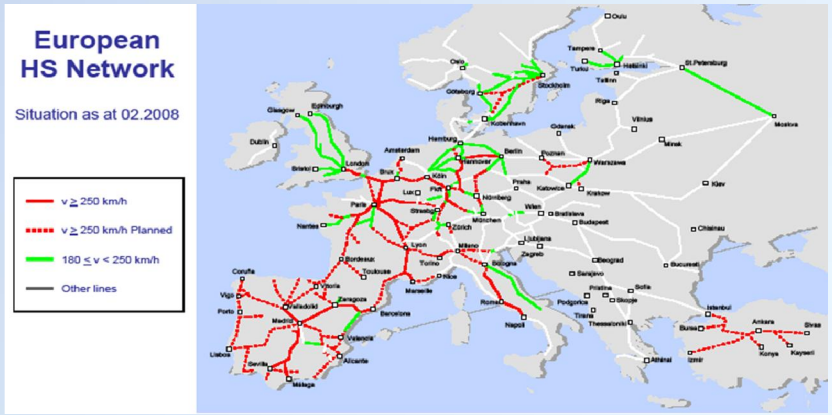
High-Speed Rail in the USA

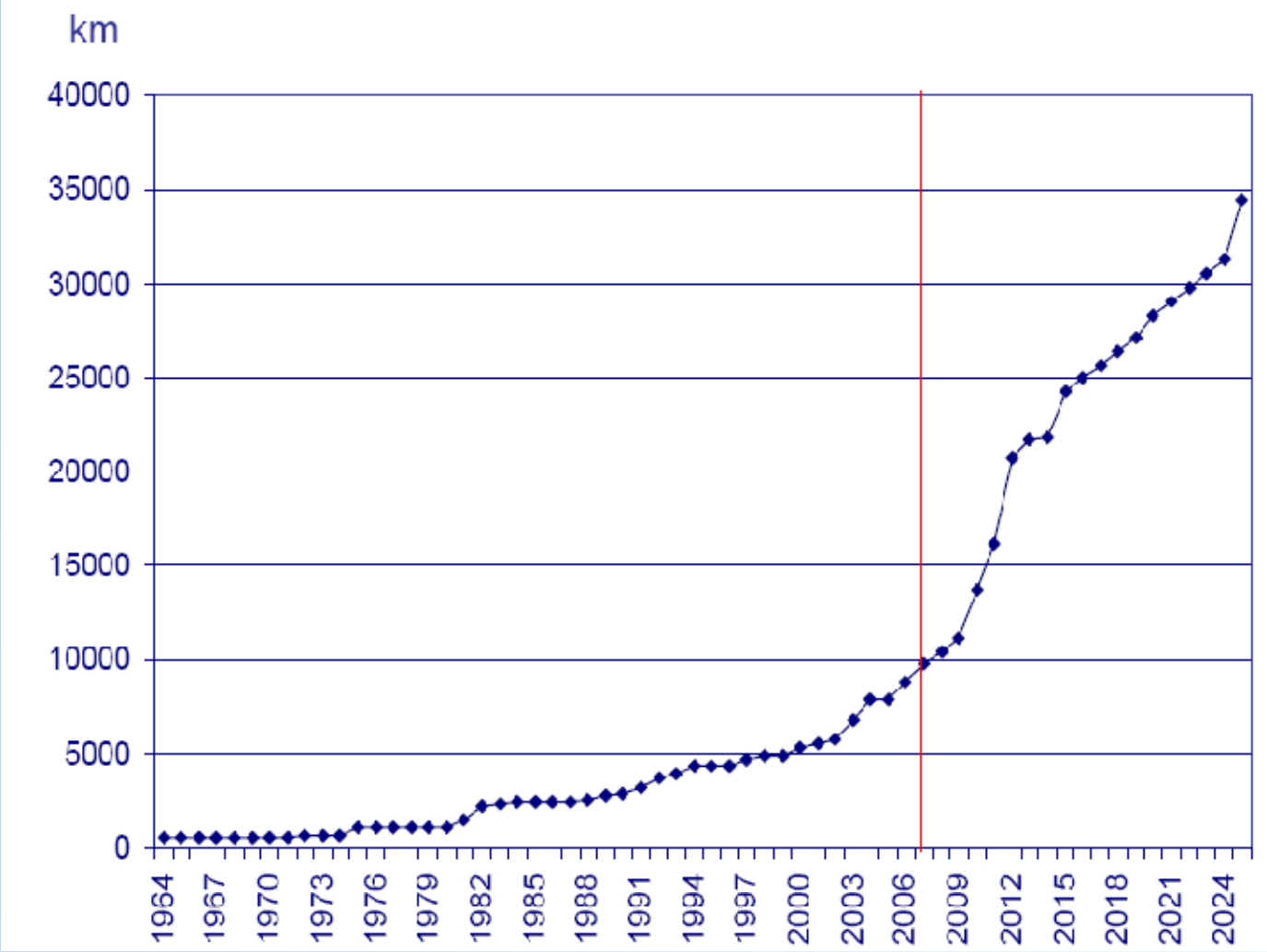
Connecting Georgia
To the Region

HSR: A World Ahead

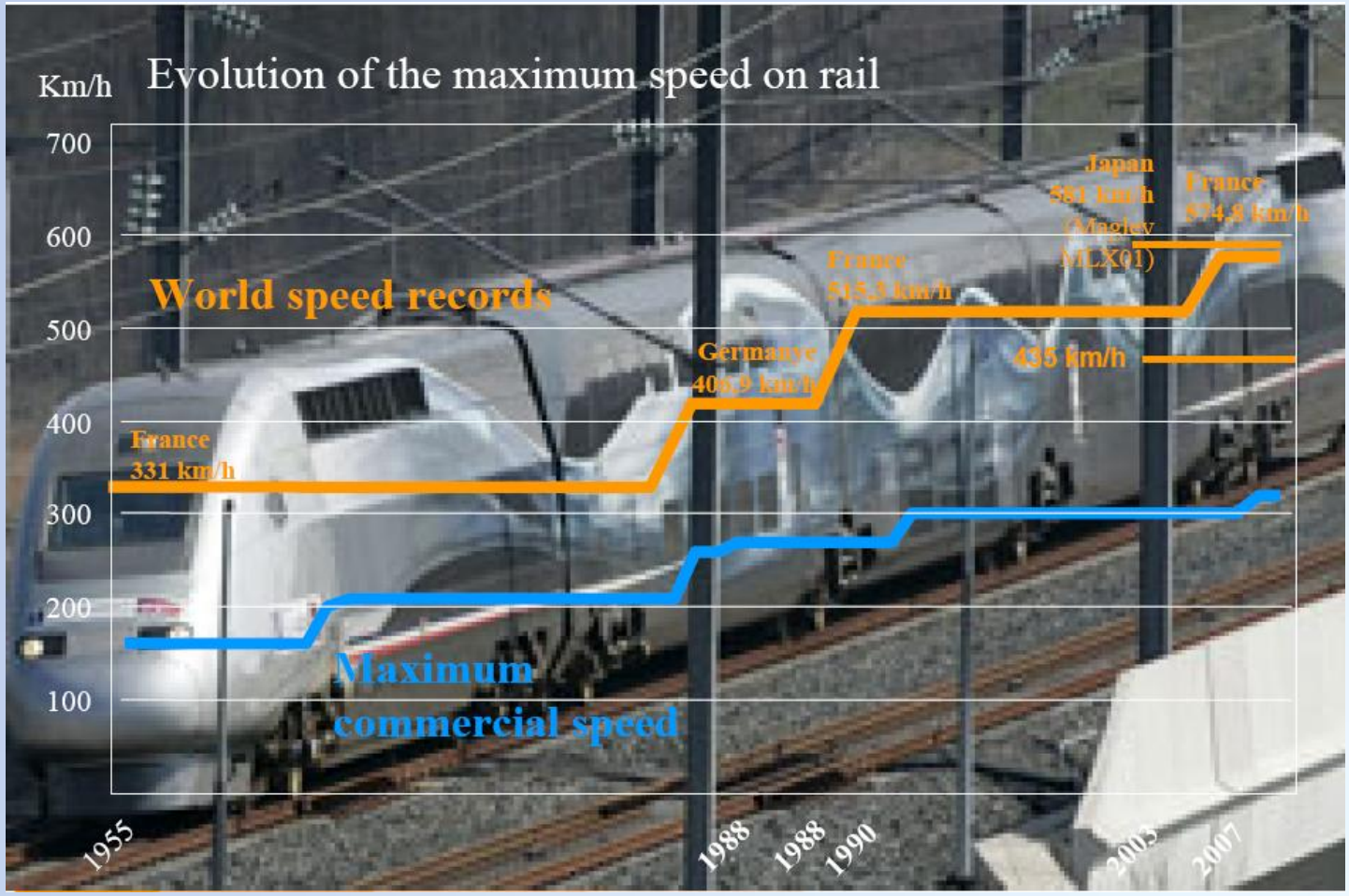
- World Class Transportation Standard
  - 7,000 miles of dedicated HSR in service today
  - 35,000 miles planned by in 2025
  - Spain: 4,500 miles by 2015
  - Japan: 100 million trips/year
  - Europe: 50 million trips per year



Global High-Speed Rail Expansion



What is High-Speed Rail? - Global Definition

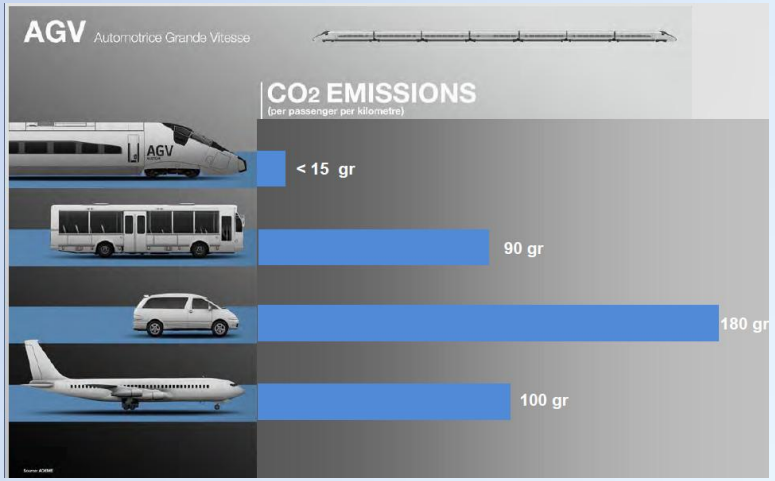


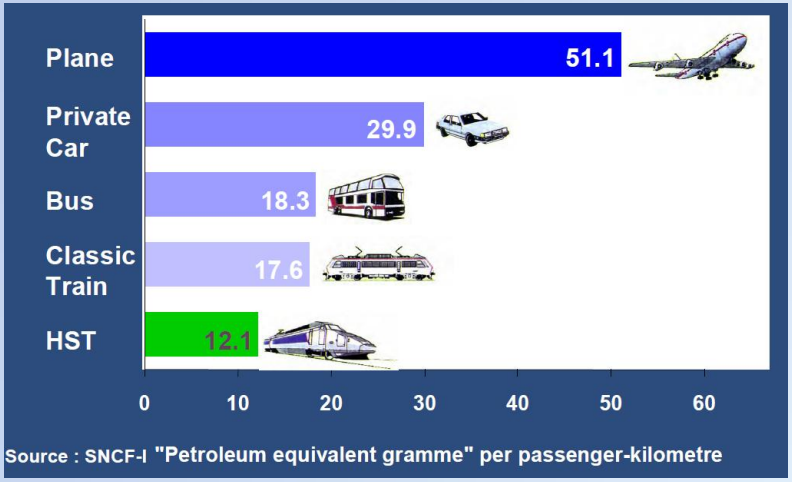
Why So Successful?

- Keys to Success
  - Federal funding
  - Dense population centers
  - Air/rail & integrated transit at stations for seamless connections
  - Federal policy to preserve scarce airport capacity for long-distance trips
  - Success feeds success

Why HSR?

A Fraction of the Emissions . . .





A Fraction of the Energy . . . .

Tying The Community Together

- *TGV has changed the psychological distance between places. For the French, mobility has created a feeling of belonging to a common or interconnected city.*

  -- Alain L'Hostis, geographer, Universite Paris-Est

- Dual Land Use Impacts
  - Greater density & mixed-use development at station areas
  - Increased "commuting" from mid-point cities

America's Current Passenger Rail System

- Amtrak operates the nation's intercity passenger rail system
- In 2008, Amtrak:
  - Operated 220 daily trains on 33 routes
  - Carried 28 million passengers (78,000/day)
  - Served 550 stations
- Operations
  - Amtrak owns most of the WAS-B0S Northeast Corridor
  - Long distance trains operate on tracks owned by the freight railroads
- Southeast Service
  - NC-supported Carolinian & Piedmont
  - WAS-ATL-NOL Crescent
  - Florida Service

What is High Speed Rail? – FRA Definition

Definition

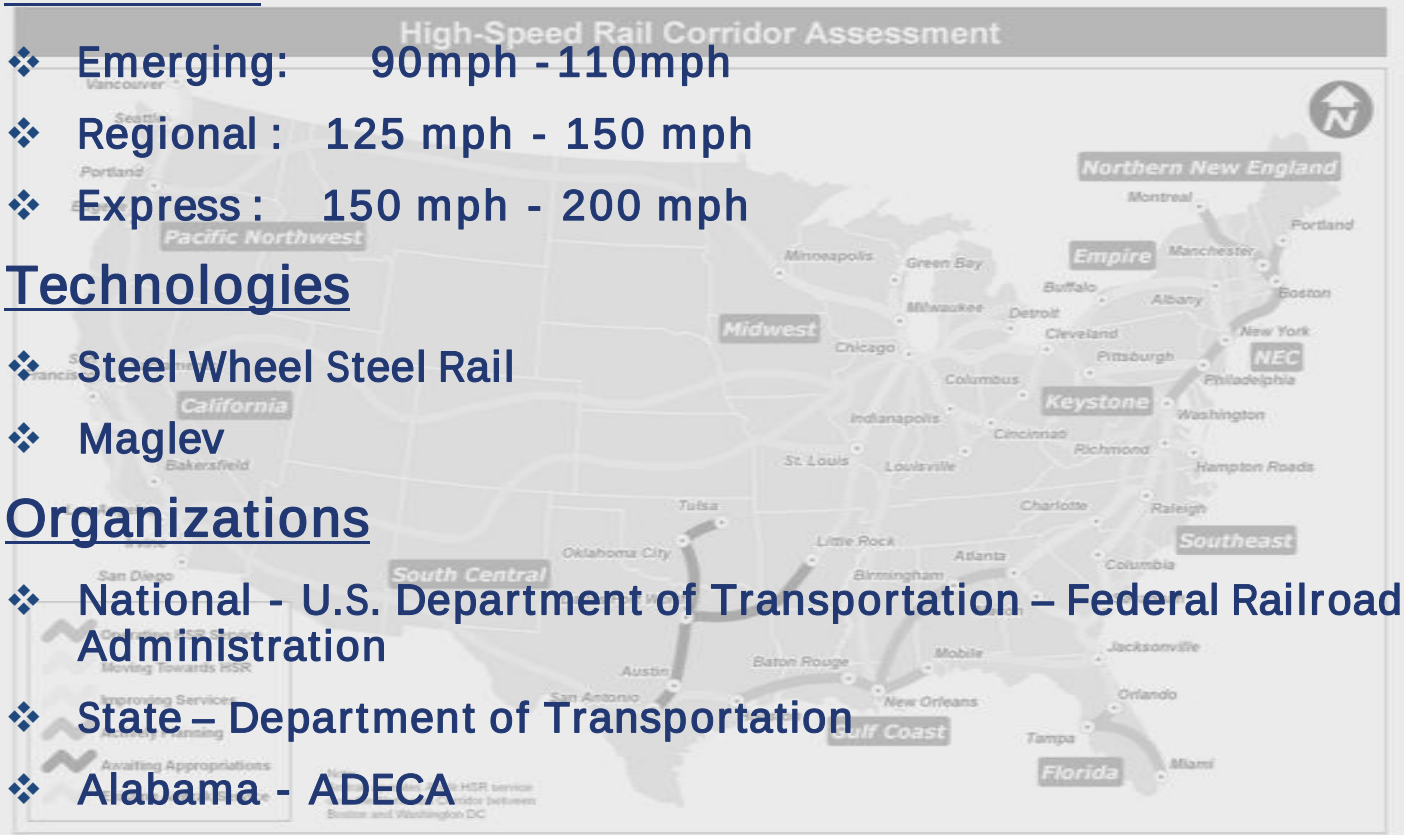
- Emerging: 90mph - 110mph
- Regional : 125 mph - 150 mph
- Express : 150 mph - 200 mph

Technologies

- Steel Wheel Steel Rail
- Maglev

Organizations

- National - U.S. Department of Transportation – Federal Railroad Administration
- State – Department of Transportation
- Alabama - ADECA



USA High-Speed Rail Corridors

Passenger Rail Improvement & Investment Act
America Recovery & Reinvestment Act

- PRIIA reauthorized Federal funding for passenger rail
  - Section 301: improve passenger rail corridors
  - Section 302: provide congestion relief
  - Section 501: improvements on the NEC & designated HSR corridors
- ARRA includes-
  - $1.3 billion for Amtrak
  - $8.0 billion for PRIIA programs
- Additional $1 billion in annual appropriations to be requested for five years
- $120 million in 50/50 planning & project funding appropriated in FY08 & FY09

FRA's Four Funding Tracks

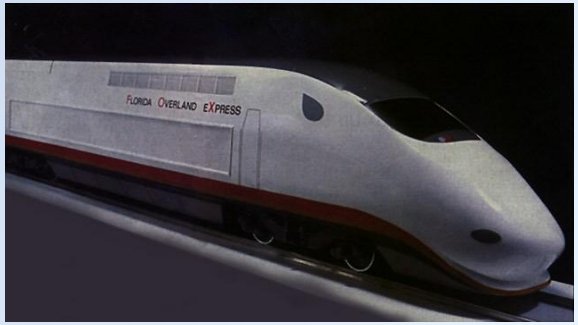
- Track 1: Ready-to-Go infrastructure/equipment projects
  - Ready to advance to Final Design (FD)/Construction:
  - Ready to advance to PE/NEPA
  - Independent Utility – provides benefits even if additional work not advanced
- **Track 2: HSR Pipeline Projects**
  - Already completed Tier 1 environmental & planning
    - *CA; WA/OR; IL; WI; FL; NC/VA*
  - FRA to reserve funding through LOI; funding distributed upon reaching milestones
- **Track 3: Studies & Rail Plans requiring 50% local match**
- **Track 4: Projects (similar to Track 1) with 50% local match**
- Applications due August and October with 2d round in 2010

Will We Get High-Speed Rail?

- ARRA: A great Start, But More Funding Required
  - Acela: $2.8 billion in mid-90s on existing HSR line
  - California: $34 billion for Anaheim/LA-SF leg
  - Southeast: $2.2 billion for Charlotte-Richmond
- Can ARRA Make A Difference? Yes!
  - It's about trip time, not top speed
    - *Portland-Seattle: from 3:30 to 2:20*
    - *Charlotte-Raleigh: from 3:20 to 2:30*
    - *St. Louis – Chicago: from 5:30 to 3:30*
- Opportunities For True 150-200 mph HSR
  - California: revenue service within 10 years
  - Florida: Tampa-Orlando leg feasible if the state can mobilize long-term political & financial support
  - Texas: strong market, but lacks institutional governance or consensus

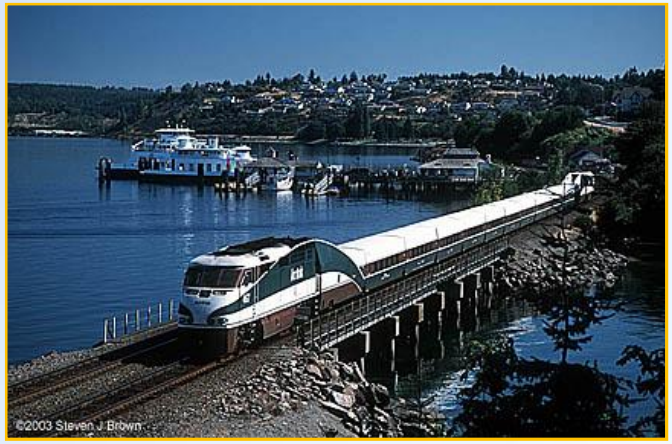
US: Some False Starts

- Projects
  - California:
    - 1980: American High-Speed Rail Corporation (LA-San Diego)
  - Florida:
    - 1988: TGV & X-2000
    - 1996: FOX
    - 2004: Fluor/Bombardier
  - Texas: 1991 Texas TGV
- Why the Failures?
  - Lack of a Federal funding partner
  - Lack of local consensus
  - Opposition from competitors

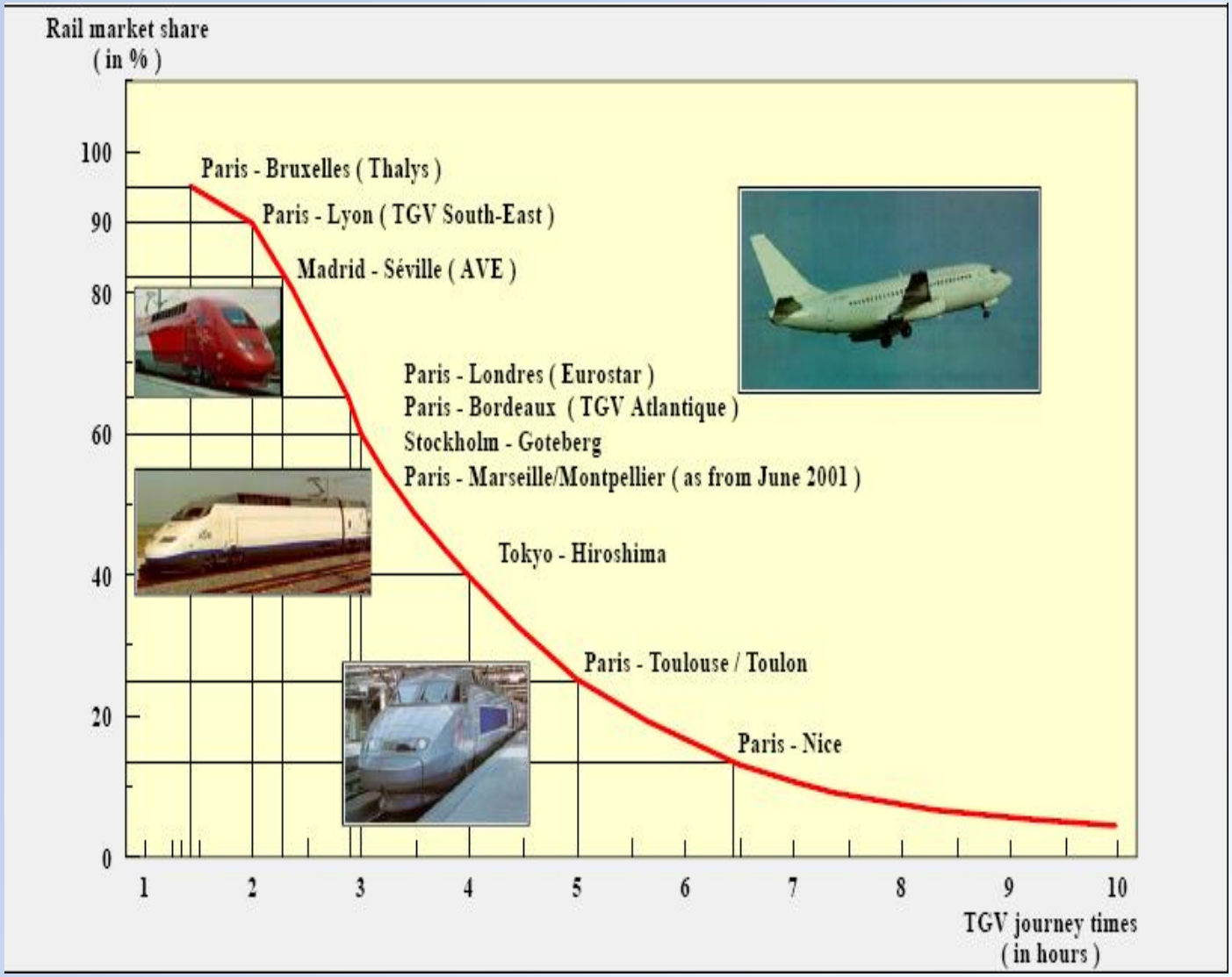


US: Some Successes Too!

- Projects
  - Metroliner
  - Acela
  - Cascades
  - Keystone
- Why the Success?
  - Federal & State funding partners
  - Strong market demand
  - Positive environmental impacts
  - Lack of opposition from competitors
  - Existing rights-of-way



Competitive Trip Time Shifts Modal Preference



Lessons Learned

It's About Trip Time, Not Top Speed

- Upgrade slowest areas of the rail line
  - Upgrade one mile of 30 mph track to 60 mph save 60 seconds
  - Upgrading one mile of 90 mph track to 150 mph saves 16 seconds of trip time
- Focus on the rail line as an integrated system
  - Optimize curves, interlockings, at-grade crossings & signals
- Maximize trip time benefits from equipment: tilt; acceleration

Speed (mph)	Seconds To Travel One Mile
10	360
30	120
60	60
90	40
150	24

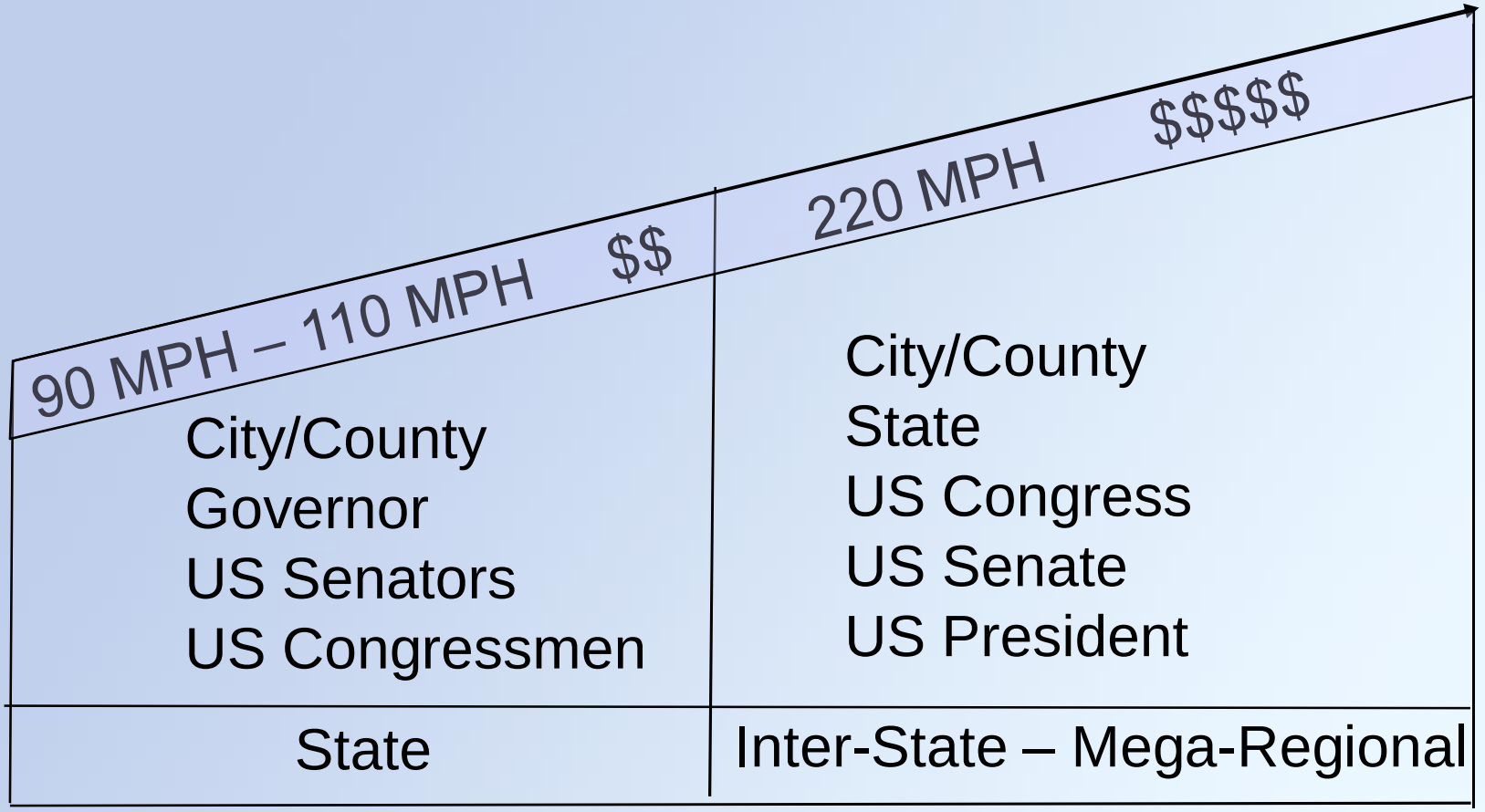
Lessons Learned
State Rail "Brand" Helps

- State ownership of passenger rail creates long-term support
  - Establishes unique state-wide identity
    - *North Carolina Piedmont*
    - *Washington & Oregon Cascades*
  - Differentiates State service from rest of Amtrak
  - Institutionalizes rail program, budget and staff
- New Trains Create Excitement
  - X-2000 & ICE demos generated ground-swell of support for Acela
  - Flexliner corridor tour
  - Talgo – gave Cascades a unique identity

Lessons Learned
Freight Railroad Partnership Is ESSENTIAL

- It's their railroad
- State must support economic development generated by freight rail traffic
- Partnering from the beginning will support success
  - Joint capacity analysis can allay concerns, identify needs
  - Incremental upgrades benefit passenger & freight
    - *At-grade crossings*
    - *Signal system upgrades*
    - *Passing sidings*
  - Excess freight ROW can facilitate dedicated tracks where appropriate

Lessons Learned - Political Support



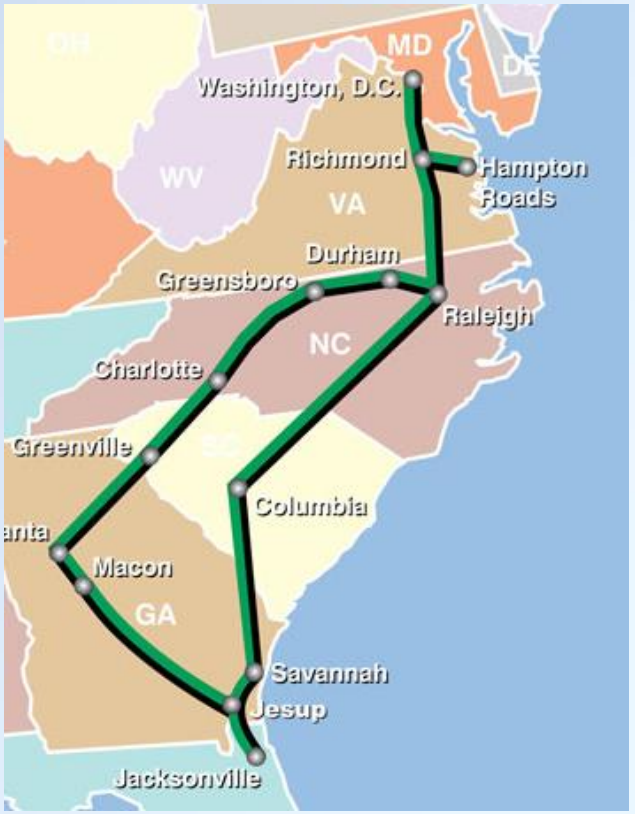
Atlanta As The Regional Hub

Northeast: Southeast Corridor to Charlotte, Washington & NY

Northwest: Chattanooga & Nashville

Southwest: Gulf Coast Corridor to Birmingham & New Orleans

Southeast: Savannah, Jacksonville & Miami



Key Steps: State Rail Plan

- State Rail Plan
  - Provides Freight/Passenger Rail vision
  - Living Document
  - Alignments
  - Project Management
  - Capital investment plan
  - Financial Plan
  - Stakeholder agreements
- Feasibility Study
  - Ridership
  - Validate Alignment, Identify Improvements
  - Capital and Operating Costs

2009 State Rail Plan (SRP) for Georgia

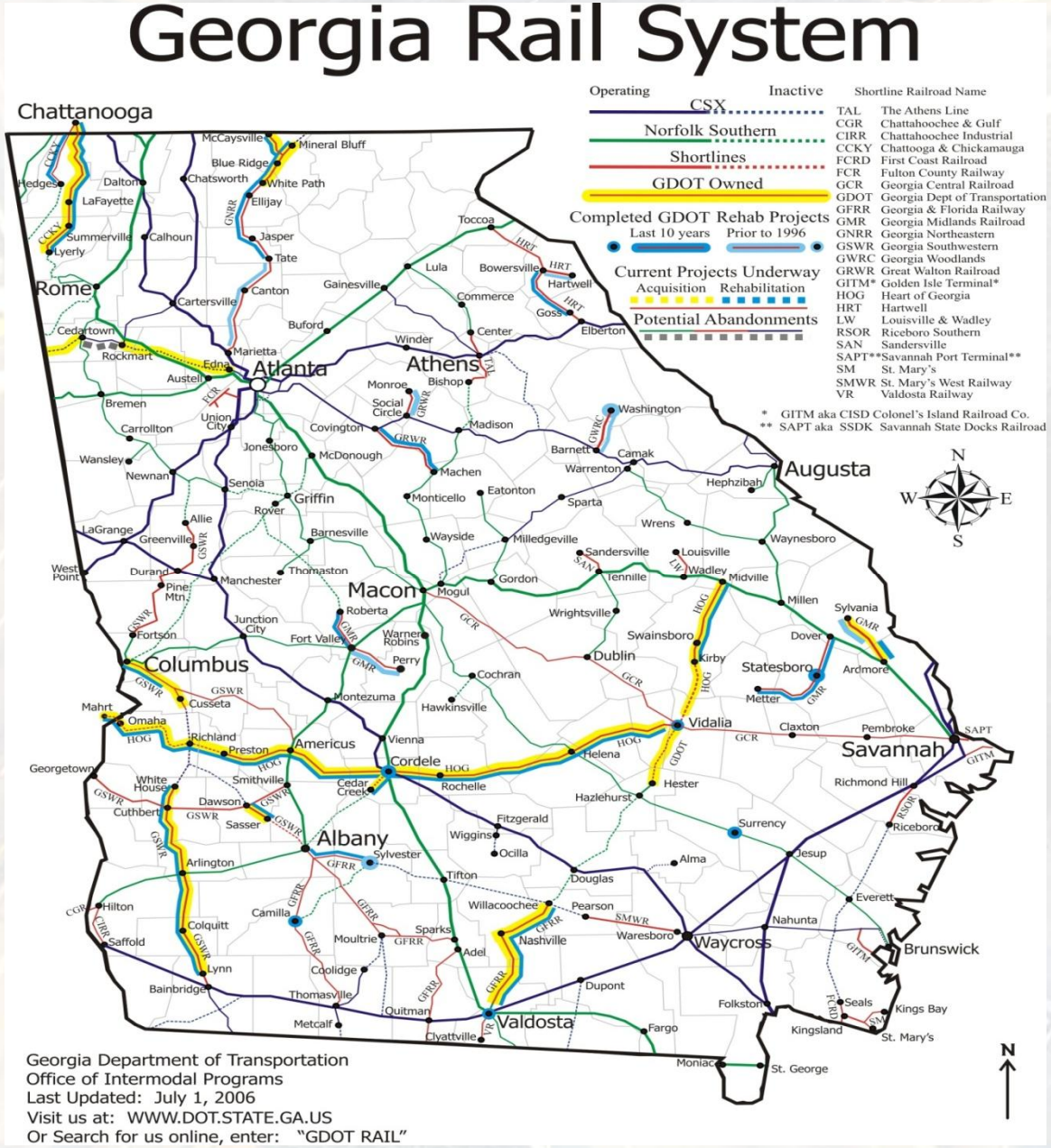
Erik Steavens
Intermodal Division Director

Georgia Department of Transportation

2009 Georgia State Rail Plan

- Document to satisfy FRA's requirements
- Plan allows GDOT to apply for stimulus funding
- Plan to comply with all federal planning guidelines
  - Passenger Rail Investment & Improvement Act (PRIIA) of 2008 sections 303, 307, & 501
  - Title 49 Part 266 CFR – Description & Assessment of the state's rail system

Georgia Rail System



Georgia Department of Transportation
Office of Intermodal Programs
Last Updated: July 1, 2006
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Or Search for us online, enter: "GDOT RAIL"

Need For General Rail Investment

- Growth in the last two decades at an unparallel rate
- Focus on mobility of people and goods
- Growing port activities
- Burgeoning freight rail activity
- Investments in airports and highway system unable to relieve congestion
- Untapped capacity in existing railroads

Need for Passenger Rail Investment

- Forecast growth in Vehicles and Vehicles Miles of Travel (VMT) exceed the pace of highway construction
- 2030 Forecasts for Population and Employment to double from existing levels
- Provides mode choice for SOV commuters to help ease peak period congestion
- Shared use of 12 active freight rail lines to provide needed mobility

High Speed Rail Corridors

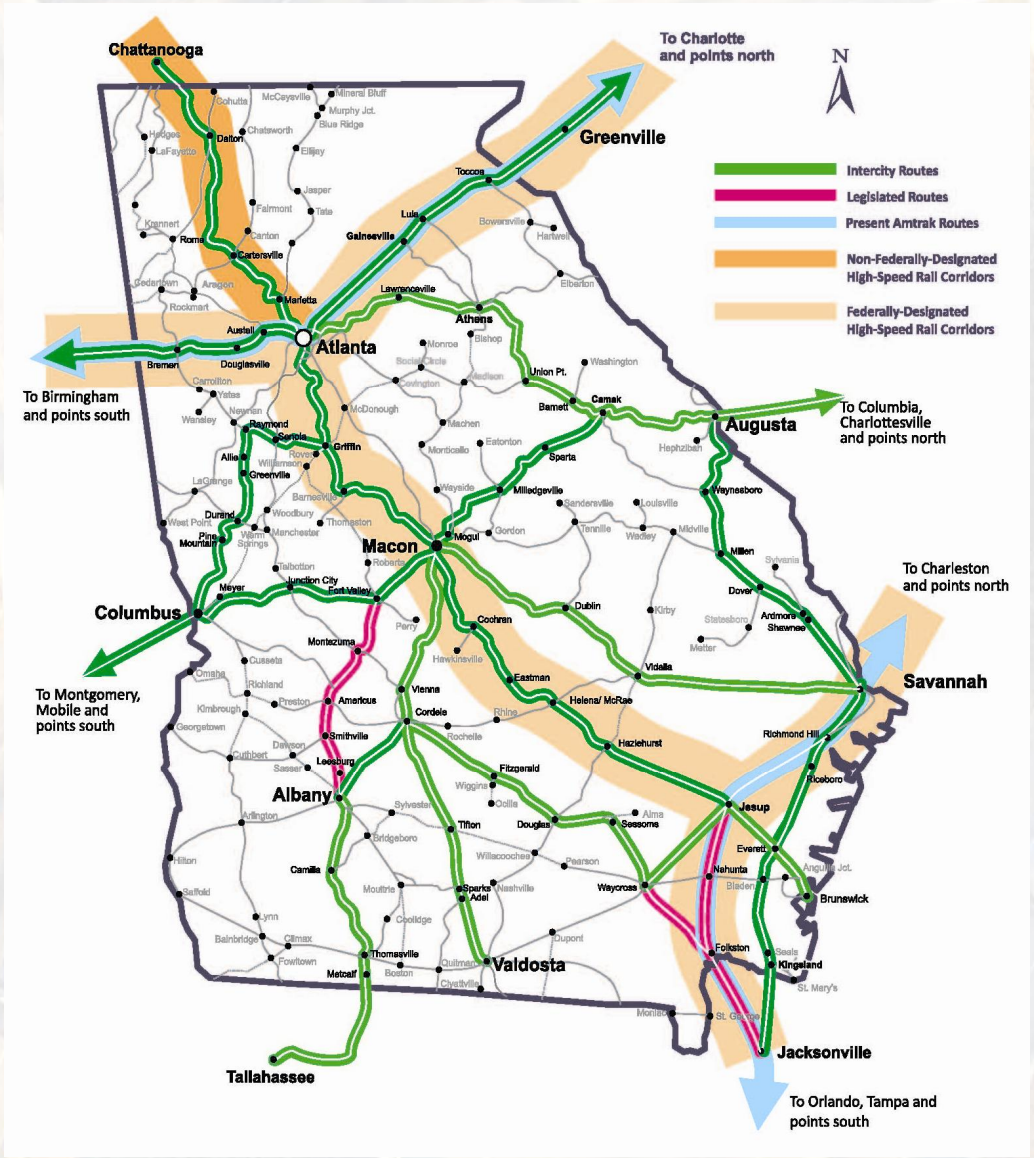
Charlotte - Greenville - Atlanta - Macon - Jacksonville

Savannah - Jacksonville

Atlanta - Birmingham


Buffalo
EMPIRE
Albany
New Haven
Milwaukee
Detroit
Cleveland
New York City
Chicago
Toledo
KEYSTONE
Philadelphia
CHICAGO HUB NETWORK
Pittsburgh
Harrisburg
Columbus
Baltimore
Washington, D.C.
Indianapolis
Cincinnati
Richmond
Hampton Roads
Kansas City
St. Louis
Louisville
SOUTHEAST
Raleigh
Charlotte
Tulsa
Greenville
Oklahoma City
Little Rock
Atlanta
Birmingham
Columbia
H CENTRAL
Texarkana
Meridian
Macon
allas/Ft. Worth
Savannah
Austin
Houston
GULF COAST
Jacksonville
Mobile
Antonio
New Orleans
Orlando
Tampa
FLORIDA
Miami
Northeast Corridor Main Line (Not a "Designated Corridor")
Designated Corridors
Georgia Related Corridor
U.S. Department of Transportation
Federal Railroad Administration
10/19/2005
GDOT
Georgia Department of Transportation

GDOT Intercity/ High Speed Rail Vision



Freight Railroads

Freight Rail
GEORGIA RAILROAD SYSTEM

CSX / NS Mileage:

CSX: 1,626

NS: 1,930

Other Mileage (23): 1,483

Total: 5,039

GDOT Mileage: 540

Freight tonnage moves through Georgia from many locations

Mobile, Alabama
New Orleans, Louisiana
Tampa, Florida
Jacksonville, Florida
Savannah, Georgia
Brunswick, Georgia