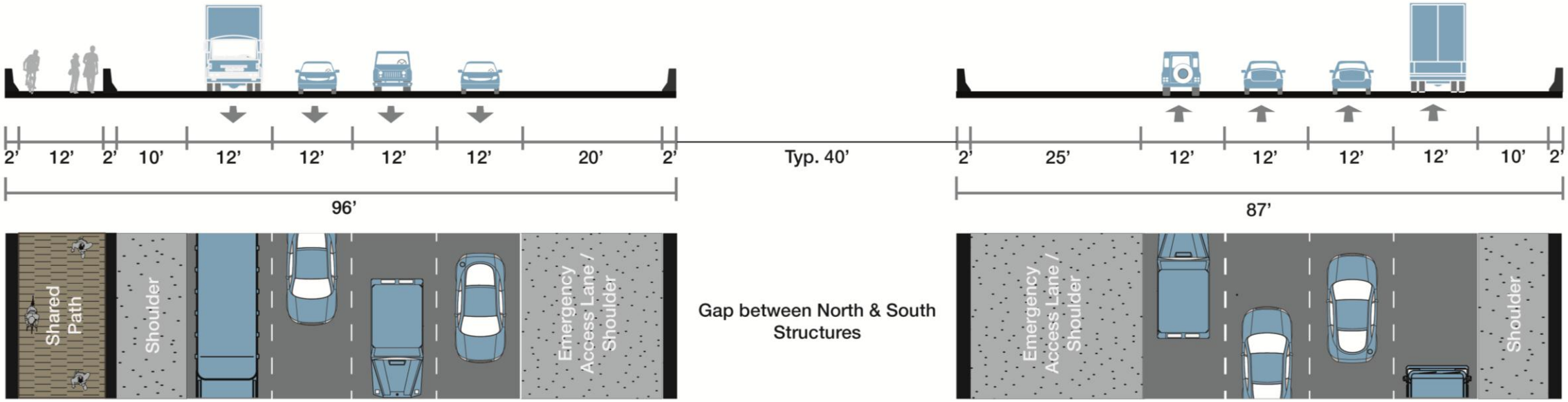
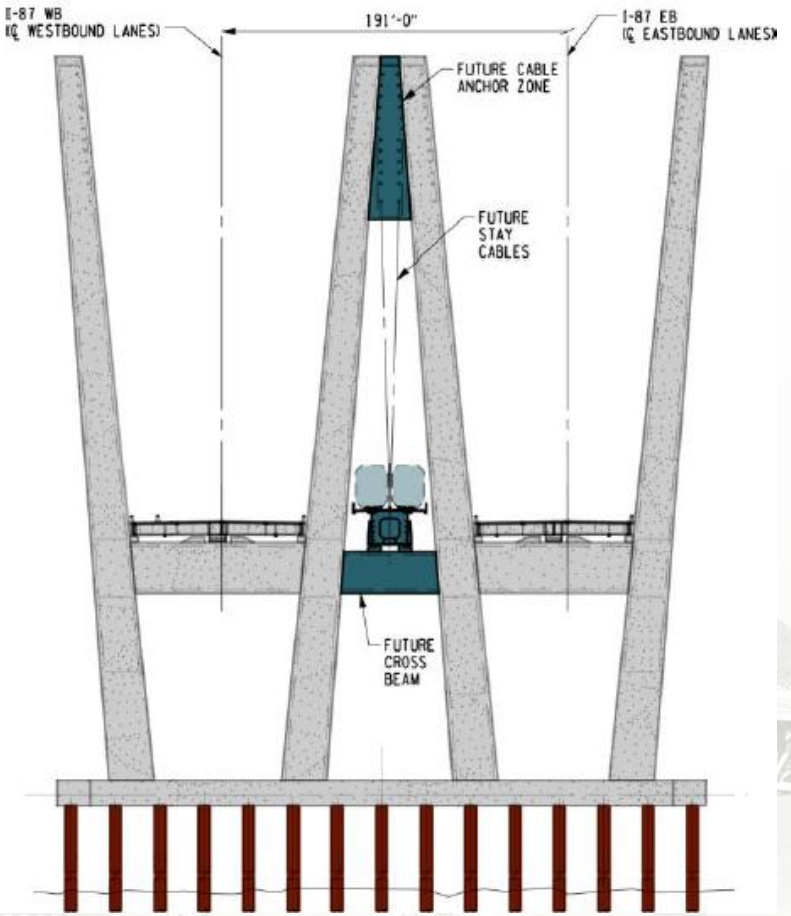
# Transit on the New NY Bridge

# TZB Cross Section




- North bridge incorporating 12ft shared use path and space for future bus lane
- South bridge with space for a future bus lane
- Gap between the two decks for “potential future loading”

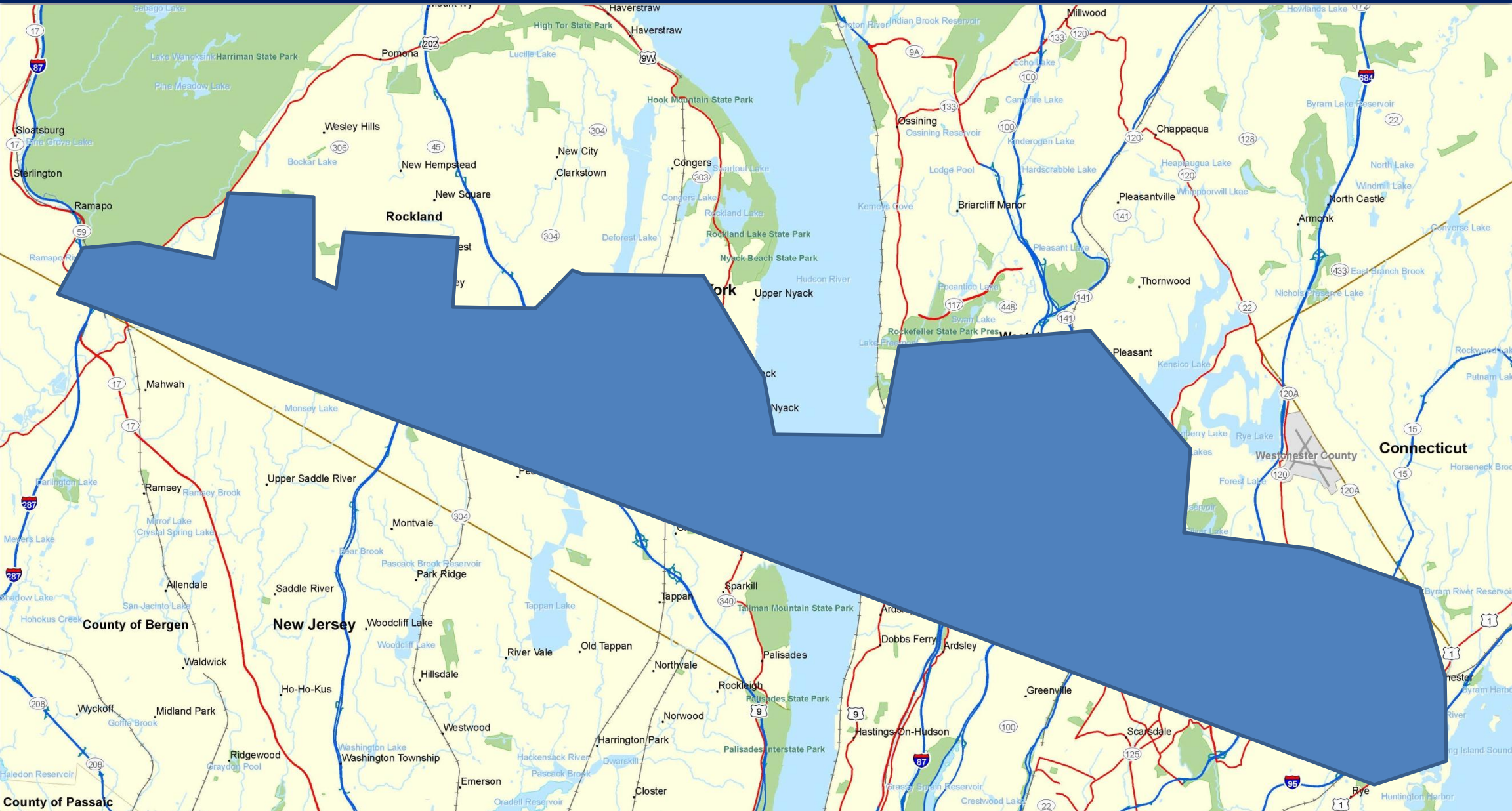
# Design-Builder's Strategy for Potential Future Loading




**Main Span Strategy**

# Corridor

# Area of Transit Consideration



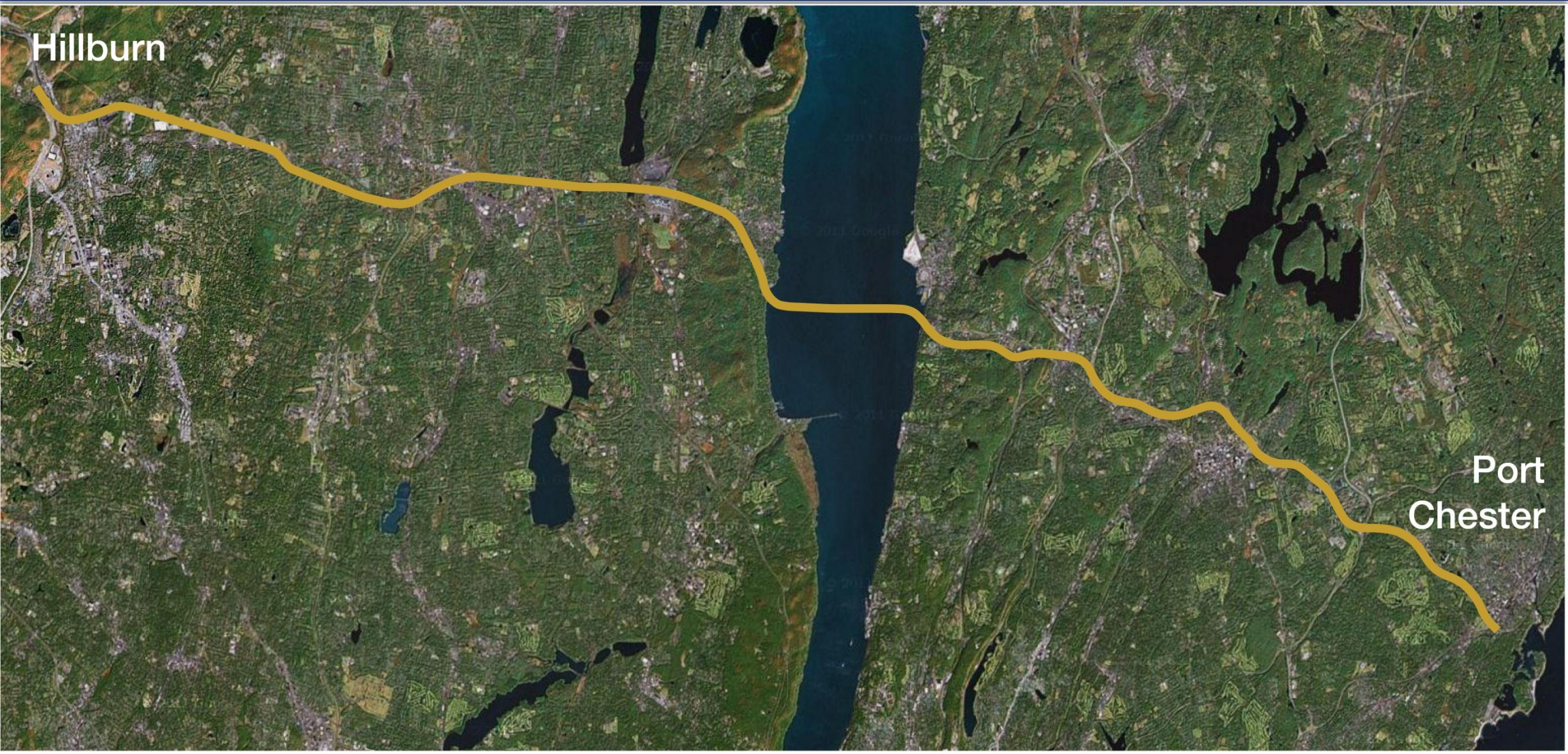
# Previous Studies

# Previous Studies

- **Tappan Zee Bridge/I-287 Corridor Transit Mode Selection Report (2009)** :
http://www.newnybridge.com/documents/brt/tmsr.pdf
- **Tappan Zee Bridge/I-287 Transit Alignment Options Report (2011):**
http://www.newnybridge.com/documents/brt/taor.pdf
- **Tappan Zee Bridge/I-287 Corridor BRT Studies:**
http://www.newnybridge.com/documents/brt/index.html
- **Other Reports?**

# TZB / I-287: Final Alternatives

# TZB / I-287 Corridor Study Extents



# Mode Alternatives Explored

- Bus Rapid Transit (BRT)
- Light-Rail Transit (LRT)
- Commuter Rail Transit (CRT)

# BRT – Typical System Elements

- Exclusive transit lanes
- Simple route layout
- Signal prioritization
- Amenities at stops / Less frequent stops
- Multiple-door boarding and alighting
- Level boarding and alighting
- Fare prepayment / Frequent service
- Feeder network
- Coordinated land use planning
- Higher capacity vehicles
- Branded vehicles and stations
- Operating Speed: 8-12 MPH
- Distance between Stations: 0.25-2 Miles


# LRT– Typical System Elements

- Overhead power supply
- Can operate in mixed traffic
- Typically low top speeds than heavy / commuter rail: 20-60 MPH
- Distance between Stations: 1 Mile
- Close station spacing.
- Broad choice of guideway types.
- Short trains (one to four cars in length).
- (Coordination with local bus services.
- On-board fare collection.
- Moderate passenger capacity.



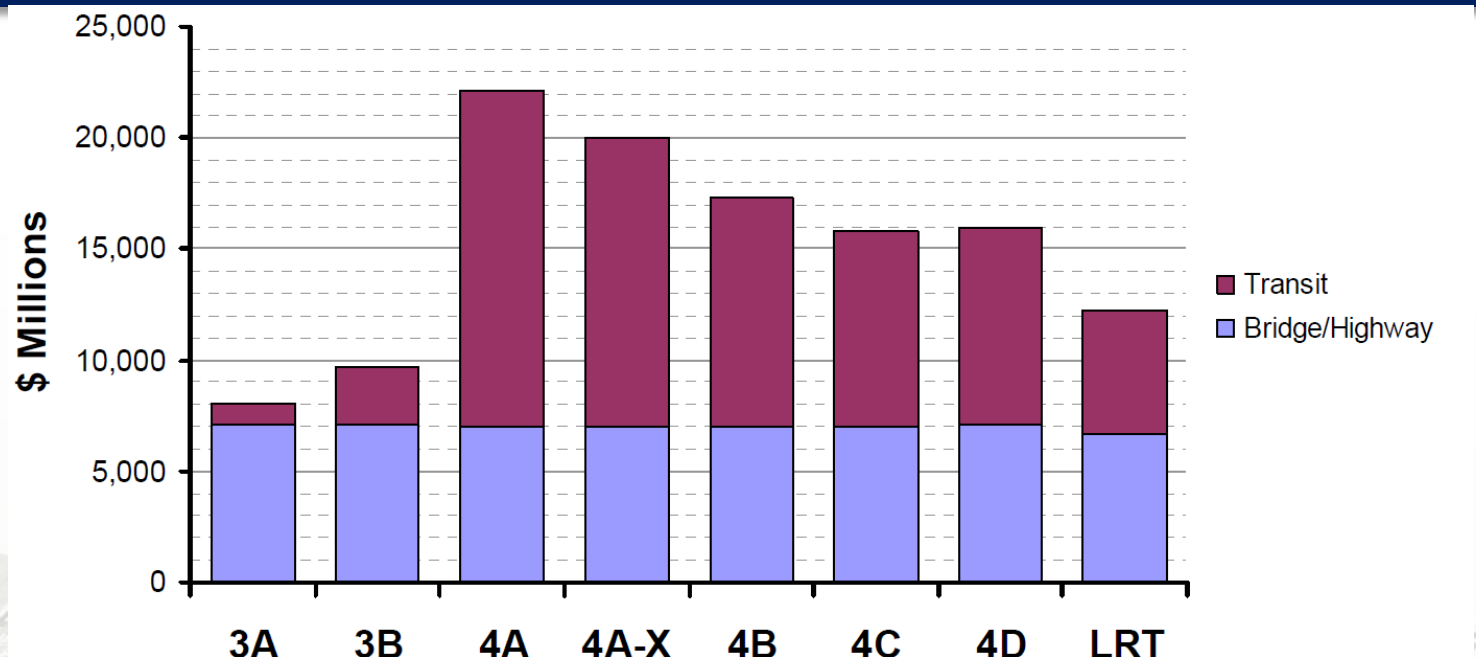
# CRT – Typical System Elements

- Electric or Diesel railway
- High top speeds (90 mph or more)
- Long station spacing (2-5 Miles)
- Guideways largely limited to exclusive ROWs
- Long trains (four to 10 cars)
- Coordination with local bus services
- On-board fare collection
- High passenger capacity
- Convenient transfers
- Station locations coordinated with land use plans
- Signal system


# Options / Alternatives Explored

| Mode | Alternative / Options | | Rockland<br>Suffern ← | Hudson Line Connection | Westchester<br>→ Port Chester |
|---|---|---|---|---|---|
| BRT | 3A | Full Corridor Bus Rapid Transit Westchester Local | In New BRT/HOT Lanes | Transfer | Exclusive Lanes/Busway |
| | 3B | Full Corridor Bus Rapid Transit Westchester Express | In New BRT/HOT Lanes | Transfer | Exclusive Busway |
| CRT | 4A | Full Corridor Commuter Rail Transit | | TZS Direct | |
| | 4A-X | Full Corridor Commuter Rail Transit | | Transfer | |
| LRT & CRT | 4B | Rockland Commuter Rail Transit Westchester Light Rail Transit | | TZS Direct | |
| BRT & CRT | 4C | Rockland Commuter Rail Transit Westchester Bus Rapid Transit | | TZS Direct | Exclusive Lanes |
| | 4D | Rockland Commuter Rail Transit Full Corridor Bus Rapid Transit | + In New BRT/HOT Lanes | Direct | Exclusive Lanes/Busway |
| LRT | LRT | Full Corridor Light Rail Transit | | Transfer | |

# Options / Alternatives Explored: Estimated Capital Cost

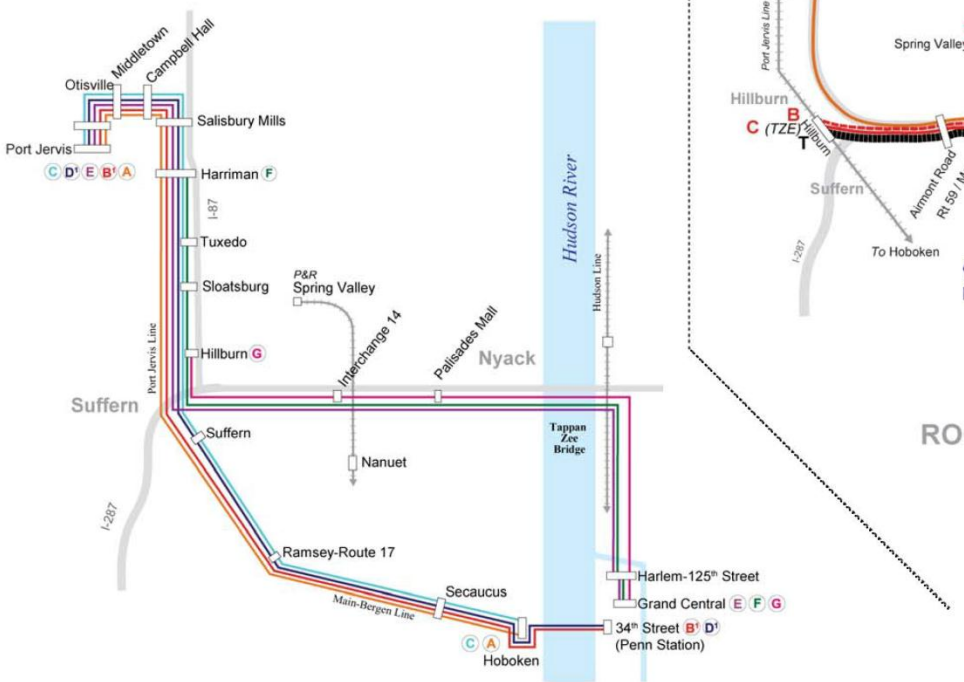



| | Capital Cost Estimate (millions) 2012 dollars | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **3A** | **3B** | **4A** | **4A-X** | **4B** | **4C** | **4D** | **LRT** |
| **Bridge/Highway** | $7,130 | $7,130 | $6,980 | $6,980 | $6,980 | $6,980 | $7,130 | $6,690 |
| **Transit** | $897 | $2,548 | $15,111 | $13,022 | $10,372 | $8,775 | $8,869 | $5,561 |
| | **$8,027** | **$9,678** | **$22,091** | **$20,002** | **$17,352** | **$15,755** | **$15,999** | **$12,251** |

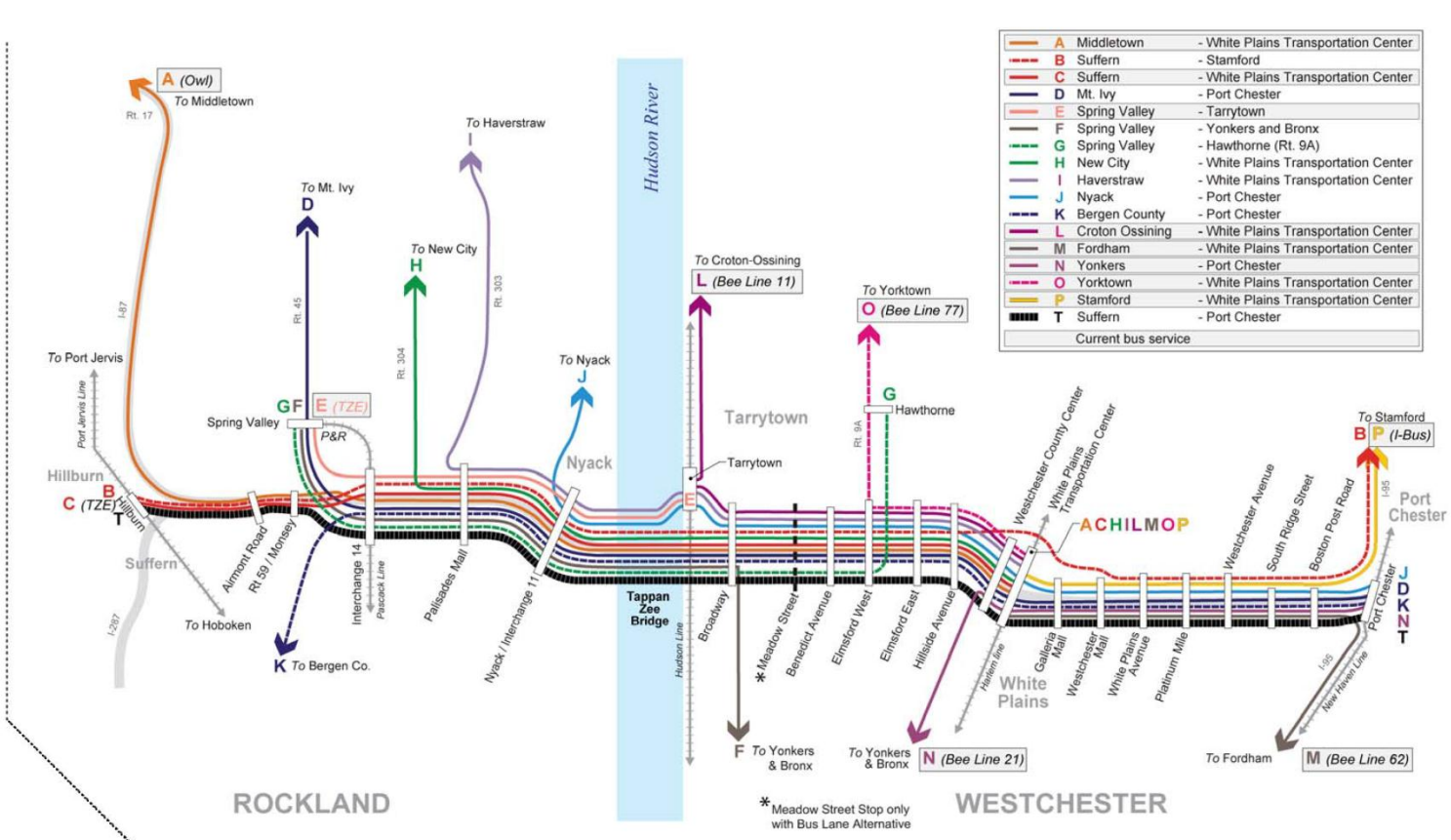
# DEIS Option: CRT in Rockland to GCT / BRT Full Corridor

| No. of Trains | Headways (minutes) | | |
|---|---|---|---|
| 1 | 60 | A | Port Jervis - Hoboken |
| 1 | 60 | B[1] | Port Jervis - New York Penn Station |
| 1 | 60 | C | Port Jervis - Hoboken |
| 1 | 60 | D[1] | Port Jervis - New York Penn Station |
| 2 | 30 | E | Port Jervis - Grand Central Terminal |
| 4 | 15 | F | Harriman - Grand Central Terminal |
| 4 | 15 | G | Hillburn - Grand Central Terminal |

[1] Additional trains in 2017 & 2047 using the Trans Hudson Express Tunnel

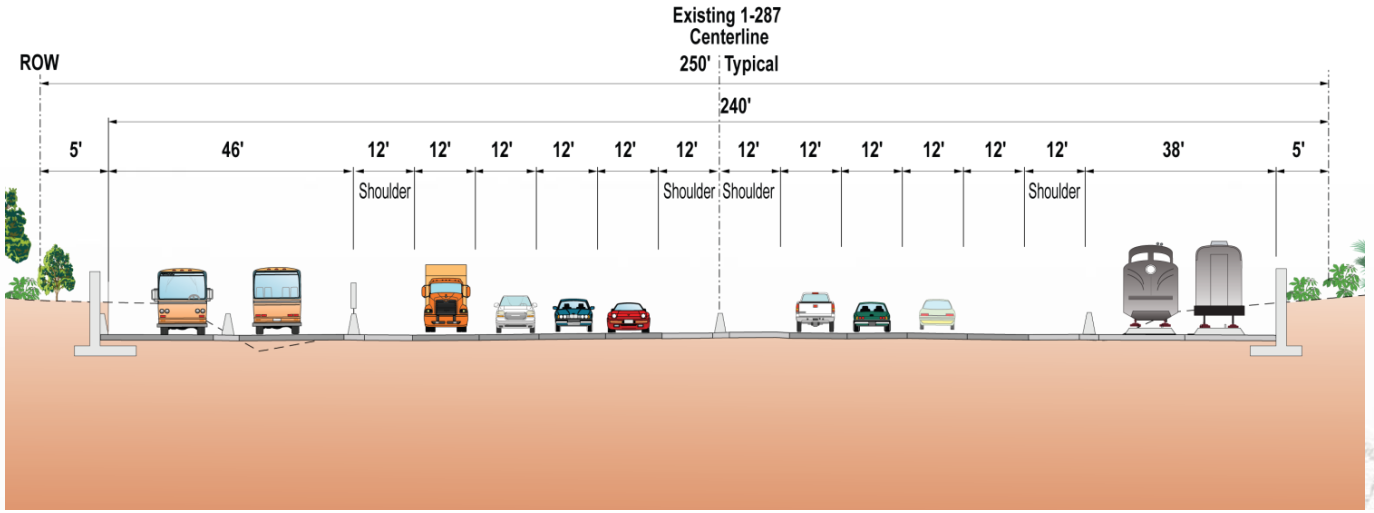



Commuter Rail Transit Service Plan

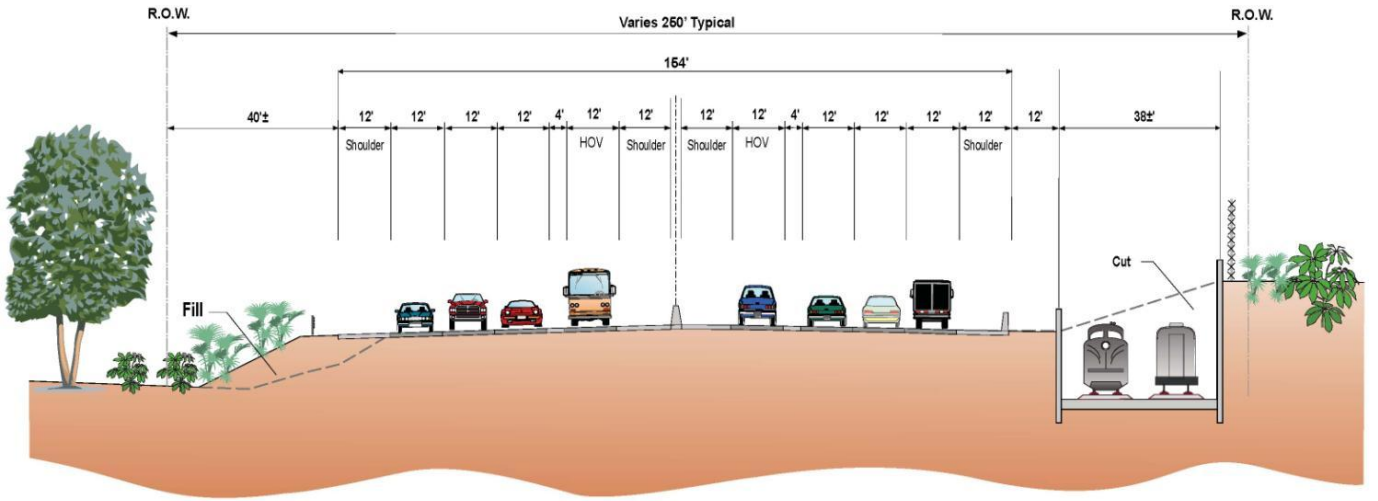



Bus Rapid Transit Service Plan

# Cross-Rockland Route Options

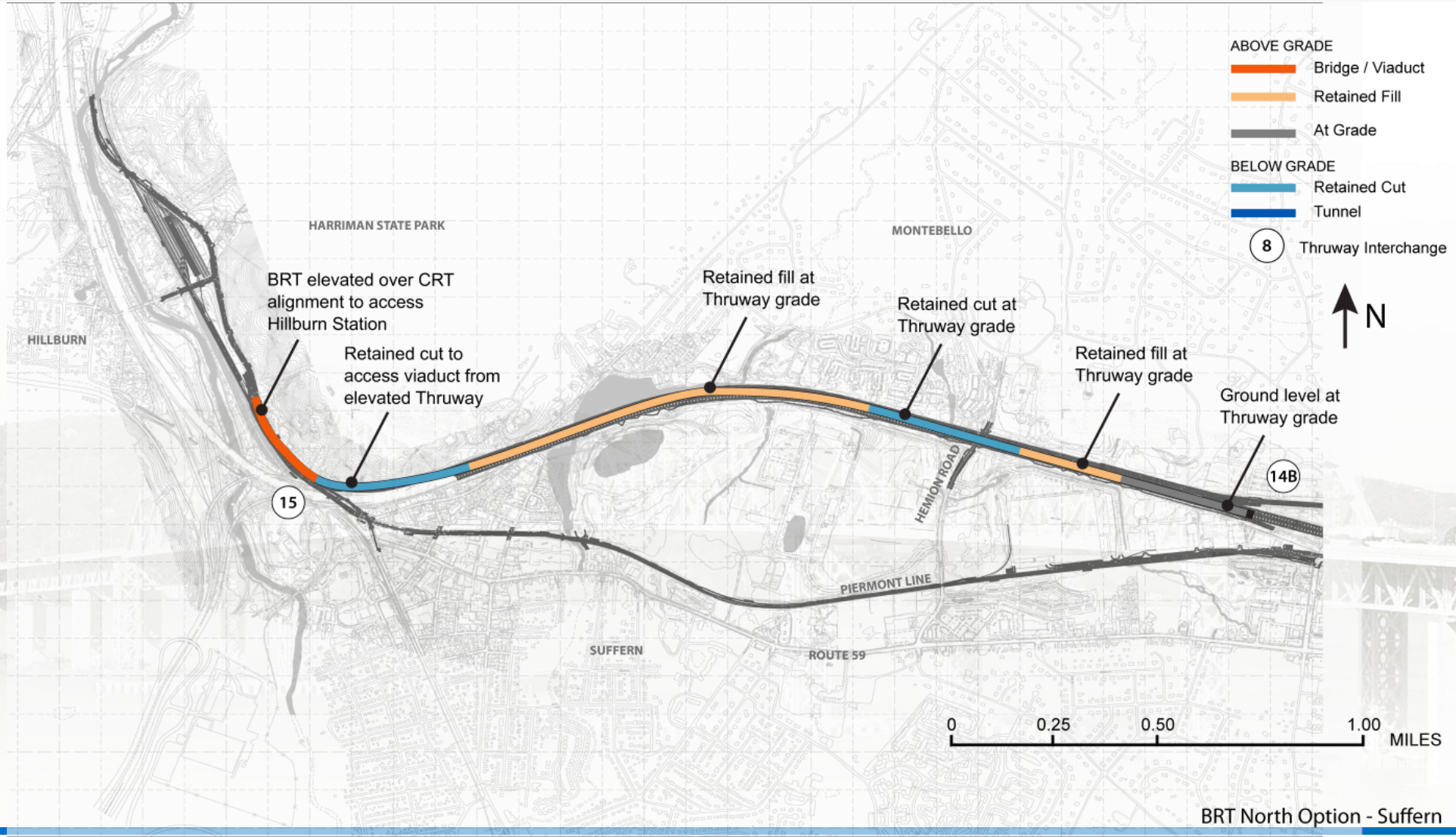



Dedicated Busway to the north of the I-287

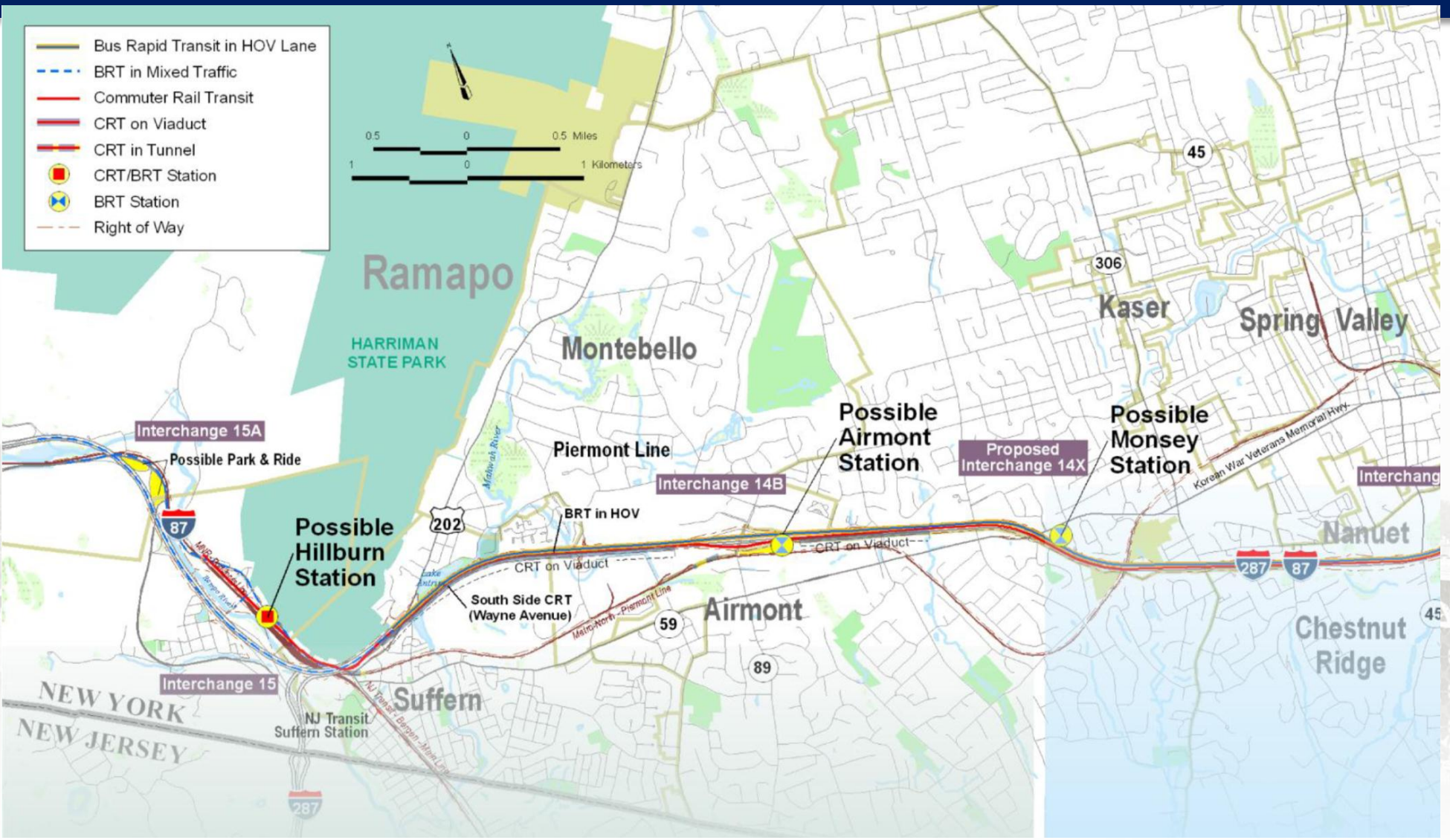



BRT in HOV lanes in the center of the I-287

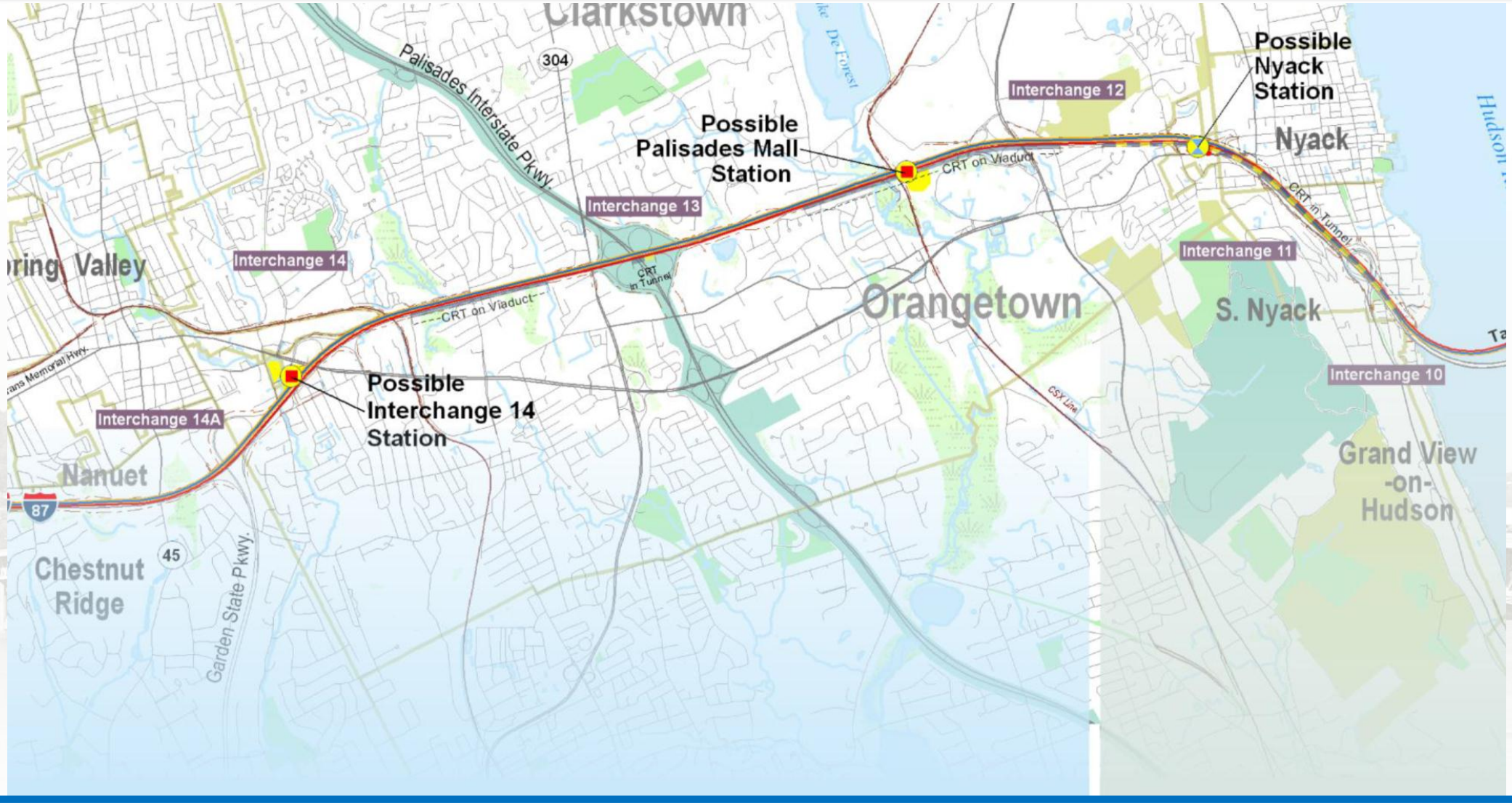
# Busway North: Int 15 to Int 12



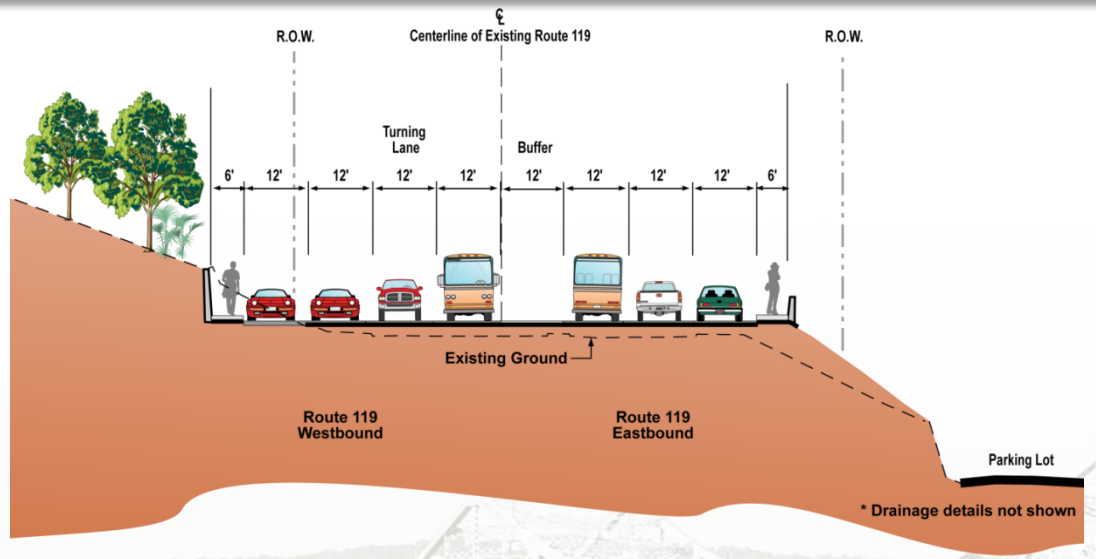
# BRT in HOV Lanes: Int 15 to Int 12

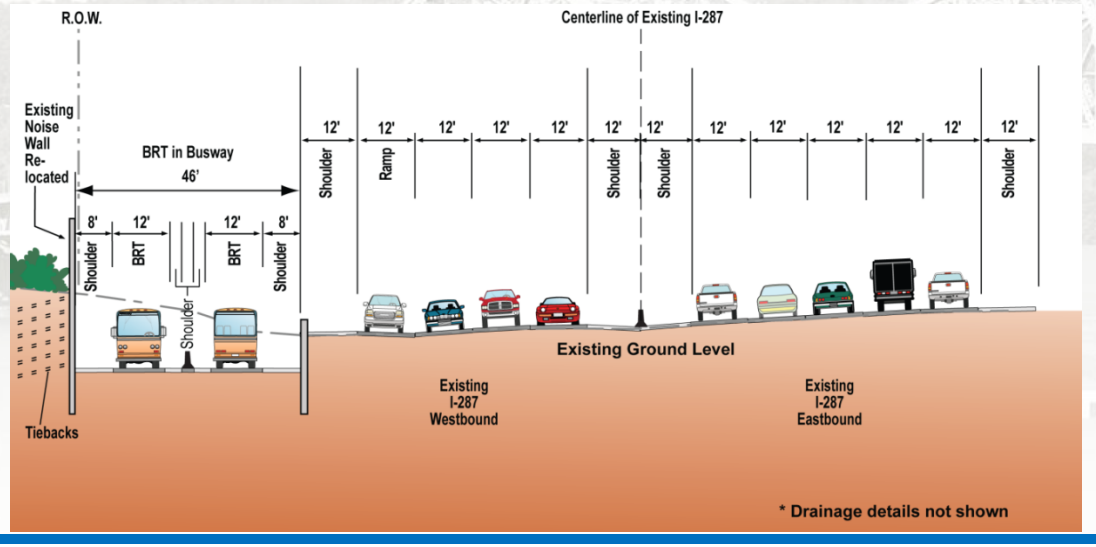


# BRT in HOV Lanes: Int 12 to TZB



# Cross-Westchester Route Options




Bus Lanes

– Lane conversion

Busway

– Dedicated busway next to highway

# Bus Lane - Lane Conversion in Westchester

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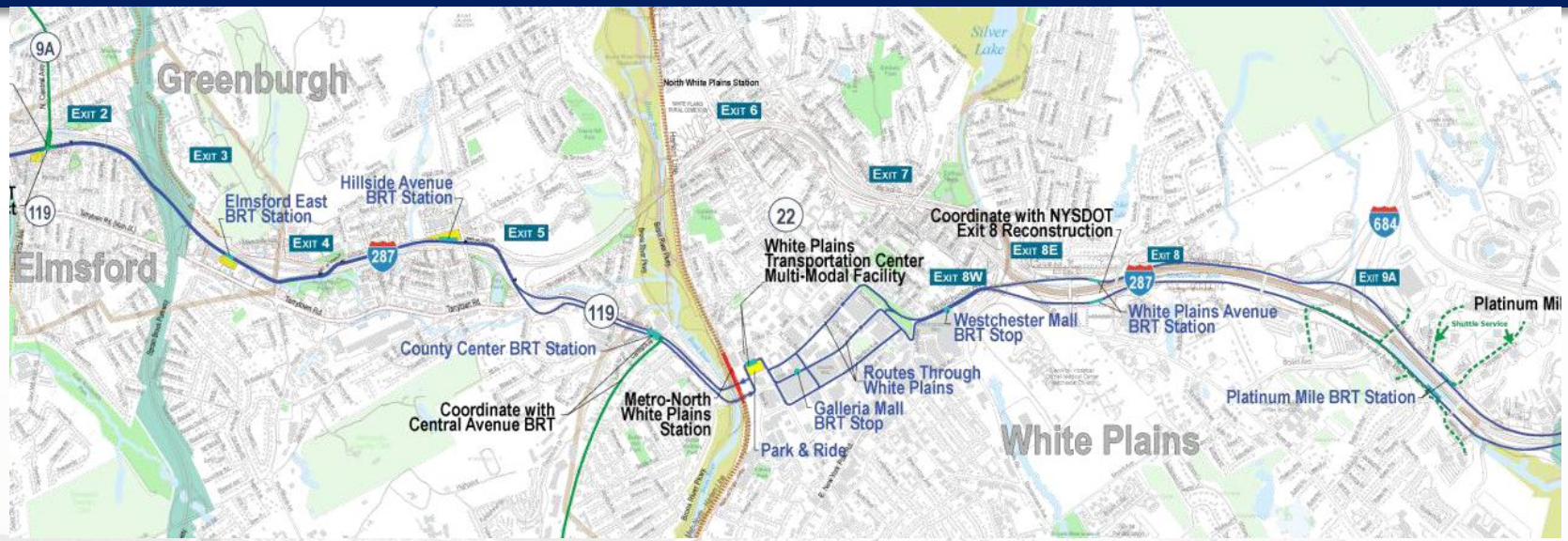
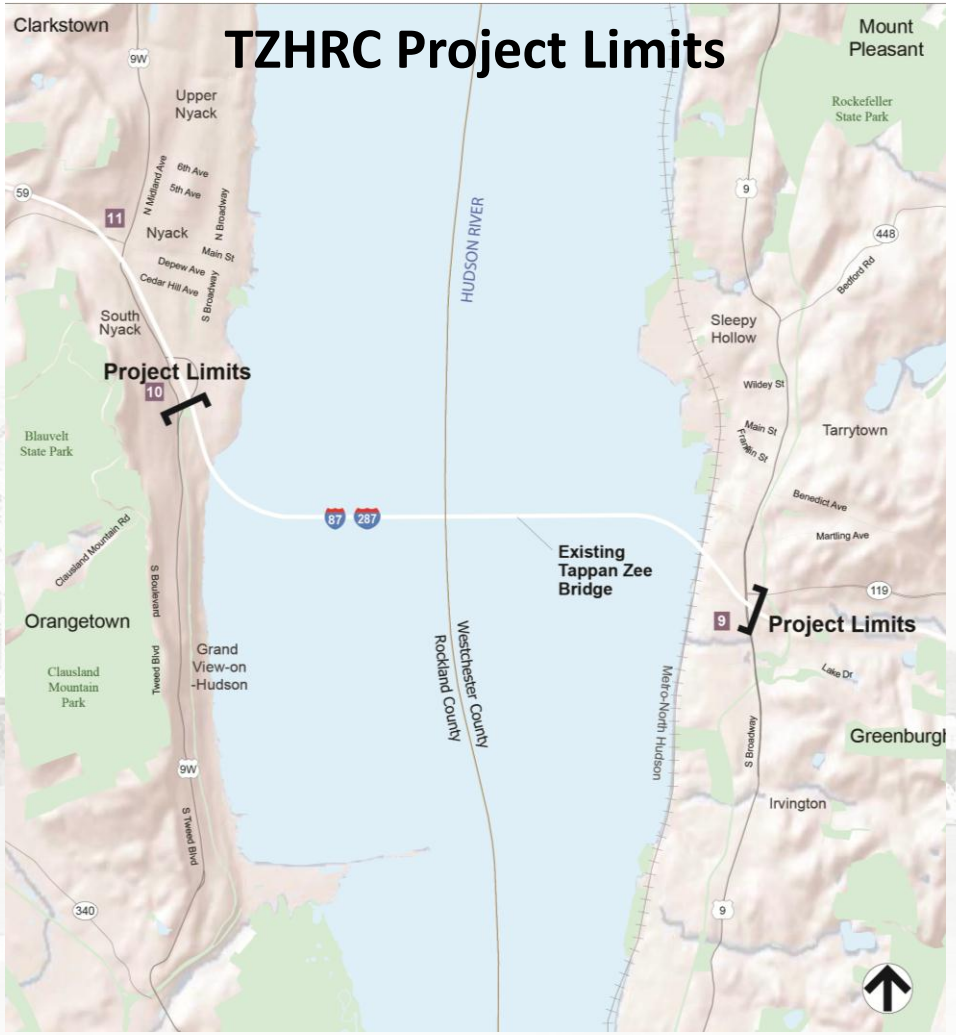



# Busway in Westchester

# Project Status

- August 2011 – Governor calls a halt to the TZB / I 287 30 Mile Corridor project
- Tappan Zee Hudson River Crossing (TZHRC) Project commenced in 2011, with smaller corridor and scope:
  - New Project Scope and NOI – October 2011
  - DEIS issued – January 2012,
    received 3400+ comments
  - FEIS issued July 2012
  - Record of Decision signed by FHWA 25th September 2012



# Next Steps

# Questions Moving Forward

- How to define the study area?
- What is the transit vision?
- Adopt TZB / I-287 study and provide phasing and funding plan? Or pursue alternative vision and study?