The Gateway Program: Expanding Capacity on the Northeast Corridor

Drew Galloway
Northeast Corridor Infrastructure Investment & Development

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The Northeast Corridor Mainline and Branches

- 899 Route-miles
- 546 Miles Amtrak-owned
- 66% electrified
- 8 commuter operators
- 6 freight operators on Amtrak NEC
- 2,200 daily trains
  - 2,000 Commuter
  - 140 Intercity
  - 60 Freight
- 260 million annual passenger trips
Amtrak carries three times as many passengers on the NEC than all of the airlines put together.
Substantial projected growth in intercity travel in the NEC

- **Baseline:** +45%
- **High growth:** +76%

Other NEC modes have limited ability to add significant capacity

NEC can’t add more trains because of limited tunnel and line-haul capacity into NYC

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**Northeast Corridor Travel Demand (Millions of Annual Intercity Trips)**

- **Baseline Growth**
- **High Growth**
- **Existing Trips & Modal Split**

- **2010:** 179
- **2030:** 260
- **2050:** 316

- **Intercity Auto**
- **Air**
- **Rail - Amtrak**
Status of NEC Planning Efforts for Growth
Amtrak NEC Improvements Implementation Phasing Strategy

NextGen HSR: NYC to BOS

NextGen HSR: NYC to WAS

NEC 160 mph MAS: NYC to WAS

NEC Gateway: Newark to NYC

High Speed Equipment Purchase

NJ High Speed Improvement Program

NEC-UP (Upgrade Program)
The Gateway Program: Newark, NJ to Penn Station, New York

- New Hudson River Tunnels
- Expanded Moynihan/Penn Station, New York
- New Portal Bridges
- Newark-to-Secaucus Improvements
- Reconstruction of Existing Hudson River Tunnels
Gateway Addresses Rail Bottleneck Between Newark, NJ and NYC

NEC - Weekday Train Movements - 2012

Penn Station
New York

Includes train movements operating

Includes train movements operating
Challenge: NEC Growth Relies on Added Trans-Hudson Capacity

- Penn Station NY is North America’s busiest transportation facility.
- Two of every three Amtrak NEC trips have one leg in New York.
- NJT annual passenger trips at NYP has more than quadrupled from 1980 – 2012 to reach 44 million.
Philadelphia to New Rochelle - Track Mile Density - 2012

Hudson River Tunnels
Portal Bridge

Greatest train densities (train mile / track mile) in entire Amtrak system
The Need: Existing Hudson River Tunnels are 103 Years Old.

- Even a minor delay of one train has large impact on all services.
- Present, “holding-action” weekend work programs will go on indefinitely and permanently limit the NEC to a single-track railroad.

The existing Hudson River tunnels were completed in 1910.
The Need: Infrastructure is Vulnerable to Extreme Weather Events.

- The Gateway tunnels will be built to standards that can better resist and recover from flooding.
Gateway Program Principles

- Improve Existing Operations
  - Reliability/Redundancy
  - Maintainability

- Expand Capacity
  - Intercity/High Speed Rail
  - Commuter (all operators)

- Rebuild Infrastructure
  - Provide enhanced storm protection
  - Bring to a state of good repair

- Modular Project Design
  - Advance program elements with independent utility, as funding and permitting allows

*Final design to replace Portal Bridge is complete and can be advanced as soon as funding is available.*
Gateway – New Jersey Track Configuration (Illustrative)

NEWARK

PORTAL BRIDGE

EXISTING TUNNELS to New York

Secaucus Station

Program Elements in NJ
- Newark to Portal Bridge
- Portal Br. to NJ Tunnel Portal
- New Hudson River Tunnels
Sketch Plan of Alignments to Penn Station and Penn South Concourses

EXISTING TUNNELS

GATEWAY TUNNELS

ALIGNMENT to LOWER LEVEL

MOYNIHAN STATION

PENN SOUTH CONCOURSES

PENN STATION
Gateway Program – Penn South Upper-Level Concourse
Looking North up 7th at 31st

Upper Level Concourse concept provides for 4-6 tracks to extend east.
Portal Bridge North: Design Complete to Replace Existing Bridge

Artist Rendering of New Portal Bridges – North and South
Gateway Program Benefits (Intercity and Commuter)

New Jersey
- 100% increase in line capacity
- 4 main tracks / new river crossings / Bergen Loop option
- Upgraded support systems (electric traction, signals)
- Rebuilt infrastructure (bridges)

New York
- 50% increase in Penn Station / Moynihan Station capacity
- New commuter/HSR concourses
- Operational redundancy
- Commercial development
- Expansion of all services


1976: 600
2012: 1,200
GATEWAY: 1,800 – 2,000
Near Term: Hudson Yards Development in Gateway’s Future Path

LIRR West Side Yards Today

Hudson Yards Tomorrow
Partial Eastern Hudson Yards Plan: Track Level – Including Gateway Tunnel Alignment

Gateway Tunnel Alignment

Empire Line Tunnel to Albany

11th Avenue

Tower D

South Office Tower (Bldg C)

10th Avenue

LIRR M of E Facility

Critical Tunnel Access Point to Penn Station
Concrete Casing Under Construction at the Hudson Yards, Manhattan

West 33rd Street

10th Avenue

West 30th Street

Tunnel to the Empire Corridor

Gateway Right-of-Way

11th Avenue
Gateway Program: Next Steps

- Concrete casement under construction.

- Collaborating with NJ Transit, LIRR and Metro North to assess and determine future service plans.

- Advancing design elements on projects with independent utility (i.e., “Saw Tooth” Bridges, Portal Bridge, Hudson Interlocking,)

- Supporting and informing NEC Future Process.

Thank you for your attention.