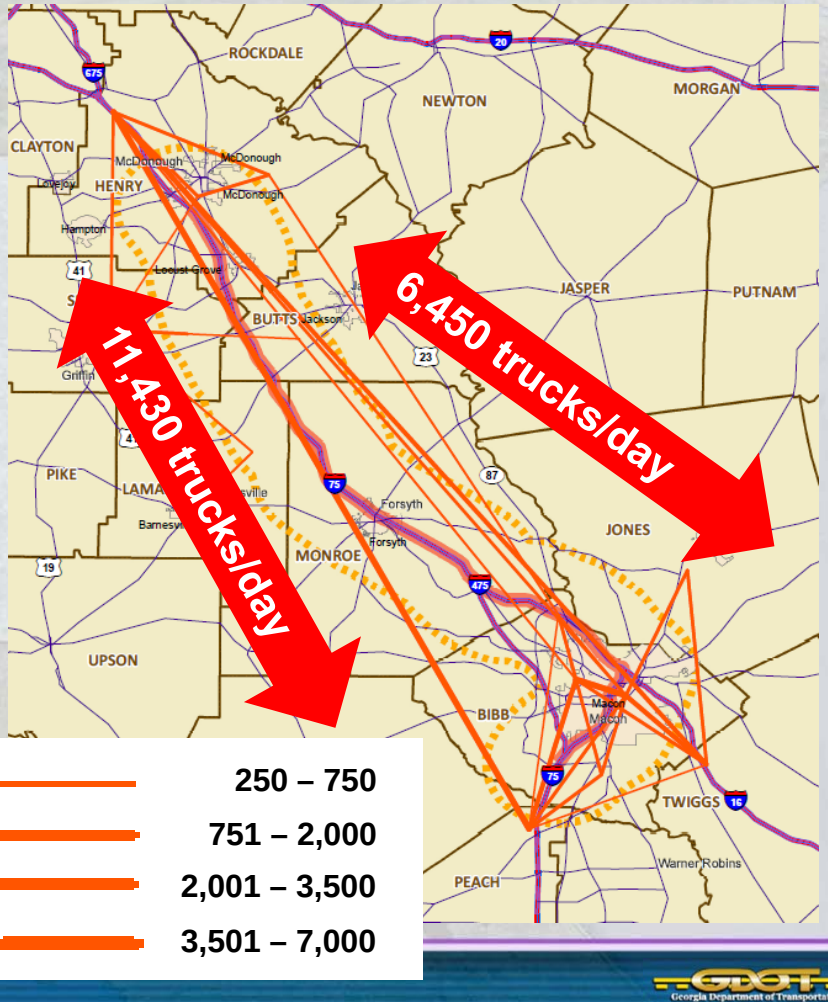


Travel Demand Modeling - 2010

Passenger Car Bandwith Ranges (autos/day)



Truck Bandwith Ranges (trucks/day)

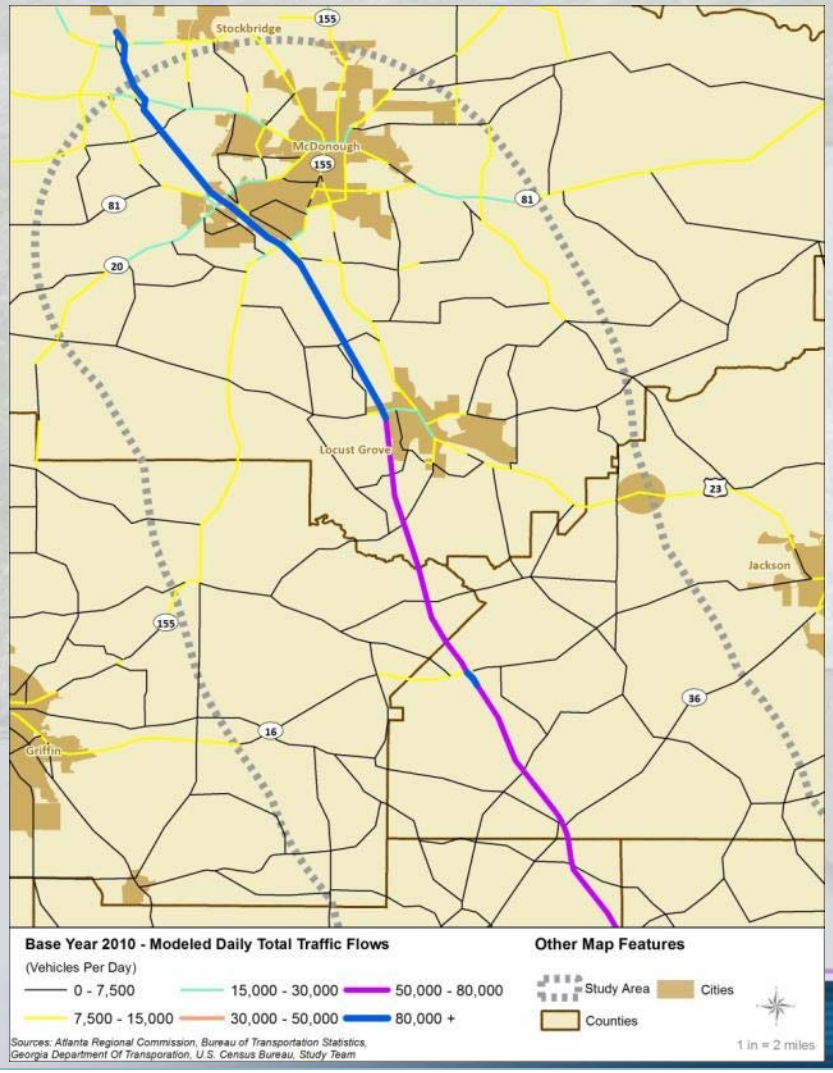


Summary of Corridor Traffic Volumes

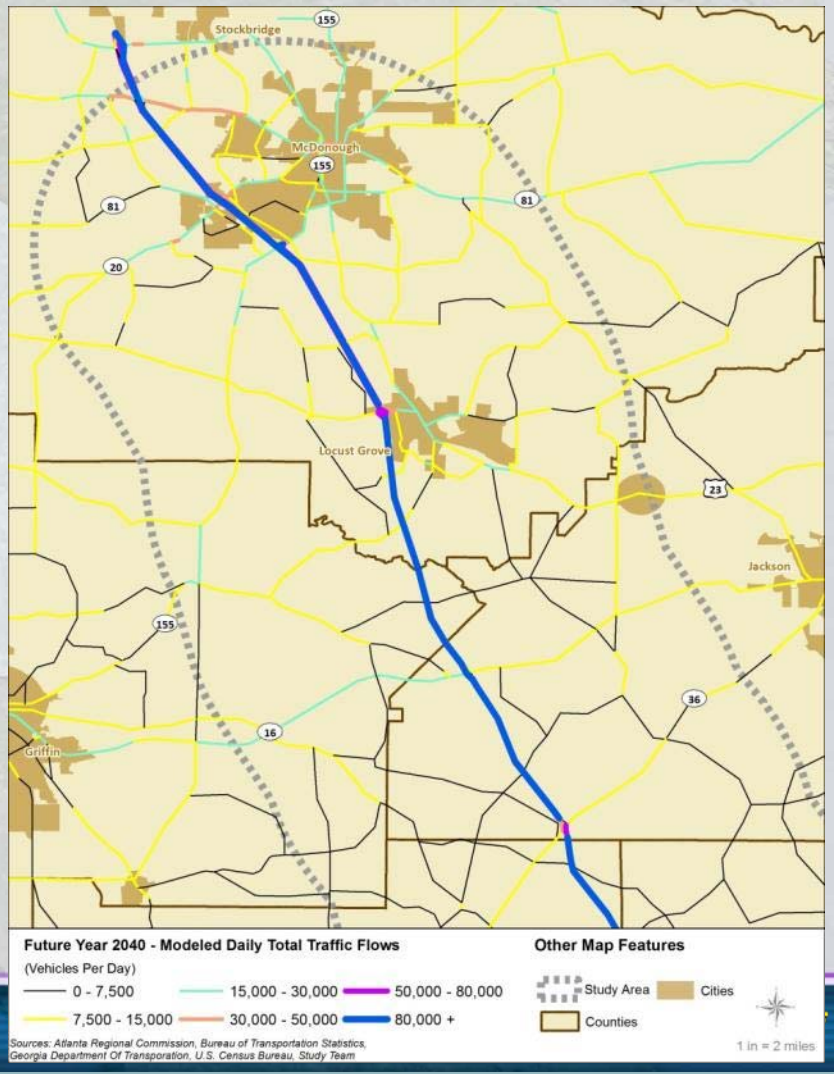
- ***Total Traffic (Autos and Trucks)***
  - ***2010 Base Year***
  - ***2040 E+C Horizon Year***
- ***Truck Traffic Only***
  - ***2010 Base Year***
  - ***2040 E+C Horizon Year***

Total Traffic (Autos and Trucks) Northern Segment

2010

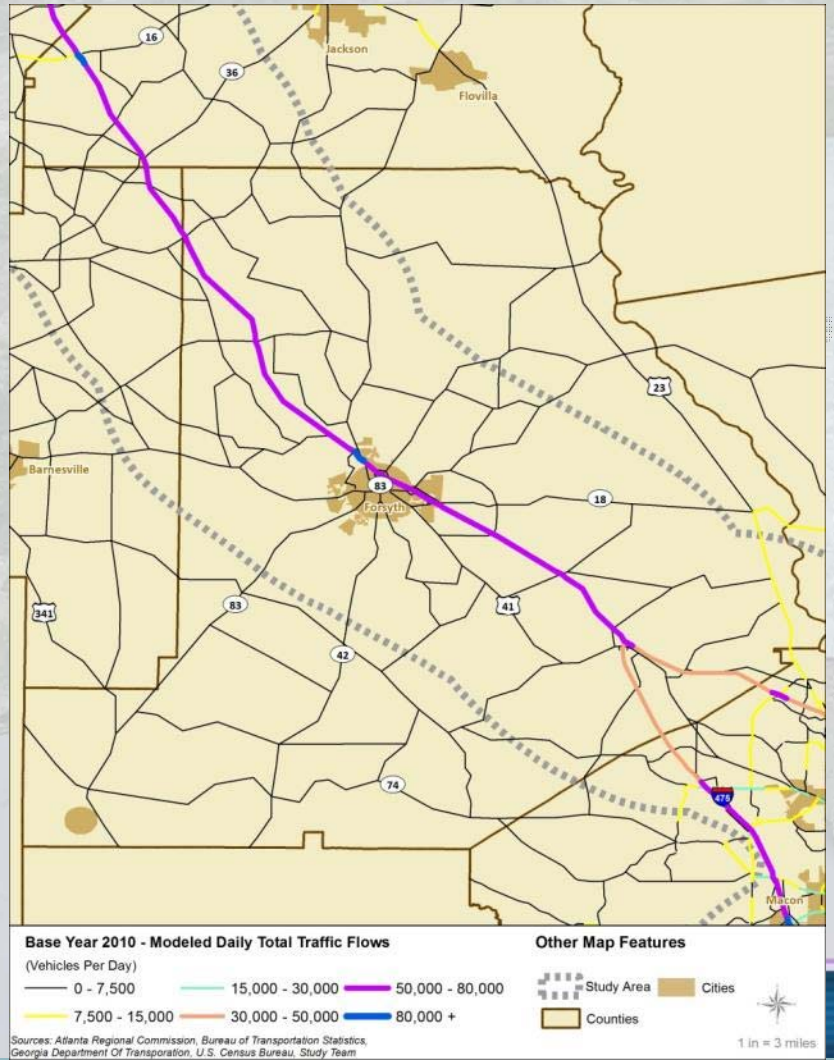


2040 E+C

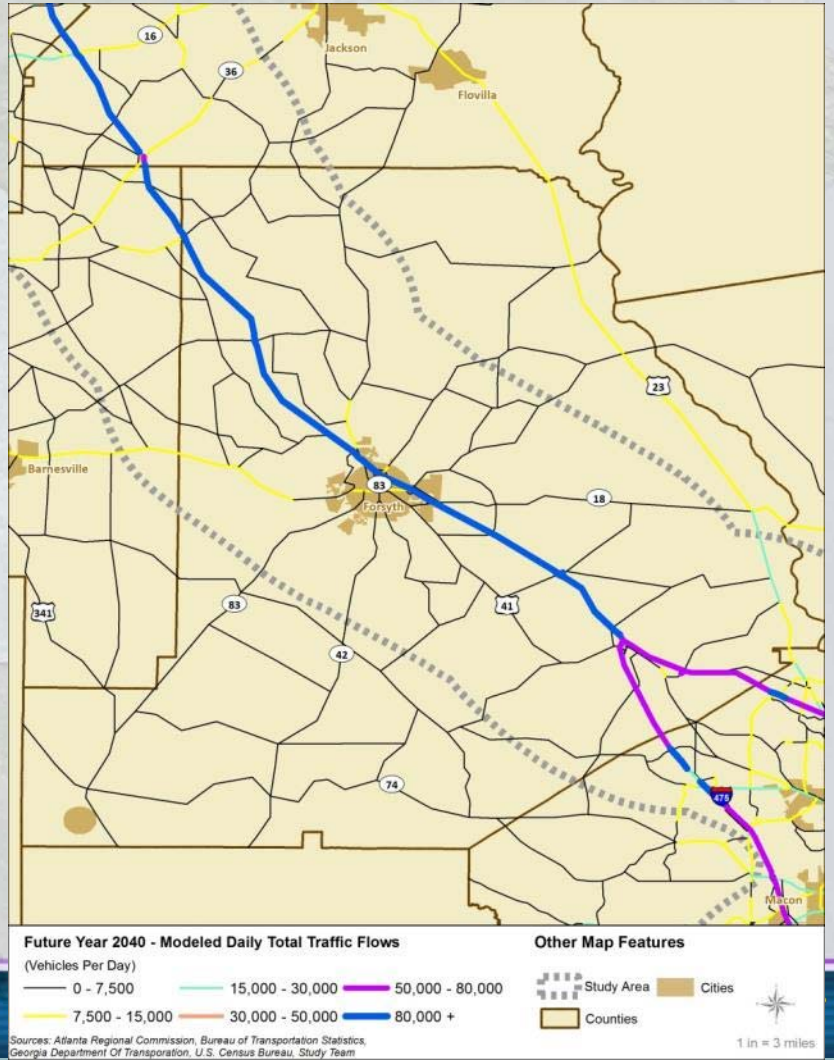


Total Traffic (Autos and Trucks) Central Segment

2010

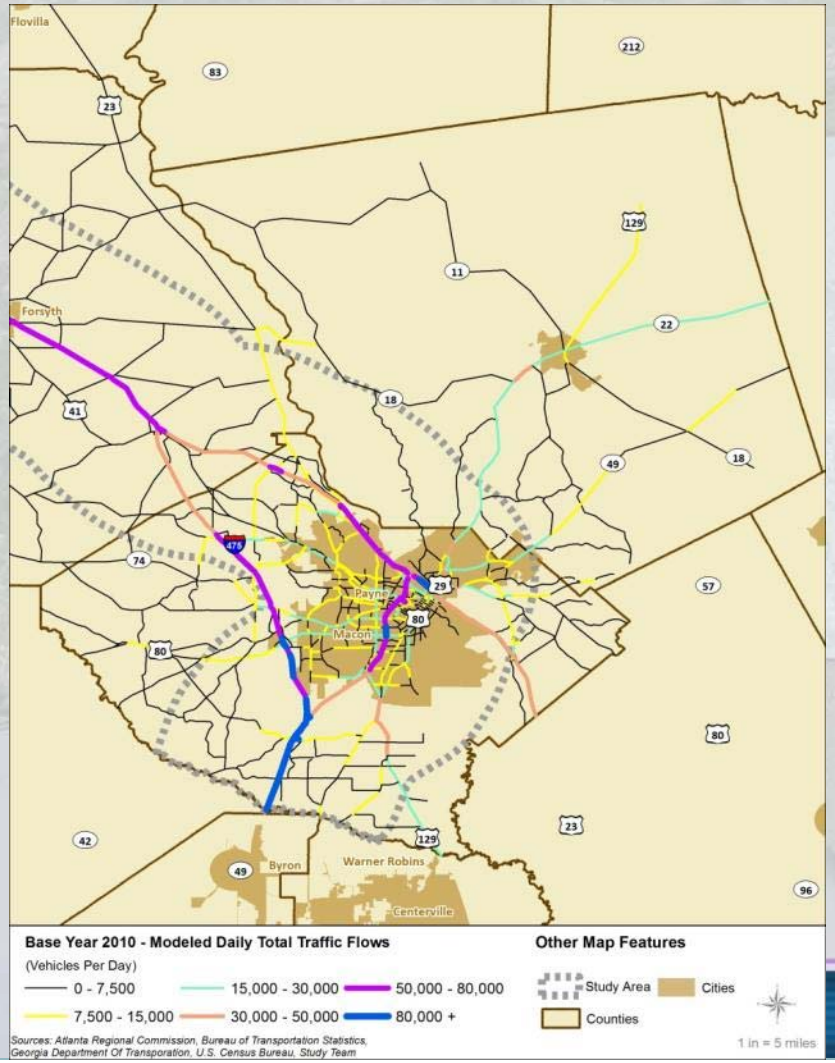


2040 E+C

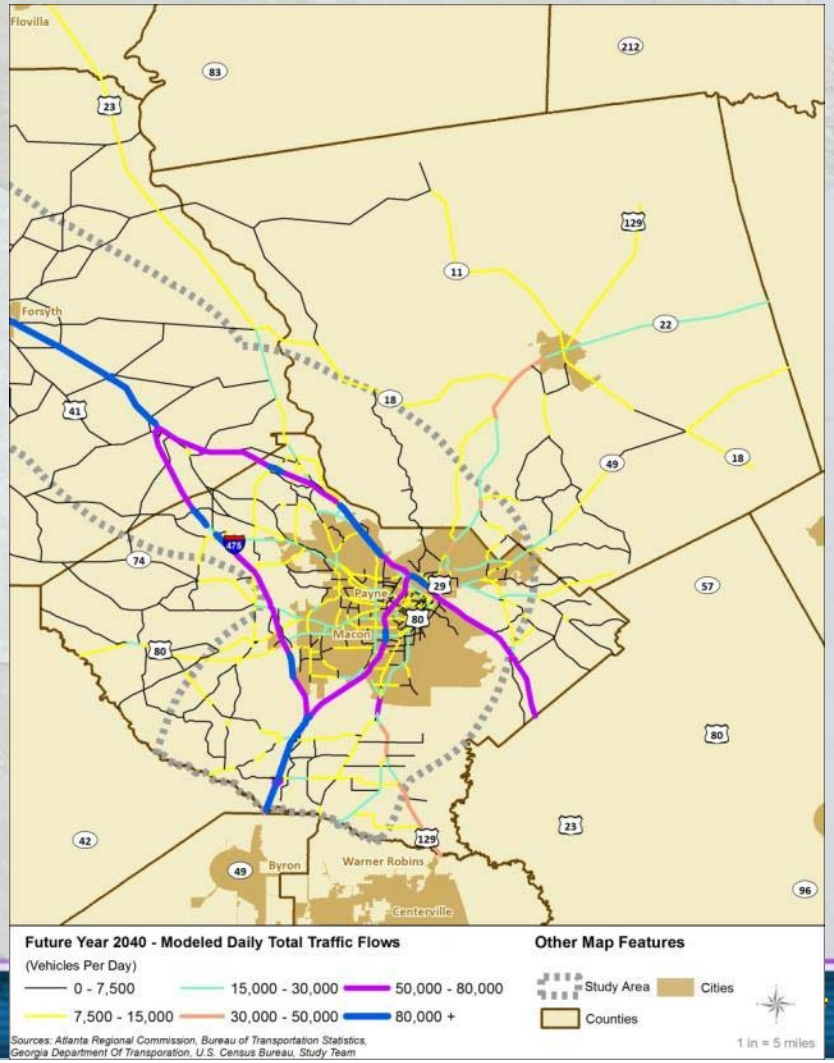


Total Traffic (Autos and Trucks) Southern Segment

2010

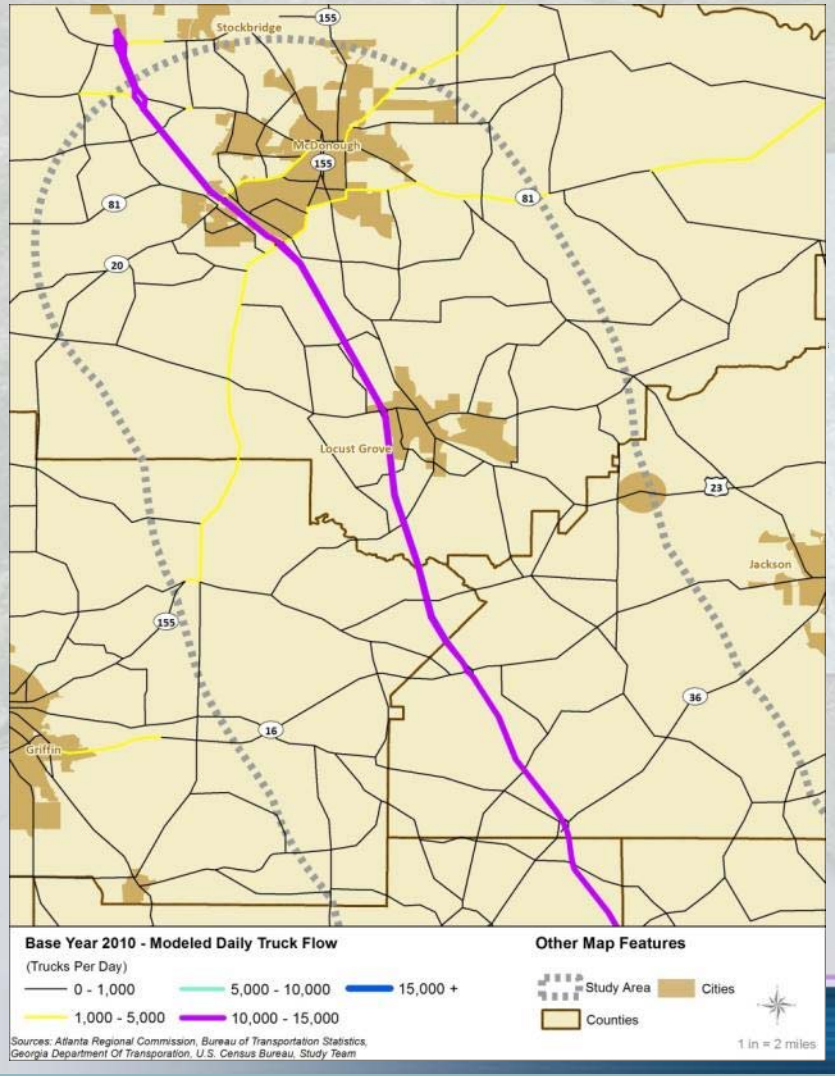


2040 E+C



Truck Traffic Only
Northern Segment

2010



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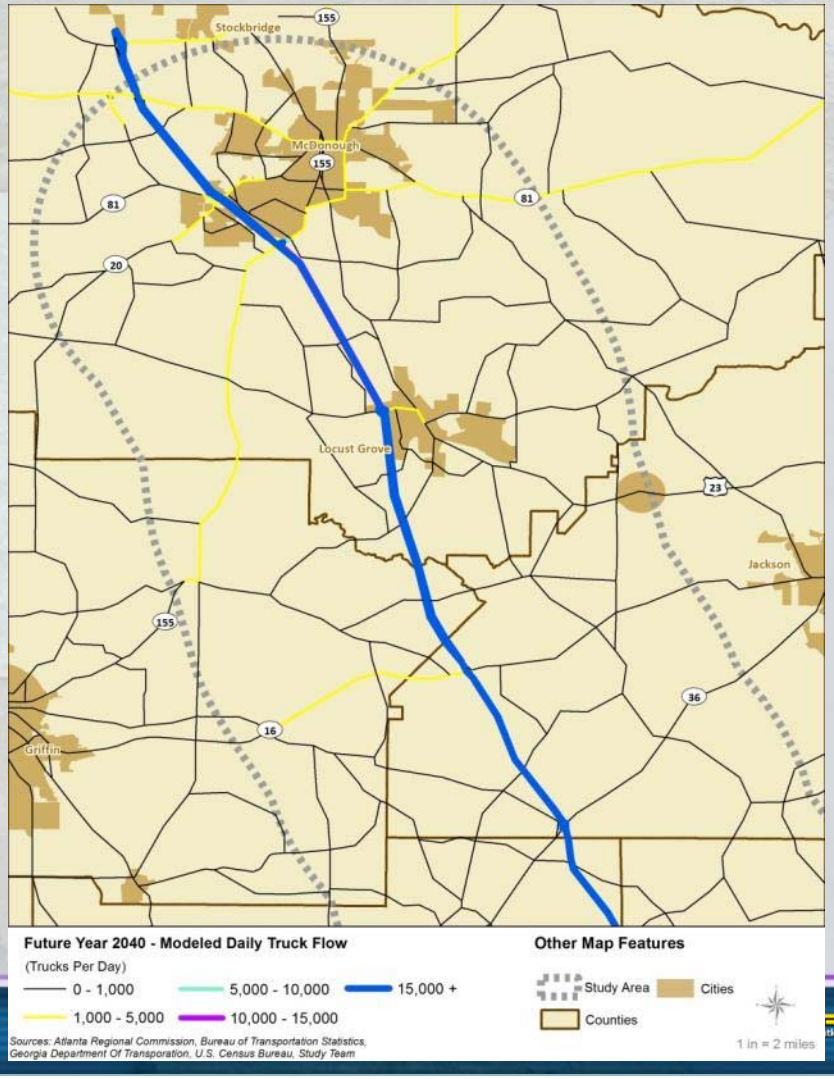

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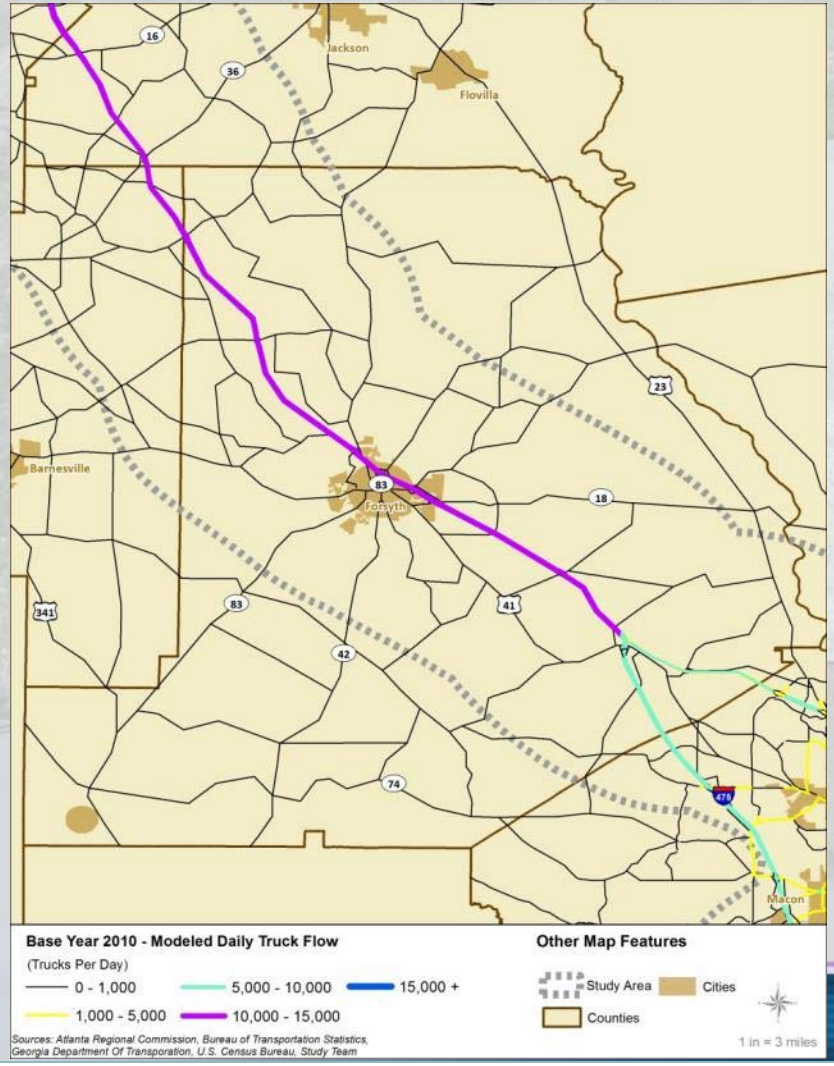
Central Segment

2010



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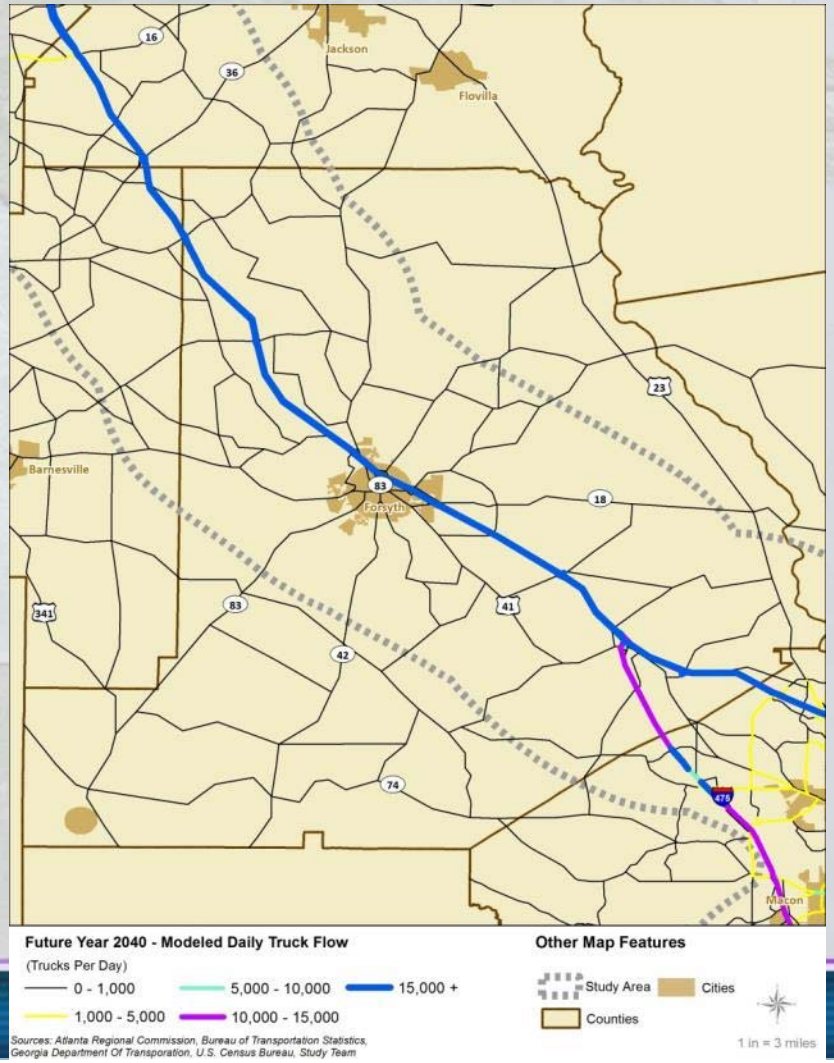
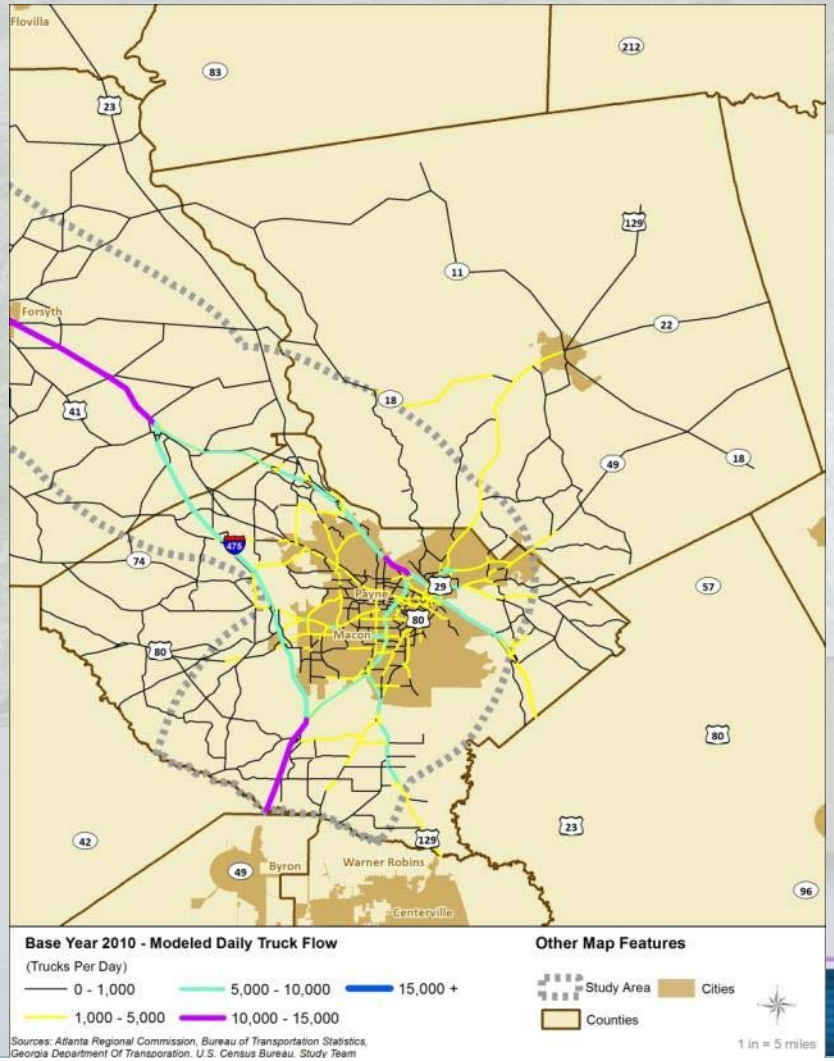
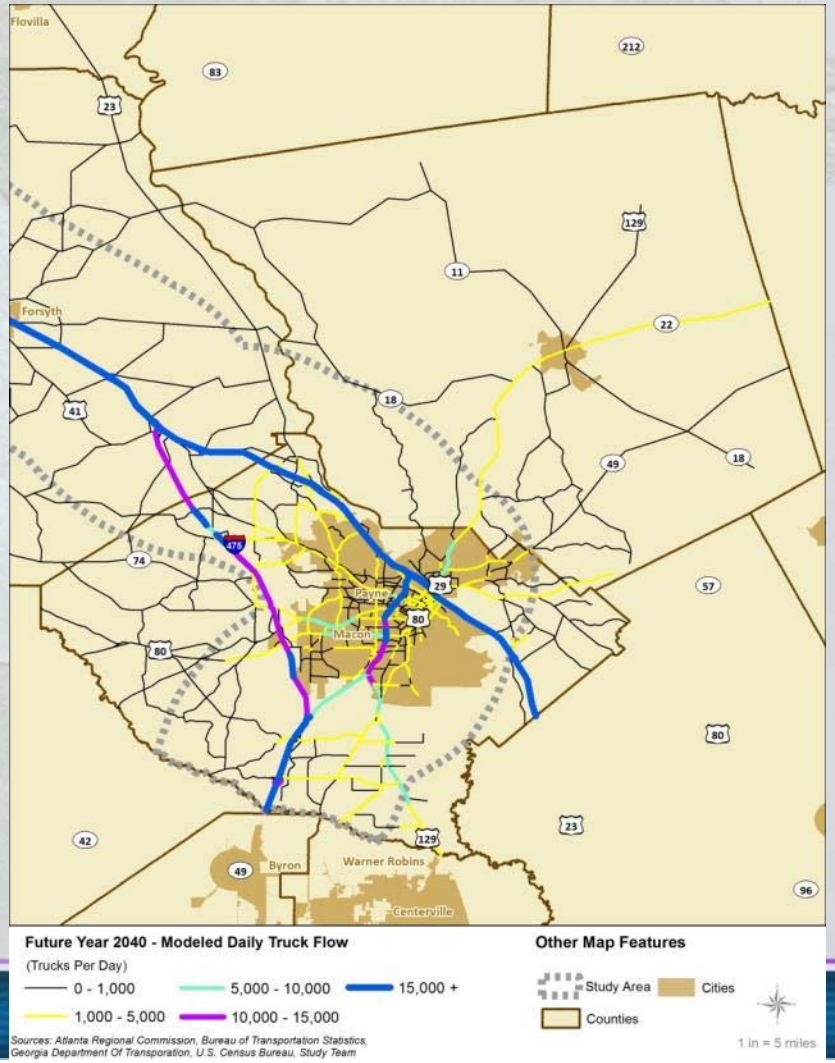


Truck Traffic Only
Southern Segment

2010



2040 E+C

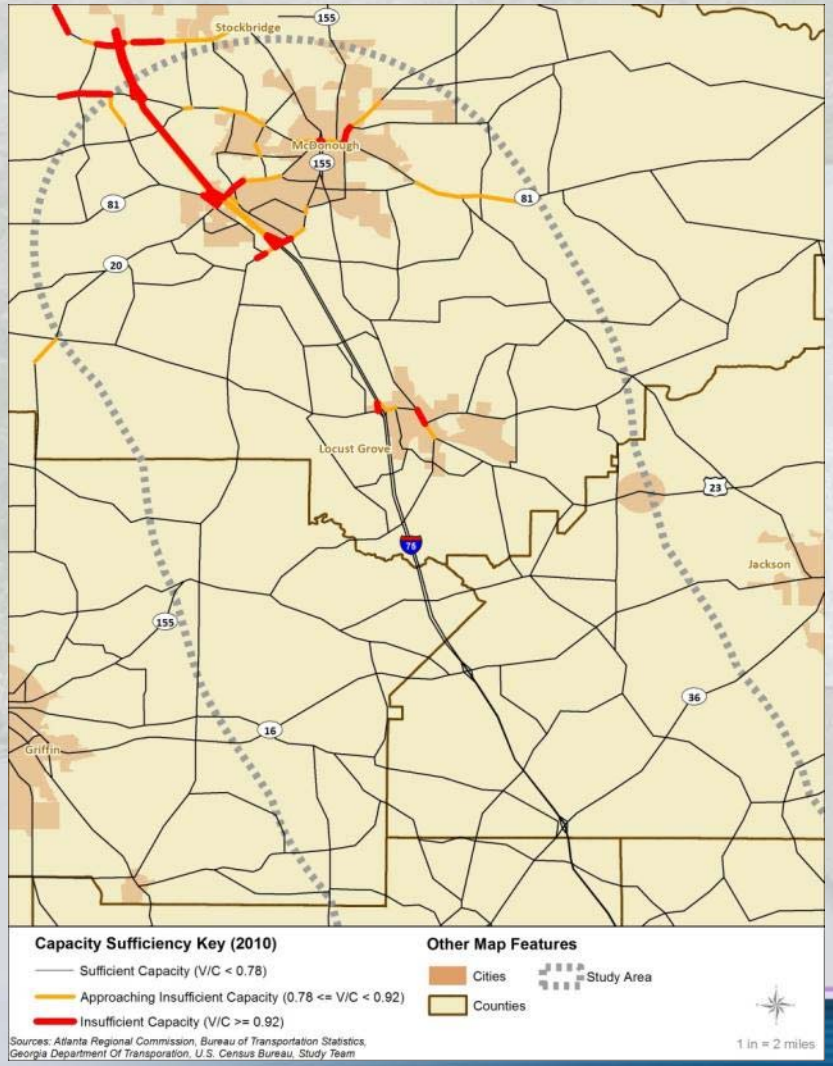


Summary of Corridor Deficiencies

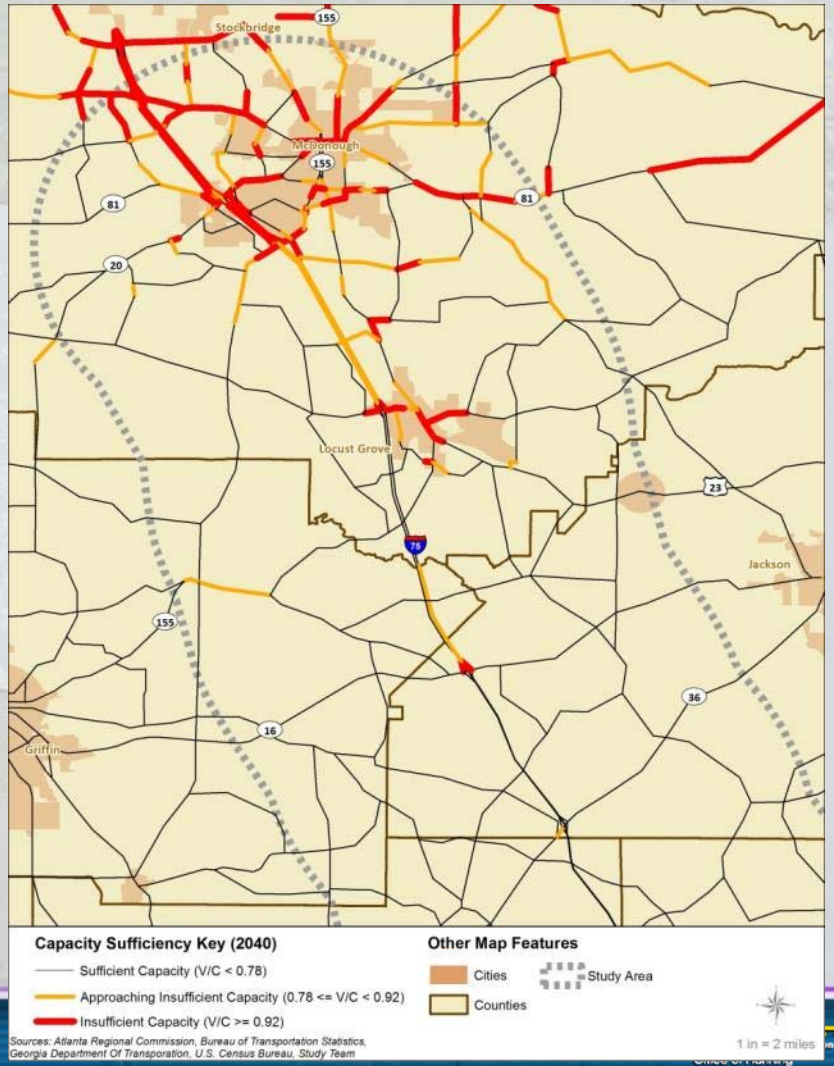
Base Year (2010) and Horizon Year (2040 E+C)

Capacity Deficiencies: Northern Segment

2010

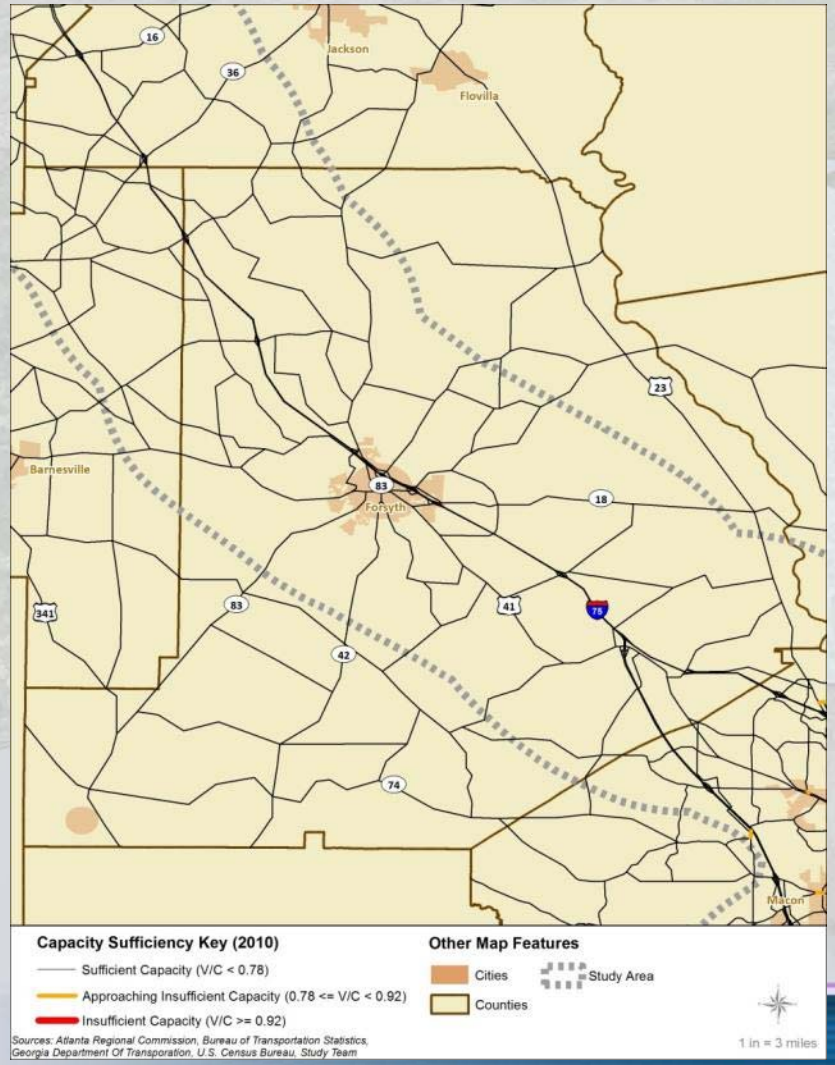


2040 E+C

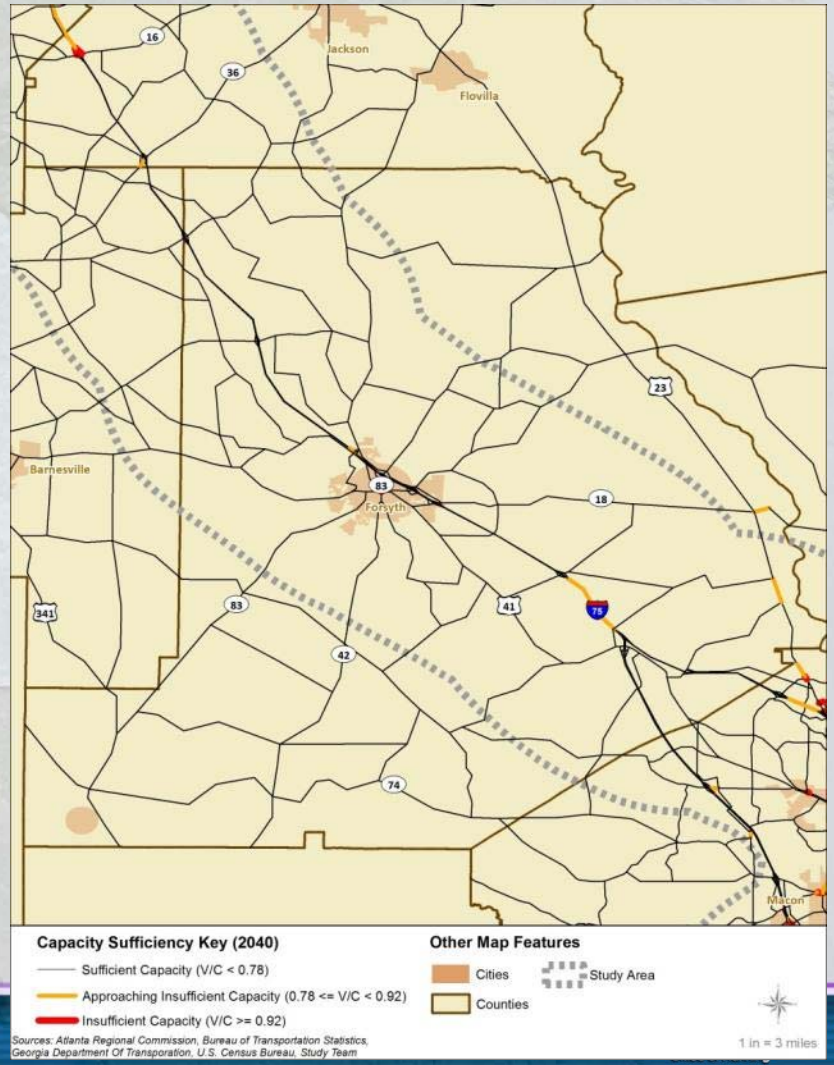


Capacity Deficiencies: Central Segment

2010

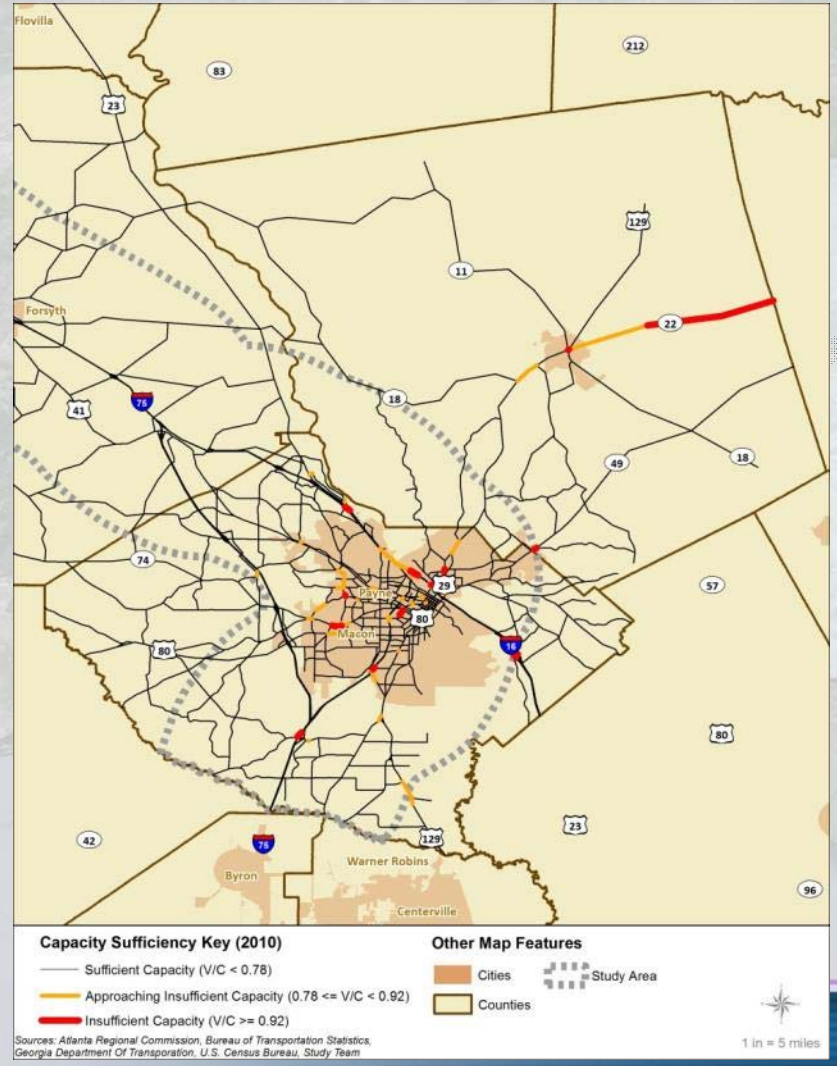


2040 E+C

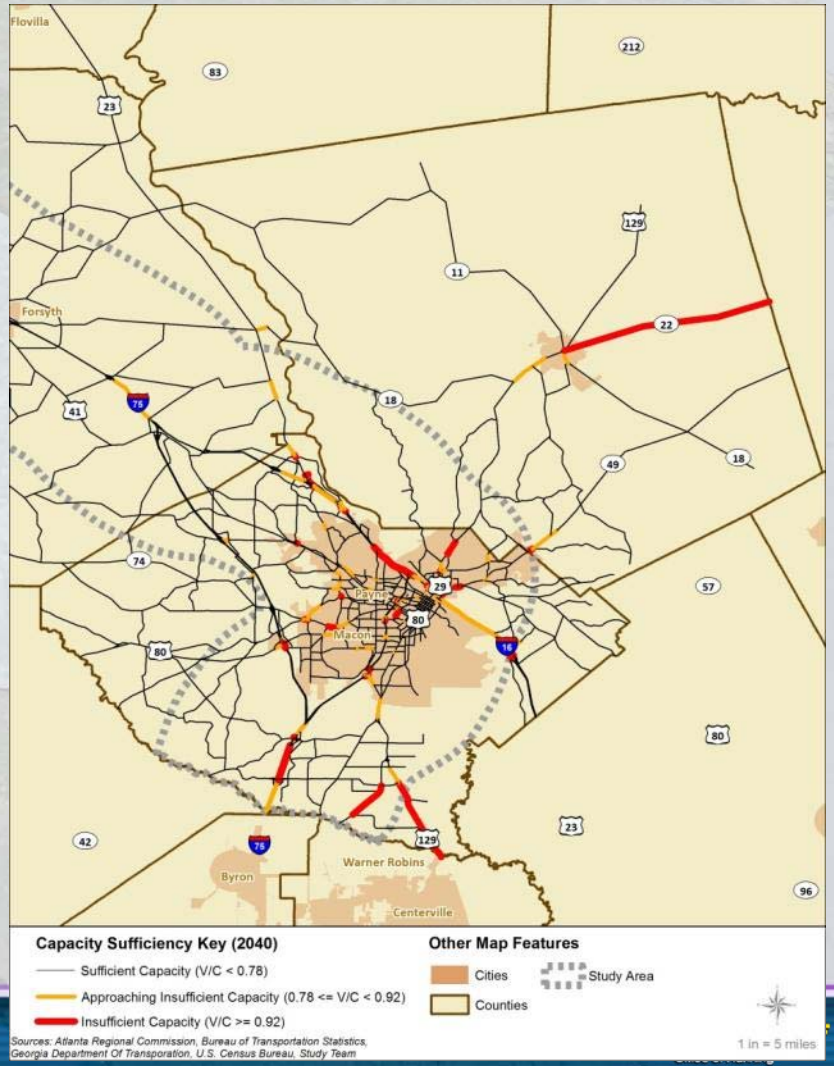


Capacity Deficiencies: Southern Segment

2010

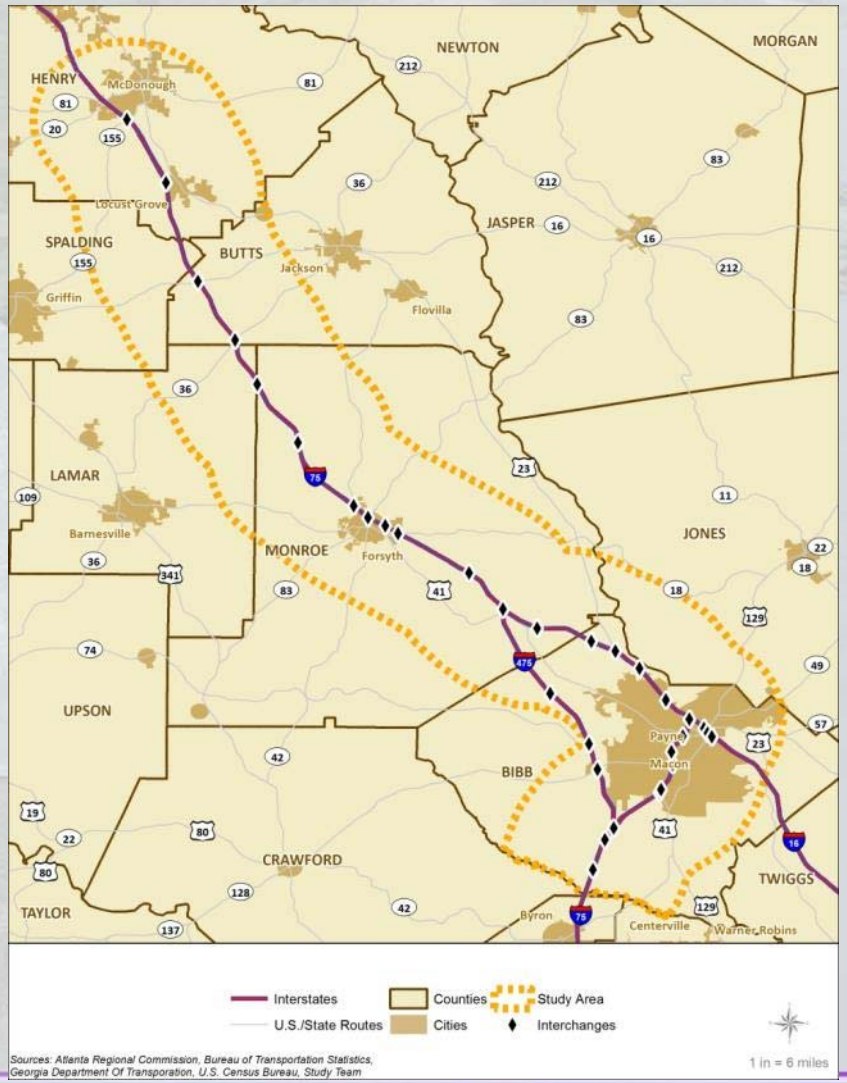


2040 E+C



Operational Analysis

- **2012 Peak Hour Operational Analysis**
  - **Traffic Counts Collected April 2012**
  - **AM Peak: 7:30 to 8:30 am**
  - **PM Peak: 4:45 to 5:45 pm**
  - **Majority of Corridor: LOS A through LOS C**



Operations: LOS D through LOS F

- **Certain Segments / Intersections Operating at LOS D through LOS F in AM or PM Peak Period (2012)**
  - **Two Mainline Segments**
  - **Four Ramp Junctions**
  - **Four Signalized Ramps**
  - **Seven Unsignalized Ramps**

Sources: ARC, BTS, GDOT and Study Analysis

Operations: LOS D through LOS F

Mainline Segments	Ramp Junctions	Signalized Control	Unsignalized Control
I-75 NB between I-16 & Pierce	I-75 Off-Ramp @ Mercer Univ. Dr.	CR 49/Spring St @ I-16 SB Ramps	Pio Nono Ave @ I-75 NB Ramps
	I-75 NB Off-Ramp @ Pierce Ave	Eisenhower Pkwy @ I-75 SB Ramps	Mercer Univ. Dr @ I-75 SB Ramps
			Pierce Ave @ I-75 SB Off-Ramp
I-75 SB between I-16 & Pierce	I-75 NB Off-Ramp @ Arkwright Rd	Forsyth St @ I-75 NB Ramps	Arkwright Rd @ I-75 SB Ramps
			Riverside Dr @ I-75 SB Ramps
	I-75 SB On-Ramp @ Arkwright Rd	Pierce Ave @ I-75 NB Ramps/Riverside Dr	Riverside Dr @ I-75 NB Ramps
			Coliseum Dr @ I-16 NB Ramps

Operations: LOS C through F

South Corridor:

Segments / Intersections Operating at LOS C through LOS F in AM or PM Peak Period (2012)

- Mainline Segment Operating at LOS C in AM or PM Peak Period
- Mainline Segment Operating at LOS D through LOS F in AM or PM Peak Period
- Ramp Junctions or Intersections Operating at LOS C in AM or PM Peak Period
- Ramp Junctions or Intersections Operating at LOS D through LOS F in AM or PM Peak Period

Sources: ARC, BTS, GDOT and Study Analysis

Operations: LOS C through F

North Corridor:

Segments / Intersections Operating at LOS C through LOS F in AM or PM Peak Period (2012)

- Mainline Segment Operating at LOS C in AM or PM Peak Period
- Mainline Segment Operating at LOS D through LOS F in AM or PM Peak Period
- Ramp Junctions or Intersections Operating at LOS C in AM or PM Peak Period
- Ramp Junctions or Intersections Operating at LOS D through LOS F in AM or PM Peak Period

Sources: ARC, BTS, GDOT and Study Analysis

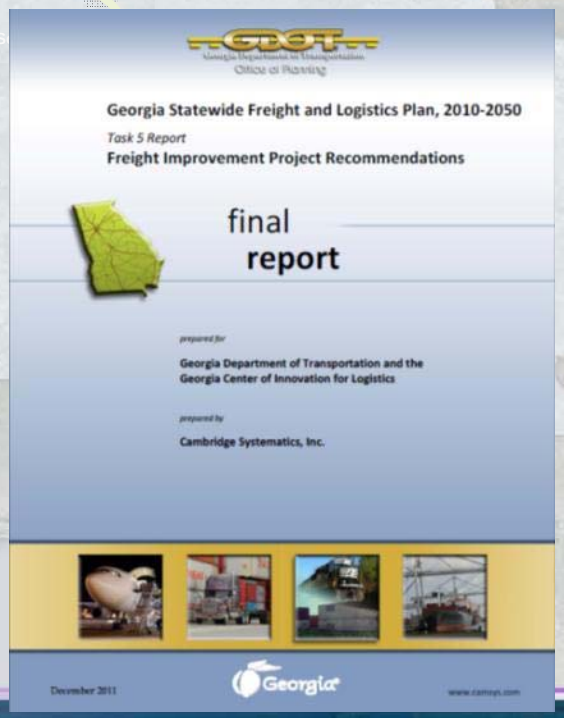
Operations: LOS C

Additional Mainline Segments at LOS C	Additional Ramp Junctions at LOS C		Additional Signalized Intersections at LOS C
I-75 NB and SB Vineville Ave / Forsyth St and Rocky Creek Road	I-75 SB Off-Ramp at Hartley Bridge Road	I-75 SB Off-Ramp at Arkwright Road	I-75 at Coliseum Dr SB Ramps
	I-75 SB Off-Ramp at Rocky Creek Road	I-75 NB On-Ramp at Arkwright Road	
I-75 between Bass Road and Pierce Ave	I-75 SB On-Ramp at Eisenhower Pkwy	I-75 SB On-Ramp at Riverside Dr	I-75 at Bass Road NB Ramps
	I-75 NB Off-Ramp at Eisenhower Pkwy	I-75 NB Off-Ramp at Riverside Dr	
I-75 between SR 20 and SR 155	I-75 SB On-Ramp at Mercer University Dr	I-75 SB Off-Ramp at Riverside Dr	
	I-75 NB Off-Ramp at Mercer Univ. Dr.	I-75 SB Off-Ramp at SR 16	I-75 at SR 36 SB Ramps
I-16 WB between I-75/I-16 Interchange and Coliseum Dr.	I-75 SB On-Ramp at Vineville Ave	I-75 SB Off-Ramp at Bill Gardner Pkwy	
	I-75 NB Off-Ramp at Forsyth St	I-75 SB Off-Ramp at SR 155	

Truck Freight and Rail Summary

Statewide Freight Plan

- Georgia Statewide Freight and Logistics Plan 2010-2050
- High Level Framework for Corridor Freight/Truck Analysis
- Completed December, 2011



Statewide Freight Plan: Truck Freight: Origins / Destinations

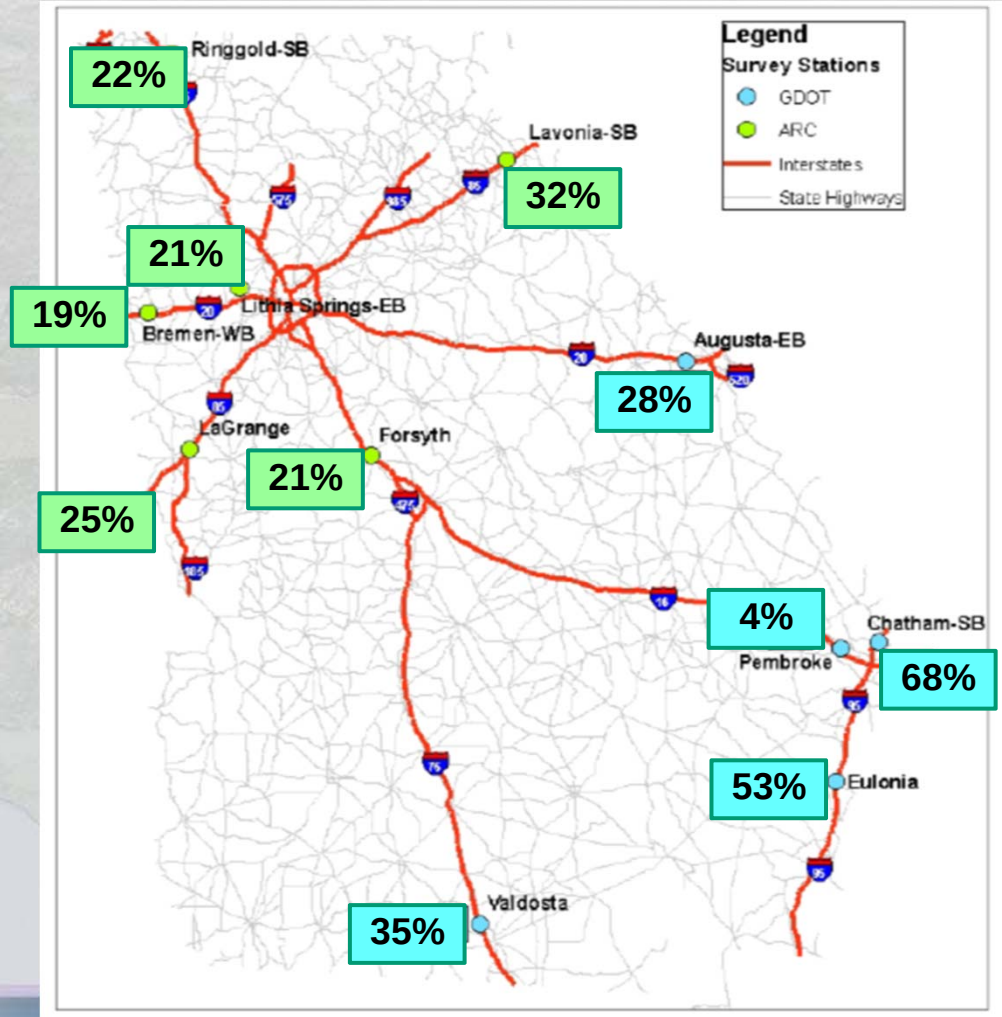
- **Based on Forsyth, GA Survey Location**
- **Summary of Origins and Destinations**

Origins NB	Destinations NB	Origins SB	Destinations SB
Georgia (61%)	Georgia (58%)	Georgia (67%)	Georgia (50%)
Florida (31%)	Outside SE US (24%)	Outside SE US (19%)	Florida (49%)

Source: GDOT Statewide Freight and Logistics Plan (2012) Based upon previous GDOT and ARC data obtained in 2005

Statewide Freight Plan:
Truck Freight: Origins / Destinations

- **Through Truck Percentages O-D Survey Results (2006)**



Source: GDOT Truck Lane Needs Identification Study Data, ARC Regional Freight Mobility Plan 2005 Data.

Source: GDOT Statewide Freight and Logistics Plan (2012) Based upon previous GDOT and ARC data obtained in 2005

Statewide Freight Plan: Truck Freight: Growth

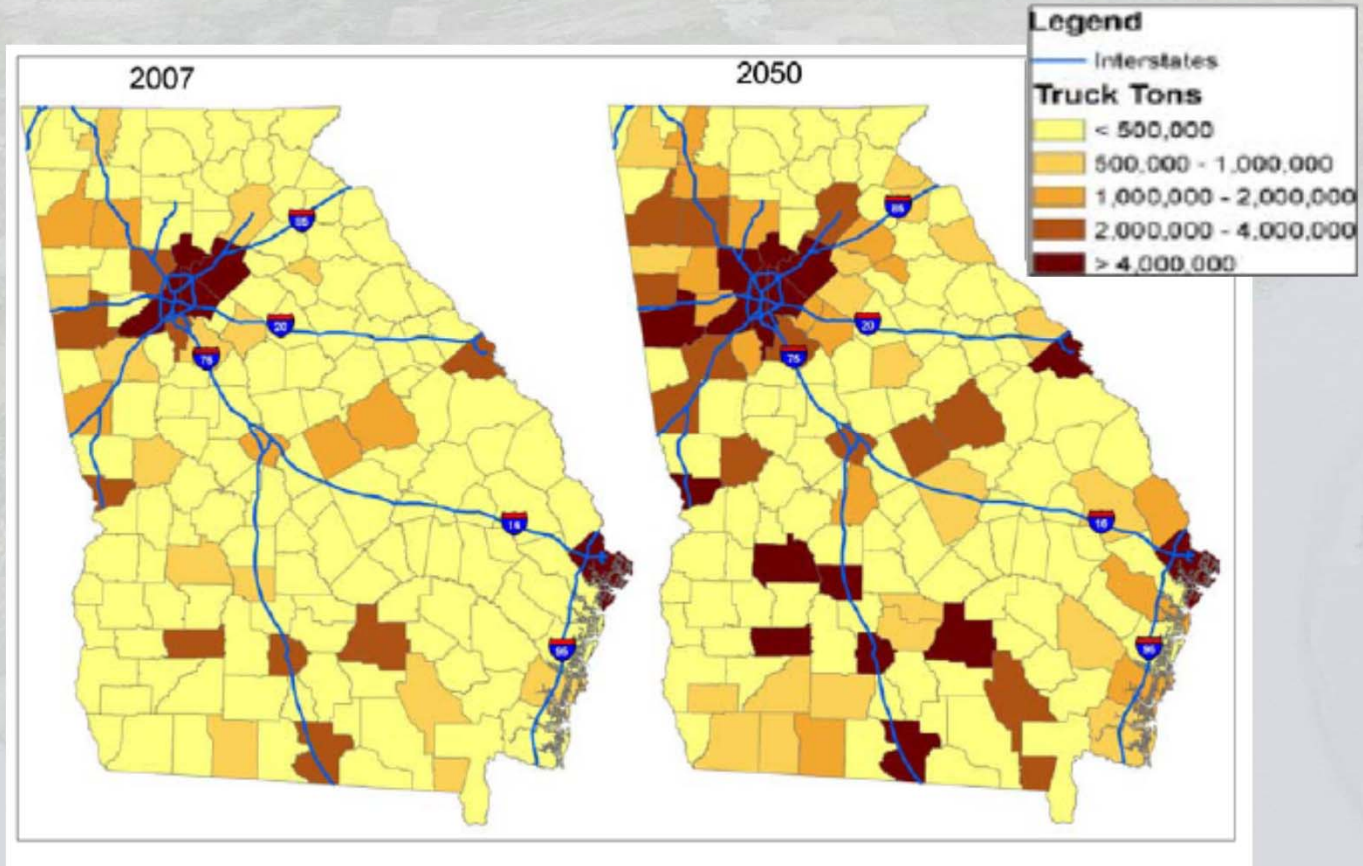
- **Truck Freight Growth Forecasts**

Mode and Source	Forecast Period	Compound Annual Growth Rate	Units
Truck (Transearch)	2007-2050	1.5%	Tons
Truck (ATA national forecast)	2009-2021	2.2%	Tons
Economy.com Georgia GDP	2007-2050	2.1%	Dollars
Georgia Statewide Transportation Plan (2007)	2007-2035	2.9% *(2.0% for all traffic = trucks + autos)*	Vehicle Miles Traveled (VMT)

Source: GDOT Statewide Freight and Logistics Plan (2012) and GDOT Statewide Transportation Plan (2007)

Statewide Freight Plan: Truck Freight Movements

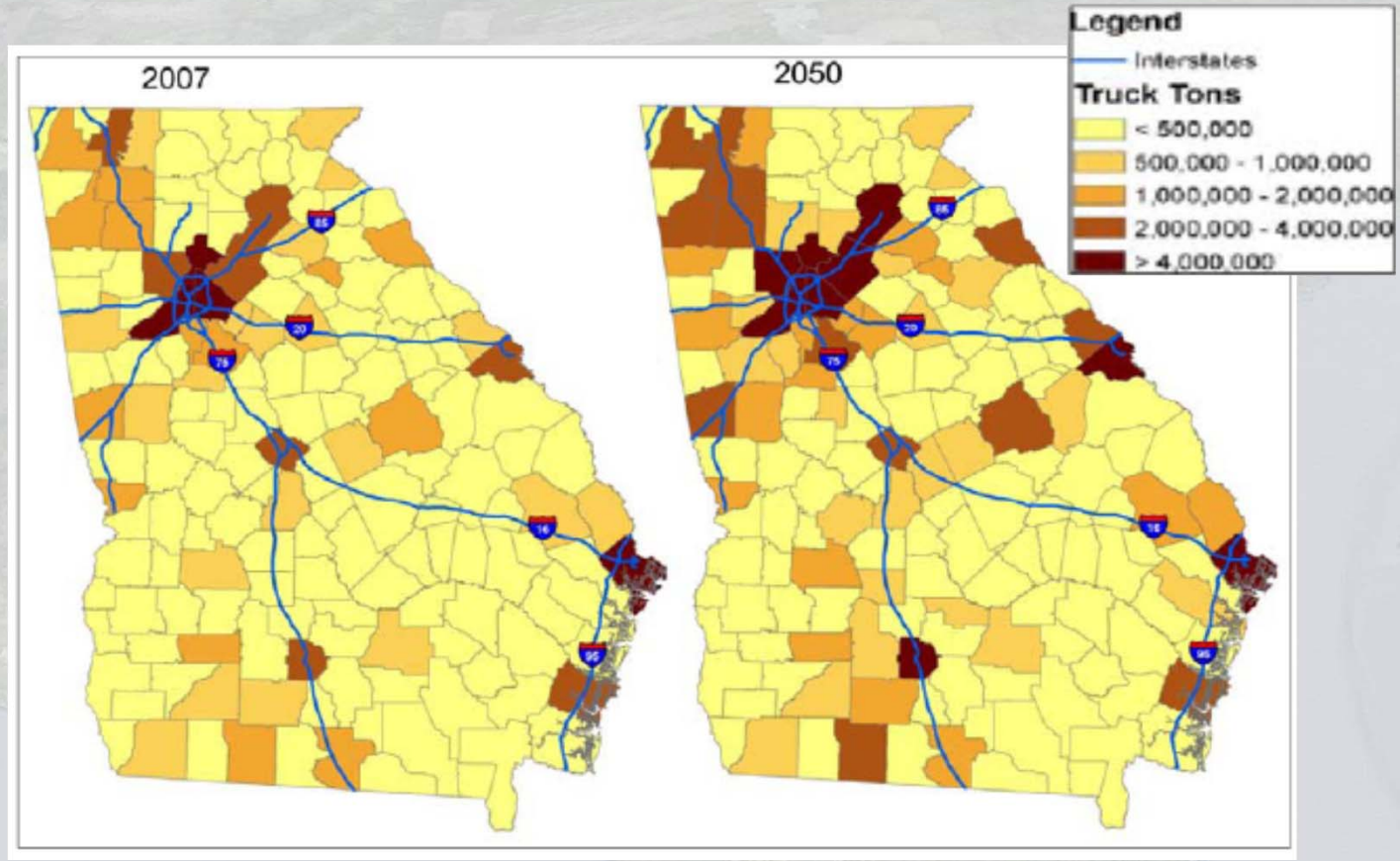
- **In-Bound Truck Tons By County**



Source: GDOT Statewide Freight and Logistics Plan (2012) using TRANSEARCH Data

Statewide Freight Plan: Truck Freight Movements

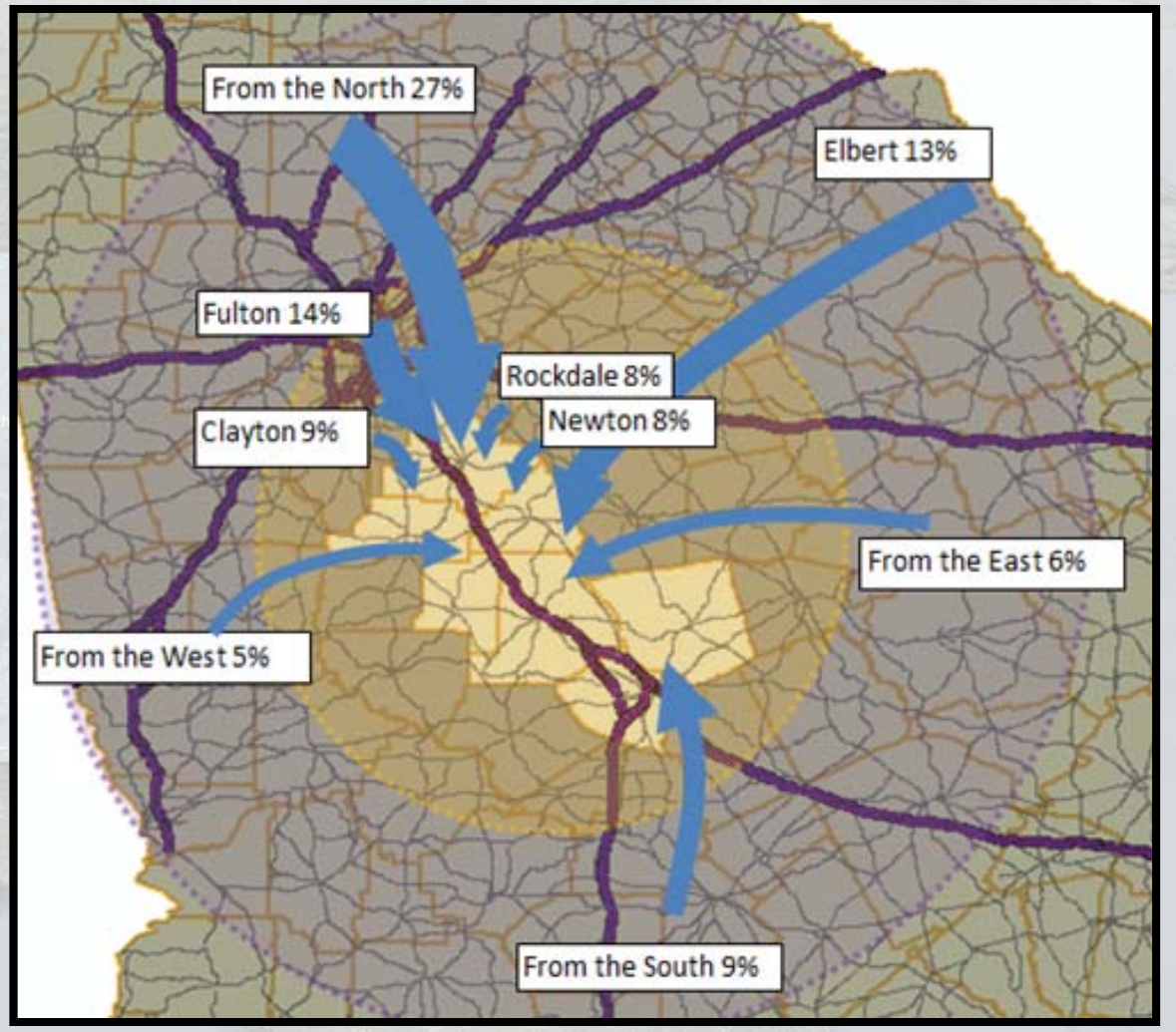
- **Out-Bound Truck Tons By County**



Source: GDOT Statewide Freight and Logistics Plan (2012) using TRANSEARCH Data

Corridor Study: Truck Freight Movements

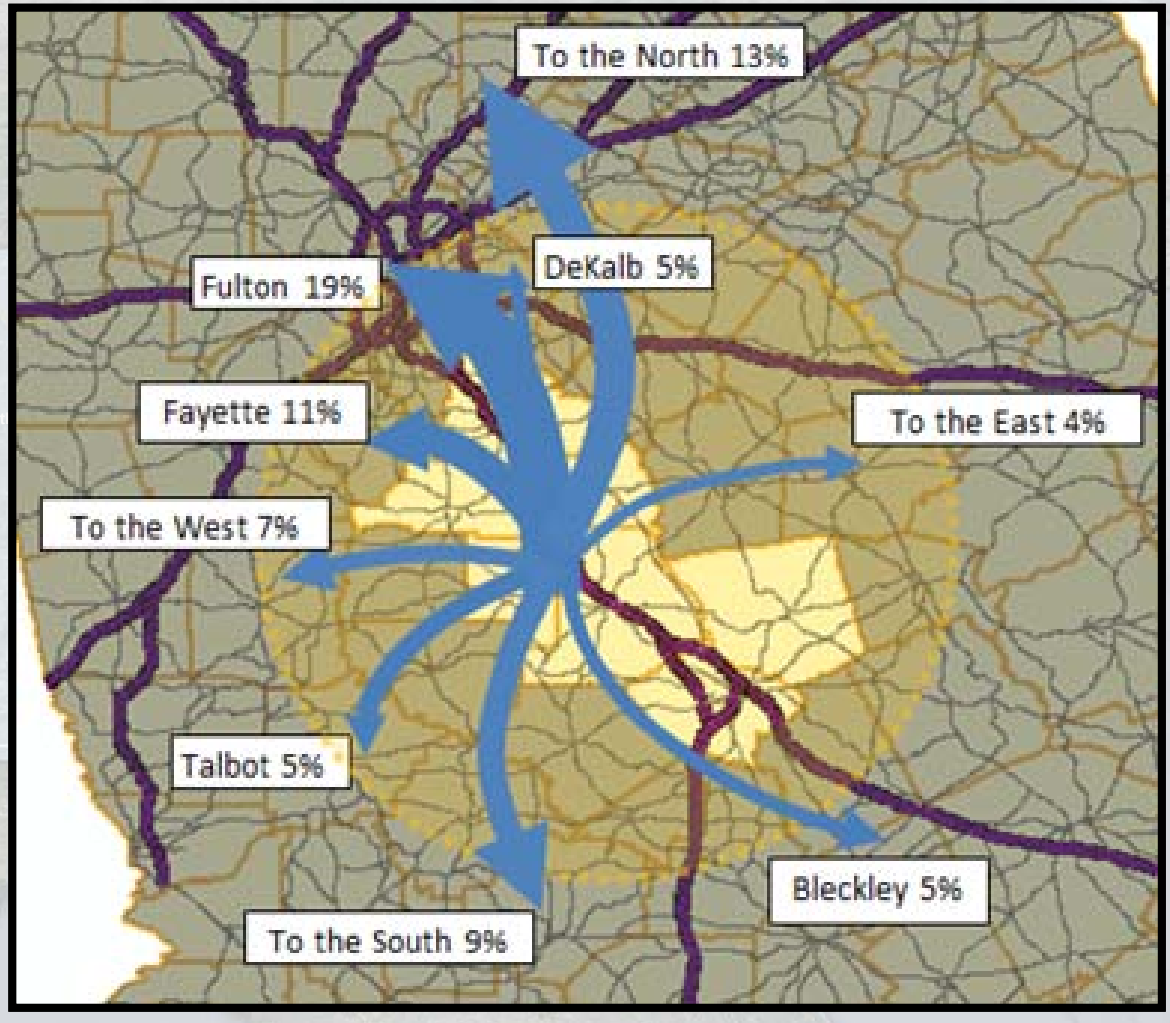
- **Inbound Truck Flow to Study Area Counties**



Source:
Transearch 2007

Corridor Study: Truck Freight Movements

- **Outbound Truck Flow from Study Area Counties**



Source:
Transearch 2007

Corridor Study: Truck Commodity Distributions

Truck Load Percentage by Category

Commodity	I-75 NB Through	I-75 SB Through	Inbound	Outbound	Internal
Agriculture	21.63%	24.98%	8.03%	10.37%	4.89%
Energy and Chemicals	0.43%	6.90%	1.82%	9.24%	4.69%
Minerals	1.21%	10.71%	27.65%	19.65%	37.08%
Consumer Products	2.40%	8.18%	0.71%	1.74%	0.06%
Industrial Products	25.53%	27.04%	3.20%	3.33%	0.15%
Shipping Containers	14.52%	14.56%	49.75%	50.31%	52.36%
Drayage / Empty	34.28%	7.63%	8.84%	5.36%	0.77%

Estimated Annual Truck Trip Counts by Category* (Thousands)

Commodity	I-75 NB Through	I-75 SB Through	Inbound	Outbound	Internal
Agriculture	551	703	91	119	8
Energy and Chemicals	11	194	21	106	8
Minerals	31	301	313	226	63
Consumer Products	61	230	8	20	0
Industrial Products	651	761	36	38	0
Shipping Containers	370	410	564	579	89
Drayage / Empty	874	215	100	62	1

* Validation efforts are still ongoing

Source: Transearch 2007

Additional Source: Existing Study Area Truck Volumes

- **2012 Existing Truck Shipments In-Bound / Out-Bound to Study Corridor Counties**

County	TRUCK FREIGHT (tons)		RAIL FREIGHT (tons)	
	In-Bound	Out-Bound	In-Bound	Out-Bound
Henry	773,355	1,131,233	413,951	8,294
Spalding	139,489	384,814	123,717	2,900
Butts	48,831	34,634	None	None
Lamar	52,291	132,310	210,339	10,834
Monroe	47,849	40,454	16,960,468	68,206
Bibb	1,551,440	1,979,998	275,898	210,474

Source: Georgia Innovation / Logistics (2012)

Additional Source:
NE Florida Freight / Logistics Plan

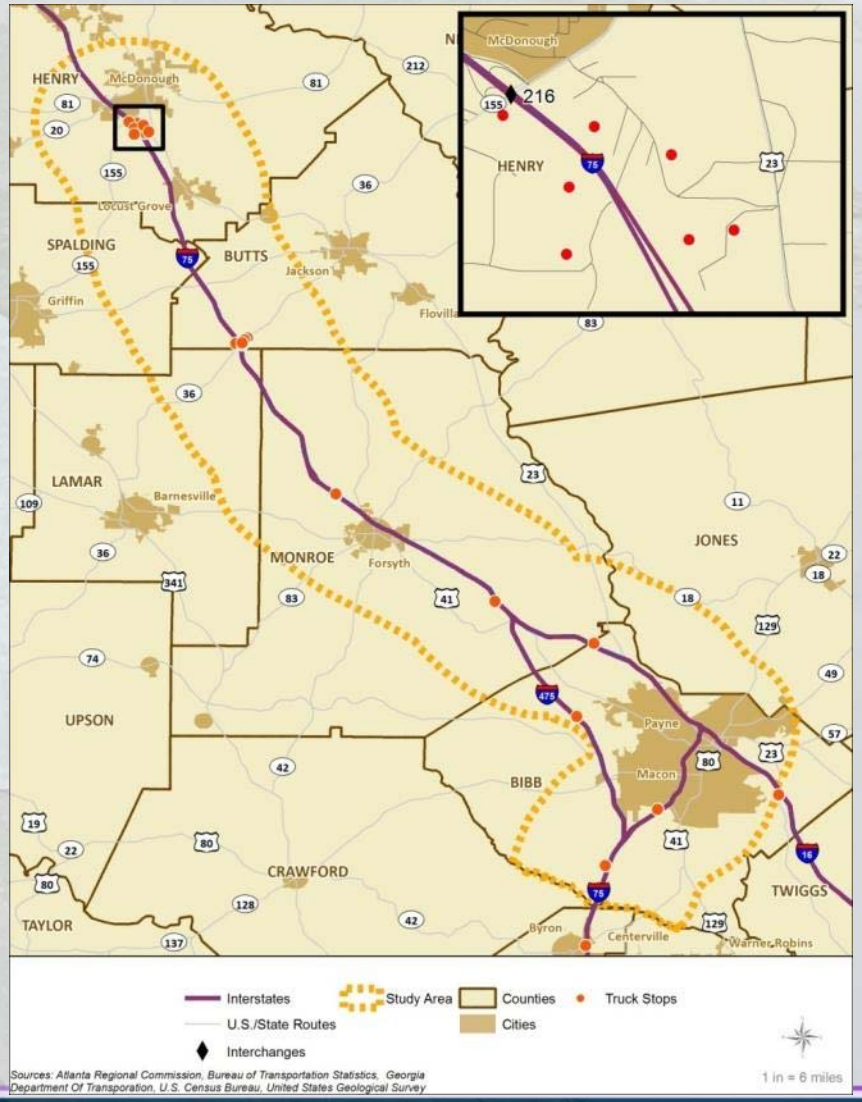
- **Truck Flows**
  - **Outbound**
    - 34.7 Million Trucked Tons Originate in North Florida
    - Largest Destination Outside of Florida: Atlanta
  - **Inbound**
    - 46.5 Million Trucked Tons Destined for North Florida
    - Largest Origin Outside of Florida: Savannah

- **Rail Flows**
  - **Outbound:**
    - 5.6 Railed Tons Originate in North Florida
    - Top 10 Destinations Outside of Florida
    - Largest Destination: Albany, GA
  - **Inbound:**
    - 13.7 Railed Tons Destined for North Florida
    - Largest Origin Outside of Florida: Evansville, IN

Truck Parking

- **Truck Stops and Rest Areas**
  - **Rest Stop (1)**
  - **Transfer (1)**
  - **Truck Dealer (1)**
  - **Plant (3)**
  - **Truck Stop (4)**
  - **Weigh Station (3)**
  - **Warehouse (7)**

- **Concentrations:**
  - **Exit 201 (SR 36)**
  - **Exit 216 (SR 155)**



Truck Parking

- **Parking Spaces Needed**
  - **1,076 Peak Period Spaces Needed**
- **Parking Spaces Available**
  - **628 Spaces**

Source: GDOT Statewide Freight and Logistics Plan (2012)

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NEXT STORY > State House considers alcohol-related bills

Truckers say proposed Warner Robins ordinance only complicates their job

Published: February 17, 2013 Updated 23 hours ago

Tweet +1 0 PRINT E-MAIL 0 COMMENTS

By CHRISTINA M. WRIGHT — chwright@macon.com

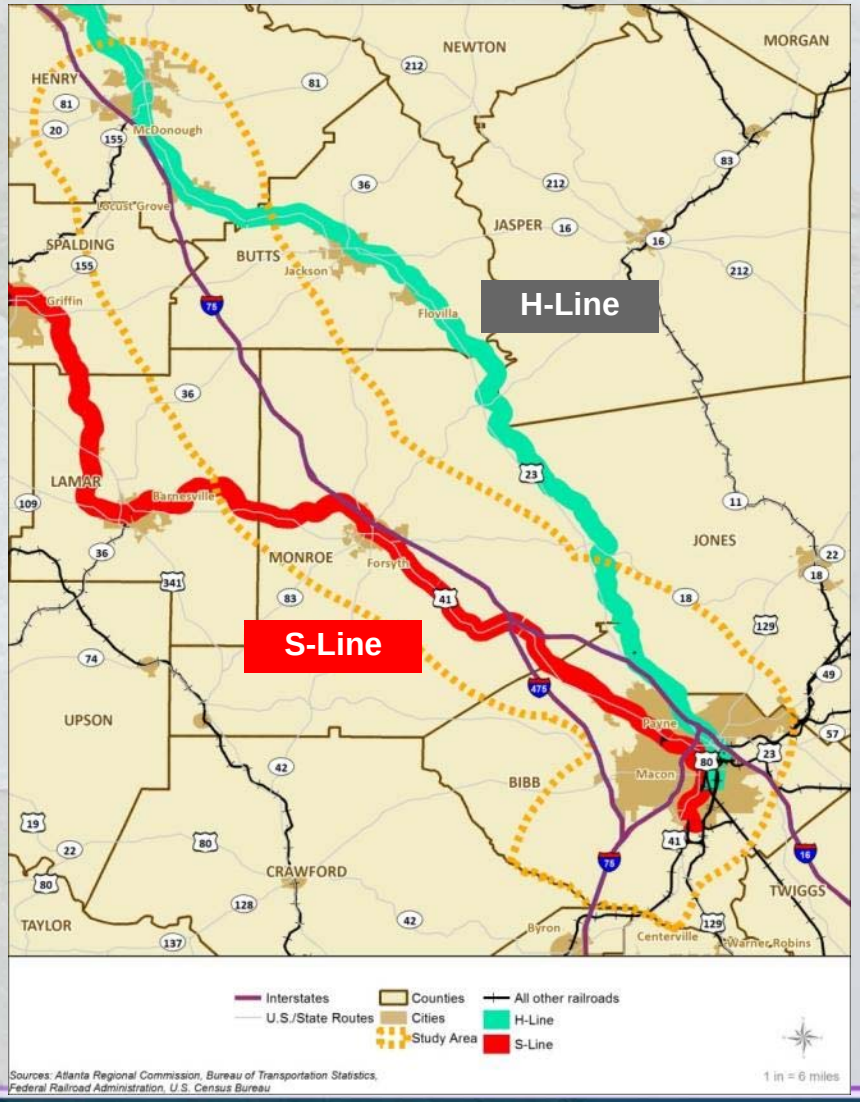
WARNER ROBINS – Shirtless truck driver Pat Thompson crawled from behind the front seat of his cab Friday afternoon. Three shirts hung on hangers on the passenger's side.

"About once a week, I come in here, watch a movie, get about eight hours of sleep and then go on," he said.

- **Local Jurisdictions Prohibiting Truck Parking in Vacant Lots**

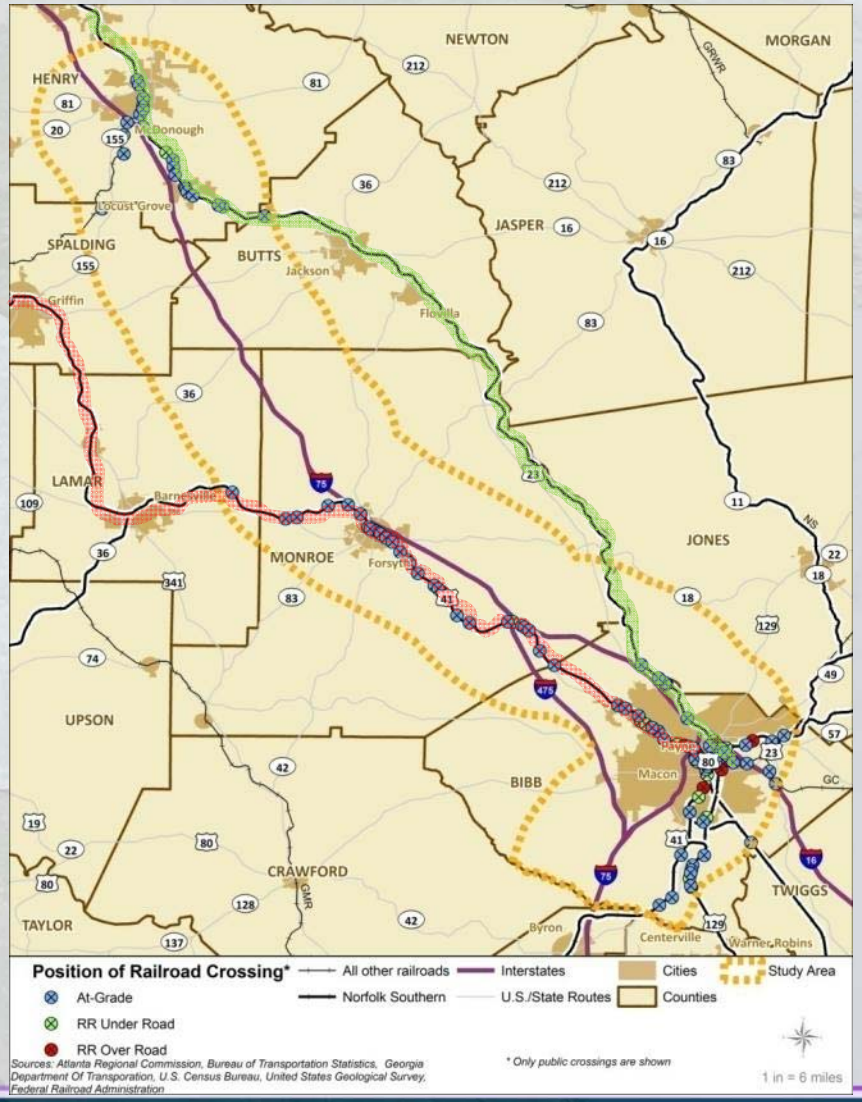
Rail

- **Rail Locations**
  - **Norfolk-Southern Rail Lines**
  - **H- Line**
    - High Density Freight Corridor
    - Freight Related to Port of Savannah and Florida
  - **S-Line:**
    - Lower Density Freight Corridor



Rail

- **Rail Crossing Locations**
  - **Public Grade Crossings: 159**
    - **At Grade: 121**
    - **Under Road: 24**
    - **Over Road: 14**
  - **Concentrated Along Norfolk-Southern S-Line**



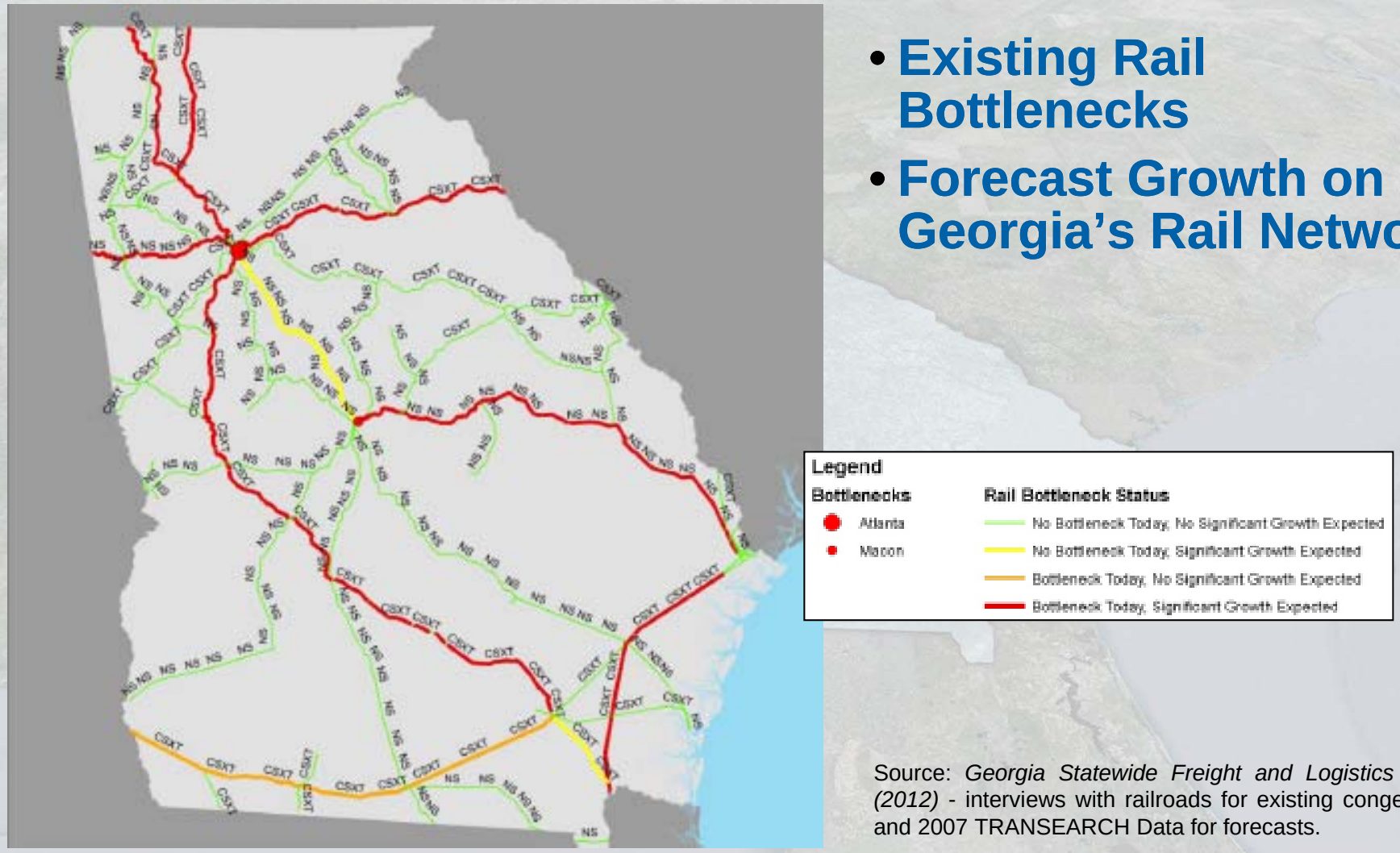
Rail: Major Inbound Commodities

Major Commodities	2007 Share of Tonnage	2050 Share of Tonnage
Coal	94%	68%
Farm	2%	11%
Chemical/Allied	1%	8%
Food/Kindred	1%	6%
Clay/Concrete/Glass/Stone	1%	2%
Remaining Commodities	1%	4%

- In-Bound Shipments of **Coal** Projected to **Decrease**
- In-Bound Shipments of **Other Commodities** Projected to **Increase**

Source: GDOT Statewide Freight and Logistics Plan (2012) using TRANSEARCH Data

Rail: Existing and Future Congestion



- **Existing Rail Bottlenecks**
- **Forecast Growth on Georgia's Rail Network**

Source: *Georgia Statewide Freight and Logistics Plan (2012)* - interviews with railroads for existing congestion and 2007 TRANSEARCH Data for forecasts.

Group Discussion

- **Corridor Conditions: Preliminary Needs**
- **Potential Performance Measures**

Preliminary Summary of Needs

Summary of Transportation Issues / Needs

- **Roadway**
  - **I-75 Existing and Projected Capacity Deficiencies**
    - **Locations Within Henry County**
    - **Locations Within Macon/Bibb County**
  - **I-16/I-75 Interchange**
  - **Existing Operational Deficiencies in Macon Area Interchanges**
  - **Locations Along Parallel / Intersecting Facilities Capacity Deficiencies**

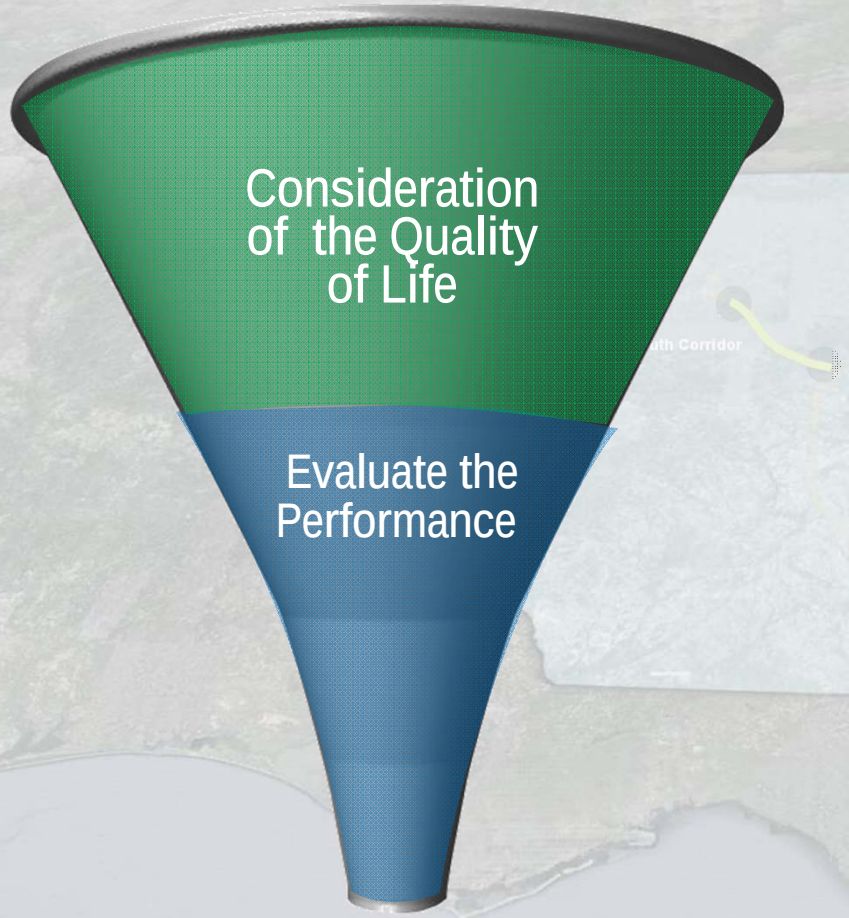
- **Freight: Truck**
  - **Large Number of Through Truck Movements**
  - **Locations of Parallel / Intersecting Corridor Deficiencies**
  - **Truck Parking**
  - **Consistent with Other Sources and Plans**

Summary of Transportation Issues / Needs

- **Freight: 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**

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

Potential Performance Measures



Goals: Quality of Life
Mobility for People and Goods
Enhance Natural, Historic, and Community Resources
Maintain Community Character
Improve Intergovernmental Coordination
Enhance / Maintain Quality of Life

Goals: Performance-Based
Connectivity / Accessibility to Regional Activity Centers
Safety
Enhance Facility Function
Enhance Multimodal Transportation Options
Support Economic Sustainability
Expand Role as Major Logistics Hub

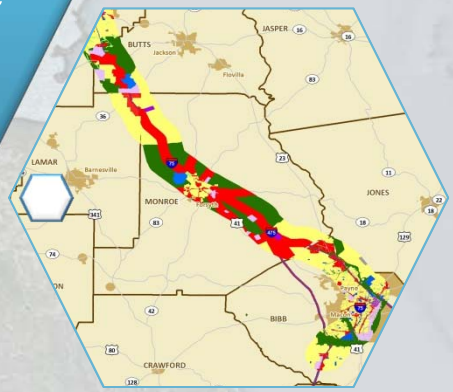
Integrated Corridor Planning (ICP)

Integrated Corridor Planning (ICP)

Roadway

Land Use

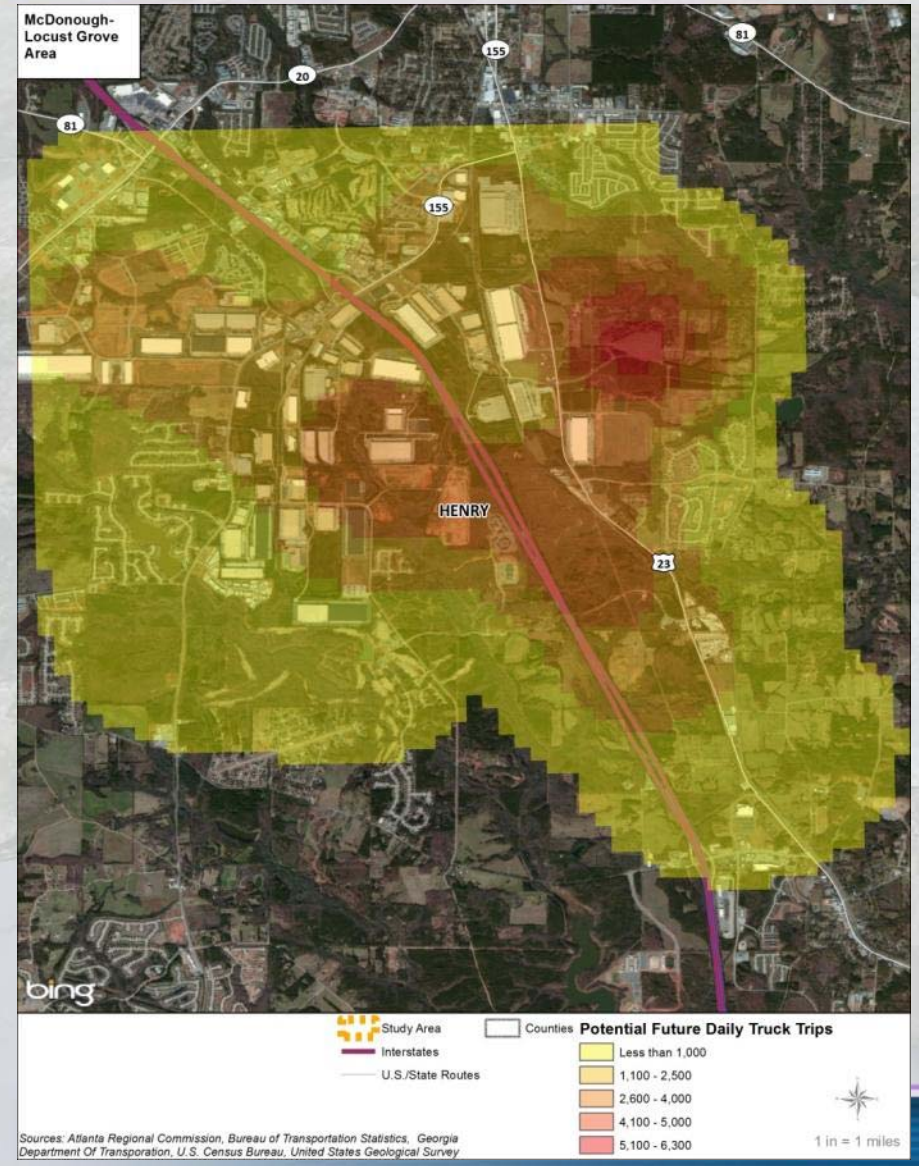
Rail

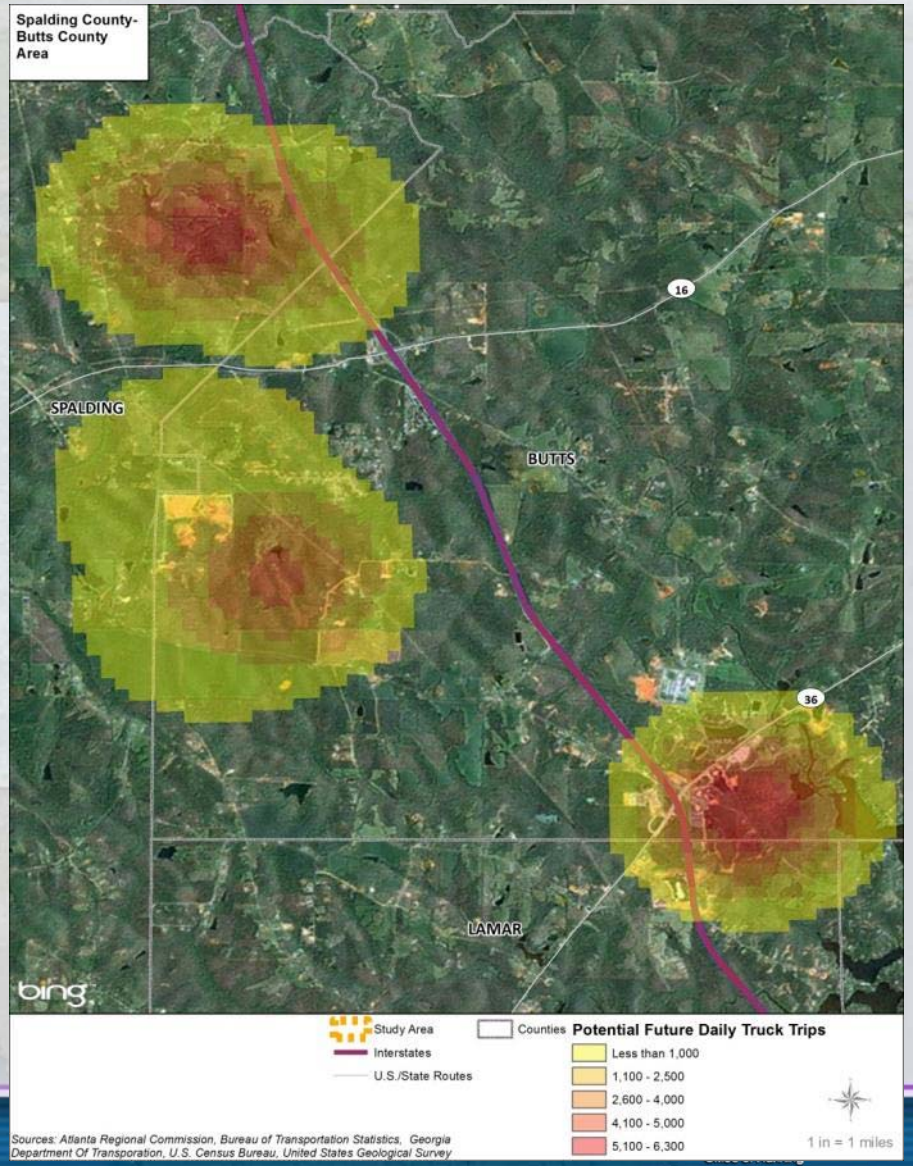


Potential Freight Hotspots

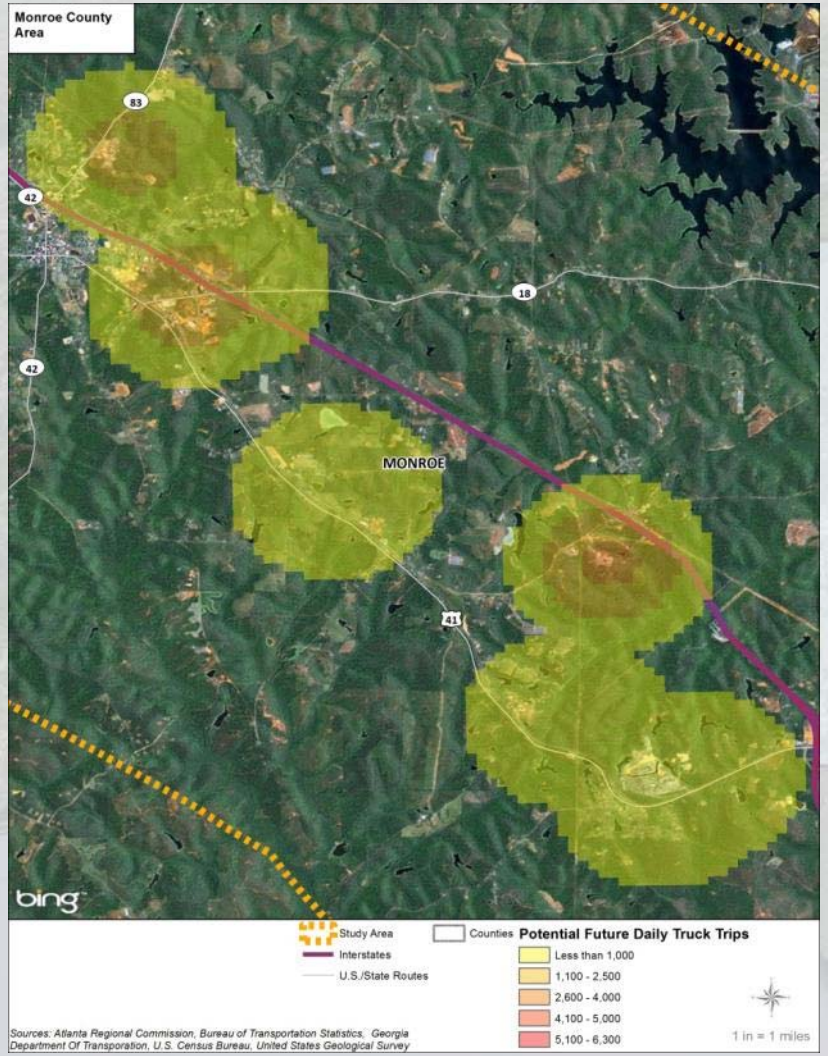
- **Determined Areas of Future Industrial Land Use**
- **Calculated Buildable Land Areas / Warehouse Sizes**
- **Estimated Potential Daily Truck Trips Based upon Institute of Transportation Engineers (ITE) Trip Generation Methodologies**

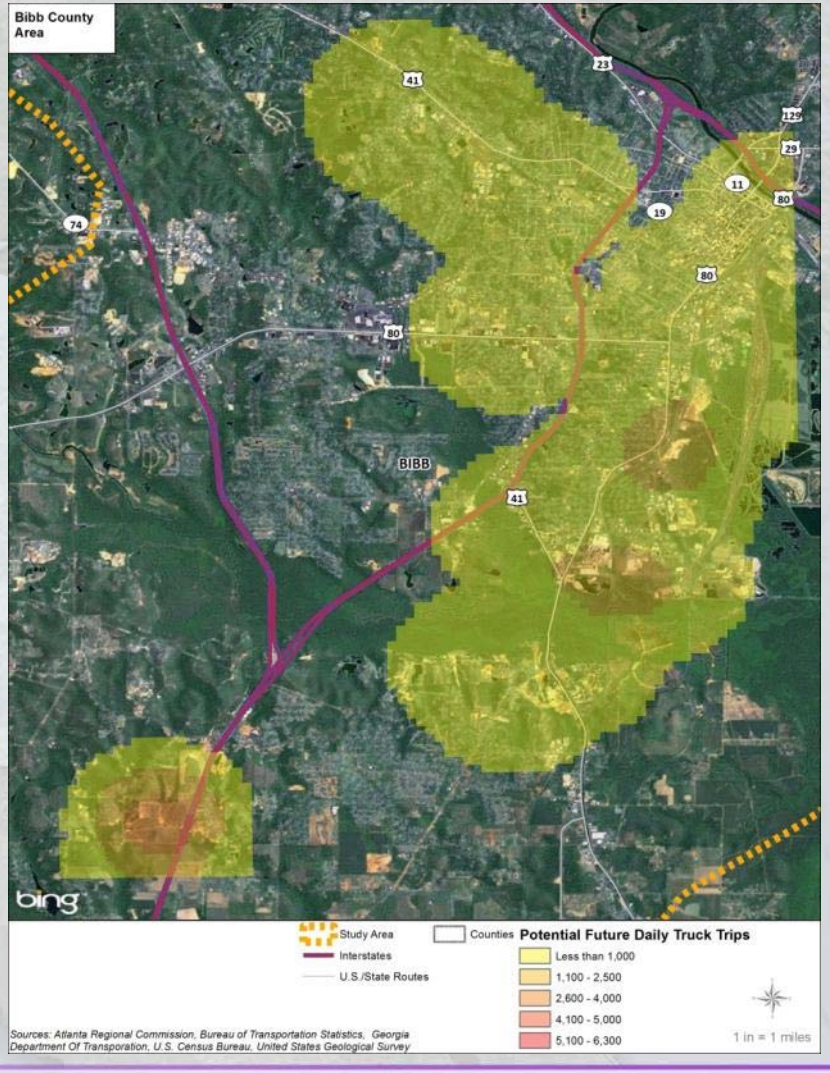
Potential Freight Hotspots



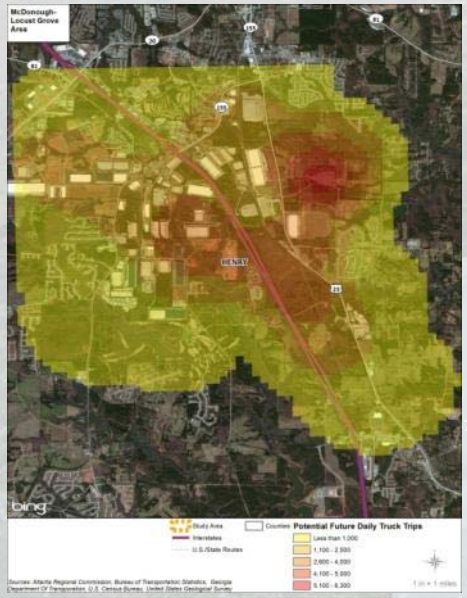


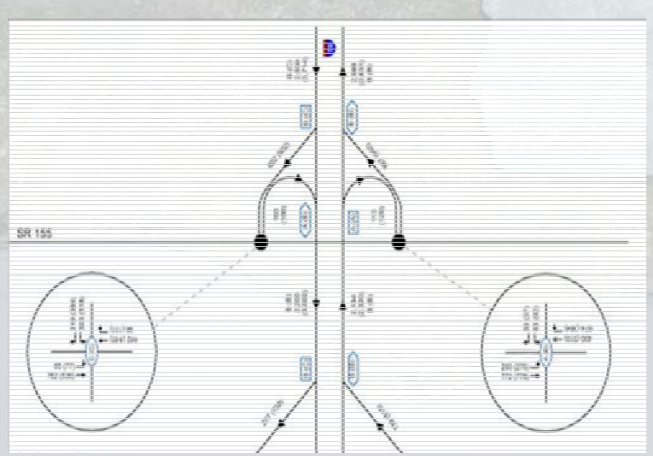
Potential Freight Hotspots





Integrated Corridor Planning





- **Assessment of Existing and Projected Freight Hotspots**
- **Coordinate Hotspot Assessment with Corridor and Operational Conditions**
- **Develop Comprehensive Integrated Recommendations**

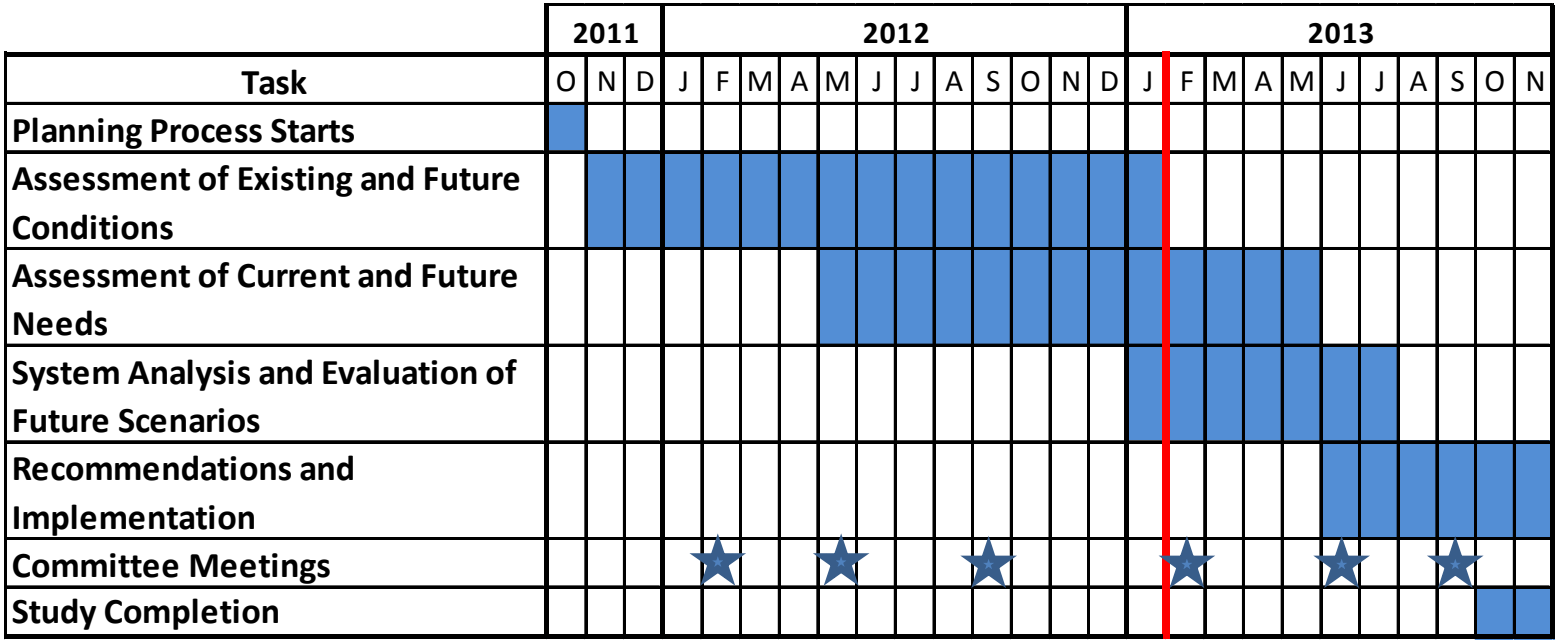
Current Project Status

- **Completed Tasks:**
  - Data Collection
  - Data Inventory and Study Review
  - Existing and Future Conditions
  - Preliminary Needs Identified

- **Major Tasks Remaining:**
  - Finalize Needs
  - Determine Performance Measures
  - Develop and Analyze Scenarios
  - Determine Preferred Scenario
  - Finalize Plan

Next Steps

- **Spring, 2013**
  - **Develop Future Scenarios**
  - **Initiate Analysis of Scenarios**



Past and Anticipated Future Committee Meetings

Thank You for Your Participation!

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