

APTA and JITTI for Rail Symposium 2024

Enhancing Urban
Attractiveness and
Resilience

April 11, 2024

Catherine Rinaldi
President
MTA Metro-North Railroad



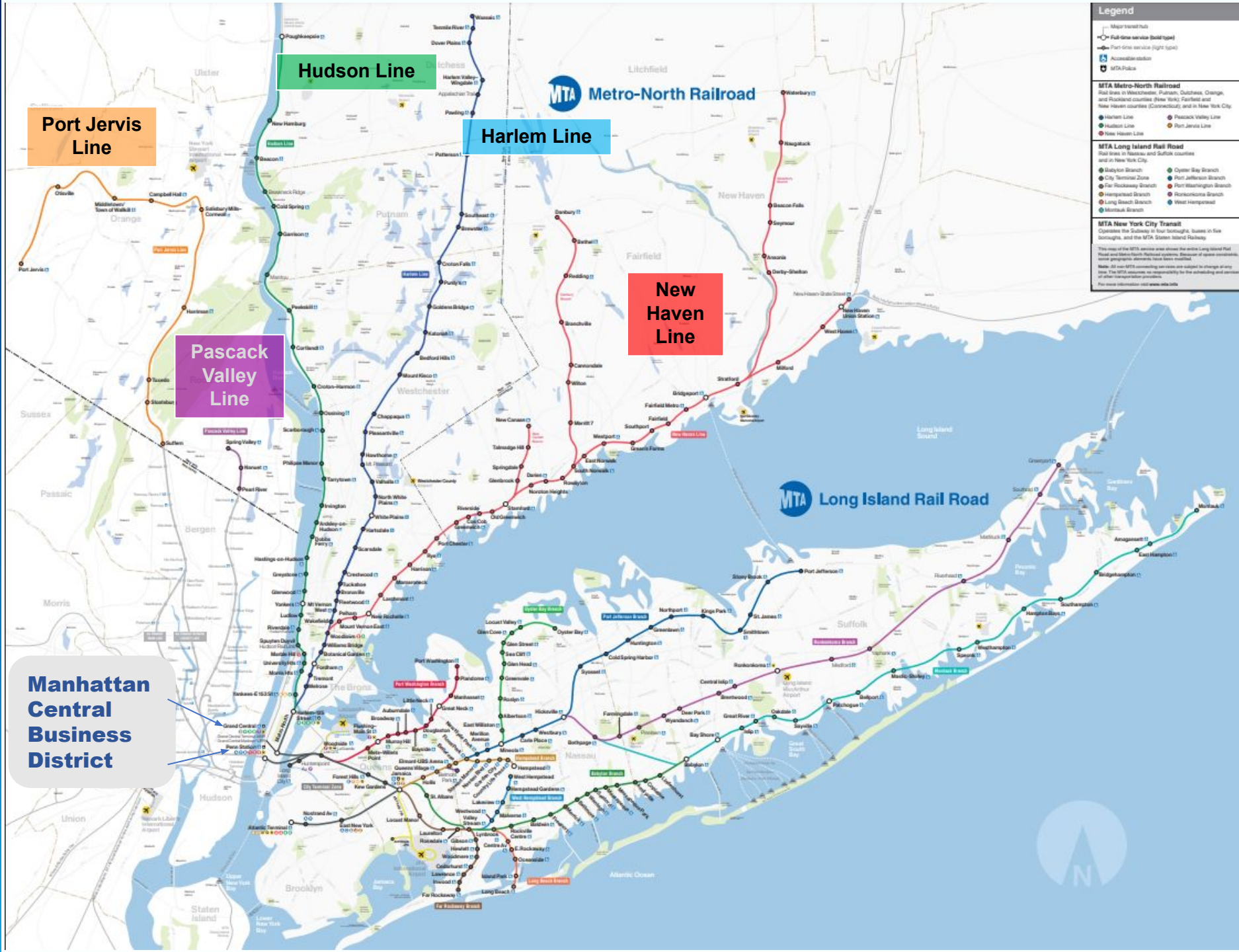
Metro-North Railroad & Long Island Rail Road Systems

Metro-North Railroad

- 5 Lines/3 Branches
- 124 Stations
- 787 active Miles of Track
- 746 Daily Revenue Trains
- 205,000 Weekday Ridership

Long Island Rail Road

- 11 Branches
- 126 Stations
- 707 active Miles of Track
- 947 Daily Revenue Trains
- 230,00 Weekday Ridership



Legend

- Major transit hub
- Full-time service (bold type)
- Part-time service (light type)
- Accessible station
- MTA Police

MTA Metro-North Railroad
Rail lines in Westchester, Putnam, Dutchess, Orange, and Rockland counties (New York); Fairfield and New Haven counties (Connecticut); and in New York City.

- Harlem Line
- Hudson Line
- New Haven Line
- Pascack Valley Line
- Port Jervis Line
- Westchester Line

MTA Long Island Rail Road
Rail lines in Nassau and Suffolk counties and in New York City.

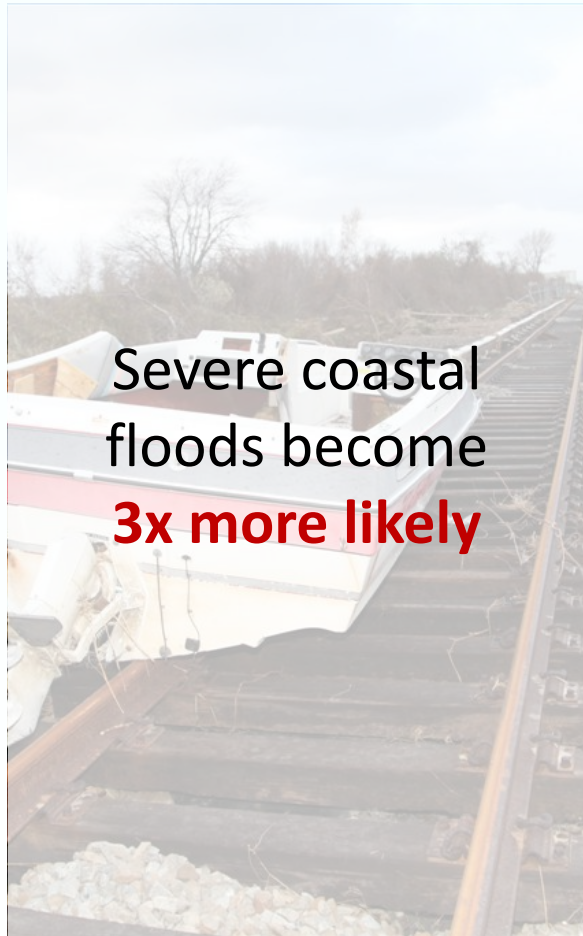
- City Terminal Zone
- Far Rockaway Branch
- Hempstead Branch
- Long Beach Branch
- Manhasset Branch
- Oyster Bay Branch
- Port Jefferson Branch
- Port Washington Branch
- Rosetonoma Branch
- West Hempstead Branch

MTA New York City Transit
Operates the Subway in four boroughs, states in five boroughs, and the MTA Staten Island Railway.

This map of the MTA service area shows the entire Long Island Rail Road and Metro-North Railroad systems. Boundaries of state boundaries, county boundaries, and other transportation facilities are not shown.
Note: All non-MTA connecting services are subject to change at any time. The MTA assumes no responsibility for the publishing and accuracy of other transportation products.
For more information visit www.mta.info

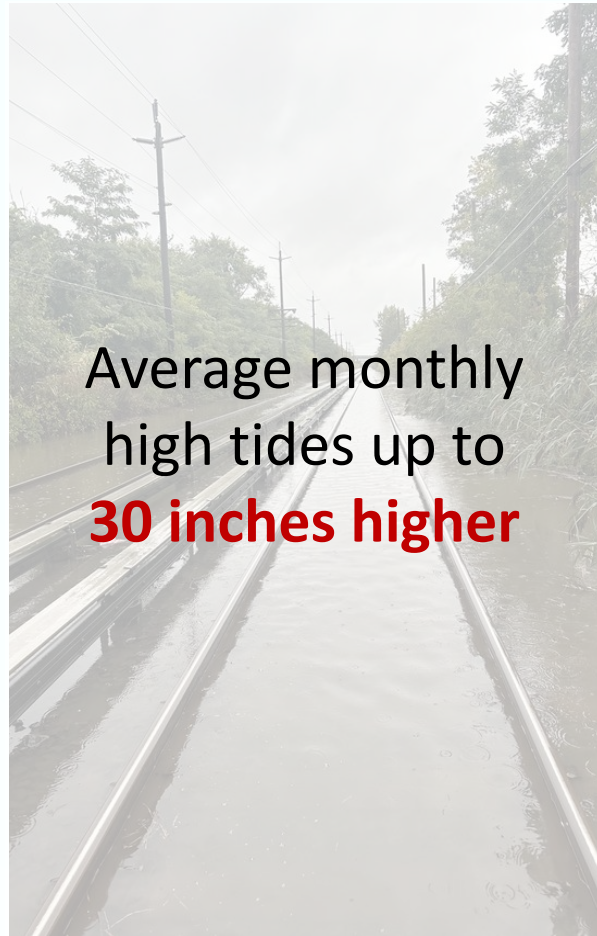
...between now and the 2050s...

Coastal surge



Severe coastal
floods become
3x more likely

Sea level rise



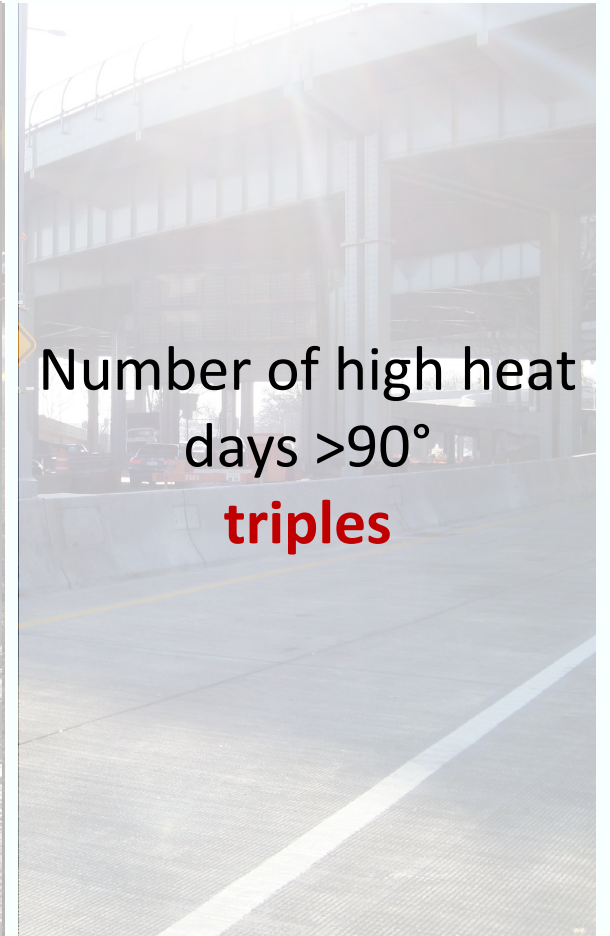
Average monthly
high tides up to
30 inches higher

Torrential rain



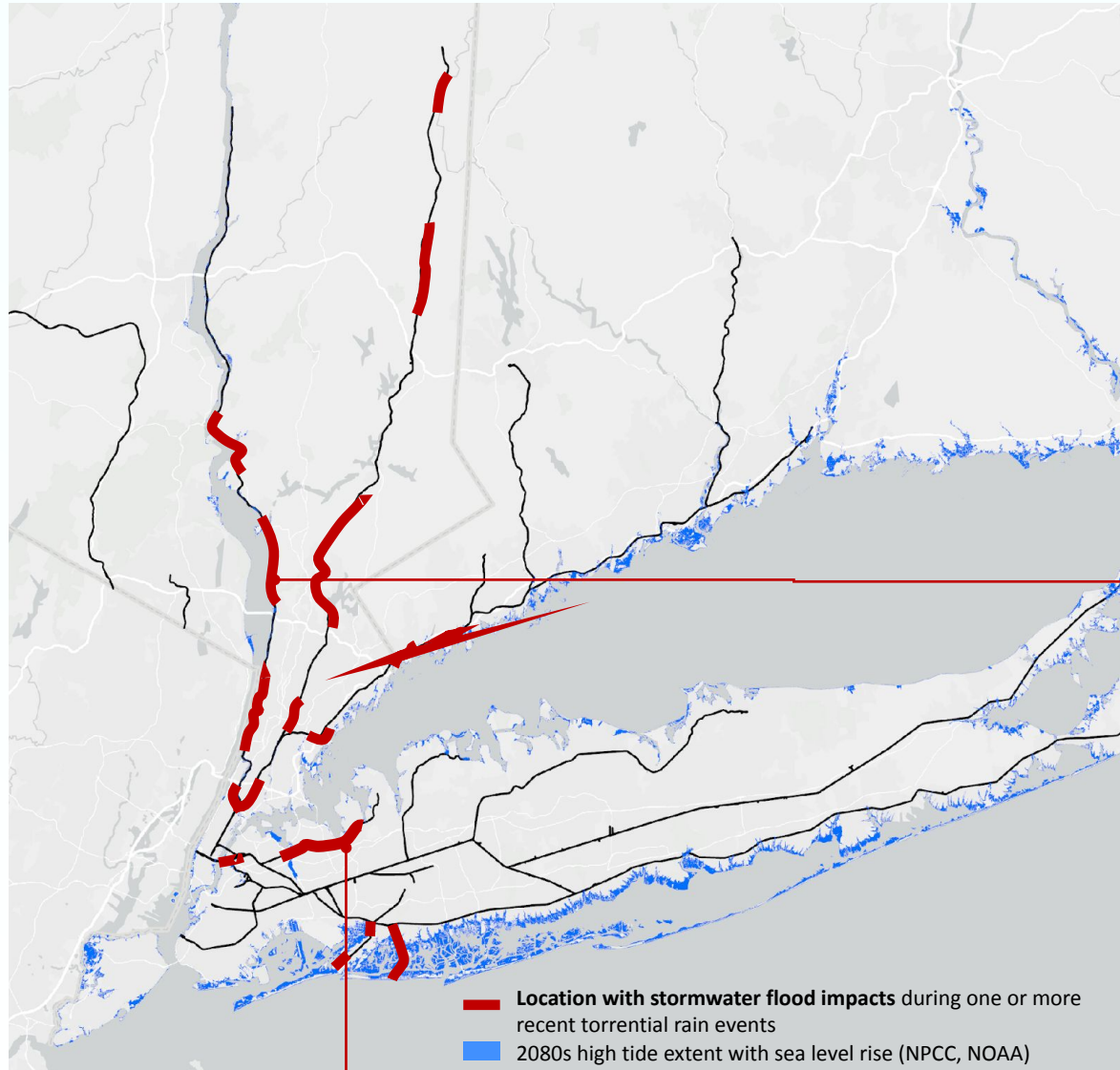
Number of
torrential rainfall
events
doubles

Extreme heat

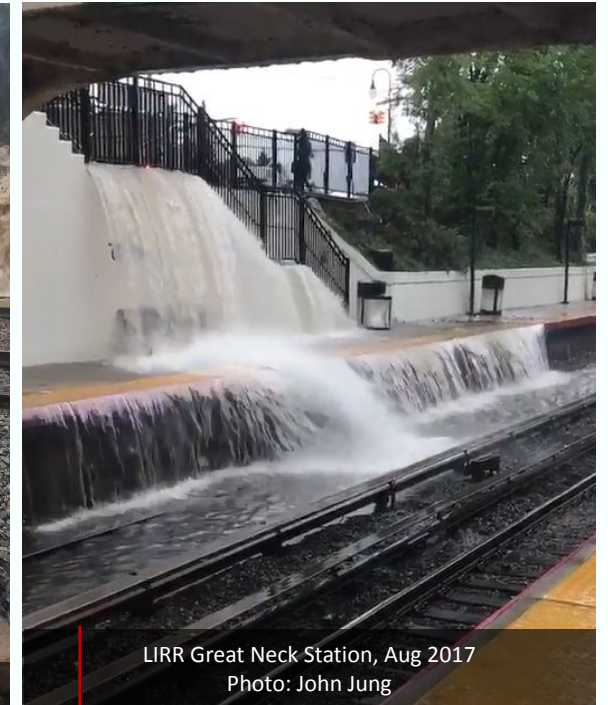
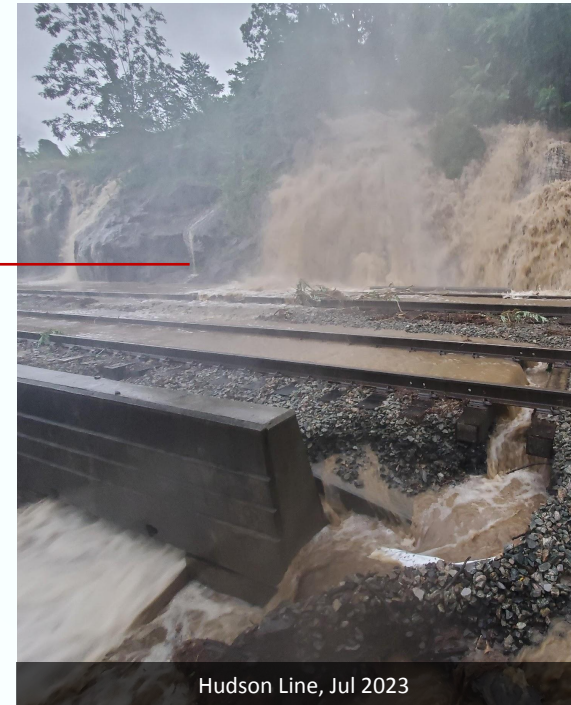


Number of high heat
days >90°
triples

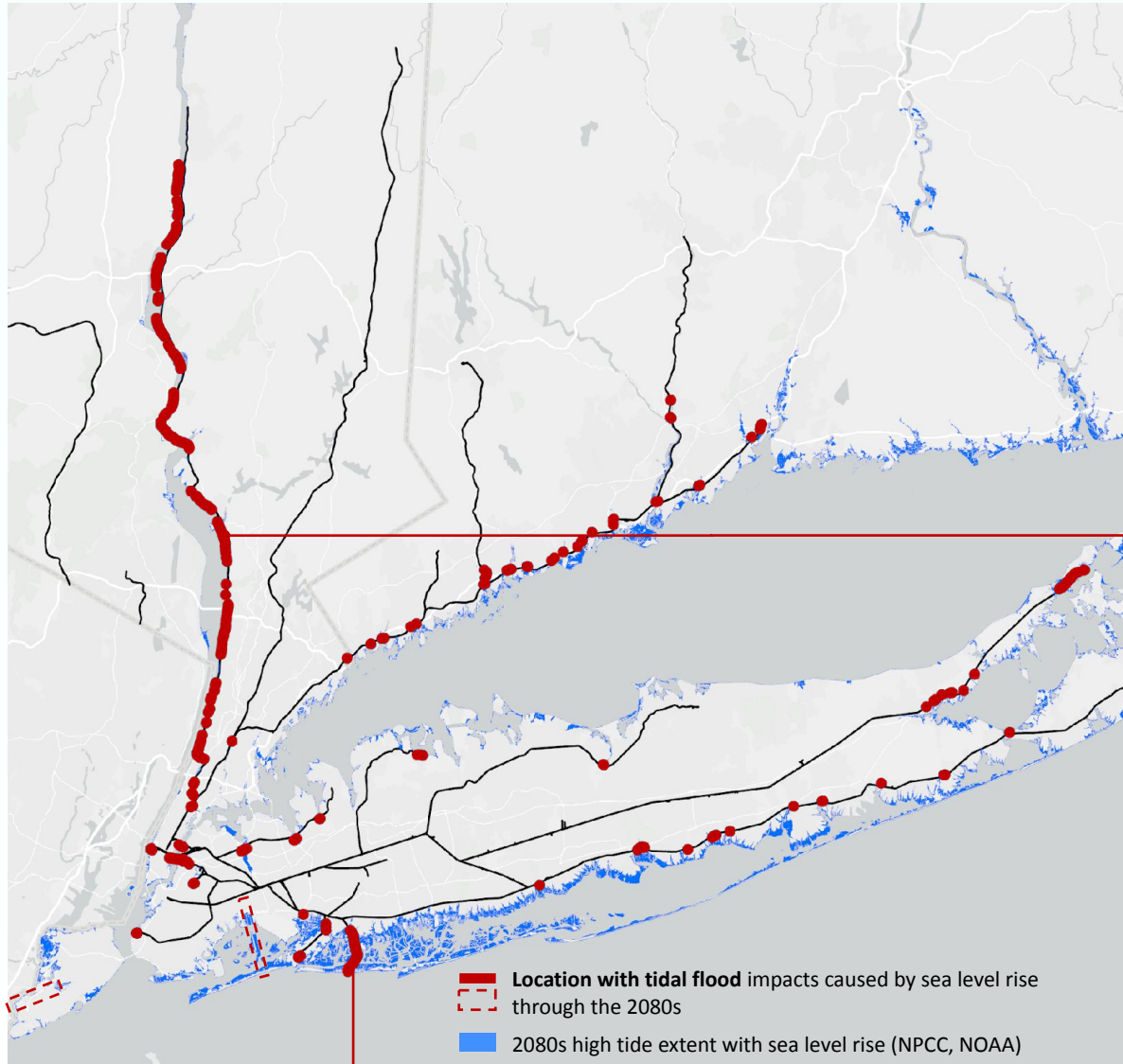
Regional railroad tracks and yards



- **Torrential rain** impacts tracks and yards, causing damage and service delays
- About 41% of MNR track and 19% of LIRR track is adjacent to **steep slopes** or **embankments**, exacerbating **torrential rain** vulnerability



Coastal tracks



- **Sea level rise** will expose 64 miles of regional railroad track to monthly tidal floods by the 2050s, increasing to 175 miles by the 2080s
- About 5 miles of at-grade subway tracks are exposed to monthly tidal floods by the 2080s



Garrison Track Raising

Before



After



Harlem Line Signal Box Raising

Before



After



MTA TOD Mission

- **Connect the Region: New Housing and jobs should be convenient to MTA system**
- **Create Value: Generate revenue from MTA real estate interests and assets**



Design the public realm to improve access to transit

Residential Density

Direct, Open Site Lines

Pedestrian-Centric Design

Active Street Level Activity

Multi-Modal Connections

Accessibility

Public Open Space

Uninterrupted Public-Private Transition