Sheridan Expressway Hunts Point Land Use and Transportation Study

Community Working Group

April 19, 2012

Agenda

- Land Use Update
- Traffic Data Overview: Existing Conditions
- Screening Analysis
- Q & A
- Next Steps
- Timeline

October Planning Charrette

- 80+ community stakeholders and residents
- Deepened knowledge about communities in the study area – current concerns and future goals
- Areas of Priority Identified:

  -Housing and Infrastructure
  -Connectivity and Mobility
  -Economic Development

The October Planning Charrette provided a forum for discussion about area wide issues and provided a local perspective that, along with other research and analysis, will serve as a foundation for draft land use scenarios.

Charrette Summary

Key Priorities identified by charrette attendees:

- Support existing industry and job centers by maintaining existing and/or creating new and efficient access routes
- The Bronx River is an important community amenity. New development should work to improve river access and water quality
- Improved and more diverse public transit options, pedestrian safety at major intersections and traffic congestion are critical local issues
- Community services are inadequate throughout the study area. New schools, health facilities, full-service food stores and libraries, for example, are a high priority
- More deeply affordable housing development, near transit and existing retail corridors is desirable
- High rates of childhood asthma and obesity must be considered as scenarios are developed

Sustainable development should not be a separate policy goal, but a common thread connecting all analysis and final recommendations



Land Use Planning Process

I. Develop Draft Land Use Scenarios

- Traffic analysis will define parameters for potential land use changes and related improvements
- Land Use Scenarios will relate directly to proposed improvements to local roads and key intersections
- Future land use patterns and zoning changes will be considered as well as potential roadway improvements

II. Present Draft Scenarios to Community Working Group

- Feedback from CWG will be incorporated into draft land use scenarios

III. Present Draft Scenarios to Local Stakeholders at Public Meetings

In the coming months draft land use scenarios will be completed and presented to the Community Working Group. Those scenarios will be further refined before presentation to the public. Public presentations of draft land use scenarios have not yet been scheduled.

Overview of Traffic Data Collection

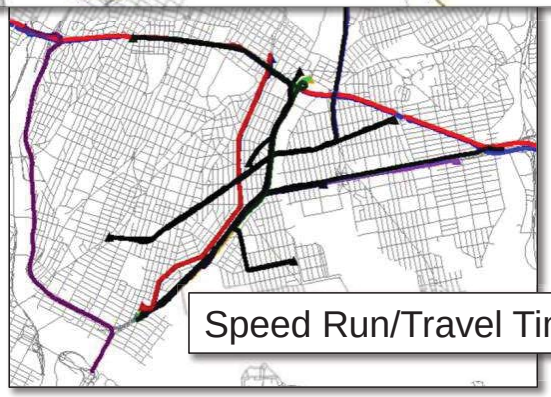
Data collection throughout South Bronx

- Intersection counts (6-10 am & 4-8 pm)
- Daily classification counts
- Weekly automatic traffic recorder counts
- Travel time GPS surveys (6-10 am & 4-8 pm)
- Aerial photo surveys (6-10 am & 4-8 pm)
- Daily commercial license plate matching

  (over 200,000 commercial veh. observed)

Count Data Locations

Aerial Photo Survey Locations



Speed Run/Travel Time Routes

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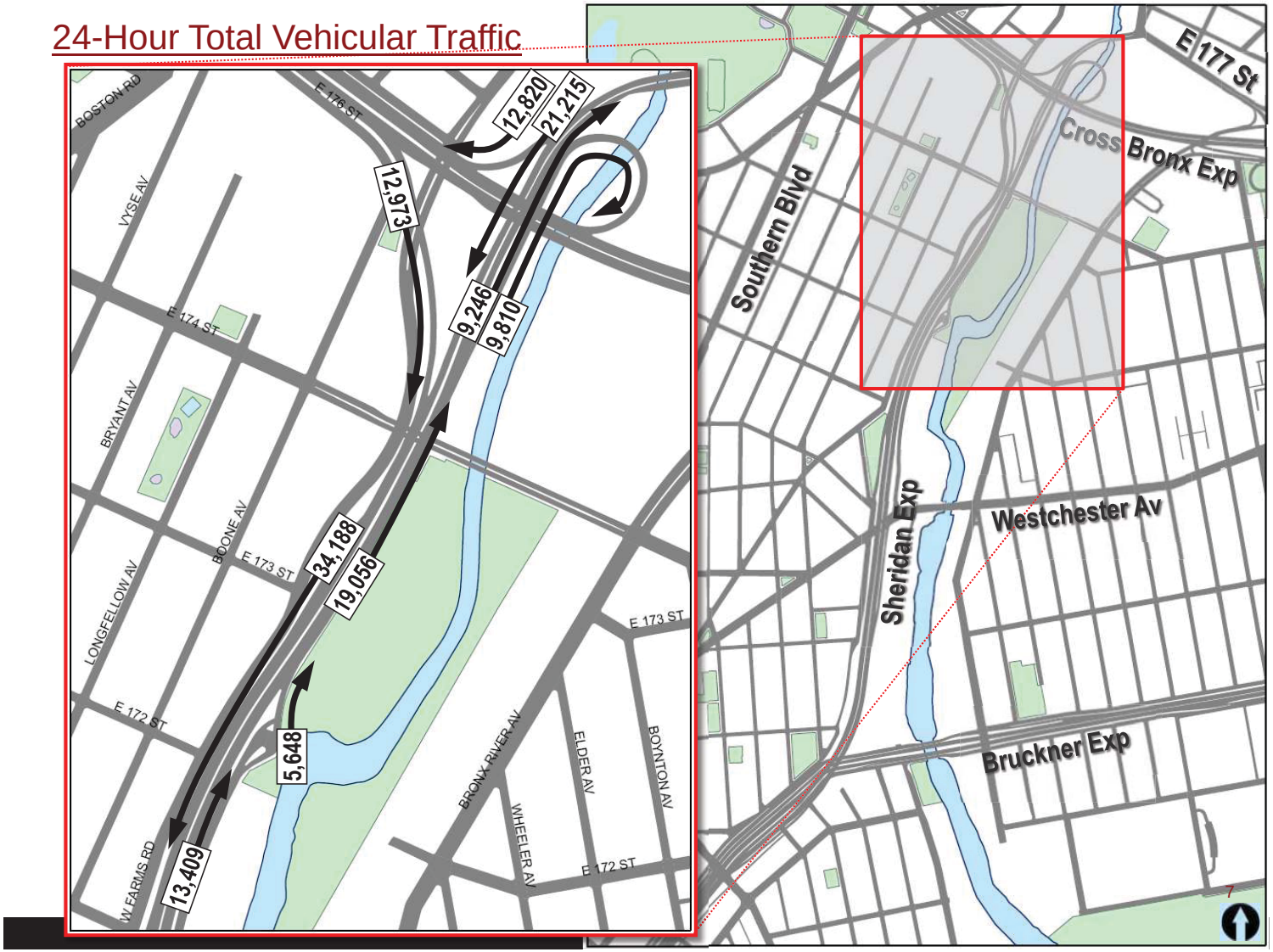
Data collection throughout the south Bronx:

- Turning Movement Counts – approx. 100 locations
- Automated Traffic Recorders (ATRs) – approx. 40 locations
- Classification counts and commercial vehicle observations at 26 locations
- Aerial photo survey at 35 flyover locations
- Travel time GPS runs on 10 routes, each direction of travel, on repeat days

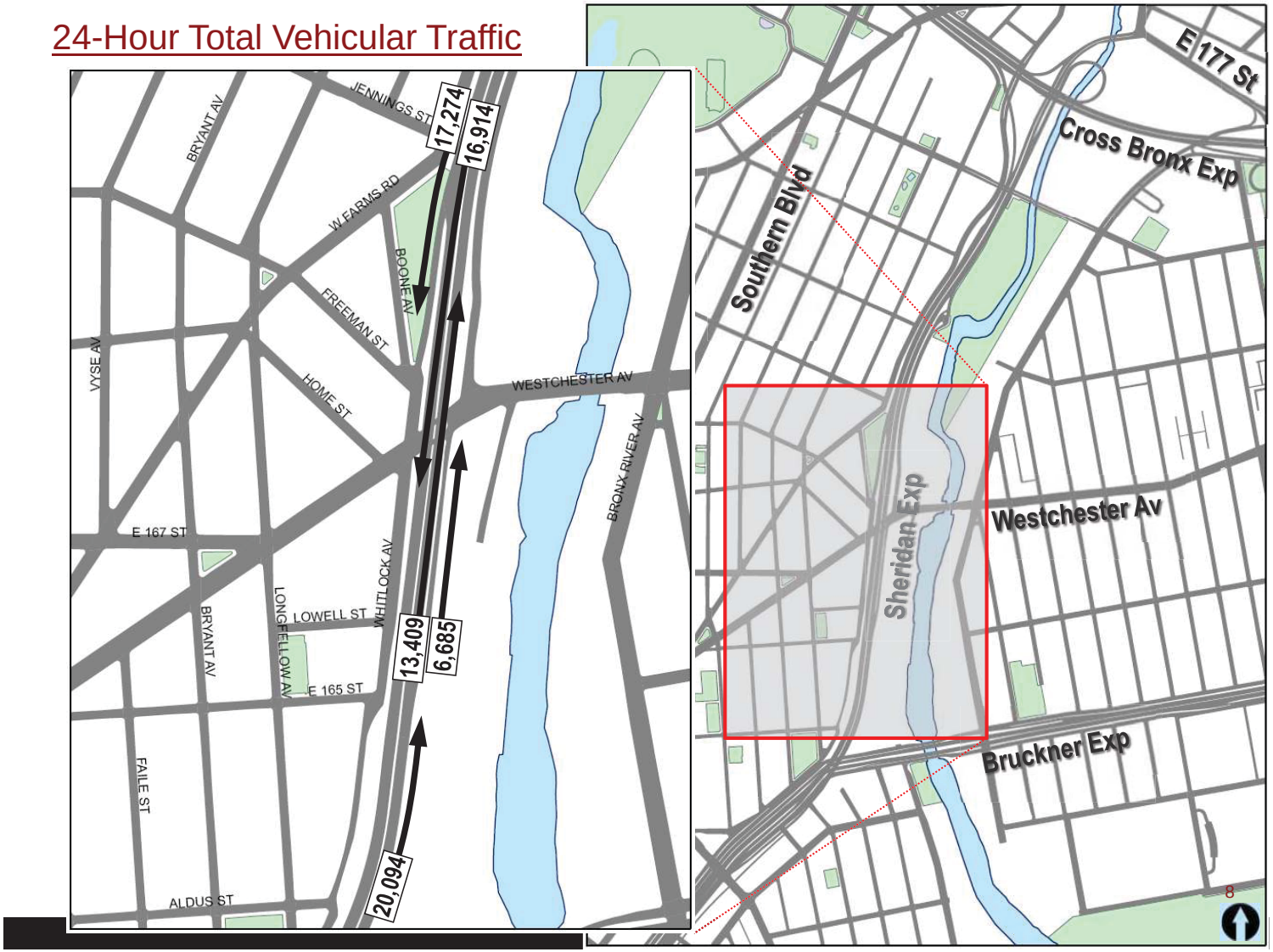
24-Hour Total Vehicular Traffic



24-hr Vehicle Volumes

- The Sheridan's prevailing traffic volume direction is southbound.
- The southbound Sheridan is fed roughly 2:1 by the ramp from E 177 St compared to the ramp from eastbound Cross Bronx.
- Difference between daily northbound and southbound volumes: Auto travelers can more readily use the northbound Bronx River Parkway from the Bruckner because "outbound" the connection from the Bruckner is easier than returning north along the Sheridan and E 177 St to the Bronx River Parkway.
- Much of the traffic onto the southbound on-ramp from E 177 St is traffic from southbound Bronx River Parkway.

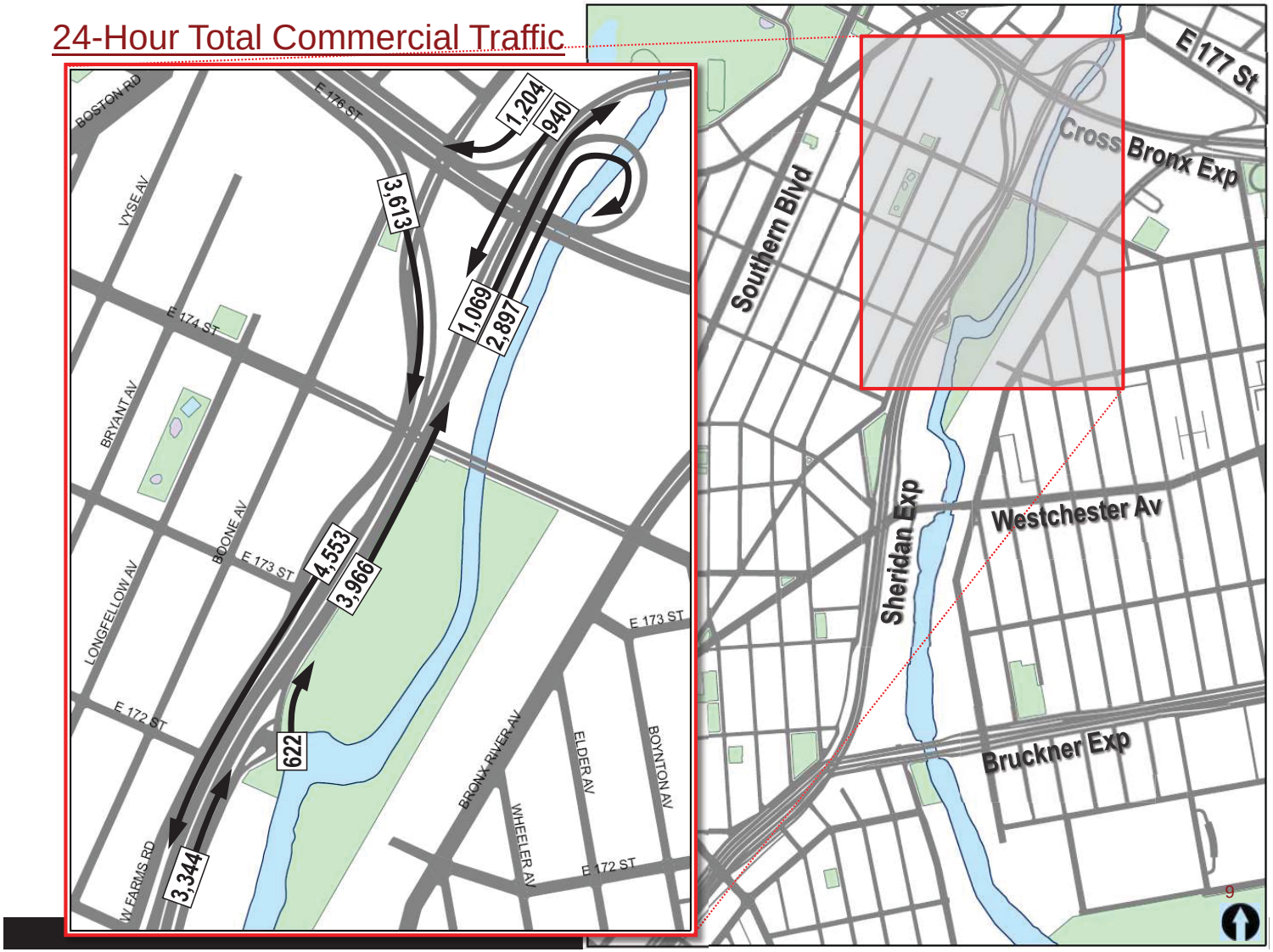
24-Hour Total Vehicular Traffic



24-hr Vehicle Volumes

- Roughly half of the Sheridan's southbound traffic exits to Westchester Av/Whitlock Av – including the Hunts Point traffic.

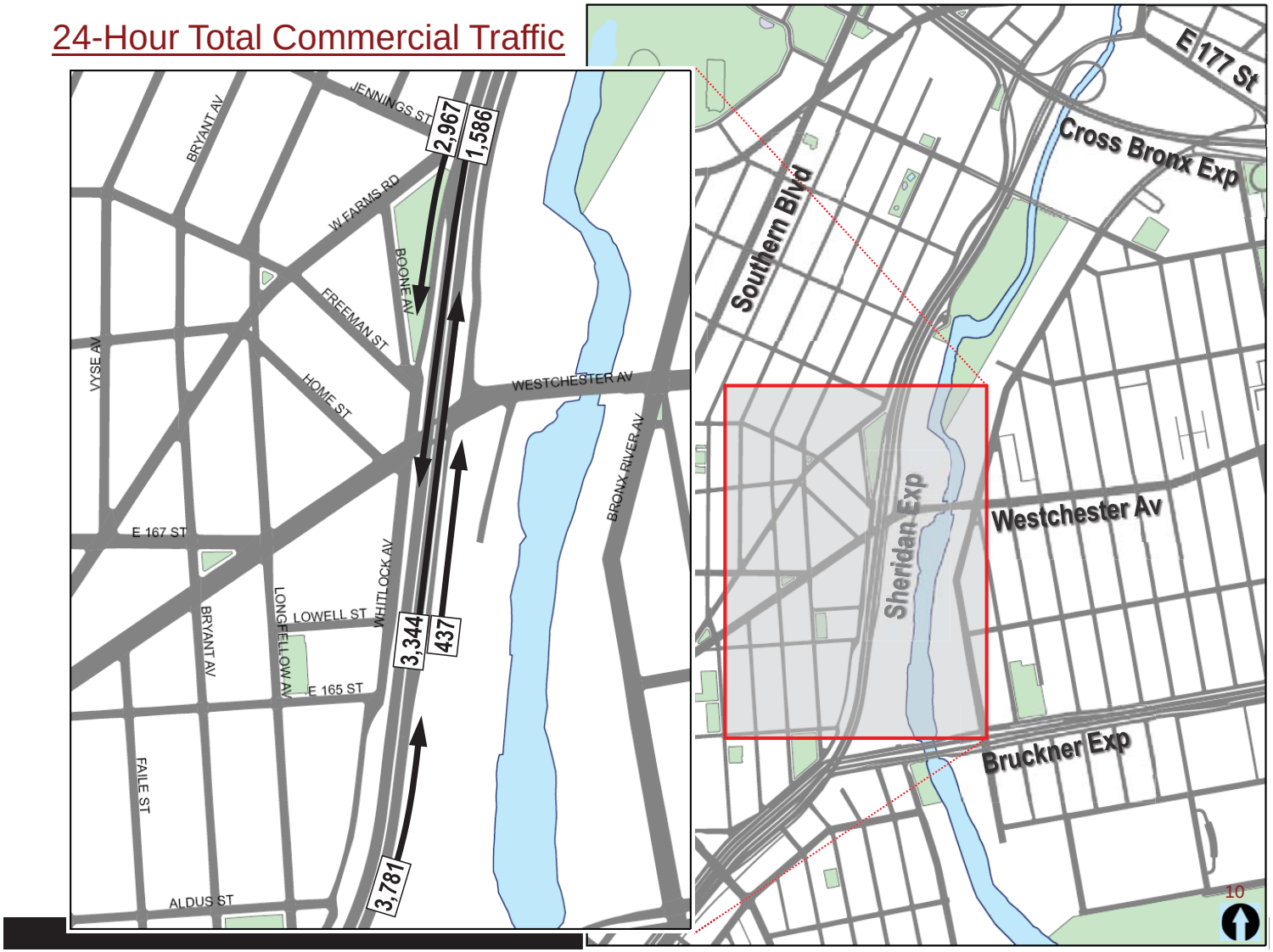
24-Hour Total Commercial Traffic



24-hr Commercial Vehicle Volumes

- Roughly 4 times as many commercial vehicles enter the southbound Sheridan from the eastbound Cross Bronx than from E 177 St.
- Of the 3,600 commercial vehicles from the Cross Bronx, about 1,100 or one third are tractor trailers.

24-Hour Total Commercial Traffic

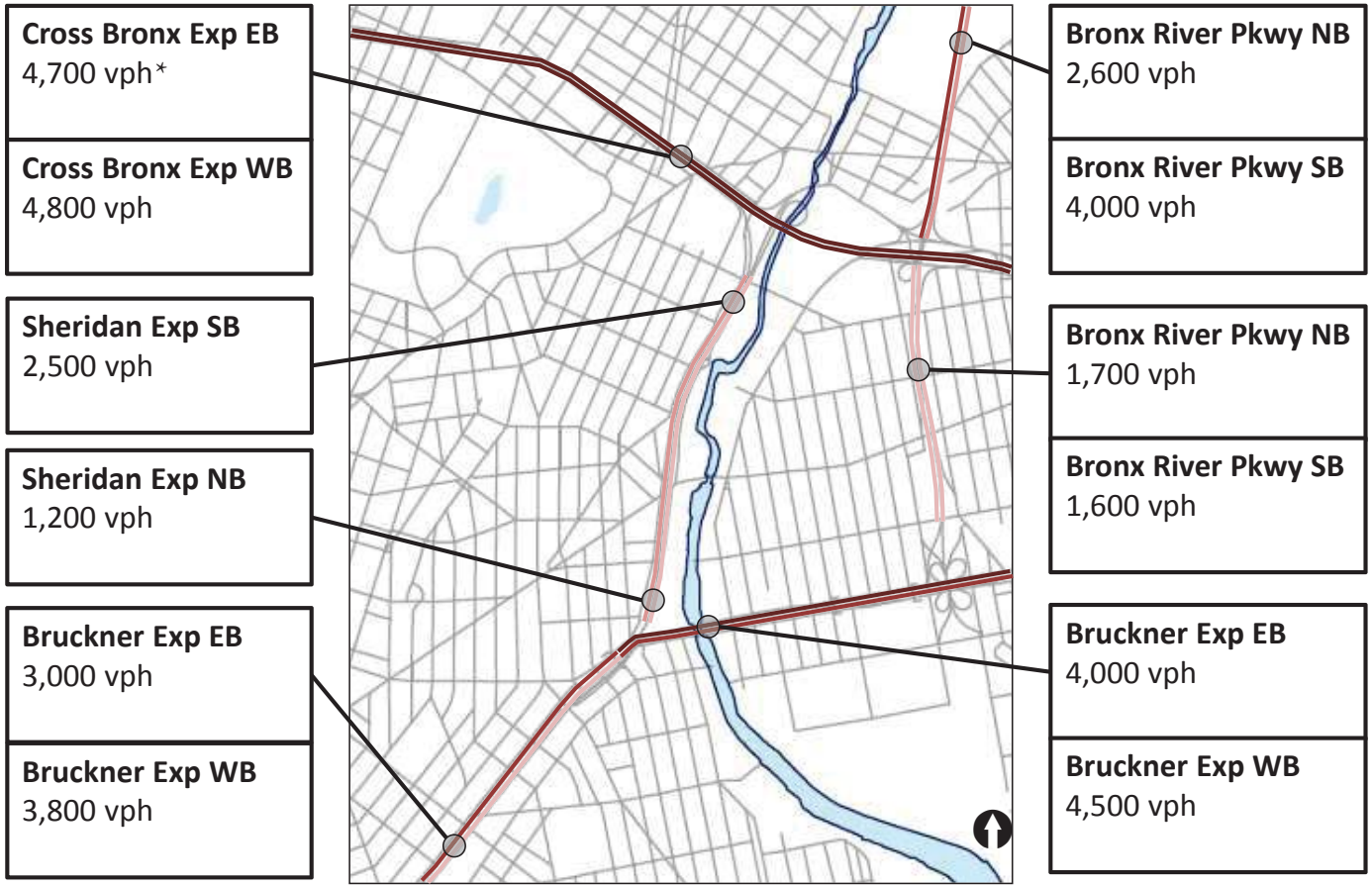


24-hr Commercial Vehicle Volumes

- Both the southbound Sheridan through to the Bruckner Expressway and the exit to Westchester Av/ Whitlock Av are readily used by commercial traffic.

Morning Peak Hour Vehicular Traffic

Comparison of 3-Lane Highway Sections



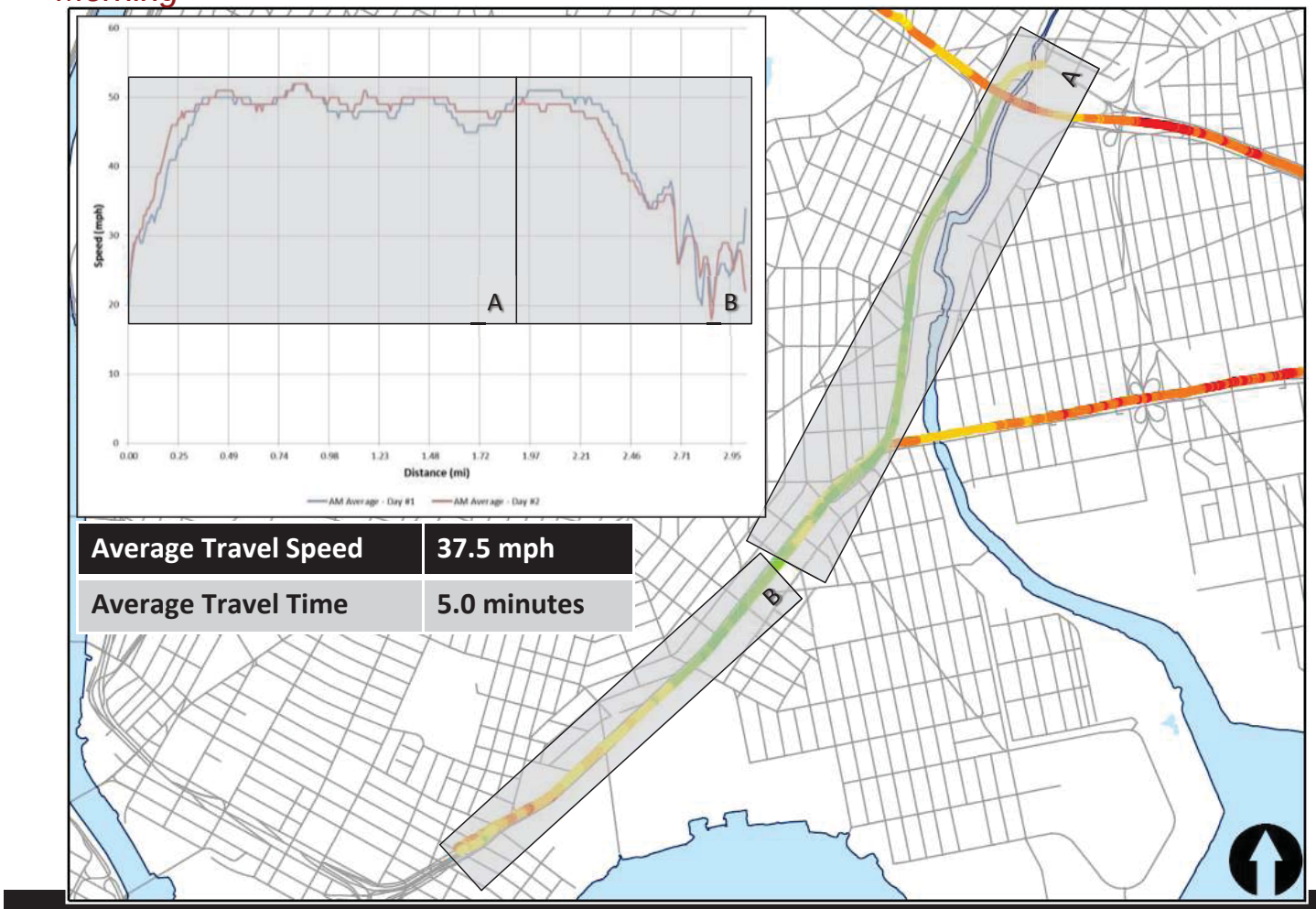
*vph = vehicles per hour

Morning volumes:

- The highest single-hour volume on the Sheridan is roughly 2,500 vehicles, occurring in the morning in the southbound direction on the 3-lane section before the exit to Westchester/Whitlock
- Prevailing traffic direction on the Bruckner is westbound (toward Manhattan).
- The Cross Bronx volumes are near/at typical capacity in both directions. Similarly for the westbound Bruckner.

Speed Profiles: Sheridan Expwy Southbound → Bruckner Expwy

Morning

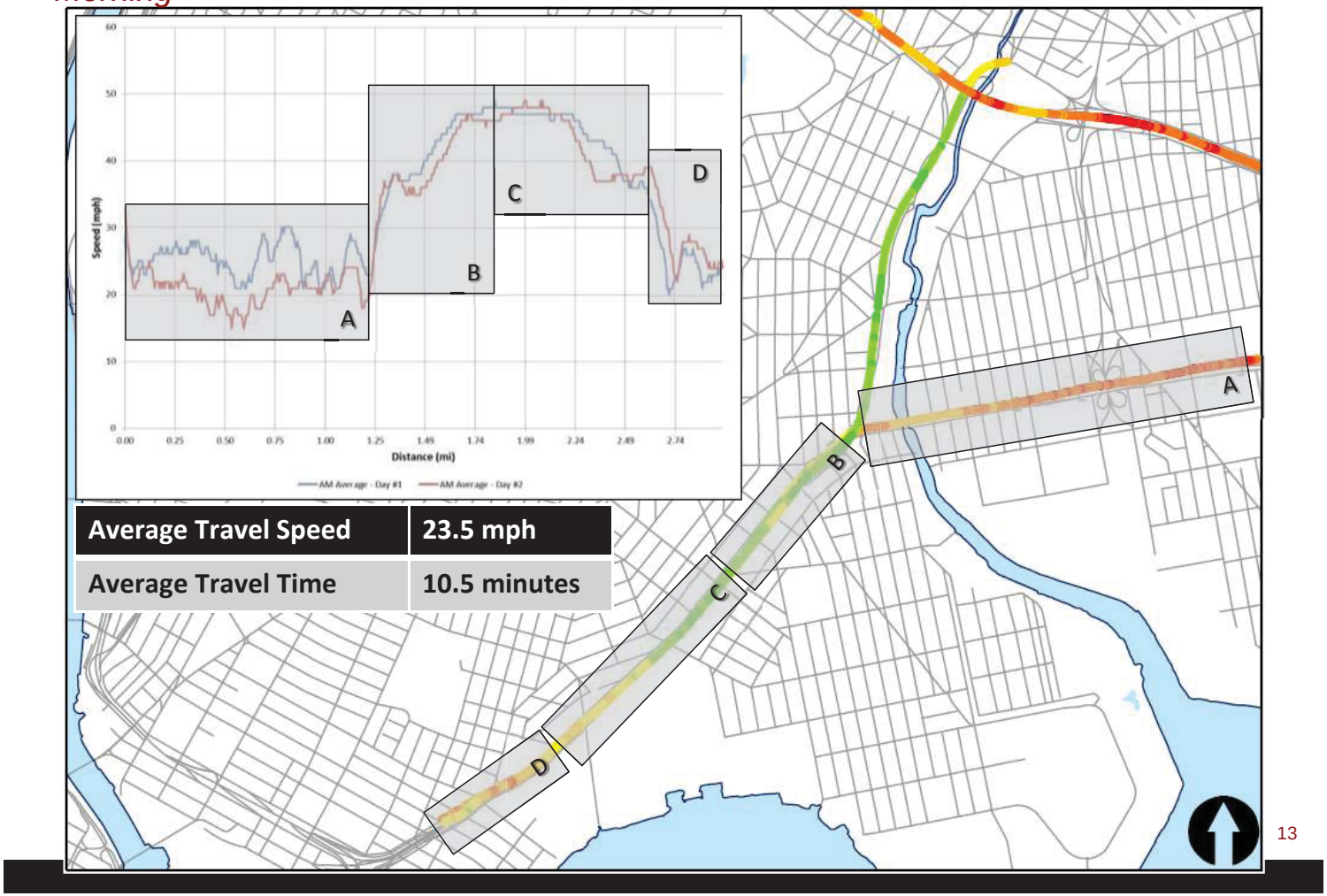


GPS second-by-second speed and position data:

- Mornings have prevailing traffic volumes on southbound Sheridan and westbound Bruckner toward Manhattan.
- Southbound Sheridan speeds (A) are typically high around 50-55 mph once traffic enters from E 177 St.
- Once the southbound Sheridan traffic joins the westbound Bruckner traffic (B) speeds lower approaching the Robert F Kennedy (Triboro) Bridge/Major Deegan interchange.
- The trip typically from E 177 St to the Triboro takes about 5 minutes with low delay, as observed on different days.

Speed Profiles: Bruckner Expwy Westbound

Morning



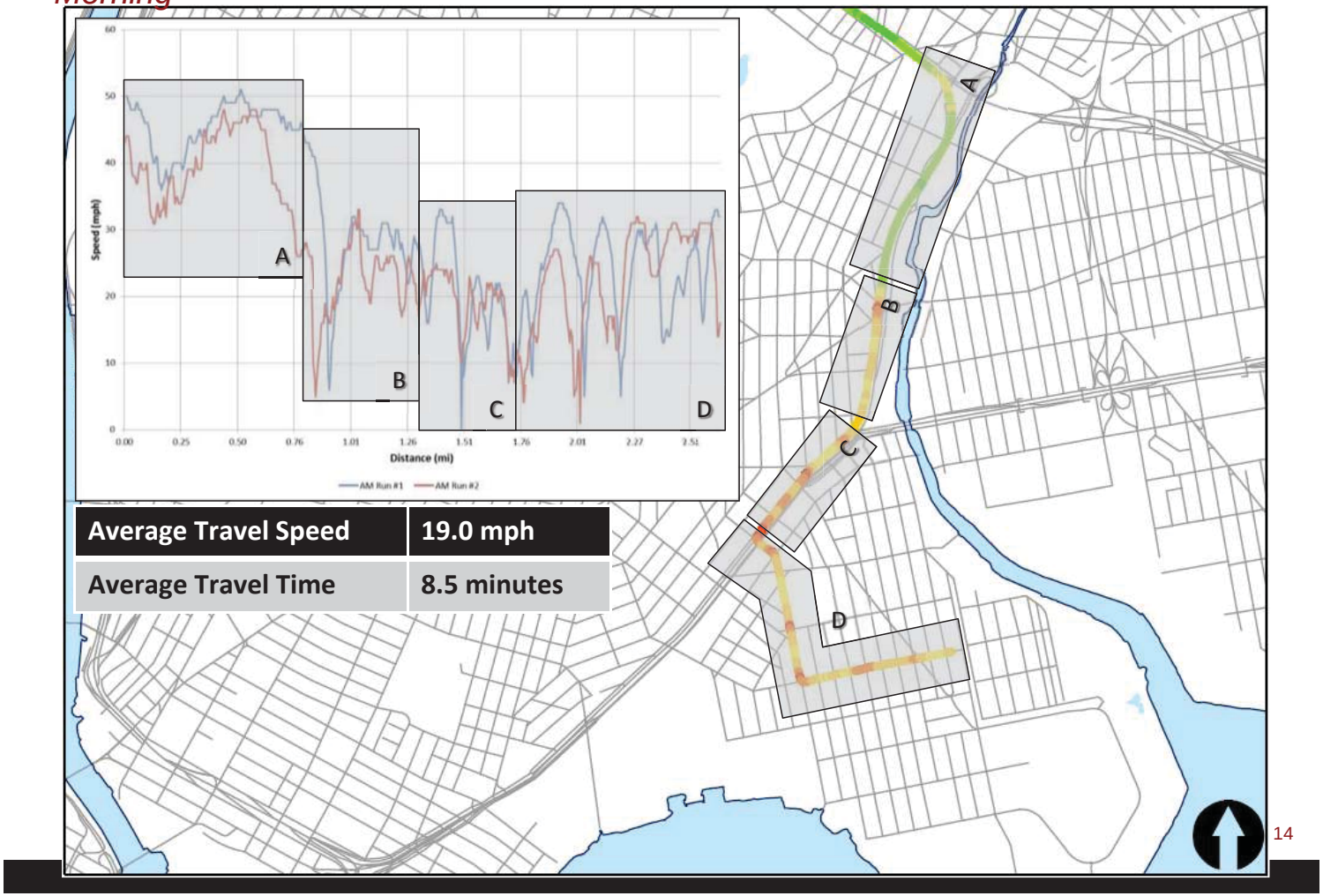
Average Travel Speed	**23.5 mph**
Average Travel Time	**10.5 minutes**

GPS second-by-second speed and position data:

- Westbound Bruckner speeds are low (20-30 mph) with congested conditions approaching the Bruckner-Sheridan interchange (A) with a 25 mph curve. Speeds are also affected by congestion near the Bronx River Parkway interchange.
- Westbound Bruckner traffic accelerates once past the Bruckner-Sheridan interchange curve (B), then slows again when joining the southbound Sheridan traffic (C) and approaching the Triboro Bridge (D).

Speed Profiles: Sheridan Expwy Southbound → Whitlock Av → Hunts Point

Morning



Average Travel Speed	19.0 mph
Average Travel Time	8.5 minutes

GPS second-by-second speed and position data:

- This follows the typical route for a truck from the eastbound Cross Bronx to Hunts Point.
- Travel speed on the southbound Sheridan (A) is high (up to 50 mph) between the slower Cross Bronx ramp and the exit to Westchester Av/Whitlock Av
- Speeds then drop substantially on exit ramp, and increases to 20-30 mph on Whitlock Av (B)
- Speeds slow again when merging with Bruckner Blvd (C) before turning onto Tiffany St and Randall Av (D) where it can be stop-and-go (typical of driving on local streets).

Highway Mainline Congestion Levels (Densities)

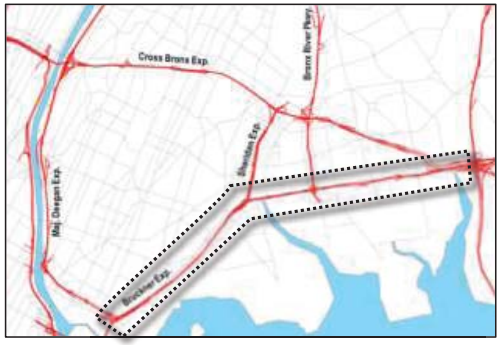
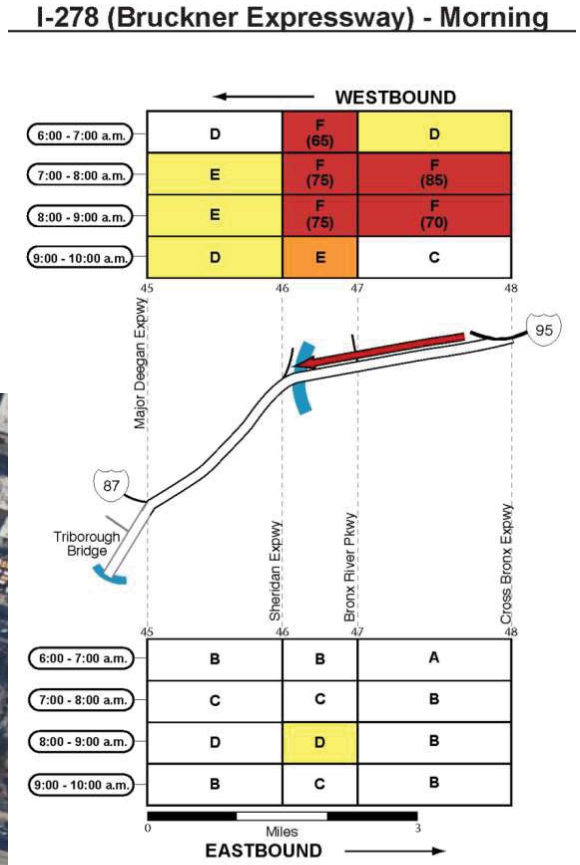


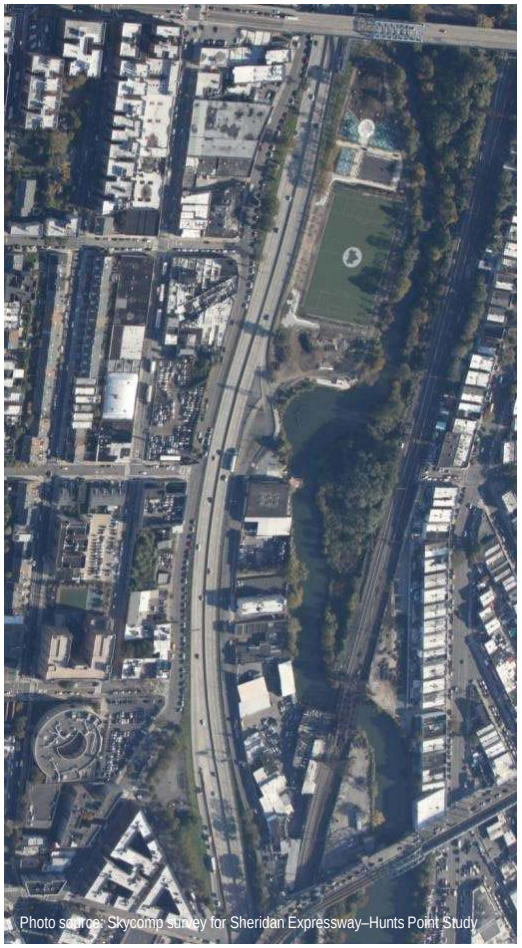
Photo courtesy of NYCDOT

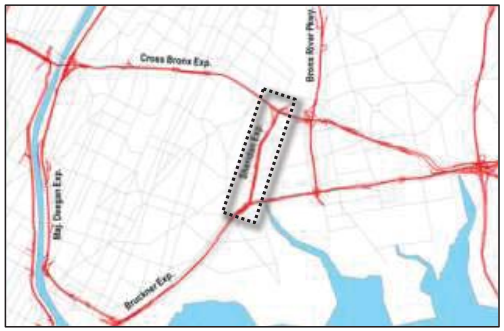


Highway mainline densities (congestion levels) and Levels of Service (LOS) based on aerial photo surveys:

- Surveys were performed for highway mainlines (Sheridan, Bruckner, Cross Bronx, and Bronx River Parkway) and key local streets (Bronx River Av, Bruckner Blvd, West Farms Rd, Westchester Av, Southern Blvd, Hunts Point Av, etc.)
- Survey photos every ~15 min. during morning and evening 4-hr periods.
- Beginning in the 6-7 am hour, Westbound Bruckner Expressway congestion builds from the Bruckner-Sheridan interchange and propagates backward (upstream). Congestion persists until 9-10 am hour when densities begin to decrease.
- Eastbound Bruckner Boulevard densities are light to moderate during the morning.

Highway Mainline Congestion Levels (Densities)





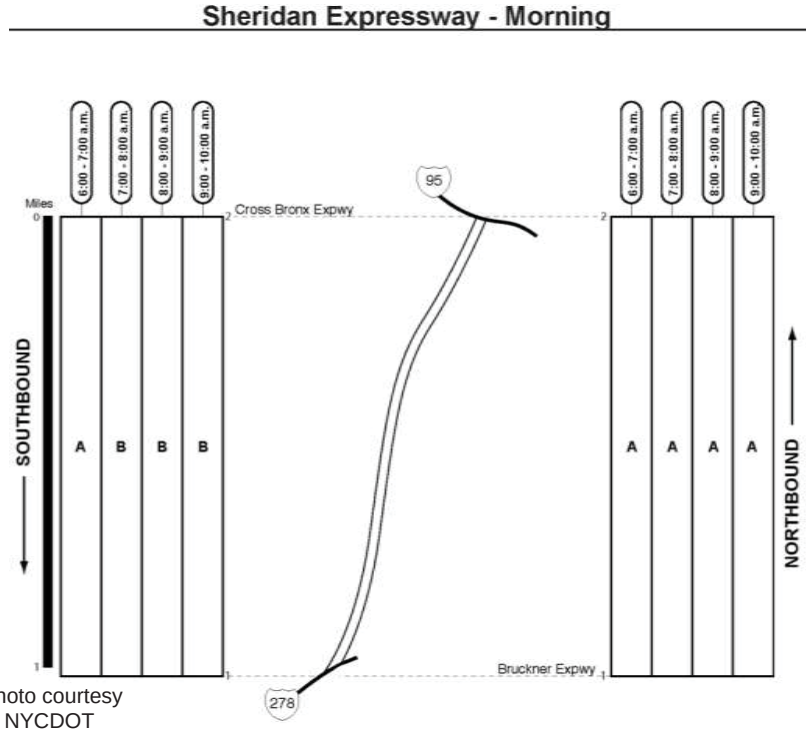


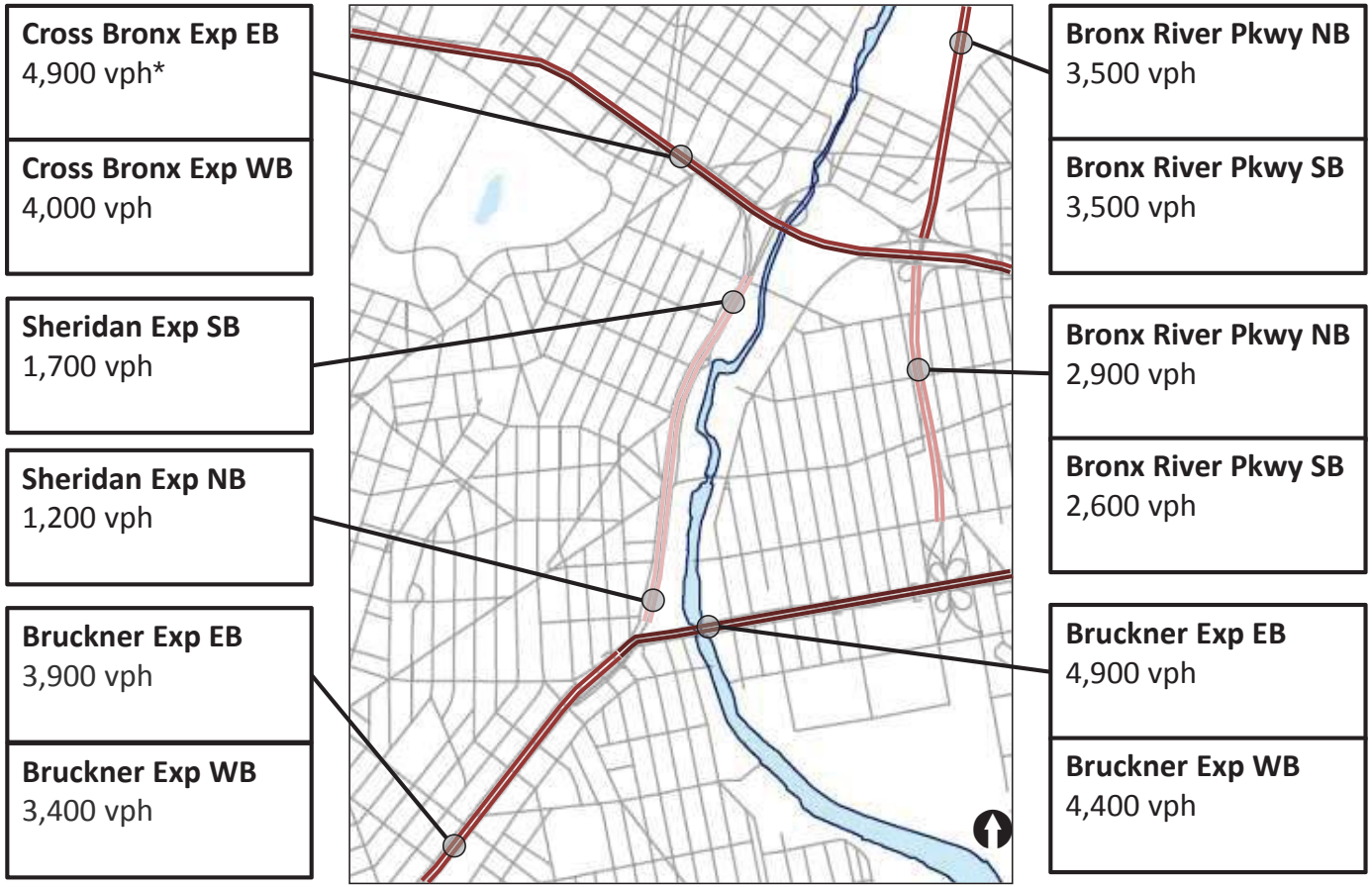
Photo courtesy of NYCDOT

Highway mainline densities (congestion levels) and LOS based on aerial photo surveys:

- The Sheridan mainline does not experience congestion in either direction.
- Congestion is possible on the northbound exit ramp to the westbound Cross Bronx (due to congestion on the Cross Bronx) and the exit ramp to E 177 St (due to constraints of the traffic signal there).

Evening Peak Hour Vehicular Traffic

Comparison of 3-Lane Highway Sections



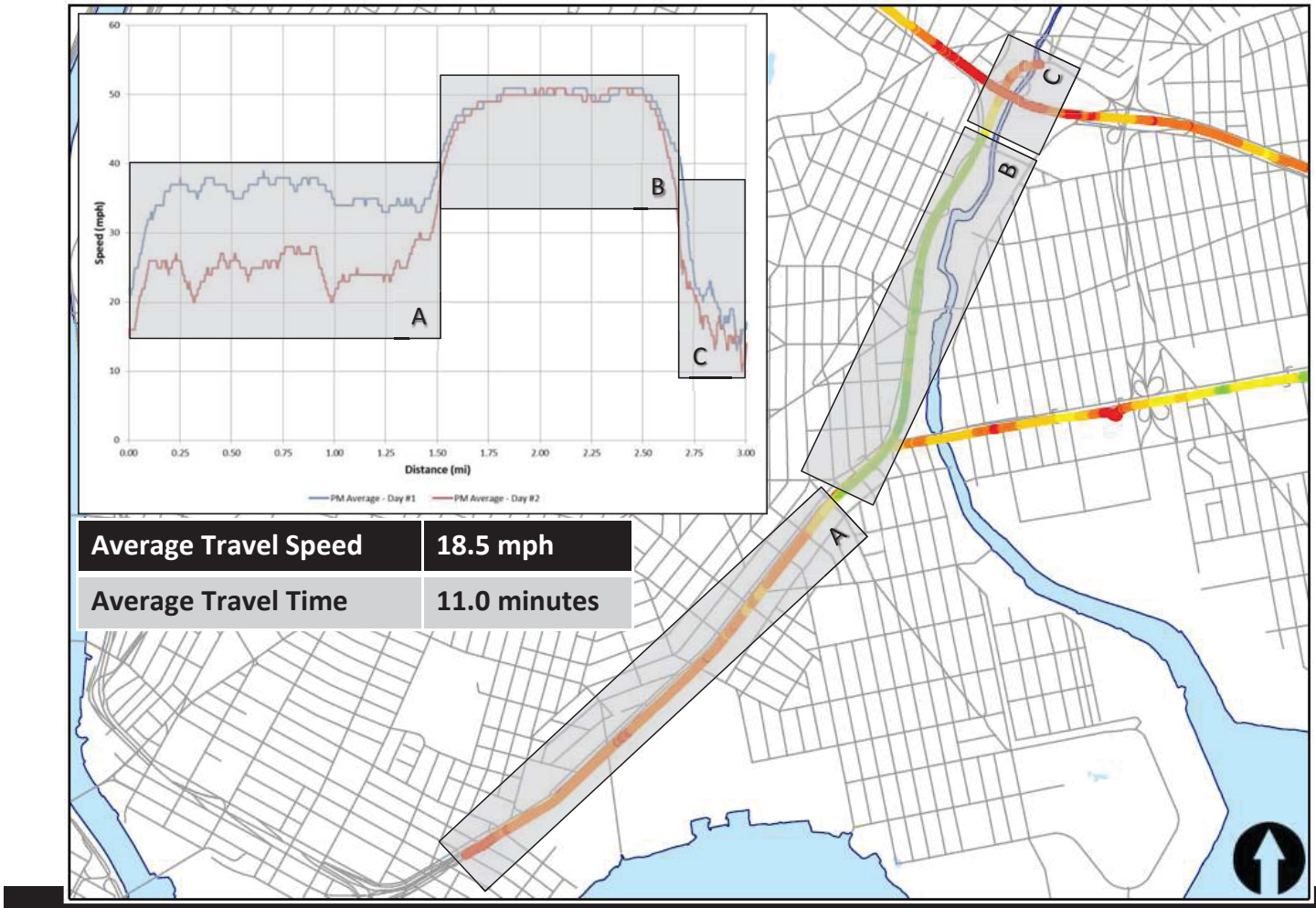
*vph = vehicles per hour

Evening volumes:

- Eastbound Bruckner and Cross Bronx volumes prevail
- Southbound Sheridan volumes are lower than morning, while northbound volumes are about the same.
- Northbound Bronx River Parkway volumes from the Bruckner increase, indicative as “outbound” travel.

Speed Profiles: Bruckner Expwy → Sheridan Expwy Northbound

Evening



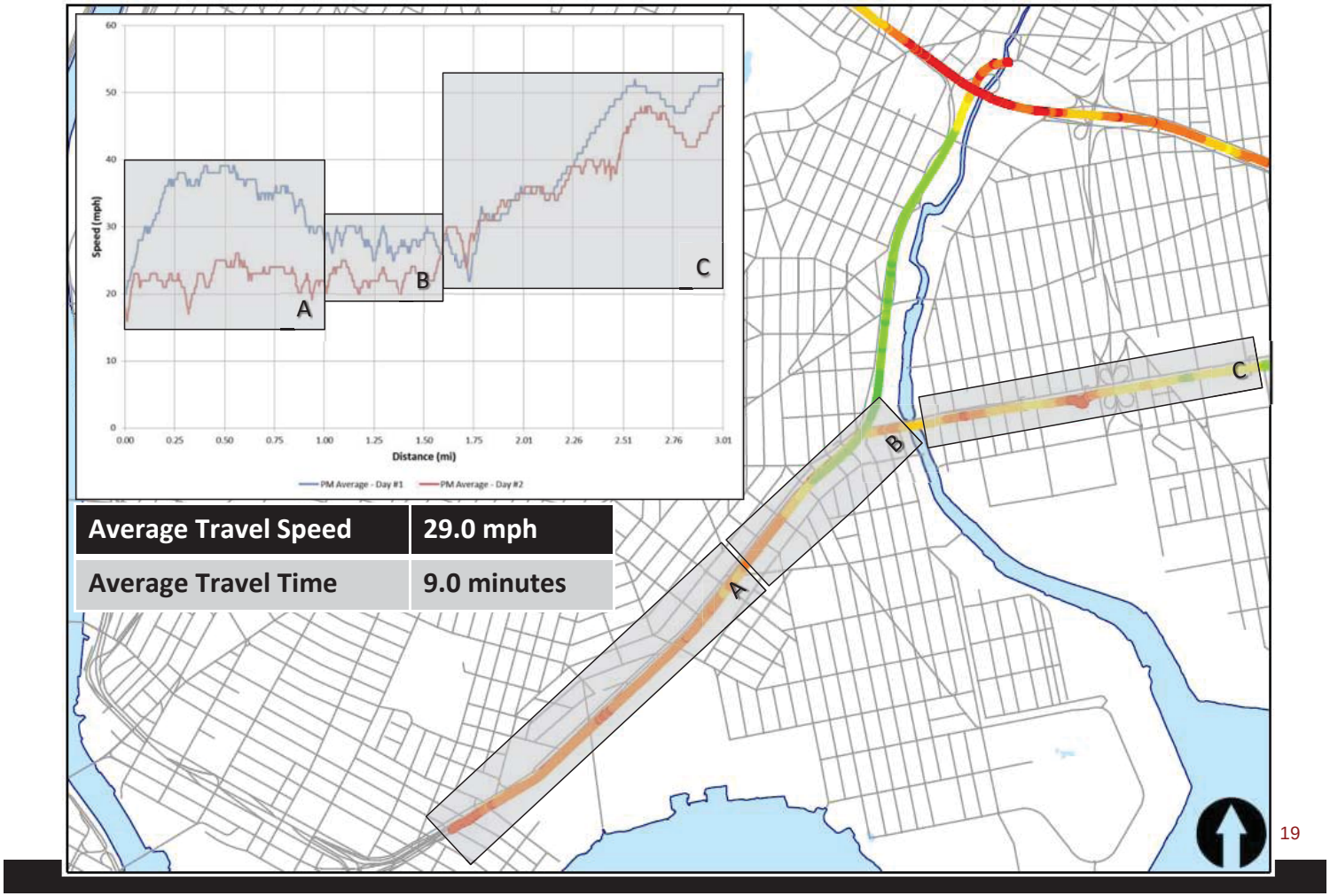
Average Travel Speed	**18.5 mph**
Average Travel Time	**11.0 minutes**

GPS second-by-second speed and position data:

- Evenings have prevailing traffic volumes on eastbound Bruckner from Manhattan.
- Speeds on the Bruckner approaching the Bruckner-Sheridan interchange are 20-40 mph (A).
- As traffic diverges to travel northbound on the Sheridan, speed increases to about 50 mph (B).
- In the vicinity of the E 174 St bridge overpass, the Sheridan ramp to E 177 St begins to experience slower speeds and queuing from the traffic signal (C).

Speed Profiles: Bruckner Expwy Eastbound

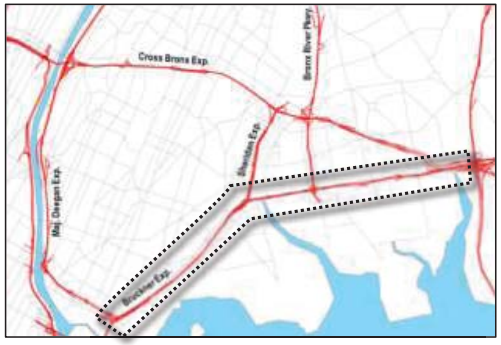
Evening



GPS second-by-second speed and position data:

- Similar to the other route, speeds on the Bruckner approaching the Bruckner-Sheridan interchange are 20-40 mph (A).
- Through the interchange, traffic staying on the Bruckner slows to 20-30 mph (B).
- Past the interchange curve, eastbound Bruckner beings to accelerate to 50 mph though with some slowing near the Bronx River Parkway interchange.

Highway Mainline Congestion Levels (Densities)



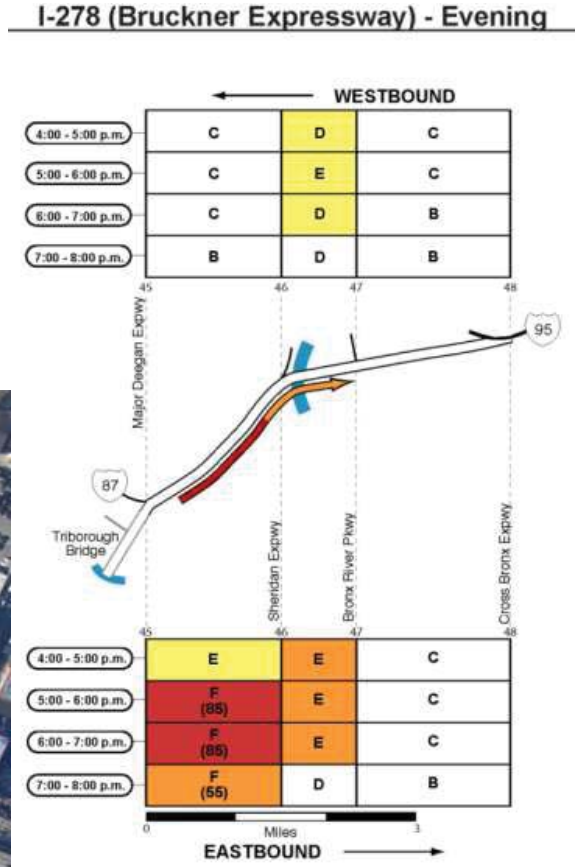
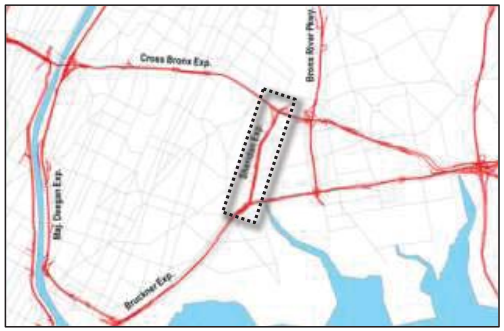


Photo courtesy of NYCDOT

Highway mainline densities (congestion levels) and LOS based on aerial photo surveys:

- During the evening, eastbound Bruckner behaves similar to westbound direction in the morning – congestion builds from the Bruckner-Sheridan interchange, and is relieved downstream of it.
- Westbound Bruckner now has lower congestion levels.

Highway Mainline Congestion Levels (Densities)



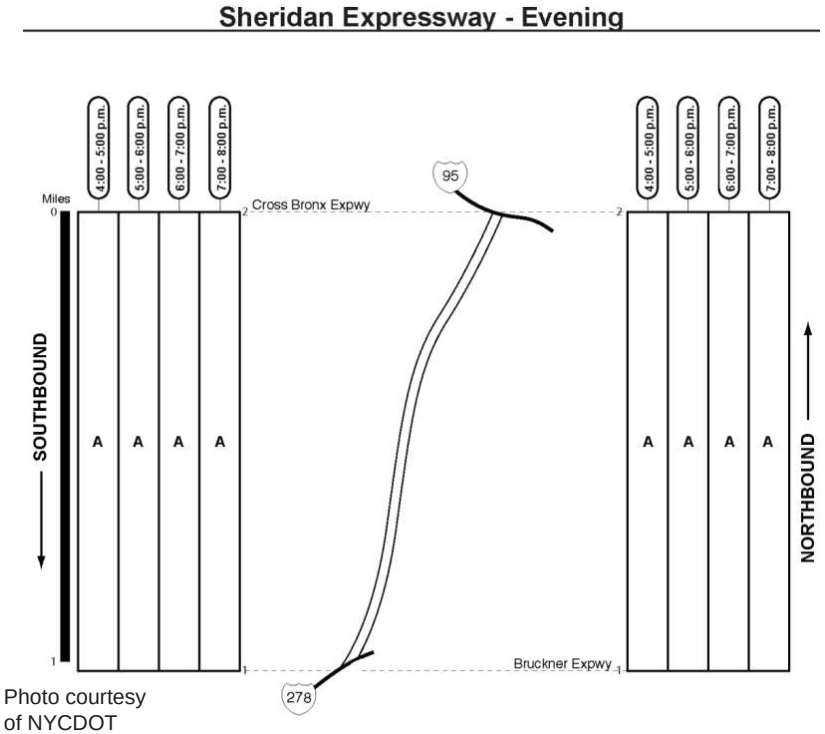


Photo courtesy of NYCDOT

Highway mainline densities (congestion levels) and LOS based on aerial photo surveys:

- Similar to the morning, the Sheridan mainline does not experience congestion in either direction but, again, the northbound exit ramps experience queuing due to Cross Bronx and E 177 St.

Hunts Point Markets:
Truck Origin-Destination Study

Overview

- Survey conducted in September 2011 for drivers entering the Produce, Meat and/or Fish Markets
- More than 1,400 surveys were collected for all 3 markets

Key Findings

- About 1 in 5 trips to and/or from the Hunts Point Markets use the Sheridan Expressway
- 23% of all *inbound* trips to the markets use the George Washington Bridge (GWB). Of these:
  - 83% of drivers choose the Sheridan Expressway
  - 17% of drivers choose the Major Deegan Expressway
- 19% of all *outbound* trips from the markets use the GWB. Of these:
  - 89% of drivers choose the Sheridan Expressway
  - 11% of drivers choose the Major Deegan Expressway

Approximately 1 in 5 trucks (20%) going to the Hunts Point Food Distribution Center enters the city via the George Washington Bridge. Of those, the majority utilize the Sheridan Expressway. As shown on the next two slides, close to 20% of all trucks going to the Food Distribution Center using the Sheridan Expressway.

Truck Origin-Destination Study

Inbound Hunts Point Markets Trips

Approximately 20% of total truck trips into the Food Distribution Center use the Sheridan Expressway while the balance use a variety of other routes.

Truck Origin-Destination Study

Outbound Hunts Point Markets Trips

As this map shows, 17% of drivers leaving the Food Distribution Center use the Sheridan Expressway. The Bruckner Expressway and local routes are also major routes as goods leave Hunts Point bound for locations throughout the region.

Traffic Screening Analysis: Currently Underway

Purpose: Screen scenarios based on macro-level traffic and community impacts.

Analysis components:

- Traffic impacts on the network in the study area
- Travel time changes using diversion routes for trucks currently on Sheridan
- Estimate of delays and queuing at intersections and interchanges
- Truck traffic routing under each scenario, including local streets and expressways

This analysis will allow the study to move forward with scenarios that do not have fatal flaws.

Next Steps for Community Working Group

May: Present traffic screening analysis results

Summer: Draft Land Use Scenarios

- Develop draft land use scenarios

Fall: Present draft scenarios