



# ENABLING TRANSIT MOBILITY THROUGH ITS

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ARUP

# NYSDOT Lower Hudson Transit Link

## Project Overview



Owner: NYSDOT / Operator: Transdev  
USDOT 505166 / NYSDOT 38414

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### Lower Hudson Transit Link/I-287 ICM

- Lead Agency: NYSDOT
- Key Partners: NYSTA, USDOT, & Local Municipalities
- **Transit Stakeholders: Hudson Link, Bee Line, Transportation of Rockland (TOR), MTA-Metro North**

**Unique multi-modal integration involving integration of new bus operations into ICM system**



### Integrated Operations

- Communications/ Information Sharing
- **Transit Operations ICMS Integration**
- Decision Support System (DSS)

### Rapid Bus Service

- **4 new routes, 22 bus shelter locations**

### Ramp Metering

- 13 ramps on I-287

### Traffic signal upgrades

- 29 Adaptive Signal Control Locations
- **102 TSP Locations**
- 122 total traffic signal upgrade locations
- **13 Bus queue jumps**

### Enhanced Situational Awareness

- 72 Closed Circuit TV Locations (30 New, 39 existing being integrated)
- **24 Bus Shelter CCTV**
- 275 Traffic Detectors (117 new, 158 existing being integrated)

### Enhanced Provision of Traveler Information

- 135 VMS Locations (32 New, 103 existing being integrated)
- **Real Time Bus Information**

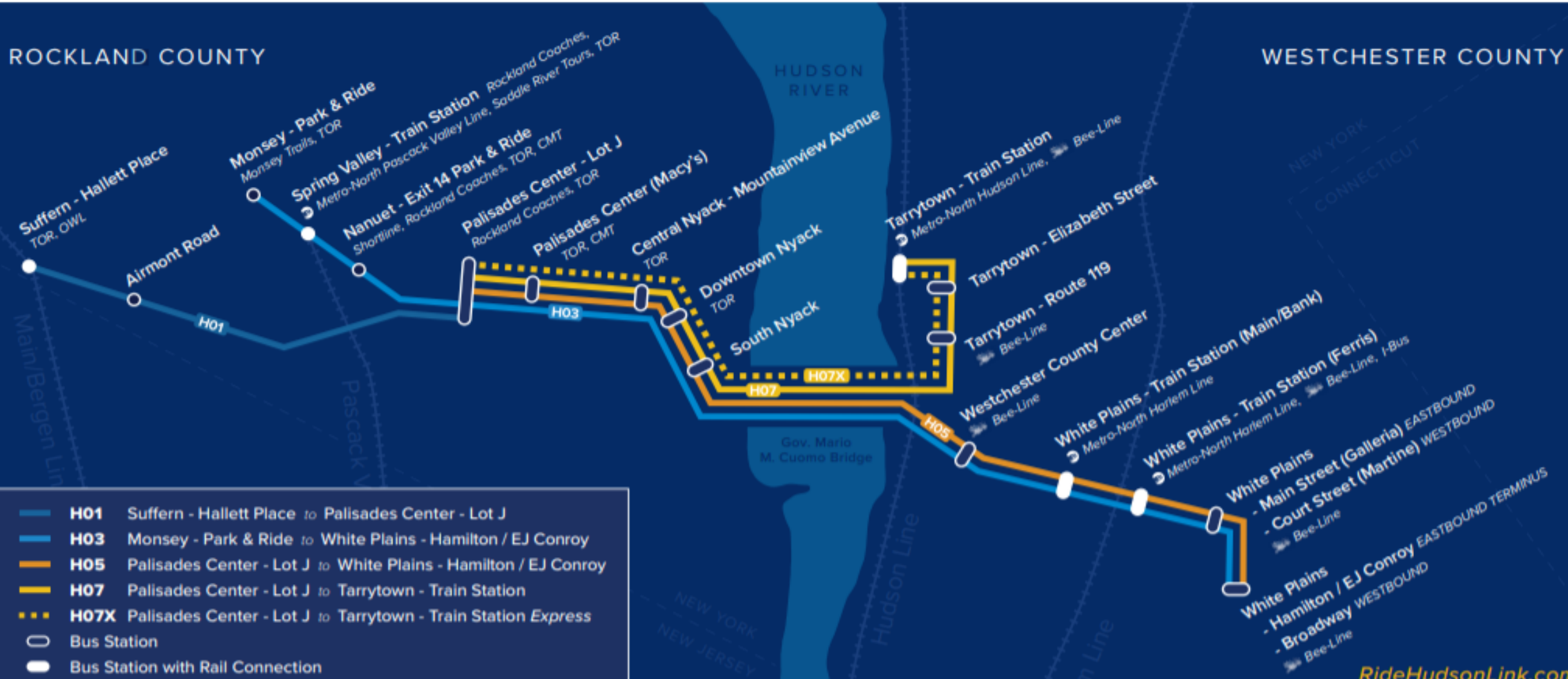
### Enhanced Safety

- 3 miles of pedestrian safety and ADA improvements

# Hudsonlink

ROCKLAND COUNTY

WESTCHESTER COUNTY



- **H01** Suffern - Hallett Place to Palisades Center - Lot J
- **H03** Monsey - Park & Ride to White Plains - Hamilton / EJ Conroy
- **H05** Palisades Center - Lot J to White Plains - Hamilton / EJ Conroy
- **H07** Palisades Center - Lot J to Tarrytown - Train Station
- - - **H07X** Palisades Center - Lot J to Tarrytown - Train Station *Express*
- Bus Station
- Bus Station with Rail Connection

# NYSDOT Lower Hudson Transit Link

Bus and Shelter Technology



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# Inside View of the Buses

On-Board WiFi

TSP Transceiver

APC Device

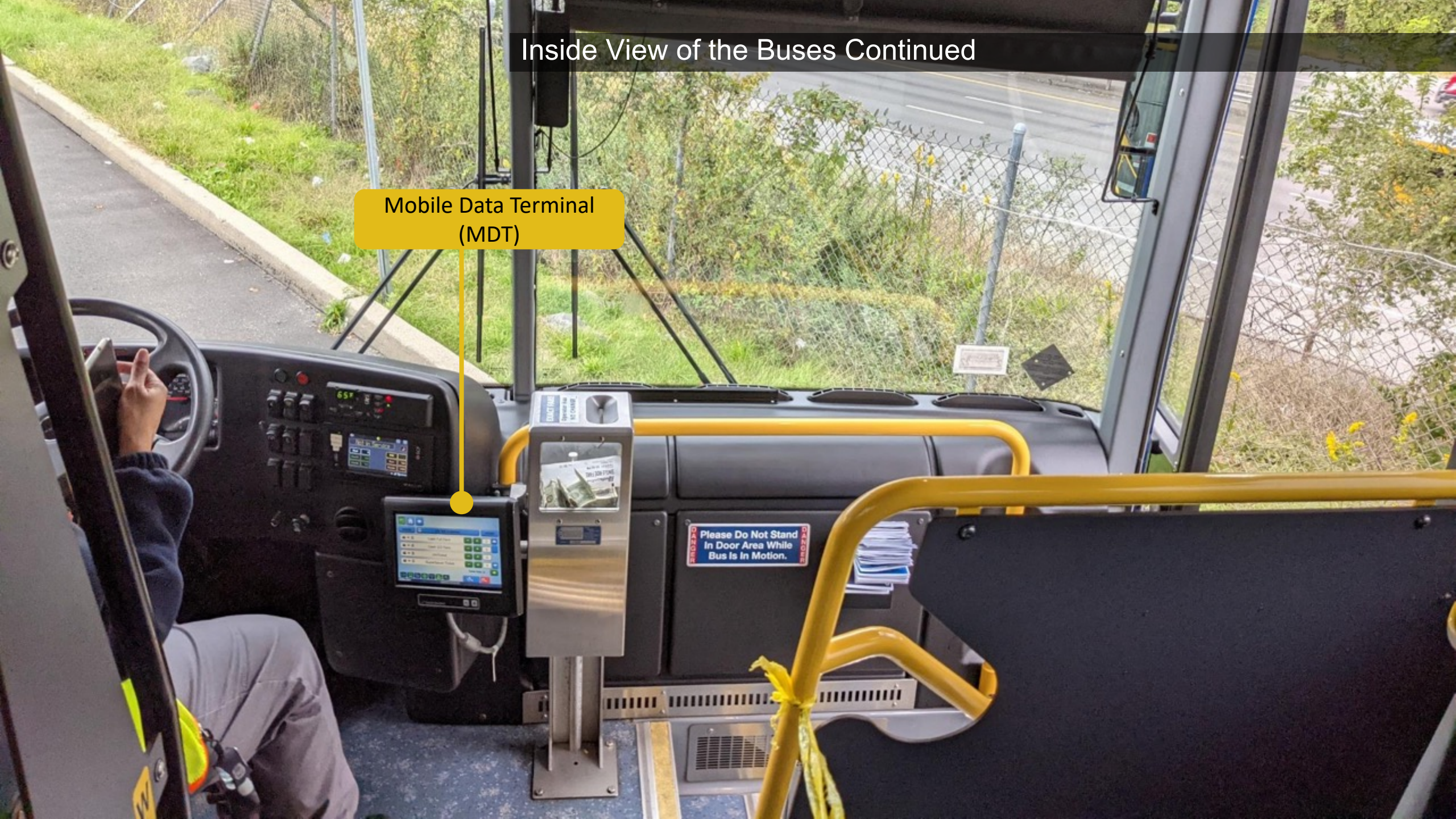
Real Time Arrival Information and Next Train Departure

USB Ports



# Inside View of the Buses Continued

Mobile Data Terminal  
(MDT)





# Bus Shelter

Static Bus Route Information

New Bus Shelters

Ticket Vending Machine

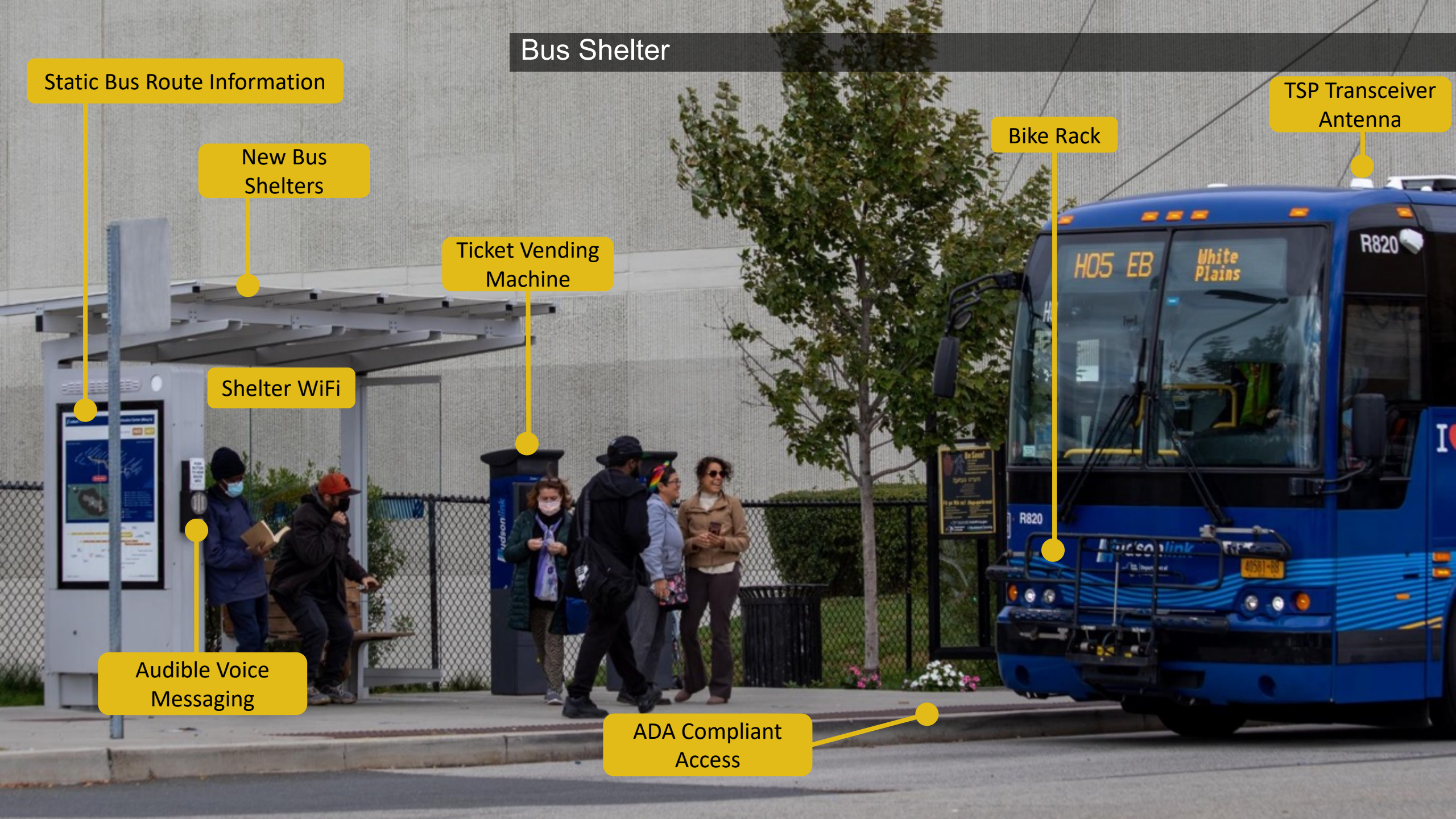
Shelter WiFi

Audible Voice Messaging

ADA Compliant Access

Bike Rack

TSP Transceiver Antenna



# Bus Shelter Continued

Shelter WiFi

CCTV

Real Time Passenger Information

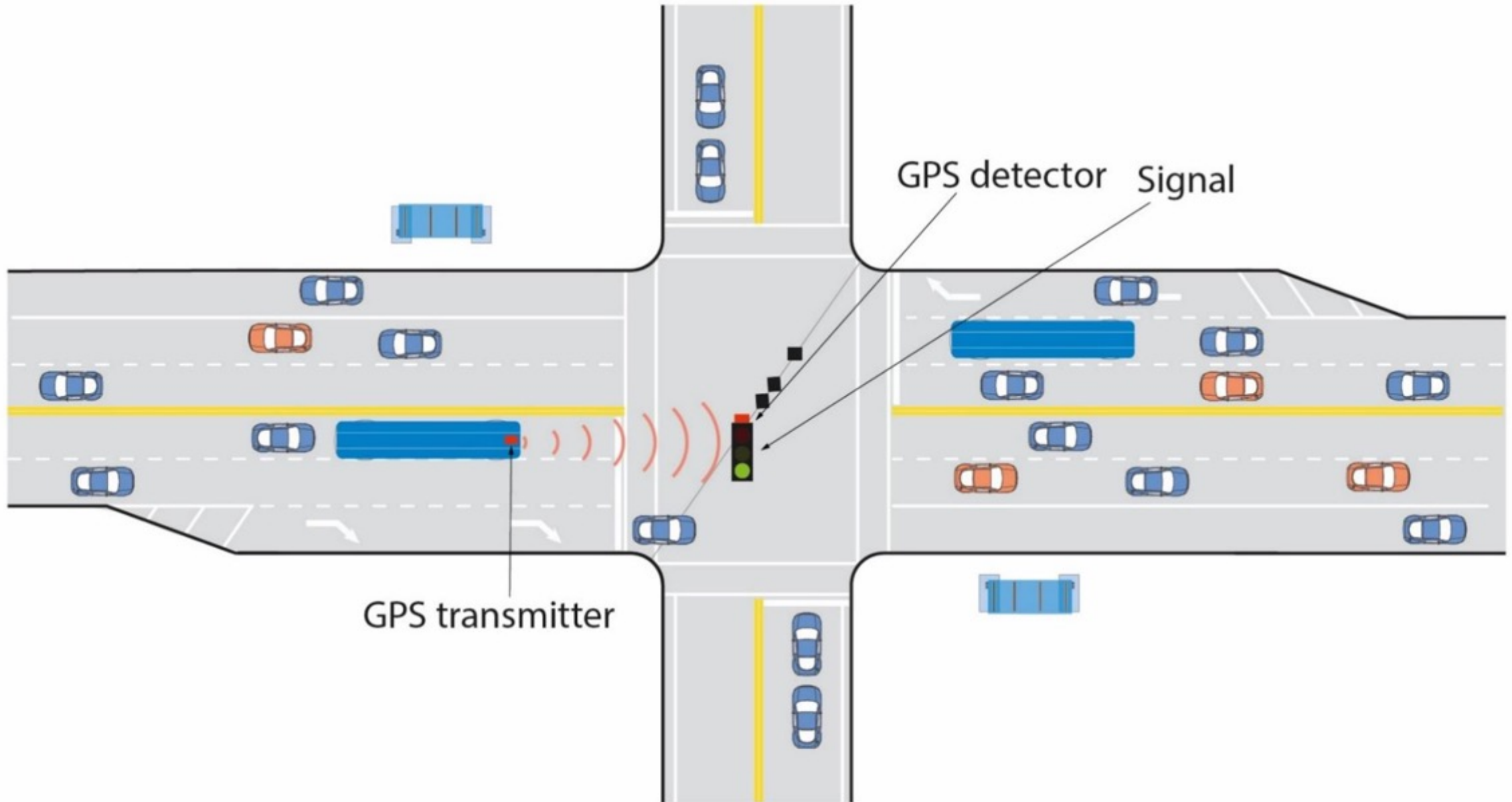


# NYSDOT Lower Hudson Transit Link

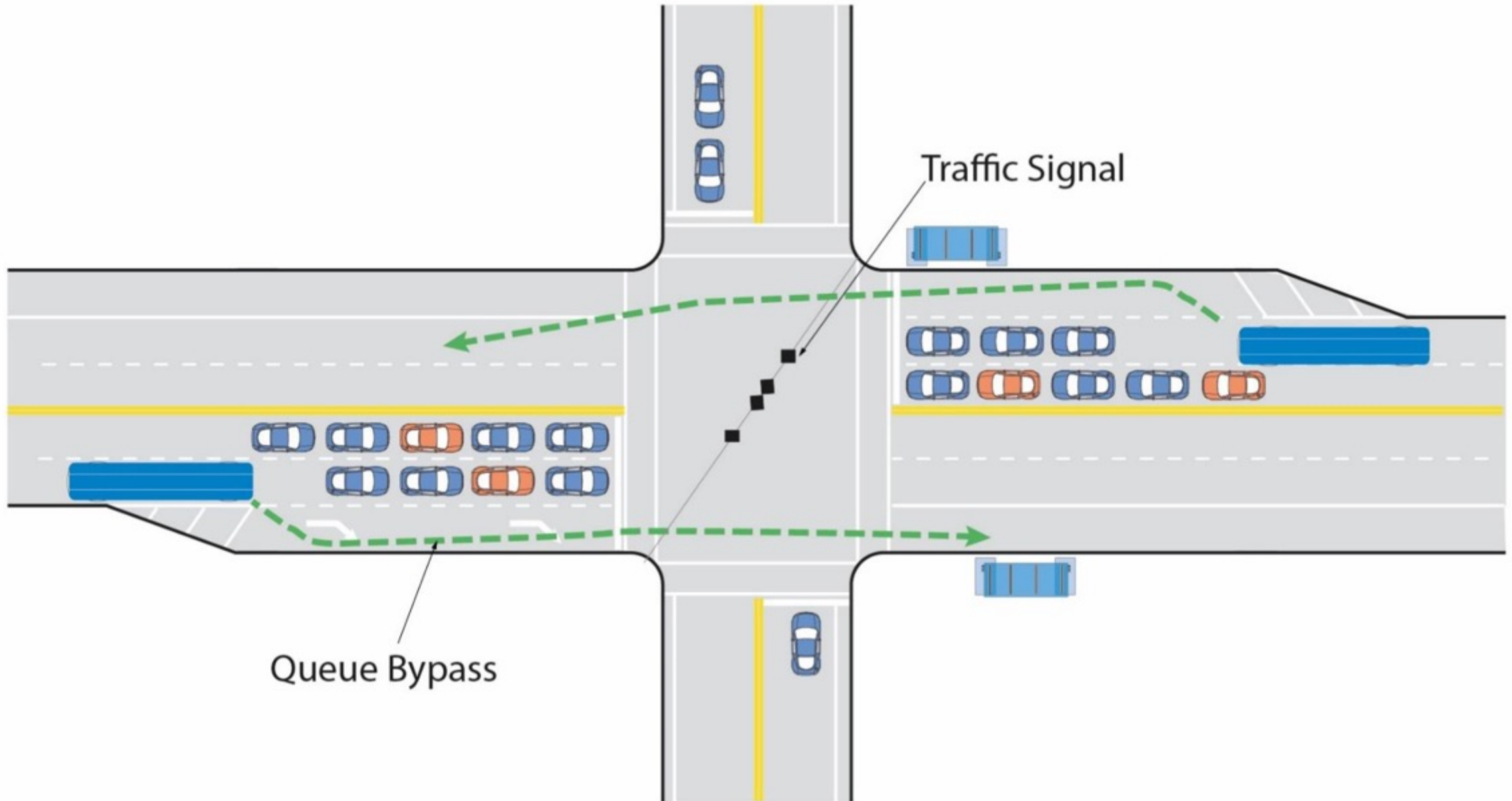
TSP and Queue Jump Technology



# Transit Signal Priority (TSP)



# Queue Jump Lane Activation



# Hudson Link Bus Queue Jump Activation

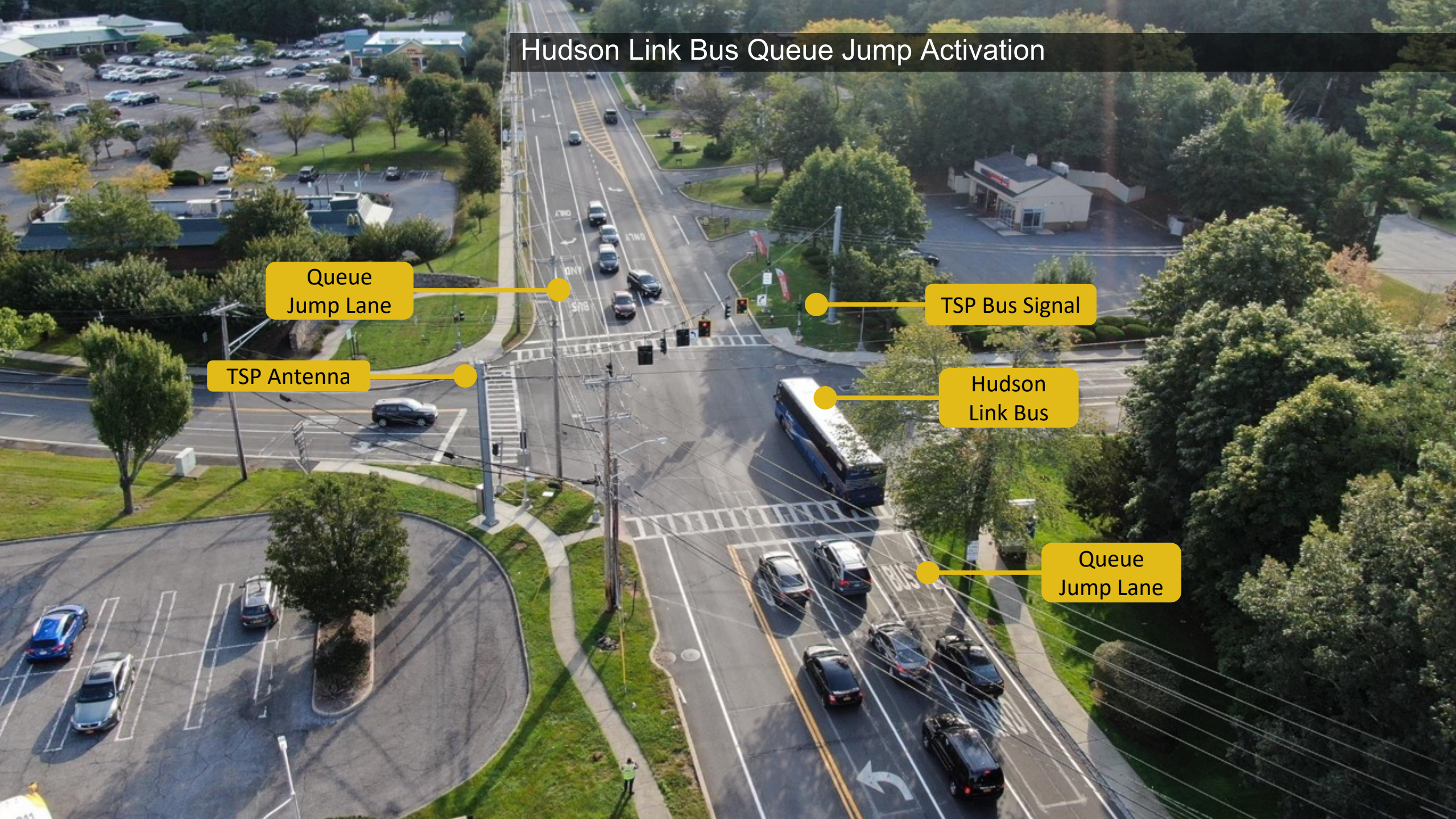
Queue  
Jump Lane

TSP Antenna

TSP Bus Signal

Hudson  
Link Bus

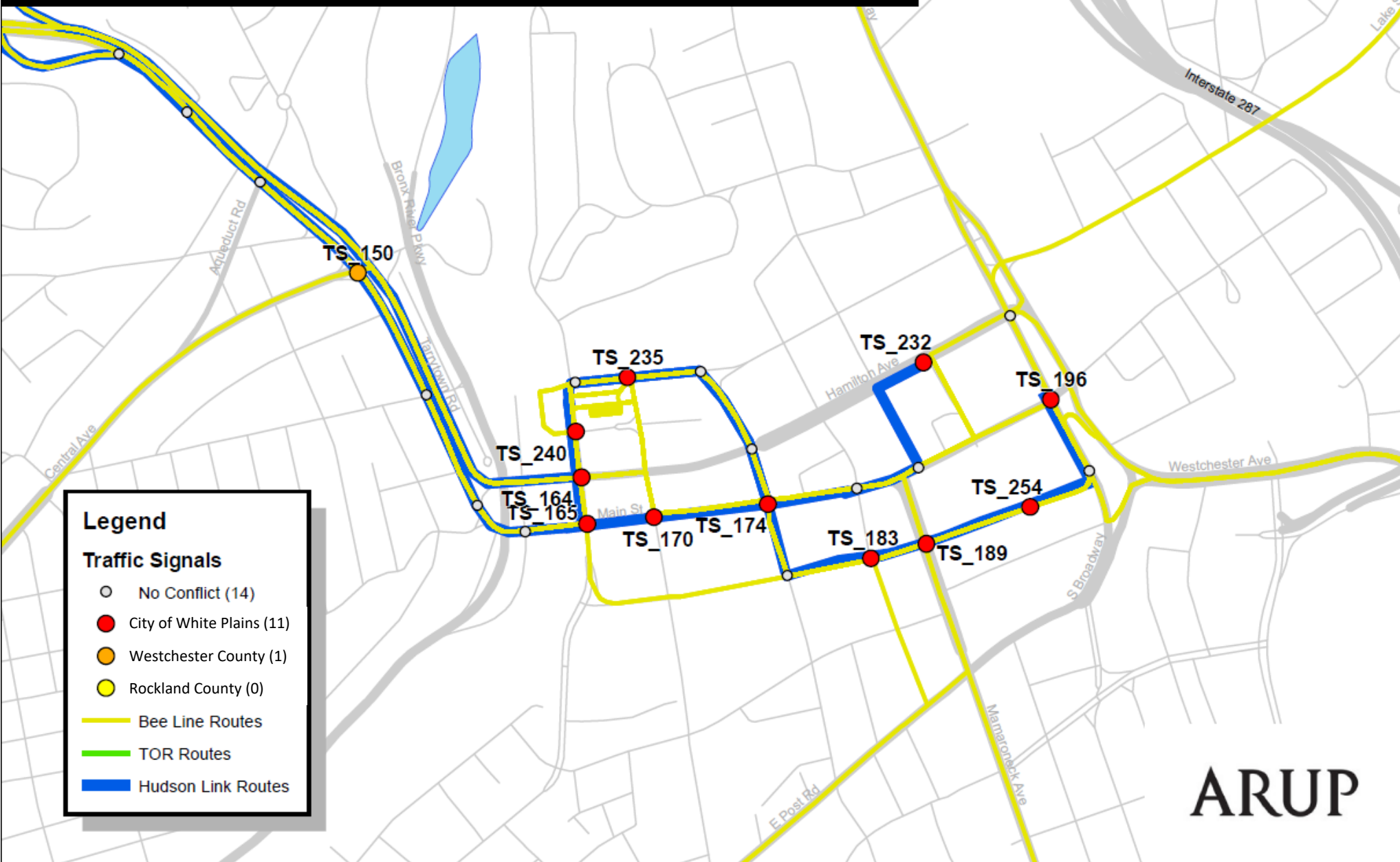
Queue  
Jump Lane



# Hudson Link Bus Queue Jump Activation

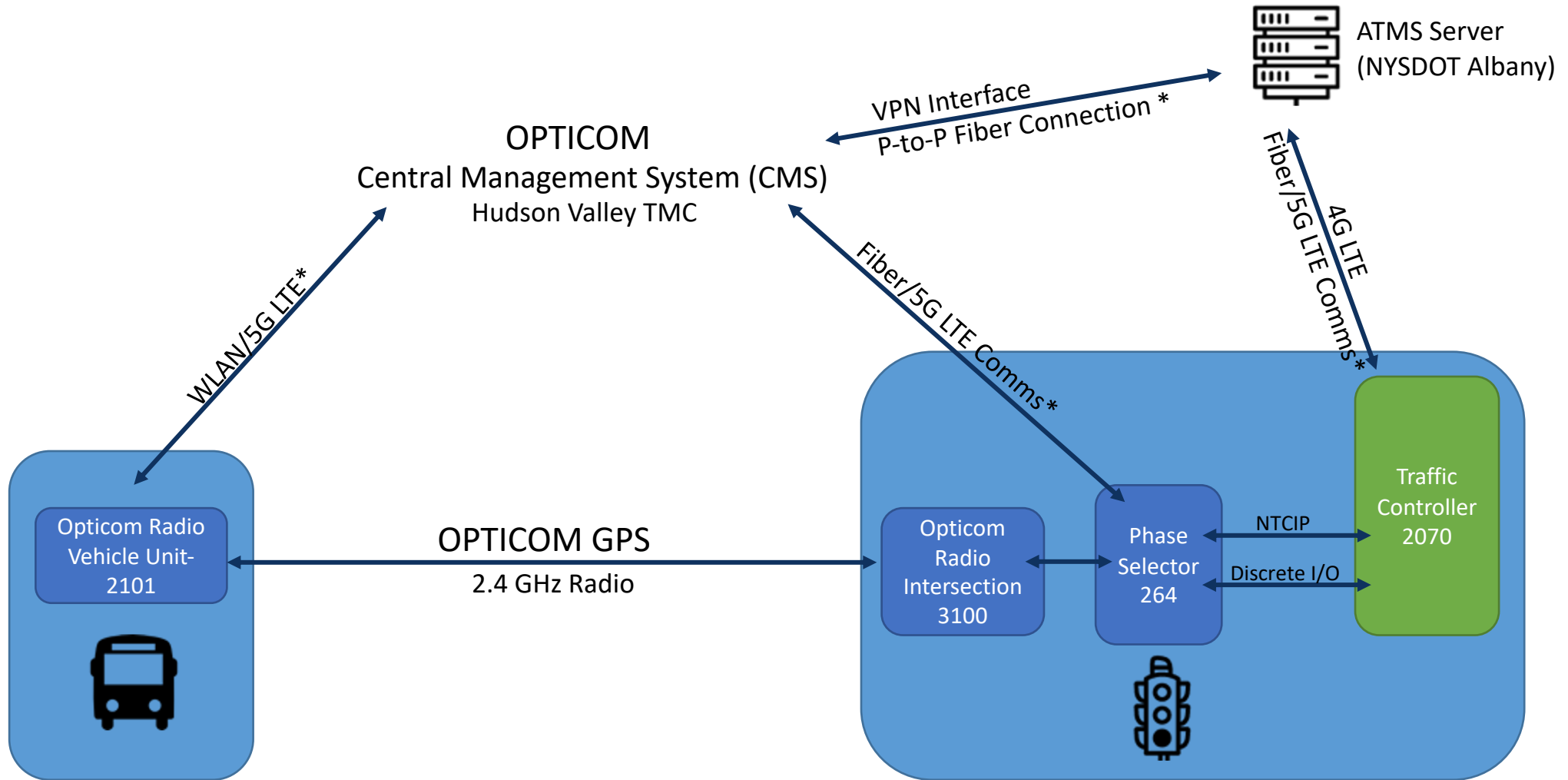


# White Plains - TSP Signal Conflicts



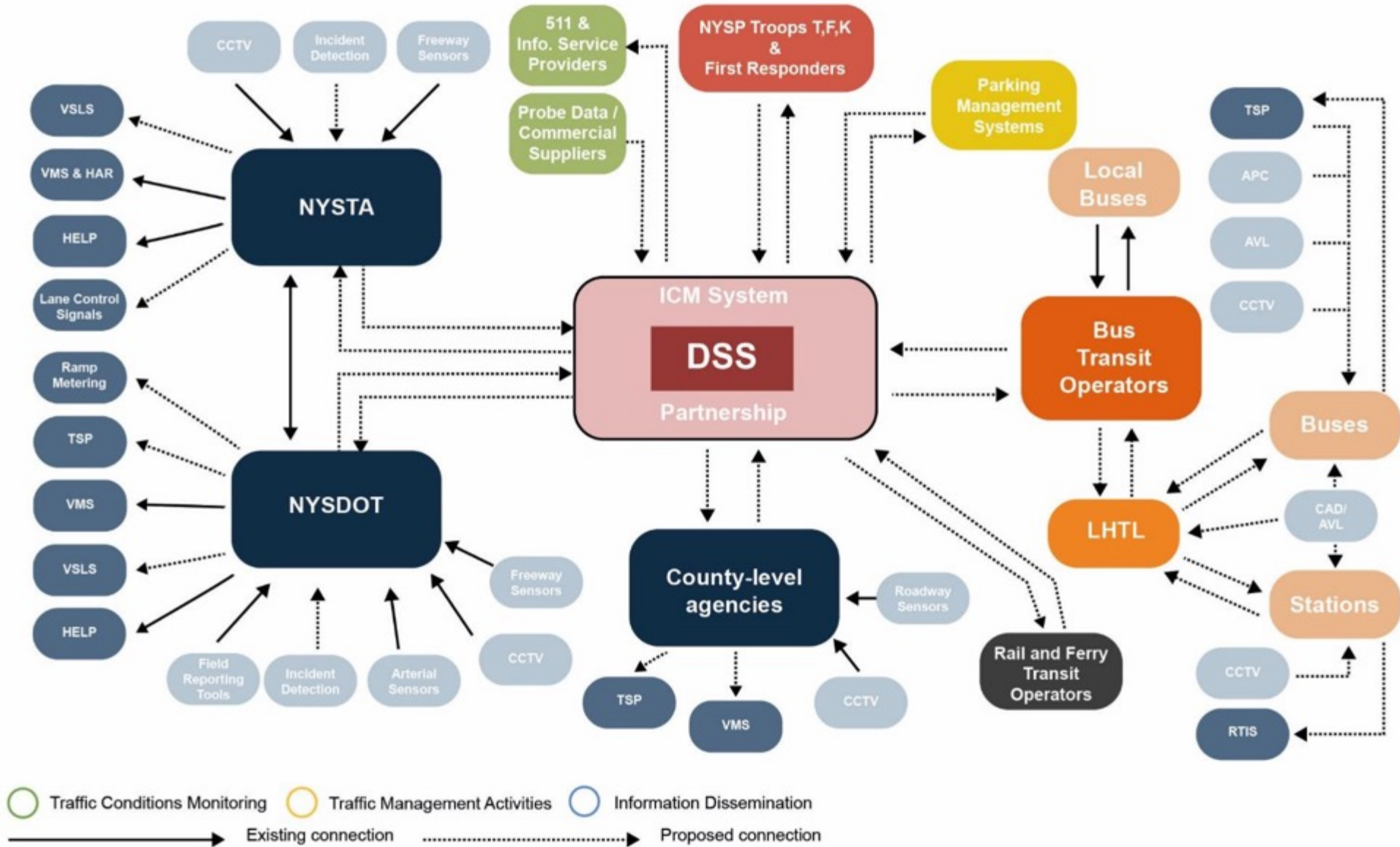


# LHTL TSP System



\*Future System Connection

# LHTL ICM System Context



Thank You



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