

6. Physical Characteristics and Improvements

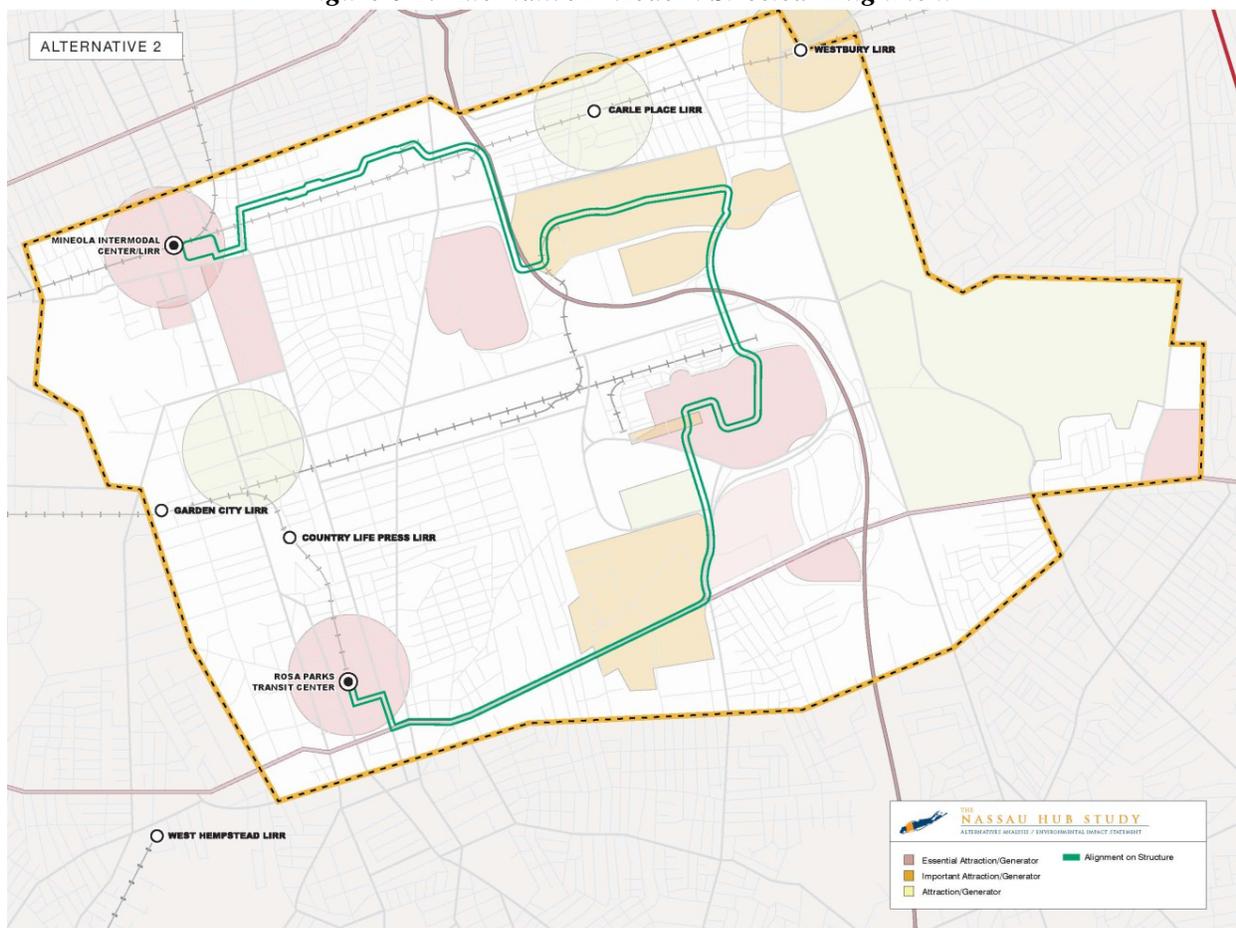
This section provides a description of each Short-List Alternative's alignment and its proposed station locations, first for Alternatives 2 and 3, the modern streetcar alternatives, followed by Alternatives 2A and 3A, the bus rapid transit (BRT)/premium bus alternatives. These alignments and station locations reflect refinements made to the Refined Long-List Alternatives (Section 5), based on further technical analyses and input from local stakeholders and the general public. This section also discusses the general requirements for modern streetcar and BRT/premium bus maintenance facilities and storage areas, and identifies potential locations for these functions.

6.1 Alignment and Stations

6.1.1 Alternative 2 Modern Streetcar

The alignment for Alternative 2 Modern Streetcar is 7.1 route miles in length, extends from the Village of Mineola to Village of Hempstead, and serves the Source Mall area (Figure 6-1). The alignment is primarily two tracks except along a short one-track section in the vicinity of East Gate Boulevard to Zeckendorf Boulevard, where right-of-way width limitations exist.

Figure 6-1: Alternative 2 Modern Streetcar Alignment



Source: Jacobs, 2012.



The modern streetcar would generally operate in mixed traffic, sharing the travel lanes on roadways in the Village of Mineola. In Carle Place, the modern streetcar would operate both in mixed traffic and on exclusive right-of-way adjacent to the Meadowbrook State Parkway (MSP). The alignment would pass under the Long Island Rail Road (LIRR) Main Line embankment and would be on exclusive, elevated right-of-way to cross Old Country Road; it would remain elevated through the Roosevelt Field property, stopping at an elevated station in Roosevelt Field, and crossing over the MSP.

The routing through the Source Mall area, when possible, would take advantage of former rail rights-of-way (including the former rail alignment between East Gate and Zeckendorf boulevards) and available land either on the side of roadways or use landscaped roadway medians to provide a semi-exclusive right-of-way. It is assumed that the alignment through Nassau Community College and the Nassau Veterans Memorial Coliseum property would be exclusive right-of-way via easements through these properties. Along Hempstead Turnpike, it appears that there would be sufficient space along the north side of the curb lane to accommodate an exclusive right-of-way to Oak Street.¹ Along Fulton Avenue in the Village of Hempstead, either the curb lanes or a dedicated center lane would be used for transit vehicles. This operation would require taking some on-street parking, where on-street parking is permitted. The proposed alignment for Alternative 2 Modern Streetcar is described in greater detail, below, by route segment.

The following is a turn-by-turn description of the route beginning at the proposed terminus in the Village of Mineola and ending at the proposed terminus at Rosa Parks–Hempstead Transit Center in the Village of Hempstead. Unless otherwise specified, the alignment would be a double-track right-of-way (i.e., providing inbound and outbound tracks).

Village of Mineola to Carle Place

The Alternative 2 Modern Streetcar alignment would begin in the Village of Mineola at a terminal station located on Front Street between Main Street and Willis Avenue. This segment of Front Street would be converted into a transit mall, i.e., closed to vehicular traffic. This concept will require additional coordination with the Village of Mineola.

Beginning on the mid-block of Front Street between Main Street and Willis Avenue, the alignment would run east to Willis Avenue. At Willis Avenue, it would turn south, operating in mixed traffic, to East 3rd Street. On East 3rd Street, it would continue east to Roslyn Road. Although the alignment would operate in mixed traffic sharing the travel lanes, it is likely that some parking spaces on the south side of East 3rd Street between Willis Avenue and Roslyn Road² would need to be acquired to accommodate the curve in the tracks from southbound Willis Avenue onto eastbound East 3rd Street.

On Roslyn Road, the alignment would head north to East 2nd Street, operating in mixed traffic sharing the traffic lane adjacent to the curbs, crossing underneath the LIRR overpass.

At East 2nd Street, the alignment would continue eastbound to its end, operating in mixed traffic. A proposed modern streetcar station would be located on East 2nd Street in the vicinity of Union Street. At

¹ This concept will require additional coordination with the New York State Department of Transportation (NYSDOT) Region 10.

² Using Front Street between Willis Avenue and Roslyn Road was considered; however, the warp <corn of> the existing pavement profile at the junction of Front Street and Roslyn Road is too severe to support a practical modern streetcar alignment. Therefore, both the inbound and outbound tracks are proposed on East 3rd Street where it intersects with Roslyn Road, and then proceeding toward Willis Avenue.



the east End of East 2nd Street, the alignment would shift northeast to connect to Voice Road using a strip of the vacant land between these two roads. This through movement would be allowed for transit vehicles only.³

Carle Place to Roosevelt Field

On Voice Road, the alignment would continue east to Glen Cove Road. On the western half of Voice Road, the alignment would operate in mixed traffic for approximately 800 feet. On the eastern half of Voice Road, the alignment would shift south and run along the northern portion of the shopping center parking lot at 172-198 Glen Cove Road for approximately 650 feet. This shift in the alignment would avoid conflicts with vehicles accessing the parking spaces along the stores in the building at the northwest corner of the intersection. This building features 90-degree parking perpendicular to the storefronts within its footprint. A proposed modern streetcar station would be located at the intersection of Voice Road and Glen Cove Road.

The alignment would cross Glen Cove Road and continue east in the service alley between the Hale and Hearty and Clocktower Place shopping center towards the MSP. The traffic signal at Voice Road and Glen Cove Road would need to be reconfigured to allow this movement.

Using the western portion of the landscaped strip of the MSP, the alignment would head south, passing underneath the LIRR Main Line using a new, short tunnel constructed in the embankment. The alignment would continue south along the western edge of the MSP right-of-way, traveling adjacent to the well field and transitioning into an elevated structure.

The alignment would be elevated on a viaduct to cross over Old Country Road and the MSP on- and off-ramps for the Old Country Road exit. The alignment would remain elevated within the western edge of the MSP right-of-way to Roosevelt Field. An elevated modern streetcar station would be located at Roosevelt Field adjacent to the northernmost parking garage.

Roosevelt Field to Source Mall

Leaving the Roosevelt Field modern streetcar station, the alignment would turn east and serve the Source Mall, the large-scale retail uses and redevelopment areas along Transverse Drive, Nassau Community College, the Nassau Veterans Memorial Coliseum, and the Village of Hempstead.

The elevated right-of-way at the Roosevelt Field modern streetcar station would turn 90 degrees and head east, crossing over the MSP and descend in the parking lot between the Hampton Inn hotel on the western end of North Avenue and the industrial building (1000 Axinn Avenue) on the western end of Axinn Avenue. The alignment would connect to the abandoned railroad alignment on a double-track right-of-way curving to the north and east behind the Magna Care building's parking lot (825 East Gate Boulevard). A modern streetcar station would be located at East Gate Boulevard. The alignment would continue east, crossing East Gate Boulevard, and continue east on a single-track within the former rail right-of-way located to the south of the Galleria at Westbury Mall. Due to a significant grade change, the alignment would need to transition into an elevated right-of-way to connect to Transverse Drive.

The alignment would continue east on Transverse Drive, transitioning to a two-track right-of-way along the south side of the roadway in the landscaped area adjacent to the curb to Merchants Concourse.

³ This concept will require additional coordination with the Village of Mineola.



Proposed modern streetcar stations on Transverse Drive would be located at Zeckendorf Boulevard and at the Source Mall at Fortunoff Way.

At Merchants Concourse, the alignment would head south along the west side of the road in the landscaped strip adjacent to the curb to Corporate Drive. A modern streetcar station would be located on Merchants Concourse just north of Corporate Drive. At the intersection of Merchants Concourse and Corporate Drive, the alignment would shift to an exclusive right-of-way in the median (center) of Merchants Concourse and continue south to Stewart Avenue. A modern streetcar station would be located on Endo Boulevard just south of Stewart Avenue.

South of Stewart Avenue, Merchants Concourse becomes Lifetime Brand Boulevard (Endo Boulevard). At this intersection, the alignment would transition from an exclusive right-of-way in the median to operating in mixed traffic, sharing the curb lanes in both directions. The alignment would continue south on Lifetime Brand Boulevard, accessing Nassau Community College's East Campus.

Through the East Campus, the alignment would run in an exclusive right-of-way in a southerly direction to east of the Life Sciences Building and the Cluster A – D buildings, using one bay of parking (i.e., two adjacent rows of parking spaces) and then within the strip between the paved footpath and parking areas. A modern streetcar station would be located on the north side of the campus within the area currently used for the parking bay.

The alignment would continue south, passing around the Physical Education Complex and connecting to North-South Road and then heading south through the parking lot. On North-South Road, the modern streetcar would operate in a combination of mixed traffic and exclusive right-of-way. A modern streetcar station would be located on North-South Road in the vicinity of Library Road West to serve the south side of the campus and Museum Row.

Continuing south from the parking lot, the alignment would cross Charles Lindbergh Boulevard and continue south, operating in mixed traffic via the road between the Mitchel Athletic Complex and the parking garage for the Omni office building. A modern streetcar station would be located at Mitchel Field.

The alignment would shift east, crossing Earle Ovington Boulevard to access the Nassau Veterans Memorial Coliseum property, and head south to Hempstead Turnpike. A modern streetcar station would be located at the Nassau Veterans Memorial Coliseum property.

Hempstead Turnpike/Fulton Avenue Alignment

As the alignment reaches Hempstead Turnpike, it would run along the north side of the roadway in the landscaped strip between the shoulder lane and the jogging/bicycle path. A proposed modern streetcar station would be located just to the west of Oak Street.

West of Oak Street, Hempstead Turnpike becomes Fulton Avenue. Fulton Avenue has two travel lanes in each direction and median lanes that are shared right- and left-turn bays and separate left-turn bays. From Oak Street to Washington Street, Fulton Avenue is approximately 60 feet wide. At Oak Street, the alignment would transition from operating on the north side of Hempstead Turnpike to operating in a dedicated center median lane on Fulton Avenue. The alignment would transition from the center median lane to the curb lanes/parking lanes at the modern streetcar stations. The proposed modern streetcar stations would be located along the curb lanes/parking lanes in the vicinity of Warner Avenue and in the vicinity of Clinton Street.

At Washington Street, the alignment would turn north, operating in mixed traffic to Jackson Street. The alignment would turn west on Jackson Street and terminate in the parking lot of the Rosa Parks–Hempstead Transit Center, operating in mixed traffic. A portion of the eastern edge of the parking lot would need to be acquired for a platform and tracks. Given current traffic operations on Hempstead Turnpike, careful consideration needs to be given to alternatives operating within or adjacent to the roadway. Detailed traffic evaluations will be performed as part of the subsequent environmental review phase of the Study to address this issue.

Alternative 2 Modern Streetcar would have 18 stations, with an average station spacing of 0.4 mile. Table 6-1 lists the proposed stations.

Table 6-1: Alternative 2 Modern Streetcar Stations

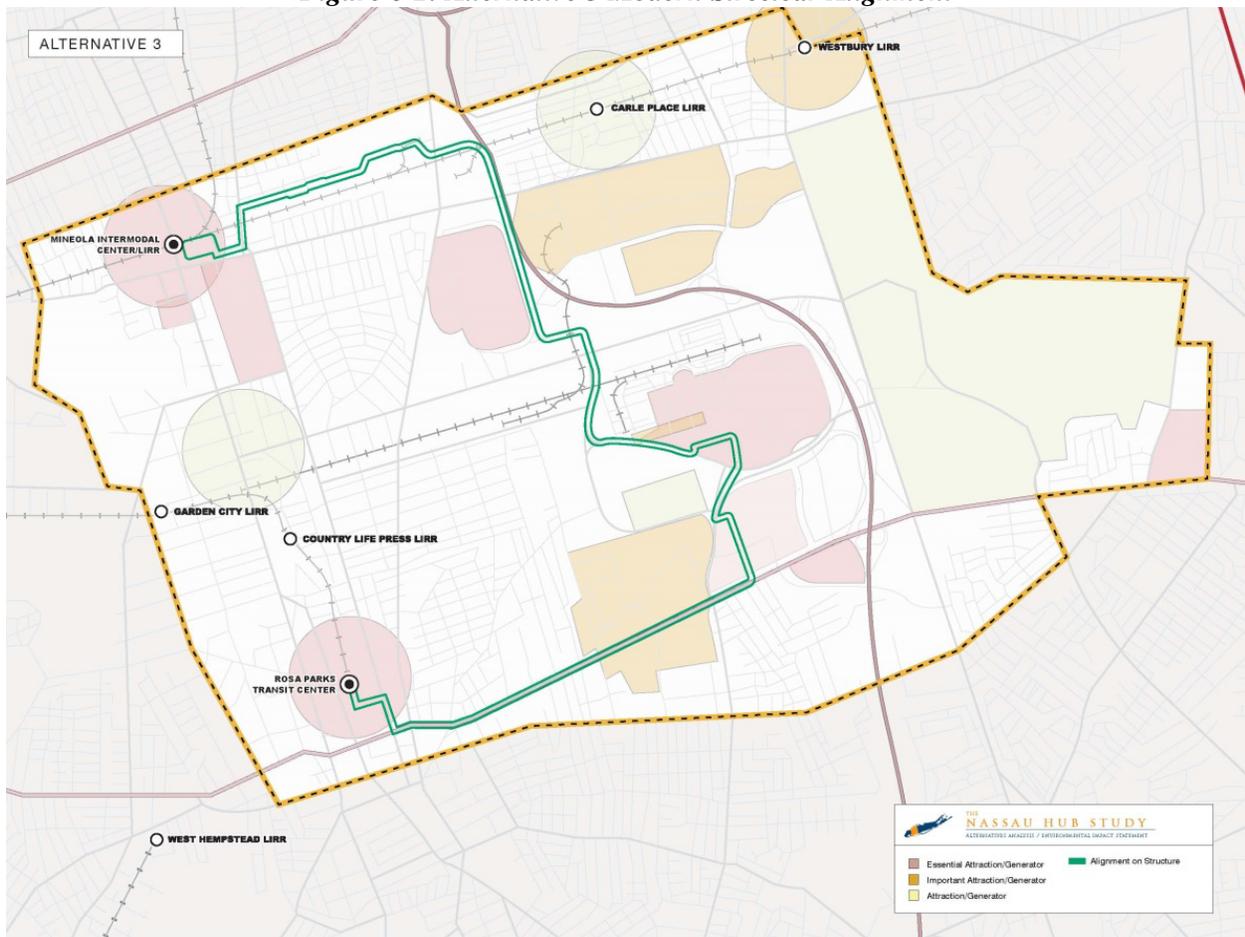
Station	Location/Cross Streets	Attractors/Generators Served
Front Street	Willis Avenue and Main Street	Mineola Intermodal Center (Nassau Inter County Express [NICE] Bus and LIRR), downtown Village of Mineola
2 nd Street	Union Street	Neighborhood stop/retail/light industrial
Voice Road	Voice Road and Glen Cove Road	Retail uses along Glen Cove Road
Roosevelt Field	East of Roosevelt Field parking garage	Roosevelt Field, Roosevelt Field Bus Facility (NICE Bus)
East Gate Boulevard	East Gate Boulevard south of North Avenue	The Gallery at Westbury Plaza
Zeckendorf Boulevard	Zeckendorf Boulevard and Transverse Drive	The Gallery at Westbury Plaza
Source Mall	Transverse Drive and Fortunoff Way	Source Mall, Roosevelt Raceway Shopping Center
Merchants Concourse	Merchants Concourse and Corporate Drive	Roosevelt Raceway Shopping Center, Archstone and Meadowbrooke Pointe residential developments
Stewart Avenue	Stewart Avenue and Endo Boulevard	Neighborhood stop, Avalon residential development, office
Nassau Community College North	South of Endo Boulevard, adjacent to Life Sciences Building	Nassau Community College campus
Nassau Community College/Museum Row	Earle Ovington Boulevard (North-South Road) and Library Road W	Nassau Community College campus, Museum Row
Mitchel Field	Along Mitchel Park service road east of Quentin Roosevelt Boulevard and south of Charles Lindbergh Boulevard	Mitchel Field Athletic Complex, Omni office building
Nassau Veterans Memorial Coliseum	West of Earle Ovington Boulevard	Nassau Veterans Memorial Coliseum and other development on the property
Hofstra University	Hempstead Turnpike and Hofstra Boulevard	Hofstra University campus, entertainment venues, retail, neighborhood stop
Oak Street	Hempstead Turnpike and Oak Street	Hofstra University campus
Warner Avenue	Fulton Avenue and Warner Avenue	Neighborhood stop
Clinton Street	Fulton Avenue and Clinton Street	Neighborhood stop
Rosa Parks–Hempstead Transit Center	Jackson Street and Station Plaza	Downtown Village of Hempstead, NICE Bus, Hempstead Station (LIRR)

Source: Jacobs, 2012.

6.1.2 Alternative 3 Modern Streetcar

The alignment for Alternative 3 Modern Streetcar is 6.5 route miles in length and extends from the Village of Mineola to the Village of Hempstead (Figure 6-2). It follows the same routing as described for Alternative 2 from the Village of Mineola to Roosevelt Field, except that the Source Mall area would not be served and Roosevelt Field would be served by two modern streetcar stations, one to the northeast of the Roosevelt Field parking garage and one to the east of Bloomingdale's.

Figure 6-2: Alternative 3 Modern Streetcar Alignment



Source: Jacobs, 2012.

After departing the southern Roosevelt Field Station, the elevated right-of-way would continue south from within the western edge of the MSP right-of-way, crossing over Zeckendorf Boulevard, and continue along the western edge of the retention basin at Ring Road East and South Street. The alignment would descend to grade and travel eastbound in exclusive right-of-way on the north side of South Street, where a station is proposed. At Quentin Roosevelt Boulevard, the alignment would continue southbound in an exclusive right-of-way on the west side of Quentin Roosevelt Boulevard.

On Quentin Roosevelt Boulevard, just north of Commercial Avenue, there is an at-grade railroad crossing with the Garden City Secondary. This could be a potential Federal Railroad Administration (FRA) regulatory issue if this line is considered active; this will be further explored as the Locally Preferred Alternative (LPA) is advanced through the environmental review phase of the Study.



The alignment would turn eastbound onto the south side of Charles Lindbergh Boulevard on exclusive right-of-way and continue to Museum Row and the Nassau Community College West Campus, using the campus parking lots. A modern streetcar station would be located at Museum Row/Nassau Community College. The alignment would continue south past the Physical Education Complex, using the parking lots and vacant land, crossing Charles Lindbergh Boulevard to access the Nassau Veterans Memorial Coliseum.

New traffic signals would be placed on Quentin Roosevelt Boulevard and Charles Lindbergh Boulevard to allow the transit vehicles to cross from the west side of Quentin Roosevelt Boulevard to the south side of Charles Lindbergh Boulevard to avoid conflicts with southbound through-traffic on Quentin Roosevelt Boulevard and traffic using the Charles Lindbergh Boulevard ramp to southbound Quentin Roosevelt Boulevard.

Along Charles Lindbergh Boulevard, there are jogging/bike paths. In sections of Charles Lindbergh Boulevard where an exclusive right-of-way is proposed, these jogging/bike paths would be shifted or relocated to accommodate an exclusive transit right-of-way.

The alignment would continue southbound, traveling through the Nassau Veterans Memorial Coliseum property to Hempstead Turnpike. A modern streetcar station would be located at the Nassau Veterans Memorial Coliseum property.

Once on Hempstead Turnpike, Alternative 3 would follow the same routing as described for Alternative 2 for the Hempstead Turnpike/Fulton Avenue section.

Alternative 3 Modern Streetcar would have 14 stations. The average station spacing is 0.5 mile. Table 6-2 lists the proposed stations.

Table 6-2: Alternative 3 Modern Streetcar Stations

Station	Location/Cross Streets	Attractors/Generators Served
Front Street	Willis Avenue and Main Street	Mineola Intermodal Center (NICE Bus and LIRR), downtown Village of Mineola
2 nd Street	Hudson Place and Union Street	Neighborhood stop
Voice Road	Voice Road and Glen Cove Road	Retail uses along Glen Cove Road
Roosevelt Field	East of Roosevelt Field parking garage	Roosevelt Field
Roosevelt Field South	East of Bloomingdale's	Roosevelt Field, Roosevelt Field Bus Facility (NICE Bus)
South Street	South Street and Stewart Avenue	Neighborhood stop
Railroad Avenue	Railroad Avenue and Charles Lindbergh Boulevard	Neighborhood stop
Nassau Community College-Museum Row	Earle Ovington Boulevard (North-South Road) and Student Union Service Road	Nassau Community College campus, Museum Row
Nassau Veterans Memorial Coliseum	West of Earle Ovington Boulevard	Nassau Veterans Memorial Coliseum and/or other development on the property
Hofstra University	Hempstead Turnpike and Hofstra Boulevard	Hofstra University campus

Table 6-2: Alternative 3 Modern Streetcar Stations (continued)

Station	Location/Cross Streets	Attractors/Generators Served
Oak Street	Hempstead Turnpike and Oak Street	Hofstra University campus
Warner Avenue	Fulton Avenue and Warner Avenue	Neighborhood stop
Clinton Street	Fulton Avenue and Clinton Street	Neighborhood stop
Rosa Parks–Hempstead Transit Center	Jackson Street and Station Plaza	Downtown Village of Hempstead, NICE Bus, Hempstead Station (LIRR)

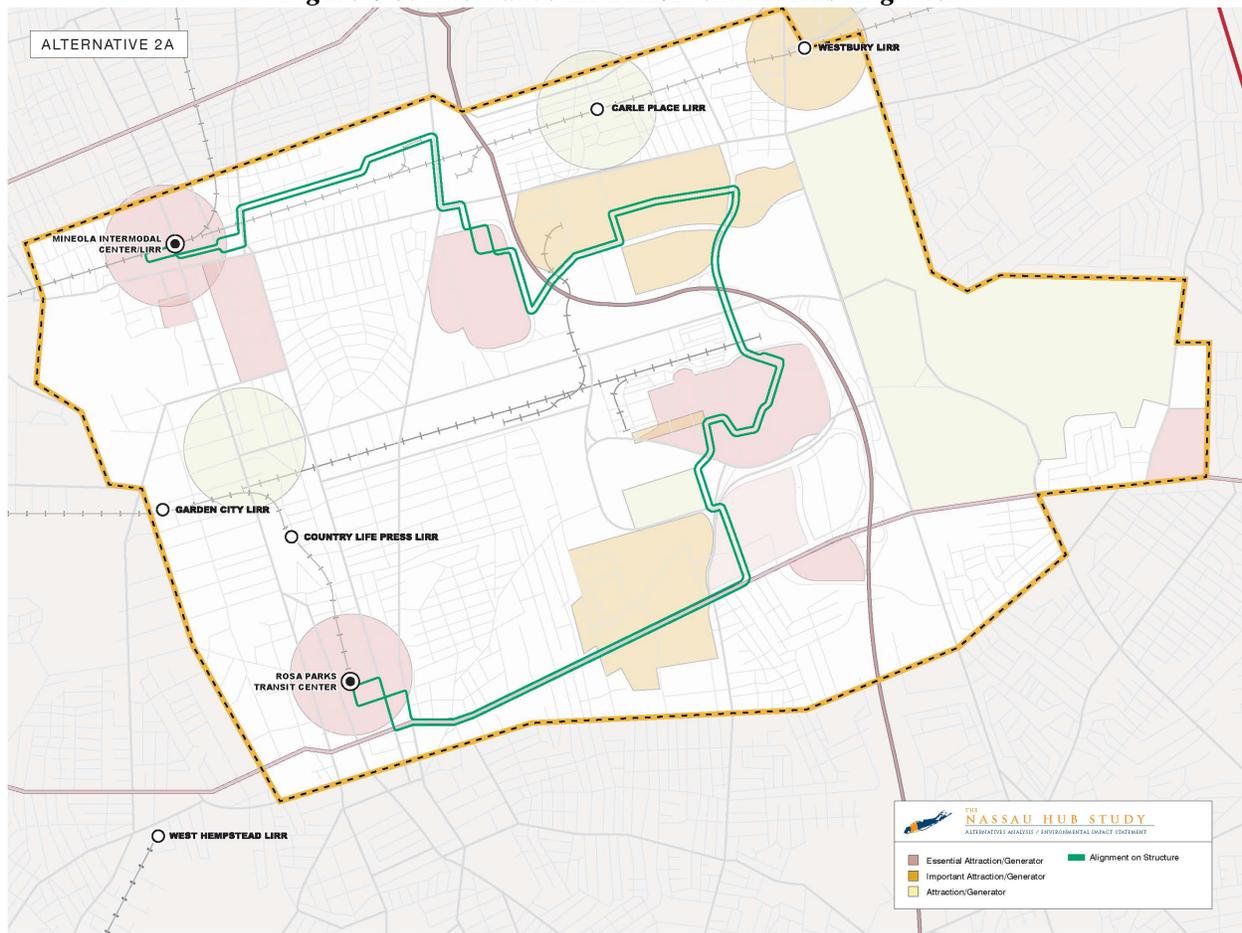
Source: Jacobs, 2012.

6.1.3 Alternative 2A BRT/Premium Bus

The proposed Alternative 2A BRT/Premium Bus outbound alignment from the Village of Mineola to the Village of Hempstead is 8.5 miles in length and the inbound alignment is 8.1 miles in length, primarily operating in mixed traffic with nearly 1.5 miles of proposed exclusive right-of-way near Carle Place, Roosevelt Field, Source Mall, Nassau Community College, and Nassau Veterans Memorial Coliseum (Figure 6-3). The alignment would operate in mixed traffic in the Village of Mineola and Carle Place with a short segment of exclusive right-of-way connecting the dead ends of East 2nd Street and Voice Road⁴. At Roosevelt Field, there would be an exclusive right-of-way for inbound buses across Ring Road North. The alignment would continue to operate in mixed traffic in the Source Mall area, but would make use of available land on the south side of Transverse Drive to provide an exclusive right-of-way. It is assumed that the alignment through Nassau Community College and the Nassau Veterans Memorial Coliseum would be on exclusive right-of-way via easements through these properties. The alignment would continue to operate in mixed traffic along Hempstead Turnpike to its terminus at the Rosa Parks Hempstead Transit Center. The proposed alignment for Alternative 2A BRT/Premium Bus is described in greater detail, below, by route segment.

⁴ This concept will require additional coordination with the Village of Mineola.

Figure 6-3: Alternative 2A BRT/Premium Bus Alignment



Source: Jacobs, 2012.

Village of Mineola to Carle Place

The Alternative 2A BRT/Premium Bus alignment would begin in the Village of Mineola at a BRT/premium bus terminal station for boarding passengers along the south curb of Station Road, east of 3rd Avenue. For return trips, the drop-off/ layover area would be on the east curb of 3rd Avenue, just south of Station Road. The alignment would continue on Station Road and alongside Mineola Boulevard to 3rd Street and then east on 3rd Street. The segment of Station Road that is parallel with Mineola Boulevard and intersects 3rd Street is wide enough for the addition of a proposed bus-only lane on the east side of the street. The current travel lane could be converted to a separate bus-only lane on the left-hand side that would lead to a bus-only left turn onto eastbound 3rd Street. This would require a new traffic signal with a separate phase exclusively for buses to cross Mineola Boulevard. The existing hatched area on the right-hand side of Mineola Boulevard could be converted to a lane for general traffic, which would only be allowed to turn right on 3rd Street, as at present. Inbound buses would continue west on 3rd Street and north on 3rd Avenue to access the drop-off area.

The alignment would continue east on 3rd Street to Willis Avenue. Between Main Street and Willis Avenue, 3rd Street is eastbound only. To facilitate westbound/inbound bus movements, there would be a contraflow bus lane on the north side of this segment of 3rd Street. Establishment of the contraflow bus



lane would require the removal of parking along the north side of the street. Eastbound/outbound buses would continue to travel with general traffic.

Between Willis Avenue and Roslyn Road, the outbound alignment would follow 3rd Street while the inbound alignment would follow Front Street. The inbound Willis Avenue BRT/premium bus station would be located on Willis Avenue, just north of 3rd Street and the outbound station on 3rd Street, just east of Willis Avenue. This would serve the courts and residences, which are located too great a distance from the BRT/premium bus terminal station (the modern streetcar terminal station proposed with Alternative 2, located further east, does not require another stop in this location).

At Roslyn Road, the outbound alignment would head north to East 2nd Street. Signalization would be required for the intersection of 3rd Street and Roslyn Road to facilitate bus left turns onto Roslyn Road. The inbound alignment would make a right turn onto Front Street from Roslyn Road to serve the proposed Willis Avenue BRT/premium bus station. From Roslyn Road, the alignment would continue east on East 2nd Street to its end. Bus stations would be located on the north and south sides of East 2nd Street at Union Street. At the east end of East 2nd Street, the alignment would shift northeast to connect to Voice Road, using a strip of the vacant land between these two roads. This exclusive right-of-way would be at least 26 feet in width with treatments to prevent use by private vehicles⁵.

Carle Place to Roosevelt Field

On Voice Road, the alignment would continue east to Glen Cove Road, operating in mixed traffic. The inbound Voice Road Station would be located on Voice Road in a built cut-out in the landscaping on the north side of the street west of the Van Heusen entry/exit. To remove potential impediments to free-flowing inbound bus traffic, the conversion of the entry/exit to an entry-only would be required, along with the conversion of head-in parking adjacent to the entry/exit to a physically separated service road with west-facing angled parking. All vehicles leaving the angled-parking spaces would travel west in the separated lane, head north into the rear parking lot and circulate around the building to exit the parking lot directly onto Glen Cove Road or onto Voice Road just west of Glen Cove Road, which could be converted to exit-only. In addition to this separation, Voice Road would be re-striped to provide longer left-turn lanes in both directions to improve through-traffic flow (including buses). At the intersection of Voice Road and Glen Cove Road, the allocation of additional green time would be required for the northbound left-turn phase. The northbound left-turn lane could be lengthened by acquiring land on the west side of Glen Cove Road and offsetting the existing centerline westward to accommodate a new southbound lane. The outbound Voice Road Station would be located on the west side of Glen Cove Road, directly south of Voice Road, out of the general traffic flow. Additional modifications, subject to further study, may reduce or eliminate some left-turn movements in the area.

On Glen Cove Road, the alignment would head south to Old Country Road to the proposed Old Country Road BRT/premium bus station, then east on Old Country Road to Roosevelt Field via Ring Road. The outbound Old Country Station could be located on Old Country Road, just east of Glen Cove Road in front of the local bus stops that are presently located there. For the inbound Old Country Road BRT/premium bus station, the channelized westbound right turn from Old Country Road onto Glen Cove Road has sufficient width to accommodate the station on Glen Cove Road just north of Old Country Road. The right-turn lane could be re-striped so that right-turning traffic could be directed into northbound Glen Cove Road lanes around the BRT/premium bus station during the green signal phase.

⁵ This concept will require additional coordination with the Village of Mineola.



The southbound left-turn movement at Glen Cove Road and Old Country Road currently experiences significant traffic queuing and delays despite dual turn lanes being provided. Reconfiguration of the intersection would be done in order to provide a dedicated bus-only southbound queue-bypass left-turn lane. The channelized westbound right-turn lane could be modified by reducing the size of the pork-chop island and eliminating the right-turn receiving lane, as the right turn operates under signal control and the receiving lane may not be needed. By providing only two receiving lanes, the existing southbound left-turn lanes could be lengthened and shifted east with no loss of capacity. Reconstruction of the median would be done to separate northbound and southbound traffic. The proposed bus-only southbound left-turn lane could be constructed between the existing southbound through lanes and the shifted southbound left-turn lanes. The westbound stop markings at this intersection would be re-stripped to accommodate southbound left-turn movements.

From Old Country Road, the alignment would continue to Roosevelt Field. A BRT/premium bus station would be located at the north end of Roosevelt Field at the northernmost parking garage. The outbound alignment would follow Ring Road and turn right into the parking lot. For inbound buses, a northbound bus-only through lane would be located between the parking lot and Ring Road North. A signal phase could be activated only when buses are present.

The alignment would continue along Ring Road East to the Roosevelt Field South BRT/premium bus stations and then east on Zeckendorf Boulevard. The inbound Roosevelt Field South Station could make use of acquired land on the east side of Ring Road East, north of Zeckendorf Boulevard. The outbound station would be located on the west side of Ring Road East in a cut-out from the parking lot and would require the removal of parking spaces to construct a BRT/premium bus station. Zeckendorf Boulevard would be widened at the intersection with Ring Road East by reconstructing the on-ramp to the MSP from eastbound Zeckendorf Boulevard. The new width could be used to provide an additional westbound lane on Zeckendorf Boulevard and to extend the exclusive right-turn lane on westbound Zeckendorf Boulevard to the MSP off-ramp.

Roosevelt Field to Source Mall

After turning east onto Zeckendorf Boulevard, the alignment would continue to BRT/premium bus stations proposed at East Gate Boulevard. The proposed outbound East Gate Boulevard Station, located along the south curb of Zeckendorf Boulevard on the far side of the intersection, could make use of the unused curbside area. Extra width for the station could be acquired by narrowing and keeping two eastbound Zeckendorf Boulevard lanes. The inbound station could be located in the curb lane on the far side of the intersection of Zeckendorf Boulevard and East Gate Boulevard.

The alignment would continue east on Zeckendorf Boulevard, then north on Zeckendorf Boulevard to Transverse Drive, where an exclusive two-way transitway is proposed along the south side of Transverse Drive. An outbound Zeckendorf BRT/premium bus station would be located on the west side of Zeckendorf Boulevard, near-side of the intersection with Transverse Drive, making use of unused County-owned property. The inbound Zeckendorf Station would be located in the transitway. A traffic signal would be located at the intersection of Zeckendorf Boulevard and Transverse Drive to facilitate westbound left turns for inbound buses from the transitway. Pedestrian crossings and paths to the Target department store could also be installed at this location. The transitway could be constructed in the landscaped area along the south side of the roadway between Zeckendorf Boulevard and Merchants Concourse. Signage could also be installed at both ends of the transitway to prevent use by general traffic. Running in the transitway, the alignment would serve the Source Mall, large retail uses, and



redevelopment areas along Transverse Drive. The Source Mall BRT/premium bus stations (inbound and outbound) would be located in the transitway at Fortunoff Way.

At Merchants Concourse, the alignment would head south, operating in mixed traffic to Corporate Drive with inbound and outbound BRT/premium bus stations on the south side of this intersection. The northbound left-turn queues at the intersection of Merchants Concourse and Corporate Drive frequently block northbound through traffic. Potential treatments at this location might include the addition of a second northbound left-turn lane by widening the intersection to the east or allocation of additional northbound left-turn green time. After crossing Corporate Drive, the alignment would continue south to Stewart Avenue.

South of Stewart Avenue, Merchants Concourse becomes Lifetime Brands Boulevard (Endo Boulevard). Outbound and inbound Stewart Avenue BRT/premium bus stations would be located on Merchants Concourse/Lifetime Brands Boulevard, near-side of the intersection at Stewart Avenue. To increase the southbound through capacity on the north side of this intersection, an additional southbound through lane could be provided by removing one of the northbound through lanes on the north side. Presently, there is only one northbound through lane on the south side of the intersection feeding the northbound through lane north of the intersection. When re-configuring the intersection, extra length could be obtained for the BRT/premium bus station, and crosswalks could be installed.

The alignment would continue south on Lifetime Brand Boulevard (Endo Boulevard) to access the Nassau Community College campus. From Endo Boulevard, the alignment would turn south through the east end of the Nassau Community College parking lot to connect to a proposed exclusive right-of-way. The alignment would run in a southerly direction through the parking lot, adjacent to the campus buildings between the paved footpath and parking areas, to the Nassau Community College North stations. Removal of parking may be required at the north end of the exclusive right-of-way in this section to eliminate conflict between general traffic and buses. There would be stop controls for the intersection of the north end of the exclusive right-of-way and Endo Boulevard.

The alignment would continue south, passing around the gymnasium and connecting to North-South Road (Earle Ovington Boulevard), and then heading south on Library Road West. On North-South Road and Library Road West, the BRT/premium bus would operate in mixed traffic with proposed BRT/premium bus stations to serve the south side of the Nassau Community College campus and Museum Row. The inbound alignment would head northeast from Library Road West across the parking lot to the Nassau Community South-Museum Row Station and then onto North-South Road. The removal of parking spaces would be required for an inbound BRT/premium bus station. The outbound station would be located on North-South Road, just west of Library Road West. In addition, crosswalks are proposed across the roadway to the campus for inbound BRT/premium bus passengers and other pedestrians.

Continuing south from Library Road West, the alignment crosses Charles Lindbergh Boulevard and would continue south operating in mixed traffic via the road between the Mitchel Athletic Complex and the parking garage for the Omni office building. The inbound and outbound Mitchel Field BRT/premium bus stations would be located along this road, north of Quentin Roosevelt Boulevard. There would be realignment and signalization for the intersection of this road and Charles Lindbergh Boulevard to permit through movements across Charles Lindbergh Boulevard.

The alignment would turn east onto Quentin Roosevelt Boulevard and across Earle Ovington Boulevard to access the Nassau Veterans Memorial Coliseum property. Presently, Quentin Roosevelt Boulevard is



eastbound only and outbound buses would continue to operate in mixed traffic. There would be a contraflow bus lane adjacent to the bicycle path along Quentin Roosevelt Boulevard between the Nassau Veterans Memorial Coliseum property and the road between the Mitchel Athletic Complex and the parking garage for the Omni office building to allow for westbound, right-turning bus movements at this location. The intersection of Quentin Roosevelt Boulevard and Earle Ovington Boulevard may warrant the installation of an actuated-coordinated traffic signal.

A BRT/premium bus station would be located at the Nassau Veterans Memorial Coliseum property. The alignment would run in an exclusive right-of-way through the Nassau Veterans Memorial Coliseum property and head south to Hempstead Turnpike.

Hempstead Turnpike/Fulton Avenue Alignment

As the alignment reaches Hempstead Turnpike, it would run along the north side of the roadway in the landscaped strip between the shoulder lane and the jogging/bicycle path. A proposed BRT/premium bus station would be located just to the west of Oak Street.

West of Oak Street, Hempstead Turnpike becomes Fulton Avenue. Fulton Avenue has two travel lanes in each direction and median lanes that are shared left-turn bays and separate left-turn bays. At Oak Street, the alignment would transition from operating on the north side of Hempstead Turnpike to operating in a dedicated center median lane on Fulton Avenue. The alignment would transition from the center median lane to the curb lanes/parking lanes at the BRT/premium bus stations. Proposed BRT/premium bus stations would be located along the curb lanes/parking lanes in the vicinity of Warner Avenue and in the vicinity of Clinton Street. Given the current traffic operations on Hempstead Turnpike, careful consideration needs to be given to alternatives operating within or adjacent to the roadway⁶. Detailed traffic evaluations and changes to circulation patterns will be performed as part of the subsequent environmental review phase of the Study to address this issue.

The outbound alignment would turn north onto Clinton Street, operating in mixed traffic to Jackson Street, and then turn west on Jackson Street and terminate at the south end of Rosa Parks–Hempstead Transit Center. The inbound alignment would continue east on Jackson Street and then south on Station Plaza and east on Nichols Court to Fulton Avenue.

Alternative 2A BRT/Premium Bus would have 21 stations. The average station spacing is 0.4 mile. Table 6-3 lists the proposed stations.

⁶ This concept will require additional coordination with NYSDOT, Region 10.

Table 6-3: Alternative 2A BRT/Premium Bus Stations

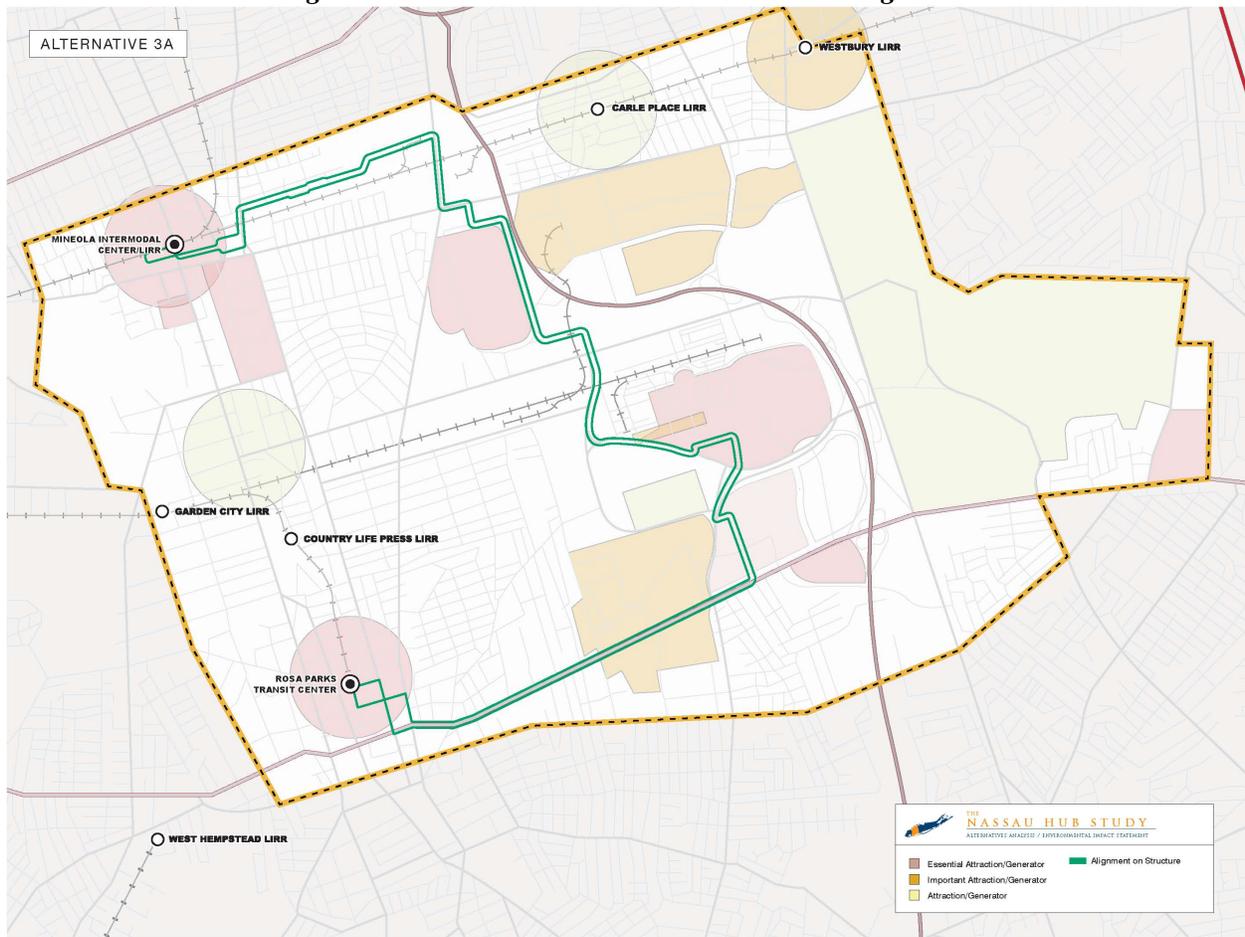
Station	Location/Cross Streets	Attractors/Generators Served
Mineola Intermodal Center	Station Road and 3rd Avenue	Mineola Intermodal Center (NICE Bus and LIRR), downtown Village of Mineola
Willis Avenue	Willis Avenue and 3rd Street	Courts, Residences
2nd Street	East 2nd Street and Union Street	Local stop
Voice Road	Voice Road and Glen Cove Road	Retail uses along Glen Cove Road and Voice Road
Old Country Road	Old Country Road and Glen Cove Road	Local Stop and retail uses along Old Country Road
Roosevelt Field	North of Roosevelt Field parking garage	Roosevelt Field
Roosevelt Field South	Ring Road East and Zeckendorf Boulevard	Roosevelt Field, Roosevelt Field Bus Facility (NICE Bus)
East Gate Boulevard	Zeckendorf Boulevard and East Gate Boulevard	The Gallery at Westbury Plaza
Zeckendorf Boulevard	Zeckendorf Boulevard and Transverse Drive	The Gallery at Westbury Plaza
Source Mall	Transverse Drive and Fortunoff Way	Source Mall, Roosevelt Raceway Shopping Center
Merchants Concourse	Merchants Concourse and Corporate Drive	Roosevelt Raceway Shopping Center, Archstone and Meadowbrooke Pointe residential developments
Stewart Avenue	Stewart Avenue and Merchants Concourse/Lifetime Brand Boulevard	Local stop
Nassau Community College North	South of Endo Boulevard, adjacent to Life Sciences Building	Nassau Community College campus
Nassau Community College South /Museum Row	North-South Road (Earle Ovington Boulevard) and Library Road West	Nassau Community College, Museum Row
Mitchel Field	Mitchel Field service road south of Charles Lindbergh Boulevard	Mitchel Field Athletic Complex, Omni office building
Nassau Veterans Memorial Coliseum	West of Earle Ovington Boulevard	Nassau Veterans Memorial Coliseum and/or other development on the property
Uniondale Avenue	Hempstead Turnpike and Uniondale Avenue	Local stop
Oak Street	Hempstead Turnpike and Oak Street	Hofstra University
Warner Avenue	Fulton Avenue and Warner Avenue	Local stop
Clinton Street	Fulton Avenue and Clinton Street	Local stop
Rosa Parks–Hempstead Transit Center	Jackson Street and Station Plaza	Downtown Village of Hempstead, NICE Bus, Hempstead Station (LIRR)

Source: Jacobs, 2012.

6.1.4 Alternative 3A BRT/Premium Bus

The Alternative 3A BRT/Premium Bus alignment is 6.8 miles in length and follows the same routing as described for Alternative 2A from the Village of Mineola to Roosevelt Field and from the Nassau Veterans Memorial Coliseum to the Village of Hempstead (Figure 6-4). However, Alternative 3A would not serve the Source Mall area as it would continue on Ring Road East from Roosevelt Field and turn east onto South Street instead of turning east onto Zeckendorf Boulevard to serve the Source Mall area.

Figure 6-4: Alternative 3A BRT/Premium Bus Alignment



Source: Jacobs, 2012.

For Alternative 3A, the Roosevelt Field BRT/premium bus station would be located at the northernmost parking garage. An optional pedestrian overpass could be constructed across Ring Road East to the second floor of the parking garage to provide a safe connection for inbound BRT/premium bus passengers.

Alternative 3A would continue to operate in mixed traffic on South Street and cross Stewart Avenue where BRT/premium bus stations would be located on the north side of the intersection. On southbound South Street, the existing right-turn lane could be relocated to the adjacent LIRR right-of-way and could be converted to an exclusive bus lane with an outbound station on the existing sidewalk. The inbound Stewart Avenue Station would make use of the 65-foot layby along northbound South Street just north of Stewart Avenue. The existing median on the south side of the intersection of South Street and Stewart



Avenue could be used to provide a bus queue jump for inbound buses. In addition, the east crosswalk at this intersection could be relocated to the west side of the intersection.

The alignment would continue south on South Street and head east on Charles Lindbergh Boulevard, which is currently westbound only. The inbound alignment would operate in mixed traffic, but the outbound alignment would connect to Charles Lindbergh Boulevard via an exclusive right-of-way across the triangular median at South Street and Charles Lindbergh Boulevard. A bus-actuated signal at the intersection of the exclusive right-of-way and Charles Lindbergh Boulevard would allow the BRT/premium bus to cross to the south side of Charles Lindbergh Boulevard and avoid conflicts with traffic using the Charles Lindbergh Boulevard ramp to southbound Quentin Roosevelt Boulevard. Signal pre-emption may also be considered at this location, as no traffic signal currently exists and the signal would rest on green for general traffic in the absence of a crossing BRT/premium bus.

From the exclusive right-of-way beginning at South Street, the outbound alignment would turn eastbound onto the south side of Charles Lindbergh Boulevard on exclusive right-of-way and continue to the entrance of Museum Row. The inbound alignment would continue to operate in mixed traffic between the entrance to Museum Row and northbound South Street. A BRT/premium bus station would be located at Museum Row. Along Charles Lindbergh Boulevard, there are jogging/bike paths that would need to be shifted or relocated to accommodate an exclusive bus right-of-way. An exclusive bus-activated signal phase would be added at the intersection of Charles Lindbergh Boulevard and the entrance to Museum Row to facilitate bus movements at this location.

The alignment would continue north onto the roadway at the entrance to Museum Row and then turn eastbound on Earle Ovington Boulevard (North-South Road), operating in mixed traffic. A BRT/premium bus station would be located at Nassau Community College. A crosswalk would need to be installed across Earle Ovington Boulevard just west of the proposed BRT/premium bus station.

The alignment would continue to follow Earle Ovington Boulevard eastbound and then southbound, operating in mixed traffic through the Nassau Community College campus parking lots. The alignment would continue southbound traveling across Charles Lindbergh Boulevard to the Nassau Veterans Memorial Coliseum property. Bus queue bypasses for outbound and inbound buses would be located at the intersection of Earle Ovington Boulevard and Charles Lindbergh Boulevard. An inbound/northbound queue-bypass lane could be constructed using the grassy area adjacent to the existing travel lanes at this location. This would require the relocation of the sidewalk and stop bar for the Charles Lindbergh Boulevard eastbound approach lanes. An outbound/southbound queue-bypass lane could be constructed using the existing median. In addition, crosswalks would be installed to facilitate pedestrian movements at this location.

After crossing Charles Lindbergh Boulevard, the alignment would continue southbound on Earle Ovington Boulevard and turn east onto Quentin Roosevelt Boulevard to serve the Nassau Veterans Memorial Coliseum. Alternative 3A would follow the identical alignment and BRT/premium bus station placement as Alternative 2A between the Nassau Veterans Memorial Coliseum and the Rosa Parks–Hempstead Transit Center.

Alternative 3A BRT/Premium Bus would have 16 stations. The average station spacing is 0.4 mile. Table 6-4 lists the proposed stations.

Table 6-4: Alternative 3A BRT/Premium Bus Stations

Station	Location/Cross Streets	Attractors/Generators Served
Mineola Intermodal Center	Station Road and 3 rd Avenue	Mineola Intermodal Center (NICE Bus and LIRR), downtown Village of Mineola
Willis Avenue	Willis Avenue and 3 rd Street	Courts, Residences
2 nd Street	East 2 nd Street and Union Street	Local stop
Voice Road	Voice Road and Glen Cove Road	Retail uses along Glen Cove Road
Old Country Road	Old Country Road and Glen Cove Road	Local Stop
Roosevelt Field	East of Roosevelt Field parking garage	Roosevelt Field
Roosevelt Field South	Ring Road East and Zeckendorf Boulevard	Roosevelt Field, Roosevelt Field Bus Facility (NICE Bus)
South Street	South Street and Stewart Avenue	Local stop
Railroad Avenue	Railroad Avenue and Charles Lindbergh Boulevard	Social services and local stop
Nassau Community College- South/Museum Row	Earle Ovington Boulevard (North-South Road) and Student Union Service Road	Nassau Community College campus, Museum Row
Nassau Veterans Memorial Coliseum	West of Earle Ovington Boulevard	Nassau Veterans Memorial Coliseum and/or other development on the property
Uniondale Avenue	Hempstead Turnpike and Uniondale Avenue	Local stop
Oak Street	Hempstead Turnpike and Oak Street	Hofstra University campus
Warner Avenue	Fulton Avenue and Warner Avenue	Local stop
Clinton Street	Fulton Avenue and Clinton Street	Local stop
Rosa Parks–Hempstead Transit Center	Jackson Street and Station Plaza	Downtown Village of Hempstead, NICE Bus, Hempstead Station (LIRR)

Source: Jacobs, 2012.

6.2 Vehicle Base/Maintenance Facility

This section discusses the general requirements for modern streetcar maintenance facilities and storage areas. There are no existing facilities for maintaining and storing modern streetcars in the Nassau Hub Study Area, and the shops needed to maintain a fleet of modern streetcars (Alternatives 2 and 3) are different than those needed to maintain a fleet of BRT/premium buses (Alternatives 2A and 3A). The existing NICE Bus facility at 700 Commercial Avenue has sufficient capacity to store and maintain the BRT/premium bus fleet assumed with Alternatives 2A and 3A, based on discussions with the operators of NICE Bus.

Vehicle base and shop facilities primarily serve the following functions:

- Storage of modern streetcar vehicles, maintenance equipment, and supplies
- Service, maintenance, and inspection of modern streetcar vehicles
- Operator reporting and dispatching
- Miscellaneous infrastructure maintenance and support services



6.2.1 Vehicle Base Function

The vehicle base is the point of dispatch for all modern streetcar operations. From the vehicle base, modern streetcars are inserted or removed from revenue service, serviced, cleaned, and stored overnight. Direct access from the mainline to the storage tracks is desirable, as is a track arrangement that allows efficient movement of cars to and from the mainline and to and from storage tracks to the maintenance facility and car washer.

6.2.2 Vehicle Base Layout

Basic guidelines for a vehicle base layout for the modern streetcar are as follows:

- Direct access from the mainline to the storage tracks;
- A run-around track separate from the storage tracks to access the storage tracks, car washer, and maintenance facility (shop);
- Double-ended storage tracks for maximum flexibility and to reduce revenue-equipment movements;
- A double-throat lead track from the mainline to the vehicle base to allow simultaneous dispatch and receiving of trains and to eliminate the complete blockage of the throat if there is a turnout failure;
- Minimum radius on storage tracks of 82 feet;
- A loop track is desirable for maximum operation flexibility;
- Storage tracks should be constructed to allow for sufficient space for maintenance operations and should allow modern streetcars to be parked/stored on tangent track;
- Paved aisles between storage tracks;
- Parking for personnel as close as possible to work areas in controlled areas;
- Space, as necessary, for storage of miscellaneous equipment and materials including Maintenance-of-Way (MOW) equipment;
- Adequate lighting for safe operations;
- Access roads to serve storage tracks and service aisles; and
- Life safety requirement for emergency vehicle access to vehicle base facility.

6.2.3 Vehicle Shop

The vehicle shop may be designed as an all-purpose facility to facilitate the performance of scheduled inspections, minor running repairs, and interior car cleanings. Functions performed at the shop also include:

- Daily interior car cleaning, which includes the removal of trash and cleaning of stains or spills;
- Heavy interior cleaning, which includes washing the vehicle floors, walls, and mats;
- Maintenance inspection – Vehicles systems (control, brakes, and other systems) are given thorough inspections at scheduled intervals. Inspection bays are used to perform minor repair work and inspection of the vehicle underbody;



- Running repairs – Minor repairs and replacement of small components identified during the inspection process can occur in the shop;
- Major repairs – Major repairs such as collision damage, truck repair, overhauls, component change outs and vehicle body repair can occur at the shop as well; and
- Ancillary facilities – In addition to the vehicle maintenance functions, the shop building includes the yard and rail operations center, administrative offices, and employee facilities (e.g., locker rooms, toilets, kitchen, MOW-related facilities, etc.).

6.2.4 Car Wash

Car exteriors are typically washed daily. A car washer is required to perform this function. Car washers are typically located off the inbound tracks on a through track with access to the storage yard, so that incoming modern streetcars are washed before being stored in the yard tracks.

6.2.5 Potential Vehicle Base Locations

The identification of vehicle base sites able to accommodate modern streetcars is challenging in the intensely developed Nassau Hub Study Area. A potential vehicle base site has to meet the operational needs of the modern streetcar service while being acceptable to the community and with limited impacts of the vehicle base operations on nearby residential and commercial land uses.

It is essential to locate a vehicle base adjacent to the mainline on one end of the route, preferably on the end with the greatest demand heading away from it in the morning and towards it in the evening. This reduces the amount of time spent “dead-heading” or the time moving non-revenue modern streetcars into position to begin service in the morning or return to the vehicle base at night. However, in this case, the terminals in the Village of Hempstead and the Village of Mineola are located in built-up and developed areas where large parcels of land zoned for industrial use and suitable for a vehicle base facility do not exist.

The following siting criteria were applied to identify potential vehicle base locations:

- Site should be adjacent to the proposed modern streetcar alignments;
- Site should be located in a commercial or an industrial area to limit impacts to the surrounding community;
- Site should be sufficient in size and reasonably shaped for the intended use; and
- Site should be accessible from local road and highway network by automobiles, trucks and emergency vehicles (for employees commuting to the facility, truck deliveries of material and supplies, and fire department and ambulance service).



A review of aerial mapping was undertaken to identify potential sites for a modern streetcar facility. It was necessary to identify potential properties midway along the alignment where industrial and large-scale commercial land uses are located and large land parcels exist to accommodate a facility. Two potential sites were preliminarily identified:

- **Axinn Avenue** – a property to the west of Axinn Avenue and to the east of the MSP; and
- **South Street** – a property, which is roughly triangular in shape and is bounded by the southern border of the MSP, the eastern edge of the present Roosevelt Field retention basin, the intersection of South Street and Quentin Roosevelt Blvd, and the east end of South Street.

If either site were to be developed into a vehicle base facility, the property would need to be acquired and the existing buildings demolished. New yard tracks, infrastructure and maintenance facilities would have to be constructed to provide the vehicle base facility components described in the previous sections. During the environmental review phase of the Study, the alternative sites for a vehicle base facility will be further evaluated and a final determination will be made on the most appropriate site.