Railroad Planning and Operations

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Amtrak

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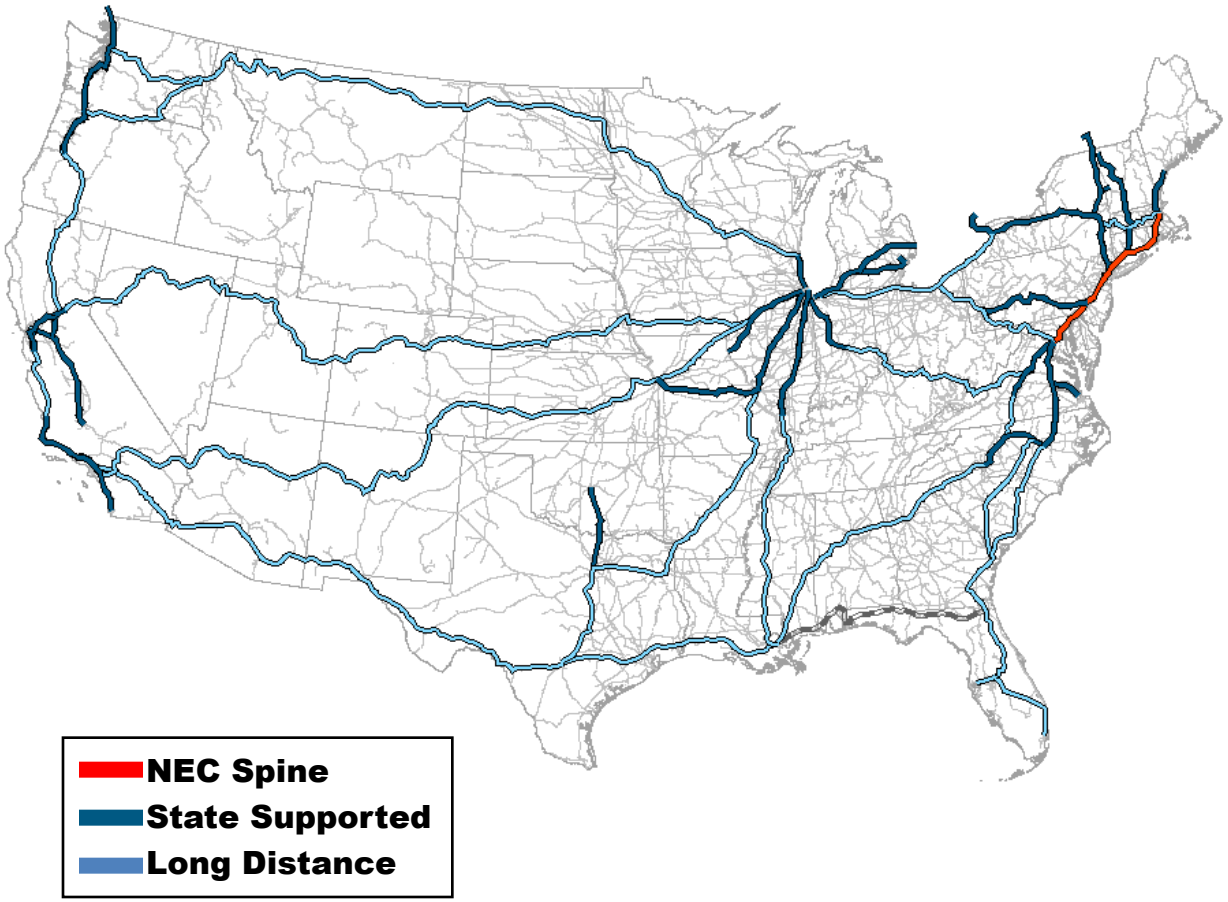
Amtrak at a Glance



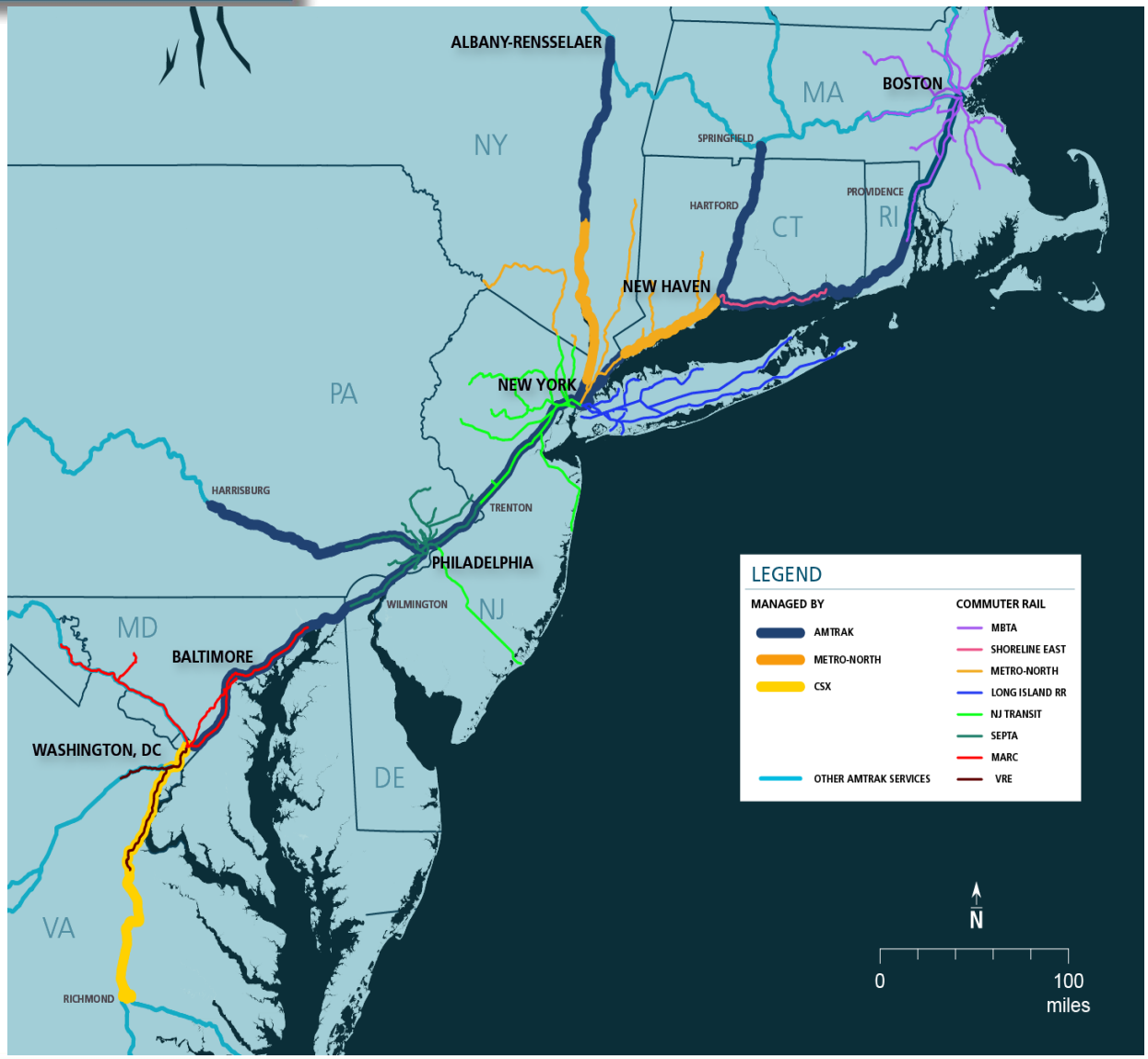
- Began service in 1971.
- 21,000 route miles
- 20,000 employees
- Reaches 46 states
- 70 percent of route miles *not* owned by Amtrak
- Operates more than 300 trains per day nation-wide.

Three Major Services

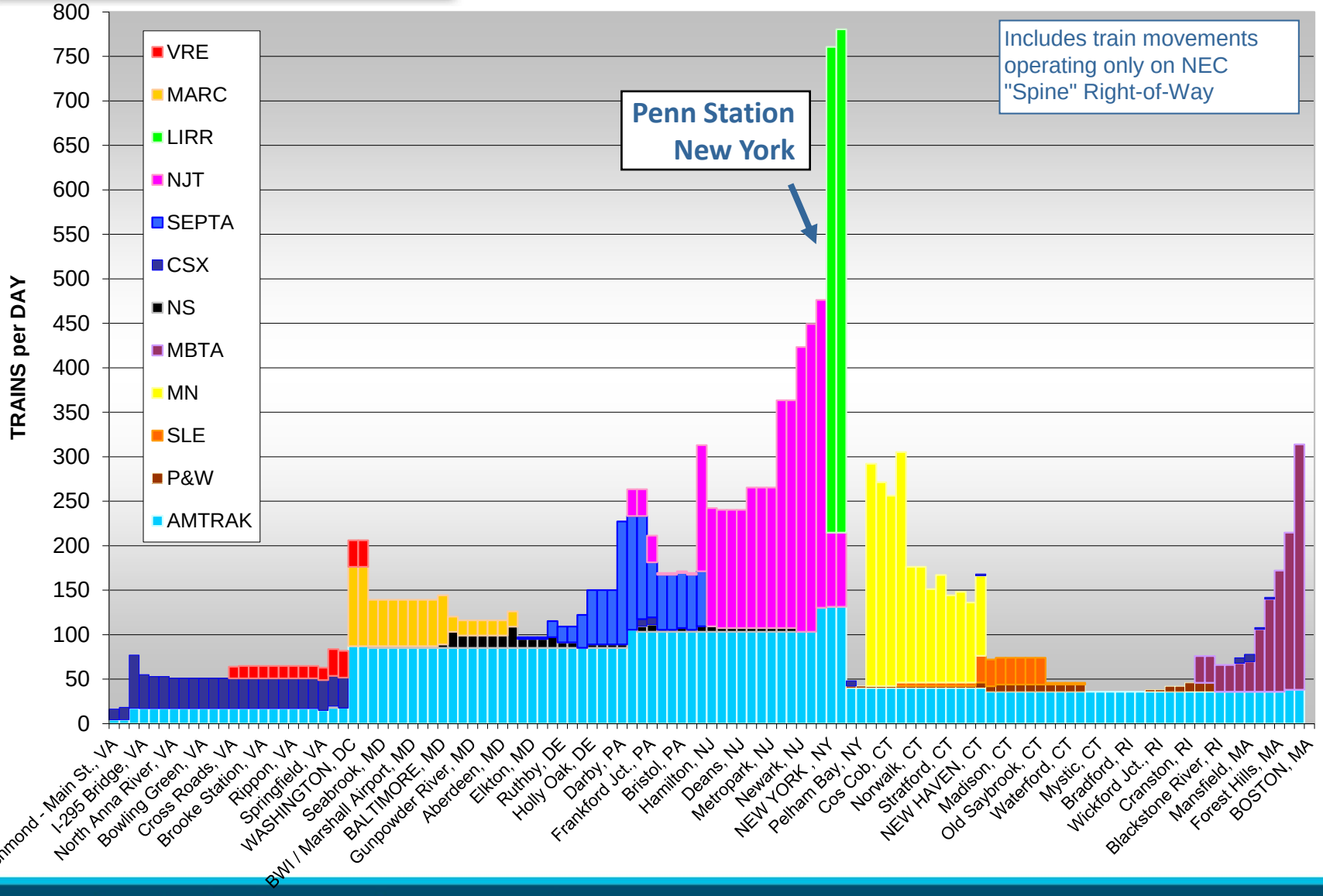
- **Northeast Corridor (NEC)**
  - 546 Miles Amtrak-owned and maintained infrastructure.
  - 2,200 daily trains including commuter, freight and intercity.
- **State-Supported Services**
  - Typically 300-500 mile services operating between states.
  - Most trains operate on other railroad's infrastructure.
  - Operated in partnership with States.
- **Long Distance Services**
  - Routes are up to 2,400+ miles long and trips.
  - Trains operate on other railroad's infrastructure.
  - Foundation of the intercity passenger network.

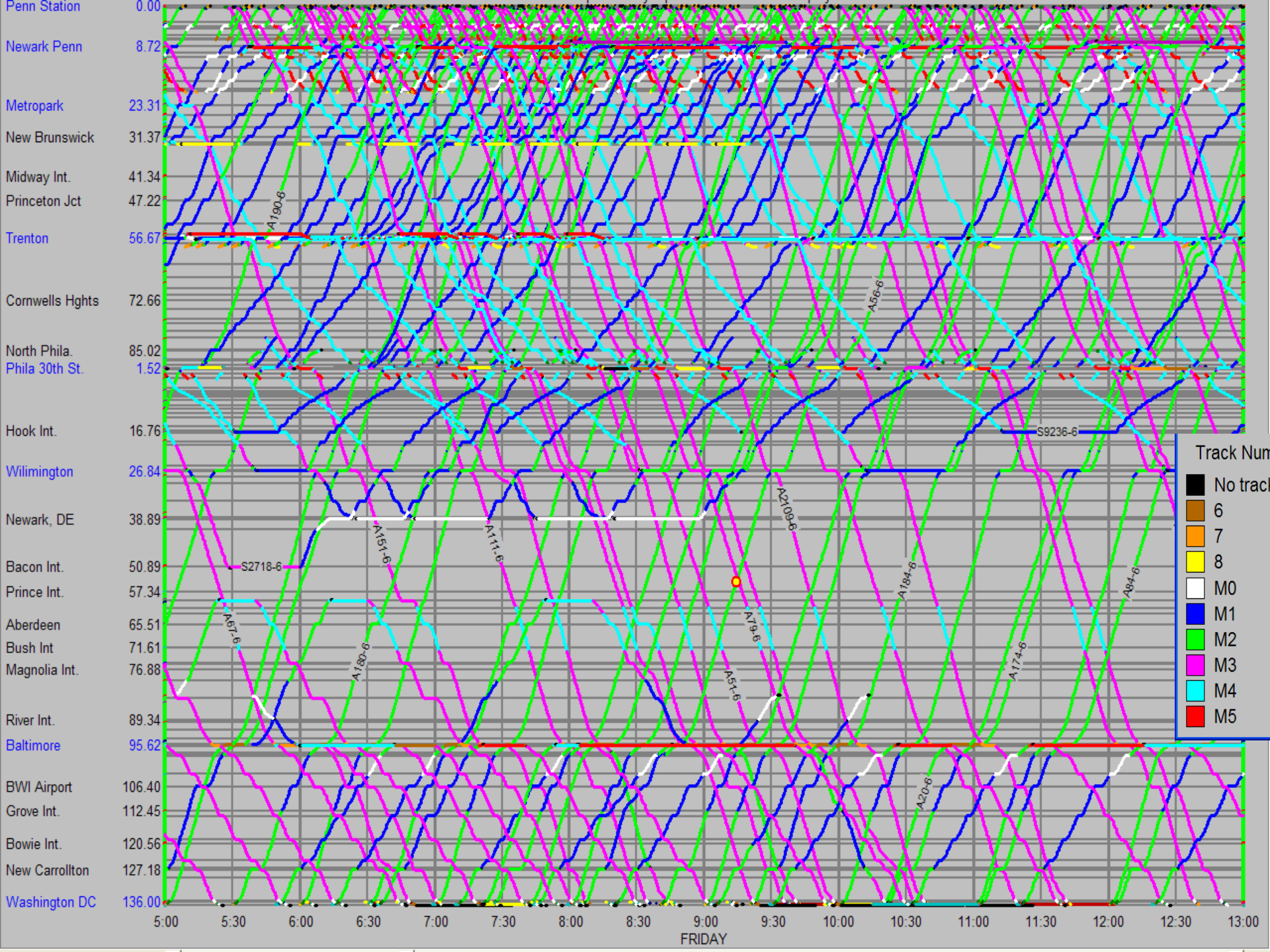
Operating Environment on the Northeast Corridor

Northeast Corridor & Branches



The NEC - Complex Operations

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Newark Penn 8.72
Metropark 23.31
New Brunswick 31.37
Midway Int. 41.34
Princeton Jct 47.22
Trenton 56.67
Cornwells Hghts 72.66
North Phila. 85.02
Phila 30th St. 1.52
Hook Int. 16.76
Wilimington 26.84
Newark, DE 38.89
Bacon Int. 50.89
Prince Int. 57.34
Aberdeen 65.51
Bush Int 71.61
Magnolia Int. 76.88
River Int. 89.34
Baltimore 95.62
BWI Airport 106.40
Grove Int. 112.45
Bowie Int. 120.56
New Carrollton 127.18
Washington DC 136.00
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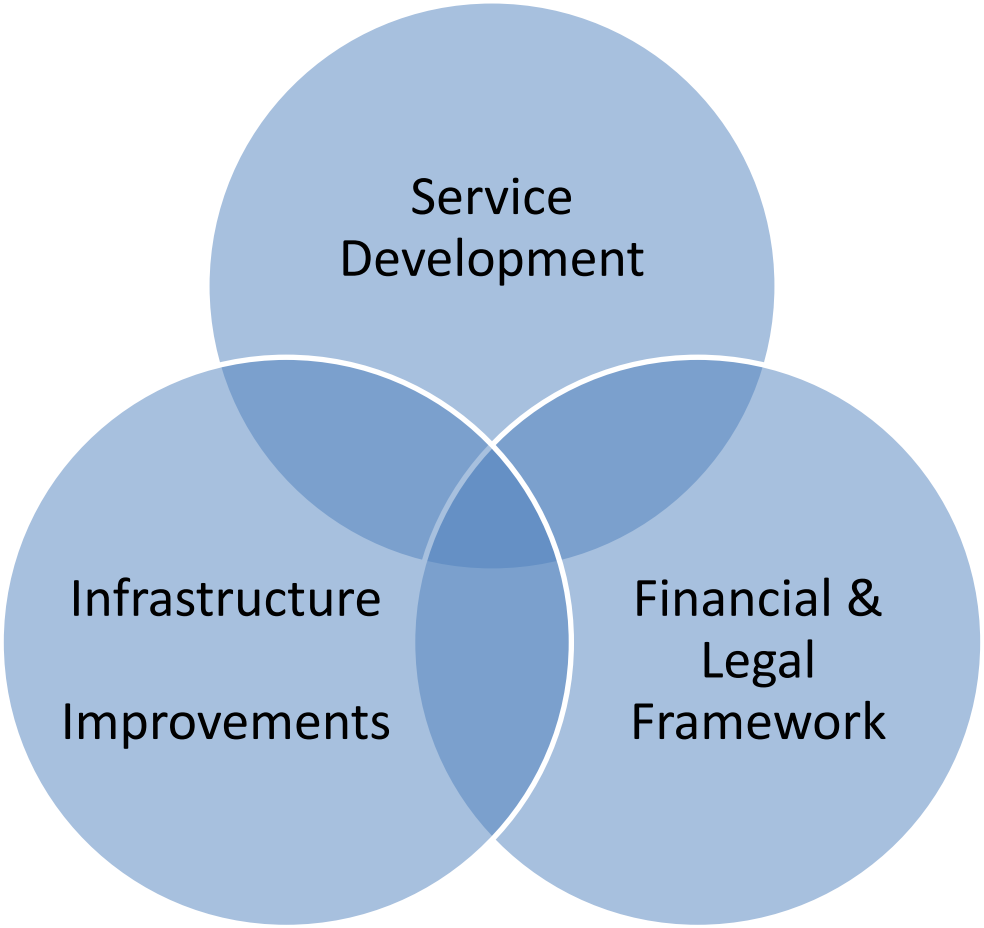
Planning Foundations



Amtrak Planning Roles

Amtrak Managed Assets

As infrastructure owner, Amtrak (collaboratively) will:

- Determine impact to asset
- Approve service plan
- Establish design standards
- Determine improvements
- Enter into infrastructure and service agreements
  - Design / Construction
  - Operations / Maintenance
  - Asset Performance

Non-Amtrak assets

As a service provider and system operator, Amtrak will:

- Provide guidance and support in planning effort
- Provide technical expertise
- Offer use of statutory rights
- Offer use of system assets
  - I.e., Reservations system
  - I.e., Mechanical facilities
- Enter into service and maintenance agreements

Service Development

It starts here:

- Route, frequencies, station stops, stopping patterns, travel times, amenities

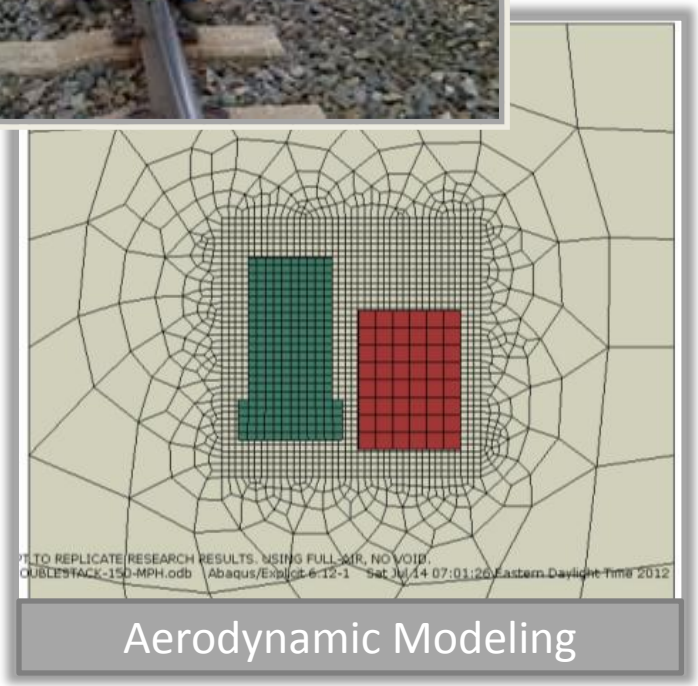
Leads to:

- Riders, revenues, operating and equipment needs and cost projections
- Infrastructure needs to achieve passenger service objectives
- Infrastructure needs to accommodate all users (Host Railroad requirements)

Infrastructure Improvements

Leads to:

- Design Criteria
  - Number of tracks
  - Track Class Standards
  - Cant Deficiency Standards
  - Train Control Systems
  - Station Design and Facilities
  - Support Facilities (Yards, etc.)
  - Procurement Processes
- PE-FE Design / NEPA / Permitting process, time and approval requirements (years)



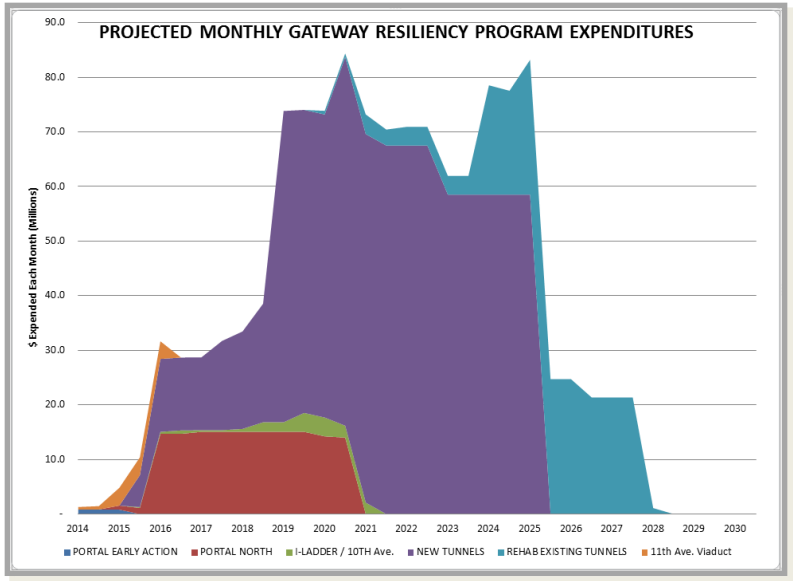
Aerodynamic Modeling

Finance & Legal Framework

Leads to:

- Financial Plan
  - Traditional vs. Design/Build
  - Public vs. Private participation
  - Debt instruments: loans, anticipation revenue bonding, equity interests, etc.
- Agreements
  - Development Agreements
  - Design / Construction
  - NEPA (EIS, EA, CE)
  - Construction / Permitting
  - Operations & Maintenance

- Key Factors
  - Assignment of Risk
  - Liability / Indemnity
  - Period of Performance (SOAs, finance terms, etc.)



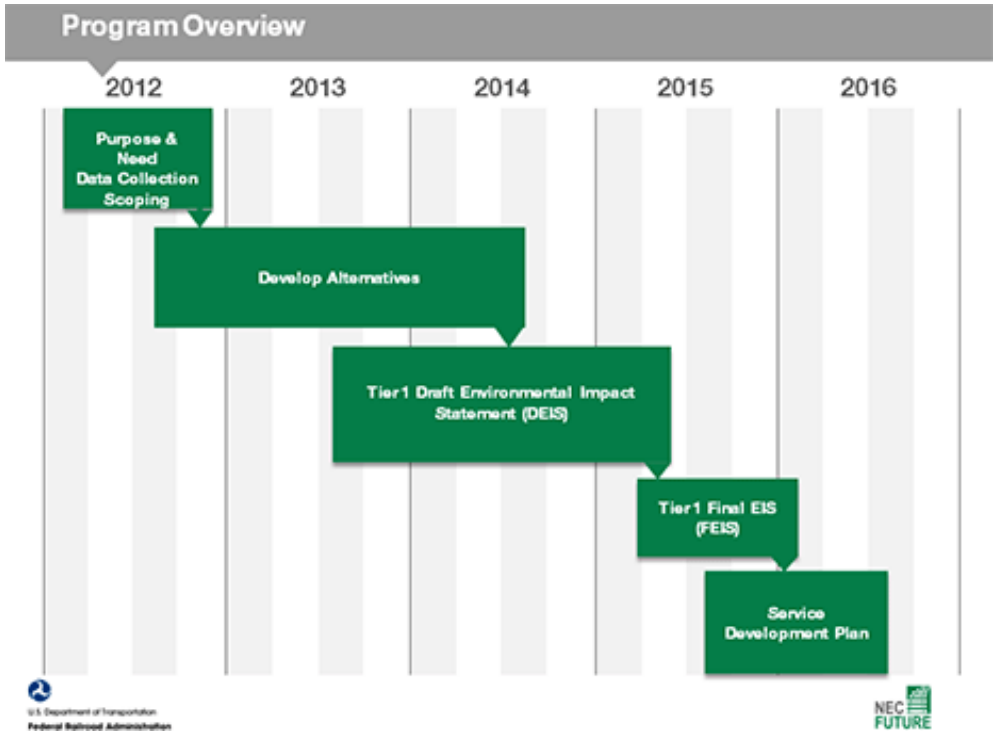
Due Diligence

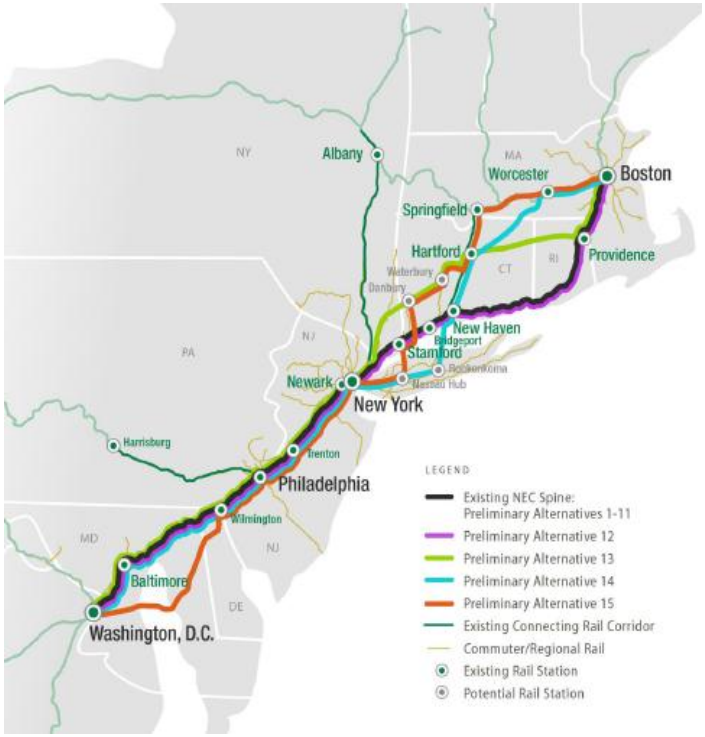
- ✓ Market(s) Served
- ✓ NEPA / Planning / Permitting Approvals
- ✓ Design (PE early in process is crucial)
- ✓ Financial Plan (Differing Sponsor Requirements)
- ✓ Resource Planning/Lead Times
- ✓ Agreements (Labor, Legal Framework, Performance Warranties)

Comprehensive Planning

TIER I

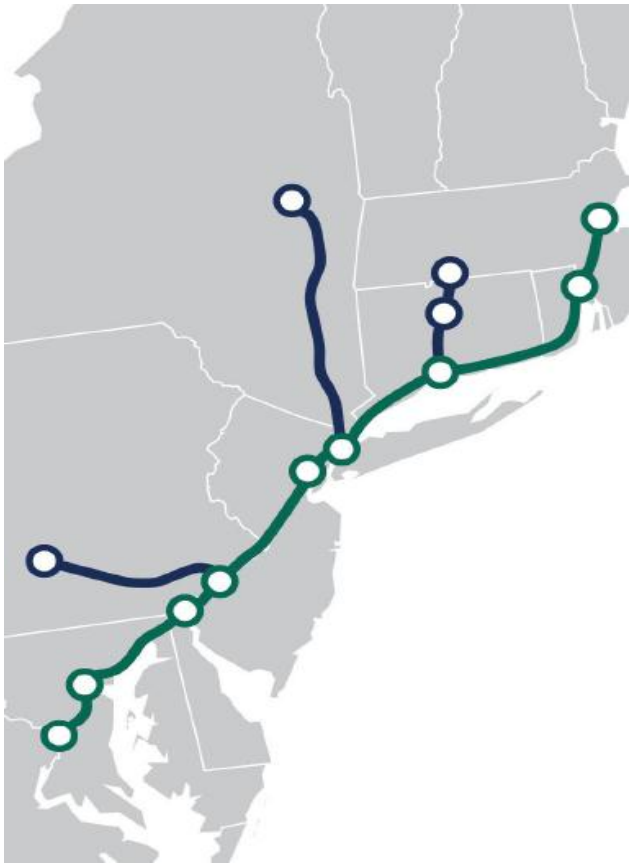
NEC Future Tier I EIS





- Required by Federal Statute and managed by Federal Railroad Administration
- Collaborative, public process that leads to "Preferred Alternative"
- Provides a "Record of Decision" for major improvements that meaningfully change service levels and capacity.
- High Level - followed by Project NEPA

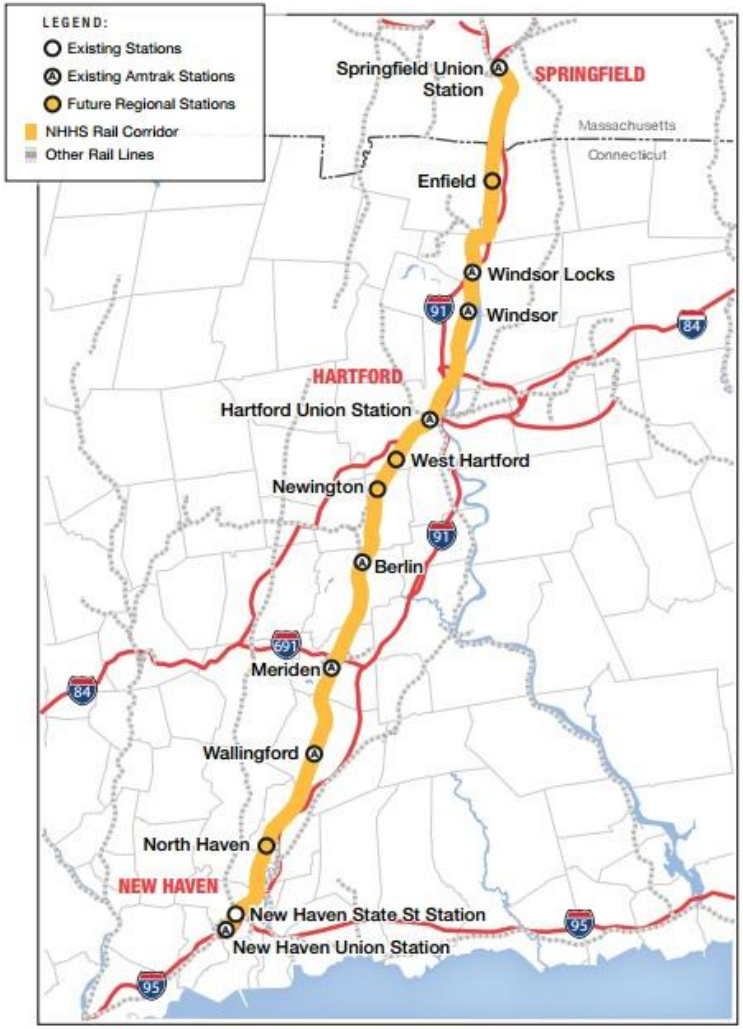
Five-Year Capital Plan



- Collaborative planning framework for all NEC users, which Informs/guides PRIIA Section 212 cost allocation process.
- Integrates State of Good Repair ("SOGR") and growth needs with actionable 5-year elements and long-range vision.
- Analyzes investment impacts on infrastructure condition and performance at various funding levels.
- Living document that will be updated as needed.
- Guides Amtrak annual Legislative & Grant Request and budget process.
  - Plan must ultimately combine State of Good Repair (under PRIIA Sec. 211) and Improvement Plans

Corridor / Project Planning
TIER II

New Haven-Hartford-Springfield Line



- The Connecticut-led New Haven-Hartford-Springfield (NHHS) Rail program includes design and construction of additional rail capacity on Amtrak-owned infrastructure between New Haven, CT and Springfield, MA.
- Improvements include re-establishing a second mainline track and construction of station facilities
- The project is funded by $191 in federal grants through the High Speed Intercity Passenger Rail program and $272 million in state bonds.

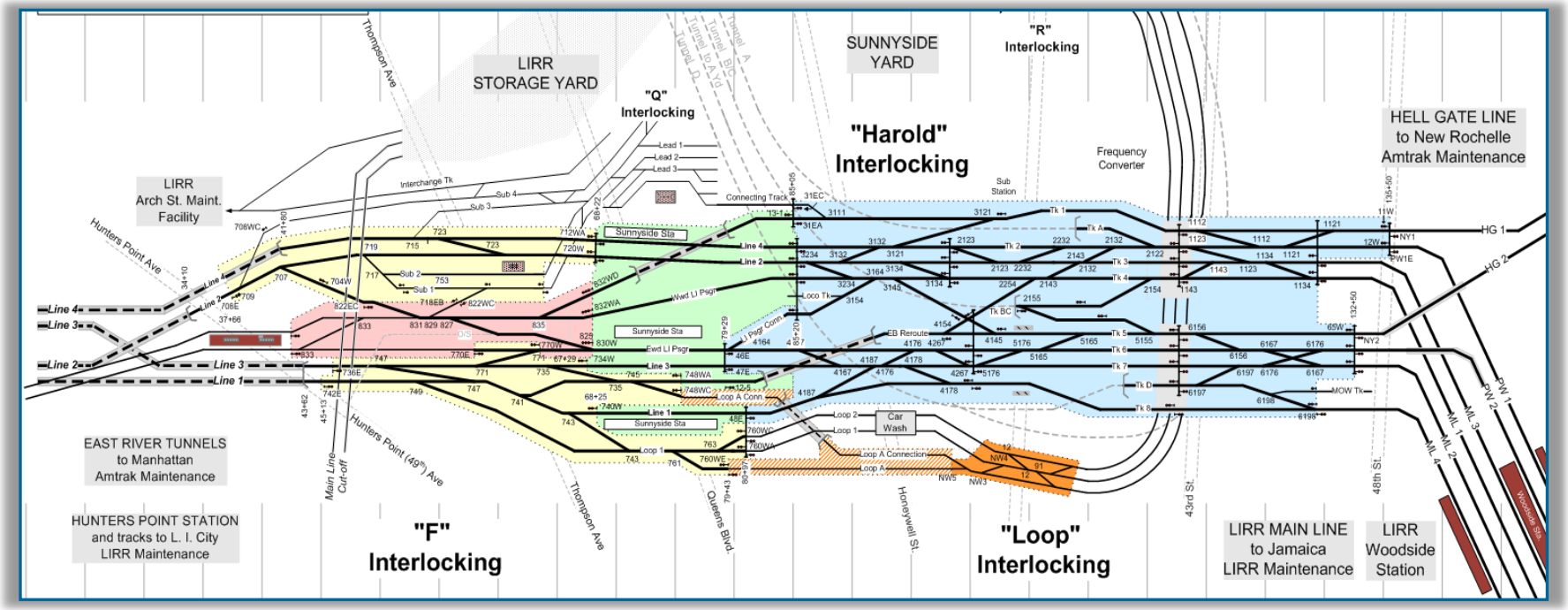
Harold Interlocking

Harold Interlocking Today

- Junction of Hell Gate, LIRR Main Line, Port Washington Lines and Sunnyside Yard
- 600+ weekday trains

MTA / Federal Partnership

- $440 m scope to construct grade separations for Hell Gate trains. Integrated into East Side Access design for GCT service
- 1,000 weekday trains



Thank you for your attention