

Intercity Higher Speed Rail in Virginia and North Carolina: *A high-performance linkage to the Northeast Corridor (NEC)*

Joe Milazzo II, PE
Regional Transportation Alliance

Virginia – North Carolina High Speed Rail Compact
Monday, January 9, 2012

Richmond

One voice – one message

Strong, compelling, business case

- Washington, DC is southern terminus of the Northeast Corridor (NEC)
- Virginia borders Washington, DC
- Virginia and North Carolina border each other
- VA-NC corridor has very strong business case
- VA, NC working together, supporting each other

We have been successful



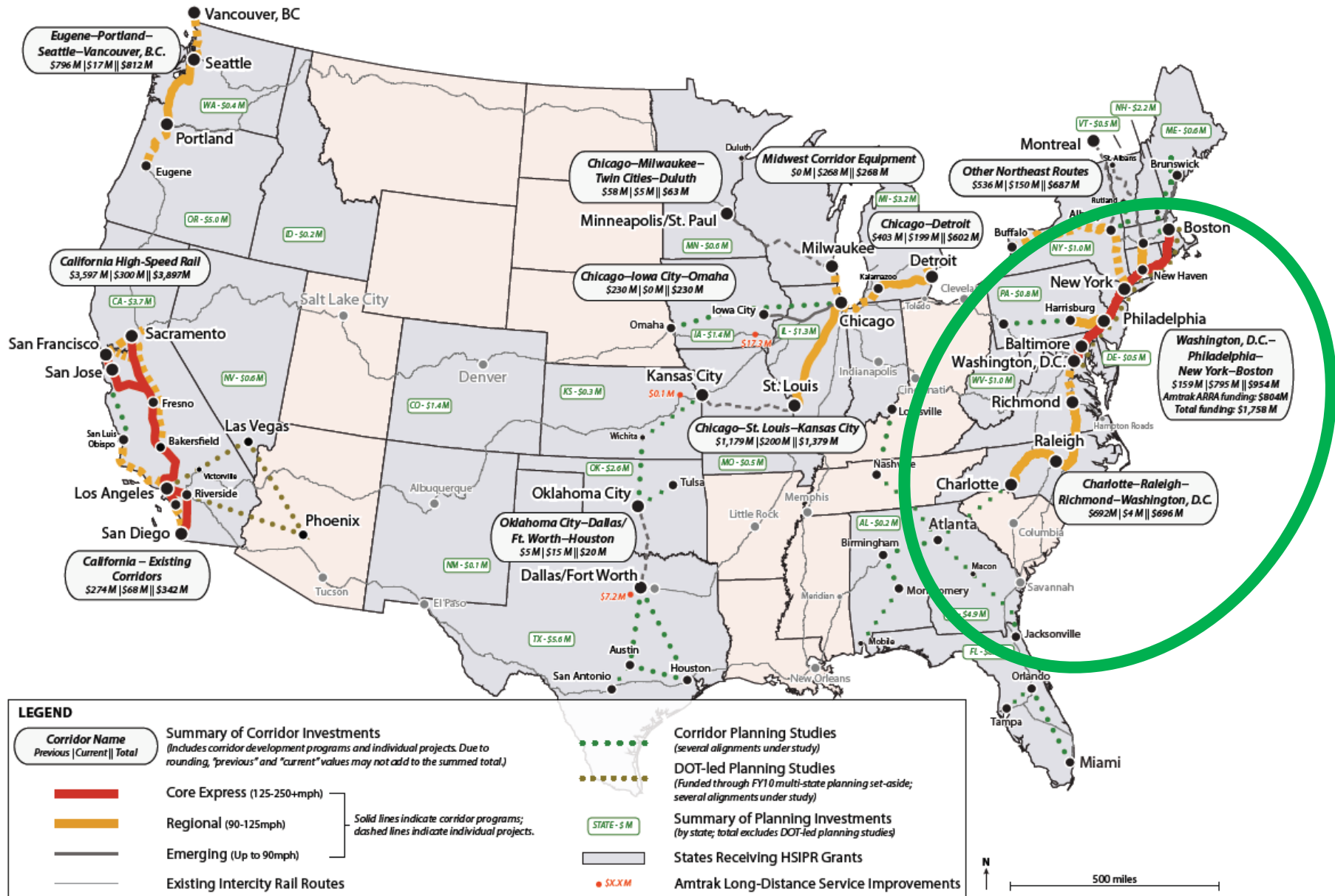
We have been successful





HIGH-SPEED INTERCITY PASSENGER RAIL PROGRAM

Summary of Federal Investments (2009-11)



We have been successful

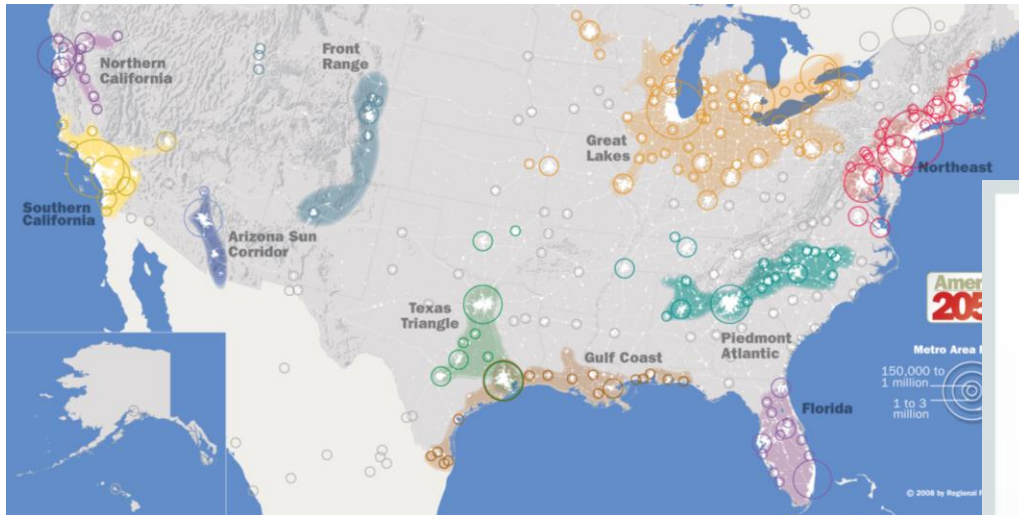


We have an opportunity

- Nearly 85% of funds have gone to six corridors
- VA-NC Southeast Corridor: one of those six
- Still limited awareness of the strong business case for the Southeast Corridor
- Potential showcase rail corridor for America
- We must speak to the benefits of the corridor
- And we must speak with one voice

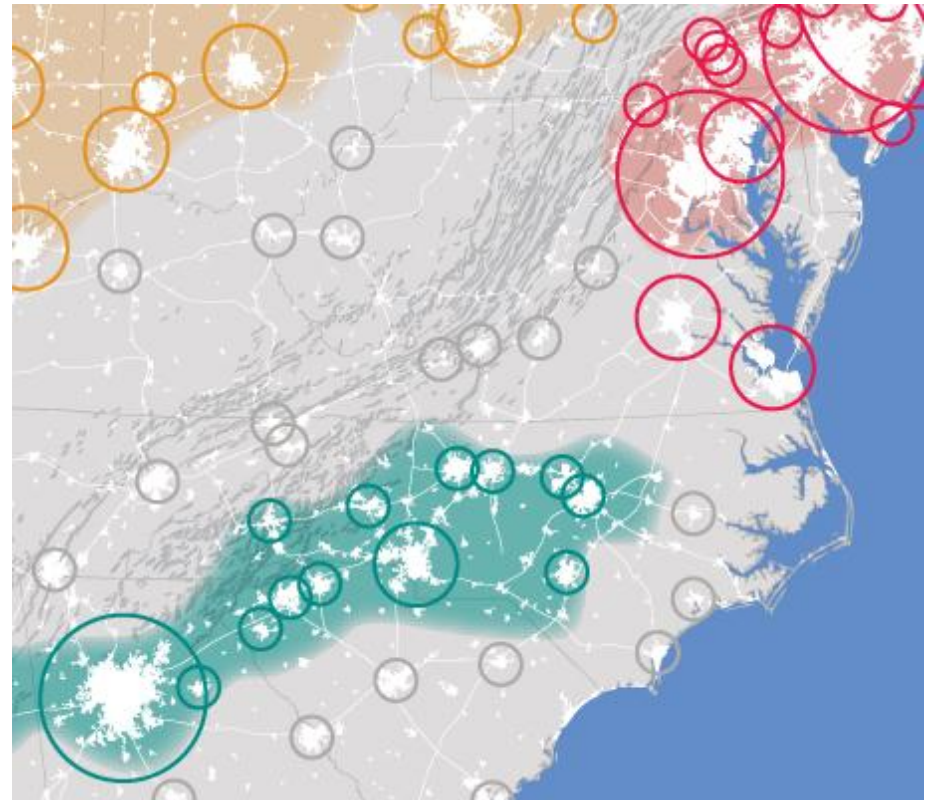
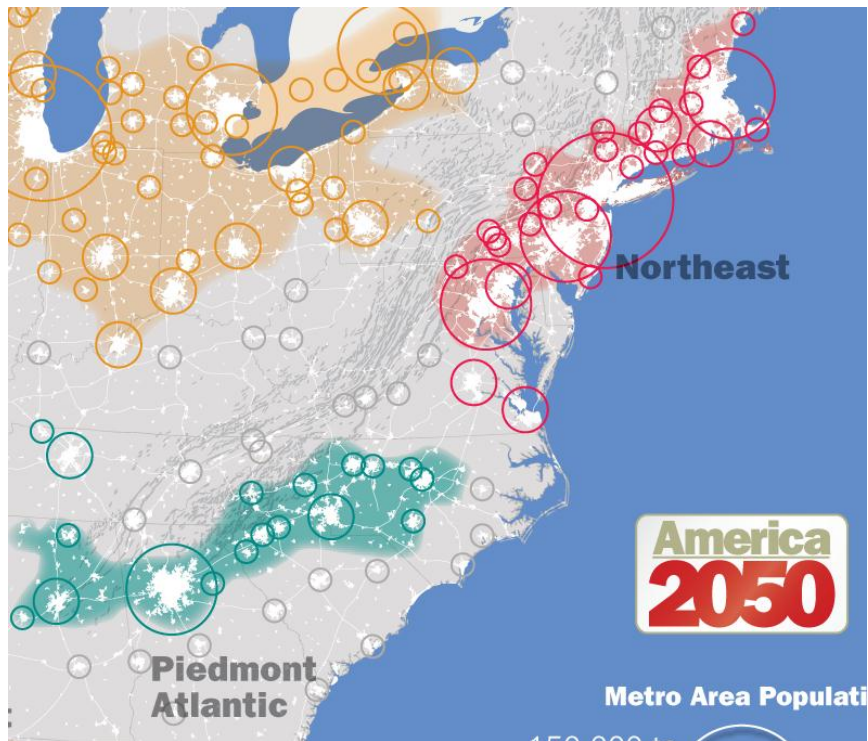
Southern mid-Atlantic region

- High speed rail often part of “megaregions” discussion

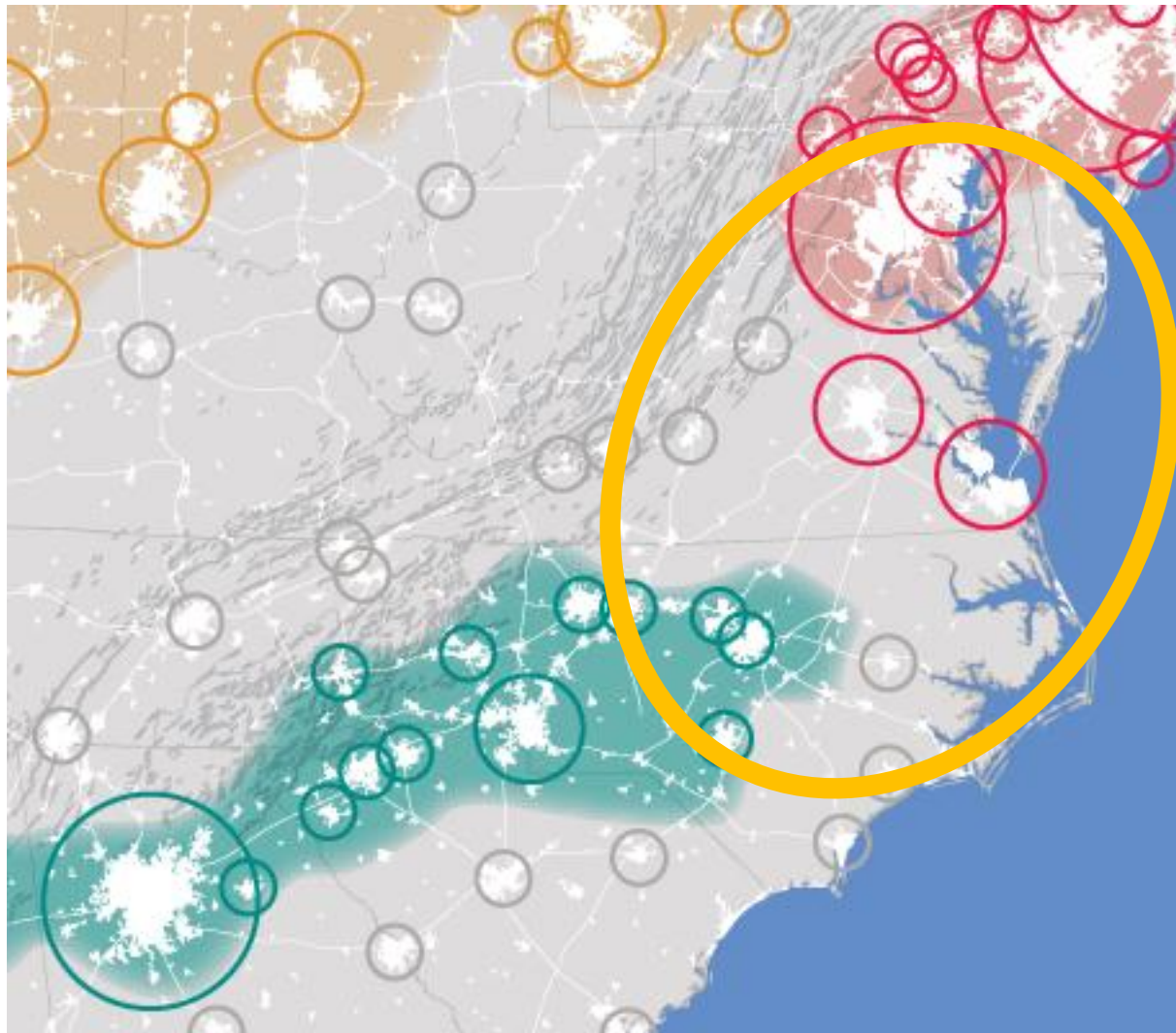


Southern mid-Atlantic region

- Southern Mid-Atlantic area often “lost” between two East Coast “megaregions”

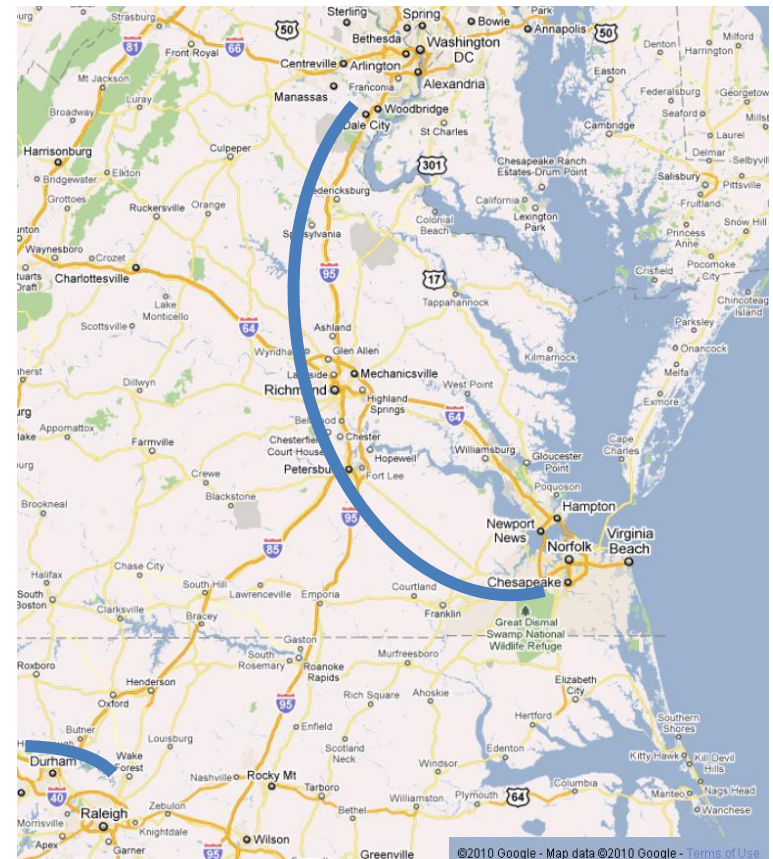


Southern mid-Atlantic region



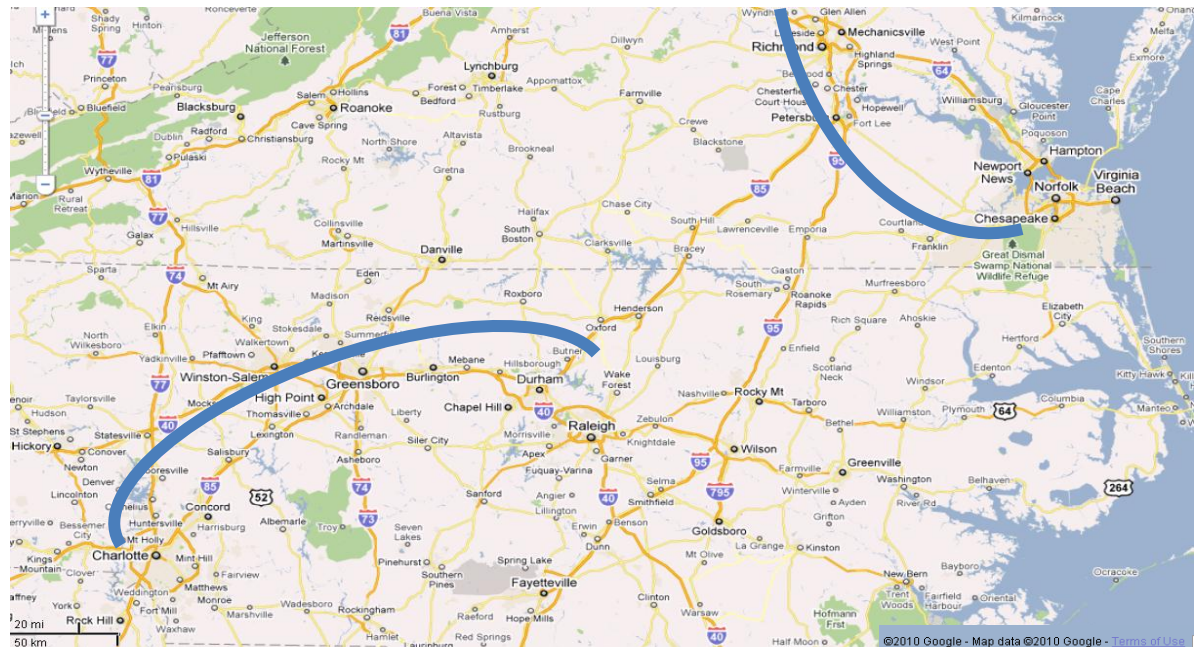
Virginia urban crescent

- VA powered by urban economic crescent
 - 200 mile arc from Hampton Roads to Richmond to Northern Virginia near Washington, DC

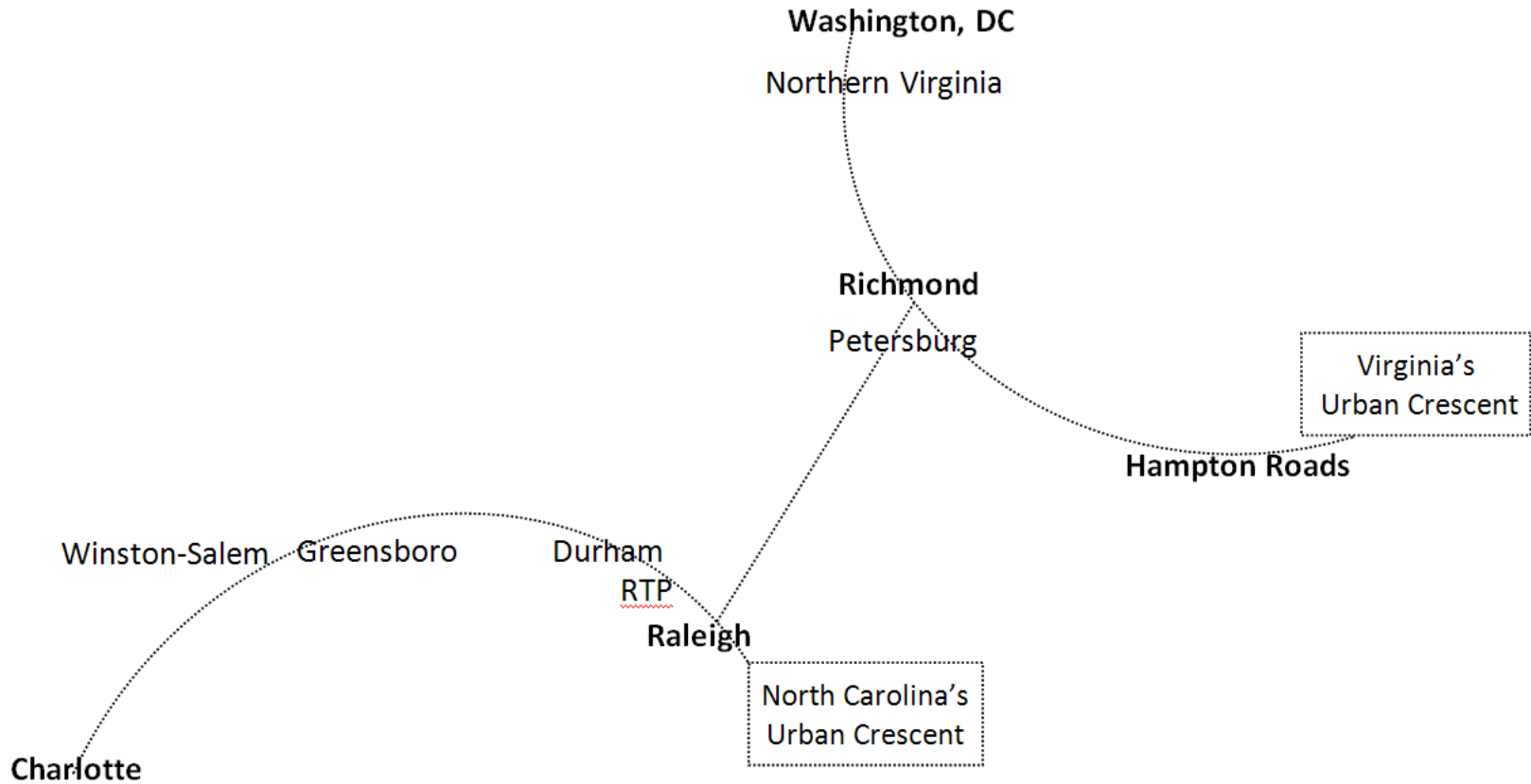


North Carolina urban crescent

- NC powered by urban piedmont economic crescent
 - 200 mile arc from Charlotte, to Winston-Salem and Greensboro, to Durham, Research Triangle Park (RTP), and Raleigh



Opportunity to Connect the Capitals and Join the Job Crescents



Richmond, Raleigh, Hampton Roads

- Two urban crescents are separated by around 150 miles
- Three regions – Research Triangle, Richmond, Hampton Roads – each only around 100-200 miles apart
- All VA-NC cities in twin urban crescents less than 500 miles apart
- Raleigh is about 500 miles from New York City
- Rail can be competitive with driving and flying from multiple southern mid-Atlantic cities

Richmond, Raleigh, Hampton Roads

To DC from Richmond, Research Triangle, Hampton Roads

- Each area does have direct flights to Washington, DC
- Flying experience to DCA, IAD, or BWI and then ground transportation to Downtown DC not always delightful
- Total center city-to-center city travel time = 3+ hours
- Rail from Richmond to DC is already faster than flying
- Rail from Research Triangle or Hampton Roads to DC would be a viable option at any reasonable rail speed

Richmond, Raleigh, Hampton Roads

Among Richmond, Res. Triangle, Hampton Roads, N. Va

- Driving often reasonable, at least south of Fredericksburg
- 70 MPH in VA, NC on parts of I-64, I-295, I-95, US 64 helpful
- Driving often not pleasant north of Spotsylvania
- Hampton Roads Bridge Tunnel and I-64 can be character-building
- Congestion or not, rail travel can be productive time, driving less so

Mid-Atlantic Area rail improvements

- Richmond-Petersburg Raleigh shortcut
- Richmond-Washington, DC improvements
- Richmond-Petersburg-Norfolk Southeast Corridor extension
- Northeast Corridor (NEC) itself
- Each improvement helps the others and creates network benefits

Richmond-Petersburg-Raleigh

- **Excellent business case**
- Strong, achievable top speed
- Very strong average speeds
- Creates new, more direct connections
- Builds upon excellent ridership foundation today
- No operating subsidy required
- Purposeful, incremental, scalable
- Compatible with freight

Richmond-Petersburg-Raleigh

- **Strong, achievable top speed**
- Not 220 MPH top speeds
- Not even 150 MPH speeds, but geometry allows it
 - With future change in propulsion and tilt (“cant”)
- **Top speed is 110 MPH to start with**
- Gets us started quite effectively
- Does not compromise our future

Richmond-Petersburg-Raleigh

- **Very strong average speeds**
- 110 MPH top speed south of Petersburg
- 86 MPH average speed over entire length
- Compares favorably with NEC mainline today
 - Washington-New York: 86 MPH avg. speed today
 - Washington-Boston: 62 MPH avg. speed today

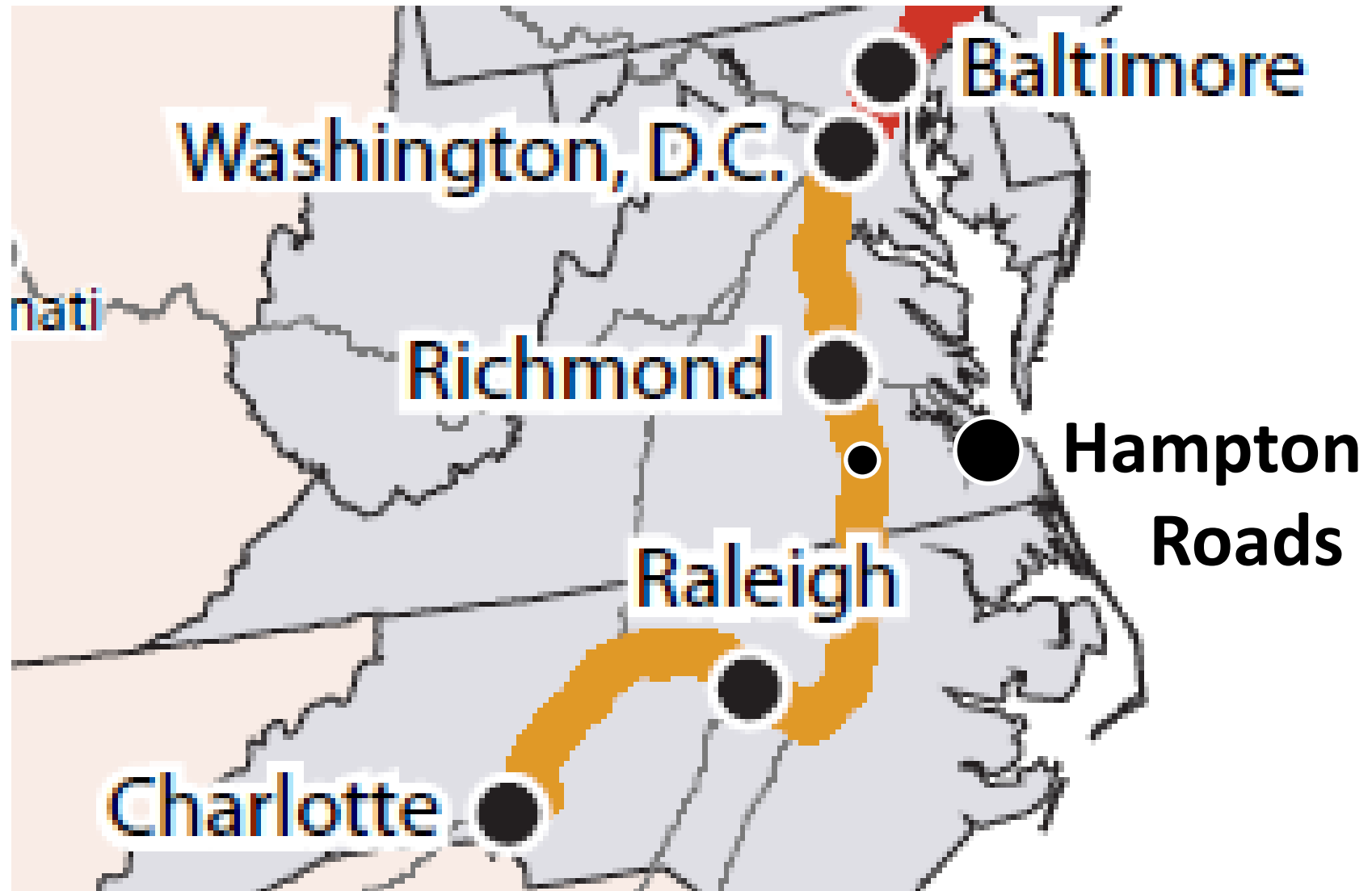
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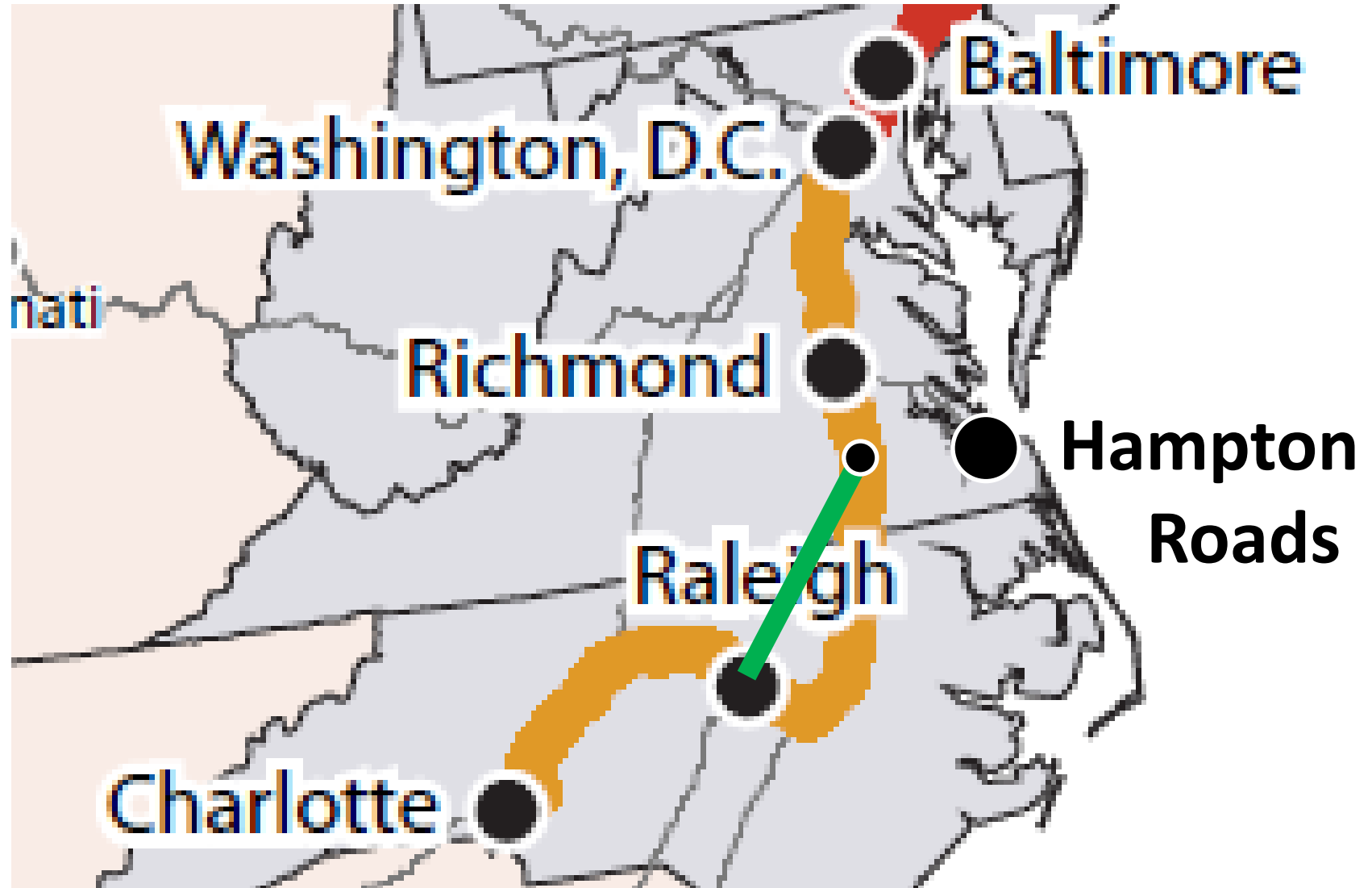
Richmond-Petersburg-Raleigh

- **Creates new, more direct connections**
- New route improves Richmond-Raleigh rail link
 - New route will be **more than 30 miles shorter** (i.e., 161 miles vs. 192 miles)
 - New route will be **nearly 2 hours shorter**
 - Raleigh will actually be slightly closer to Richmond than Charlotte (rail mileage) upon opening
 - No direct flights between Raleigh and Richmond today

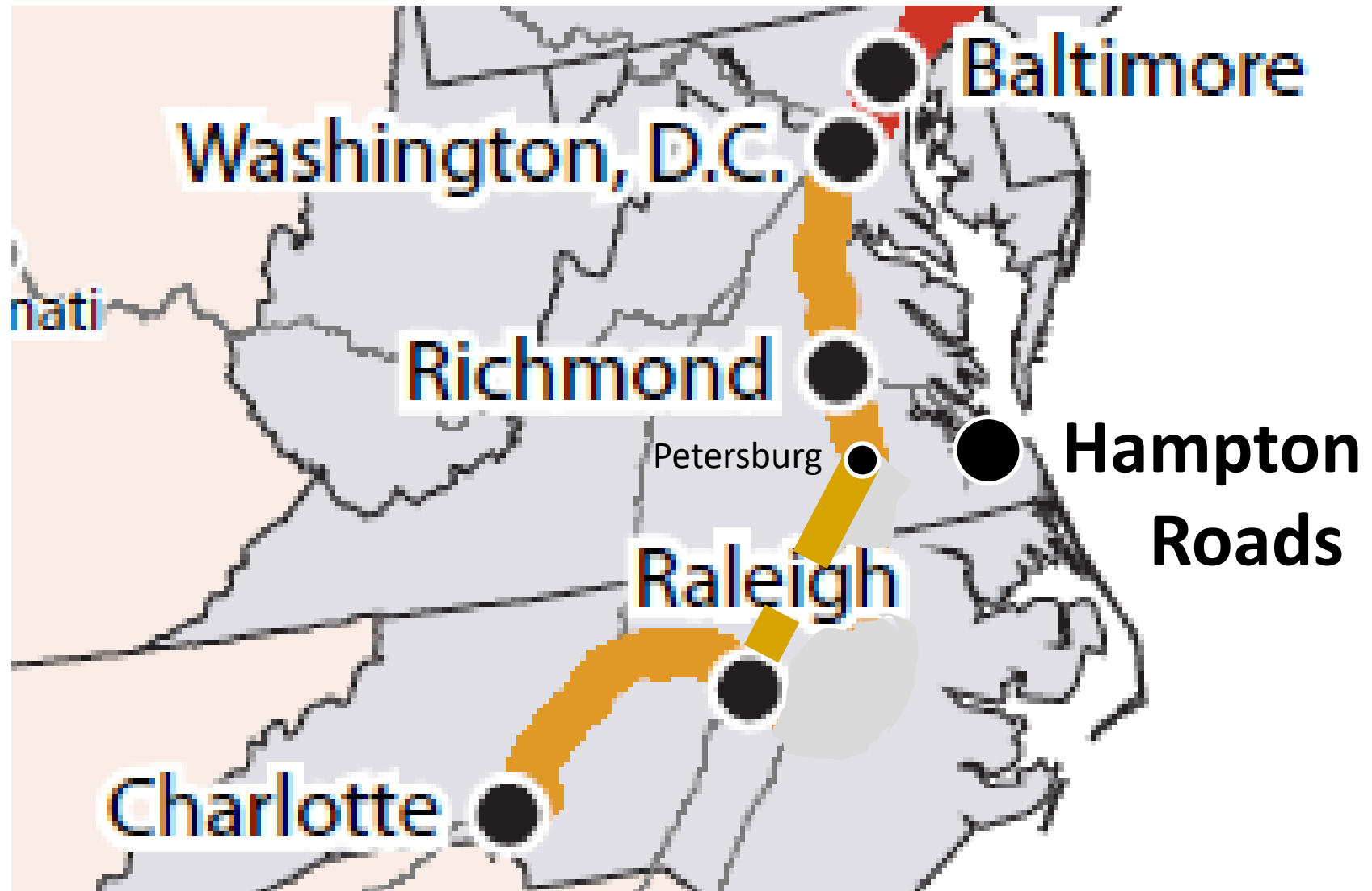
Richmond-Raleigh shortcut



Richmond-Raleigh shortcut



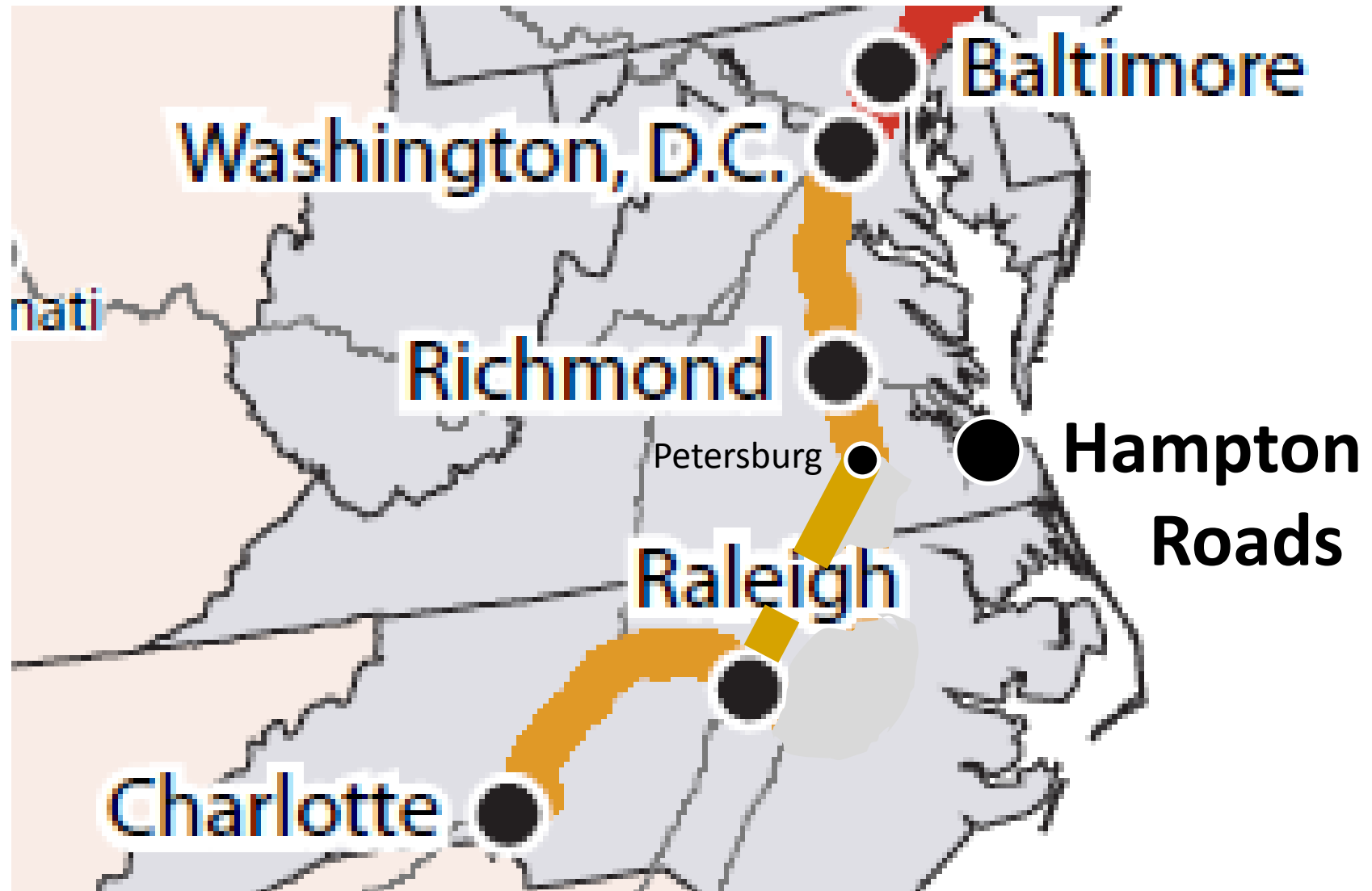
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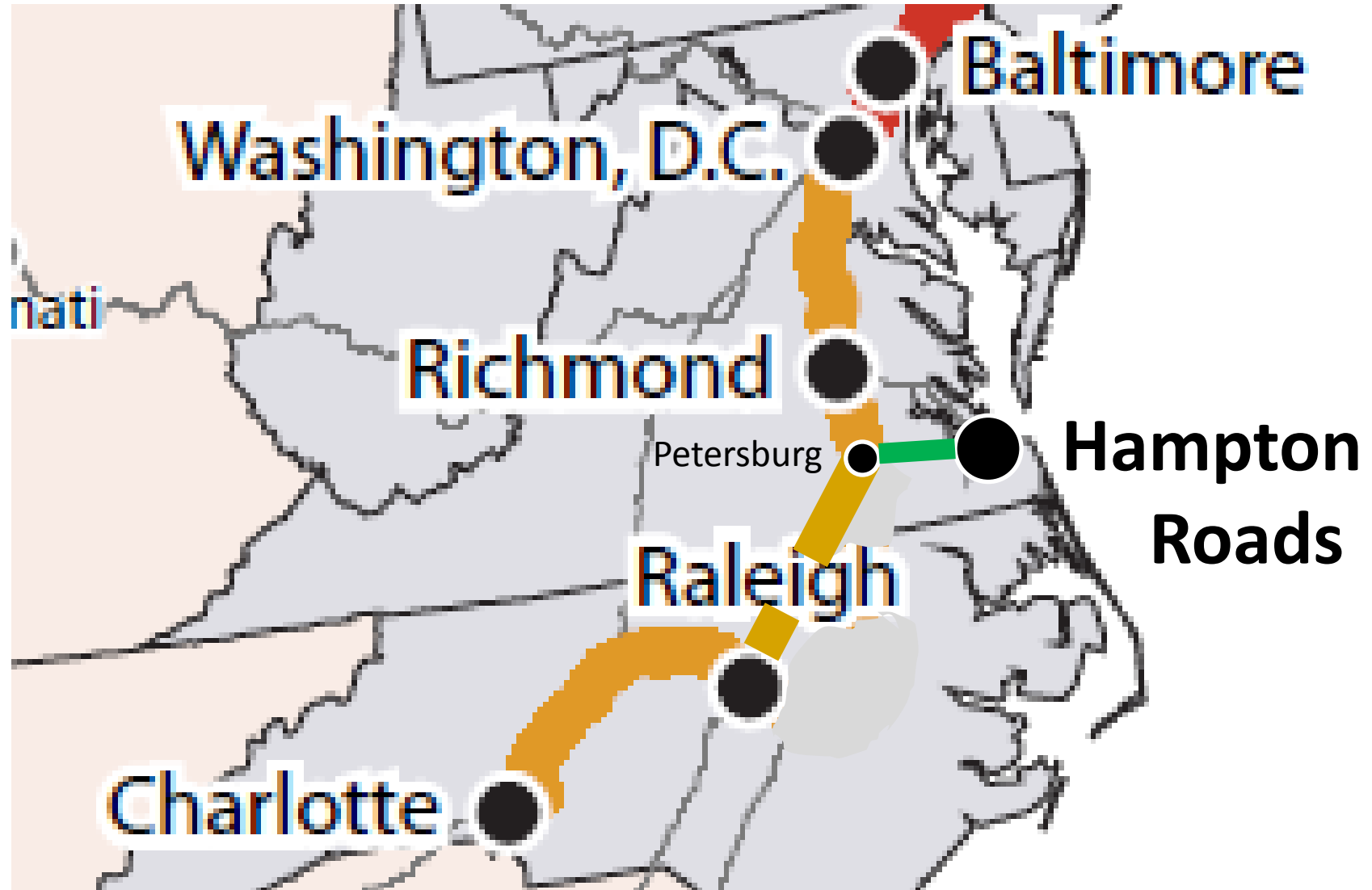
Richmond-Petersburg-Raleigh

- **Creates new, more direct connections**
- Connects at Petersburg with upcoming conventional service to Hampton Roads
- **Creates possibility of connecting Hampton Roads to Raleigh with rail** via Petersburg
- No direct flights between Raleigh and Hampton Roads today

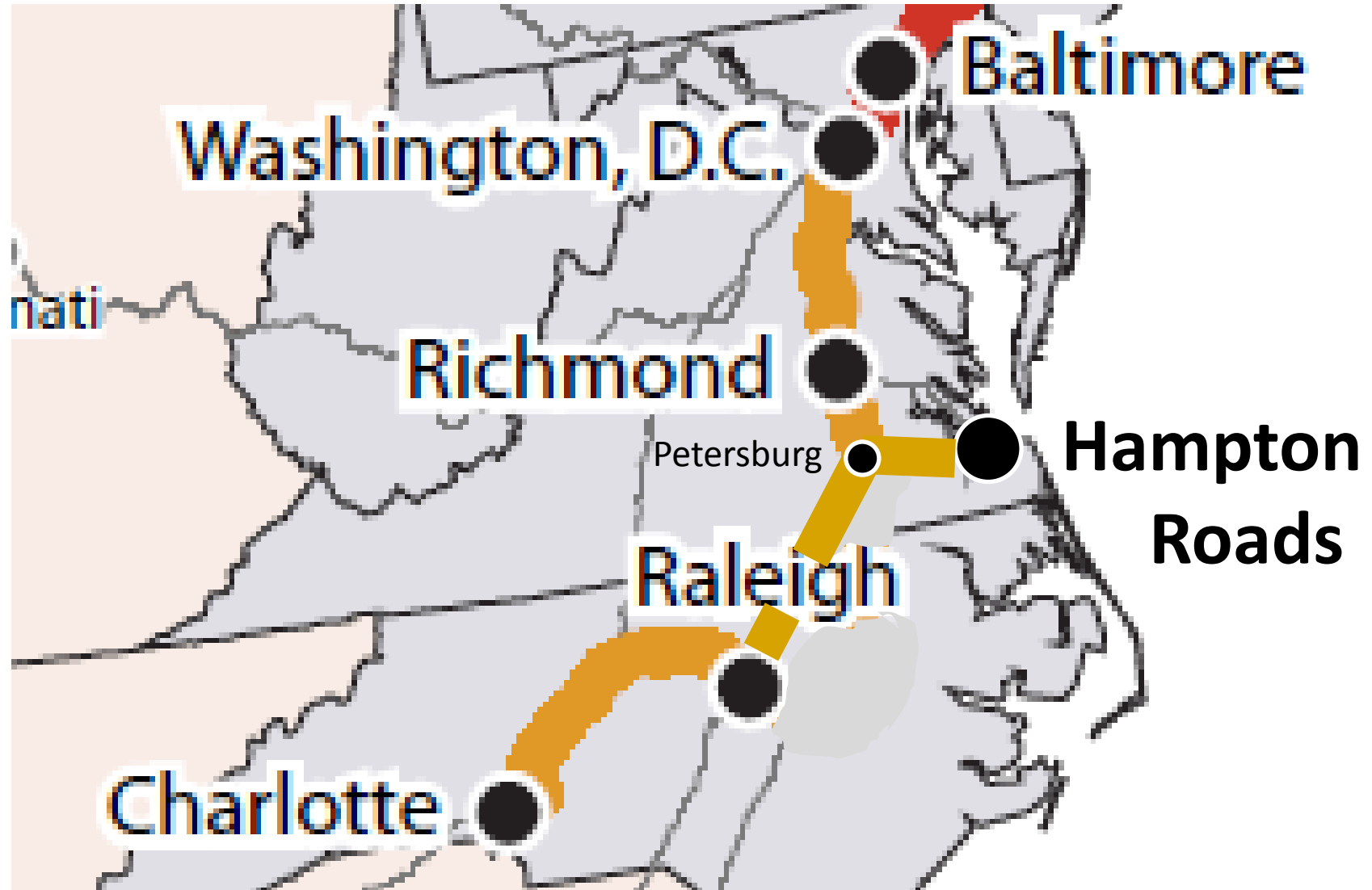
SE corridor extension to Hampton Roads



SE corridor extension to Hampton Roads



SE corridor extension to Hampton Roads



Richmond-Petersburg-Raleigh

- **Builds upon excellent ridership foundation today**
- Carolinian connects Charlotte-Raleigh-Richmond-Washington, DC to New York City
- Carolinian already has 2nd-highest performance rating of any train on Amtrak system *(JI '09-Je '11)*
 - Carolinian 278 passenger-miles per train-mile
 - Acela Express 187 passenger-miles per train-mile
 - NE Regional 195 *(Boston-Washington core)*
 - NE Regional 234 *(via Richmond, Newport News)*
 - AutoTrain 349 *(Lorton, VA to Sanford, FL)*

America 2050 study, January 2011

- Study of corridor suitability to attract ridership
 - Population, employment, transit, air travel markets
- Examined more than 7500 corridors
 - Corridors: city pairs **plus** intermediate cities
- Rail trips can pick up intermediate passengers
 - Planes can too, but the time cost is immense
 - Analysis considered “network effects”

America 2050 study, January 2011

- Washington, DC – New York City: score of 20.15
 - Washington-Baltimore-Philadelphia-New York
 - *Only corridor score above 20 in entire report*
 - *Corridor scores above 19 = top 1% in nation*
 - *Corridor scores above 17 = top 10% in nation*

America 2050 study

- Washington, DC – New York City 20.15
- Boston – New York City 19.87
- Washington, DC – New York City 19.81
- Los Angeles – San Diego 19.62
- Chicago – Milwaukee 19.38
- Los Angeles – San Francisco 17.98
- Seattle – Portland 17.37

America 2050 study

- Washington, DC – Richmond 18.31
- Washington, DC – Raleigh 15.74
- Charlotte – Atlanta 15.68
- Washington, DC – Charlotte 15.16
- Tampa – Orlando 13.63

Corridor scores above 17 = top 10% in nation

America 2050 study

• New York City – Raleigh	19.02
• Washington, DC – Richmond	18.31
• Washington, DC – Raleigh	15.74
• Charlotte – Atlanta	15.68
• Washington, DC – Charlotte	15.16
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Corridor scores above 19 = top 1% in nation

Richmond-Petersburg-Raleigh

- **No operating subsidy anticipated**
- More than 75% operating cost recovery today on existing Carolinian service from Charlotte-NYC
- New VA-NC route will be **more than 30 mi shorter**
- New VA-NC route will be **nearly 2 hours shorter**
- Completed SE Corridor will increase NEC revenues by more than 15%

Richmond-Petersburg-Raleigh

- **Purposeful, incremental, scalable**
- **Not electrified to start with**
 - Diesel engines can still get to 110 MPH top speeds
- Vertical clearances allow future electrification
- Minimizes initial construction costs
- Does not compromise our future

Richmond-Petersburg-Raleigh

- **Purposeful, incremental, scalable**
- **Not double-tracked to start with**
 - Single tracked, with long passing sidings
- Design allows for future double-tracking
- Minimizes initial construction costs
- Does not compromise our future

Richmond-Petersburg-Raleigh

- **Purposeful, incremental, scalable**
- **No at-grade crossings from day one**
 - NEC Washington-New York: no at-grade crossings
- Better for safety, operations, emissions, reliability
- Building it right the first time saves money later
- Does not compromise our future

Richmond-Petersburg-Raleigh

- **Purposeful, incremental, scalable**
- **Compatible with freight**
- Vertical clearances allow for double-stacking
- Higher-speed, intermodal operation possible
- Economic development opportunity
- Potential for a better future for Southside VA and northern NC

Virginia and North Carolina

- **Compatible with freight**



James R. Van Derzee
Manager Industrial Development
CSX Transportation
1610 Forest Ave., Suite 120
Richmond, VA 23229

October 24, 2010

Mr. Joe Milazzo
Executive Director
Regional Transportation Alliance
PO Box 2978
Raleigh, NC 27602

Subject: Raleigh, NC to Richmond, VA Passenger Rail

Dear Mr. Milazzo:

Freight railroads move approximately 43% of the of the freight-ton miles in the United States, and their role is critical to our economy. Furthermore, demand for rail freight transportation is growing, while availability of rail-served sites is diminishing.

It is often the case that passenger rail service inhibits the ability of freight railroads to grow freight capacity and offer rail-served sites to new industries. However, from my Industrial Development perspective, I do not believe that would be the case with the development of passenger rail service on the proposed route between Raleigh, NC and Richmond, VA.

This project would reactivate 65 miles of railroad between Norlina, NC and Petersburg, VA, creating the potential for new freight service to sites along that route. This could bring significant economic development opportunities to the communities along that route.

In addition, increasing the 25 mph speed restriction along the existing CSX line from Raleigh, NC to Norlina, NC would improve CSX's efficiency in serving that territory.

The expansion of passenger rail can be beneficial to the public, but only if it is developed in a way that does not negatively impact the movement of rail freight. I appreciate your consideration of the freight impact of new passenger rail service, and I am looking forward to assisting you with this.

Sincerely,

A handwritten signature in cursive script that reads "James R. Van Derzee".

James R. Van Derzee

Virginia and North Carolina

- **Compatible with freight**



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Business focus on higher speed rail

- Partner with Class I railroads to maintain or improve integrity of our freight rail networks
- Support the Richmond-Raleigh shortcut to connect the capitals and join the job crescents
- Support Richmond-Washington improvements which link the NEC to the Southeast Corridor
- Recognize that Hampton Roads is a critical extension of the Southeast Corridor, and furthers our network benefits

Business focus on higher speed rail

- Leverage the \$0.5b in Raleigh-Charlotte rail improvements into new ridership and new routes
- Support Northeast Corridor (NEC) improvements
- Continue to seek additional federal investments
- Support reallocations to VA and NC from other states when opportunities arise
- Explore public-private partnerships and value capture mechanisms

Business focus on higher speed rail

- The business communities in our respective regions pledge to work together to advance intercity rail
- VA, NC must continue to work together to create and enhance critical links and join and strengthen our job crescents
- Potential showcase rail corridor for America
- We must speak to the benefits of the corridor
- And we must speak with one voice

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