



**New York State Department of Transportation  
Metropolitan Transportation Authority Metro-North Railroad  
New York State Thruway Authority**

**Meeting Minutes**

***Stakeholders' Advisory Working Groups (SAWGs)  
Traffic and Transit SAWG Meeting #9***

***Tappan Zee Bridge/I-287 Corridor Project***

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July 29, 2010

Meeting Title: Stakeholders' Advisory Working Group (SAWG)  
Traffic and Transit SAWG Meeting #9

Meeting Purpose: Exchange of information

Location Date: Warner Library  
Tarrytown, NY  
July 29, 2010 6:00 – 8:00 PM

Agenda: Item 1. Introduction (Page 2)  
Item 2. Presentation (Page 2)  
Item 3. Discussion (Page 3)

Attendees:

**SAWG Members**

Charles Borgman  
Jane Keller  
Naomi Klein, Westchester County Department of Transportation  
Jon Marshall, Quay Condominiums  
Sy Schulman  
Mary Jane Shimsky, Assemblyman Richard Brodsky's Office  
John Tangredi  
Janet Zagoria, League of Women Voters of Westchester

**Other Attendees**

Bob Levine

**Project Team Members**

Hang Chu, New York State Department of Transportation (NYSDOT)  
Angel Medina, New York State Thruway Authority (NYSTA)  
Joe Pasanello, Metro-North Railroad (MNR)  
Frank Grande, AECOM  
Caren R. Morgan, AECOM  
Mark Roche, ARUP  
Rita Campon, Parsons  
George Paschalis, Howard Stein-Hudson (HSH)

Agenda Item 1

*Introduction*

Hang Chu (NYSDOT) welcomed members of the Traffic and Transit Stakeholders’ Advisory Working Group (SAWG) and introduced the evening’s agenda. The goal of this meeting was to present, discuss, and seek input on the results of the project team’s evaluation of bus rapid transit (BRT) and commuter rail transit (CRT) alignment options in Westchester County. Mr. Chu asked participants to introduce themselves and encouraged participation in the discussion.

Maps, graphics, and engineering plans were presented throughout the meeting to aid in the discussion of the transit options.

Agenda Item 2

*Presentation*

The meeting began with a look at the transit service plans for Rockland and Westchester Counties, which show the BRT and CRT alignments and stations. The CRT would connect to the Port Jervis Line in the Village of Hillburn, continue across Rockland County, cross the Hudson River on the replacement Tappan Zee Bridge, and connect to Metro-North Railroad’s Hudson Line for service to Grand Central Terminal. The BRT system would operate from Hillburn to Port Chester, making 21 or 22 BRT station stops (6 in Rockland County and 15 or 16 in Westchester County) and connecting to feeder services, such as the Bee-Line in Westchester County, along the alignment.

The project’s Draft Environmental Impact Statement (DEIS), which is evaluating four build alternatives, is under way. As part of the alternatives studies, the project team evaluated several transit alignment options in both counties. The results of these studies have been presented to the public and stakeholders through community working meetings and open houses to gain feedback, and decisions are expected in the near future. The transit alignment options in Westchester County, which were the focus of this meeting, were developed to determine the following issues.

- Should the CRT connect to the Hudson Line in a trestle (a spur from the replacement bridge) or a tunnel? How should the BRT connect from the replacement bridge to the Metro-North station in Tarrytown?
- Should the BRT busway follow a route along Interchange 8 on I-287/87 or between the office parks on Route 119 (White Plains Road)?
- What route should the BRT take through downtown White Plains?

Options were evaluated according to a number of engineering, transportation, environmental, and cost criteria. The meeting explained which criteria were considered major differentiators between the options.

General Questions (Q), Comments (C), and Answers (A):

Q: Are there proposed BRT feeder routes that would provide connections to Bedford (Route 22), Merritt Parkway, I-684, and/or Stamford, Connecticut?

A: There are proposed feeder routes that travel to Stamford, but they would use I-287 and I-95, not Route 22 or I-684. However, feeder routes will be further studied during the Tier 2 transit environmental process. The BRT system is flexible, and the operator could add additional service once the system is implemented.

Q: What level of traffic demand would be necessary to warrant the use of BRT in busway or HOV lanes? What demand level would indicate that one type of transit system be used over the other?

A: Both systems would be designed to maintain bus speeds to ensure fast, reliable BRT service. Since the busway would be exclusively for the BRT vehicles, it would be expected to provide optimal performance. BRT in HOV/HOT lanes would be vulnerable to congestion from high volumes in the HOV/HOT lanes that could result in poor BRT performance. Heavy volumes, creating severe congestion and long delays on the Thruway from Suffern to Tarrytown, would likely lead many frustrated drivers to pay the high toll in the HOV/HOT lane to avoid the congestion. Thus large volumes would enter the HOV/HOT lanes at its start and at each entry slip ramp. This would reduce the average speed of buses within the lane and result in bus delays and reduced reliability. A high traffic demand level in the general purpose lanes would likely be the result of substantial growth along the corridor and in Orange County. It is assumed that the BPM (the travel demand model being used for the project) would identify this growth level and the model results would inform the discussion on the merits of both concepts and aid in the decision on which BRT system would be implemented.

Q: HOV lanes are often empty. How many additional vehicles would justify these types of highway improvements?

A: HOV lanes, as a highway improvement, have a negative perception because they are often empty. For that reason many transportation agencies are converting them to HOT (high occupancy toll) lanes as a means of providing an uncongested tolled lane as a choice where the heavy traffic demand results in severe congestion during peak periods. For our project the BPM is projecting high volumes, traffic congestion, and travel delays along the Thruway in Rockland County, seriously reducing mobility in the corridor. Based on this high level of traffic demand we are studying HOV/HOT lanes as alternative for the BRT system. In addition to the BRT vehicles operating in the uncongested HOV/HOT lanes, the lanes also would accommodate those wishing to avoid the projected congestion and pay a toll to use the HOV/HOT lanes, thus increasing mobility across Rockland County and the bridge.

The two BRT alternative alignments in Westchester County were presented, from the eastern terminus in Port Chester to Tarrytown:

### **BRT from Port Chester to White Plains**

*Busway.* Beginning at the Metro-North Port Chester Station, the BRT would travel south along the west side of the New Haven Line right-of-way to the south end of the Kohl's shopping plaza, where it would turn west. A station is proposed at Boston Post Road, on the south end of the shopping center. The BRT would travel westward in a dedicated busway, elevated on a viaduct, along the north side of I-287 towards Exit 10. Other proposed stations would be located at South Ridge Street and Westchester Avenue. The exclusive busway would then transfer to the south side of I-287 west of Exit 10. Another proposed station would be located at the Platinum Mile with shuttle service provided to nearby office parks. A station also is proposed at White Plains Avenue.

*Bus Lanes.* Alignments for the bus lane alternatives are similar to those of the busway in the segment from Port Chester to Exit 10 on I-287. From there the bus lanes would use the Westchester Avenue shoulder in both directions along the north and south sides of I-287. The proposed Platinum Mile and White Plains Avenue Stations would be split; the eastbound station would be on the south side of I-287 and the westbound on the north side.

## **BRT in Downtown White Plains**

*Busway and Bus Lanes.* An important retail and employment hub within Westchester County, the City of White Plains is a major destination in the corridor. The project team considered and analyzed two routes through the city with dedicated (BRT only) lanes. One route would travel eastbound on Main Street and westbound on Hamilton Avenue; the second route would use Hamilton Avenue for both directions. (Martine Avenue also was considered but eliminated as a westbound option.)

An analysis of projected 2035 traffic on Hamilton Avenue and Main Street showed that Hamilton Avenue is better suited as a BRT route.

While Main Street, which has three and four through lanes with parking, was found to be the most direct eastbound route through White Plains, the traffic analysis showed that taking a lane away from Main Street for exclusive use by the BRT would result in poor operating conditions (levels of service) for most intersections during the peak period and a failure at the intersection of Main Street and Lexington Avenue with unacceptably long delays. Local Bee-Line buses currently use Main Street, making many stops in the downtown.

Hamilton Avenue has greater capacity and fewer intersections than Main Street. While the traffic analysis did indicate significant congestion at the Martin Luther King Boulevard intersection, this impact could be mitigated by phasing of traffic signals. Further analysis of the route through downtown will be performed in the Tier 2 transit study and closely coordinated with the City.

Potential stations in White Plains are at the White Plains Transportation Center and the Westchester County Center, with a stop at the Westchester Mall and one between the Mall and the Transportation Center.

There are two alternative alignments under consideration for how the BRT would exit White Plains to the west. In the bus lane alternative alignment, the BRT would travel on Hamilton Avenue to Route 119 and enter downtown from the west, on Main Street. The busway alternative alignment would enter the Westchester County Center Station from the west on Route 119, then proceed through the parking area to the Harlem Line embankment and through a new underpass beneath the railroad tracks to the Transportation Center.

### General Questions (Q), Comments (C), and Answers (A) on BRT in White Plains:

Q: Why was Martine Avenue eliminated as a BRT route through White Plains?

A: As stated earlier, the traffic analysis showed that Hamilton Avenue would be a better eastbound route than Main Street. If Martine Avenue were used for the westbound route it would separate the BRT routes by two long blocks, which is considered to be too far apart for pedestrians to comfortably access. Although Martine Avenue is located close to County offices and is wider on its western end, it also is the westbound route for the Bee-Line buses through downtown and its eastern end is too narrow to accommodate the BRT.

C: The two-block difference between the bi-directional BRT routes could create a nice tension within White Plains and encourage an increased pedestrian presence, expand customer reach, and increase economic opportunities. This alignment could lead to an interest in improving the pedestrian environment in this area, which is dominated by parking and has no pedestrian plazas.

C: There are also auxiliary benefits to keeping the BRT route in close parallel streets because the blocks in White Plains are superblocks and not shorter blocks like those in New York City.

Q: What is the impact of the Bee-Line and BRT operating together on the same streets and at the same stations? The BRT proposed for Central Avenue could use Hamilton Avenue too as well as local buses.

A: The BRT system could be subject to interruptions at any of the Bee-Line stops, particularly on Martine Avenue and Main Street where a BRT bus could be forced to wait behind the local bus. For these reasons the project team decided to separate the BRT and Bee-Line routes but still allow transfer capabilities. A bus loop system is in design for White Plains, and the BRT could potentially make a connection with this system.

Q: Have detailed studies been conducted on how the potential stations would serve the BRT system?

A: The project has conducted origin and destination studies and has modeled the proposed BRT stations to determine ridership numbers at each station. This analysis, using updated socio-economic data, will be conducted for the DEIS.

Q: Currently, the bus lines (such as Trailways) located adjacent to the White Plains Transportation Center have little relationship with the train station or the local area.

A: The final BRT station location will be coordinated with the City and Metro-North to provide effective transfer capability. The City has an expressed interest in pursuing redevelopment in this area.

Q: Does an east-west BRT system have relevance to the CRT lines? The Bee-Line already serves the east-west corridor.

A: The BRT system would serve passengers wishing to transfer to and from the three rail lines in Westchester. The transfer could be to and from the trunk line or to one of the many feeder buses that stop at the transit stations.

C: Allowing the BRT system to serve the same areas as the Bee-Line would promote competition between the two systems. Early coordination with the City is necessary to avoid competition between the lines.

A: The proposed BRT system would generally be used for long-distance trips on a set, reliable schedule, whereas the Bee-Line would provide local services with more frequent stops. The determination of who will operate the BRT system has not been made. One entity could potentially operate both systems. These issues will be investigated in the Tier 2 transit analysis.

C: Efficiency issues exist now, in this tier, so waiting to answer these questions will increase the overall cost of the project. The service plan should result from coordination with other transit operators.

A: The BRT service plan was developed in coordination with the current bus operators (TOR and Bee-Line) and the planning departments of both counties.

Q: Has data been collected on why people take the bus in this area? Is it for shopping? Access to the County services buildings is needed.

A: The project has conducted origin and destination studies that were used in the transit mode selection analysis. In addition, analyses and surveys are conducted every year by the City of White Plains. Information is collected about trip destination and trip purpose. The results indicate that most trips are for the following reasons: employment, shopping, and traveling to school. The results vary by route. The loop route out of White Plains serves employment centers along Westchester Avenue.

### **BRT through Elmsford and Greenburgh**

*Busway.* The busway would travel from Route 119 in White Plains to I-287 Exit 5 and then adjacent to the north side of I-287 to Tarrytown. Potential stations in this segment would be located at Hillside Avenue (Exit 5), Elmsford East (Exit 4), and Elmsford West (Route 9A, Exit 2).

*Bus Lanes.* The bus lanes alternative alignment is the same as the busway alignment from White Plains to the north side of I-287 and also would include a Hillside Avenue Station. West of Hillside Station, the bus lane

alignment would shift to the south side of I-287, with an Elmsford East Station at the Bed Bath and Beyond/Syms parking lot and Elmsford West Station at Route 9A.

General Questions (Q), Comments (C), and Answers (A) on the Alignments in Elmsford and Greenburgh:

Q: Will there be acquisitions to accommodate the BRT?

A: It is likely that some property would need to be acquired where the BRT runs adjacent to I-287 and the BRT would not fit within the available right-of-way. The DEIS will identify these locations and document the impacts.

Q: Why would you eliminate the BRT on Route 119 when that is where most retail customers are going?

A: The BRT system would take a lane from Route 119 in each direction. This would not be an effective route for BRT due to the many side streets, driveways, local buses, etc. It would also cause severe congestion along this very busy roadway.

**BRT Routes from Elmsford to Tarrytown**

*Busway.* The BRT would travel adjacent to the north side of I-287, cross under South Broadway, and then enter the Broadway Station.

*Bus Lanes.* The BRT would operate in the median of Route 119 in Tarrytown, with stops at Benedict Avenue and Meadow Street before crossing South Broadway and entering the Broadway Station.

**Busway Options at Interchange 8**

There are two busway alignment options at Interchange 8: the I-287 ROW option and the Benedict Avenue option.

The I-287 alignment would stay adjacent to I-287 and continue towards Tarrytown. The Benedict Avenue Station would be located at the rear of the office parks. This alignment would have impacts to the rear of the Marriott Hotel where the available right-of-way is too narrow for the BRT alignment. This potential property impact is an important environmental consideration.

Under the Benedict Avenue option, the alignment would divert from I-287 at Exit 1, transition onto Route 119, and then turn into the office parks at Benedict Avenue. The proposed station would be located within the office parks and close to Route 119 for easy transfers to the Bee-Line buses. The alignment would continue adjacent to the north side of I-287.

General Questions (Q), Comments (C), and Answers (A) on BRT in Tarrytown:

Q: How would people travel to the Broadway Station?

A: People would use South Broadway or Route 119 to access the Broadway Station. The station would be located on the site of the existing NYSTA facility, which would be relocated. Parking would most likely be provided at the station. From modeling ridership results an initial estimate of 500 spaces was assumed, but the actual number of spaces would not be determined until further study takes place during Tier 2.

C: A 500-space parking lot would defeat the purpose of transit oriented development in this area.

A: The model ridership results suggested that 500 spaces at the proposed Broadway Station. However, the final number of parking spaces that may be provided would not be determined until further analysis is undertaken during Tier 2 transit environmental process and final design.

Q: Does the DEIS analyze the potential impacts from the station and the associated parking? This sort of detail is needed now for planning feeder routes in the service plan.

A: Yes, ridership estimates and potential parking needs are addressed in the DEIS.

Q: Who are the customers using the potential Broadway Station and where are they traveling to? Feeder lines are already serving Tarrytown.

A: This system would serve passengers in Tarrytown who could walk or drive to the station. It would also serve those from communities to the north and south who would transfer from local buses operating on Route 9. They would use the BRT system to travel to White Plains or to destinations in Rockland.

C: The parking will compete with the feeder bus system. This is the problem with tiering; the design is accommodating space for transit needs, but decisions have not been made yet. A Broadway Station with parking would promote congestion, but feeder buses would eliminate congestion. Parking should be placed farther from the station; otherwise it defeats the purpose of transit oriented development. The two concepts are contradictory. The model should reflect a no parking condition.

A: Again, the model is designed to determine potential ridership but not the number of parking spaces needed. This type of detail would require further study. We are not designing a station at this point but simply identifying a location that would undergo additional study during the more detailed Tier 2 transit analysis. Current ridership data suggest that this location would provide good transit connectivity.

C: The station area shown on the plan as a circle should be moved east closer to Broadway, and the area currently identified for a station should be left as open space. Transit oriented development and retail uses could be developed in this location.

A: The final station layout and bus platforms within the station area will be determined in the Tier 2 transit analysis and final design. The Broadway location would allow access to feeder buses.

### **BRT Tarrytown Connector Options**

All the build alternatives assume that the BRT would travel using the inner traffic lanes of the replacement Tappan Zee Bridge. At the landing, the BRT would drop beneath the roadway deck and into a short tunnel beneath the westbound lanes, then emerge aboveground into the proposed Broadway Station. From the station onward, the alternative alignments differ. The bus lane alignment would continue along Route 119, and the busway alignment would head east along the north side of I-287.

The project team analyzed two ways to connect from the replacement Tappan Zee Bridge to the existing Metro-North Tarrytown: the North Direct and the South Cross alignment options.

The South Cross option would bring the BRT south beneath the toll plaza then turn back to the north and descend to the east side of the Hudson Line tracks. This alignment and profile would avoid major visual impacts to the Quay Condominiums. The BRT would be elevated to approximately 27 feet above the Hudson River; the Quay is at 40 feet above the river. In addition, there would be visual impacts to residences directly south of the existing bridge.

The North Direct option would descend toward the Hudson Line tracks from the north side of the replacement bridge. This alignment would be at a higher elevation than the South Cross as it passes the Quay (43-50 feet above the existing tennis courts). In this option, the BRT would be visible to the residents of the Quay. In addition, the alignment's placement between the piers of the bridge landing would complicate its design and construction.



The South Cross option is considered to be more desirable. Although the route is longer, the alignment has engineering advantages and less environmental impact.

General Questions (Q), Comments (C), and Answers (A) on the Tarrytown Connector Options:

Q: Could you excavate the landing so that the BRT could travel beneath it en route to the Tarrytown Station?

A: Such an alignment would require extensive engineering. For example, Broadway would need to be lowered.

**CRT Hudson Line Connector Options**

To connect the CRT from the replacement bridge to the Hudson Line, three options were considered: a trestle option, a long tunnel, and a short tunnel .

*Trestle Option:* The CRT in this option would turn south off the bridge onto a trestle structure, dropping 150 feet to the existing Hudson Line. The trestle is a structure made up of a series of short spans, supported by piers. The trestle would descend to the Hudson Line tracks in Irvington. The Hudson Line comprises four tracks, which would need to be split to include two additional tracks, resulting in a total of six tracks. The expansion of track bed would encroach on the river and adjacent upland areas. Environmental implications include major visual impacts to the Irving neighborhood, where the trestle would be 75-80 feet above the river; Tarry Place is 40 feet above the river. Lyndhurst, a National Historic Landmark, would experience significant visual impacts. The trestle would be elevated to 40 feet, while the existing rail is at 8 feet above the water. Construction of the trestle option is estimated at \$300 million.

*Long Tunnel:* In this option, the CRT would enter the Westchester escarpment and descend straight into a tunnel. The CRT would loop around underground (120 feet below Broadway) towards the Hudson River, and cross beneath the Hudson Line to connect to the express tracks. As with the trestle option, the existing tracks would be separated to make room for the two additional tracks. The overall length of the tunnel option is shorter, but there would be modifications to the Hudson River and upland areas. Because of its length, depth, and complexity of construction, this option is estimated to cost over \$1 billion.

Visual impacts of the long tunnel are minimal except in the area adjacent to Sunnyside. At Sunnyside, the two tracks associated with the tunnel rise to 8-10 feet above the existing tracks. Some of the infrastructure such as flood-prevention walls would be seen from Sunnyside, which is 6-8 feet above the tracks. Other potential environmental impacts include vibration impacts from the tunnel and impacts to the river from track expansion. In addition the tunnel would require a ventilation building.

*Short Tunnel:* A second tunnel option was developed to shorten the length and thus reduce cost of a tunnel alignment option. As with the long tunnel, the CRT would travel from the bridge into the Westchester escarpment. The CRT would travel through the Irving neighborhood beneath Washington Place. This section of the alignment would be built using the open cut construction method. When it reaches the Kraft property, the CRT would ascend onto a bridge to cross over the existing tracks. The tracks would be expanded to allow for the placement of two additional tracks into the center. The cost of the short tunnel option is similar to that of the trestle option.

General Questions (Q), Comments (C), and Answers (A) about the Hudson Line Connector:

Q: Why would the CRT alignment on the bridge be 150 feet above the river?

A: The Coast Guard sets bridge clearance elevations based on the clearances of other bridge structures located on the river. While 150 feet is not final, it is the target clearance for this project. The clearance of the existing Tappan Zee Bridge is 135 feet.

Q: Is there a slope on the existing bridge?

A: Yes, the existing bridge has 3% grades to the mid-span. A more gradual slope would be used in the replacement bridge for the CRT alignment, which has a maximum of 1.5%.

Q: Are there pier and bulkhead line issues with the design of the new bridge?

A: Yes. The Army Corps of Engineers, which has jurisdiction, will be involved as a cooperating agency.

Q: What is the minimum radius possible for the design of the long tunnel option?

A: The current design uses the minimum radius with the CRT traveling at 40-45 mph.

Q: Where would storage facilities be located for the CRT and BRT?

A: Hillburn would be the location of storage yards for the CRT, but no locations have been determined for the BRT. Layover locations are being considered as well as existing depots which could accommodate additional storage if facilities were expanded.

Q: Would Westchester County's bus yard have room for BRT storage?

A: No, there are capacity issues at that location.

Q: What is the status of the finance study?

A: The study is still underway and a report is anticipated this fall.

Q: Is it possible that the CRT would be dropped from further consideration in the project?

A: No, each of the build alternatives under consideration in the DEIS includes a CRT system.

### Adjournment

The meeting adjourned at 8:00 pm.