NEW YORK to Boston or D.C.: 96 Minutes
High Speed Rail in the USA

Agenda:

• Amtrak Overview

• The Administration’s HSR Initiative

• Greenfield project development

• NEC Vision and “Stair step” Advancement

• NEC Business and Financial Plan RFP

• Next Gen Peer review results
Amtrak – We Improve the Quality of Life for Many People

- National railroad: May 1, 1971 Congressionally chartered corporation

- 20,000 employees operate a 21,100 mile system
  - 310 daily intercity trains using 528 stations [70% of our train-miles run on freight tracks]
  - 1,519 cars and 469 locomotives, 80 auto carriers, and 101 baggage cars
  - 60% of trains operate at top speeds in excess of 90 mph (145 kph)

- The Acela Express is the fastest train in the Western Hemisphere, with a max. speed of 150 mph (241 kph) and recovers 169% of operating expense

- Amtrak operates 27 million of its train miles (over 70%) over host railroads
  - six largest host railroads are:
    - BNSF 6.8 M, Union Pacific 6.19 M, CSX 5.90 M, NS 2.49 M, CN 1.46 M, Metro North 1.34 M
    - F09 Fees exceeded $121 million.

- Amtrak generated total of $2.51 billion in revenues in FY 10 (incl. ancillary business). Federal funding for Amtrak slightly less than $1.6 billion in FY 10
  - 6 years of growth (FY 03-08)

- New Amtrak HSR Department Established 2010 for:
  - Greenfield projects - participate in design and operation of new HSR corridors together with public and private sector
  - Lead Next-Gen HSR development on the Northeast Corridor
Farebox* Recovery of American Passenger Rail Providers

*Percentage of costs covered from ticket revenues; other income sources may raise this (e.g., Amtrak covers ~85% of costs from revenue)

Sources: Amtrak, APTA

National Division Officers Conference
Al Engel, May 25, 2011
NEC Rail Captures Larger Share

- We’re operating a vital transportation link that can reach 150 mph – but the challenges are mounting
- We’re also running out of capacity – but demand continues to grow
- How do we solve these problems – and how do we grow?

Acela service introduced – 86% growth in South End ridership between FY 2000 and FY 2010

Acela service, electrification, and 125 mph Regional service introduced – 160% growth in North End ridership between FY 2000 and FY 2010
Amtrak’s Northeast Corridor – A Complex Operation

• 153 of Amtrak’s 305 daily trains, plus more than **1,800** daily commuter trains

• Carries more than 722,000 riders every day! (Amtrak plus commuters)

• We own (and maintain) 363 of the 457 route-miles
  – 17 tunnels (six underwater tunnels to access Manhattan)
  – 1,186 bridges (14 of them moveable)

• Top speeds of 150 mph for Acela Express and 125 mph for Northeast Regionals
Major Infrastructure Components at Least a Century Old

- **Connecticut River Bridge**
  - Built in 1873
  - Cost to replace: $1.2 billion
  - Major bottleneck
  - 30 mph speed restriction
  - Water infiltration problems

- **Portal Bridge**
  - Built in 1907
  - Cost to replace: $225 million
  - Most active – 4K openings/yr
  - Fatigue issues

- **Pelham Bay Bridge**
  - Built in 1906
  - Cost to replace: $100 million
  - 2nd most active
  - Reliability & fatigue issues

- **Susquehanna River Bridge**
  - Built in 1906
  - Cost to replace: $550 million
  - SOGR and capacity needs

- **Niantic River Bridge**
  - Built in 1907
  - Cost to replace: $225 million
  - Most active – 4K openings/yr
  - Fatigue issues

- **B&P Tunnel**
  - Built in 1873
  - Cost to replace: $1.2 billion
  - Major bottleneck
  - 30 mph speed restriction
  - Water infiltration problems

- **Replacement Proceeding**
Infrastructure Condition and Capacity Constrain Operations

- Greatest operational challenge on the NEC
  - Density (NJT, Amtrak)
  - Operating geography
  - Infrastructure age
- Service disruptions here ripple through the system, causing further disruptions at distant terminals:
  - Miami
  - Chicago
  - New Orleans

North River Tunnels (1910) – Weehawken Portal

- North River Tunnels
- Portal Bridge
- 70 mph speed restriction
- 90 mph territory
- 90 mph territory
- 90 mph territory
- 75 mph territory
- 60 mph speed restriction
- Newark Penn Station
- Manhattan
- At peak, 1 train enters tunnel every 150 seconds
How Did It Get to Be This Way?

Federal Investment in Transportation, 1949-2008
(2009 Constant Dollars. Time Axis Not to Scale.)

Source: U.S. DOT

Fiscal Year

30 40 50 60 70

Highway
Air
Intercity Passenger Rail


$ Billions

10

NECIP, Amfleet and Superliner buys

NEC sold to Amtrak

Amtrak formed

North End electrification
Our International Competitors Investing in HSR

Over 8000 miles of HSR now in operation globally
$53 billion Over 6 Years

Within 25 years, our goal is to give 80 percent of Americans access to high-speed rail.

–President Barack Obama, January 25, 2011

We cannot compromise. The rest of the world is not compromising... [high-speed rail] means America laying track for a better future.

–Vice President Joe Biden, February 8, 2011
Bold Vision and Proposal for US High Speed Rail

January 27, 2011

Chairman of House T&I Committee, John Mica holding a “Hearing on Northeast Corridor High-Speed Rail” at New York’s Grand Central Terminal, allowed that the NEC is “one of the most valuable and potentially productive federal assets in the United States.” He was not supportive of Obama 80/25 program or Amtrak’s NEC plan criticizing it as taking too long.

March 15, 2011 - Congressional Bicameral High Speed & IP Rail Caucus Launched

“My colleague and co-sponsor, Congresswoman Louise Slaughter (D-NY-28), and I share the goal of giving 80 percent of Americans access to high speed rail within 25 years,” - Senator Frank Lautenberg (D-NJ)

“As a long-time supporter of high-speed rail, I am pleased to join forces with Senator Durbin and my House colleagues to put America’s rail network on the fast track,” – Senator Frank Lautenberg (D-NJ)
6-Year Program Investment Modest vs. Competitors

*Average annual Federal/national expenditures or proposed expenditures for the given program years.

** Percent of GDP based on average annual Federal/national investment compared to that country's annual GDP in first year of the period shown. GDP figures used are: 2012 projected U.S. GDP, as estimated by the Congressional Budget Office (U.S. HSR System), 1963 U.S. GDP (U.S. Interstate System), 2009 Spain GDP (Spain HSR), and 2010 China official exchange rate GDP (China HSR).
Comprehensive Approach to Winning the Future

We need to out-innovate, out-educate, and out-build the rest of the world.

–President Barack Obama, January 25, 2011
FY 2012 Budget – Summary of Investments by Activity

Northeast Corridor State-of-Good Repair
$834M | 10%

Equipment Overhaul & Replacement
$1,208M | 15%

ADA
$1,184M | 15%

High-Speed Rail Infrastructure & Stations
$3,377M | 42%

National Network Service (e.g., congestion grants, long-distance capital and operations)
$785M | 10%

Other Activities (e.g., capacity-building, Amtrak legacy debt)
$658M | 8%

Total FY12 Investment: $8,046M
HS Corridor Development – $3,137M & Station Dev. – $240M

**OBJECTIVE:** To build a three-tiered national network of passenger rail corridors and link the system to communities by building modern intermodal stations connected to transit and other modes.

**Core Express** – Connect large urban areas up to 500 miles apart within 2-3 hours on electrified, dedicated track (125-250+ mph)

**Regional** – Connect mid-sized urban areas up to 500 miles apart with service on dedicated and shared track (90-125mph)

**Emerging** – Connect smaller communities with service on shared track (up to 90mph)

**Station Development** – Connect the passenger rail system to communities by building intermodal stations linked to transit and other modes.
Operations in 46 of the Lower 48 States

Long distance routes connect major hubs and corridor services.

- Cascades
- Chicago Hub
- Northeast Corridor (NEC)
- California corridors

Train Daily One-Way Frequencies:
- More than 15
- 9 to 15
- 4 to 7
- 2 to 3
- Daily Service
- 3 Trains per Week
- Suspended Service
HSR Opportunities in America

- Florida, project cancelled
  - Initial meeting held with Senator Nelson
  - Follow-up later in month

- California,
  - 220 mph service; 800 mile network
  - Prop 1A authorized $9.9B for 50/50 match of federal funds
  - $300 million new federal money; $3.5 B total HSIPR grants

- Northeast Corridor (NEC), EIS complete 2014
  - Amtrak “Vision II” study due July 2011
  - $795 million to upgrade some of the most heavily-used sections of the corridor

- Midwest (Midwest Regional Rail Initiative)
  - Siemens recently released HSR Economic Impact Study
  - $1.1B grant to raise speeds on St. Louis-Chicago line to 110mph
  - $404.1 million new federal money

- Areas with significant potential include:
  - Southeast (SEHSR); Texas; Western HSR Alliance
NEC and HSR - Regional Overview

- 2nd largest mega-region in the world
- Economic and political capital of the Americas
- 20% of US GDP
- Population density => Europe and 12 times US average
- 1400 route miles 12 states, DC
- 8 commuter operators
- Class 1 and regional freight
- Amtrak high speed, regional, long-distance

50 million people
(Northeast megaregion)

8 airports
12 ports
NEC Compares Favorably to Most Successful HSR Corridor

Population Distribution Comparison

(Unit: thousands)
Vision Beyond the Master Plan

- **NEC Master Plan ($52 Billion) : Goals**
  - Corridor to state-of-good repair
  - Maximize capacity and travel times in corridor
  - Continued shared-use railway operation (freight, commuter, regular and high-speed)

- **Projected Impacts on Operations**
  - Projected travel time gains
  - Maximized capacity of existing infrastructure

- **Travel Times**

<table>
<thead>
<tr>
<th>Route</th>
<th>Existing</th>
<th>Master Plan (2030)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYC - DC</td>
<td>2:42</td>
<td>2:15</td>
</tr>
<tr>
<td>NYC - BOS</td>
<td>3:35</td>
<td>3:08</td>
</tr>
</tbody>
</table>

  *Blue* = Existing, *Red* = Master Plan (2030)
Vision Beyond the Master Plan

• By 2030 Under NEC Master Plan:
  ▪ Capacity exceeded
  ▪ Limited ability to:
    ▪ Increase service
    ▪ Lower travel times
    ▪ Attract new riders

• NEC intercity travel demand will double by 2050

• Other NEC modes have limited growth potential

• Corridor needs new capacity to compete in worldwide economy
Next-Gen High-Speed Rail: Dramatic Trip Time Reductions

- World-Class High-Speed Network:
  - Dedicated 2-track alignment
  - 220 mph equipment
  - 40% - 60% travel-time reductions in key markets
  - Boston – Washington DC: from 6:30 to 3:20

<table>
<thead>
<tr>
<th>Route</th>
<th>Existing</th>
<th>Master Plan (2030)</th>
<th>Next-Gen HSR Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYC - DC</td>
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<td>2:15</td>
<td>1:36</td>
</tr>
<tr>
<td>NYC - BOS</td>
<td>3:35</td>
<td>3:08</td>
<td>1:24</td>
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</table>

Existing Master Plan (2030) Next-Gen HSR Plan

AMTRAK®
Next-Gen High-Speed Rail: Significant Service Growth

- Higher average number of departures (2040)
- Higher average speeds (including stops)

### Service Departures (Each Direction)

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>Next-Gen HSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hourly</td>
<td>1</td>
<td>3-4</td>
</tr>
<tr>
<td>Daily</td>
<td>10-15</td>
<td>53-73</td>
</tr>
</tbody>
</table>

### Average Speeds (Super Express)

<table>
<thead>
<tr>
<th>Route</th>
<th>Current</th>
<th>Next-Gen HSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYC - BOS</td>
<td>65 mph</td>
<td>148 mph</td>
</tr>
<tr>
<td>NYC - DC</td>
<td>85 mph</td>
<td>137 mph</td>
</tr>
</tbody>
</table>

- Significant capacity for future growth (only 25% of capacity utilized in 2040)
Potential Alignments: Boston - New York City

Challenges
- Boston to New York alignment poses difficult challenges
- Capacity limits on New Haven Line
- Curvature, capacity and environmental concerns on Shore Line (New Haven to Mass. state line)

Analyzed Alignment
- Diverges north of New Rochelle to serve Conn. and RI
- Converges with NEC alignment at Rt. 128 station in Mass.

“Analyzed Alignment” used for costing and analysis purposes, subject to further analysis in next phase

Challenges
- Utilize existing NEC corridor where possible
- Providing service to built-up CBD areas in key cities

Analyzed Alignment
- Substantially parallels NEC
- New stations in Baltimore and Philadelphia more centrally located

“Analyzed Alignment’ used for costing and analysis purposes, subject to further analysis in next phase
Comprehensive Service Plan: Routes & Stations

Next-Gen HSR Services

- Super-Express
- Express
- Shoreline Express
- Keystone Express
Infrastructure and Rolling Stock

Infrastructure

• Dedicated 2-track system
• Minimum 4 tracks at stations (turns & passing moves)
• Heavy use of tunnels & structures to meet alignment requirements, minimize impacts

Rolling Stock

• Similar to Acela but 8 vs. 6 cars
• 400-passenger capacity
• Speeds up to 350 kph
• EMU-style distributed power, bi-level consists also possible
Stations and Facilities

Stations

• Modern, spacious designs
• Safety and security features
• Convenient multi-modal connections
• Energy-efficient, green buildings
• Design coordinated with local community context & plans
• Public /private partnerships, commercial and residential development possibilities

Facilities

• Maintenance / crew base facilities in Boston and Washington
• Four infrastructure maintenance facilities
• State-of-the-art design to enhance working conditions and productivity
Quantum Leap in Ridership

- Huge ridership growth over Master Plan: 2020 to 2040
  - Master Plan:
    - 16 million to 23 million (+46%)
  - Next-Gen HSR Plan:
    - 16 million to 34 million (+111%)

Next-Gen Compared to Master Plan

<table>
<thead>
<tr>
<th>Year</th>
<th>Master Plan</th>
<th>Next Gen</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>2030</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>2040</td>
<td>23</td>
<td>34</td>
</tr>
<tr>
<td>2050</td>
<td>25</td>
<td>38</td>
</tr>
</tbody>
</table>
Quantum Leap in Ridership and Revenue

• Major growth in premium service’s share of NEC ridership (2040)

Premium Ridership (2040)
- Master Plan (Acela): 6.5 million (28%)
- Next-Gen HSR Plan: 18 million (52%)

• Result: Next-Gen HSR Plan would raise revenues more than ridership

Ridership by Type of Service

Total NEC Ridership & Revenues (2040)

<table>
<thead>
<tr>
<th></th>
<th>Master Plan</th>
<th>Next-Gen HSR Plan</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ridership (Millions)</td>
<td>23.4</td>
<td>33.7</td>
<td>10.3 44%</td>
</tr>
<tr>
<td>Passenger Fares (Billions)</td>
<td>$1.84</td>
<td>$3.29</td>
<td>$1.45 79%</td>
</tr>
</tbody>
</table>
Operating Surplus Exceeds $900 Million

• Next-Gen HSR operations generates $928 million annual surplus

• Costs include:
  • O&M costs
  • Capital Renewal (infrastructure & rolling stock): long-term equipment & capital repair

• Employment Opportunities:
  • 44,000 full-time jobs annually over a 25 year for construction
  • 120,000 permanent jobs
  • 7,100 new rail operations jobs
Capital Investment Costs

• $117 Billion (in $2010)
  • Equivalent of $4.7 Billion annually over 25 years of construction
  • $172 million/km for infrastructure, stations, facilities
  • 55 train sets @ $51 million each

• Phasing of Construction
  • Four phases over the 2015 to 2040 period
  • Phase 4 (2024 – 2040): New York to Boston
Positive Return On Investment

- Next-Gen HSR system Benefits (financial, economic, social) exceed Costs by 2-to-1
- Even at conservative 7% discount rate reaches 1.1 B/C
- Similar to 1.03 B/C value for NEC HSR in FRA 1997 Study

### Benefit / Cost Ratio of Next-Gen HSR Investment

<table>
<thead>
<tr>
<th></th>
<th>Billions of Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Cost</td>
<td>$72.8</td>
</tr>
<tr>
<td>Credit for Residual Project Value</td>
<td>$20.3</td>
</tr>
<tr>
<td>Credit for Avoidable Master Plan Costs</td>
<td>$8.3</td>
</tr>
<tr>
<td>Net Project Cost</td>
<td>$44.2</td>
</tr>
<tr>
<td>Benefits of Investment</td>
<td></td>
</tr>
<tr>
<td>Travel Time &amp; Costs &amp; Safety</td>
<td>$16.1</td>
</tr>
<tr>
<td>Energy and Emissions</td>
<td>$1.3</td>
</tr>
<tr>
<td>Economic Productivity Benefits</td>
<td>$23.8</td>
</tr>
<tr>
<td>Operating Surplus</td>
<td>$11.0</td>
</tr>
<tr>
<td>Highway and Air System Benefits</td>
<td>$21.6</td>
</tr>
<tr>
<td>Commuter Systems and Use Benefits</td>
<td>$26.5</td>
</tr>
<tr>
<td><strong>Total Benefits of Investment</strong></td>
<td><strong>$100.2</strong></td>
</tr>
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</table>

**Benefits / Cost Ratio** 2.27
Next-Gen HSR and Amtrak’s Corporate Goals

• **Safer**
  - Fast, safe and secure rail travel
  - Fewer highway accidents

• **Greener**
  - Reduces energy use, emissions
  - Supports dense, smart urban development patterns
  - Strengthens existing commuter and transit systems and riders

• **Healthier**
  - Comfortable, convenient travel supports affordable, livable & sustainable communities
  - Minimize land area needed to meet future travel demand
Next-Gen HSR and Highway Capacities

• NEC HSR System Capacity
  • Up to 50 million annual passengers
  • Up to 8,000 passengers/hr. in each direction
  • 2040 service plan = ~25% of capacity

• Highway Equivalent
  • 8,000 travelers/hr. = 5,300 cars
  • Requires 3 highway lanes in each direction

• Difference
  • Speed
  • Direct downtown-to-downtown connection
  • Less energy and emissions
Next-Gen HSR: Energy & Environmental Gains

• Reduced Highway Travel
  • 1.3 million km of highway travel avoided annually
  • 143 million liters of gas saved

• Reduced Emissions
  • 97,000 metric ton reduction in greenhouse gas

• Supports Sustainable, Energy Efficient Growth
  • Downtown station locations
  • Tie-in to regional and local transit systems
  • Frees capacity for commuter rail operations and increased ridership
Moving Forward

• Agency and Public Involvement Process
  ▪ Initial presentations and discussions during roll-out phase
  ▪ Continue throughout planning and engineering study phases

• Private Sector Engagement
  • Seek partners for joint development
  • Approach airlines on partnering opportunities

• Advanced Planning, Engineering and Environmental Studies
  • Analyze possible alternative alignments, stations, phasing, etc.
  • Environmental analyses and documentation.

• Coordination with Other Land Use and Transportation Plans
  • Consistent with local, regional plans along corridor
  • Engage private sector on joint development opportunities

• Funding & Preliminary and Final Design Process
  • Establish financial mechanisms to develop system
  • Start design process

• Project Construction and Operation
  • Phase construction with existing NEC operations
  • Next-Gen HSR services introduced as segments completed.
International Peer Review Highlights

• Travel Demand Market Analysis:
  - All reviewers mention that there is potential to capture a much higher market share in the NEC than proposed in the report.
  - One reviewer estimates that Next-Gen HSR can have a total intercity (air and car) market share of 25% between NYC and WAS (21% est) and 40% between NYC and BOS (20% est).

• Ridership & Revenue Forecasts:
  - Most reviewers note that ridership numbers seem very low in the report.
  - All reviewers recommend implementing a ridership and revenue forecast study to verify assumptions used in the operational plan.

• Capital Cost Estimate Methodology:
  - All reviewers mention that the project capital costs are higher than their own estimates.
  - Reviewers also note that design, construction, operations and maintenance costs all decrease as HSR technologies advance (i.e. Spain, China).
NEC HSR Developments Since Vision Rollout (Sept 2010)

• Gateway Project announced
  – New tunnels under the Hudson River to NY Penn Station
  – Replacement of Portal Bridge over Hackensack River
  – Expansion of NY Penn Station

• Plan to increase *Acela Express* capacity 40% (6 to 8 coaches) with new equipment procurement to begin in FY 2012

• NEC designated an FRA eligible HSR Corridor

• RFP for private financing issued

• $450 million awarded for improvements to support 160 mph service

• Amtrak named a partner in the 8th World Congress on HSR to be held in the U.S. in 2012
18 Members

- States (per PRIIA)
- FRA
- Amtrak
- Freight / Commuter (non-voting)
- Finance Committee
- Infrastructure Committee

Last Meeting March 23, 2011, Wilmington, Delaware

- Goals adopted, Executive director introduced, HS&IPR NEC April 4th application coordination
- Next meeting: Boston June 2011
Moving Forward – NEC Stair Step to Next-Gen HSR Vision

- Acela II Fleet Doubles Capacity
- 160 mph Service South of NYC
- NEC Gateway: Newark to NYC
- Next Gen HSR IOS: NYC to PHL
- Next Gen HSR South to Wash D.C.
- Next Gen HSR North to Hartford
- Next Gen HSR to Boston

Fast-Track HSR Program

Full Next-Gen HSR Network
Initial “Fast-Track” (2022)

- “Gateway” Project from NJ into Moynihan Station
- Next-Gen HSR IOS – Newark to Frankford Junction
- Master Plan Improvements – Philadelphia to Wash. DC
Gateway Project

PENN STATION NEWARK to MOYNIHAN/PENN STATION

GATEWAY PROJECT
NEW NORTHEAST CORRIDOR TRACK / TUNNEL / STATION CAPACITY - NEWARK to NEW YORK
• Portal Bridge Replacement – $570 million ($150M NJ match) for construction

• New Tunnels under Hudson River – $150 million for PE & EIS

• Penn Station Expansion – $50 million for PE

• NEC Power, Signal, and Catenary Improvements – $450 million for design & construction

• Pelham Bay Bridge Replacement – $15 million for PE

$1.4 Billion Total
Engaging Private Sector Investment

Purpose of Business and Financial Plan:
“Develop an in-depth Strategic Plan to finance the construction and acquisition of the infrastructure and equipment required to initiate HSR service in the NEC.”

Parameters:
- Amtrak as the key developer and operator of the system
  - With partners and the support of vendors

Outcomes:
- Develop a “roadmap” strategy on how to fund and/or finance the development of true, world class high speed rail service
  - Define the optimal Federal role
  - Maximize opportunities for private investment
  - Outline the options for financial involvement of other governmental stakeholders (states, cities, public authorities)
- Inform Amtrak’s 2013 federal budget request

Schedule:
- RFP issued in April; Proposals due mid-June
- Final report due second quarter of CY2012
Amtrak plans call for upgrading capacity and speeds to achieve 160 mph, up from 135 mph currently, on a heavily used section of the corridor from New Brunswick to Trenton and immediately south to Morrisville, PA. The improvements would make this 24-mile stretch the most advanced passenger rail facility in the U.S. today, and help set the stage for continued expansion of high-speed rail as well as improved commuter rail services on the NEC.
NEC High Speed Rail Improvements - $450 Million Project

Racetrack Project Elements:

• Upgrades to NY Penn Station and Interlockings
  ▪ Upgrade “A” interlocking in Penn Station to improve throughput
  ▪ Upgrade Midway interlocking to allow 80 mph crossover moves and tracks 1 and 4 between Princeton Jct and Morrisville for 125 MAS

• Upgrades between New Brunswick and Trenton
  ▪ Increase Metuchen Frequency Converter capacity by 25% to accommodate additional trains
  ▪ Build 2 new traction power substations
  ▪ Upgrade Catenary for 160 mph service between New Brunswick and Trenton—approximately 24 miles
  ▪ Install electronic track circuits and upgrade to cab signaling between New Brunswick and Trenton
Conclusions

• Amtrak has a well-developed and internationally peer reviewed plan to bring 220 mph HSR to the NEC.

• Amtrak is open to private financial investment and is presently developing a strategy to access private capital.

• Amtrak introduced HSR to America and has the experience and expertise to bring next-gen HSR to reality.

• Amtrak is moving forward with its HSR vision and is able to help achieve the nation’s HSR goals.
Thank you for your kind attention

Al Engel
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al.engel@amtrak.com

And thanks to contributors to this presentation: USDOT/FRA; UIC; APTA; AECOM, RPA, MITSUI