Northeast Corridor High Speed Rail
Washington to Boston

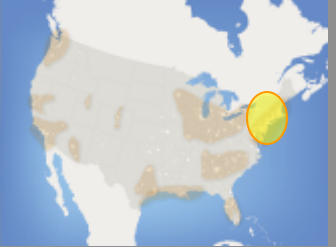
Robert Ravelli

THE AMTRAK® SYSTEM


HIGH-SPEED RAIL
CORRIDOR DESIGNATIONS
CANADA
PACIFIC NORTHWEST
CHICAGO HUB NETWORK
KEYSTONE
SOUTHEAST
CALIFORNIA
SOUTH CENTRAL
GULF COAST
MEXICO
U.S. Department of Transportation

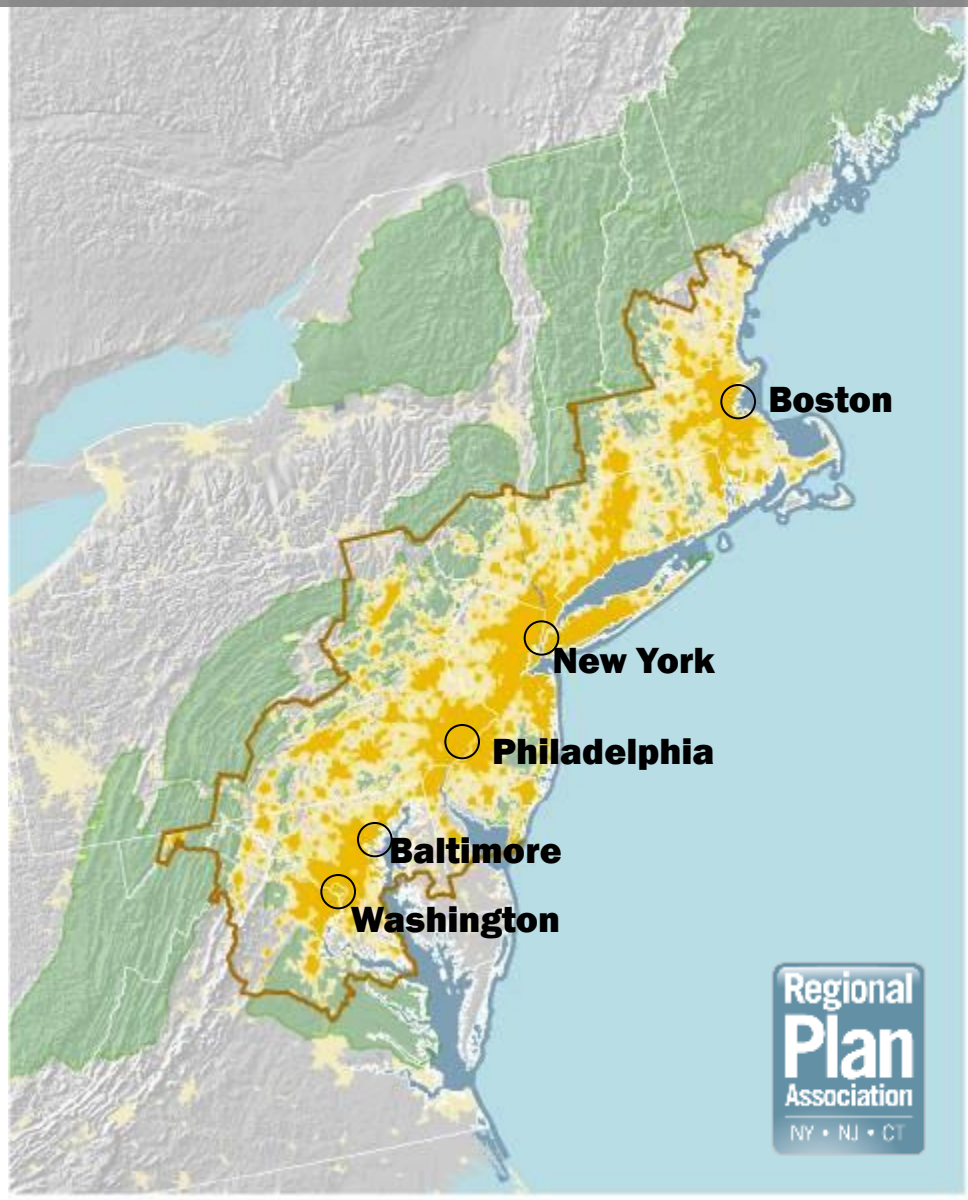

acela
2031


925
925

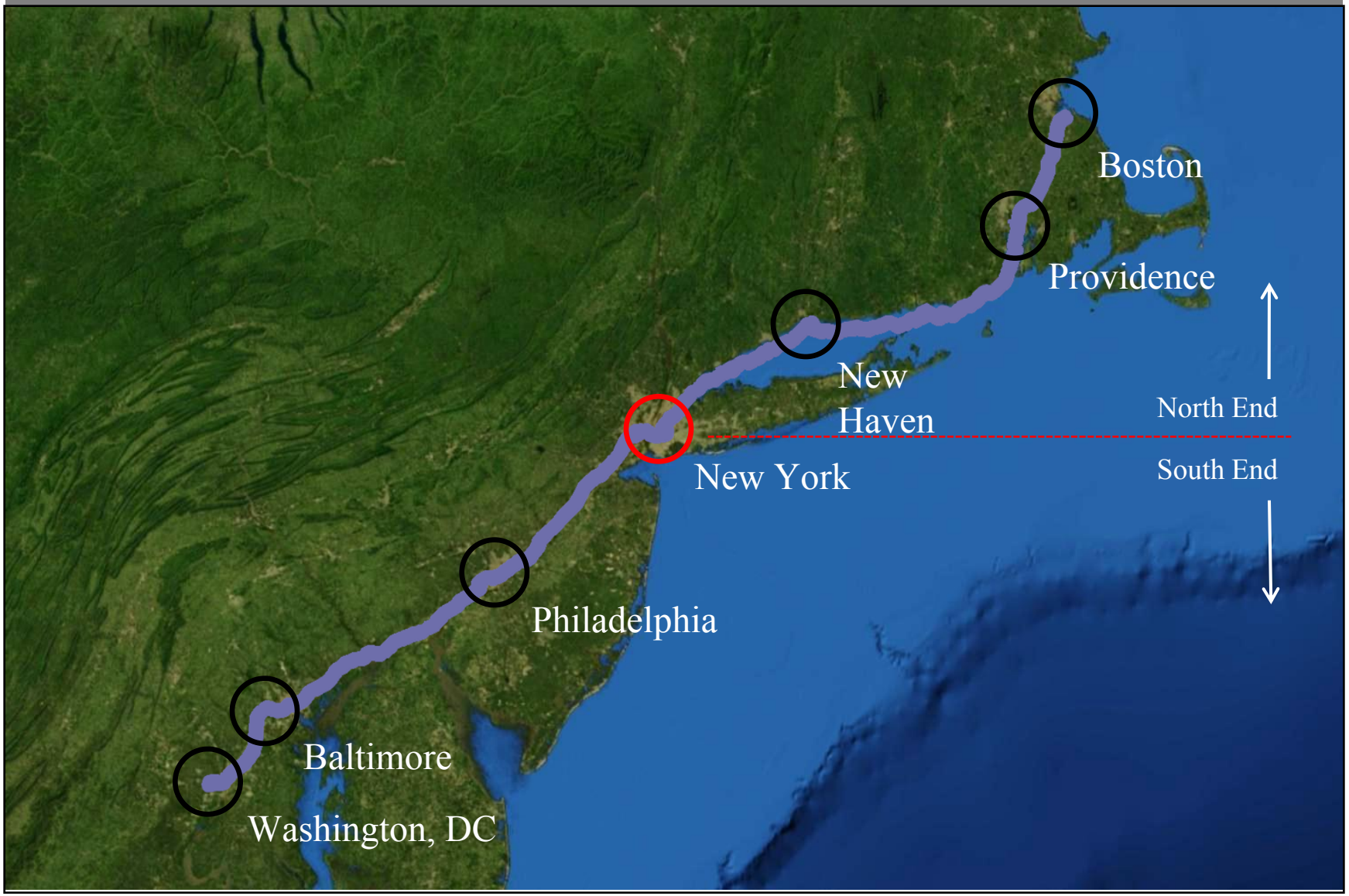


The Northeast Megaregion

- 457 miles long
- 49 million inhabitants
- 17% of U.S. population on 2% of the land area
- 20% of U.S. GDP
- Will add 19 million additional people by 2050



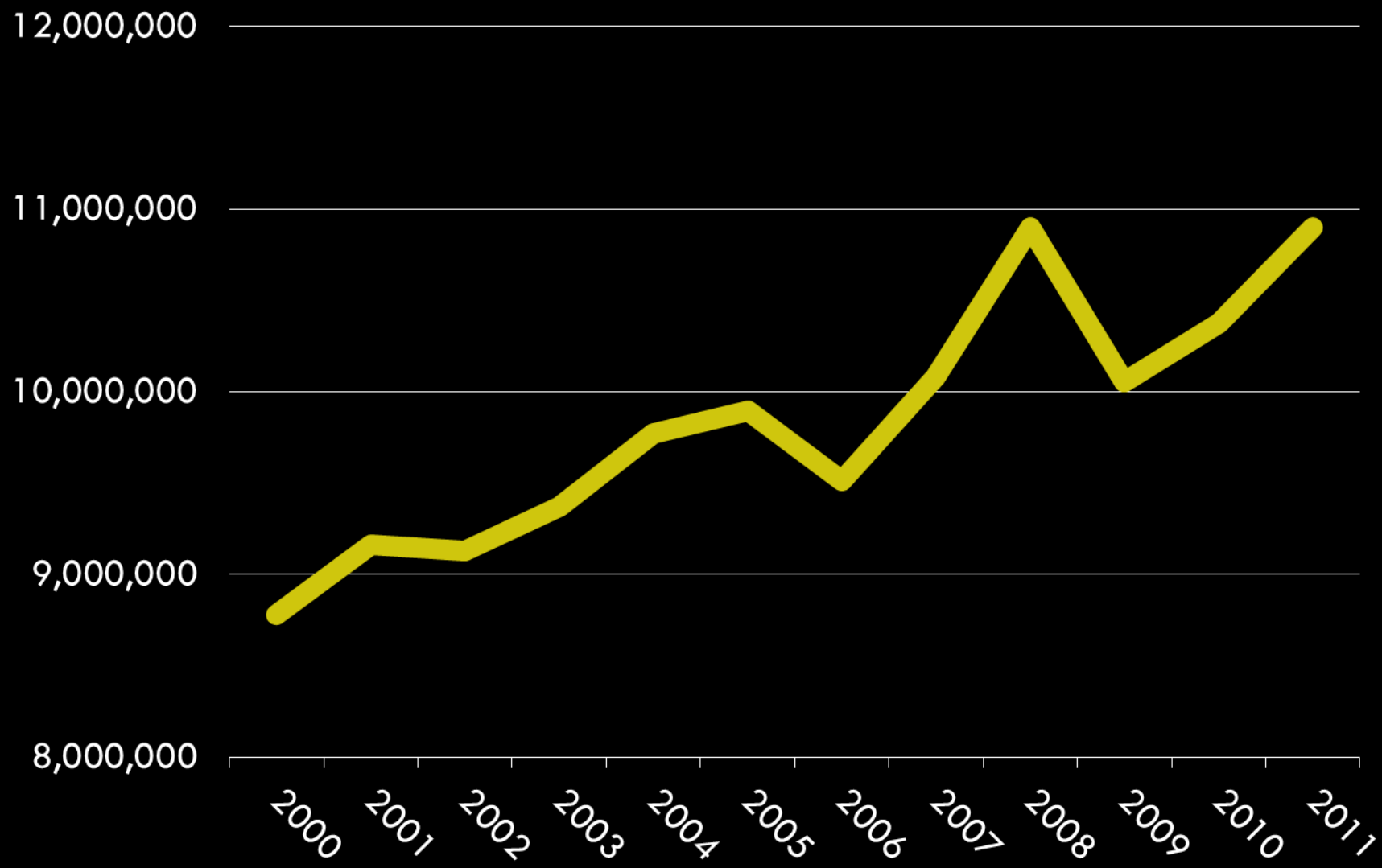
Northeast Corridor (NEC)



Demand for Rail is Increasing

- Since 2000, annual ridership on Amtrak's intercity NEC services has increased by over 30%, from 8.6 million in 2000 to 11.4 million passengers in 2012.
- Between 2000 and 2011, Amtrak's share of the air/rail travel market increased from 37% to 75% for trips between New York City and Washington, DC, and from 20% to 54% for trips between New York City and Boston.

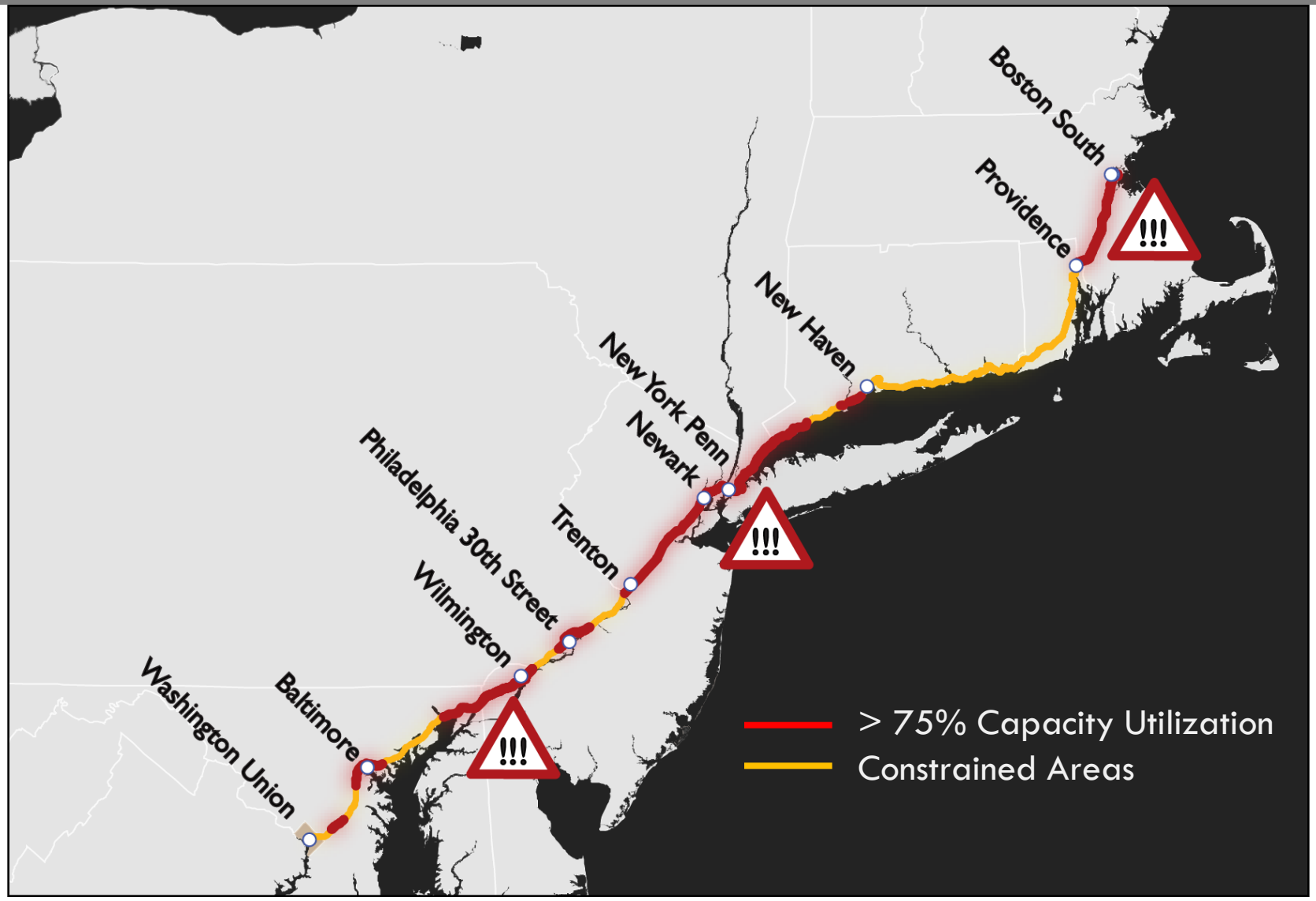
Amtrak's Northeast Corridor Ridership

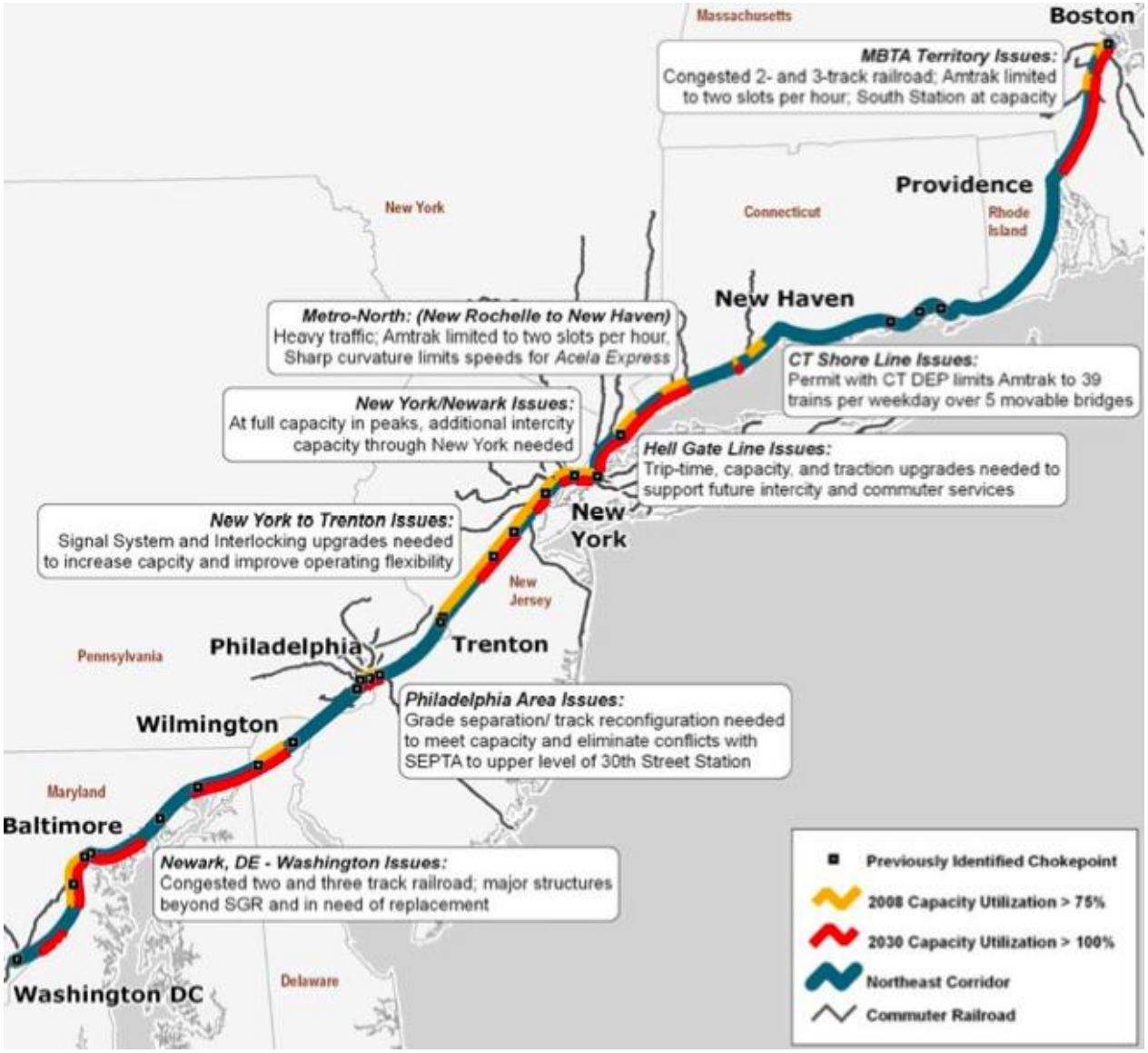


Transportation Infrastructure

Image: University of Pennsylvania

Northeast Corridor (NEC)

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Congested 2- and 3-track railroad; Amtrak limited to two slots per hour; South Station at capacity
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New York
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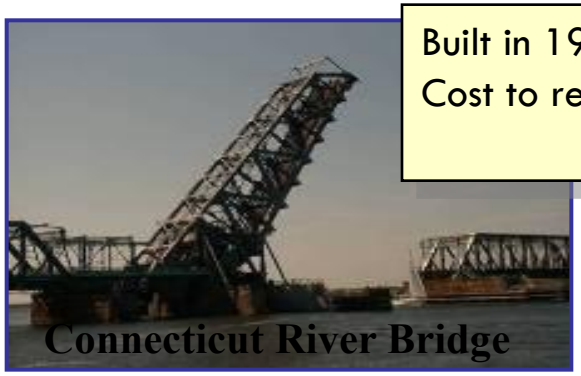
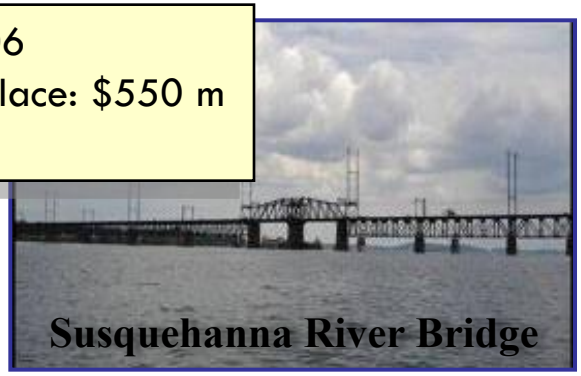
Wilmington
Maryland
Baltimore
Newark, DE - Washington Issues:
Congested two and three track railroad; major structures beyond SGR and in need of replacement
Delaware
Washington DC
Previously Identified Chokepoint
2008 Capacity Utilization > 75%
2030 Capacity Utilization > 100%
Northeast Corridor
Commuter Railroad

The NEC's Centenarian Asset Hall of Fame

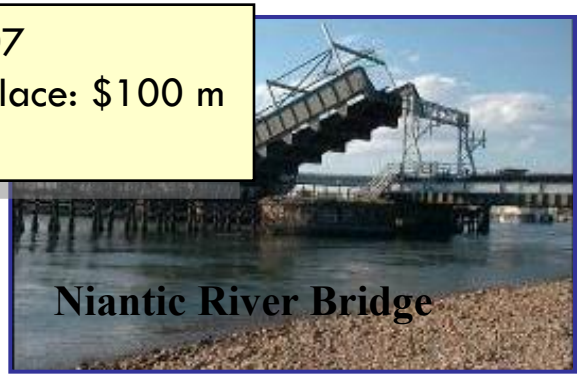


Built in 1907
Cost to replace: $225 m

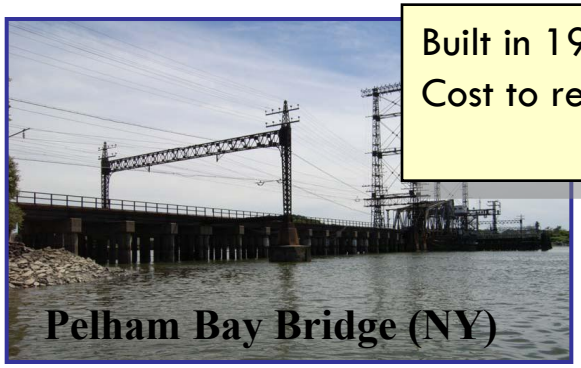


Built in 1906
Cost to replace: $550 m

Built in 1906,
Cost to replace: $1.5 b



Built in 1907
Cost to replace: $100 m



Built in 1907
Cost to replace: $210 m

Built in 1873
Cost to replace: $1.2 b

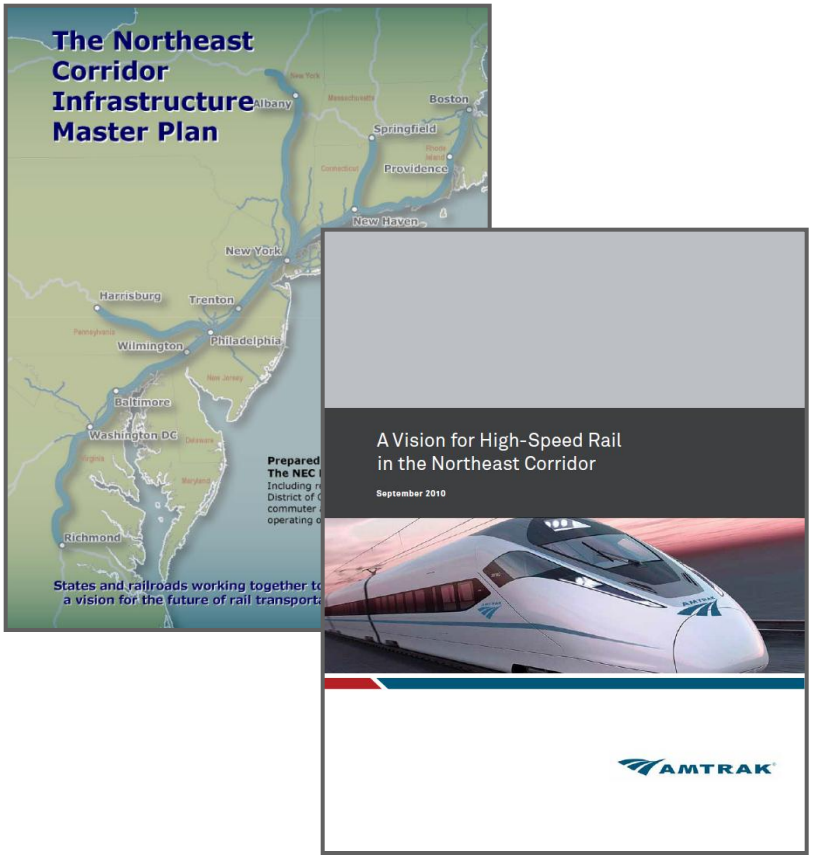
Source: Amtrak

Crossing the Hudson

- The North River tunnels built in 1910 and electrified in 1932.

Plans for the Future of the Northeast Corridor

Amtrak (2010, 2011)

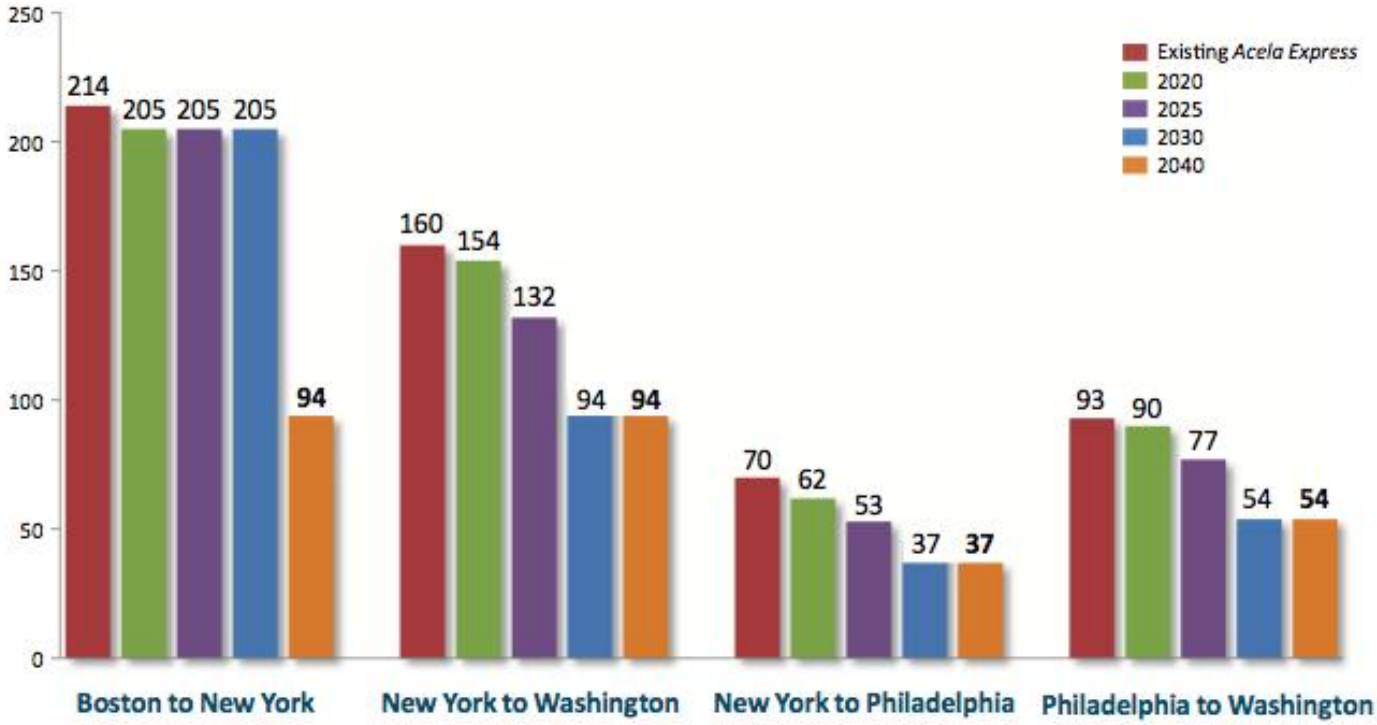


U. of Penn. (2010 - 2012)

In February 2012, the FRA launched **NEC Future**, an effort to create a passenger rail corridor investment plan

- **Objective:** Define, evaluate, and prioritize future investments in the Northeast Corridor.
- **Goal:** Develop an integrated passenger rail solution for the Northeast that improves mobility, meets current and future transportation needs, and sustains and advances economic growth.
- **Result:** Investment strategy that the FRA can endorse for Next Gen HSR beyond 2025.

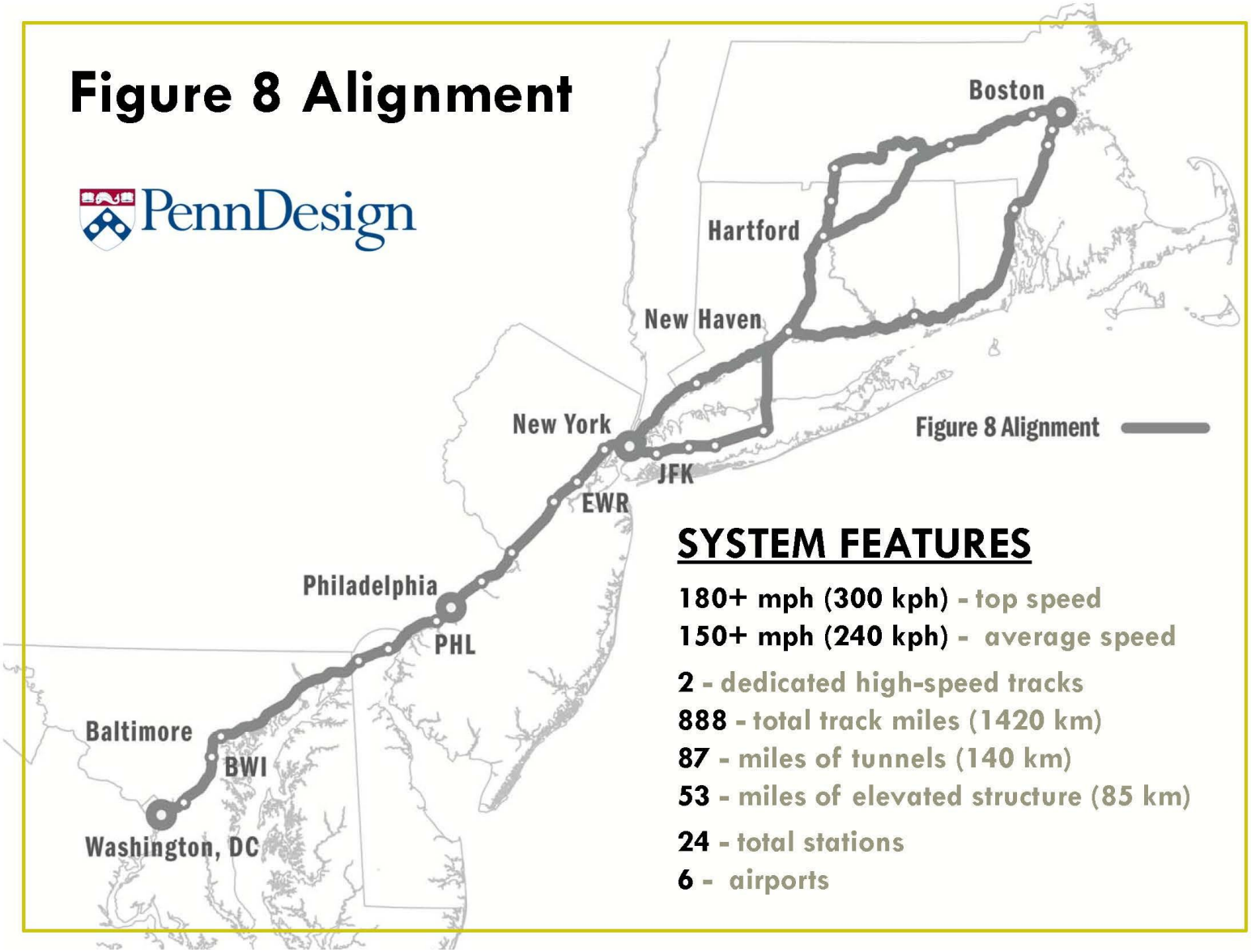
Figure 23: Travel Times: Existing and Projected Stair-Step Milestone Years (in Minutes)



Source: Amtrak

Figure 8 Alignment

PennDesign



SYSTEM FEATURES

180+ mph (300 kph) - top speed
150+ mph (240 kph) - average speed

2 - dedicated high-speed tracks
888 - total track miles (1420 km)
87 - miles of tunnels (140 km)
53 - miles of elevated structure (85 km)

24 - total stations
6 - airports

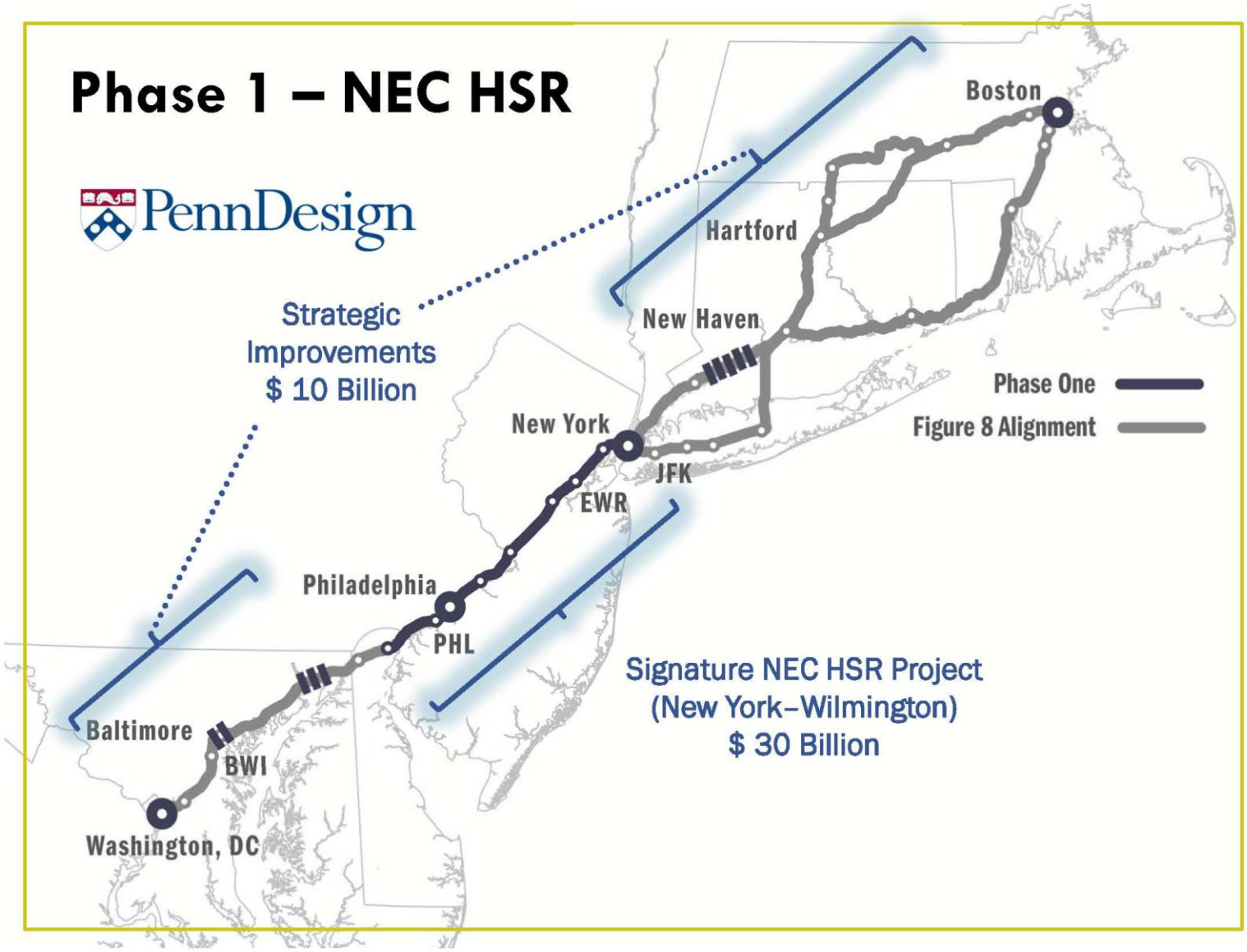

Phase 1 – NEC HSR
PennDesign
Boston
Hartford
New Haven
Strategic
Improvements
$ 10 Billion
Phase One
Figure 8 Alignment
New York
JFK
EWR
Philadelphia
PHL
Signature NEC HSR Project
(New York–Wilmington)
$ 30 Billion
Baltimore
BWI
Washington, DC

Figure 21: Proposed NEC NextGen HSR Service Types


NY
MA
PA
CT
RI
NJ
MD
DE
VA
Boston
Route 128
Providence
Hartford
Waterbury
Danbury
New Rochelle
New York
Newark
Newark Airport
Trenton
Philadelphia
Philadelphia Airport
Wilmington
Baltimore
BWI Airport
Washington, D.C.
PHASE 1 - 2025
Newark, NJ to New York, NY
PHASE 2 - 2030
Washington, D.C. - Newark, NJ
PHASE 3 - 2040
New York, NY to Boston, MA
Potential Phasing Segments
Washington Union Station to New Carrollton
New Carrollton to Baltimore Segment
Baltimore to Wilmington Segment
Wilmington to Philadelphia Segment
Philadelphia Segment
Philadelphia to Trenton Segment
Trenton to Newark Segment
Gateway Program - Newark to New York
New York to New Rochelle Segment
New Rochelle to Hartford Segment
Hartford to Providence Segment
Providence to Route 128 Segment
Route 128 to Boston South Station
Hub Station
City Station
Regional / Intermodal Station

Phased Development and Evaluation of Alternatives

NEC Service (Tier 1) NEPA

Phase 1

- Purpose & Need
- Stakeholder Outreach
- Data Collection
- Scoping
- Preliminary Alternatives Development

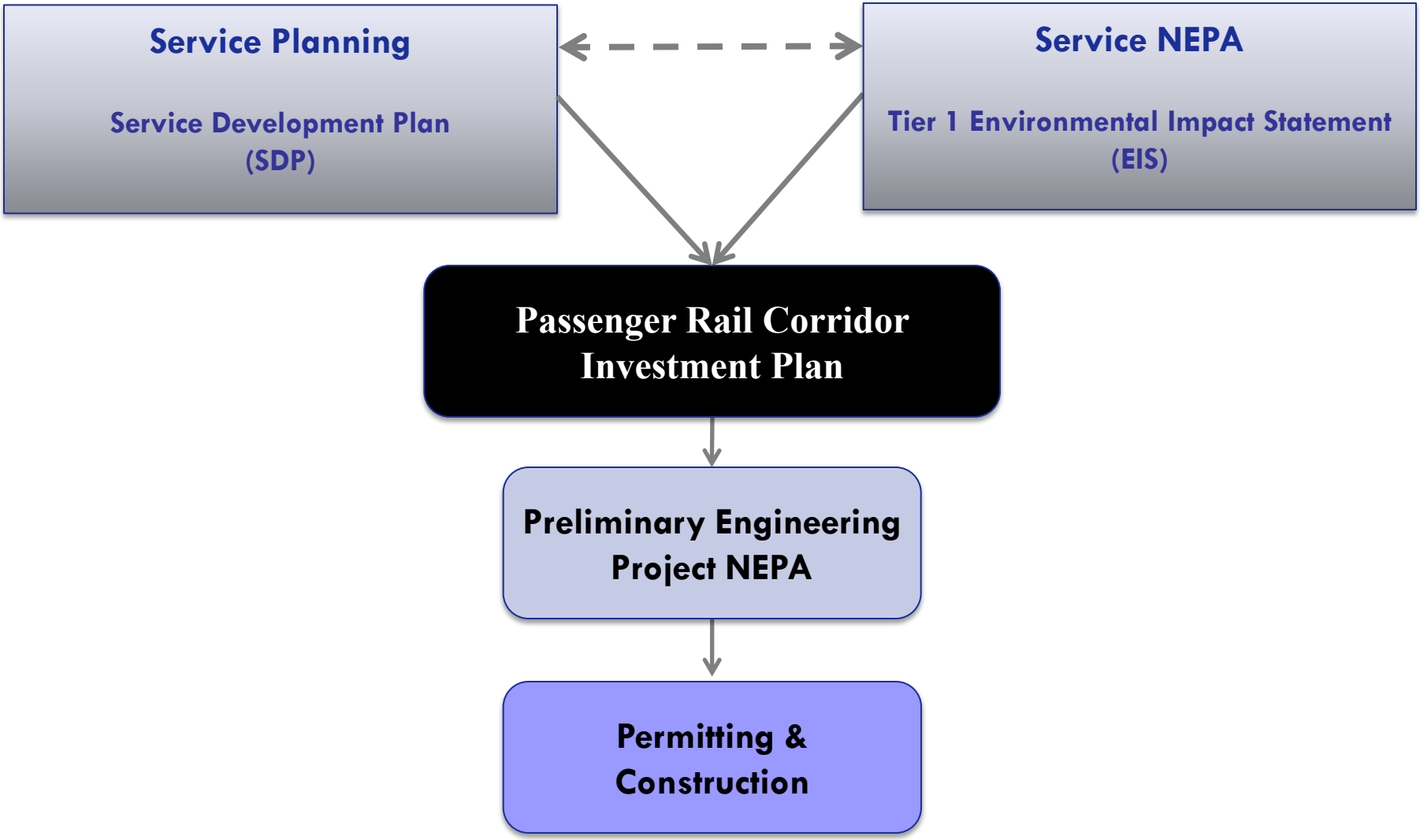
Phase 2

- Reasonable Alternatives Development
- Environmental Resource Evaluation
- Draft EIS
- Draft Service Development Plan

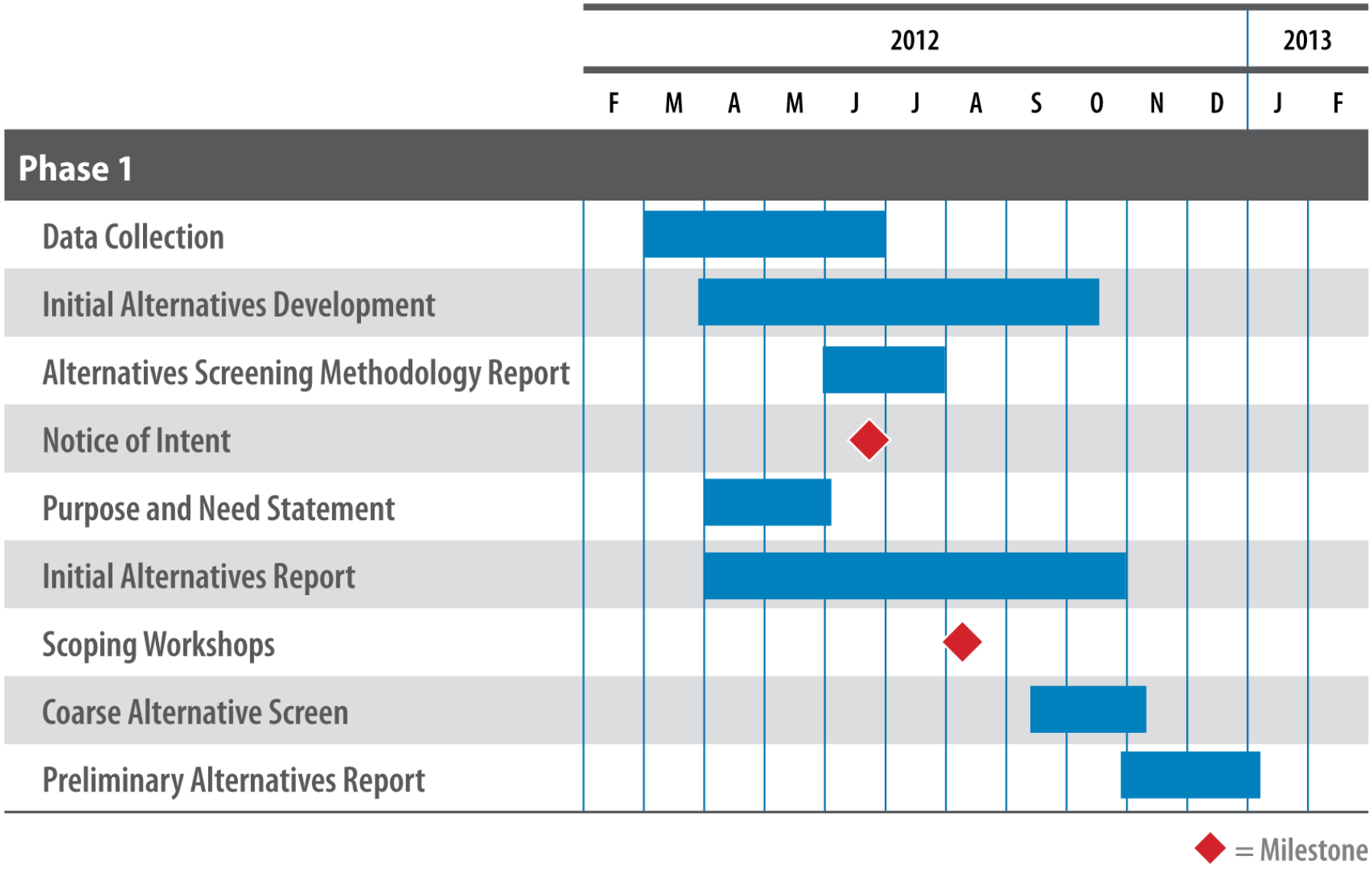
Phase 3

- Final EIS
- Record of Decision
- Final Service Development Plan

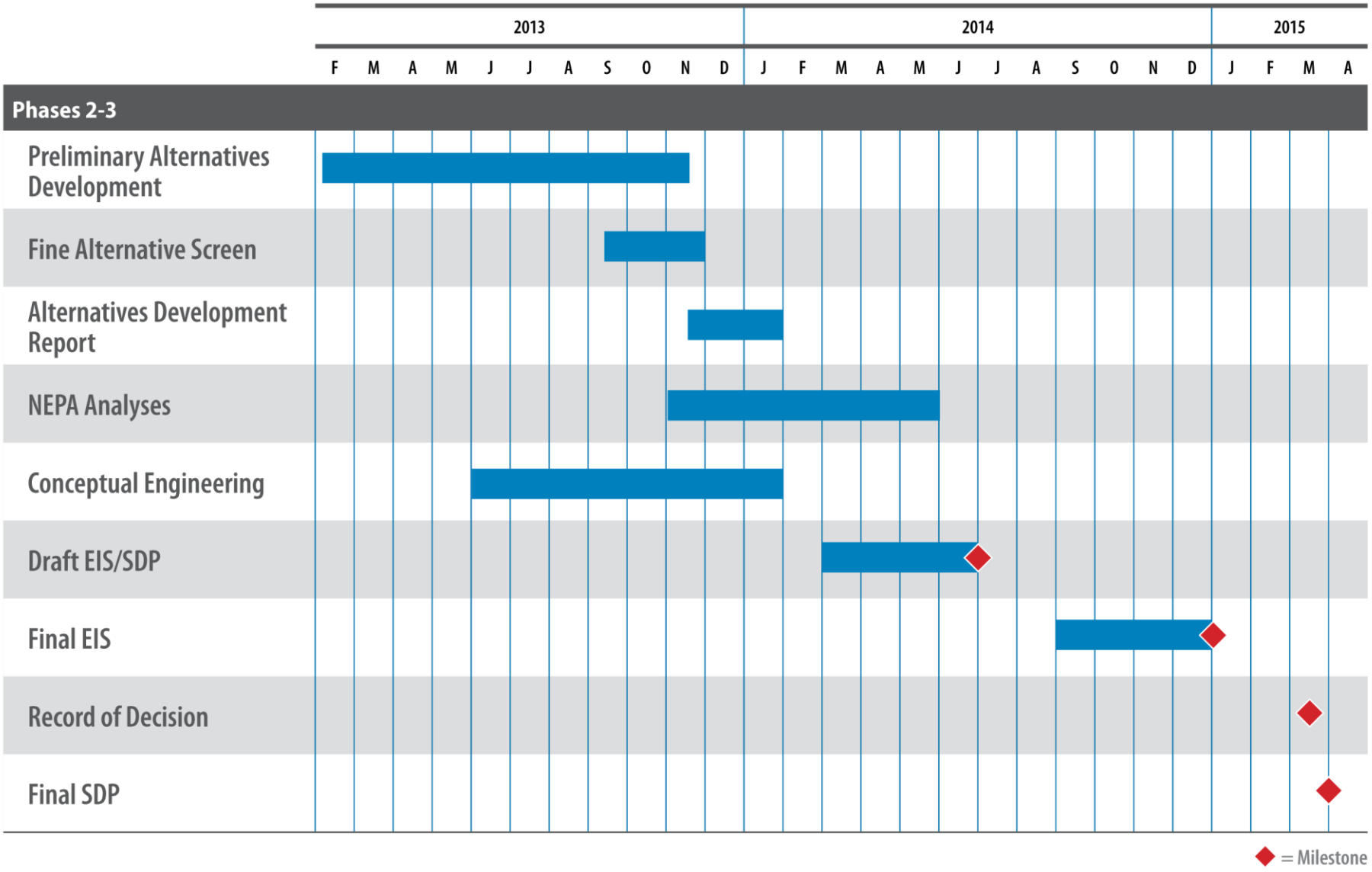
FRA's Approach to Corridor Development



Phase 1


2012
2013
F
M
A
M
J
J
A
S
O
N
D
J
F
Phase 1
Data Collection
Initial Alternatives Development
Alternatives Screening Methodology Report
Notice of Intent
Purpose and Need Statement
Initial Alternatives Report
Scoping Workshops
Coarse Alternative Screen
Preliminary Alternatives Report
= Milestone

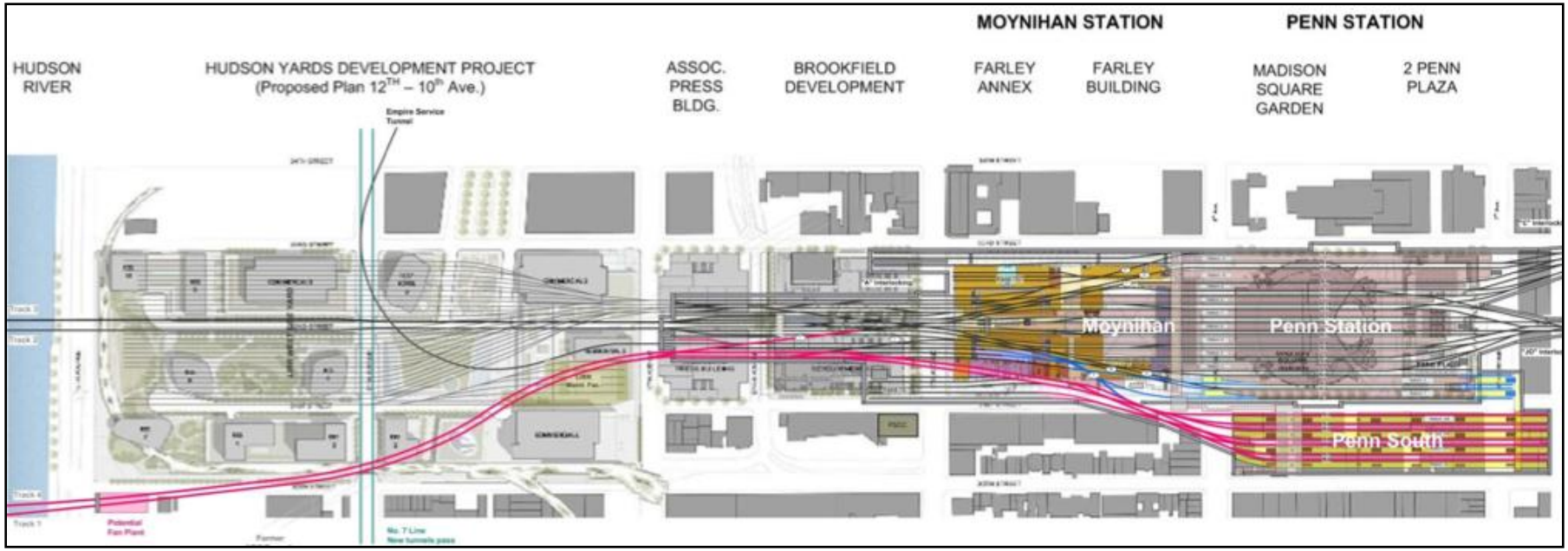
Phase 2-3


2013
2014
2015
F M A M J J A S O N D J F M A M J J A S O N D J F M A
Phases 2-3
Preliminary Alternatives Development
Fine Alternative Screen
Alternatives Development Report
NEPA Analyses
Conceptual Engineering
Draft EIS/SDP
Final EIS
Record of Decision
Final SDP
= Milestone

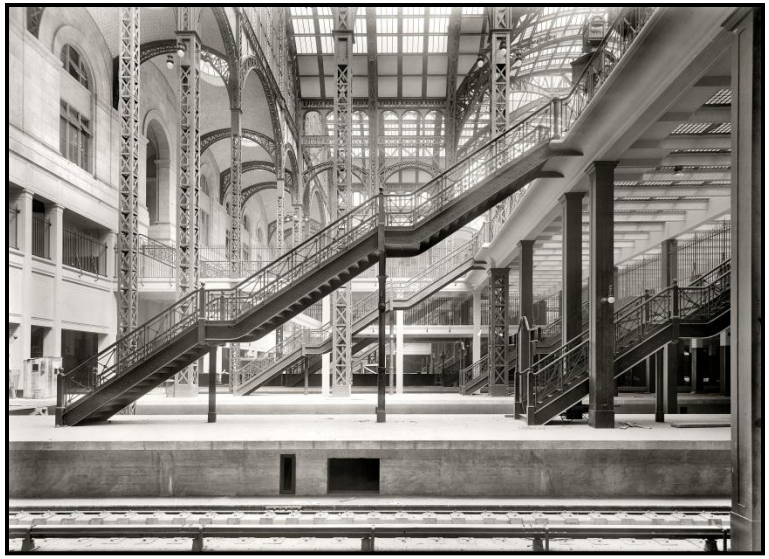
How to Fund/Implement?

- Northeast Corridor Infrastructure & Operations Advisory Commission will look at institutional alternatives
- Develop a common methodology for allocating costs
- There is a need to create a new entity that can attract private capital

The Path Forward for NEC HSR: Gateway



Historic Penn Station



MADISON SQUARE GARDEN CENTER • *architect:* CHARLES LUCKMAN ASSOCIATES; *general contractor:* TURNER CONSTRUCTION CO. & DEL E. WEBB CORP.; *consulting engineers:* SYSKA & HENNESSY, INC.; *plumbing contractor:* WACHTEL PLUMBING CO., INC.; *plumbing wholesaler:* GLAUBER, INC.; *fixture manufacturer:* KOHLER CO.

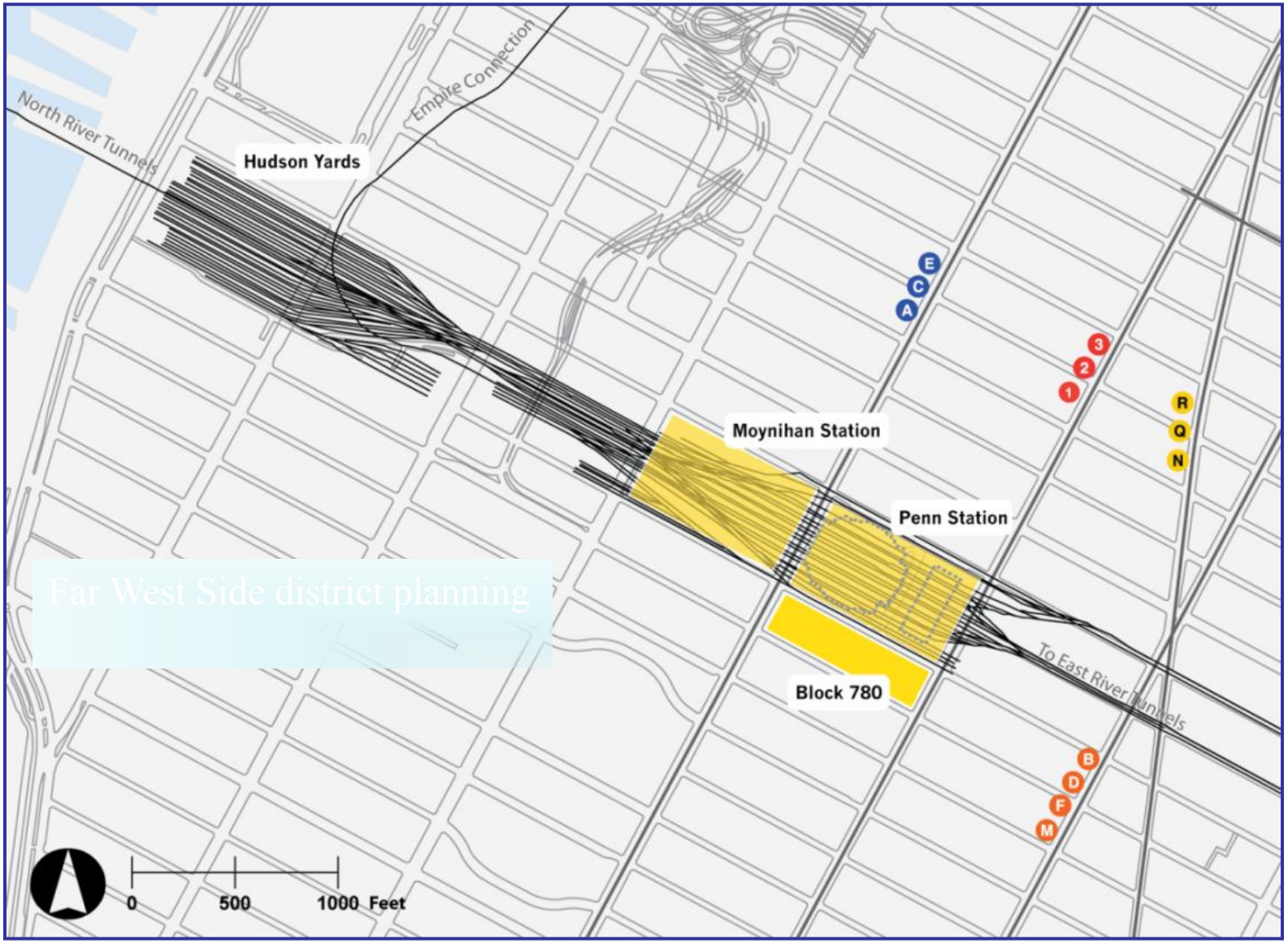
TWO PENNSYLVANIA PLAZA • *architect:* CHARLES LUCKMAN ASSOCIATES; *general contractor:* TISHMAN REALTY & CONSTRUCTION CO., INC.; *consulting engineers:* JAROS, BAUM & BOLLES; *plumbing contractor:* WACHTEL PLUMBING CO., INC.; *plumbing wholesaler:* GLAUBER, INC.; *fixture manufacturer:* KOHLER CO.

Madison Square Garden Center

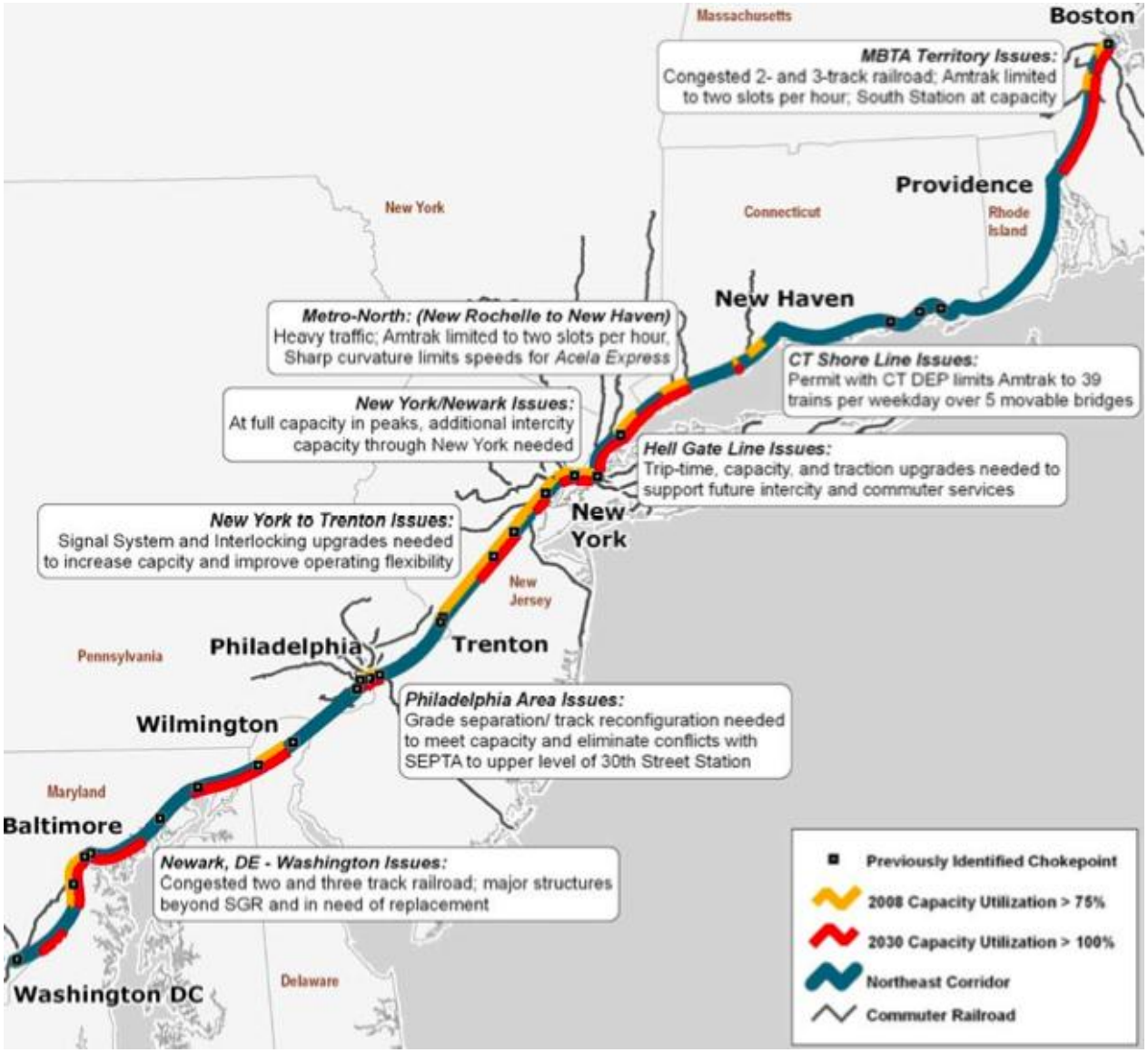
—a new international landmark

Current Penn Station

The New Penn/Moynihan District



Far West Side district planning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Next Steps