

SRF 2016

Southeast Rail Forum

District of Columbia • Virginia • North Carolina • South Carolina • Georgia • Florida

Preparing for Change...Planning for Success

Connecting Cities in the Information Age

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Our World Is Changing

Economic Stage	Primary Commodity
Agrarian	<ul style="list-style-type: none">• Land
Industrial/ Manufacturing	<ul style="list-style-type: none">• Capital• Resources• Labor
Information	<ul style="list-style-type: none">• Knowledge/Talent• Ideas• People

Cities Define the 21st Century

- 21st Century people want to live in cities
 - 2015: 50% of world population in cities
 - 2050: 70% of world population in cities
- 2007-2011 job growth:
 - .5%/year in urban areas
 - (.1)%/year out side of urban areas
- Suburban office vacancy rate is 500 basis points higher in suburbs than in cities
- Most young workers want access to work via public transportation
 - Long hours
 - Modest pay
 - Highly mobile

Why Cities?

- Technology-based industry drives job growth
 - Idea intensive
 - Built off clustering of talent
 - Group-think synergies
- Cities can support the workforce and life style
 - Access to education and educated workers
 - Public transportation
 - Communications infrastructure
 - Innovation incubators

Reemergence of Passenger Rail

- (19th Century) trains ideal partner for the (21st Century) Information Age
 - Connects cities
 - Downtown stations
 - Alternative to cars for the Millennials
 - Catalyst for mixed development near stations
- Conveyor of people
 - Access to workers seeking cheaper housing
 - Access to technology markets
 - Access to education/innovation centers
 - Productive travel time

NEC FUTURE

- Northeast Corridor
 - 457-miles connecting WAS, BAL, PHL, NYC, and BOS
 - Amtrak, 8 commuter operators, and 5 freight railroads
 - 260 million passengers growing to 450+ million by 2040
- Long-term vision plan the Northeast Corridor for the 21st Century
 - What is the role of passenger rail in the Northeast?
 - How can the Northeast Corridor accommodate growth?
 - How can the NEC support regional growth?



Key NEC Attributes

- A mature rail market: regional dependent on commuter and intercity rail for over a century
 - Long dependence has shaped development and travel patterns
- Publicly owned linear corridor connecting the region's largest markets
- Auto congestion necessitates commuter/intercity rail
- Huge economy: 21% of nation's GDP; 50 million residents by 2040
- Similarities to other corridors
 - Cities are attracting growth from rural areas and towns
 - Housing in urban areas expensive/scarce
 - Actions required to ensure that growth in passenger rail do not adversely impact freight rail operations
 - Rail travelers want convenient, friendly, coordinated regional services

Key NEC FUTURE Findings

- Rail plays a major role in supplying workers to urban centers
 - High-cost cities depend on workers from lower-cost areas
 - Reduced travel time expands the employment catchment area
- Key intercity rail traveler preferences
 - Frequency
 - Choice in fares
 - **CONNECTIVITY/Internet**
 - Connections to transit for the “last mile”
- Trains connect the region
 - Linear nature of NEC makes for important regional synergies
 - NEC supports regional brand and economic ties
 - Rail service enables region to be greater than the sum of its parts
- Achieving regional synergies requires strong governance to support planning, define priorities, and secure funding

Application to the Northeast Corridor

- Hot: Washington, Philadelphia, New York and Boston
- Rail focus:
 - Reliable and frequent service
 - Jobs near train stations
 - Internet connected trains
- Regional objectives
 - Expanding job-catchment areas through faster trip time, jobs at stations, easy connections
 - Speeding up intercity and long-distant commute services
- NEC Commission provides platform for coordinated/joint planning, prioritization of projects, and advocacy

Application to the Southeast Rail Network

- Rail can help connect economic integration of key city-pairs:
 - Richmond-Washington Raleigh-Richmond
 - Charlotte-Raleigh Charlotte-Spartanburg/Greenville-Atlanta/Columbia
- Build larger, more integrated regional markets that support business travel
 - Expand markets through Integrated bus connections to major stations
 - Build frequency to support multiple departure options
 - Structure system so city-pairs not dependent on unreliable long-distance trains
 - Improve 1st/Last Mile connections through partnerships with Uber, local transit
 - Integrate Smart-Phone apps for complete one-stop transportation
- Key regional objectives
 - Downtown stations providing access to nearby jobs
 - Regional rail identity: rail must become a selling point for regional economic integration
 - Establish regional governance structure to support coordinated rail investments

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Economic Impact of Rail for a Growing Megaregion

Toni Horst, PhD



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Economic Benefits of Investments in Rail

Direct Benefits

- Mobility improvements
- Travel time savings
- Cost savings
- Transportation system efficiency
- Accident reduction
- Energy savings
- Environmental quality improves

Market Response

- Increased competitiveness
- Productivity improves
- Land-use patterns change
- Land preserved for other purposes
- Property values increase
- Community amenity
- Value of greater range of options

Organization of the Presentation

- Outlook for Piedmont Megaregion
- Context for Regional Impacts and Needs
- Regional Economic Benefits
 - Members of the megaregion face different challenges
 - Managing congestion
 - Labor access
 - Agglomeration
- How Much Could Regional Benefits Matter?

A Tremendous Opportunity to Shape Growth

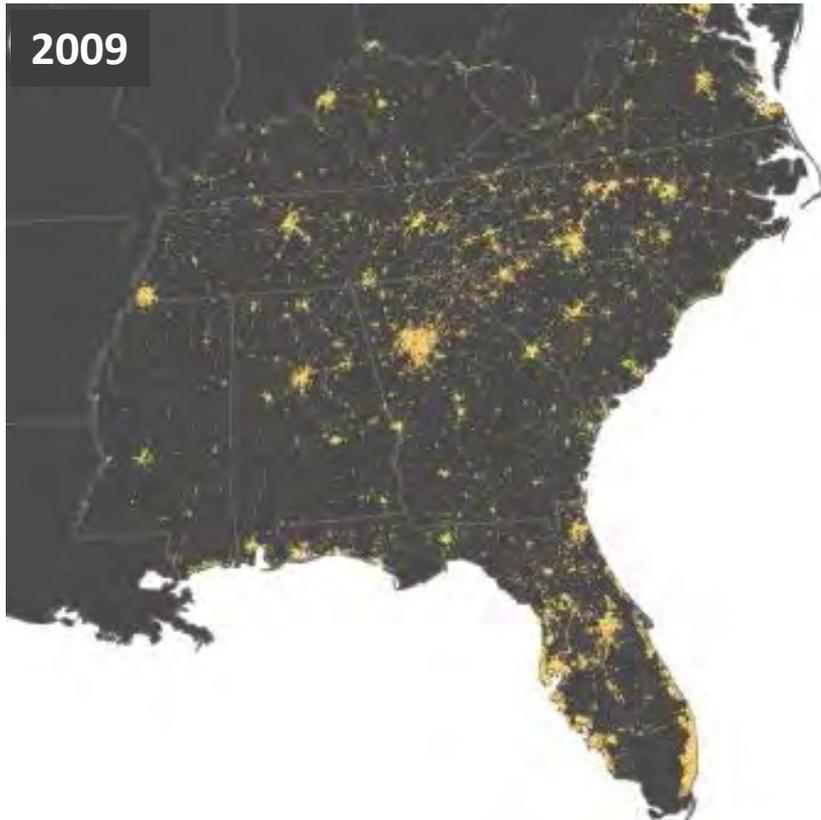
- In the U.S., at least two-thirds of the buildings that will be needed by 2050 are not yet built
- As much as 80 percent of urban development is projected to be located at the “edge” of metropolitan areas
- Buildings constructed post- 2000 will represent half of the built environment in 2030 in the Piedmont Megaregion
- If we get it right, we can shape this development, preserve land for future opportunities, and support economic competitiveness and quality of life for future generations



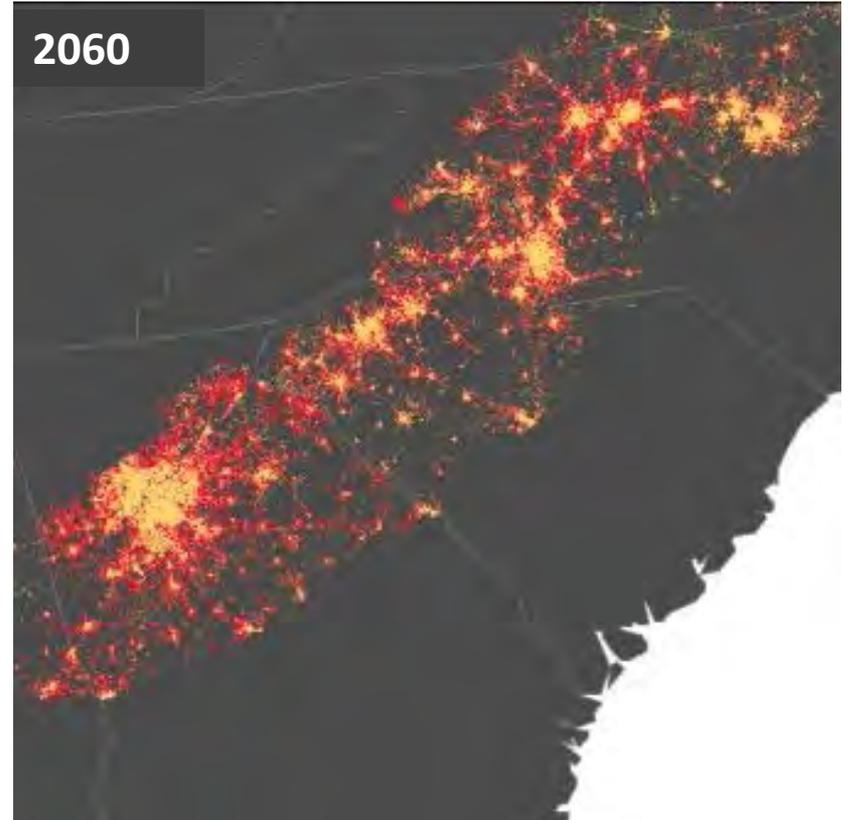
Source of projections: US: ULI, The City in 2040; Piedmont: Georgia Tech Center for Quality Growth and Regional Development

Projecting Our Current Pattern of Growth Into the Future—Business as Usual

Southeast Region



Piedmont Megaregion in the Southeast



Source: The Southern Megalopolis: Using the Past to Predict the Future of Urban Sprawl in the Southeast U.S., 2014

Needs, Impacts and Benefits of Rail Will Vary Within the Megaregion

Population Profile for Major Cities in the Piedmont Atlantic Megaregion

	2 mi. 		10 mi. 		25 mi. 		Projected 2040 Growth
	Pop.	Rank	Pop.	Rank	Pop.	Rank	
Atlanta	70,000	44	1,090,000	19	3,800,000	9	46%
Charlotte	50,000	114	670,000	39	1,600,000	38	63%
Raleigh	50,000	81	590,000	47	1,300,000	49	69%
Greensboro	50,000	109	350,000	84	1,000,000	68	27%
Birmingham	40,000	127	450,000	61	900,000	81	30%
Greenville	40,000	156	330,000	86	700,000	94	28%

Source: America 2050 analysis of 2000 U.S. Census and 2010 Woods and Poole Economics

Lessons Learned: NEC Not Uniform

- South
 - Wants to get to NYC
 - Concerned about range of services and pricing
 - Frequency and reliability more important than travel time
- Central
 - Wants to expand labor pool
 - 40-60 minute commute ideal
 - Congestion and capacity are limiting growth
 - City Region User concept introduced
- North
 - Wants to get to NYC, some additional interest in DC
 - Would like more air-rail connections
 - Region getting more costly
 - Boston—speed to make a comfortable day-trip to NY, frequency then becomes more important

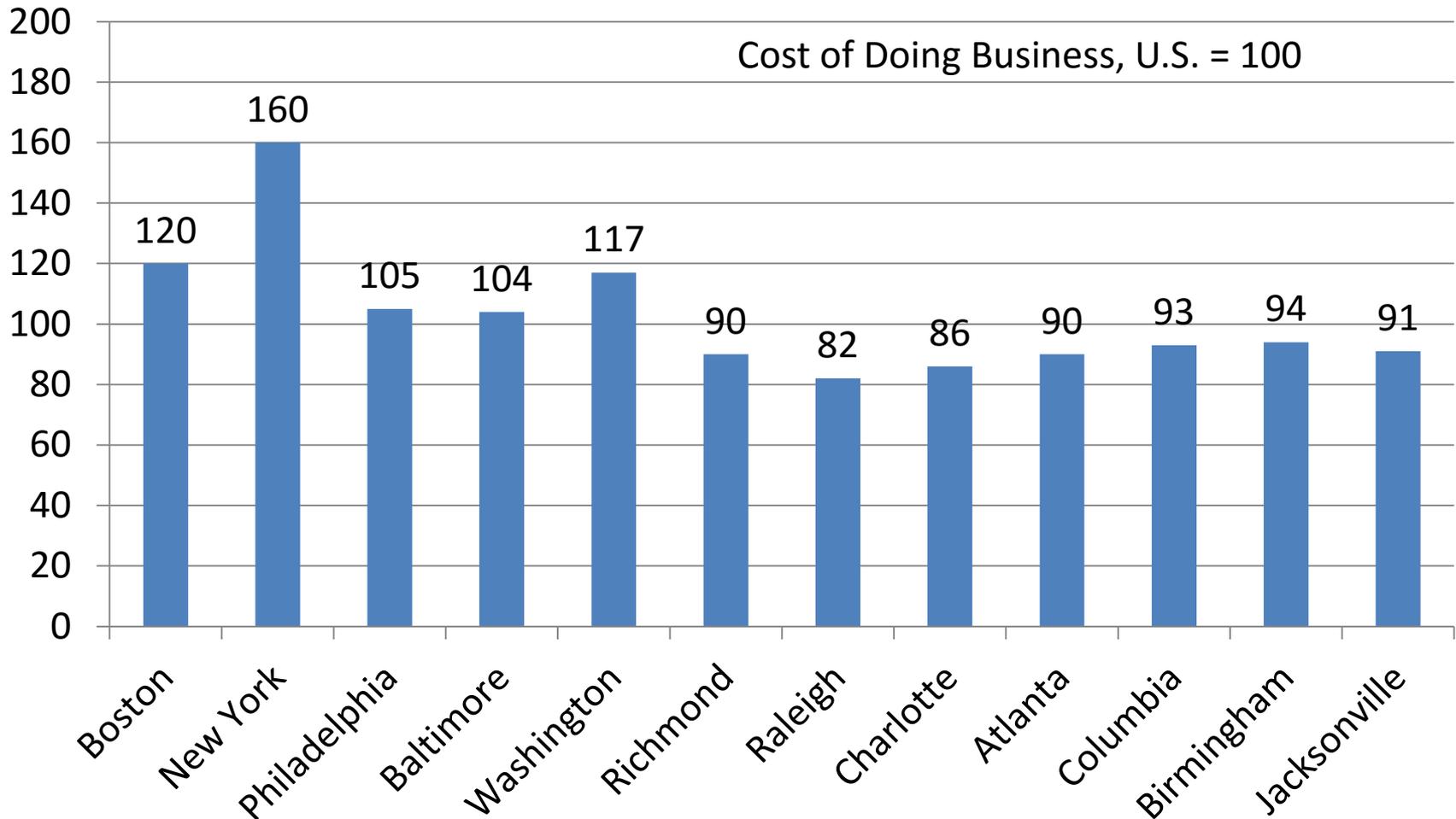
Source: NEC Economic Development Workshop

Capturing the Southeast Region's Growth

- **Intercity rail service adds value** to land and labor markets in ways that “mobility” metrics do not capture
- Cities only **grow and prosper** when the benefits associated with higher density outweigh the costs of density, such as congestion.
- When the costs outweigh the benefits, firms seek more **favorable locations** elsewhere for expansions and relocations.



Southeast Has Favorable Business Costs



Source: Moody's Analytics

Connections within the Megaregion

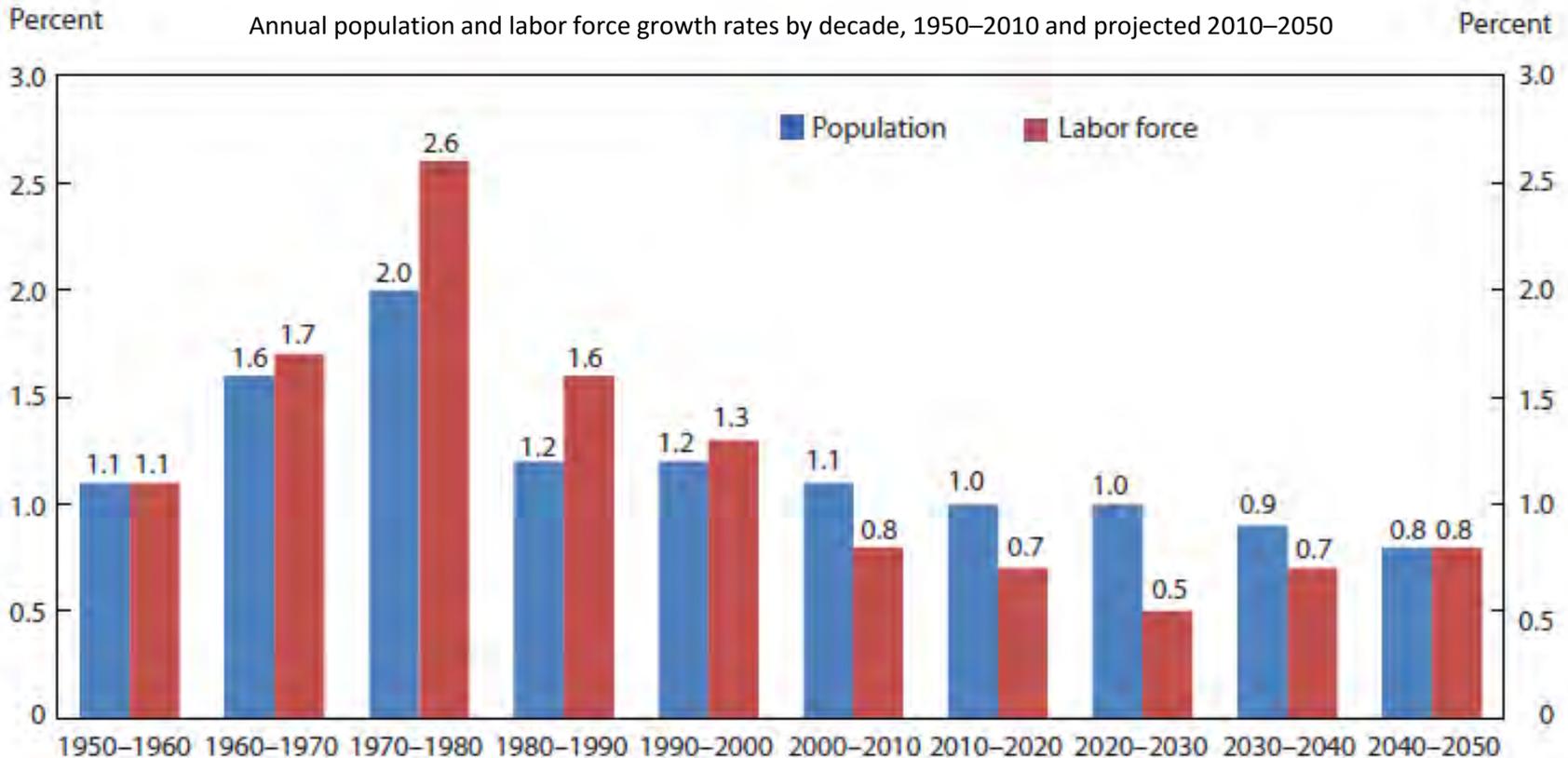
- Congestion fractures the regional economy
 - Employers lose access to workers
 - We lose competitiveness of single economy
 - Congestion slows job growth above thresholds of approximately 4.5 minutes of delay per one-way auto commute (Sweet, 2014)



Map Source: Georgia Tech Center for Quality Growth and Regional Development



Greater Need to Attract and Retain Labor



Source: Bureau of Labor Statistics, Monthly Labor Review • October 2012

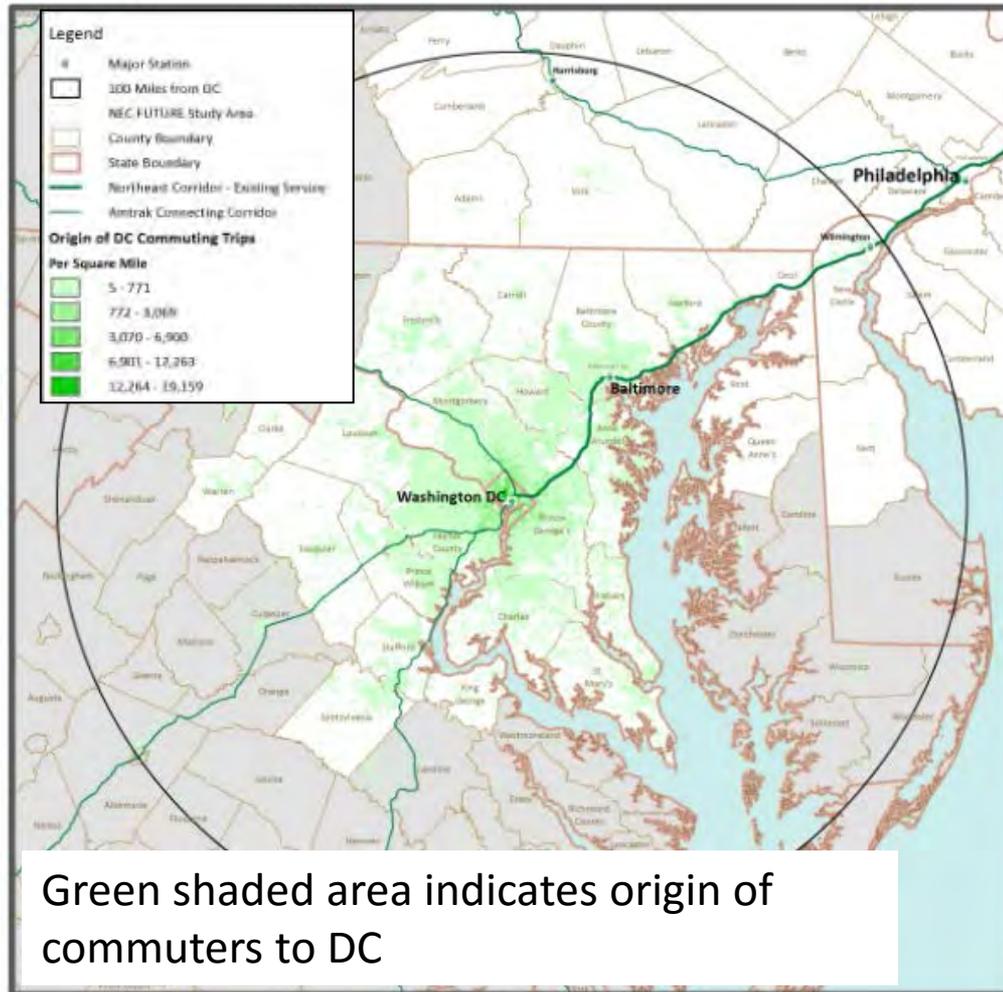
Lessons Learned NEC: Labor Market Effects

- Variety of strategies on how enhanced rail service could offer labor market benefits

Select Areas	Expected Labor Market Effects
Boston, New York	Huge benefits
Baltimore, Wilmington, Philadelphia	Greater labor market integration among themselves <ul style="list-style-type: none">❑ Businesses in Baltimore and Wilmington could recruit talent instead of functioning as bedroom communities❑ Baltimore already feels well-connected to DC
Long Island, Connecticut	Attract and retain jobs; act as lower-cost alternatives to New York <ul style="list-style-type: none">❑ Long Island could attract convention and tourism visitors❑ Both had bi-directional focus (north towards New York City and south towards Boston)

- Definition of an “acceptable” commute time:
 - *New York and Philadelphia*: 1 hour
 - *Smaller cities*: 30-45 minutes

Support for Labor Markets and Housing Choice



Significant intra-metropolitan commuting

Two-earner households can search multiple markets without relocating

Supporting economic integration between smaller metropolitan economies with large diverse economies

Employers and workers have greater range of options leading to improved job matches

How Much Could Labor Market and Agglomeration Impacts Matter?

Summary of Benefit/Cost: National Perspective - Aggregate Net Present Value Using 3% Discount Rate	
Total Value--2010 to 2060 (Billions \$2010)	
Project Costs	
Construction Cost	72.8
Operating Cost	18.0
Credit for Residual Project Value	20.3
Credit for Avoidable Master Plan Costs	8.3
Net Project Costs	62.2
Project Benefits	
Travel time & Cost Savings, Crash Avoidance, Highway Delay Reduction	16.3
Energy and Environmental Benefits	1.3
Commuter Network Benefits (Slots, New Commuters, Reduced Delays)	26.4
Air System Impacts (Reduced Air System/Traveler Delays)	21.5
Market Productivity Benefits	23.8
Total Project Benefits	89.3
Benefit/Cost Ratio	1.44

Drawn from Amtrak: Vision for the Northeast Corridor, 2010