

Positive Train Control Project Status

Metro-North Railroad
Long Island Rail Road

January 28, 2014 CPOC

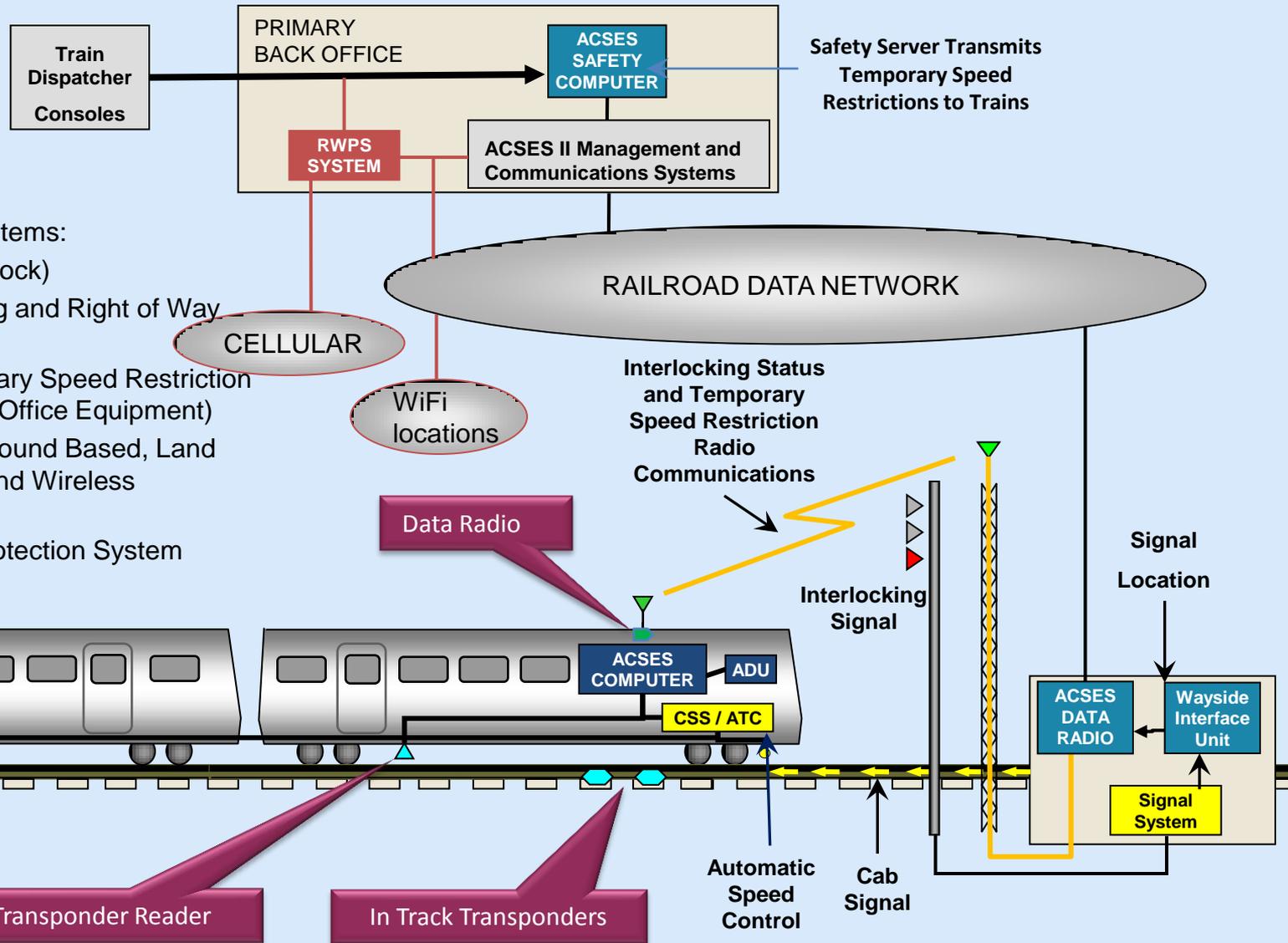


Positive Train Control Benefits

- On October 16, 2008, Congress passed the Rail Safety Improvement Act of 2008 requiring implementation of PTC by Dec. 2015.
- An approved PTC System must prevent the following:
 - Train-to-train collisions.
 - Over-speed derailments.
 - Injuries to workers as the result of unauthorized incursions by train into a work zone.
 - Movement of a train through an improperly aligned switch



PTC System Design

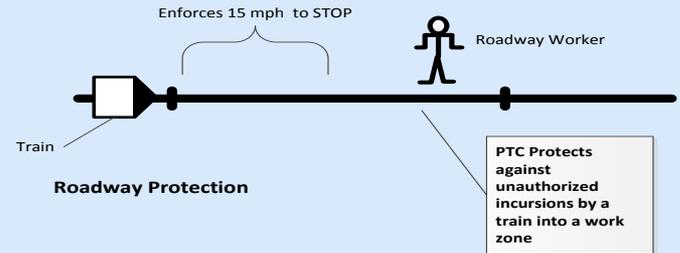
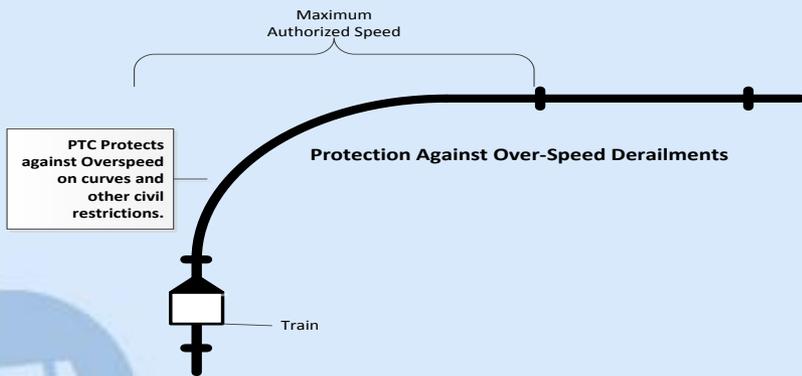
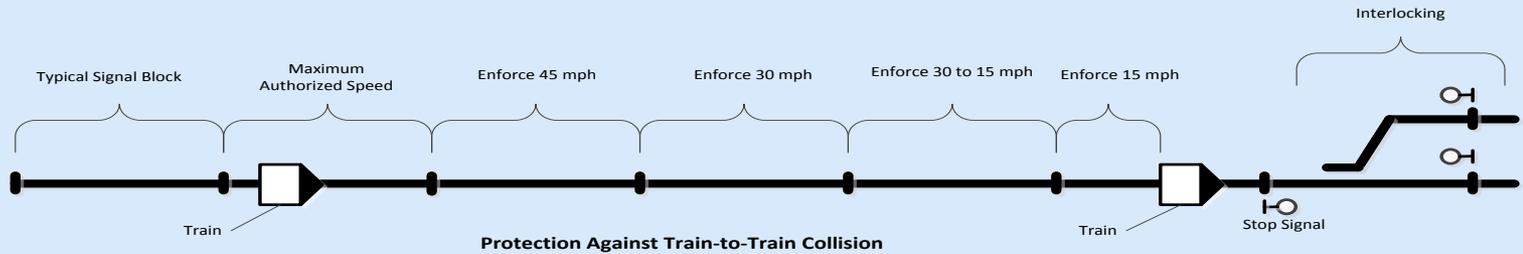
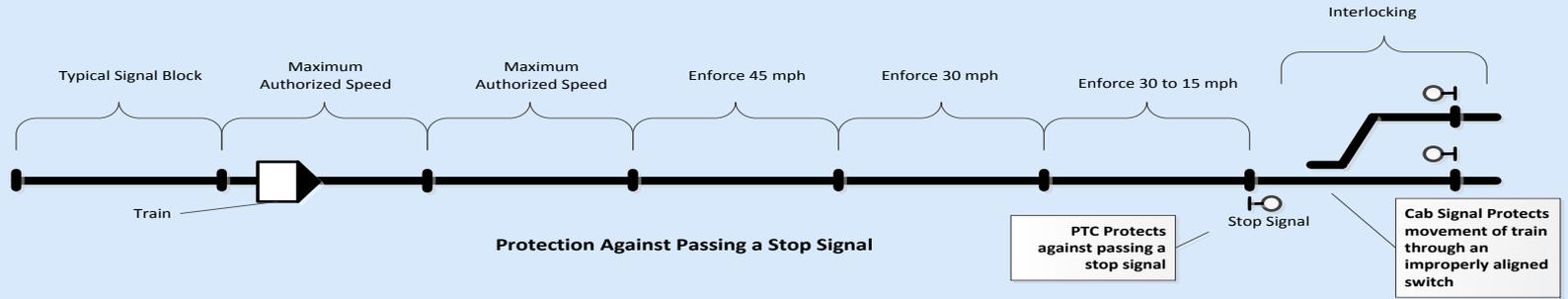


ACES II major subsystems:

- On-Board (Rolling Stock)
- Wayside (Interlocking and Right of Way Infrastructure)
- Back Office (Temporary Speed Restriction Servers and Central Office Equipment)
- Communications (Ground Based, Land Mobile Data Radio and Wireless Networks)
- Roadway Worker Protection System (RWPS)



What PTC Does

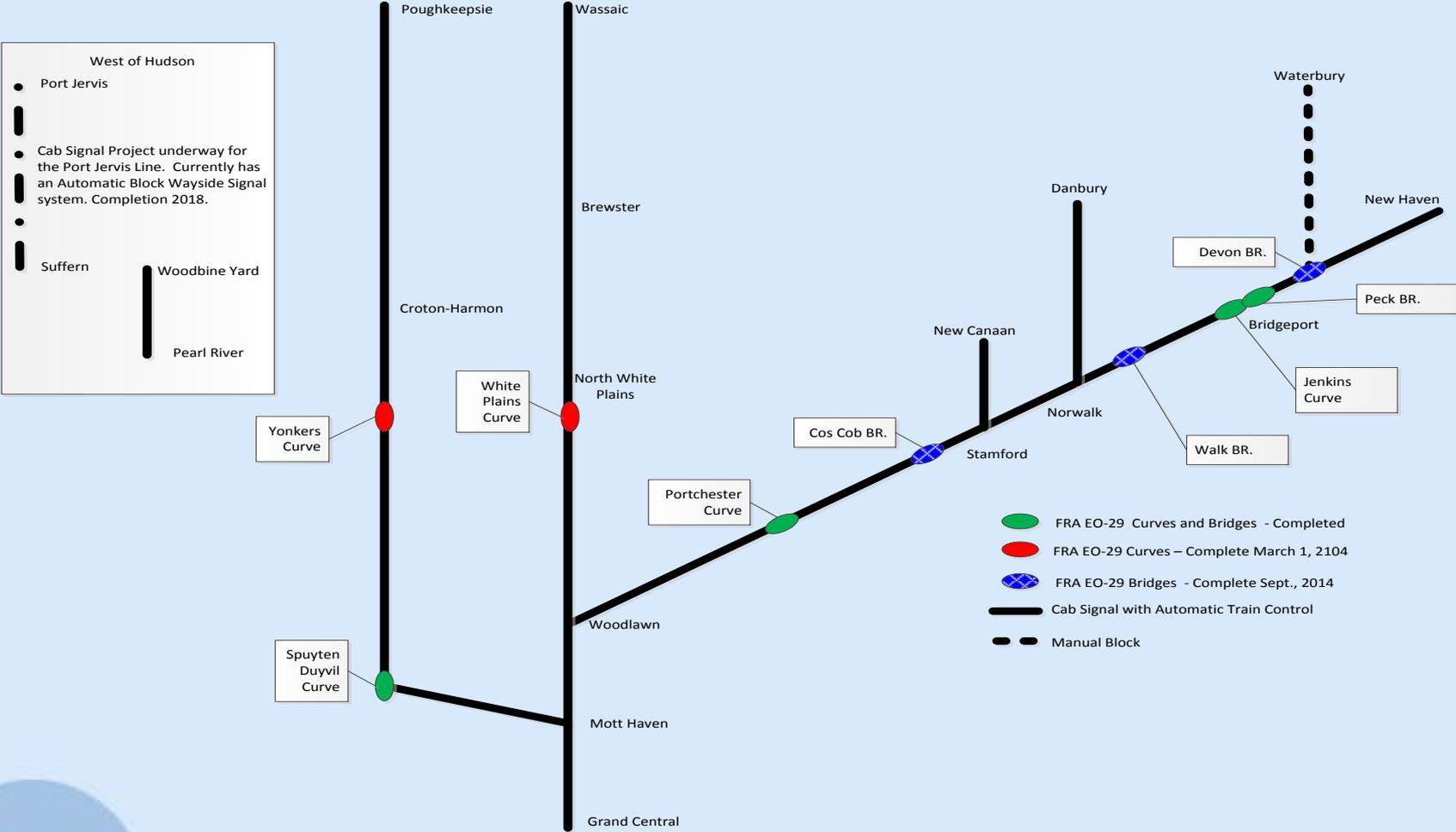


What Signaling Systems Do LIRR/MNR Have Today?

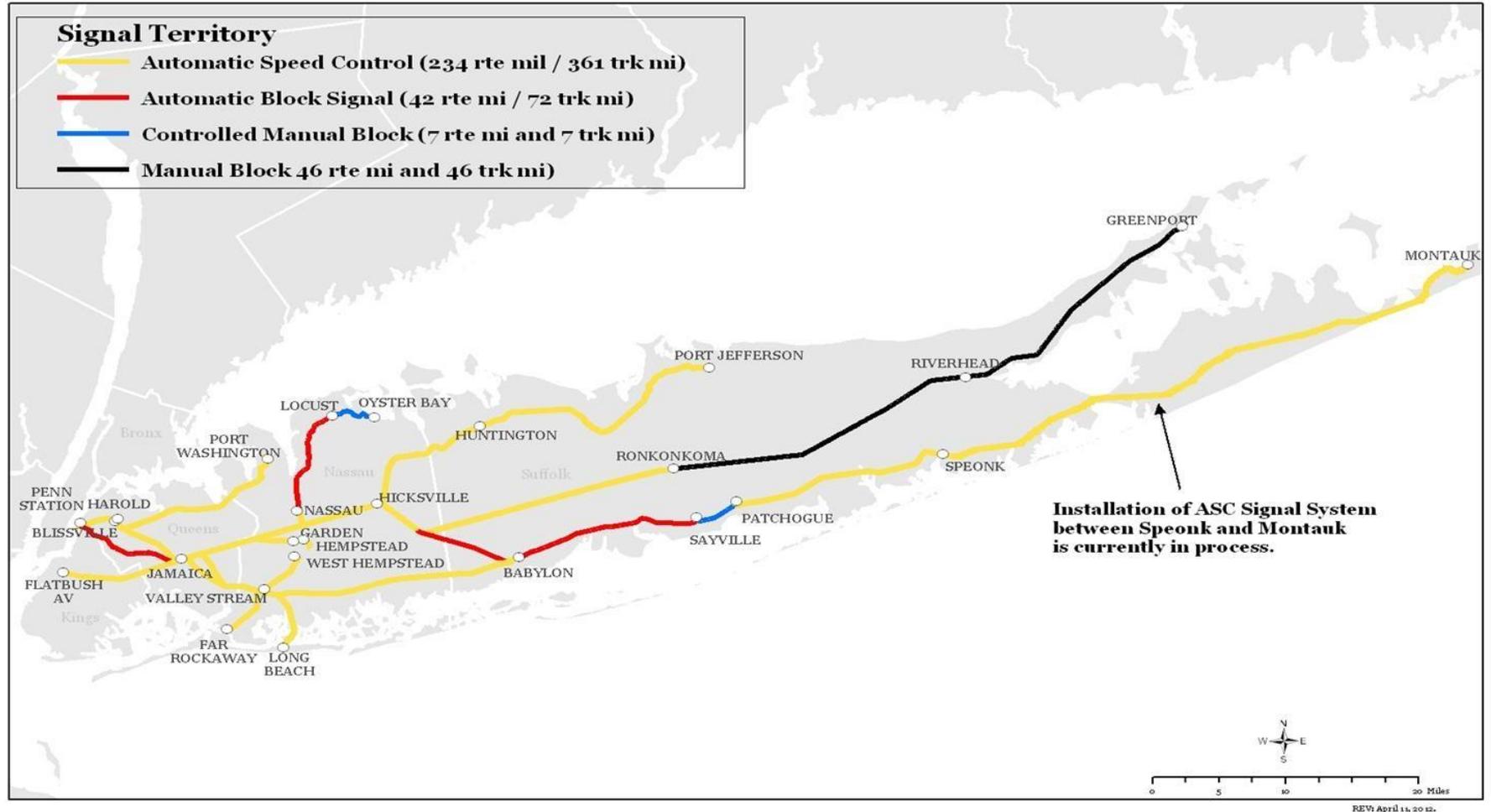
- Railroads primarily rely on Automatic Speed Control (ASC) with CAB signaling
 - Monitors train speed
 - Maintains safe braking distance
 - Maintains train separation
- Exceptions:
 - MNR Waterbury Branch
 - LIRR segments
- Railroads' ASC Improvements
 - Civil Speed Enforcement



Current MNR Cab Signal System



Current LIRR Signal System



PTC Implementation

- System Integration Contract with Joint Venture between Bombardier/Siemens.
- Schedule Risks.
- Pilot Testing including Roadway Worker Protection System.



Meeting Compliance Date of Dec. 2015

- Rail Industry Position
 - Demonstrate good faith efforts
 - Secretary of Transportation
 - Proposal on waivers



PTC Implementation Schedule and Acceleration

- Current Negotiations/Targeted Schedule Improvements
 - Metro-North
 - Enforce Civil and Maximum Authorized Speeds from New Haven to GCT by mid-2015.
 - Install PTC onboard kits on 336 M7s & 138 M3s 16 to 20 months earlier for Harlem and Hudson Lines by October 2017.
 - Complete installation of PTC on all wayside segments 12 months earlier – by July 2017.
 - LIRR
 - Complete Installation of PTC Wayside Kits in electric territory by 12 months earlier – July 2017.
 - Complete Installation of PTC On-Board Kits on 836 M-7 cars 16 months earlier by May 2017.

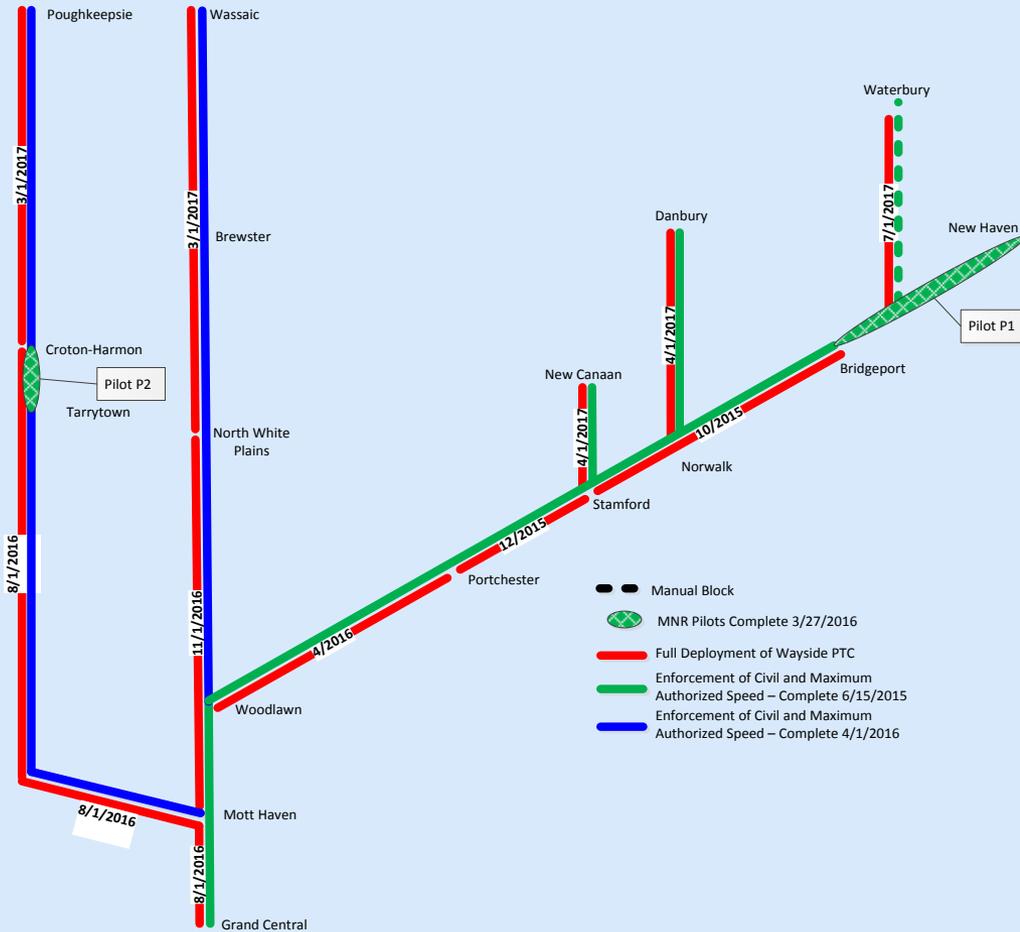


MNR Targeted PTC Implementation

West of Hudson

- Port Jervis
- ▬ Pascack Valley Line will be done by New Jersey Transit (NJT) and completed by June 2017. Port Jervis Line will be undertaken jointly (NJT to do rolling Sycock Installation and completed by January 2018.
- ▬ Suffern
- ▬ Woodbine Yard
- ▬ Pearl River

	On Board	Wayside
Dec. 31, 2015	129	30 Miles
Dec. 31, 2016	255	122.3 Miles
Dec. 31, 2017	443	270.4 Miles
Dec. 31, 2018	533	



- Manual Block
- ▬ MNR Pilots Complete 3/27/2016
- ▬ Full Deployment of Wayside PTC
- ▬ Enforcement of Civil and Maximum Authorized Speed – Complete 6/15/2015
- ▬ Enforcement of Civil and Maximum Authorized Speed – Complete 4/1/2016



LIRR PTC Targeted Implementation

MTA Metropolitan Transportation Authority
MTA Long Island Rail Road

Key

- Full Time Rail Station
- Accessible station
- Part Time Rail Station
- Major Transit Hub

© 1998 Metropolitan Transportation Authority
 Design: Michael Hertz Associates, NYC

Pilot 16 miles



Pilot 17 miles

	<u>Wayside</u>	<u>OnBoard</u>
Dec 31 2015	63 Miles	61 Units
Dec 31 2016	256 Miles	380 Units
Dec 31 2017	314 Miles	499 Units
Dec 31 2018	318 Miles	520 Units