NEW YORK STATE DEPARTMENT OF TRANSPORTATION

REQUEST FOR PROPOSALS

OPERATION OF THE INTERCOUNTRY BUS RAPID TRANSIT SERVICE FOR NYSDOT

Contract #C031487

Initial Information for Submittal

A. Please note the following dates and deadlines:

- **August 12, 2016**: Deadline for the submission of proposals at 12:00 PM (Eastern Time)
- **July 25, 2016**: Deadline for questions about the RFP at 12:00 PM (Eastern Time). Potential bidders are encouraged to submit questions or comments regarding the Request for Proposals (RFP) that will clarify and improve responses.

B. The Department will schedule a mandatory Informational Meeting prior to the deadline for submission of proposals to present details of the ICM system and requirements proposers will need to meet. The date, time, and location will be posted to the project web site.

C. Complete proposals are to be submitted to the Designated Contact stipulated in Section 1.4.
RFP RESPONSE FORM

C031487

OPERATION OF THE INTERCOUNTY BUS RAPID TRANSIT SERVICE FOR NYSDOT

Please review this RFP, complete the following information, and e-mail to NYSDOT address shown below, by the earliest practical date. This RFP Response form must be submitted along with the two required Procurement Lobbying Law forms (see Attachment 5: Procurement Lobbying Law Compliance) before questions or other communications with the Department regarding this solicitation can be initiated.

___________ WE DO INTEND TO SUBMIT A PROPOSAL

___________ WE DO NOT INTEND TO SUBMIT A PROPOSAL FOR THE FOLLOWING REASONS:

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

Name and Address of Organization (Include Zip Code):

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

Date: ________________

Typed Name and Title: _________________________________________________

Telephone: _______________________________ Fax: ___________________________

E-Mail Address: ________________________________________________________

Please e-mail to: Peter.Russell@dot.ny.gov
**NEW YORK STATE DEPARTMENT OF TRANSPORTATION**

**REQUEST FOR PROPOSALS**

**OPERATION OF THE INTERCOUNTRY BUS RAPID TRANSIT SERVICE FOR NYSDOT**

**Contract #C031487**

**Part I - Technical and Management Submittal**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tr>
<td>Ten (10) Printed and bound hard copies of Part I plus one copy of Part I on CD/DVD in MS Office 2007 compatible format.</td>
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<tr>
<td>Securely sealed and clearly labeled with the Contractor’s name, address, and telephone number and the words “Operation of the Intercounty Bus Rapid Transit Service for NYSDOT RFP Part I — Technical and Management Proposal (C0301487)”</td>
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<td>Signed Cover Letter on official business letterhead</td>
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<td>Table of Contents identifying each major section and page numbers</td>
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</tr>
<tr>
<td>Executive Summary of proposed approach</td>
<td></td>
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<tr>
<td>Narrative Description</td>
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</tr>
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<td>Approach, Scope of Services and Schedule</td>
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<td>Organization and Staffing</td>
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<td>Experience</td>
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<td>Complete and submit Attachment 2: Diversity Practices Questionnaire</td>
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<td>Complete and submit Attachment 3: Key Personnel Resumes and References</td>
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</tbody>
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**Part II - Pricing and Contract Submittal**

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<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tbody>
<tr>
<td>Four (4) Printed and bound hard copies of Part II plus one copy of Part II on CD/DVD, in MS Excel 2007 compatible format</td>
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<td>Securely sealed and clearly labeled with the words “Operation of the Intercounty Bus Rapid Transit Service for NYSDOT RFP, Part II — Cost and Contract Proposal (C031487)”</td>
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<tr>
<td>Complete and submit Attachment 4: Contractor Information and Certifications (sign both Sections II and III)</td>
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<tr>
<td>Complete and submit the Attachment 5: Procurement Lobbying Law Compliance</td>
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<td>Complete and submit Attachment 6: Contractor Disclosure Legislation Forms A&amp;B</td>
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<tr>
<td>Complete and submit Attachment 7: M/WBE Participation Information</td>
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</tr>
<tr>
<td>Complete and submit (if applicable) Attachment 8: Subcontractor Participation Solicitation Log AND Goal Attainment Explanation Letter</td>
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<td>Complete and submit Attachment 11: Form AOR <strong>Acknowledgement of Receipt</strong></td>
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<td>Complete and submit Attachment 12: Non-Collusive Bidding Certification</td>
<td></td>
</tr>
<tr>
<td>Complete and submit Attachment 13: Schedule of Contract Durations</td>
<td></td>
</tr>
<tr>
<td>Required Cost information (complete and submit Attachment 14: Cost Proposal Workbook)</td>
<td></td>
</tr>
</tbody>
</table>
# REQUEST FOR PROPOSALS

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

REQUEST FOR PROPOSALS

OPERATION OF THE INTERCOUNTRY BUS RAPID TRANSIT SERVICE FOR NYSDOT

Contract #C031487

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Introduction</td>
<td>8</td>
</tr>
<tr>
<td>1.1.</td>
<td>Purpose</td>
<td>8</td>
</tr>
<tr>
<td>1.2.</td>
<td>Background</td>
<td>8</td>
</tr>
<tr>
<td>1.3.</td>
<td>Minimum RFP Responsiveness</td>
<td>9</td>
</tr>
<tr>
<td>1.4.</td>
<td>Designated Contact</td>
<td>10</td>
</tr>
<tr>
<td>1.5.</td>
<td>RFP Modifications</td>
<td>11</td>
</tr>
<tr>
<td>2.</td>
<td>Civil Rights Requirements</td>
<td>12</td>
</tr>
<tr>
<td>2.1.</td>
<td>Minority and Women-owned Business Enterprise Participation</td>
<td>12</td>
</tr>
<tr>
<td>2.2.</td>
<td>Diversity Practices</td>
<td>13</td>
</tr>
<tr>
<td>2.3.</td>
<td>Title VI Insurance</td>
<td>13</td>
</tr>
<tr>
<td>3.</td>
<td>Project and Contract Objectives</td>
<td>14</td>
</tr>
<tr>
<td>3.1.</td>
<td>Project Objectives</td>
<td>14</td>
</tr>
<tr>
<td>3.2.</td>
<td>Contract Objectives</td>
<td>14</td>
</tr>
<tr>
<td>3.3.</td>
<td>Definitions and Acronyms</td>
<td>15</td>
</tr>
<tr>
<td>3.4.</td>
<td>Mandatory Project Schedule</td>
<td>17</td>
</tr>
<tr>
<td>3.5.</td>
<td>Contract Terms and Rate Adjustments</td>
<td>17</td>
</tr>
<tr>
<td>3.6.</td>
<td>Service Expansion</td>
<td>18</td>
</tr>
<tr>
<td>4.</td>
<td>Scope of Services</td>
<td>19</td>
</tr>
<tr>
<td>4.1.</td>
<td>Project Overview</td>
<td>19</td>
</tr>
<tr>
<td>4.2.</td>
<td>NYSDOT Responsibilities</td>
<td>19</td>
</tr>
<tr>
<td>4.3.</td>
<td>Contractor Responsibilities</td>
<td>21</td>
</tr>
<tr>
<td>4.4.</td>
<td>Tasks</td>
<td>22</td>
</tr>
<tr>
<td>4.5.</td>
<td>Deliverables</td>
<td>46</td>
</tr>
<tr>
<td>5.</td>
<td>Proposal Format and Contents</td>
<td>47</td>
</tr>
<tr>
<td>5.1.</td>
<td>Part I: Technical and Management Submittal</td>
<td>47</td>
</tr>
<tr>
<td>5.2.</td>
<td>Part II: Cost and Administrative Submittal</td>
<td>55</td>
</tr>
</tbody>
</table>
6. Proposal Evaluation 59

7. Administrative Specifications 64
   7.1. Proposal Submission 64
   7.2. State’s Rights 64
   7.3. Contractor Responsibility when Proposing Former NYSDOT Employees 65
   7.4. Method of Payment 65
   7.5. Information for Selected Contractor 66
   7.6. Inquiries and Information 68
   7.7. Protest Procedure 68
   7.8. Tentative Schedule of Key Events 68

8. Attachments 69
   8.1. Attachment 1: Draft Contract 70

Description of Services Being Provided: 125
   8.2. Attachment 2: Diversity Practices Questionnaire 127
   8.3. Attachment 3: Key Personnel Resumes and References 129
   8.4. Attachment 4: Contractor Information and Certifications 131
   8.5. Attachment 5: Procurement Lobbying Law Compliance 133
   8.6. Attachment 6: Contractor Disclosure Legislation Forms A&B 136
   8.7. Attachment 7: M/WBE Participation Information 140
   8.8. Attachment 8: Subcontractor Participation Solicitation Log 141
   8.9. Attachment 9: Solicitation Log Instructions 142
   8.10. Attachment 10: New York Business Reporting 145
   8.11. Attachment 11: Form AOR 147
   8.15. Attachment 15: Bus Operations Requirements 154
   8.16. Attachment 16: Operating Performance Standards 160
   8.17. Attachment 17: Fleet Maintenance & Service Requirements 165
   8.18. Attachment 18: Customer Satisfaction 173
   8.19. Attachment 19: Stop and Shelter Maintenance 175
   8.20. Attachment 20: Reporting Requirements 177
   8.21. Attachment 21: Transit Service Plan 179
   8.23. Attachment 23: Technology Specification 211
   8.25. Attachment 25: NYSDOT ITS Policy 222
8.27. Attachment 27: Service Expansion Plans 323
1. Introduction

1.1. Purpose

The New York State Department of Transportation (NYSDOT) is releasing this Request for Proposals (RFP) to seek proposals from responsive and responsible Transit Operators to provide a turnkey and expandable intercounty Bus Rapid Transit (BRT) System for the Lower Hudson Transit Link (LHTL) project. NYSDOT intends to make its selection and enter into contract #C031487 with a Contractor that provides Best Value to the State.

1.2. Background

NYSDOT, in collaboration with the New York State Thruway Authority (NYSTA) and various local municipalities, is planning to implement the Lower Hudson Transit Link (LHTL) program. The LHTL program will deliver the adopted transit vision for the I-287/Thruway Corridor in Rockland and Westchester Counties. The intercounty BRT is a critical component of the LHTL project.

The LHTL program will link the region along an east-west corridor with:

A. An optimized intercounty BRT system utilizing double-decker transit vehicles;

B. New bus shelters with unified branding; improved pedestrian connections; amenities, including real-time bus arrival information; and off-board ticket vending/fare collection;

C. Signal upgrades along New York State Routes 59 and 119 with technology-focused improvements, including transit signal priority and intelligent signal control, to provide better operating conditions for transit and to allow the operators to predict, adapt, and respond to changing traffic conditions;
D. Ramp metering and queue jump lanes along I-287 to stabilize mainline vehicle flows and allow buses to move past vehicle queues, increasing transit reliability, and the investigation of transit queue jump lanes along Routes 59 and 119; and

E. Integrated Corridor Management (ICM) technology and systems along I-287 and Route 59 in Rockland County and Route 119 in Westchester County, including enhanced traveler information; advanced monitoring and control equipment to give both the public and all operational partners (NYSDOT, NYSTA, transit operators, etc.) a greater awareness of traffic conditions and incidents along the enhanced transit corridor; and the ability to rapidly respond to changing conditions. The operation of the ICM system will require all partner agencies and operators to be integrated at the Hudson Valley Transportation Management Center (HVTMC) in Hawthorne, NY.

The LHTL project will introduce a coordinated, high-quality regional transit system to serve trips between Rockland County, Westchester County, and Manhattan with an emphasis on enhanced bus service to serve bi-county trips and longer distance intra-county trips. The system will conveniently connect major concentrations of residential, employment, commercial, entertainment, medical, and educational land uses and provide key connections to existing bus and rail systems. The overall vision for the Lower Hudson Transit Link is an integrated and comprehensive program of short-, medium-, and long-term transit improvements that:

A. Increases the attractiveness and ridership of local transit and the new regional BRT system through improved frequency, availability, and accessibility throughout the Lower Hudson Valley, as well as the provision of increased amenities for passengers;

B. Reduces transit travel times along the corridor and improves reliability and safety for all travelers;

C. Increases access to jobs, housing, and other transportation options, resulting in more transit riders;

D. Maximizes the use of existing infrastructure and modifies that infrastructure to better accommodate transit services and to benefit all users;

E. Complements investments made in building the New New York Bridge (NYYB) to support a transit system; and

F. Allows for further incremental improvements as conditions or opportunities warrant.

1.3. Minimum RFP Responsiveness

Any Firm that does not provide all of the following by the RFP deadline will be determined to be non-responsive and will be removed from further consideration (prior to the technical evaluation of proposals):

Part I of the Proposal – Technical and Management submission

- Requirements as per Section 5.1
All Proposers must have sufficient financial capacity to complete the project. NYSDOT is the sole judge in determining compliance with minimum requirements.

1.4. Designated Contact

Potential responders are advised that under New York State Finance Law Section 139-j, communication on procurements can be made only to designated contact persons. The Department’s Designated Contact for this procurement is:

Primary Contact:

Peter Russell
New York State Department of Transportation
Contract Management Bureau
50 Wolf Road, 6th Floor
Albany, NY 12232, USA
E-mail: Peter.Russell@dot.ny.gov
Secondary Contact:

    Patricia Kappeller  
    New York State Department of Transportation  
    Contract Management Bureau  
    50 Wolf Road, 6th Floor  
    Albany, NY 12232, USA  
    E-mail: Patricia.Kappeller@dot.ny.gov

The above-named people, as the Department’s Designated Contacts for this procurement, shall be the Department’s only points of contact and source of information for this procurement.

1.5. **RFP Modifications**

If necessary, NYSDOT will issue modifications to modify conditions or requirements of this RFP. Proposers are advised to visit the NYSDOT web site ([https://www.dot.ny.gov/portal/page/portal/doing-business/opportunities/consult-opportunities](https://www.dot.ny.gov/portal/page/portal/doing-business/opportunities/consult-opportunities)) regularly to check for modifications. The final modification will be posted on NYSDOT’s web site not later than seven calendar days prior to the proposal due date. If an additional modification is required within seven days of the proposal due date, the proposal due date shall be revised such that there will be seven days from the final modification to the proposal due date.
2. Civil Rights Requirements

2.1. Minority and Women-owned Business Enterprise Participation

While not indicative of a proposer’s individual merit (technical excellence, proposer’s ability, experience, etc.), NYSDOT encourages the participation of certified Minority Business Enterprises and Women-Owned Business Enterprises in this solicitation. The level of Minority Business Enterprises (MBE) and Women-Owned Business Enterprises (WBE) participation will be relevant to the process of selecting proposals that will best achieve the overall goals of the Department. A directory of certified MBEs and certified WBEs is available from Empire State Development’s searchable database website: [http://www.esd.ny.gov/MWBE.html](http://www.esd.ny.gov/MWBE.html).

New York State has established a combined MBE and WBE participation goal of 23% for this solicitation. Only meaningful participation by either a prime contractor who is certified as an M/WBE or inclusion of subcontractor(s) who is/are certified as an M/WBE counts toward the M/WBE participation goal. Meaningful participation is defined as providing commercially useful functions or services. These services should:

- Result in a product or service distinguishable from the Prime Contractor’s product or service or be a part of the services provided by the Prime Contractor,
- Be for scope of service elements which can be and are completely performed, supervised and managed by the MBE and/or WBE Contractor, and/or
- Perform significant tasks which can be considered commercially marketable.

Interested proposers should verify their attainment of the above established M/WBE participation goal by completing Attachment 7: M/WBE Participation Information. For participation to count towards the M/WBE goal set for this solicitation, the offered MBE and/or WBE participating firm must be currently certified by Empire State Development. If the proposal does not meet the 23% percent M/WBE participation goal, the firm must provide evidence of a good faith effort by completing Attachment 8: Subcontractor Participation Solicitation Log.

Additionally, if the firm does not meet the specified goal, the firm must include in its submission a Goal Attainment Explanation Letter explaining why the firm was unable to meet the applicable M/WBE (in full or if partially), which serves to substantiate the firm’s good faith effort. The letter should include sufficient justification as to why the goal was not met or was met partially and should at a minimum address the following factors: the potential firm’s method of accomplishing the work, the subcontracting opportunities associated with the proposed approach and scope of services, and the availability of certified firms for the work to be performed by either a prime contractor or via subcontract.

A prime contractor that is an M/WBE still must make a good faith effort to include M/WBE subcontractors in their proposal. Only participation by certified MBE and/or WBE
subcontractors may count towards the contract participation goal. Participation by a certified MBE or WBE prime contractor does not count towards meeting the contract goal (participation by a certified MBE or WBE prime contractor helps to meet the State’s corporate M/WBE goal).

The above forms and letter must be included in Part II: Cost and Contract submission. Firms are advised to refer to Section 6.1.2 for the procedure the Department will follow in evaluating a firm’s proposed MBE and WBE participation.

2.2. Diversity Practices

NYSDOT evaluates the diversity practices of primes to ensure that certified minority and women-owned businesses are given the opportunity for maximum participation in state contracts. Diversity practices are a legal requirement and may include past, present or future actions and policies which show interaction in developing M/WBE firms. Interested proposers should complete Attachment 2: Diversity Practices Questionnaire, which will be evaluated during the procurement process.

2.3. Title VI Insurance

NYSDOT, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C 2000d to 2000d-4 and Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation and Title 23 Code of Federal Regulations, Part 200, Title VI Program and Related Statutes, as amended, issued pursuant to such Act, hereby notifies all who respond to a written NYSDOT solicitation, request for proposal or invitation for bid that it will affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, sex, age, disability/handicap and income status in consideration for an award.
3. **Project and Contract Objectives**

3.1. **Project Objectives**

The project will deploy a high-quality, high-frequency regional Bus Rapid Transit (BRT) service between Rockland and Westchester Counties. The service will also support links to other bus and commuter rail service to Manhattan, with an emphasis on an intercounty BRT system to serve bi-county trips and longer distance intra-county trips. The system will conveniently connect major concentrations of residential, employment, commercial, entertainment, medical, and educational land uses, and provide key connections to existing local bus (e.g., Transport of Rockland, Westchester Bee-Line) and rail (Metro-North, NJ Transit) services.

The LHTL Transit Service Objectives are based on six core passenger-serving concepts:

- Safety
- Reliability
- Frequency
- Span of Service
- Speed
- Access

These core concepts have been established through the planning process for the LHTL transit service and are based on both national research and on a review of peer regional rail and bus transit operators. More information is available in Attachment 21: Transit Service Plan.

Vehicle specifications have been developed and indicate a required vehicle—double-decker Bus Rapid Transit (BRT) commuter coach—for the system. Detailed specifications, including requirements for transit ITS and branding elements, are included in later sections of this Request for Proposals (RFP).

NYSDOT is in the process of constructing new bus stations and shelters and related pedestrian improvements at all of the stops envisioned for the transit routes. These routes currently serve the travel market between Suffern and White Plains as the Tappan Zee Express (TZx) transit service. A Transit Service Plan (attached as Attachment 21: Transit Service Plan) has reconfigured these routes to meet the service objectives and optimize both bi-county and intra-county trips.

3.2. **Contract Objectives**

The objective is to process and execute a single separate contract with a single designated Contractor. Only one responsive and responsible Contractor (or team of contractors wherein the contract will be with the prime Contractor) will be retained through this RFP solicitation. Subcontracting is permitted. As service delivery levels and seamless integration of services are crucial to the project, no joint ventures arrangements will be allowed which appear to split up initial responsibility for particular routes or portions thereof (e.g. two bus carriers may not form a joint venture whereby an arrangement is made that one carrier will “take” the routes in one
county or direction, and the second carrier will “take” the routes in another county or the routes in the opposite direction)

Joint ventures are, however, permitted between service operators, vehicle maintenance providers, and vehicle manufacturers, sellers or other vehicle providers.

Notwithstanding the foregoing, contract award of any joint venture proposal will place upon all the joint venture participants full and complete liability, jointly and individually, for contract performance.

NYSDOT reserves the right to adjust service at any time. Modifications to services may include, but are not limited to, extending, deleting or adding routes, or parts of routes, and expanding or decreasing scheduled revenue hours or frequency of service within the service area of Rockland and Westchester Counties.

3.3. Definitions and Acronyms

- ADA – Americans with Disabilities Act
- APC – Automatic Passenger Counters
- APTA – American Public Transportation Association
- AVL – Automatic Vehicle Location
- BRT – Bus Rapid Transit - high-quality bus system that delivers fast, comfortable, and cost-effective services at metro-level capacities.
- CAD – Computer-Aided Dispatching
- CDL – Commercial Driver’s License
- CIN – Contractor Identification Number
- CRC – Customer Service Center
- CSI – Customer Satisfaction Index
- ESD – Empire State Development
- FOIL – Freedom of Information Law
- FTA – Federal Transit Administration
- GTFS – General Transit Feed Specification
- HVTMC – Hudson Valley Transportation Management Center – regional traffic operations center located in Hawthorne, NY
• ICM – Integrated Corridor Management – the operational coordination of multiple transportation networks and cross-network connections comprising a corridor and the institutional coordination of those agencies and entities responsible for corridor mobility.

• ITS – Intelligent Transportation System

• LHTL – Lower Hudson Transit Link – the project to implement improvements along the I-287 corridor in Rockland and Westchester Counties, which includes the intercounty BRT system whose operator will be selected through the present RFP process

• M/WBE – Minority/Women-Owned Business Enterprise

• NNYB – New New York Bridge – a state-of-the-art, twin-span replacement for the 3.1-mile Tappan Zee Bridge across the Hudson River

• NTD – National Transit Database

• NYDSOT – New York State Department of Transportation

• NYSTA – New York State Thruway Authority

• NYSUCP – New York State Unified Certification Program

• OEM – Office of Emergency Management

• PMI – Preventive Maintenance Inspections

• PPI – Producer Price Index RFP – Request for Proposal - this document

• RTPI – Real-Time Passenger Information

• SCD – Schedule Completion Date

• SFL – State Finance Law

• SHR – Specific Hourly Rates

• STOA – Statewide Mass Transportation Operating Assistance program

• TSP – Transit Service Plan – The service plan for the LHTL service, detailing routes, frequencies, span of service and system performance requirements.

• TZx – Tappan Zee Express – the current intercounty bus system between Rockland and Westchester counties, which the LHTL system will be replacing.

• USDOT – United States Department of Transportation

• VMS – Variable Messaging Sign
3.4.  Mandatory Project Schedule

The intercounty BRT must be operational by the time the current TZx contract terminates in November of 2018. An operational start date of October 29, 2018 has been established to meet this requirement.

Following are the Major Interim Milestones that must be completed in a timely manner as part of the delivery of services outlined in this RFP. The Contractor shall propose dates for the following Interim Milestones in their Project Schedule (see Section 5.1.5) and in Attachment 13: Schedule of Contract Durations. Failure to meet these Milestones will result in liquidated damages assessed against the Contractor at the rates established in Attachment 13: Schedule of Contract Durations.

Major Interim Milestones:

A. Delivery of Final version of the Project Management Plan
B. Fleet vehicles ordered
C. Fleet vehicles delivered
D. Maintenance/Storage facility completed
E. Transit ICM systems integration
F. NYSDOT acceptance of vehicles
G. Vehicle testing completed

3.5.  Contract Terms and Rate Adjustments

The Department estimates that the work for the successful Contractor will commence when Notice to Proceed is issued, currently estimated at January 2, 2017. The base term or duration for the contract is 14 years. The contract may be extended for one additional six-year period at the Department’s sole discretion subject to approval by the Office of the State Comptroller (OSC).

If the contract is extended for the optional years, the Consumer Price Index – All Urban Consumers (CPI - U), as published by the U.S. Department of Labor, Bureau of Labor Statistics, will be used as a basis for adjusting the hourly rates/lump sum deliverable amounts, subject however to a maximum allowable annual increase cap of 3.0%. The rate adjustment will be effective on January 1 and calculated using the previous September’s Index, using Series ID CUUR0000SS53021 (Area: U.S. City Average, Item: Intercity Bus Fare, Base Period: 2007=100). If at any time the above Index Series ID is discontinued or becomes unavailable, the State reserves the right to implement a comparable Index.
An example of the rate adjustment calculation is as follows (all numbers and titles used are for illustrative purposes only):

1/1/2021 - 12/31/2021 Billing Rate $9.00/Mile
September 2021 CPI Index (CUUR0000SS53021) 132.1
September 2020 CPI Index (CUUR0000SS53021) 130.0
Index Point Change 2.1
Divided by previous Index 130.0
Percent change, rounded to nearest tenth 1.6%
1/1/2022 – 12/31/2022 Billing Rate ($9 x 1.016) $9.14/Mile

If the actual start of the contract is substantially different than the above estimated date, then the effective date for the rate adjustment will be similarly changed.

The State reserves the right to negotiate a lower rate adjustment than stated above for any additional extensions.

3.6. **Service Expansion**

In the future, there is the possibility that NYSDOT will decide to expand the LHTL intercounty BRT service, including part or all of the service additions as detailed in Attachment 27. In the event that this occurs over the course of the contract, NYSDOT will provide the Contractor with ridership estimates, route structure, and frequencies for all new services proposed, and the Contractor will work with NYSDOT to negotiate reasonable rates for the service expansion. Such Service Expansion would require a contract amendment, which shall be subject to approval by the New York State Attorney General’s Office and the Office of the New York State Comptroller.
4. **Scope of Services**

4.1. **Project Overview**

This RFP is seeking to solicit proposals for the intercounty Bus Rapid Transit (BRT) Contractor for the transit component of the LHTL project. The Contractor is expected to deliver a turnkey and expandable solution for NYSDOT to provide transit service in Rockland and Westchester Counties, optimizing the project elements described above. This RFP is for the initial rollout of the intercounty BRT service, but the system may expand in the future, as ridership and available funding allow (as described in Section 3.6). In order to ensure delivery of a high-quality, reliable, and safe service, performance standards are identified and enforced through a system of incentives and liquidated damages. These are detailed in Attachment 16: Operating Performance Standards and Attachment 24: Liquidated Damages & Incentive Payments.

4.2. **NYSDOT Responsibilities**

NYSDOT will be responsible for the following:

4.2.1. **Providing capital infrastructure**

NYSDOT is responsible for the installation of new shelters, transit roadway improvements, signal upgrades, and the infrastructure to support the ICM system, which will be delivered by and with NYSDOT, its partnering agencies, and their contractors in a coordinated program of work.

4.2.2. **Appointing a Project Manager**

NYSDOT will appoint a Project Manager who will serve as the single point of contact for the Contractor. The NYSDOT Project Manager will be solely responsible for decisions related to the acceptance and approval of all deliverables provided by the Contractor.

4.2.3. **Accepting Deliverables**

NYSDOT will review deliverables and evaluate them for completeness, clarity, adherence to generally recognized standards, and compliance with NYSDOT’s intent as conveyed in this RFP and contained in the resulting contract. A deliverable, phase, or milestone will not be considered complete until formal, written sign-off has been provided by NYSDOT.

4.2.4. **Providing a Unified ICM Control Center**

NYSDOT will be responsible for providing a unified control center at the HVTMC where both highway operators and dedicated staff from the transit contractor can manage day-to-day operations of the transit and highway systems, plan and coordinate special events, and resolve unplanned incidents as they arise. This co-location has many benefits, including being able to leverage the presence of various agencies’ staff, improve overall system monitoring, and enhance both operational awareness and communications between all partners.
4.2.5. Providing User Acceptance
NYSDOT is responsible for approving all submitted accepted test plans and performing acceptance testing.

4.2.6. Pursuing All Necessary Agreements with Regional Agencies
NYSDOT is responsible for entering into an agreement with the MTA to facilitate the use of the MetroCard on the LHTL BRT system. It will hold the sublicense for the software and technology necessary to operate the MetroCard system for the LHTL BRT service. NYSDOT will negotiate any future agreements necessary to implement use of the MTA’s new fare payment system, currently out for bidding (http://web.mta.info/nyct/procure/contracts/131308sol.pdf).

NYSDOT is also responsible for entering into an agreement with MTA Metro-North to establish the UniTicket fare option on the LHTL BRT system. MTA Metro-North collects the revenue from this ticket, as they are the only issuer, and they are responsible for reimbursing NYSDOT its share of the fare through the operator, in accordance with other revenue procedures.

4.2.7. Facilitating Internal NYSDOT Communication
NYSDOT is responsible for facilitating communications among various NYSDOT regions and divisions. NYSDOT will provide contact information, staff descriptions, etc.

4.2.8. Purchase Option
NYSDOT reserves the right to purchase the BRT transit service vehicles and associated equipment at fair market value, or, if such vehicles or equipment are leased, to direct the Contractor to assign any remaining lease term, in the event the Contractor is incapacitated in any way or is otherwise unable to deliver the service.

4.2.9. Site Visits
NYSDOT reserves the right to inspect the Proposer’s facilities and/or other transit systems where the Proposer has supplied the same or similar services.

4.2.10. Set Fares
NYSDOT will be responsible for setting fares, which are envisaged to closely match the ones that are used on the TZx today. The Contractor may recommend fare changes to increase efficiency and ridership through the proscribed tariff process for regulated carriers found at the NYCRR Part 720 at https://www.dot.ny.gov/divisions/operating/osss/bus-repository/PARTS%2520730.pdf. NYSDOT will review and approve or deny the suggested change. NYSDOT will also have the authority to change fares at any point throughout the contract.
4.3. **Contractor Responsibilities**

NYSDOT will contract with a single prime Contractor to provide the intercounty BRT services as detailed in this RFP. The exact approach and methodologies proposed by the Contractor to fulfill the deliverables and requirements of all phases as described below must be provided in the Technical Approach portion of the firm’s Part I Technical and Management Proposal. The Contractor must address all deliverables for the below phases in their project plan. The Contractor can organize and plan for the completion of the work based on their experience with projects of similar scale and scope.

The Contractor is responsible for the following:

4.3.1. **Providing Experienced Personnel**

The selected Contractor is responsible for committing fully qualified professional resources to all project phases. NYSDOT reserves the right to approve or reject the replacement of Key Personnel.

4.3.2. **Providing Services and Deliverables**

The selected Contractor shall provide the services and deliverables specified in this RFP (specifically, in Section 4.4 below and related attachments) and resulting contract. The Contractor shall perform all of the activities and tasks in a manner that meets all of the project’s and contract’s objectives, subject to available state funds. All services provided must be consistent with state and federal laws and regulations and shall be appropriate and acceptable to NYSDOT.

4.3.3. **Conducting Data Collection and Reporting**

The Contractor is required to provide a number of real-time, monthly, quarterly, and annual reports on the operation of the LHTL service to NYSDOT, as outlined in Attachment 20: Reporting Requirements. These reports will enable NYSDOT to evaluate the quality of the service being provided, as well as review overall performance in order to assess liquidated damages.
4.4. Tasks

Project tasks are divided into two primary stages—Stage 1: Planning and Procurement and Stage 2: Operations and Maintenance.

Stage 1: Planning and Procurement

4.4.1. Project Initiation and Planning

4.4.1.1. Following the selection of a Contractor and contract approval, the Contractor will refine and confirm planned project activities during the Project Initiation and Planning phase. Initial Project Management Plans submitted with this proposal will be further refined with input from NYSDOT until a Final Project Management Plan for project completion is formed.

4.4.1.2. The Contractor shall refine and deliver its proposed initial project plans consistent with agreements made during contract finalization. The Final Project Management Plan shall address:

A. Project Schedule;
B. Implementation Plan;
C. Quality Control/Quality Assurance Management Plan;
D. Risk Management Plan;
E. Change Management Plan;
F. Issue Management and Escalation Plan;
G. Communication Plan;
H. Marketing Plan;
I. Customer Service Plan;
J. Staffing Plan - The Contractor shall refine the Initial Staffing Plan and deliver a project staffing plan that identifies individual resources assigned to each of the project activities and ensures that efforts are taken to meet the contract’s M/WBE goal;

4.4.1.3. The Contractor shall provide a draft of the Final Project Management Plan to the NYSDOT Project Manager within 30 days of Notice to Proceed. After review by NYSDOT, the Contractor will incorporate any required changes and submit a finalized version of the Final Project Management Plan to the NYSDOT Project
Manager for approval. The Contractor shall thereafter manage the Final Project
Management Plan jointly with NYSDOT.

**Deliverable:** Final Project Management Plan

### 4.4.2. Project Execution and Control

**4.4.2.1.** During Project Execution and Control, the Contractor will utilize the plans,
schedules, procedures, and templates prepared and anticipated with the Final
Project Management Plan. This will include the following activities:

A. The Contractor shall establish a secure project collaboration web site to share
all project-specific documents and reports that are not automatically fed into
the ICM system. Full details on NYSDOT’s ITS policy are available in
Attachment 25: NYSDOT ITS Policy.

B. The Contractor shall maintain and provide to NYSDOT an up-to-date
organization chart and contact list for all Contractor key personnel assigned to
the project whenever Contractor personnel assignments change.

C. The Contractor shall attend all project meetings, to be held at the Hudson
Valley Transportation Management Center (HVTMC) in Hawthorne, NY, the
Region 8 Office in Poughkeepsie, NY, or the Main Office in Albany, NY,
including but not limited to:

- **Kickoff Meeting** – Within two weeks of final contract approval, a kickoff
  meeting will be held with the full project team to discuss applicable start-up
  procedures;

- **Project Development Meetings** – two or more project team members are to
  attend meetings related to project development and implementation as defined
  in the project communication plan and project schedule;

- **Status Meetings** – the Project Manager and two or more project team members
  are to attend periodic project status meetings to review the progress and status
  of the tasks, problem areas, work to be accomplished, and other relevant items
The Contractor shall prepare pre-meeting and post-meeting documentation for project meetings.

The Contractor shall implement the Quality Management Plan defined in the Project Management Plan.

The Contractor shall implement the Risk Management Plan defined in the Project Management Plan.

The Contractor shall implement the Project Communication Plan defined in the Project Management Plan.

**Deliverables:**


- Meeting attendance and documentation.

- Project collaboration website

### 4.4.3. Provision and storage of a vehicle fleet

#### 4.4.3.1. The Contractor will utilize an appropriate number of vehicles required to implement the specified intercounty BRT service while adhering to system and performance requirements. The vehicles will all be purchased or leased by the Contractor. Specific fleet requirements can be seen in Attachment 26: Vehicle Specification, the complete BRT vehicle specification. Any additional transit vehicles needed in the event of service expansion after initial contract approval shall be in compliance with the vehicle technical specification (attached and made part of this RFP) and shall be purchased or leased with prior approval from NYSDOT. All vehicles shall be compliant with all specification requirements including being accessible via kneeling capabilities and extending ramp with ADA-accessible entry and exit doors.

#### 4.4.3.2. The Contractor shall include in its proposal no less than one additional sedan/crossover type vehicle for the purpose of road-supervisor transport. No passenger service vehicle will be allowed for use for non-passenger trips.

#### 4.4.3.3. All vehicles purchased or leased by the Contractor must meet the LHTL project’s branding design for all LHTL intercounty BRT vehicles. Each must be assigned a fleet number visible on the side and rear of the vehicle. NYSDOT will work closely with the Contractor to provide the proper branding design for them to integrate into
the vehicle manufacture at the Contractor’s expense. The full set of requirements for vehicle capability and appearance are outlined in the vehicle specification, Attachment 26: Vehicle Specification. After the Contract is awarded, NYSDOT reserves the right to make further clarifications to the branding design.

4.4.3.4. NYSDOT shall approve of the vehicles and associated equipment and technologies prior to vehicle ordering and purchasing by the Contractor. No ordering or purchasing of vehicles may be completed without written consent from NYSDOT. The Contractor’s costs associated with the purchase of all vehicles and equipment must be distributed over the entire term of the Contract for any vehicles and included in the overall cost per revenue hour.

4.4.3.5. The Contractor shall comply with all state and federal regulations. Any deviations from NYSDOT safety and inspection requirements regarding vehicles need express written approval from the NYSDOT Office of Modal Safety and Security.

4.4.4. **Provision of an operations and maintenance facility**

4.4.4.1. The Contractor will also be responsible for providing (owning or leasing) an operations facility that has adequate spacing for in-house preventive and corrective maintenance for the vehicle fleet. The size and location of the operations facility must be sufficient to meet the service requirements related to staff parking, service vehicle parking, routine preventive maintenance of vehicles and cleaning (washing) of vehicles as well as providing staff office space. Proposed facilities must also emphasize minimizing deadhead hours and lease costs. Safe and secure overnight storage of vehicles is required, including exterior and interior video surveillance for all service vehicle parking areas, entrances, exits, and cash-handling areas. A facility security system with alarms must also be included. NYSDOT will not offer any assistance in procuring the site, but NYSDOT does reserve the right to either approve or reject the site.

4.4.4.2. Additional maintenance and facility requirements can be found in Attachment 17: Fleet Maintenance & Service Requirements, as well as the instructions for creating the Vehicle Maintenance Plan.

4.4.4.3. NYSDOT will define and oversee a vehicle testing regime after vehicles are delivered and before they go into service. The details of this will be provided to the Contractor before the first vehicles are delivered.
Deliverables:

- An operating fleet conforming to the project requirements as outlined in the LHTL vehicle specification
- A maintenance and storage facility of sufficient capacity and capability for the LHTL fleet
- Vehicle Maintenance Plan

4.4.5. **Procurement and installation of on-board, in-shelter and back-office technology systems**

4.4.5.1. The Contractor will be responsible for the procurement and installation of on-board, in-shelter, and back-office vehicle technology and systems, including but not limited to Wi-Fi, automatic vehicle location (AVL), computer-aided dispatching (CAD), automatic passenger counters (APC), Real Time Passenger Information (RTPI) including stop announcements and displays, and traffic signal priority (TSP). These systems will be critical for the smooth operation of the transit system and quick and accurate performance reporting. The Contractor must ensure the assets installed are compliant with the LHTL project ITS Architecture. The Contractor will also be responsible for working with the LHTL ICM Systems Integrator to ensure the vehicle systems are interoperable with the ICM system operating in the corridor. The Contractor will also be responsible for integrating their scheduling software and other back-office functions with the transit ICM elements, both on the vehicles and at stations.

4.4.5.2. For in-shelter technology, the Contractor will transfer the title for all equipment to NYSDOT, but will continue to maintain this equipment as outlined in Section 4.4.8 and Attachment 19: Stop and Shelter Maintenance. The Contractor would maintain ownership and be responsible for maintenance of both the on-board and back-office technology.

4.4.5.3. The Contractor is responsible for System Acceptance Testing (SAT) of the Transit ICM elements, as follows:

A. The Contractor must develop, conduct, support, and report upon the verification activities to demonstrate compliance to NYSDOT’s System Functional and Performance Requirements.

B. The Contractor is encouraged to organize the test program to focus initially on those parts of the design that are considered to have the greatest risk.

C. Each acceptance test must be performed in a repeatable and verifiable manner without interfering with any part of the System which has already been accepted.
D. At the conclusion of an acceptance test, the System must be capable of being returned to its state prior to the acceptance test.
E. The Contractor must advise NYSDOT of the details (time, place, etc.) of all test activities as outlined in the SAT Plan.
F. The Contractor must provide twenty (20) days’ notice (time, place, etc.) of all formal test activities outlined in the SAT Plan.
G. NYSDOT must review all test documentation prior to the initiation of any formal testing.
H. NYSDOT must witness all formal test activities being conducted to demonstrate compliance with NYSDOT’s project requirements.
I. The Contractor must supply all test equipment, materials and labor for all tests.
J. The Contractor must support the NYSDOT’s scenario test program which will be run after all acceptance testing has been completed.
K. NYSDOT’s scenario testing will cover mutually pre-agreed operational scenarios.
L. Upon successful completion of all other testing and commissioning of the system, NYSDOT will run an operational test whereby the system will be monitored during a 30 day period for any abnormal operations not previously uncovered during the previous tests.
M. If any item subject to an acceptance test fails to satisfy its acceptance criteria, NYSDOT may require the acceptance test, or any part of it, to be repeated.
N. The Contractor must remedy the cause or causes giving rise to the failed acceptance tests within fourteen (14) days or as agreed with NYSDOT.
O. The failed acceptance tests must be repeated and commence as soon as practicable after the cause or causes giving rise to the failure are remedied, unless otherwise agreed with the NYSDOT.

4.4.5.4. The requirements for on-board vehicle technology and systems is detailed in the vehicle specification in Attachment 26: Vehicle Specification and the NYSDOT technology specification in Attachment 23: Technology Specification.

**Deliverable:** On-board vehicle technology and systems compliant with the LHTL project ITS Architecture
Stage 2: Operations and Maintenance

4.4.6. Operation of the LHTL Intercounty BRT Transit Service

4.4.6.1. The Contractor shall design and operate a service to satisfy the service requirements laid out in the Transit Service Plan (TSP) (Attachment 21: Transit Service Plan), including route layout, span of service, and service frequencies. This service will commence on October 29, 2018, and the first term of the contract will continue until January 1, 2031.

4.4.6.2. The Contractor shall create detailed schedules to meet or exceed these service requirements and the performance standards, agree these schedules with NYSDOT, and make these schedules available to 511 as a General Transit Feed Specification (GTFS) format and the public as outlined in Section 4.4.9 (marketing and advertising).

4.4.6.3. These schedules will be reviewed by the Contractor and NYSDOT annually to take into account any changes in travel time in the corridor, especially any improvements resulting from better operation and management of the corridor utilizing the ICM system.

4.4.6.4. The Contractor shall operate service along the routes laid out in the Transit Service Plan (Attachment 21: Transit Service Plan), serving all stops along these routes.

4.4.6.5. The Contractor shall determine an optimal vehicle fleet size to satisfy these requirements.

4.4.6.6. The Contractor shall provide street and control room supervision of contracted service including the monitoring of schedule adherence, accident/incident investigation, on-street operation, and on-route compliance. This supervision must include conducting ride checks (on-board) to ensure operator adherence to procedures (e.g., fare collection, ADA compliance, and passenger relations). Such supervision must also include responses to investigation of accidents/incidents within 20 minutes of occurrence. Street supervision must be present at all times and in sufficient number when services are scheduled to operate. NYSDOT reserves the right to provide similar investigations and adherence checks of its own without notice to ensure Contractor’s compliance with terms of the Contract.

4.4.6.7. The Contractor shall operate the service according to all safety and operating requirements found at the NYSDOT Office of Modal Safety and Security,
Passenger Carrier Safety Bureau website at https://www.dot.ny.gov/divisions/operating/osss/bus. This includes adherence to NYS Transportation Law and Vehicle and Traffic Law (VAT); various appropriate parts of the 17 NYCRR outlined at the website; accident reporting and the requirements of the Public Transportation Safety Board found at https://www.dot.ny.gov/divisions/operating/osss/ptsb; the requirement of passenger authority and the bus inspection program and the driver requirements of NYS Department of Motor Vehicles (DMV) regarding 19-A certifications found at https://www.dot.ny.gov/divisions/operating/osss/bus/driver. Failure to meet these requirements as part of the implementation of the service on the ongoing delivery will result in assessing liquidated damages as outlined in Attachment 24: Liquidated Damages & Incentive Payments.

4.4.6.8. Failure to provide all scheduled service routes and vehicles, as defined above and in Attachment 21: Transit Service Plan, will result in NYSDOT assessing liquidated damages in the amount of $100,000.00 for each day that scheduled service is not provided. More detailed performance standards are outlined in Attachment 16: Operating Performance Standards.

4.4.6.9. The Contractor shall have a range of operating performance standards against which it must report to NYSDOT so as to ensure the consistent delivery of a high-quality intercounty BRT service.

4.4.6.10. All performance standards and liquidated damage clauses will be strictly enforced, and must be strictly adhered to in order to provide the highest level of quality service possible. NYSDOT reserves the right to monitor the Contractor in its performance of the Contract to ensure adherence to all performance specifications.

4.4.6.11. Performance standards are metrics developed by NYSDOT using precedents and historical data to measure the Contractor’s performance. Performance standards listed below are for the first year of service and may be used for subsequent years. NYSDOT representatives may, without prior notice, ride in Contractor-operated vehicles and monitor overall transit service to ensure compliance with this Scope of Work and the Contract. NYSDOT also reserves the right to review and modify these performance requirements and metrics as deemed necessary to facilitate continuous improvement of service. The full list of operating performance standards, including standards for staff and their training, is included in Attachment 16: Operating Performance Standards.

4.4.6.12. To receive maximum compensation, the Contractor shall meet or exceed the following standards on a monthly basis. For the performance goals in Attachment
16: Operating Performance Standards, if the Contractor fails to meet contracted standards, liquidated damage amounts will be deducted from the Contractor’s total monthly invoice amount.

4.4.6.13. Liquidated damages may also be imposed by NYSDOT on the Contractor based on each observed violation committed by Contractor personnel. The Contractor agrees that a violation of any of the liquidated damage provisions in this Contract will cause NYSDOT to incur damages that are impractical or impossible to determine. The Contractor agrees that these liquidated damages are a reasonable approximation of NYSDOT’s actual damages.

4.4.6.14. Documentation of any incidents of violations shall be provided by the Contractor along with any explanation, and corrective measures shall be forwarded to NYSDOT for a review within 30 days of request. Failure to provide the response within 30 days of NYSDOT’s request will result in all liquidated damages indicated being applied to the invoice. For each and every violation, NYSDOT reserves the right in its sole discretion to assess full liquidated damages, partial liquidated damages, or to waive liquidated damages as NYSDOT believes is appropriate and in the best interest of the State.


4.4.7. Maintenance and storage of the vehicle fleet

4.4.7.1. The Operator is responsible for the proper storage, upkeep and maintenance of the vehicle fleet, and must provide a facility to do so as outlined in Section 4.4.3 above. Additional maintenance and facility requirements can be found in Attachment 17: Fleet Maintenance & Service Requirements, with the liquidated damages and incentives outlined for each maintenance standard (full table in Attachment 24: Liquidated Damages & Incentive Payments).

4.4.7.2. Further details on cleaning schedules and requirements is detailed in Attachment 17: Fleet Maintenance & Service Requirements.

4.4.8. Maintenance and upkeep of transit shelters and stops for the intercounty BRT service

4.4.8.1. The State will provide all capital infrastructure for the intercounty BRT service (except for the fleet storage/maintenance facility as described in Section 4.4.3), including shelters, fare collection machines, and other infrastructure at each stop. These stations play a key role in both providing and promoting the transit service, and are an important part of the passenger experience.

4.4.8.2. The technology equipment installed and integrated at each shelter shall also be the responsibility of the Contractor to maintain and keep in good working order, as are any off-board fare payment machines (locations to be determined). Liquidated damages will be assessed for failure to maintain fully functioning on-board systems. Full details on the performance standards required from these systems is outlined in Attachment 16: Operating Performance Standards, and liquidated damage amounts are detailed in the table in Attachment 24: Liquidated Damages & Incentive Payments.

4.4.8.3. The Contractor shall be responsible for the upkeep and maintenance of bus stop infrastructure, to keep it neat, clean, and free of graffiti, as well as making repairs related to normal wear and tear, and any emergency/temporary repairs to any condition which creates a potential imminent health or safety hazard. Further details on cleaning schedules and requirements are detailed in Attachment 19: Stop and Shelter Maintenance.

**Deliverable:** Clean, safe, and usable shelters and stops for the service, as detailed in Attachment 19: Stop and Shelter Maintenance.
4.4.9. **Management of advertising and marketing for the transit system**

4.4.9.1. The Contractor will be responsible for executing the marketing plan for marketing and advertising the new bus service, to include but not be limited to a web presence, posters, handouts, and newspaper/radio/television ads.

4.4.9.2. The Contractor will also be responsible for the management and administration of any advertising on the intercounty BRT buses and will collect any revenues from this activity.

4.4.9.3. Absolutely no advertising will be allowed on the outside of the buses or at bus shelters, but must be limited to interior application only.

4.4.9.4. All material to be disseminated to the public and posted in the intercounty BRT vehicles must adhere to the MTA Advertising Standards (available at [http://web.mta.info/mta/realestate/ad_tele.html](http://web.mta.info/mta/realestate/ad_tele.html)) and be reviewed and approved by NYSDOT prior to use and dissemination. NYSDOT expressly reserves the right to disapprove any marketing material content for any reason, in NYSDOT’s sole discretion.

4.4.9.5. The Contractor’s marketing responsibilities shall be as follows:

A. The Contractor shall create and maintain a website for the intercounty BRT system, containing all relevant route, schedule and fare information, contact details for customer service, and any important information for passengers, including service disruptions or changes. The website shall link to the real-time bus information for the system.

B. The Contractor shall provide all schedules, maps, interior bus cards, fare media, and other printed passenger information materials required for marketing the transit service.

C. The Contractor shall make transit schedules available to 511 as a General Transit Feed Specification (GTFS) format.

D. The Contractor shall create a branded landing page for in-vehicle and in-shelter customer Wi-Fi.

E. The Contractor shall distribute and/or install NYSDOT’s or regional passenger notices or car cards, cooperate and participate in marketing, promotion, advertising, public relations, and public education programs and projects undertaken by NYSDOT from time to time. All signage, except those required by NYSDOT, are subject to placement on a space-available basis with paid advertising as the priority.
F. NYSDOT shall be the exclusive public media spokesman in connection with the transit service.

G. Before taking action, the Contractor shall notify NYSDOT of any court subpoenas, public or media requests for records, data or other information in possession of the Contractor related to performance of contract requirements, terms or conditions.

H. NYSDOT has established guidelines for communicative activities on public transit properties and assets. Under no circumstances may the Contractor or its employees distribute, or allow the placement or distribution of, any unauthorized oral, printed, or written materials on public transit properties or assets without the expressed written permission from NYSDOT.

I. The Contractor shall regularly install and remove selected interior passenger notices and signage bus cards at NYSDOT’s direction.

4.4.9.6. The Contractor’s advertising responsibilities shall be as follows:

A. The Contractor shall regularly install and remove selected interior passenger notices and signage bus cards at the NYSDOT’s direction.

B. All advertising materials are subject to NYSDOT approval prior to being installed. Advertising materials shall be posted with adherence to the dates notated on the individual advertising contracts between NYSDOT’s advertising vendor and its clients.

C. The Contractor shall be responsible for securing any advertising opportunities for the interior of the vehicle.

D. Any revenue from interior vehicle advertising will be collected and administered by the Contractor. This amount will be discounted from the total that NYSDOT owes to the operator.

E. Advertising materials are limited to the interior of buses. Absolutely no advertisements shall be permitted either on vehicle exteriors or at bus shelters.

Deliverables:

- All necessary marketing materials including website, schedules, maps, interior bus cards, and fare media.
- All interior advertising in buses
- Timely installation in vehicles of passenger notifications, per NYSDOT instruction
4.4.10. **Coordination of service planning and delivery with local and state agencies**

The Contractor is responsible for coordinating with local and State agencies and authorities to optimize transit service.

4.4.10.1. **Schedule coordination** - The Contractor is responsible for facilitating seamless transfers between the LHTL intercounty BRT and Metro-North rail service through careful schedule synchronization. The Contractor will design schedules to ensure that eastbound buses arrive at Metro-North no less than 7 minutes before scheduled train departures, while westbound buses depart Metro-North no more than 7 minutes after scheduled train arrivals. The Contractor is responsible for receiving advanced notifications of Metro-North schedule updates and adjusting LHTL schedules accordingly. The Contractor is also responsible for identifying and facilitating seamless transfers with the major transit providers in Rockland and Westchester Counties to improve the accessibility to the LHTL intercounty BRT service and to make the connection from this service to the destinations serviced by other Rockland and Westchester County operators.

4.4.10.2. **Fare coordination** - The Contractor is also responsible for facilitating seamless transfers between LHTL and other regional transit systems through the integration of fare payment systems. NYSDOT will work with Metro-North Railroad to maintain the existing UniTicket program (discussed in Section 4.4.12), which allows customers to purchase joint weekly or monthly tickets to transfer between Metro-North and LHTL, and this fare type shall be accepted on the system. NYSDOT will also enter into an agreement with MTA New York City Transit to utilize the MetroCard on the system, and the Contractor is also expected to accommodate the use of this fare payment type, as well as its future replacement. (The technical specifications for on-board and off-board infrastructure to accommodate this fare choice are outlined in Attachment 23: Technology Specification and Attachment 26: Vehicle Specification).

4.4.10.3. Cost and schedule coordination on a regional level is of critical importance to this project. The Contractor shall propose how it plans to interline fares and schedules between the new intercounty BRT service and Westchester Bee-Line in its Technical and Management Submission, and will be evaluated on this issue.

4.4.10.4. **Service and response coordination** - The Contractor is responsible for meeting with NYSDOT’s ICM Corridor Manager to discuss any issues or concerns with the transit service and to address its integration with the overall ICM system in the corridor. These meetings will be held weekly for the first month of service
(November 2018) and then monthly for the next six months of service (December 2018 – May 2019). Meetings will then be held quarterly until the end of the contract.

**Deliverables:**

- Transit schedules to meet train times and other regional transit links
- Accommodation of the Metro-North UniTicket program and MetroCard, as well as any other opportunities to coordinate fares with other transit systems in the region
- Regular meetings between the Contractor and the NYSDOT ICM Corridor Manager, as directed above

**4.4.11. Staffing for a transit operations coordinator position and the integration of the transit service into HVTMC ICM operations**

4.4.11.1. The operation of the ICM system will require all partner agencies and operators to be integrated at the Hudson Valley Transportation Management Center (HVTMC) in Hawthorne, NY. The ICM system will be critical to the LHTL’s ability to improve travel times compared to current transit service, adhere to its schedule, and keep passengers informed of changing conditions in real time. To optimize transit operations using ICM infrastructure, the LHTL intercounty BRT Contractor will embed a full-time representative within the HVTMC to serve as an HVTMC Transit Service Coordinator and perform the following functions:

A. Assess transit conditions

B. Monitor vehicle operations

C. Monitor station conditions

D. Supply information to the corridor ICM system

E. Monitor all on-board and in-station transit ICM assets

F. Maintain on-board and in-station transit ICM assets and repair any system faults within the agreed performance targets

G. Provide liaison services between Contractor operations, the HVTMC, and the Statewide Transportation Incident Command Center (STICC) at NYSDOT Main Office in Albany. This pertains not only to accidents but in cases of severe weather or other natural or man-made emergencies and their impacts to bus service.
Deliverable: Permanent staff member or resource embedded at the HVTMC to cover the full span of service of the LHTL intercounty BRT system
4.4.12. **Collection and administration of fare revenues**

4.4.12.1. The Contractor shall collect and retain all operating revenues (including but not limited to: on-board cash fares, off-board fare payment machine revenues –credit and MetroCard, and UniTicket revenues) raised from the operation of the LHTL intercounty BRT service.

4.4.12.2. **Fare Types and Media** - Current TZx passengers are able to pay fares through a variety of fare types and media, including cash fares, ‘super-saver’ prepaid discount tickets, reduced fares (for seniors and the disabled), a College Pass (for students attending Rockland County College/Dominican College/St. Thomas Aquinas College) and the aforementioned weekly and monthly UniTicket passes provided in partnership with Metro-North.

4.4.12.3. The Contractor will be expected to maintain the Metro-North weekly and monthly UniTicket fare, as explained in Section 4.4.10 above, and to accommodate the MetroCard and its eventual replacement on its service. The Contractor is encouraged to develop a range of discounted and institutional tickets that is similar to what is offered today, as well as work with local business and institutions to create new fare types. Additionally, the Contractor is encouraged to develop mobile ticketing technology for use on the LHTL system, and to incentivize the use of this fare medium. These efforts will be scored under the ‘creativity and innovation’ evaluation criteria in Section 6.1.3.3.

4.4.12.4. **Fare Compliance** - The Contractor is responsible for inspection and compliance activities surrounding fare collection. Off-board fare collection machines will issue tickets at strategic locations. Additionally, any mobile ticketing technologies the Contractor chooses to pursue can also display a paid ticket. The Contractor will be responsible for ensuring all passengers are carrying valid proof of payment, either through:

A. Driver-controlled inspection of tickets and passes through front-door boarding, using farebox validation

or

B. Provision of ticket inspectors on all routes to enforce fare payment

4.4.12.5. Proposers are to detail in their technical proposal the fare enforcement solution they choose, as well as an explanation of why they chose this option.
4.4.12.6. **Contractor Fare Collection and Operation** - For each occurrence in which the Contractor fails to collect fare(s) in adherence to the regional fare structure or where improper farebox operation by the Contractor’s employee occurs, NYSDOT will assess liquidated damages in the amount of $50.00 per occurrence.

**Deliverables:**
- Collection and accounting of all fare revenue
- Development of innovative fare types and media
- Enforcement of fare payment

4.4.13. **Provision of a customer service center and applicable resources**

4.4.13.1. The Contractor will establish and staff a Customer Relations Center (CRC). The CRC will be staffed from the hours of 9 am to 5 pm, Monday – Friday, and be able to receive contacts from the intercounty BRT customers via phone or e-mail. The Contractor must monitor the call taking performance on a regular basis through the utilization of telecommunications equipment that allows for the recording and monitoring of all telephone calls with passengers. NYSDOT may review such recordings or telecommunications reports at any time to monitor telephone customer service. The Contractor must ensure telecommunications equipment allows for the submittal of audio files that include passenger-call center staff telephone conversations to the NYSDOT Project Manager via e-mail.

4.4.13.2. Through a sub-contracting agreement with a third-party vendor, the Contractor will commission a quarterly customer satisfaction survey of passengers.

More detailed requirements for the handling of customer complaints and comments, the creation of a customer service training program for the Contractor’s employees, the establishment of a policy for lost items, and the quarterly customer satisfaction survey can be found in Attachment 18: Customer Satisfaction.

**Deliverables:**
- Customer Relation Center that operates during required hours
- Customer Satisfaction Survey

4.4.14. **Reporting Requirements**

4.4.14.1. The Contractor shall collect data as required and provide periodic statements showing a comparison of the transit system’s past performance and of various management goals and objectives. Monthly and quarterly reports are due on or
before the 10th of the following month. Annual reports are due to NYSDOT in January, on the 1st of the month.

4.4.14.2. The Contractor shall provide all information and reports required by NYSDOT or any modal administration of the United States Department of Transportation (USDOT), as appropriate and will permit access to books, records, accounts and other sources of information and facilities as may be requested by NYSDOT. Where any information required is in exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to NYSDOT or any modal administration of the USDOT, as appropriate, and shall set forth what efforts it has made to obtain the information. All data gathering and reporting must conform to the requirements of NYSDOT or any modal administration of the USDOT, as appropriate.

4.4.14.3. Specifically, the Operator is required to report annually to the National Transit Database (NTD) and prepare data and responses to data quality control questions from NTD staff.

4.4.14.4. All programs, plans, policies and procedures shall be updated by the Contractor as needed throughout the term of the contract. The Contractor shall submit, on an annual basis, an independently audited financial report of all relevant company operating financial data.

4.4.14.5. At the conclusion of the Contract term, the Contractor shall submit all reports and documentation as required by Federal, State, and local regulations and by the terms of the Contract. Furthermore, the Contractor shall ensure that all reports are current and complete.

4.4.14.6. The Contractor shall retain all financial books, records, and other documents relevant to the Contract for five years after final payment or until after resolution of any audit questions (which could be more than five years) whichever is longer. Federal, State, or NYSDOT auditors and any other persons duly authorized by NYSDOT shall have full access to, and the right to examine, audit, copy, and make use of any and all said materials.

4.4.14.7. The Contractor must maintain all records at a location accessible by NYSDOT staff and in an electronic format acceptable to NYSDOT. Per the contract, all records produced under this contract are property of NYSDOT. Should the work between NYSDOT and the selected Contractor be terminated, all records shall be turned over to NYSDOT or its designated recipient.
4.4.14.8. The Contractor shall remit all reports to NYSDOT electronically, in a format prescribed by NYSDOT. Documents must be available when requested by NYSDOT or automatically shared with NYSDOT in electronic format via e-mail or managed file transfer (for larger sized documents). Should NYSDOT want to review records pertaining to this contract at the selected Contractor's offices, NYSDOT shall be given access to those files upon reasonable notice.

4.4.14.9. Any report may be revised, reorganized, changed, increased or decreased in number and frequency, or deleted as directed by NYSDOT at its sole discretion.

4.4.14.10. A detailed list of reports is available in Attachment 20: Reporting Requirements.

Deliverables:

- Monthly performance reports as required by NTD and NYSDOT
- Quarterly performance reports as required by STOA and NYSDOT
- Annual performance reports as required as part of NYSDOT 17-A process
- All other performance reports as specified in Attachment 20: Reporting Requirements
4.4.15. **Contract Transition**

4.4.15.1. This task shall only be required if the Contractor is not designated for award of a contract to replace this contract. To ensure a seamless transition between the Contractor and a future designated Contractor, NYSDOT will establish a transition period during which the Contractor will work with the future designated Contractor to provide the necessary coordination and services without interruption of service during the transition.

4.4.15.2. The Contractor shall update the Initial Transition Plan submitted with its proposal, ready to execute prior to completion of the contract period [or extension(s), if any]. The Final Transition Plan shall ensure a transfer of the intercounty BRT services without interruption if the Contractor is not designated for award of a replacement contract. The Plan shall be submitted to NYSDOT Project Manager 90 days before the anticipated transition date for approval.

4.4.15.3. The Plan shall identify the operational requirements during the transition and provide technical support for any systems malfunctions. It shall detail a schedule of staffing necessary to transition the program, and include an interim status report.

4.4.15.4. The Plan shall include the process to transfer all physical and intellectual assets. The Contractor shall return to NYSDOT Project Manager all NYSDOT property, including any data. At the end of the contract, the Contractor shall remove such data from any electronic equipment owned by the Contractor.

4.4.15.5. At the discretion of NYSDOT Project Manager, the Contractor will participate in meetings with partner agencies and the future designated Contractor to address any concerns prior to transition.

4.4.15.6. The Contractor shall share and permit copying of all books and records necessary or convenient for the successor provider to undertake its work. These records include maintenance records, inventory records, supplier contracts, and support agreements.

4.4.15.7. If original records are necessary for the successor provider to properly perform its legal obligations, Contractor shall provide the originals to the successor, and the Contractor shall keep copies of them.

4.4.15.8. The Contractor shall train successor Contractor(s) in accordance with NYSDOT approved Final Transition Plan.
4.4.15.9. The Contractor shall provide full operational support services for the intercounty BRT system to NYSDOT during the transition in accordance with NYSDOT approved Final Transition Plan.

4.4.15.10. The Contractor shall verify and update all project documentation for the intercounty BRT system during the transition.

4.4.15.11. The Contractor shall provide knowledge transfer support services during the transition in accordance with NYSDOT approved Final Transition Plan.

**Deliverables:**

- Final Transition Plan
- Meetings with future Contractor (at NYSDOT’s discretion)
4.4.16. **Additional applicable state requirements**

4.4.16.1. **Risk Control and Safety Program**

4.4.16.2. The Contractor is solely responsible for safety under the Contract. The Contractor shall safely render all services (and perform all work) under the Contract. As part of the system safety plan, the Contractor shall develop a comprehensive, ongoing systematic review of hazards involving vehicles, equipment, machines, the environment, and people, and take action to avoid identifiable hazards as required as part of Contractor services. The Contractor shall provide a safe environment for the public and the Contractor.

4.4.16.3. The operator is responsible for having a system safety plan in accordance with the PTSB and the Statewide Mass Transportation Operating Assistance Program (STOA) ([https://www.dot.ny.gov/divisions/operating/osss/ptsb/bus/program-guidelines](https://www.dot.ny.gov/divisions/operating/osss/ptsb/bus/program-guidelines)) that includes a facility safety plan to ensure that vehicles, equipment, and staff are safe and maintained in proper working order.

4.4.16.4. The Contractor shall be responsible for compliance with all applicable Federal, State, County and local laws, ordinances, and regulations during the performance of this work. The Contractor shall indemnify NYSDOT and NYSDOT’s contractors and sub-contractors from fines, penalties, and corrective measures that result from acts of commission or omission of the Contractor, its subcontractors (if any), agents, employees, and assigns and their failure to comply with such safety rules and regulations.

4.4.16.5. The Contractor shall enforce the use of any and all personal protective equipment needed to complete the tasks required by this contract.

4.4.16.6. The Contractor shall provide warning signs, barricades and verbal warnings as required.

4.4.16.7. The Contractor shall inform its employees of emergency procedures to be followed in case of a fire, medical emergency, or any other life-threatening catastrophes.

4.4.16.8. The Contractor shall perform job site safety inspections monthly. A report of the Contractor’s findings and observations, as well as corrective measures taken, shall be made available to NYSDOT on a monthly basis.
4.4.16.9. The Contractor shall provide and maintain on the site and in vehicles, at all times, first aid kits which contain all emergency medical supplies likely to be required.

4.4.16.10. The Contractor shall provide a Risk Control and Safety Plan with written rules and procedures for the assessment of preventable and non-preventable accidents. Contractor shall:

A. Conduct monthly safety inspections
B. Hold monthly safety committee meetings
C. Annually review vehicular and passenger accidents
D. Develop and implement safety related training
E. Conduct hazardous materials training

**Deliverables:**

- Risk Control and System Safety Plan
- Monthly safety inspections
- Monthly safety committee meetings
- Annual review of vehicular and passenger accidents
- Safety-related and hazardous materials training

4.4.16.11. **Accident & Injury Investigations**

4.4.16.12. Every public transportation bus system and/or public transportation bus service subject to the Safety Board shall give the Safety Board immediate notice and written notice of the following accidents:

A. All fatal accidents
B. Any accident that results in five or more injuries to persons involved in that accident; and
C. Any accidents caused by mechanical failure, including but not limited to all fires that occur in revenue service that require passenger evacuation and response by a fire department, regardless of whether or not injuries were incurred.

4.4.16.13. The Contractor shall notify NYSDOT immediately of any accident involving personnel or damage to material and equipment. Accidents are defined per 49 CFR
Part 655.4. The Contractor must report to NYSDOT, on a monthly basis, any Major Safety and Security Incidents, as well as any Non-Major Safety and Security Incidents, per the reporting thresholds outlined in the National Transit Database (NTD) Safety and Security Reporting Manual. NYSDOT must be notified as quickly as possible of any accident that meets the above criteria, or when any media respond or are anticipated to respond to any accident scene.

4.4.16.14. For investigation of accidents and injuries, Contractor shall:
   A. Interview supervisors and employees relative to accident/injury
   B. Assist employee in filing proper reports in a timely manner.
   C. Process claims to appropriate local/state agencies.
   D. Submit appropriate monthly, quarterly, and annual reports.
   E. Work as liaison with police departments.
   F. Report all major accidents to designated NYSDOT staff.
   G. Report any incidence of the failure of a safety inspection of any of the fleet vehicles dedicated to this contract

Deliverables:
- Immediate and written accident/incident notifications to the NYSDOT Safety Board
- Monthly, quarterly, and annual safety and accident reports

4.4.16.15. Emergency Response Requirement

4.4.16.16. NYSDOT requires Contractors to play an active role in disaster recovery, making their assets and equipment available in the case of an emergency. For the purposes of this contract, the Contractor must respond to requests from NYSDOT for assistance in an emergency, providing access to all relevant assets and equipment.

Deliverable: Provide assets and equipment at the direction of the State in the case of an emergency

4.4.16.17. Substance Abuse Prevention Policy

4.4.16.18. The Contractor shall establish and implement a drug and alcohol testing program for safety-sensitive staff that complies with 49 CFR Parts 40 and 655, produce any documentation necessary to establish its compliance with Part 40 and Part 655, and permit any authorized representative of the United States Department of
Transportation or NYSDOT, to inspect the facilities and records associated with the implementation of the drug and alcohol testing program as required under Part 40 and Part 655 and review the testing process.

**Deliverable:** Alcohol and drug testing program

### 4.5. Deliverables

All task-specific deliverables are defined above. All records/reports must be delivered in a format acceptable to NYSDOT. Documents must be available when requested by NYSDOT or automatically shared with NYSDOT in electronic format via e-mail or managed file transfer (for larger sized documents). Should NYSDOT want to review records pertaining to this contract at the selected Contractor’s offices, NYSDOT shall be given access to those files upon reasonable notice.

The Contractor must maintain all records at a location accessible by NYSDOT staff and in an electronic format acceptable to NYSDOT. Per the contract, all records produced under this contract are property of NYSDOT. Should the work between NYSDOT and the selected Contractor be terminated, all records shall be turned over to NYSDOT or its designated recipient.
5. Proposal Format and Contents

For the purposes of evaluation, each proposal must be submitted in two parts, bound separately. Part I shall consist of the Technical and Management submittal. Part II is the Cost and Contract submittal. Each part of the proposal must be complete in itself in order that the evaluation of both parts can be accomplished independently and concurrently, and the Technical and Management submittal can be evaluated strictly on the basis of its merits. Cost information is not to be included in the Part I submittal. Your proposal should follow the format listed below.

Web links, photographs, and illustrations (except for the organizational chart) are not to be included unless specifically required in this section.

NOTE: NYSDOT will protect confidential and proprietary information from disclosure to the extent permitted by the Freedom of Information Law (“FOIL”), Article 6 of the Public Officers Law. If a proposer believes information included in their proposal is confidential and proprietary, they should identify those page(s) of their proposal which contain such information as “confidential and proprietary”. Additionally, proposers need to explain the reason(s) why this information should be considered exempt from public disclosure under FOIL. This information is to be provided in the Cover Letter.

NOTE: Cost information is not to be included in the Part I submittal, and Technical and Management information is not to be included in Part II submittal.

5.1. Part I: Technical and Management Submittal

Part I shall include the following sections:

5.1.1. Cover Letter and Title Page indicating:

The cover letter and title page shall indicate the name, address and phone number of the proposer, as well as the name, title, address, email, and telephone number of person(s) with authority to negotiate and who may be contacted during the procurement process.

Provide a brief description of the proposed approach, work effort and resulting product. Confidential and proprietary information should also be identified and addressed in this section. Not to exceed a single page.

5.1.2. Table of Contents

5.1.3. Narrative Description

Provide a discussion on the important issues involved in the implementation of this effort. Include enough substantive discussion to demonstrate an understanding of NYSDOT project objectives and familiarity with applicable laws, rules, etc.
5.1.4. **Project Planning**

The Proposer shall describe its Initial Project Management Plan, addressing the following areas:

A. Implementation Plan

B. Quality Control/Quality Assurance Plan

C. Risk Management Plan

D. Change Management Plan

E. System Acceptance Test Plan

F. Issue Management and Escalation Plan

G. Communication Plan

H. Marketing Plan

5.1.5. **Schedule**

The Proposer shall submit a Gantt Chart, showing all major activities. The Gantt Chart shall be presented in hard copy printed on an 11” by 17” sheet with all as-printed font sizes at least 8 point. The major activities shall include the Project Completion Date and the following Major Interim Milestones:

A. Delivery of Final version of the Project Management Plan

B. Fleet vehicles ordered

C. Fleet vehicles delivered

D. Maintenance/Storage facility completed

E. Transit ICM systems integration

F. NYSDOT acceptance of vehicles

G. Vehicle testing completed

H. Transit system operational

In developing the schedule, proposers should assume contract award and a Notice to Proceed Date (currently estimated at January 2, 2017), and Operational Date no later than October 29, 2018.

In addition to the Gantt Chart, the Proposer shall complete Form SCD (Attachment 13: Schedule of Contract Durations), detailing the proposed Project Completion Date and the Major Interim Milestones. Failure of the Contractor to meet the Project Completion Date or the Major Interim
Milestones shall result in the liquidated damages stated on Form SCD being assessed against the Contractor. Liquidated Damages shall be an offset against future invoices.

5.1.6. Project Tasks

The Contractor shall describe in detail how they will meet the project scope and objectives as laid out in this RFP document. The Contractor shall describe their approach for completing the full list of project tasks and deliverables outlined under Section 4.4: Tasks, and how it will fulfill its roles and responsibilities under both this section and Section 4.3: Contractor Responsibilities. The Contractor shall provide detailed transit service plans and show how they plan to creatively and innovatively deliver the transit ICM technology solutions in order to meet both the technical specifications and the objectives laid out in the RFP.

In addition, the Contractor shall develop and deliver the following plans:

5.1.6.1. Vehicle Maintenance Plan

The Contractor will submit an initial Vehicle Maintenance Plan describing in detail how it will meet the requirements stated in Attachment 17: Fleet Maintenance & Service Requirements.

5.1.6.2. Safety Plan

Provide a description of the Contractor’s comprehensive safety program, meeting all the requirements in Section 4.4.16.1, including accident prevention; road, equipment and facility monitoring; emergency preparation; accident response, investigation, and reporting procedures; use of Drivecam-type technologies/equipment, on-board video surveillance equipment, ensuring current call-back rosters, biohazard procedures, and toxic spill procedures.

Provide a description of Contractor’s plans, and past experiences with, planning with municipal emergency responders for enhanced behind-the-wheel training for real-life safety/threat assessment exercises.

Indicate how the Contractor will comply with all requirements relating to the Federal Drug and Alcohol Testing Program and Americans with Disabilities Act and ensure and document monitoring of contracted services for the performance of drug testing to meet FTA Triennial Review Guidelines. Contractor must include documentation that demonstrates a complete understanding of the Drug and Alcohol Testing Management Information System reporting requirements.

5.1.6.3. Customer Service Plan

Describe how the customer service program will meet the requirements of Section 4.4.13 and
Attachment 18: Customer Satisfaction, including responding to customer inquiries and concerns, tracking and reporting concerns, and developing corrective actions based on feedback, and more importantly the date this program was initiated by the Proposer in other client locations and in how many projects that you are currently using it. In addition, describe the frequency of customer service training and how it is incorporated into all management and operations on a daily basis as well as monthly driver meetings. Describe how often refresher training is provided to all staff who interact with customers. This plan should align with the NYSDOT’s mission and values, as well as the transit system’s values, goals & objectives. Delineate how the customer service program will be monitored to ensure the delivery of a high quality service, including a call monitoring system that will record calls with customers and schedulers. Contractor must ensure ability to send Town requested recordings via electronic format.

5.1.6.4. Procurement Plan
The firm shall identify its approach to procuring the bus fleet, support vehicles, maintenance and storage facility, and support services for the Project. This will include contractor procurements could include station maintenance, safety and security, all in accordance with State policies and procedures.

5.1.6.5. Operating Performance Plan
The proposer shall identify its approach to meeting the transit operating performance standards detailed in Attachment 16: Operating Performance Standards. This will include strategies for maintaining on-time performance, avoiding cancelled/missed trips, and meeting performance goals for safety and bus component availability. Describe how the operation of the system will mitigate the risks of not meeting performance objectives and how the proposer’s industry experience contributes to this mitigation.

5.1.6.6. Training Plan
The Proposer shall describe its approach for addressing the Training responsibilities identified in Attachment 14: Bus Operations Requirements, including the following:

- Driver Safety
- ADA
- Ancillary Training

5.1.7. Experience of the Firm
The qualifications and prior experience of the proposer are of great importance to NYSDOT. Direct, prior experience in transit systems similar in size, scope, and complexity as described in Section 4 and Attachment 21: Transit Service Plan of this RFP is highly desirable. Provide a list of projects currently in progress and those completed within the last three years which are relevant to this effort. Indicate proposed key personnel who are, or have worked, on such
projects. Include names, addresses and phone numbers of contact points with the listed clients. NYSDOT reserves the right to request information from any source so named.

The list should include: the start date and most recent renewal date of each contract, and the expiration dates; the name, address and telephone number of a local official qualified to serve as a reference; statistical indicators including number of buses, annual ridership, number of employees by type; and a narrative description of type of management contract, and range of authority and responsibility of the management person or team you employ in the contract.

Note: If the proposal is being presented by a proposer and one or more subcontractors, at least two of the references must be for work completed by the Proposer.

5.1.8. Organization and Staffing
The Proposer shall submit an Initial Staffing Plan for the project. The Plan shall include the following:

- An organizational chart (on 11”x17” sheet of paper) for the project showing the names of the Contractor’s Project Manager and all Key Personnel. The chart should show reporting relationships and lines of communication.

- Contractor Key Personnel Resume and Reference form in Attachment that includes, at a minimum, the following Key Personnel roles and any other roles that it considers instrumental to the project.

Key Personnel

5.1.8.1. General Manager
Responsible for the execution and coordination of all aspects of the Contractor’s project plan and performs project management activities. The principal function of the General Manager shall be to supervise and provide expertise in all transit operations. The General Manager will work cooperatively with NYSDOT in assuring service quality. This individual will be an experienced bus transit executive, with demonstrated experience in implementation and management of a transit system similar in size to the intercounty BRT as described in this RFP. Serves as the primary point of contact for NYSDOT, and has authority to act on behalf of the Contractor.

Minimum Qualifications: The General Manager will preferably have a minimum of three or more years of recent (within the past five years) direct successful experience as a manager supervising and running a fixed-cost transit property/operation of similar size and scope.
5.1.8.2. Operations Manager
This individual will be an experienced bus operations manager, with demonstrated experience in bus operations management in a system with a staff size, service plan, and fare collection systems similar to the intercounty BRT as described in this RFP.

Minimum Qualifications: The Operations Manager will preferably have a minimum of three or more years of recent (within the past five years) direct successful experience in an Assistant General/Operations Manager capacity managing a transit property/operation of similar size and scope.

5.1.8.3. Marketing Manager
This individual will be responsible for executing the Marketing Plan for this Project. The person will have demonstrated experience in developing and executing marketing plans for public transit projects similar in size, scope, and complexity as this Project.

5.1.8.4. Maintenance Manager
This individual will be an experienced bus fleet manager, with demonstrated experience operating fleets and facilities similar in size, scope, and complexity of this Project.

Minimum Qualifications: The Maintenance Manager will preferably have a minimum of three or more years of recent (within the past five years) direct successful experience in a Maintenance/Assistant General Manager capacity managing a fixed-route transit property/operation of similar size and scope.

5.1.8.5. Safety Manager
This individual will be responsible for ensuring that the intercounty BRT service meets all required regulations and that all safety risks are managed in a comprehensive manner.

5.1.8.6. Training Manager
This individual will be responsible for executing the Training Plan and all required activities, as well as specifically training staff for HVTMC operations.

5.1.8.7. ICM Coordination Manager
This individual will be responsible for linking the intercounty BRT transit system to the ICM system in the I-287 corridor, insuring in-vehicle technology is compatible with the rest of the ICM system, establishing communication between the transit operator and the HVTMC, and managing staff members located in the HVTMC.
This person will have demonstrated proficiency in managing transit technology, preferably with similar capabilities to this project.

5.1.8.8. HVTMC Transit Service Coordinator Manager

The bus contractor will provide appropriate staff in the HVTMC to allow for communication between the roadway operators and the transit operator, as described in Section 4.4.11. These coordinators will be embedded at the HVTMC to provide instantaneous information about roadway conditions to the bus drivers, as well as to receive field reports. They will also be a conduit of information to and from the other transit operators (Metro-North and Bee-Line) in case of disruptions on any of those respective systems that may have an impact that ripples across the transit network as a whole, and a liaison between law enforcement and the bus operator in the event of any security-related incident. This position will also be the liaison for sharing CCTV operated by the bus operator with NYSDOT and/or law enforcement upon request. It is likely that this role will be filled by more than one individual in order to cover the full span of service of the intercounty BRT service.

The Contractor shall provide an HVTMC Transit Service Coordinator Manager to oversee the activities of the HVTMC Transit Coordinators. The person will have demonstrated experience in managing control room operatives and in real-time management of a transit system. This individual will share responsibilities with the Training Manager in ensuring the HVTMC Transit Service Coordinators are satisfactorily trained for their roles.
5.1.8.9. The Key Personnel proposed by the designated Contractor are an important factor in the evaluation of its proposal. Thus, the Department expects that the personnel proposed will be available at the start of the contract term. As a result, any personnel proposed by the designated Contractor that does not perform the required work under the contract for the initial 30 calendar days after the effective date of the Notice to Proceed will, at NYSDOT’s discretion, result in a $10,000.00 charge per personnel title as Liquidated Damages.

5.1.8.10. In addition, if at any time during the term of the contract a member of the Contractor’s Key Personnel needs to be replaced, the Contractor shall have 45 calendar days to submit a qualified Candidate (same level of experience and expertise) to NYSDOT for approval. In the event the Contractor is unable to provide a qualified Candidate within 45 calendar days, and NYSDOT must use in-house NYSDOT staffing, or NYSDOT must hire a separate Contractor to provide the personnel, NYSDOT will, at its discretion:

A. Charge and bill the Contractor liquidated damages of $100.00 per day

B. Charge and bill the Contractor $100.00/hour for the use of in-house NYSDOT personnel, or

C. Charge and bill the Contractor a 10% administrative fee on top of and in addition to whatever NYSDOT is billed by an out-of-house Contractor. If, for example, NYSDOT must hire a separate Contractor to provide a service at $100.00/hour, NYSDOT will charge and bill the Contractor $110.00.

5.1.8.11. The determination that a Candidate is “qualified” is the sole decision of NYSDOT. All amounts specified above will be billed as an off-set against future Contractor invoices.

5.1.8.12. If subcontractors are to be used, explain the specific need for their expertise and describe the arrangements using a maximum of 10 pages. Discuss the use of M/WBE subcontractors and how they will be used to meet the stated M/WBE goal. Discuss recruiting, training, assigning and substituting Contractor staff to assure the project will be delivered on-time, and ongoing operations will be delivered as specified. Include in this discussion how staff will be recruited, trained, what provisions will be made for coverage during vacations, illnesses and absences, and how personnel turnover will be minimized.

5.1.9. Initial Transition Plan
The Proposer shall describe its approach for addressing the Contract Transition responsibilities identified in RFP Section 4.4.15.

5.1.10. **Diversity Practices Questionnaire**

NYSDOT has determined, pursuant to New York State Executive Law Article 15-A, that the assessment of the diversity practices of respondents to this procurement is practical, feasible, and appropriate. Accordingly, respondents to this procurement are required to include as part of their response to this procurement in Attachment 2: Diversity Practices Questionnaire. All firms shall submit a completed questionnaire, and will be scored on this information as per Section 6.1.3 of this RFP.

Firms shall separately submit all additional information required by Attachment 2: Diversity Practices Questionnaire, where indicated by the Questionnaire (Questions 1, 4, 5, 6, and 7).

5.2. **Part II: Cost and Administrative Submittal**

Part II of the proposal consists of two general sections:

- A Cost Proposal, which shall set forth the lump sum deliverable-based amounts, monthly operating per-mile fee, and the monthly fee for performing the work in the scope of services; and
- The Administration Section, which shall specify the proposer’s acceptance of the terms and conditions contained in the draft Contract enclosed as Attachment 1: Draft Contract to this solicitation, as well as host several other administrative items.

The above general sections shall include the following.

5.2.1. **Cost Proposal**

5.2.1.1. For Lump Sum/Deliverable-Based

5.2.1.2. NYSDOT requires that all cost information be presented using the RFP-provided Microsoft Excel spreadsheets (see Attachment 14: Cost Proposal Workbook) in both a hardcopy Part II response and an electronic copy on CD, securely presented in the Part II response. The accuracy of calculations and formulas in the spreadsheet are the sole responsibility of the proposer.

5.2.1.3. When completing the Excel cost worksheets included in Attachment 14: Cost Proposal Workbook, proposers shall follow these instructions:

- The one-time and recurring costs the proposer provides within the Cost Proposal must include ANY AND ALL one-time and recurring fees, charges, or costs for the duration of the contract, including but not limited to:
- All direct and indirect costs, all overhead, fees, profit,
- Labor, parts, shipping, material and equipment cost;
- Software licensing;
- Emergency work;
- Maintenance services as specified herein;
- Repairs and replacement of major or minor parts as necessary;
- Administrative, reporting or other requirements;
- Travel costs, parking fees, and any other ancillary fees including permits; licenses, insurance, etc., and
- Services not explicitly stated in these specifications, but necessarily attendant thereto as applicable to the associated item for which the rate/fee is being quoted.

5.2.1.4. Terminology used in the cost spreadsheets for products and services must be consistent with the terminology used in the technical portion of the response.

5.2.1.5. All worksheets included in Attachment 14: Cost Proposal Workbook must be completed in order for the response to be considered complete.

5.2.1.6. Proposer should not make entries in colored cells in Attachment 14: Cost Proposal Workbook. Changes should not be made to the spreadsheet format or formulas. Proposers shall not attach any additional or qualifying information.

5.2.1.7. Cost Proposal Instructions

5.2.1.8. Use Attachment 14: Cost Proposal Workbook to complete the Cost Proposal response form. This attachment contains instructions to guide completion of this form. Should any questions arise pertaining to this form and its instructions, please submit them to the designated NYSDOT contact person before the Question & Answer deadline.

5.2.2. Administration Section

All signatures on each copy must be an original.
5.2.2.1. Acceptance of Terms and Conditions

Proposers shall complete and submit the “Contractor Information and Certifications Form,” included as Attachment 4: Contractor Information and Certifications, to indicate their acceptance of all of the terms and conditions contained in the draft Contract (Attachment 1). Altering this form without the prior expressed written approval of the New York State Department of Transportation is prohibited and may lead to the proposal being deemed non-responsive and subsequently dismissed. **No exceptions to any of the draft contract’s terms and conditions will be entertained by NYSDOT.** Conditional bids will be deemed non-responsive.

5.2.2.2. M/WBE Participation

In Part II of your firm’s proposal, provide the following:

Complete Attachment 7: M/WBE Participation Information. Provide the legal names of all certified M/WBE Contractors (prime and/or subcontractor). The Proposer shall also include completed Attachment 10: New York Business Reporting.

For firms whose DBE or M/WBE participation is less than the established goal stated in Section 2 (or where the prime Contractors certified as a DBE or M/WBE proposes to meet the Department’s DBE participation goal via their meaningful participation), the firm must also complete and submit Attachment 8: Subcontractor Participation Solicitation Log. Submission of a **Goal Attainment Explanation Letter** shall be required for proposals with either partial goal attainment or no goal attainment at all.

5.2.2.3. Modification Acknowledgement Forms

The Proposer shall include a completed Attachment 11: Form AOR, acknowledging receipt of any Modifications issued by the Department.

5.2.2.4. Non-Collusion Bidding Certification

All Proposers shall submit a completed Attachment 12: Non-Collusive Bidding Certification.

5.2.2.5. Procurement Lobbying Law


Filing the two required forms is mandatory for all Contractors in order to be considered for contract award. These Forms are:
• Proposer’s Affirmation of Understanding of and Agreement pursuant to State Finance Law §139-j (3) and §139-j (6) (b)  

• Proposer Disclosure of Prior Non-Responsibility Determinations  

Failure to submit the required PLL forms with your proposal will result in elimination from consideration for contract award.

Use Contract Number C031487 wherever requested in the forms. Please call or e-mail the individuals identified as the Designated Contacts in Section 1.4 of this RFP if you have any questions regarding how to complete this required form.

Per the Procurement/Lobbying Law of 2005, any person who wishes to contact NYSDOT regarding this project during the restricted period (i.e. from advertisement through designation), may only contact the persons noted in Section 1.4 to this solicitation.

For additional information, refer to Attachment 5: Procurement Lobbying Law Compliance.
6. Proposal Evaluation

6.1. Criteria for Evaluation of Proposals

6.1.1. General

6.1.1.1. Proposals shall be pre-screened to determine if they meet the minimum RFP responsiveness (as referred to in Section 1.3). Those which do not shall be deemed non-responsive and shall be removed from further consideration.

6.1.1.2. Proposals shall then be evaluated by the Department using a Best Value Method evaluation process based on the technical and cost criteria described below. Technical considerations are of greater importance than pricing considerations; however, price is a significant factor in the Department’s evaluation of proposals. Technical proposals will be scored based on the information provided under Section 5.1 in accordance with the pre-established criteria listed in Section 6.1.3. The cost portion of Section 5.2 will be point scored in accordance with the pre-established criteria listed in Section 6.1.3.

6.1.1.3. The Technical and Management Proposal evaluation will be accomplished by a representative committee comprised, as appropriate, of technical, program and management personnel. Committee members will score each proposal individually and then meet as a group to discuss the proposals. Evaluators will be allowed to revise scores on the basis of the committee discussions. Only proposals determined to be technically acceptable and susceptible for contract award will be considered further and have their cost proposal included in the selection process.

6.1.1.4. Proposers responding to this RFP may be requested to clarify issues or to provide additional insights into their proposal through written clarifications and/or technical interviews. If written clarifications are required to complete the technical evaluation of proposals, evaluators will be allowed to revise their technical scores based on this additional information. Furthermore, the Department reserves the right to ask clarifying questions regarding each cost proposal (Part II) and DBE or M/WBE participation as well.

6.1.1.5. Technical interviews are required to complete the technical evaluation of proposals, and the criteria listed below under Section 6.1.5 will be used to evaluate the technical interviews. The total percentage for technical proposals (see below) will be distributed so that [60%] will be for the written submission(s) and [10%] for the technical interview. Clarification questions may also be asked of proposers after
technical interviews have been completed. Technical Interviews will be held at the Department’s offices located in Albany, New York at a date and time to be determined by NYSDOT.

6.1.6. The Department reserves the right to request best and final offers from firms that are determined to be susceptible for contract award.

6.1.7. An award shall be made to the proposer whose proposal receives the highest total score after considering all technical and cost/price evaluation factors. Should NYSDOT opt to request best and final offers, it reserves the right to re-score technical and cost proposals. Further, NYSDOT reserves the right to re-score technical and cost proposals should a firm withdraw from this solicitations or be deemed non-responsive after initial evaluation and scoring.

6.1.8. **NOTE**: In the event two or more proposals are found to be “substantially equivalent”, the Department reserves the right to award the contract under the terms of State Finance Law §163 (10)(a).

6.1.9. At the conclusion of the evaluation process, an announcement of the Department’s designation will be posted on NYSDOT’s web site. All non-designated firms shall be notified in writing regarding the results from the solicitation, and will be offered an opportunity to hold a debriefing. Further, it is expressly understood that this Request for Proposals does not commit the Department to award a contract, pay any costs incurred in the preparation of a proposal to this request, or to procure or contract services or supplies. Further, the Department shall have no obligation or liability whatsoever to the vendor selected as a result of this solicitation unless and until a contract satisfactory to the Department is approved and executed by the vendor and all necessary State officials.

6.1.2. **Pre-Screening of Proposals**

6.1.2.1. NYSDOT will conduct a pre-screening of each proposal to ensure all contents have been submitted in accordance with the minimum proposal responsiveness requirements as specified in the RFP. RFP specifications include that it is NYSDOT’s sole discretionary determination as to whether a proposal is complete (reference “Minimum RFP Responsiveness” Section 1.3). Proposals which do not meet the mandatory specifications in the Minimum RFP Responsiveness section will be deemed non-responsive by NYSDOT and will not be considered further.
6.1.2.2. As part of the pre-screening process, the proposed MBE and WBE participation percentages offered for M/WBE prime Contractors or subcontractors certified by Empire State Development will be reviewed (Attachment 7: M/WBE Participation Information). To count towards the State’s combined M/WBE participation goal, each firm must be currently listed in the NYS Empire State Development M/WBE Directory. If the proposed MBE and WBE participation is less than the established 3% percent M/WBE goal, then the firm’s evidence of a Good Faith Effort (Attachment 8: Subcontractor Participation Solicitation Log) to achieve participation in the goals will be reviewed, along with the firm’s letter of explanation (Goal Attainment Explanation Letter) as to why it was unable to meet the goal(s). During the review process, which will include verification of a firm’s good faith effort evidence, if it is determined by the Department that the firm did not provide an acceptable good faith effort, then the proposal will be deemed non-responsive and will be removed from further consideration.

6.1.3. **Technical and Management**

6.1.3.1. The technical and management proposal will be scored and will represent 60% of the total score for a proposal. The major evaluation criteria are listed in descending order of importance. Sub-criteria within major evaluation factors are also in descending order of importance.

6.1.3.2. A proposal to be deemed technically acceptable and susceptible to contract award must receive an average raw committee score of 36 points or higher out of a total possible of 60 points.

6.1.3.3. **Approach, Scope of Services, Personnel and Schedule (up to 30 points)**

A. The degree to which the proposal reflects understanding and comprehension of project scope and objectives;

B. The quality of the proposer’s resources relative to the needs of the project;

C. Completeness and reasonableness of schedule;

D. Quality of the service plan to satisfy the transit service requirements

E. Creativeness and innovation of the Contractor in delivering fare and schedule coordination with other regional transit systems.

F. Creativeness and innovation of the Contractor in delivering the transit ICM technology and fare payment solutions;
6.1.3.4. **Experience (up to 24 points)**

A. The quality, extent and relevance of experience, education and training of key personnel;

B. The quality, extent and relevance of current and prior experience of the firm, as measured by client references about satisfactory performance and integrity on previous contracts;

C. Experience of the proposer in procuring and integrating advanced technology;

D. Ability to recruit, train and retain staff of a suitable caliber;

E. A history of complying with and meeting all safety requirements

6.1.3.5. **Diversity Practice Questionnaire (up to 6 points):**

A. Documents the diversity practices of the proposer;

B. Required of each proposer as Attachment 2: Diversity Practices Questionnaire in the RFP
6.1.4. **Cost**

6.1.4.1. The cost portion of the cost and contract proposal will be point scored and will represent 30% of the total score for a proposal. The Contractor shall provide, in the cost spreadsheets provided in Attachment 14: Cost Proposal Workbook, the total cost to perform the Scope of Work and cost per revenue hour for operations. The Contractor will need to propose costs over the full contract term.

6.1.4.2. The calculation of a cost score will be determined by the following method:

A. The lowest cost proposal will receive the full amount of points.

B. Every other proposal within the competitive range will be given points proportionately in relation to the lowest price.

C. This point total will be calculated by dividing the lowest proposed price by the total price of each proposal, multiplied by the maximum weight for price (30 points).

6.1.5. **Technical Interviews**

6.1.5.1. Technical Interviews will be held at the Department’s offices located in Albany, New York at a date and time to be determined by NYSDOT. Technical interviews will be point scored and will represent 10% of the total score for a proposal.

6.1.5.2. The top three proposers and anyone within 10 points of the top-ranked proposal after the initial evaluation will be invited for an interview. The proposer would be expected to give a presentation (no more than 15 minutes) on their proposal, and then submit to questioning by the evaluation committee. This interview would confer up to 10 additional points to each proposer who participates, as follows:

A. Additional insights into technical aspects of the firm’s proposal (up to 4 points)

B. Ability to address any concerns of the committee and explain how potential risks will be mitigated (up to 3 points)

C. Ability of the presenting team to address and answer the committee's clarifying questions (up to 3 points)
7. Administrative Specifications

7.1. Proposal Submission

The proposal shall be signed by an official authorized to bind the proposer.

Proposers shall submit 10 copies of Part I and four copies of Part II.

Your proposal must be received by NYSDOT by Noon on August 12, 2016. The proposal must be addressed to:

Peter Russell  
NYS Department of Transportation  
50 Wolf Road, 6th floor  
Albany, New York  12232  
Attention:  #C031487 and ‘Operation of the Intercounty Bus Rapid Transit Service for NYSDOT

7.2. State’s Rights

All proposals, upon submission to NYSDOT, shall become its property for use as deemed appropriate. By submitting a proposal, the Contractor covenants not to make any claim for or have any right to damages because of any misinterpretation or misunderstanding of the specification, or because of any misinformation or lack of information. With regard to proposal submitted, NYSDOT asserts the following prerogatives with regard to proposals submitted:

A. To accept or reject any or all proposals;

B. To correct any arithmetic errors in any or all proposals;

C. To change the proposal’s due date upon appropriate notification to interested firms;

D. To eliminate any mandatory RFP requirement or specification unmet by all proposers in the evaluation of received proposals;

E. To adopt any or all of a successful proposer’s proposal;

F. To negotiate modifications to the scope, milestone payment schedule and total cost, and contract terms and conditions with the selected proposer prior to contract award only if it is in the best interest of the state to do so;

G. To disqualify an proposer from receiving the award if such proposer, or anyone in the proposer’s employ, has previously failed to perform satisfactorily in connection with public bidding or contracts;

H. To revise/amend any provision of this RFP by written notification to proposers, prior to proposal submission;
I. To eliminate any requirement that is found to be unmet by all proposers;

J. To make inquiries, by means it may choose, into the proposer’s background or statements made in the proposal to determine the truth and accuracy of all statements made therein;

K. To select and award the contract to the proposer whose proposal represents the best value to NYSDOT;

L. Should NYSDOT determine that the negotiations with the selected proposer will not result in a contract, to begin contract negotiations with the next-best-value proposer(s) responsive to this RFP — without again requesting proposals;

Any contract entered into pursuant to an award of this solicitation shall contain a provision which grants the option to extend the terms and conditions of such contract to any other New York state agency. However, any response to this solicitation shall be based solely on the purpose of this solicitation and shall not factor in the possibility that this contract may, in the future, be applicable to other state agencies. Please be advised that any award made pursuant to this solicitation shall be based on the specific requirements of this solicitation only.

7.3. Contractor Responsibility when Proposing Former NYSDOT Employees

It is the Contractor’s responsibility to ensure they propose staff that is eligible to work on the proposed project. It is an individual’s responsibility to comply with the Public Officer’s Law.

The following procedure applies if either of the following criteria is met:

A. It is two years or less between the date that the individual is proposed and the individual’s date of separation from the State.

B. The individual proposed has worked on the project while employed by NYSDOT regardless of how long ago they left NYSDOT.

Before the Contractor proposes an individual, the individual must obtain an opinion from the New York State Joint Commission on Public Ethics (http://www.jcope.ny.gov/) that approves their participation in the project as they are proposed.

A copy of this opinion must be on file in the Contractor’s office and available for review by NYSDOT if requested.

Failure to obtain New York State Joint Commission on Public Ethics approval for an individual’s participation in a project may jeopardize the firm’s designation for that project.

7.4. Method of Payment

Payment for services provided under the agreement resulting from this RFP will be fixed for the duration of the agreement unless changed by an executed supplemental agreement. The
Contractor will designate a Billing Representative who will be responsible for resolving any invoicing issues during the term of the Contract.

Payment for services provided under the project shall be a combination of lump-sum deliverable based, operational mile based and invoiced monthly, and monthly fixed fee for use of the storage facility.

Requests for progress and final payments shall be made by the designated Contractor on standard payment request forms (FIN 421). Use proper procedure for billing each deliverable: Submit a draft billing to NYSDOT’s assigned Project Manager via the following sample electronic billing: https://www.dot.ny.gov/main/business-center/Operators/forms-publications-and-instructions. The sample spreadsheet contains all of the proper, required billing forms, as well as a sample billing. The Project Manager will respond via e-mail either with comments/corrections or with an approval to submit the final billing via signed hardcopy. The last and final payment will become due and payable within thirty (30) days after delivery of the final deliverable(s) and a standard NYS FIN 421 payment request forms.

7.5. Information for Selected Contractor

7.5.1. Vendor Responsibility

In accordance with the NYS Finance Law, NYSDOT will only make contract award to vendors that are determined to be responsive and responsible. All selected proposers of contracts valued at $100,000 or more will be required to submit a Vendor Responsibility Questionnaire through the Office of the State Comptroller website via http://www.osc.state.ny.us/vendrep/index.htm before negotiation of a contract. Proposers must certify the accuracy of the information they provide in the questionnaire. In addition, any subcontractor providing services valued at $100,000 or more is required to submit Vendor Responsibility Questionnaire through the Office of the State Comptroller website.

7.5.2. Registration with NYSDOT

Contractor firms entering into contracts with NYSDOT as prime Contractors, joint venture partners or subcontractors, are required to electronically register their firm using the Contractor Selection System web application (CSSWeb). All Contractor firms entering into Non-Architectural/Non-Engineering agreements are required to create and register an account to: 1) Create and assign Contractor Identification Numbers (CINs) for each office registered by the firm; and 2) Provide general firm information including, but not limited to: legal firm name; Federal Identification Number (FEIN); ownership type; DBE, MBE and/or WBE status; firm principals; and office(s) address information. All Contractor firms participating in a potential agreement (negotiations) must be registered electronically with NYSDOT prior to that agreement being forwarded to the Office of the State Comptroller for approval. Registered firms are responsible for verifying and updating their registration information for the duration of the agreement.
Contractor Firm Registration instructions are available at


Questions regarding the CSSWeb application and firm registration should be directed to the CSSWeb Administrator by email at css@dot.state.ny.us or by telephone at 518-457-2600.

7.5.3. **Registration with Statewide Financial Systems (SFS)**

Should this solicitation lead to a designation, the Prime Contractors will be required to electronically register with the Statewide Financial System (SFS) - if not already registered. NYSDOT will initiate the registration process in the SFS application and then contact the Prime Contractor to provide them with further direction for completion of the registration process. The result of this process is an established SFS vendor number assigned to the Prime Contractor. If a firm has already registered in SFS in connection with another procurement effort, it will likely not need to re-register for this opportunity. However, a SFS vendor number is firm name specific. Since many firms have different variations of their business identities, firms will be required to register in the name of the business entity that NYSDOT is doing business with.

7.5.4. **Contractor employment disclosure requirements of this project**

Go to Office of the State Comptroller’s Web site
(http://www.osc.state.ny.us/procurement/Operatordisclosure.doc) to become familiar with Operator Employment Disclosure requirements, which went into effect June 19, 2006. The Contractor selected for this solicitation shall be required to complete ‘State Operator Services – Contractor’s Planned Employment” (Form A, Attachment 6: Contractor Disclosure Legislation Forms A&B) and submit when the contract is signed. For each contract year thereafter, the Contractor shall complete the “State Operator Services Contractor’s Annual Employment Report” (Form B, Attachment 6: Contractor Disclosure Legislation Forms A&B) and submit copies to the Office of the State Comptroller, the Department of Civil Service, and the Department of Transportation on or before May 15th of each year the contract is in effect.

7.5.5. **Insurance requirements of this project**

Please carefully read the terms and conditions of the draft Contract appended as Attachment 1 of this RFP. Your attention is drawn to the insurance requirements for this Project that are contained in Article 12 of the draft Contract. These insurances are mandatory for the firm(s) selected as a result of this solicitation and will not be waived.

7.5.6. **Contractor tax certification**

Per Section 5-a of the NYS Tax Law, all vendors selected for contracts in excess of $100,000 for the sale of goods or services must complete and submit Forms ST-220-TD and ST-220-CA (Contractor Certifications) prior to negotiation of a contract with State agencies. You should make yourself familiar with these forms by visiting the following Web sites:
7.6. Inquiries and Information

All questions concerning this solicitation must be directed *only* to the individual specified in Section 1.4 of this RFP. The last date to submit questions for this solicitation is stated in Section 7.8 below. All questions are to be in writing and submitted via e-mail.

Responses to all questions of a substantive nature, as well as copies of the questions, will be posted to the NYSDOT web site.

7.7. Protest Procedure

NYSDOT has established a protest procedure to be utilized when an interested party challenges a Non-Engineering Contractor designation by NYSDOT. The complete procedure can be accessed via: https://www.dot.ny.gov/main/business-center/Operators/general-info

7.8. Tentative Schedule of Key Events

NYSDOT will attempt to adhere to the following tentative schedule with regard to progressing this solicitation:

- RFP Release Date: June 27, 2016
- Question Submittal Deadline: July 25, 2016
- Proposals Due: August 12, 2016, 12 noon Eastern Time
- Contract Finalizing: Five weeks
- Contract Award: 8-10 weeks after completion of contract finalizing
8. Attachments
8.1. Attachment 1: Draft Contract

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

F.A. NO.: _____________  P.I.N.: _____________

COMPTROLLER'S CONTRACT NO. C031487

PROJECT: Operation of the Lower Hudson Transit Link Intercounty Bus Rapid Transit System for NYSDOT

This Agreement made this __________ day of __________________, 201___ pursuant to Section 14 of the Transportation Law, by and between THE PEOPLE OF THE STATE OF NEW YORK (hereinafter referred to as the "STATE") acting by and through the New York State Department of Transportation (hereinafter referred to as "STATE" or “DEPARTMENT”) whose Main Office is located at 50 Wolf Road in the County of Albany, State of New York 12232, and

CONSULTANT FIRM NAME

CONSULTANT FIRM ADDRESS

(hereinafter referred to as "CONSULTANT")

WITNESSETH:

WHEREAS, the STATE desires the CONSULTANT because of its ability and reputation, to perform the services hereinafter mentioned upon the PROJECT which is fully described in SCHEDULE A and the CONSULTANT agrees to provide these services.
NOW, THEREFORE, the parties hereto, for the consideration hereinafter named, do agree as follows:

ARTICLE 1. PERFORMANCE OF WORK.

Subject to the provision of ARTICLE 14 hereof, the CONSULTANT shall perform all of the work described in SCHEDULE A generally in accordance with the CONSULTANT'S PROPOSAL and cause such work to be performed in an efficient and expeditious manner and in accordance with all of the terms and provisions of this CONTRACT. The CONSULTANT shall perform the work in accordance with professional standards and with the diligence and skill expected of a company with extensive experience in the performance of work of the type described in SCHEDULE A. The CONSULTANT shall furnish such materials, machinery, supplies, tools, equipment and other items as may reasonably be necessary or appropriate to perform the work in accordance with this AGREEMENT. It is understood and agreed that ______________________ shall serve as the CONSULTANT's Project Manager and as such shall have the responsibility for the overall supervision and conduct of the work on behalf of the CONSULTANT and that the persons described in SCHEDULE A shall serve in the capacities described therein. Any change of key project personnel by the CONSULTANT shall be subject to the prior written approval of the STATE. The STATE reserves the option to extend the terms and conditions of this CONTRACT to any other state agency in New York subject to the approval, of all necessary state officials.

The CONSULTANT will commence work no later than ten (10) days after receiving notice to proceed from the STATE.

ARTICLE 2. DOCUMENTS FORMING THE CONTRACT.

The contract documents shall be deemed to include this AGREEMENT (including EXHIBITS), the provisions required by state and federal law to be inserted in the AGREEMENT as set forth in Appendix A, APPENDIX A-1, APPENDIX B and APPENDIX C, EXHIBIT A, SCHEDULE A (including EXHIBITS), SCHEDULE B (including EXHIBITS), the STATE’s Request for Proposals (RFP; dated ____ ) incorporated by reference, and the CONSULTANT’s Proposal (dated ____ ) incorporated by reference.
ARTICLE 3. INSPECTION.

The duly authorized representatives of the STATE, and on Federally aided projects, representatives of the Federal Highway Administration, shall have the right at all times to inspect the work of the CONSULTANT.

ARTICLE 4. TERM OF THE AGREEMENT.

The CONSULTANT agrees that the base term of the AGREEMENT shall be five years from ___________ to _______________. Additionally, this AGREEMENT may be extended for up to two two-year periods and one additional one-year period based on need and performance as determined by the STATE in its sole discretion, and subject to approval by the Office of the State Comptroller.

ARTICLE 5. MAXIMUM AMOUNT.

Item I. The maximum aggregate amount payable by the State to the CONSULTANT hereunder for the performance and completion of the work is $______ unless increased by a supplemental agreement. It is understood and agreed that the STATE is under no obligation to make a minimum number of work assignments and will only reimburse the CONSULTANT for approved costs incurred in the performance of authorized project assignments.

Item II. The CONSULTANT specifically agrees that the AGREEMENT shall be deemed executory only to the extent of the monies available, and no liability shall be incurred by the STATE beyond the monies available for the purpose.

ARTICLE 6. PROVISION FOR PAYMENT.

The STATE shall pay to the CONSULTANT, and the CONSULTANT agrees to accept as full compensation for services provided under this agreement in accordance with the Payment Schedule (Attachment 24):
Item I. Deliverable Costing - One-time Costs - A total fixed lump-sum cost for One-Time Costs as set forth and accordingly to the billing milestones identified, in Attachment 24 – Deliverable Costing Section

Item II. Operational Costing- Per Revenue Mile Costs - Costs for any and all operations and maintenance costs of any kind or nature, on the basis of the number of revenue miles provided under this Agreement as identified in Attachment 24 – Operational Costing Section

Item III. Storage Costing – Monthly Costs - Costs for any and costs associated with storage of vehicles on a monthly basis as identified in Attachment 24 – Storage Costing Section.

Item IV. Maximum Amount Payable. - The maximum aggregate amount payable by the STATE to the CONSULTANT hereunder for the performance and completion of the work is $____________ unless increased by a Supplemental Agreement.

ARTICLE 7. CONTRACT PAYMENT.

The CONSULTANT shall provide complete and accurate billing invoices to the STATE in order to receive payment. Billing invoices submitted to the STATE must contain all information and supporting documentation required by the Contract, the STATE and the State Comptroller. Payment for invoices submitted by the CONSULTANT shall only be rendered electronically unless payment by paper check is expressly authorized by the New York State Department of Transportation Commissioner (hereinafter referred to as “COMMISSIONER”), in the COMMISSIONER’S sole discretion, due to extenuating circumstances. Such electronic payment shall be made in accordance with ordinary State procedures and practices. The CONSULTANT shall comply with the State Comptroller’s procedures to authorize electronic payments. Authorization forms are available at the State Comptroller’s website at www.osc.state.ny.us/epay/index.htm, by email at epunit@osc.state.ny.us, or by telephone at 518-474-4032. CONSULTANT acknowledges that it will not receive payment on any invoices submitted under this contract if it does not comply with the State Comptroller’s electronic
payment procedures, except where the COMMISSIONER has expressly authorized payment by paper check as set forth above.

**ARTICLE 8. PARTIAL PAYMENTS.**

The CONSULTANT shall be paid in monthly progress payments based on actual allowable costs incurred during the period in accordance with ARTICLE 6 of this AGREEMENT. Bills are subject to the approval of the State's Project Director, or their successor as identified by the STATE. Payments shall not be withheld unreasonably.

The CONSULTANT shall inform the STATE and all Subcontractors and Subconsultants of the Consultants schedule for submitting monthly vouchers to the STATE, said schedule shall be strictly adhered to by the CONSULTANT.

All Subcontractor and Subconsultant vouchers received by the CONSULTANT at least ten (10) calendar days prior to a scheduled billing, shall be included in that billing, even if the CONSULTANT does not have other costs to be billed for that period. The CONSULTANT shall inform the Subcontractor or Subconsultant of the date the voucher was submitted to the STATE and the amount included for the Subcontractor or Subconsultant.

The CONSULTANT will not include any provisions in their subcontracts that would circumvent the intent of 49 CFR 26.29 to require the CONSULTANT to make partial payments to all Subcontractors and Subconsultants within ten (10) calendar days of receipt of payment from the STATE.

Accounts of the CONSULTANT shall clearly identify the costs of the work performed under this AGREEMENT and shall be subject to periodic and final audit by the STATE and, on Federally aided Projects, by the Federal Highway Administration. Such audit shall not be a condition of partial payment.

**ARTICLE 9. FINAL PAYMENT.**
a) Section 179 of the State Finance Law requires the STATE to make final payment within thirty (30) calendar days after receipt of an invoice which is properly prepared and submitted. The STATE in accordance with the provisions of the State Finance Law has determined that the STATE will require a 60 calendar day audit period for final payments at which time the 30 calendar day interest-free period will commence. The CONSULTANT is required to make final payment to all Subcontractors and Subconsultants within ten (10) calendar days of receipt of final payment from the STATE.

The acceptance by the CONSULTANT of the final payment shall operate as and shall be a release to the STATE from all claims and liability to the CONSULTANT, its representatives and assigns for any and all things done, furnished for or relating to the services rendered by the CONSULTANT under or in connection with this Agreement or for any part thereof except as otherwise provided in ARTICLE 9(b).

b) The CONSULTANT shall maintain all books, documents, papers, accounting records and other evidence pertaining to cost incurred and make such materials available at its office at all reasonable times during the period of this Agreement and for the period of time specified in Clause No. 10, "Records" of APPENDIX A, for inspection by the STATE, Federal Highway Administration, or any authorized representatives of the Federal Government and copies thereof shall be furnished if requested.

ARTICLE 10. EXTRA WORK.

a) If the CONSULTANT believes that any work is or may be beyond the scope of the Agreement (extra work), or that additional work is necessary, the CONSULTANT shall notify the STATE, in writing, of this fact prior to beginning any of the work. The notification shall include all information required by the Department. The STATE shall be the sole judge as to whether or not such work is in fact beyond the scope of this Agreement and constitutes extra work. No extra or additional work shall be started prior to written authorization from the STATE. The STATE shall be under no obligation to reimburse the CONSULTANT for any extra or additional work performed without the prescribed notification and authorization. The STATE will not allow fixed fee for any extra work undertaken without prescribed notification and authorization. In the event that the STATE determines that such work does constitute extra work, the STATE shall provide extra compensation to the CONSULTANT in a fair and equitable manner. If necessary, a Supplemental Agreement providing the compensation and describing the work authorized shall be issued by the STATE to the CONSULTANT for execution after approvals have been obtained from necessary State officials and if required, from the Federal Highway Administration.
b) In the event of any claims being made or any actions being brought in connection with the PROJECT, the CONSULTANT agrees to render to the STATE all assistance required by the STATE. Compensation for work performed and costs incurred in connection with this requirement shall be made in a fair and equitable manner. In all cases provided for in this AGREEMENT for the additional services above described, the STATE's directions shall be exercised by the issuance of a separate Agreement, if necessary.

**ARTICLE 11. CONSULTANT RESPONSIBILITY.**

To the fullest extent permitted by law, the Consultant shall indemnify and save harmless the State, and/or any municipality, public benefit corporation, railroad, and/or public utility whose property or facilities are affected by the work, from suits, claims, actions, damages and costs, of every name and description arising from the work under its contract during its prosecution and until the final acceptance thereof. The Consultant and any assigns, heirs, or successors in interest shall also indemnify and save harmless, to the fullest extent permitted by law, the inspecting engineer or inspector working for the State relative to the project from suits, claims, actions, damages and costs involving personal injury and property damage arising from the Consultant's work under the contract during its prosecution and until the final acceptance thereof. The State may retain such monies from the amount due the Consultant as may be necessary to satisfy any claim for damages recovered against the State, any municipality and/or any public benefit corporation, railroad or public utility whose property or facilities are affected by the work or consultant inspecting engineers or inspectors working for the State relative to the project. The Consultant's obligation under this paragraph shall not be deemed waived by the failure of the State to retain the whole or any part of such monies due the Consultant, nor where such suit, action, damages and/or costs have not been resolved or determined prior to release of any monies to the Consultant under the contract, nor shall such obligation be deemed limited or discharged by the enumeration or procurement of any insurance for liability for damages imposed by law upon the Consultant, Subcontractor or the State, any municipality and/or any public benefit corporation, railroad or public utility whose property or facilities are affected by the work, or for any consultants working for the State. It is understood by the State and the Consultant that the Consultant’s Professional Liability/Errors and Omissions policy (if applicable) required in the Article of this Contract entitled “Insurance” shall be utilized for claims involving the Consultant’s professional negligence.

The Consultant has the obligation, at its own expense, for the defense of any action or proceeding which may be brought against the parties specified in this Section. This
obligation shall include the cost of attorneys' fees, disbursements, costs and other expenses incurred in connection with such action or proceeding. Such obligation to defend, and the obligation to indemnify in the foregoing paragraph, does not extend to those suits, actions, damages and costs of every name that arise out of the sole negligence of the State, or the negligence of any municipality and/or any public benefit corporation, railroad or public utility whose property or facilities are affected by the contract work, or the negligence of any consultants working for the State, their agents or employees, relative to the construction, alteration, or repair or maintenance of a building, highway or structure or appurtenances and appliances thereof including moving, demolition and excavating connected therewith. Notwithstanding the foregoing, the parties being defended by the Consultant may elect to join any action or tender their own defense, at their sole expense and discretion.

ARTICLE 12. INSURANCE.

The Consultant shall procure, at its own sole cost and expense, and shall maintain in force at all times during the term of this contract including any extensions or renewals until Contract Final Acceptance, the policies of insurance covering all operations under the contract whether performed by it or its subconsultants as herein below set forth, written by companies authorized by the New York State Insurance Department to issue insurance in the State of New York and that have an A.M. Best Company rating of (A-) or better or approved by the Department. The Department may, at its sole discretion, permit the placement of policies with a non-authorized carrier or carriers upon request by the Consultant accompanied by the documentation required by 11 NYCRR §27.0 et seq.; provided that nothing herein shall be construed to require the Department to accept insurance placed with a non-authorized carrier under any circumstances. The Consultant shall deliver to the Department evidence of such policies as the Department deems necessary to verify that the required insurance is in effect. If policies are changed or canceled, the CONSULTANT shall inform the STATE immediately. The STATE will determine whether to issue an order to the CONSULTANT to stop work.

A. Conditions Applicable to Insurance. All policies of insurance required by this agreement must meet the following requirements:

1. Coverage Types and Policy Limits. The types of coverage and policy limits required from the Consultant are specified in Paragraph B, Insurance Requirements, below. General liability insurance shall apply separately on a per-job or per-project basis.
2. Policy Forms. Except as may be otherwise specifically provided herein or agreed in writing by the Department, policies must be written on an occurrence basis. In the event that occurrence-based coverage is not commercially available, claims-made policy forms will be considered provided that, at minimum, it includes provisions that allow for (a) reporting circumstances or incidents that may give rise to future claims and (b) an extended reporting period of not less than three (3) years with respect to events that occurred but were not reported during the term of the policy. *Insurance policies that remove or restrict blanket contractual liability located in the “insured contract” definition (as stated in Section V, Number 9, Item f in the ISO CGL policy) or that remove or modify the “insured contract” exception to the employers liability exclusion so as to limit coverage for claims that arise out of contract work, or that do not cover the additional insured for claims involving injury to employees of the named insured or subcontractors, are not acceptable.* Policy forms must be provided to the Department upon request.

3. Certificates of Insurance/Notices. Consultant shall provide a Certificate or Certificates of Insurance, in a form satisfactory to the Commissioner, before commencing any work under this contract. Certificates or transmittal correspondence shall reference the NYSDOT Contract Number. Consultant is strongly encouraged to transmit certificates and other materials concerning insurance coverage, referencing the Contract Number and the name of the Consultant in the Subject Line, by email to: Insur.consult.contr@dot.ny.gov

Certificates may be mailed to the:

**New York State Department of Transportation**

**Contract Management Bureau**

**50 Wolf Road, Sixth Floor**

**Albany, NY 12232**

Unless otherwise agreed, policies shall be written so as to require that the policy will not be (i) canceled, (ii) materially changed or (iii) permitted to expire or lapse for any reason except upon ten (10) days’ prior written notice to the Department by Certified Mail, Return Receipt Requested at the address stated above. In addition, if required by the Department, the Consultant shall deliver to the Department within ten (10) work days of such request a copy of any or all policies of insurance not previously provided, certified by the insurance carrier as true and complete. Certificates of Insurance shall:
a. Be in a form satisfactory to the Department. The ACORD 25 Certificate must be accompanied by an ACORD 855 “New York Construction Addendum” completed to indicate information about the liability insurance.

b. Be signed and dated by an authorized representative of the insurance carrier or producer.

c. Disclose any deductible, self-insured retention, aggregate limit.

d. Refer to this Contract by number on the face of the certificate.

If at any time during the term of this contract, it shall come to the attention of the Department that required insurance is not in effect or that adequate proof of insurance has not been provided, the Department may, at its option:

a. Direct the Consultant to suspend work and not re-enter the premises with no additional payment or extension of time due on account thereof, or

b. May withhold further contract payments in accordance with Article 8 No Payment Due to Consultant’s Non-Compliance of the contract agreement, or

c. Treat such failure as a breach or default of the contract.

4. Additional Insureds. All insurance policies required by these specifications, except workers’ compensation and professional liability shall be endorsed to provide coverage to “The State of New York/New York State Department of Transportation, any municipality in which the work is being performed, any public benefit corporation, railroad, or public utility whose property or facilities are affected by the work, and their agents or employees” with respect to any claim arising from the Consultant’s Work under this contract or as a result of the Consultant’s activities. The endorsement shall be effected by endorsement of the applicable policy using ISO form CG 20 10 11 85, CG 20 37 07 04, CG 20 33 07 98 when used in combination with CG 20 37 07 04, or CG 20 33 10 01 or a form(s) that provides equivalent coverage.

5. Primary Coverage. The liability and protective liability insurance policies shall provide primary and non-contributory coverage to the Department for any claim arising from the Consultant’s Work under this contract, or as a result of the Consultant’s activities.

6. Waiver of Subrogation. As to every type and form of insurance coverage required from the Consultant, there shall be no right of subrogation against the State of New York/New York State Department of Transportation, its agents or employees. To the extent that any of Consultant’s policies of insurance prohibit such a waiver of subrogation, Consultant shall secure the necessary permission to make this waiver.

7. Policy Renewal/Expiration. At least ten (10) calendar days prior to the expiration of any policy required by this contract, evidence of renewal or replacement policies of insurance with terms no less favorable to the Department than the expiring policies shall be delivered to the Department in the manner required for service of notice in Paragraph A.3. Certificates of Insurance/Notices above.
8. Self-Insured Retention/Deductibles. Consultants utilizing self-insurance programs are required to provide a description of the program for Department approval. Collateralized deductible and self-insured retention programs administered by a third party may be approved. Except as may be specifically provided in the Contract Documents of a particular project, the Consultant or third-party-administered insurance deductible shall be limited to the amount of the bid deposit or $100,000, whichever is less. Security is not required if it is otherwise provided to an administrator for an approved risk management program. The Department will not accept a self-insured retention program without security being posted to assure payment of both the self-insured retention limit and the cost of adjusting claims. The Consultant shall be solely responsible for all claim expense and loss payments within any permitted deductible or self-insured retention. If the Consultant’s deductible in a self-administered program exceeds the amount of the bid deposit, the Consultant shall furnish an irrevocable Letter of Credit as collateral to guarantee its obligations. Such Letter of Credit or other collateral as may be approved by Department must be issued by a guarantor or surety with an AM Best Company rating of (A-) or better. If, at any time during the term of this agreement, the Department, in its sole discretion, determines that the Consultant is not paying its deductible, it may require the Consultant to collateralize all or any part of the deductible or self-insured retention on any or all policies of insurance or, upon failure to promptly do so, the same may be withheld from payments due the Consultant.

9. Waiver of Indemnities. The Consultant waives any right of action it and/or its insurance carrier might have against the Department (including its employees, officers, commissioners, or agents) for any loss that is covered by a policy of insurance that is required by this contract. The Consultant waives any right of action it and/or its insurance carrier might have against the Department (including its employees, officers, commissioners, or agents) for any loss, whether or not such loss is insured.

10. Subconsultant’s Liability Insurance. In the event that any portion of the work described in this contract is performed by an approved subconsultant, the insurance requirements of this Article shall be incorporated into the subcontract agreement. Subconsultant insurance requirements shall include the requirements for Workers’ Compensation, Commercial General Liability, and, if applicable, Commercial Auto and/or Professional Liability. Excess or umbrella insurance is not required for subconsultants. Consultant shall require that Certificates of Insurance, meeting the requirements of the Department are provided to the Department documenting the insurance coverage for each and every subconsultant employed by them to do work under this contract.

B. Insurance Requirements. The types of insurance and minimum policy limits shall be as follows:

1. Workers’ Compensation and Disability Insurance. As required by State Finance Law §142, the Consultant shall maintain in force workers’ compensation insurance upon forms required by or acceptable to the Workers Compensation Board for
all of Consultant’s employees. Consultant shall also maintain disability insurance as required by the Disability Benefits Law of the State of New York.

2. Commercial General Liability Insurance. The Consultant shall maintain an occurrence form commercial general liability policy or policies insure against liability arising from premises (including loss of use thereof), personal injury or death, advertising injury, liability insured under an insured contract (including the tort liability of another assumed in a business contract) occurring on or in any way related to the premises or occasioned by reason of the operations of Consultant. Such coverage shall be written on an ISO occurrence form (ISO Form CG 00 01 12 07 or a policy form providing equivalent coverage) in an amount of not less than $1,000,000.00 per occurrence and not less than $2,000,000.00 aggregate. Unless otherwise provided, the policy or policies of insurance providing the liability coverage shall include:
   a. Coverage for contractual liability assumed by the Consultant insured under an insured contract (including the tort liability of another assumed in a business contract).
   b. All insurance policies required by these specifications except workers’ compensation and professional liability shall be endorsed to provide coverage to “the State of New York/New York State Department of Transportation, any municipality in which the work is being performed, any public benefit corporation, railroad, or public utility whose property or facilities are affected by the work, or any consultant inspecting engineer or inspector working for or on the project, and their agents or employees” using ISO form CG 20 10 11 85, CG 20 37 07 04, CG 20 33 07 98 when used in combination with CG 20 37 07 04, or CG 20 33 10 01 or a policy form or forms providing equivalent coverage.
   c. Products-Completed Operations Coverage, as provided in the General Liability Policy, or in certain instances through ISO form CG 26 11 09 99 or suitable equivalent.
   d. Where contract work will be performed by unregistered off-road equipment, Consultant shall provide documentation of a blanket Pollution Liability policy, or an endorsement to cover short-term pollution events, ISO form CG 04 33 10 01 or equivalent.
   e. Coverage for claims for bodily injury asserted by an employee of an additional insured and any Employer Liability Exclusion which may otherwise operate to exclude such coverage shall be voided in this respect.
   f. Explosion, Collapse and Underground Hazards coverage (“XCU”) (for contracts that call for the performance of excavating, underground work, and/or the use of blasting equipment).

3. Special Protective and Highway Liability Policy. (applicable to any project where Consultant is required to conduct field work where Consultant controls the field location for the work). The Consultant shall maintain, separate and apart from its umbrella policy, a policy issued to and covering the liability of the People of the State of New York, The State of New York, the Commissioner of Transportation, all employees of the Department of Transportation, any municipality in which the work is being
performed, any public benefit corporation, railroad, or public utility whose property or facilities are affected by the work, against damages that the insureds may be held legally liable to pay for property damage, personal injuries, or death that is caused by any occurrence that takes place within any location where work is to be or is being performed by Consultant, including at the location of any of the work. This should be ISO form CG 00 14 12 or a policy form providing equivalent coverage along with mandatory New York endorsements. Coverage shall be in an amount of not less than $1,000,000 per occurrence and at least $2,000,000 for each aggregate limit.

4. Commercial Automobile Insurance including liability and required coverage for New York. (applicable to any project where automobiles or other vehicles will be employed to complete the work). In the event that automobiles are used in connection with Consultant’s business or operations with the Department, the Consultant shall maintain a commercial or other automobile policy or policies insuring against liability for bodily injury, death, or damage to property and other mandatory coverages, relating to the use, operation, loading or unloading of any of Consultant’s automobiles (including owned, hired and non-owned vehicles) on and around the project. This may be ISO form CA 00 01 10 01, CA 00 01 01 87 or a policy form providing equivalent coverage along with mandatory New York endorsements. Coverage shall be in an amount of not less than $1,000,000 each accident.

5. Umbrella or Excess Liability Insurance. The Consultant shall maintain an occurrence form umbrella liability policy or policies insuring against liability arising from premises (including loss of use thereof), operations, independent Consultants, products-completed operations, personal injury and advertising injury, and liability insured under an insured contract (including the tort liability of another assumed in a business contract) occurring on or in any way related to the premises or occasioned by reason of the operations of Consultant or arising from automobile liability as described above. Such coverage shall be written on an ISO occurrence form CU 00 01 12 07 or a policy form providing equivalent coverage. In the event that umbrella coverage is unavailable, equivalent excess coverage may be substituted. The minimum required limits for the umbrella/excess coverage shall be sufficient to provide a total of not less than $5,000,000 per occurrence/aggregate.

6. Consultant’s Risks. (applicable to all contracts). The Consultant shall be responsible for obtaining any insurance it deems necessary to cover its own risks, including without limitation: (a) business interruption, such as gross earnings, extra expense, or similar coverage, (b) personal property, and/or (c) automobile physical damage and/or theft. In no event shall the Department be liable for any damage to, or loss of, personal property, or damage to, or loss of, an automobile that is covered by a policy of insurance that is required by this agreement, even if such loss is caused by the negligence of the Department.

7. Professional Liability/ Errors and Omissions. (applicable to professional services requiring the signature, stamp or certification of a licensed professional,
including, without limitation, erection plans, demolition plans, containment plans, coffer dams, and temporary sheeting.) The Consultant shall maintain at its own expense or shall require to be maintained, such insurance as is customary to compensate the Department for any claims or losses that occur because of Consultant’s errors, omissions malpractice or breach of professional obligations. Such policy or policies may be written on a claims-made form so long as coverage is maintained to be in effect to cover claims arising from the performance of services under this contract. Said coverage may be subject to a deductible or self-insured retention level of no more than $250,000. subject to approval by the Department, such approval not to be unreasonably withheld, except that it is also agreed that the Department may withhold payment for services rendered under this contract in the event, and to the extent of any deductible in the event that a claim is asserted. Such coverage shall be written on a claims-made basis (or a policy form providing equivalent coverage) in an amount of no less than $1,000,000 per claim and $1,000,000 in the aggregate.

8. Railroad Protective Liability Insurance. (applicable to any consulting work where the consultant is entering railroad right-of-way independent of a construction contract described in §105-09). The Consultant shall maintain at its own expense railroad protective liability policy of insurance in the name of the affected railroad and with limits of coverage as specified in the Special Notes on Railroad Insurance, or if no limits of coverage are specified, the limits shall be not less than $5,000,000 combined Bodily Injury Liability and/or Property Damage for each occurrence with a $10,000,000 aggregate Limit applying separately to each annual period. Said policy shall be subject to the approval of the railroad and comply with 23 CFR 646 Subpart A.

9. Marine Protection & Indemnity. (applicable to any consulting work that necessitates the consultant’s use of barges or other watercraft independent of a construction contract). Anytime the activity involves work on navigable water or the work is connected to water related activities, Marine Protection & Indemnity and Hull and Machinery coverage is required. Hull and Machinery coverage shall be provided for the total value of the watercraft or equipment. The Consultant shall obtain Protective and Indemnity Liability insurance for all marine operations under the Agreement, with a minimum ($1,000,000) limit. The policy shall be endorsed to add the Department as an Additional Insured.

ARTICLE 13. INTERCHANGE OF DATA.

All technical data in regard to the PROJECT existing in the office of the STATE or existing in the offices of the CONSULTANT shall be made available to the other party to this Agreement without expense to such other party.

ARTICLE 14. DISPOSITION OF DATA.
At the time of completion of the work, the CONSULTANT shall make available to the STATE all documents and data pertaining to the work or to the PROJECT which materials at all times shall be the property of the STATE. It is agreed that the CONSULTANT may maintain copies of all documents and data. Or in the event that this Agreement is terminated for any reason, then, within ten (10) days after such termination, the CONSULTANT shall make available to the STATE the aforementioned data and material.

**ARTICLE 15. DAMAGES AND DELAYS.**

The CONSULTANT agrees that no charges or claim for damages shall be made by them for any delays or hindrances from any cause whatsoever during the progress of any portion of the services specified in this AGREEMENT. Such delays or hindrances, if any, shall be compensated for by an extension of time for such reasonable period as the STATE may decide, it being understood however, that the permitting of the CONSULTANT to proceed to complete any services or any part of them after the date of completion or after the date to which the time of completion may have been extended, shall in no way operate as a waiver on the part of the STATE of any of its rights herein. Nothing in this ARTICLE will prevent the CONSULTANT from exercising its rights under ARTICLE 9 of this AGREEMENT.

**ARTICLE 16. NOTICE OF BANKRUPTCY, VENUE, AUDITS.**

If, prior to final audit, CONSULTANT files for relief pursuant to Title 11 of the United States Code under the Bankruptcy Laws or a successor statute, this contract shall be treated as an executory contract under 11 USC S365 of the Bankruptcy Laws or successor statute, and subject to assumption or rejection by the debtor within the time permitted by law.

The CONSULTANT must immediately send written notice to Contract Management of the New York State Department of Transportation at its main office in Albany and send all relevant pleading of the voluntary or involuntary filing of a Bankruptcy proceeding by the CONSULTANT, its subsidiary, its principals and officers or a related entity whether or not the CONSULTANT believes that any debt is owed to the State by final audit or otherwise.
The determination of any rights under this contract shall be adjudicated in a State or Federal Court with jurisdiction over the matter, and venue for the determination of such rights shall be in Albany, New York.

The CONSULTANT agrees that the automatic stay under 11 USC S362 or a successor statute shall be deemed inapplicable or that this agreement shall constitute consent to the lifting of the stay with respect to the State's performance of or completion of any audit pursuant to the terms of this contract.

ARTICLE 17. TERMINATION.

The STATE shall have the absolute right to terminate this Agreement, and such action shall in no event be deemed a breach of contract:

(a) If a termination is brought about for the convenience of the STATE and not as a result of unsatisfactory performance on the part of the CONSULTANT, final payment shall be made based on the actual work performed by the CONSULTANT prior to termination including, but not limited to, the number of hours and other authorized costs audited in accordance with the terms of the AGREEMENT.

(b) If the termination is brought about as a result of the unsatisfactory performance on the part of the CONSULTANT, the value of the work performed by the CONSULTANT prior to termination shall be established by the STATE.

c) The STATE reserves the right to terminate this contract in the event it is found that the certification filed by the CONSULTANT in accordance with the requirements contained in State Finance Law §139-k was intentionally false or intentionally incomplete. Upon such finding, the STATE may exercise its termination right by providing written notification to the CONSULTANT in accordance with the written notification terms of the contract.

ARTICLE 18. DEATH OR DISABILITY OF THE CONSULTANT.
In case of the death or disability of one or more but not all the persons herein referred to as CONSULTANT, the rights and duties of the CONSULTANT shall devolve upon the survivors of them, who shall be obligated to perform the services required under this AGREEMENT, and the STATE shall make all payments due to them.

In case of the death or disability of all the persons herein referred to as CONSULTANT, all data and records pertaining to the PROJECT shall be delivered within (60) days to the STATE or their duly authorized representative. In case of the failure of the CONSULTANT'S successors or personal representatives to make such delivery on demand, then in that event the representatives of the CONSULTANT shall be liable to the STATE for any damages it may sustain by reason thereof. Upon the delivery of all such data to the STATE, the STATE will pay to the representatives of the CONSULTANT all amounts due the CONSULTANT, including retained percentages to the date of the death of the last survivor.

**ARTICLE 19. CODE OF ETHICS.**

The CONSULTANT specifically agrees that this AGREEMENT may be canceled or terminated if any work under this AGREEMENT is in conflict with the provisions of Section 74 of the New York State Public Officer's Law, as amended, establishing a Code of Ethics for State officers and employees.

The CONSULTANT shall not engage, on a full or part-time or other basis any professional or technical personnel who are or have been at any time during the period of this AGREEMENT in the employ of the Federal Highway Administration or the highway organizations of any public employer, except regularly retired employees, without the consent of the public employer of such person.

**ARTICLE 20. INDEPENDENT CONTRACTOR.**

The CONSULTANT, in accordance with their status as an independent contractor, covenants and agrees that they will conduct themselves consistent with such status, that they will neither hold themselves out as, nor claim to be, an officer or employee of the STATE by reason hereof, and that they will not, be reason hereof, make any claim, demand or application to or for any right or privilege applicable to an officer or employee of the STATE, including but not
limited to Worker's Compensation coverage, Unemployment Insurance benefits, Social Security coverage or Retirement membership or credit.

ARTICLE 21. COVENANT AGAINST CONTINGENT FEES.

The CONSULTANT warrants that they have not employed or retained any company or person, other than a bona fide employee working for the CONSULTANT, to solicit or secure this AGREEMENT, and that they have not paid or agreed to pay any company or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this AGREEMENT. For breach or violation of this warranty, the STATE shall have the right to annul this AGREEMENT without liability, or, in its discretion, to deduct from the AGREEMENT price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

ARTICLE 22. TRANSFER OF AGREEMENT.

The CONSULTANT specifically agrees, as required by the State Finance Law, Section 138, that they are prohibited by law from assigning, transferring, conveying, subletting or otherwise disposing of the AGREEMENT or of their right, title or interest therein, or their power to execute such AGREEMENT, to any other person, company or corporation, without the previous consent in writing of the STATE.

If this provision of the law be violated, the STATE shall revoke and annul the AGREEMENT and the STATE shall be relieved from any and all liability and obligations thereunder to the person, company or corporation to whom the CONSULTANT shall assign, transfer, convey, sublet or otherwise dispose of the AGREEMENT, and such transferee shall forfeit and lose all moneys therefore assigned under said AGREEMENT, except so much as may be required to pay his employees.

ARTICLE 23. PROPRIETARY RIGHTS.
The CONSULTANT agrees that if copyrights, patentable discoveries or inventions or rights in data should result from work described herein, all rights accruing from such discoveries or inventions shall be the sole property of the CONSULTANT. However, the CONSULTANT agrees to and does hereby grant to the United States Government and the State of New York an irrevocable, nonexclusive, nontransferable, paid-up license to reproduce, publish, make, use, and sell each subject invention throughout the world by and on behalf of the Government of the United States and States and domestic municipal governments, all in accordance with the provisions of 48 CFR 1-27, and other applicable Federal laws, rules and regulations.

ARTICLE 24. SUBCONTRACTORS/SUBCONSULTANTS.

All subcontractors and subconsultants performing work on this project shall be bound by the same required contract provisions as the prime consultant. All agreements between the prime consultant and a subcontractor or subconsultant shall include all standard required contract provisions, and such agreements shall be subject to review by the State.

ARTICLE 25. ORDER OF PRECEDENCE.

In the event of any inconsistency between or among the provisions and contents of this AGREEMENT, it is agreed that such inconsistency shall be resolved in the following descending order of precedence:

1. APPENDIX A,

2. The provisions required by state and federal law to be inserted in the AGREEMENT as set forth in APPENDIX A-1, APPENDIX B, and APPENDIX C;

2. This AGREEMENT, including Signature Page, Notary Page and Exhibits;

3. SCHEDULE A (including Exhibits);

4. SCHEDULE B (including Exhibits);

5. The STATE’s Request for Proposals; and

6. The CONSULTANT’s Proposal.

The signator to this Agreement, being duly sworn, certifies that, EXCEPT AS NOTED BELOW, its company and any person associated therewith in the capacity of owner, partner, director, officer, or major stockholder (five percent or more ownership):

1. Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;

2. Has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past three years;

3. Does not have a proposed debarment pending; and

4. Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

EXCEPTIONS -

ARTICLE 27. CERTIFICATION FOR FEDERAL-AID CONTRACTS.

The prospective participant certifies, by signing this Agreement to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative
agreement, and extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

ARTICLE 28. RESPONSIBILITY OF THE CONSULTANT.

(a) The CONSULTANT shall be responsible for the professional quality, technical accuracy, and the coordination of all services furnished by the CONSULTANT under this contract. The CONSULTANT shall, without additional compensation, correct or revise any errors or deficiencies in its services. However, the STATE may in certain circumstances, provide compensation for such work.

(b) Neither the STATE'S review, approval or acceptance of, nor payment for, the services required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause of action arising out of the performance of this contract, and the CONSULTANT shall be and remain liable to the STATE in accordance with applicable law for all damages to the STATE caused by the CONSULTANT'S negligent performance or breach of contract of any of the services furnished under this contract.
(c) The rights and remedies of the STATE provided for under this contract are in addition to any other rights and remedies provided by law.

(d) If the CONSULTANT is comprised of more than one legal entity or any group of partners or joint venturers associated for the purposes of undertaking this agreement, each such entity acknowledges and hereby affirmatively represents and agrees that each has the power to bind the CONSULTANT and each of the others hereunder; and as such, each acts both as principal and agent of the CONSULTANT and of each of the others hereunder. Each further acknowledges and agrees that all such entities, partners or joint venturers associated for the purposes of undertaking this agreement shall be jointly and severally liable to third parties, including but not limited to the STATE, for the acts or omissions of the CONSULTANT or any other entity, partner or joint venturer hereunder.

(e) If the CONSULTANT is comprised of more than one legal entity or any group of partners or joint venturers associated for the purposes of undertaking this agreement, each such entity acknowledges and hereby affirmatively represents and agrees that the respective rights, duties and liabilities of each hereunder shall be governed by the laws of the State of New York, including but not limited to the New York Partnership Law.

ARTICLE 29. SECURITY AND CONFIDENTIALITY OF INFORMATION.

Information received as part of this contract shall be considered Confidential Information. The CONSULTANT warrants that it will take the appropriate steps as to its personnel, agents, officers and any SUBCONTRACTOR/SUBCONSULTANTS regarding the obligations arising under this clause to insure such confidentiality. The CONSULTANT shall have written policies and/or business procedures in place which will protect Confidential Information from unauthorized disclosure, use, access, loss, alteration or destruction. The CONSULTANT may disclose to other parties, as authorized by the NYSDOT Project Manager, or as described in the scope of services, only the information necessary to perform services under this contract. However, the CONSULTANT shall in no circumstance, communicate with the public or news media without prior authorization from the States designee. Neither shall the CONSULTANT disclose information deemed confidential by the State nor shall the CONSULTANT disclose any other information obtained or developed in the performance of services under this agreement without the written authorization of the State. This warranty shall survive termination of this Contract.
CONSULTANT shall comply with the provisions of the New York State Information Security Breach and Notification Act, including General Business Law Section §889-aa and State Technology Law §208 as enacted by such Act or subsequently amended. In the event of an information security breach resulting in the unauthorized disclosure of personal information, CONSULTANT shall be liable for the costs associated with such breach if caused by CONSULTANT’s negligent or willful acts or omissions, or the negligent or willful acts or omissions of the CONSULTANT’s agents, officers, employees or SUBCONSULTANTS.

ARTICLE 30. VENDOR RESPONSIBILITY.

The Department of Transportation has undertaken an affirmative review of the proposed consultant’s responsibility in accordance with the applicable standards outlined in Comptroller’s ‘Guide to Financial Operations’, and based upon such review, reasonable assurance that the proposed contractor is responsible has been determined.

a). General Responsibility. The Consultant shall, at all times during the Agreement, remain responsible. The Consultant agrees, if requested by the Commissioner of NYSDOT or his or her designee, to present evidence of its continuing legal authority to do business in New York State, integrity, experience, ability, prior performance, and organizational and financial capacity.

b). Suspension of Work (for Non-Responsibility). The Commissioner of NYSDOT (or his or her designee), in his or her sole discretion, reserves the right to suspend any or all activities under this Agreement at any time when he or she discovers information that calls into question the responsibility of the Consultant. In the event of such suspension, the Consultant will be given written notice outlining the particulars of such suspension. Upon issuance of such notice, the Consultant shall comply with the terms of the suspension order. Contract activity may resume at such time as the Commissioner of NYSDOT (or his or her designee) issues a written notice authorizing the resumption of performance under the Agreement.

c). Termination (for Non-Responsibility). Upon written notice to the Consultant, and a reasonable opportunity to be heard with appropriate NYSDOT or staff, the Agreement may be terminated by Commissioner of NYSDOT (or his or her designee) at the Consultant’s expense where the Consultant is determined by the Commissioner of NYSDOT (or his or her designee) to
be non-responsible. In such event, the Commissioner of NYSDOT (or his or her designee) may complete the contractual requirements in any manner he or she may deem advisable and pursue available legal or equitable remedies for breach.

**ARTICLE 31. CONSULTANT DISCLOSURE LEGISLATION.**

In accordance with Chapter 10 of the Laws of 2006, the CONSULTANT shall complete the “State Consultant Services Contractor’s Annual Employment Report” (Form B, Exhibit ___) and submit copies to the Office of the State Comptroller, the Department of Civil Service, and the Department of Transportation on or before May 15th of each year the contract is in effect. The CONSULTANT shall provide information regarding all employees providing service under this contract, whether employed by the CONSULTANT or any subcontractor or subconsultant. Form B will capture historical information, detailing actual employment data for the most recently concluded State fiscal year (April 1st to March 31st). Annual employment reports should be submitted to the following three agencies. It is recommended, however, that consultants check the agency websites annually to confirm the addresses.

By mail:

NYS Office of the State Comptroller

Bureau of Contracts

110 State Street, 11th Floor

Albany, N. Y. 12236

Attn: Consultant Reporting

NYS Department of Civil Service

Alfred E. Smith Building

Albany, N. Y. 12239

Attn: Chapter 10 Counsel’s Office

NYS Department of Transportation:
Reports that are submitted to the NYS Department of Transportation must be submitted electronically, preferably as a Word, Excel or pdf file via email to: consultantdisclosure@dot.ny.gov.

ARTICLE 32. NOTICES.

Item 1. All notices permitted or required hereunder shall be in writing and shall be transmitted either:

(a) via certified or registered United States mail, return receipt requested;
(b) by facsimile transmission;
(c) by personal delivery;
(d) by expedited delivery service; or
(e) by e-mail.

Such notices shall be addressed as follows or to such different addresses as the parties may from time-to-time designate:
1.1.1.1 New York State Department of Transportation:

Contact Person’s Name: William A. Howe, Contract #C0_______
Title: Director
Address: NYSDOT Contract Management Bur., 50 Wolf Rd., 6th Fl, Albany, NY 12232
Telephone Number: 518-457-2600
Facsimile Number: 518-457-2875
E-Mail Address: Bill.howe@dot.ny.gov

1.1.1.2 Consultant’s Name:__________________

Contact Person’s Name:

Title:

Address:

Telephone Number:

Facsimile Number:

E-Mail Address:

Item 2. Any such notice shall be deemed to have been given either at the time of personal delivery or, in the case of expedited delivery service or certified or registered United States mail, as of the date of first attempted delivery at the address and in the manner provided herein, or in the case of facsimile transmission or email, upon receipt.

Item 3. The parties may, from time to time, specify any new or different address in the United States as their address for purpose of receiving notice under this Agreement by giving fifteen (15) days written notice to the other party sent in accordance herewith. The parties agree to mutually designate individuals as their respective representatives for the purposes of receiving notices under this Agreement. Additional individuals may be designated in writing by the parties for purposes of implementation and administration/billing, resolving issues and problems and/or for dispute resolution.
ARTICLE 33. TITLE VI ASSURANCE.

During the performance of this contract, the consultant or contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

(1) Compliance with Regulations: The contractor shall comply with the Regulation relative to nondiscrimination in Federally-assisted programs of the Department of Transportation of the United States, Title 49, Code of Federal Regulations, Part 21, and the Federal Highway Administration (hereinafter “FHWA”) Title 23, Code of Federal Regulations, Part 200 as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

(2) Nondiscrimination: The Contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin, sex, age, and disability/handicap in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by 49 CFR, section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

(3) Solicitations for Subcontractors, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin, sex, age, and disability/handicap.

(4) Information and Reports: The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by NYSDOT or the FHWA to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to NYSDOT’s Office of Civil Rights or FHWA, as appropriate, and shall set forth what efforts it has made to obtain the information.
(5) Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, NYSDOT shall impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:

(a.) withholding of payments to the contractor under the contract until the contractor complies, and/or

(b.) cancellation, termination or suspension of the contract, in whole or in part.

(6) Incorporation of Provisions: The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

The contractor shall take such action with respect to any subcontract or procurement as NYSDOT or the FHWA may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request NYSDOT to enter into such litigation to protect the interests of NYSDOT, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.
IN WITNESS WHEREOF, this Contract No. _________ has been executed by the STATE, acting by and through the Commissioner of Transportation, and the CONSULTANT has duly executed this Agreement effective the day and year first above written.

In addition to the acceptance of this Agreement, the Department certifies that original copies of this signature page will be attached to all other exact copies of this Agreement.

RECOMMENDED BY FOR THE PEOPLE OF THE STATE OF NEW YORK

________________________________ By___________________________________

CONTRACT MANAGEMENT DEPARTMENT OF
TRANSPORTATION

DATE: ____________________ DATE: ____________________

Consultant Certifications: I certify that all the information with respect to the “Vendor Responsibility Questionnaire” submitted by (CONSULTANT FIRM NAME) ___________________________ on the _____ day of __________________________, 201______ pursuant to the requirements set forth in OSC’s Guide to Financial Operations is complete true and accurate. I additionally certify nothing has occurred since the date of that submission that would result in requiring a change or alteration to any of the answers provided on the “Vendor Responsibility Questionnaire” submitted that date.

I certify that all information provided to the STATE with respect to the requirements contained in State Finance Law Sections 139j & 139k is complete, true and accurate.

By ___________________________ Date:

________________________________

FIRM
APPROVALS

ATTORNEY GENERAL

By ____________________________
Date __________________________

THOMAS P. DI Napoli
STATE COMPTROLLER

By ____________________________
Date __________________________
Acknowledgement for Contract #___________

For contracts signed in New York State

State of New York  )

County of  ) ss.:

On the_______ day of _____________ in the year 201___, before me the undersigned, personally appeared ________________________, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____________________________________
NOTARY PUBLIC

My Commission Expires: ____________________________

For contracts signed outside New York State

State of  )

County of  ) ss.:
On the _______ day of __________________ in the year 201____ before me, the undersigned, personally appeared ___________________________ , personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument, and that such individual made such appearance before the undersigned in ______________________________________________________ (insert the city or other political subdivision and the state or country or other place the acknowledgement was taken).

___________________________________
NOTARY PUBLIC

___________________________________
(Signature and office of individual taking acknowledgement.)

My Commission Expires: __________________________
APPENDIX A

STANDARD CLAUSES FOR NEW YORK STATE CONTRACTS

The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the State, whether a contractor, licenser, licensee, lessor, lessee or any other party):

1. EXECUTORY CLAUSE. In accordance with Section 41 of the State Finance Law, the State shall have no liability under this contract to the Contractor or to anyone else beyond funds appropriated and available for this contract.

2. NON-ASSIGNMENT CLAUSE. In accordance with Section 138 of the State Finance Law, this contract may not be assigned by the Contractor or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the State’s previous written consent, and attempts to do so are null and void. Notwithstanding the foregoing, such prior written consent of an assignment of a contract let pursuant to Article XI of the State Finance Law may be waived at the discretion of the contracting agency and with the concurrence of the State Comptroller where the original contract was subject to the State Comptroller’s approval, where the assignment is due to a reorganization, merger or consolidation of the Contractor’s business entity or enterprise. The State retains its right to approve an assignment and to require that any Contractor demonstrate its responsibility to do business with the State. The Contractor may, however, assign its right to receive payments without the State’s prior written consent unless this contract concerns Certificates of Participation pursuant to Article 5-A of the State Finance Law.

3. COMPTROLLER'S APPROVAL. In accordance with Section 112 of the State Finance Law (or, if this contract is with the State University or City University of New York, Section 355 or Section 6218 of the Education Law), if this contract exceeds $50,000 (or the minimum thresholds agreed to by the Office of the State Comptroller for certain S.U.N.Y. and C.U.N.Y. contracts), or if this is an amendment for any amount to a contract which, as so amended, exceeds said statutory amount, or if, by this contract, the State agrees to give something other than money when the value or reasonably estimated value of such consideration exceeds $10,000, it shall not be valid, effective or binding upon the State until it has been approved by the State Comptroller and filed in his office. Comptroller's approval of contracts let by the Office of General Services is required when such contracts exceed $85,000 (State Finance Law Section 163.6-a). However, such pre-approval shall not be required for any contract established as a centralized contract through the Office of General Services or for a purchase order or other transaction issued under such centralized contract.

4. WORKERS' COMPENSATION BENEFITS. In accordance with Section 142 of the State Finance Law, this contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the provisions of the Workers' Compensation Law.

5. NON-DISCRIMINATION REQUIREMENTS. To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex (including gender identity or expression), national origin, sexual orientation, military status, age, disability, predisposing genetic characteristics, marital status or domestic violence victim status. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York,
Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex, or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall by reason of race, creed, color, national origin, age, sex or disability: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. Contractor is subject to fines of $50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all moneys due hereunder for a second or subsequent violation.

6. WAGE AND HOURS PROVISIONS. If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law. Additionally, effective April 28, 2008, if this is a public work contract covered by Article 8 of the Labor Law, the Contractor understands and agrees that the filing of payrolls in a manner consistent with Subdivision 3-a of Section 220 of the Labor Law shall be a condition precedent to payment by the State of any State approved sums due and owing for work done upon the project.

7. NON-COLLUSIVE BIDDING CERTIFICATION. In accordance with Section 139-d of the State Finance Law, if this contract was awarded based upon the submission of bids, Contractor affirms, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further affirms that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to the State a non-collusive bidding certification on Contractor's behalf.

8. INTERNATIONAL BOYCOTT PROHIBITION. In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds $5,000, the Contractor agrees, as a material condition of the contract, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If such Contractor, or any of the aforesaid affiliates of Contractor, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contract's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify the State Comptroller within five (5) business days of such conviction, determination or disposition of appeal (2NYCRR 105.4).

9. SET-OFF RIGHTS. The State shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the State's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the State with regard to this contract, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the State for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audit by the State agency, its representatives, or the State Comptroller.

10. RECORDS. The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract (hereinafter, collectively, "the Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter. The State Comptroller, the Attorney General and any other person or entity authorized to conduct an examination, as well as the agency or
agencies involved in this contract, shall have access to the Records during normal business hours at an office of the Contractor within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. The State shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i) the Contractor shall timely inform an appropriate State official, in writing, that said records should not be disclosed; and (ii) said records shall be sufficiently identified; and (iii) designation of said records as exempt under the Statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, the State's right to discovery in any pending or future litigation.

11. IDENTIFYING INFORMATION AND PRIVACY NOTIFICATION. (a) Identification Number(s). Every invoice or New York State Claim for Payment submitted to a New York State agency by a payee, for payment for the sale of goods or services or for transactions (e.g., leases, easements, licenses, etc.) related to real or personal property must include the payee's identification number. The number is any or all of the following: (i) the payee's Federal employer identification number, (ii) the payee's Federal social security number, and/or (iii) the payee’s Vendor Identification Number assigned by the Statewide Financial System. Failure to include such number or numbers may delay payment. Where the payee does not have such number or numbers, the payee, on its invoice or Claim for Payment, must give the reason or reasons why the payee does not have such number or numbers.

(b) Privacy Notification. (1) The authority to request the above personal information from a seller of goods or services or a lessor of real or personal property, and the authority to maintain such information, is found in Section 5 of the State Tax Law. Disclosure of this information by the seller or lessor to the State is mandatory. The principal purpose for which the information is collected is to enable the State to identify individuals, businesses and others who have been delinquent in filing tax returns or may have understated their tax liabilities and to generally identify persons affected by the taxes administered by the Commissioner of Taxation and Finance. The information will be used for tax administration purposes and for any other purpose authorized by law. (2) The personal information is requested by the purchasing unit of the agency contracting to purchase the goods or services or lease the real or personal property covered by this contract or lease. The information is maintained in the Statewide Financial System by the Vendor Management Unit within the Bureau of State Expenditures, Office of the State Comptroller, 110 State Street, Albany, New York 12236.

12. EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITIES AND WOMEN. In accordance with Section 312 of the Executive Law and 5 NYCRR 143, if this contract is: (i) a written agreement or purchase order instrument, providing for a total expenditure in excess of $25,000.00, whereby a contracting agency is committed to expend or does expend funds in return for labor, services, supplies, equipment, materials or any combination of the foregoing, to be performed for, or rendered or furnished to the contracting agency; or (ii) a written agreement in excess of $100,000.00 whereby a contracting agency is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; or (iii) a written agreement in excess of $100,000.00 whereby the owner of a State assisted housing project is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon for such project, then the following shall apply and by signing this agreement the Contractor certifies and affirms that it is Contractor’s equal employment opportunity policy that:

(a) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on State contracts and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination. Affirmative action shall mean recruitment, employment, job assignment, promotion, upgradings, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;
(b) at the request of the contracting agency, the Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein; and

(c) the Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the State contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

Contractor will include the provisions of "a", "b", and "c" above, in every subcontract over $25,000.00 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor. Section 312 does not apply to: (i) work, goods or services unrelated to this contract; or (ii) employment outside New York State. The State shall consider compliance by a contractor or subcontractor with the requirements of any federal law concerning equal employment opportunity which effectuates the purpose of this section. The contracting agency shall determine whether the imposition of the requirements of the provisions hereof duplicate or conflict with any such federal law and if such duplication or conflict exists, the contracting agency shall waive the applicability of Section 312 to the extent of such duplication or conflict. Contractor will comply with all duly promulgated and lawful rules and regulations of the Department of Economic Development’s Division of Minority and Women's Business Development pertaining hereto.

13. CONFLICTING TERMS. In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Appendix A, the terms of this Appendix A shall control.

14. GOVERNING LAW. This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

15. LATE PAYMENT. Timeliness of payment and any interest to be paid to Contractor for late payment shall be governed by Article 11-A of the State Finance Law to the extent required by law.

16. NO ARBITRATION. Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized), but must, instead, be heard in a court of competent jurisdiction of the State of New York.

17. SERVICE OF PROCESS. In addition to the methods of service allowed by the State Civil Practice Law & Rules ("CPLR"), Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete upon Contractor's actual receipt of process or upon the State's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Contractor must promptly notify the State, in writing, of each and every change of address to which service of process can be made. Service by the State to the last known address shall be sufficient. Contractor will have thirty (30) calendar days after service hereunder is complete in which to respond.
18. PROHIBITION ON PURCHASE OF TROPICAL HARDWOODS. The Contractor certifies and warrants that all wood products to be used under this contract award will be in accordance with, but not limited to, the specifications and provisions of Section 165 of the State Finance Law, (Use of Tropical Hardwoods) which prohibits purchase and use of tropical hardwoods, unless specifically exempted, by the State or any governmental agency or political subdivision or public benefit corporation. Qualification for an exemption under this law will be the responsibility of the contractor to establish to meet with the approval of the State.

In addition, when any portion of this contract involving the use of woods, whether supply or installation, is to be performed by any subcontractor, the prime Contractor will indicate and certify in the submitted bid proposal that the subcontractor has been informed and is in compliance with specifications and provisions regarding use of tropical hardwoods as detailed in Section 165 State Finance Law. Any such use must meet with the approval of the State; otherwise, the bid may not be considered responsive. Under bidder certifications, proof of qualification for exemption will be the responsibility of the Contractor to meet with the approval of the State.

19. MACBRIDE FAIR EMPLOYMENT PRINCIPLES. In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992), the Contractor hereby stipulates that the Contractor either (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165 of the New York State Finance Law), and shall permit independent monitoring of compliance with such principles.

20. OMNIBUS PROCUREMENT ACT OF 1992. It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority and women-owned business enterprises as bidders, subcontractors and suppliers on its procurement contracts.

Information on the availability of New York State subcontractors and suppliers is available from:

NYS Department of Economic Development
Division for Small Business
Albany, New York  12245
Telephone:  518-292-5100
Fax:  518-292-5884
email:  opa@esd.ny.gov

A directory of certified minority and women-owned business enterprises is available from:

NYS Department of Economic Development
Division of Minority and Women's Business Development
633 Third Avenue
New York, NY 10017
212-803-2414
email:  mwbecertification@esd.ny.gov
The Omnibus Procurement Act of 1992 requires that by signing this bid proposal or contract, as applicable, Contractors certify that whenever the total bid amount is greater than $1 million:

(a) The Contractor has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors, including certified minority and women-owned business enterprises, on this project, and has retained the documentation of these efforts to be provided upon request to the State;

(b) The Contractor has complied with the Federal Equal Opportunity Act of 1972 (P.L. 92-261), as amended;

(c) The Contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Job Service Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The Contractor agrees to document these efforts and to provide said documentation to the State upon request; and

(d) The Contractor acknowledges notice that the State may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with the State in these efforts.

21. RECIPROCITY AND SANCTIONS PROVISIONS. Bidders are hereby notified that if their principal place of business is located in a country, nation, province, state or political subdivision that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act 1994 and 2000 amendments (Chapter 684 and Chapter 383, respectively) require that they be denied contracts which they would otherwise obtain. NOTE: As of May 15, 2002, the list of discriminatory jurisdictions subject to this provision includes the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii. Contact NYS Department of Economic Development for a current list of jurisdictions subject to this provision.

22. COMPLIANCE WITH NEW YORK STATE INFORMATION SECURITY BREACH AND NOTIFICATION ACT. Contractor shall comply with the provisions of the New York State Information Security Breach and Notification Act (General Business Law Section 899-aa; State Technology Law Section 208).

23. COMPLIANCE WITH CONSULTANT DISCLOSURE LAW. If this is a contract for consulting services, defined for purposes of this requirement to include analysis, evaluation, research, training, data processing, computer programming, engineering, environmental, health, and mental health services, accounting, auditing, paralegal, legal or similar services, then, in accordance with Section 163 (4-g) of the State Finance Law (as amended by Chapter 10 of the Laws of 2006), the Contractor shall timely, accurately and properly comply with the requirement to submit an annual employment report for the contract to the agency that awarded the contract, the Department of Civil Service and the State Comptroller.

24. PROCUREMENT LOBBYING. To the extent this agreement is a "procurement contract" as defined by State Finance Law Sections 139-j and 139-k, by signing this agreement the contractor certifies and affirms that all disclosures made in accordance with State Finance Law Sections 139-j and 139-k are complete, true and accurate. In the event such certification is found to be
intentionally false or intentionally incomplete, the State may terminate the agreement by providing written notification to the Contractor in accordance with the terms of the agreement.

25. CERTIFICATION OF REGISTRATION TO COLLECT SALES AND COMPENSATING USE TAX BY CERTAIN STATE CONTRACTORS, AFFILIATES AND SUBCONTRACTORS. To the extent this agreement is a contract as defined by Tax Law Section 5-a, if the contractor fails to make the certification required by Tax Law Section 5-a or if during the term of the contract, the Department of Taxation and Finance or the covered agency, as defined by Tax Law 5-a, discovers that the certification, made under penalty of perjury, is false, then such failure to file or false certification shall be a material breach of this contract and this contract may be terminated, by providing written notification to the Contractor in accordance with the terms of the agreement, if the covered agency determines that such action is in the best interest of the State.

26. IRAN DIVESTMENT ACT. By entering into this Agreement, Contractor certifies in accordance with State Finance Law Section 165-a that it is not on the “Entities Determined to be Non-Responsive Bidders/Offerers pursuant to the New York State Iran Divestment Act of 2012” (“Prohibited Entities List”) posted at: http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf

Contractor further certifies that it will not utilize on this Contract any subcontractor that is identified on the Prohibited Entities List. Contractor agrees that should it seek to renew or extend this Contract, it must provide the same certification at the time the Contract is renewed or extended. Contractor also agrees that any proposed Assignee of this Contract will be required to certify that it is not on the Prohibited Entities List before the contract assignment will be approved by the State.

During the term of the Contract, should the state agency receive information that a person (as defined in State Finance Law Section 165-a) is in violation of the above-referenced certifications, the state agency will review such information and offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment activity which is in violation of the Act within 90 days after the determination of such violation, then the state agency shall take such action as may be appropriate and provided for by law, rule, or contract, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the Contractor in default.

The state agency reserves the right to reject any bid, request for assignment, renewal or extension for an entity that appears on the Prohibited Entities List prior to the award, assignment, renewal or extension of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the Prohibited Entities list after contract award.

Updated January 2014
During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

(1) **Compliance with Regulations:** The contractor shall comply with the Regulation relative to nondiscrimination in Federally-assisted programs of the Department of Transportation of the United States, Title 49, Code of Federal Regulations, Part 21, and the Federal Highway Administration (hereinafter “FHWA”) Title 23, Code of Federal Regulations, Part 200 as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

(2) **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin, sex, age, and disability/handicap in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by 49 CFR, section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

(3) **Solicitations for Subcontractors, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin, sex, age, and disability/handicap.

(4) **Information and Reports:** The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by NYSDOT or the FHWA to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to NYSDOT’s Office of Civil Rights or FHWA, as appropriate, and shall set forth what efforts it has made to obtain the information.

(5) **Sanctions for Noncompliance:** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, NYSDOT shall impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:

(a.) withholding of payments to the contractor under the contract until the contractor complies, and/or
(b.) cancellation, termination or suspension of the contract, in whole or in part.

(6) **Incorporation of Provisions:** The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

The contractor shall take such action with respect to any subcontract or procurement as NYSDOT or the FHWA may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor...
may request NYSDOT to enter into such litigation to protect the interests of NYSDOT, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.
APPENDIX B

REQUIREMENTS FOR FEDERALLY-AIDED TRANSPORTATION PROJECTS

There is a substantial body of requirements attached to the use of Federal highway or transportation aid. These requirements create or overlay processes, procedures, documentation requirements, authorizations, approvals and certifications that may be substantially greater or different from those that are not funded with Federal-aid and proceed under applicable State and local laws, customs and practices. Under Title 23 of the United States Code, the New York State Department of Transportation (NYSDOT) is responsible for the administration of transportation projects in New York State to which NYSDOT provides Federal highway or transportation-related aid. Through this Agreement, which provides or is associated with such funding, NYSDOT delegates various elements of project and funding administration as described elsewhere in this Agreement. In undertaking a Federally-aided project, the Municipality/Sponsor, Authority or Project Manager designated under this Agreement with Federal-aid funding or project administration agrees to proceed in compliance with all the applicable Federal-aid requirements.

NYSDOT, in cooperation with FHWA, has assembled the body of Federal-aid requirements, procedures and practices in its “Procedures for Locally Administered Federal-Aid Projects” (available through NYSDOT’s web site at: www.dot.ny.gov/plafap). In addition, the Municipality/Sponsor, Authority or Project Manager designated under this Agreement for Federal-aid funding or project administration that enters into Federally aided project construction contracts is required to physically incorporate into all its Federally aided construction contracts and subcontracts there under the provisions that are contained in Form FHWA-1273 (available from NYSDOT or electronically at: www.fhwa.dot.gov/programadmin/contracts/1273.htm).

In addition to the referenced requirements, the attention of Municipality/Sponsor hereunder is directed to the following requirements and information:

NON DISCRIMINATION/EEO/DBE REQUIREMENTS

The Municipality/Sponsor and its contractors agree to comply with Executive Order 11246, entitled "Equal Employment Opportunity" and United States Department of Transportation (USDOT) regulations (49 CFR Parts 21, 23, 25, 26 and 27) and the following:

1. NON DISCRIMINATION. No person shall, on the ground of race, color, creed, national origin, sex, age or handicap, be excluded from participation in, or denied the benefits of, or be subject to, discrimination under the Project funded through this Agreement.

2. EQUAL EMPLOYMENT OPPORTUNITY. In connection with the execution of this Agreement, the Municipality/Sponsor’s contractors or subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, age, color, sex or national origin. Such contractors shall take affirmative actions to ensure that applicants are employed, and that employees are treated during their employment, without regard to their race,
religion, color, sex, national origin or age. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

3. **DISADVANTAGED BUSINESS ENTERPRISES.** In connection with the performance of this Agreement, the Municipality/Sponsor shall cause its contractors to cooperate with the State in meeting its commitments and goals with regard to the utilization of Disadvantaged Business Enterprises (DBEs) and will use its best efforts to ensure that DBEs will have opportunity to compete for subcontract work under this Agreement. Also, in this connection the Municipality or Municipality/Sponsor shall cause its contractors to undertake such actions as may be necessary to comply with 49 CFR Part 26.

As a sub-recipient under 49 CFR Part 26.13, the Municipality/Sponsor hereby makes the following assurance.

The Municipality/Sponsor shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any United States Department of Transportation (USDOT)-assisted contract or in the administration of its Disadvantaged Business Enterprise (DBE) program or the requirements of 49 CFR Part 26. The Municipality/Sponsor shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of the United States Department of Transportation-assisted contracts. The New York State Department of Transportation’s DBE program, as required by 49 CFR Part 26 and as approved by the United States Department of Transportation, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the USDOT may impose sanctions as provided for under part 26 and may, in appropriate cases, refer the matter for enforcement under [https://www.law.cornell.edu/uscode/text/18/1001](https://www.law.cornell.edu/uscode/text/18/1001) and/or the Program Fraud Civil Remedies Act of 1986 [https://www.law.cornell.edu/uscode/text/31/3801 et seq.).

**FEDERAL SINGLE AUDIT REQUIREMENTS**

Non-Federal entities that expend $500,000 or more in a year in Federal awards from all sources are required to comply with the Federal Single Audit Act provisions contained in U.S. Office of Management and Budget (OMB) Circular No. A-133, “Audits of States, Local Governments, and Non-Profit Organizations”. Non-Federal entities that expend Federal awards from a single source may provide a program specific audit, as defined in the Circular. Non-Federal entities that expend less than $500,000 in a year in Federal awards from all sources are exempt from Federal audit requirements for that year, except as noted in Sec. 215 (a) of OMB Circular A-133 Subpart B--Audits, records must be available for review or audit by appropriate officials of the cognizant Federal agency the New York State Department of Transportation, the New York State Comptroller=s Office and the U.S. Governmental Accountability Office (GAO).

Non-Federal entities are required to submit a copy of all audits, as described above, within 30 days of issuance of audit report, but no later than 9 months after the end of the entity’s fiscal year, to the New York State Department of Transportation, Contract Audit Bureau, 50 Wolf Road, Albany, NY 12232. Unless a time extension has been granted by the cognizant Federal Agency and has been filed with the New York State Department of Transportation’s Contract Audit Bureau, failure to comply with the requirements of OMB Circular A-133 may result in suspension or termination of Federal award payments.

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1 The designated cognizant agency for audit shall be the federal awarding agency that provides the predominant amount of direct funding to a recipient unless OMB changes it.
THE CATALOG OF FEDERAL DOMESTIC ASSISTANCE

The Catalog of Federal Domestic Assistance (CFDA), is an on-line database of all Federally-aided programs available to State and local governments (including the District of Columbia); Federally recognized Indian tribal governments; Territories (and possessions) of the United States; domestic public, quasi-public, and private profit and nonprofit organizations and institutions; specialized groups; and individuals.

THE CFDA IDENTIFICATION NUMBER

OMB Circular A-133 requires all Federal-aid recipients to identify and account for awards and expenditures by CFDA Number. The Municipality/Sponsor is required to identify in its accounts all Federal awards received and expended, and the Federal programs under which they were received. Federal program and award identification shall include, as applicable, the CFDA title and number, award number and year, name of the Federal agency, and name of the pass-through entity.

The most commonly used CFDA number for the Federal Aid Highway Planning and Construction program is 20.205.

Additional CFDA numbers for other transportation and non-transportation related programs are:

- 20.215 Highway Training and Education
- 20.219 Recreational Trails Program
- 20.XXX Highway Planning and Construction - Highways for LIFE;
- 20.XXX Surface Transportation Research and Development;
- 20.500 Federal Transit-Capital Investment Grants
- 20.505 Federal Transit-Metropolitan Planning Grants
- 20.507 Federal Transit-Formula Grants
- 20.509 Formula Grants for Other Than Urbanized Areas
- 20.600 State and Community Highway Safety
- 23.003 Appalachian Development Highway System
- 23.008 Appalachian Local Access Roads

PROMPT PAYMENT MECHANISMS

In accordance with 49 CFR 26.29, and NY State Finance Law 139-f or NY General Municipal Law 106-b(2) as applicable:

(a) You must establish, as part of your DBE program, a contract clause to require prime contractors to pay subcontractors for satisfactory performance of their contracts no later than 7 calendar days from receipt of each payment you make to the prime contractor.

2 www.cfda.gov/
(b) You must ensure prompt and full payment of retainage from the prime contractor to the subcontractor within 7 calendar days after the subcontractor's work is satisfactorily completed. You must use one of the following methods to comply with this requirement:

1. You may decline to hold retainage from prime contractors and prohibit prime contractors from holding retainage from subcontractors.
2. You may decline to hold retainage from prime contractors and require a contract clause obligating prime contractors to make prompt and full payment of any retainage kept by prime contractor to the subcontractor within 7 calendar days after the subcontractor's work is satisfactorily completed.
3. You may hold retainage from prime contractors and provide for prompt and regular incremental acceptances of portions of the prime contract, pay retainage to prime contractors based on these acceptances, and require a contract clause obligating the prime contractor to pay all retainage owed to the subcontractor for satisfactory completion of the accepted work within 7 calendar days after your payment to the prime contractor.

(c) For purposes of this section, a subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the recipient. When a recipient has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

(d) Your DBE program must provide appropriate means to enforce the requirements of this section. These means may include appropriate penalties for failure to comply, the terms and conditions of which you set. Your program may also provide that any delay or postponement of payment among the parties may take place only for good cause, with your prior written approval.

(e) You may also establish, as part of your DBE program, any of the following additional mechanisms to ensure prompt payment:

1. A contract clause that requires prime contractors to include in their subcontracts language providing that prime contractors and subcontractors will use appropriate alternative dispute resolution mechanisms to resolve payment disputes. You may specify the nature of such mechanisms.
2. A contract clause providing that the prime contractor will not be reimbursed for work performed by subcontractors unless and until the prime contractor ensures that the subcontractors are promptly paid for the work they have performed.
3. Other mechanisms, consistent with this part and applicable state and local law, to ensure that DBEs and other contractors are fully and promptly paid.

**USE OF UNITED STATES-FLAG VESSELS:** The contractor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States. a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

April 2016
1. GENERAL (a) Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity, as required by Federal Executive Order 11246, Federal Executive Order 11375, and NYS Executive Order 45, are set forth in required Contract Provisions (Form PR-1273 or 1316, as appropriate) and those Special Provisions which are imposed pursuant to Section 140 of Title 23, U.S.C., as established by Section 22 of the Federal-Aid Highway Act of 1968. Non-discrimination and affirmative action are also required by the State Labor Law, Section 220-e, as amended, and the Regulations of the NYS Department of Transportation relative to federally-assisted programs (Title 49, Code of Federal Regulations, Part 21 and Section 21.5), including employment practices when the agreement covers a program set forth in Appendix B of the Regulations. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for projects activities under this contract.

(b) The CONSULTANT will work with the STATE and the Federal Government in carrying out equal employment opportunity obligations and in their review of their activities under this contract.

(c) The CONSULTANT and all their sub-consultants and/or sub-contractors holding sub-contracts of $10,000 or more will comply with the following minimum specific requirements of equal employment opportunity: (The equal employment opportunity requirements of Executive Order 11246, as set forth in Volume 6, Chapter 4, Section 1, Subsection 1 of the Federal-Aid Highway Program Manual, are applicable to contractors and sub-contractors.) The CONSULTANT will include these requirements in every sub-contract with such modification of language as is necessary to make them binding on the sub-contractor.

2. EQUAL EMPLOYMENT OPPORTUNITY POLICY The CONSULTANT, their sub-consultant and/or sub-contractor or any person acting on behalf of the CONSULTANT or sub-consultant and/or sub-contractor will accept as their operating policy the following statement which is designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex, national origin, age, disability or marital status, and to promote the full realization of equal employment opportunity through a positive continuing program. "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, or during consideration for employment, without regard to their race, religion, sex, or color, national origin, age, disability or marital status. Such non-discriminatory action shall include, but not be limited to: employment, job assignment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

3. EQUAL EMPLOYMENT OPPORTUNITY OFFICER The CONSULTANT will designate and make known to the New York State Department of Transportation contracting officers an Equal Employment Opportunity Officer and a Minority Business Enterprise officer (hereinafter referred to as the EEO Officer and M.B.E. Officer) who will have the responsibility for
and must be capable of effectively administering and promoting an active equal employment opportunity program and who must be assigned adequate authority and responsibility to do so.

4. DISSEMINATION OF POLICY  (a) All members of the CONSULTANT's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the CONSULTANT's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity in each grade and classification of employment. To insure that the above agreement will be met, the following actions will be taken as a minimum:

(1) Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less than once every six months, at which time the CONSULTANT’s equal employment opportunity policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

(2) All new supervisory (first level of supervision and above) or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official covering all major aspects of the CONSULTANT's equal employment opportunity obligations within thirty days following their reporting for duty with the CONSULTANT.

(3) All personnel who are engaged in direct recruitment for the project will be instructed in the CONSULTANT's procedures for locating and hiring minority group employees by the EEO Officer or appropriate company official. (Minority group referred to herein shall mean Black, Hispanic, Asian/Pacific Islander, American Indian/Alaskan.)

(b) In order to make the CONSULTANT's equal employment opportunity policy known to all employees, prospective employees and potential sources or employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the CONSULTANT will take the following actions:

(1) Notices and posters setting forth the CONSULTANT's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

(2) The CONSULTANT's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

(c) In all solicitations either by competitive bidding or negotiation made by the CONSULTANT for work to be performed under a sub-contract, including procurements of materials or equipment, each potential sub-contractor or supplier shall be notified by the CONSULTANT of the CONSULTANT's obligations under this agreement and the Regulations relative to non-discrimination.

5. RECRUITMENT  (a) When advertising for employees, the CONSULTANT will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived. These advertisements shall state that all qualified applicants will be afforded equal employment opportunity without regard to race, religion, sex, color, national origin, age, disability or marital status.
(b) The CONSULTANT will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, State employment agencies, schools, colleges and minority group organizations. To meet this requirement, the CONSULTANT's EEO Officer will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the CONSULTANT for employment consideration. In the event the CONSULTANT has a valid bargaining agreement providing for exclusive hiring hall referrals, the CONSULTANT is expected to observe the provisions of that agreement to the extent that the system permits the CONSULTANT's compliance with equal employment opportunity contract provisions. (The U.S. Department of Labor has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the CONSULTANT to do the same, such implementation violates Executive Order 11246.

(c) The CONSULTANT will encourage present employees to refer minority group applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants will be discussed with employees.

6. PERSONNEL ACTIONS  Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age, disability or marital status. The following procedures shall be followed:

(a) The CONSULTANT will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

(b) The CONSULTANT will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory practices.

(c) The CONSULTANT will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the CONSULTANT will promptly take corrective action. If the review indicated that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

(d) The CONSULTANT will promptly investigate all complaints of alleged discrimination made in connection with obligations under this agreement, will attempt to resolve such complaints, and will take appropriate corrective action within 15 days. All subsequent corrective actions or decisions will also be documented and forwarded to the NYS Department of Transportation Compliance Officer within 7 days after such action has taken place. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the CONSULTANT will inform every complainant of the results and all of their avenues of appeal should the complaint be denied.

7. TRAINING AND PROMOTION  (a) The CONSULTANT will assist in locating, qualifying and increasing the skills of minority group and women employees, and applicants for employment.
(b) Consistent with the CONSULTANT’s work force requirements and as permissible under the Federal and State regulations, the CONSULTANT shall make full use of training programs; i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance. In the event the Training Special Provision is provided under this contract, this subparagraph is superseded thereby.

c) The CONSULTANT will advise employees and applicants for employment of available training programs and entrance requirements for each.

d) The CONSULTANT will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

8. UNIONS

If the CONSULTANT relies in whole or in part upon unions as a source of employees, the CONSULTANT will use their best effort to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and, to effect referrals by such unions of minority and female employees. The CONSULTANT will send to each labor union or representative of workers with which he has or is bound by a collective bargaining or other agreement or understanding, a notice to be provided by the State Division of Human Rights, advising such labor union or representative of the CONSULTANT’s compliance and with the non-discrimination clauses. Actions by the CONSULTANT, either directly or through a CONSULTANT’s association acting as agent, will include the procedures set forth below:

(a) The CONSULTANT will use their best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

(b) The CONSULTANT will use their best efforts to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age, disability or marital status.

(c) The CONSULTANT is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union, and such labor union refuses to furnish such information to the CONSULTANT. The CONSULTANT shall so certify to the STATE and shall set forth what efforts have been made to obtain such information. Further, if the CONSULTANT was directed to do so by the contracting agency as part of the bid or negotiations of this contract, the CONSULTANT shall request such labor union or representative to furnish him with a written statement that such labor union or representative accepts the non-discrimination clauses and will affirmatively cooperate, within the limits of its legal and contractual authority, in the implementation of the policy and provisions of these non-discrimination clauses or that it consents and agrees that recruitment, employment and the terms and conditions of employment under this contract shall be in accordance with the purposes and provisions of these non-discrimination clauses. If such labor union or representative fails or refuses to comply with such a request that it furnish such a statement, the CONSULTANT shall promptly notify the State Division of Human Rights and set forth what efforts have been made to obtain such information.

(d) In the event the union is unable to provide the CONSULTANT with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the CONSULTANT will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age, disability or marital status,
making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The U.S. Department of Labor has held that it shall be no excuse that the union with which the CONSULTANT has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the CONSULTANT from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such CONSULTANT shall immediately notify the New York State Department of Transportation.

9. AFFIRMATIVE ACTION IN SUBCONTRACTING

(a) The CONSULTANT will not discriminate on the grounds of race, religion, sex, color, national origin, age, disability or marital status in the selection of subcontractors, including procurements and leases of equipment.

(b) If the CONSULTANT determines to use a subcontractor as part of this agreement, affirmative action shall be taken to increase the participation of minority business firms in that work. As part of that affirmative action, the CONSULTANT will identify and contact minority business firms and solicit proposals for the work to be subcontracted. The STATE will provide a list of names of minority business firms to the CONSULTANT. Another source that should be contacted for a list of minority business firms is the Governor's Office of Minority & Women's Business Development (GOMWBD).

(c) The CONSULTANT will document the affirmative action steps taken to comply with paragraph 9b. Such documentation will be provided at the time of submittal of a formal proposal to the State's Contracts Bureau.

(d) By execution of this agreement, the CONSULTANT certifies that the affirmative action steps in 9a, 9b & 9c above were taken when soliciting proposals for the work in this agreement indicated to be subcontracted and that these steps will be taken should any work be subcontracted in the future.

(e) The CONSULTANT will insure binding subcontractor and vendor compliance with their EEO obligations. The CONSULTANT will take such actions in enforcing such provisions of such subcontract or purchase order as the contracting agency may direct, including sanctions or remedies for non-compliance. If the CONSULTANT becomes involved in or is threatened with litigation with a subcontractor or a vendor as a result of such direction by the contracting agency, the CONSULTANT shall promptly so notify the Attorney General, requesting him to intervene and protect the interest of the State of New York.

10. RECORDS AND REPORTS

(a) The CONSULTANT will keep such records as are necessary to determine compliance with the CONSULTANT's equal employment opportunity obligations. The records kept by the CONSULTANT will be designed to indicate:

(1) The number of minority and non-minority group members and women employed in each work classification on the project, where required by the NYS D.O.T Compliance Officer.

(2) The progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women (applicable only to CONSULTANTS who rely in whole or in part on unions as a source of their work force).

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees.
(4) The progress and efforts being made in securing the services of minority group subcontractors or subcontractors with meaningful minority and female representation among their employees.

(5) Compliance with all other requirements in these provisions such as meetings, instructions, employment efforts, etc.

(b) The CONSULTANT will comply with Sections 291-299 of the Executive Law and Civil Rights Law and will provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and will permit access to its books, records, accounts other sources of information, and its facilities as may be determined by State or Federal officials to be pertinent to ascertain compliance with such Regulations, orders and instructions. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the State and the Federal Highway Administration.

(c) Failure to comply with these Special EEO Provisions may be considered unsatisfactory performance and may subject the agreement to termination under the termination article of this agreement. Non-compliance may result in the CONSULTANT's being declared ineligible for future agreements made by or on behalf of the STATE or a public authority or agency of the STATE, until he satisfies the State Commissioner of Human Rights that he has established and is carrying out a program in conformity with the provisions of these non-discrimination clauses. Such finding shall be made by the State Commissioner of Human Rights after conciliation efforts by the State Division of Human Rights have failed to achieve compliance with these non-discrimination clauses and after a verified complaint has been filed with the State Division of Human Rights, notice thereof has been given to the CONSULTANT and an opportunity has been afforded them to be heard publicly before the State Commissioner of Human Rights or official designee. Such sanctions may be imposed and remedies invoked independently of or in addition to sanctions and remedies otherwise provided for by law. These may include, but are not limited to:

(1) withholding of payments to the CONSULTANT under the agreement until the CONSULTANT complies, and/or

(2) cancellation, termination or suspensions of the agreement in whole or in part.

11. TRAINING SPECIAL PROVISIONS  This Training Special Provision supersedes paragraph 7.b above and is in implementation of 23 CFR Subpart A, Section 230.111 & Executive Order 11246.

As part of the CONSULTANT's equal employment opportunity affirmative action program training shall be provided as follows:

The CONSULTANT shall provide on-the-job training aimed at developing full competence in the job classification involved.

The number of months of training to be provided under these special provisions is previously stated in Article II.

In the event that the CONSULTANT subcontracts a portion of the contract work, it shall be determined how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the CONSULTANT shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The CONSULTANT shall also insure that this training special provision is made applicable to such subcontract.
The number of trainees shall be distributed among the work classifications on the basis of the CONSULTANT’s needs. Along with their proposal, the CONSULTANT shall submit to the New York State Department of Transportation for approval the proposed number of trainees to be trained in each selected classification, their estimated salaries and a training schedule. The salaries to be paid trainees shall not be less that 75 percent of the average hourly rate approved in the agreement for the classification to be trained. During the period from the beginning of the project to its completion, the trainee shall receive reasonable salary increases commensurate to the abilities and effort exerted by the trainee. The training schedule required should indicate the start of work and appropriate incremental salary steps in accord with the above.

Training and upgrading the proficiency of minorities and women is a primary objective of this Training Special Provision. Accordingly, the CONSULTANT shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The CONSULTANT will be responsible for demonstrating the steps that have been taken in pursuance thereof, prior to a determination as to whether the CONSULTANT is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training program or in a classification in which they have been employed. The CONSULTANT should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the CONSULTANT's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training schedule developed by the CONSULTANT and approved by the State and Federal Highway Administration. The State and the Federal Highway Administration shall approve a program if it reasonably calculated to meet the equal employment opportunity obligations of the CONSULTANT and to assist in qualifying the average trainee toward proficiency in the classification concerned by the end of the training period. Approval of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. Training is permissible in lower level management positions. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

The CONSULTANT will be reimbursed for the cost of any and all training under the payment terms of this agreement. This can include offsite training cost as discussed above. All offsite training must be defined in the training schedule. All costs claimed or calculated for training must be directly related to the work defined in the scope of this agreement and/or added by supplemental agreement.

The CONSULTANT must demonstrate their best efforts and evidence good faith in hiring trainees for positions in the classification in which they have completed training.

The CONSULTANT shall furnish the trainee a copy of the program they will follow in the training. The CONSULTANT shall provide each trainee with a certification showing the type and length of training satisfactorily completed.
The CONSULTANT will provide for the maintenance of records and furnish periodic reports documenting their performance under this Training Special Provision.

Updated December 2012
### FORM B

**State Consultant Services**

**Contractor's Annual Employment Report**

**Report Period:** April 1, to March 31,

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<thead>
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<th>Contracting State Agency Name: Transportation</th>
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<td>Contractor Address:</td>
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<tr>
<td>Description of Services Being Provided:</td>
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**Scope of Contract (Choose one that best fits):**

- Analysis
- Evaluation
- Research
- Training
- Data Processing
- Computer Programming
- Other IT consulting
- Engineering
- Architect Services
- Surveying
- Environmental Services
- Health Services
- Mental Health Services
- Accounting
- Auditing
- Paralegal
- Legal
- Other Consulting

125
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Total this page 0 0 $ 0.00

Grand Total

Name of person who prepared this report:

Preparer’s Signature: ____________________________________________

Title: Phone #:

Date Prepared: / /

Use additional pages if necessary)
8.2. Attachment 2: Diversity Practices Questionnaire

I, ___________________, as __________________ (title) of _______________ firm or company (hereafter referred to as the company), swear and/or affirm under penalty of perjury that the answers submitted to the following questions are complete and accurate to the best of my knowledge:

1. Does your company have a Chief Diversity Officer or other individual who is tasked with supplier diversity initiatives? Yes or No
   If Yes, provide the name, title, description of duties, and evidence of initiatives performed by this individual or individuals.

2. What percentage of your company’s gross revenues (from your prior fiscal year) was paid to New York State certified minority and/or women-owned business enterprises as subcontractors, suppliers, joint-venturers, partners or other similar arrangement for the provision of goods or services to your company’s clients or customers?

3. What percentage of your company’s overhead (i.e. those expenditures that are not directly related to the provision of goods or services to your company’s clients or customers) or non-contract-related expenses (from your prior fiscal year) was paid to New York State certified minority- and women-owned business enterprises as suppliers/contractors?³

4. Does your company provide technical training⁴ to minority- and women-owned business enterprises? Yes or No
   If Yes, provide a description of such training which should include, but not be limited to, the date the program was initiated, the names and the number of minority- and women-owned business enterprises participating in such training, the number of years such training has been offered and the number of hours per year for which such training occurs.

5. Is your company participating in a government approved minority- and women-owned business enterprise mentor-protégé program?
   If Yes, identify the governmental mentoring program in which your company participates and provide evidence demonstrating the extent of your company’s commitment to the governmental mentoring program.

6. Does your company include specific quantitative goals for the utilization of minority- and women-owned business enterprises in its non-government procurements? Yes or No
   If Yes, provide a description of such non-government procurements (including time period, goal, scope and dollar amount) and indicate the percentage of the goals that were attained.

³ Do not include onsite project overhead.

⁴ Technical training is the process of teaching employees how to more accurately and thoroughly perform the technical components of their jobs. Training can include technology applications, products, sales and service tactics, and more. Technical skills are job-specific as opposed to soft skills, which are transferable.
7. Does your company have a formal minority- and women-owned business enterprise supplier diversity program? Yes or No
   If Yes, provide documentation of program activities and a copy of policy or program materials.

8. Does your company plan to enter into partnering or subcontracting agreements with New York State certified minority- and women-owned business enterprises if selected as the successful respondent? Yes or No
   If Yes, complete the attached Utilization Plan (Attachment 7).

All information provided in connection with the questionnaire is subject to audit and any fraudulent statements are subject to criminal prosecution and debarment.

Signature of Owner/Official

Printed Name of Signatory

Title

Name of Business

Address

City, State, Zip

STATE OF _______________________________
COUNTY OF _______________________________

On the ______ day of __________, 20__, before me, the undersigned, a Notary Public in and for the State of __________, personally appeared ________________________________, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to this certification and said person executed this instrument.

________________________
Notary Public
### 8.3. Attachment 3: Key Personnel Resumes and References

Instructions:
- Complete Attachment for **each** Key Personnel title identified in the RFP.
- Attachment shall not exceed three pages in length
- Proposers may expand the boxes as necessary
- The term “Client” below refers to the past project owner. “Client” is NOT a Prime Contractor where the proposing firm acted in the capacity as a Subcontractor.

<table>
<thead>
<tr>
<th>1. Personnel Name and Title:</th>
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<tbody>
<tr>
<td>2. Title Assigned for this Project:</td>
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<td>3. Firm working for on this Project:</td>
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<td>4. Current Employment Status:</td>
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<tr>
<td>5. Years of Relevant Experience</td>
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<tr>
<td>6. Description of Relevant Experience:</td>
</tr>
<tr>
<td>7. Certifications/Licenses:</td>
</tr>
<tr>
<td>8. Education:</td>
</tr>
</tbody>
</table>

**Past Project Experience**
- Complete below for a maximum of five past projects

| 9.1 Project Description (include contract number where appropriate): |
| 9.2 Client Name: |
| 9.3 Client Contact Information (including contact name, phone number, and e-mail address): |
| 9.4 Description of person’s role and responsibilities during project: |

| 10.1 Project Description (include contract number where appropriate): |
| 10.2 Client Name: |
| 10.3 Client Contact Information (including contact name, phone number, and e-mail address): |
| 10.4 Description of person’s role and responsibilities during project: |

<p>| 11.1 Project Description (include contract number where appropriate): |
| 11.2 Client Name: |
| 11.3 Client Contact Information |</p>
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<th>Section</th>
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<td>12.3</td>
<td>Client Contact Information (including contact name, phone number, and e-mail address):</td>
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<tr>
<td>12.4</td>
<td>Description of person’s role and responsibilities during project:</td>
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<td>Project Description (include contract number where appropriate):</td>
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<td>13.2</td>
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<td>13.3</td>
<td>Client Contact Information (including contact name, phone number, and e-mail address):</td>
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<tr>
<td>13.4</td>
<td>Description of person’s role and responsibilities during project:</td>
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</tbody>
</table>
8.4. Attachment 4: Contractor Information and Certifications

(Please submit this with your Part II: Cost Proposal)

CONTRACT NUMBER: C031487

PROJECT TITLES: Operation of the Intercounty Bus Rapid Transit Service to NYSDOT

I. CONTRACTOR INFORMATION

FIRM NAME: ______________________________________________________________

ADDRESS:_________________________________________________________________

CITY:_________________________________________ STATE: ___________

ZIP CODE: __ __ __ __ __ - __ __ __ __

TELEPHONE: (_____) _____ - __________  FAX: (_____) _____ - __________

E-MAIL ADDRESS: _________________________________________________________

CONTACT PERSON: ________________________________________________________

Contractor’s Federal Identification Number (FEIN):________________________

Contractor’s NYSDOT Contractor Identification Number (CIN): ___________________

- Please indicate below the name, title, address, and telephone/fax numbers of the
  person who prepared this proposal, as well as any other individual(s) with authority to
  negotiate and contractually bind the proposer and also who may be contacted during
  the period of proposal evaluation:

Preparer’s Name/Title:  _____________________________________________________

Address:  ___________________________________________________________________

Telephone: (_____) _____ - __________  FAX: (_____) _____ - __________

Other Authorized Individual(s):

Name/Title:________________________________________________________________

Address:___________________________________________________________________

Telephone: (_____) _____ - __________  FAX: (_____) _____ - ______
II. PROPOSER CERTIFICATIONS

By signing below, I, _____________________________, authorized individual (Name)
of _________________________________ make the following (Firm)
certifications regarding the subject proposal:

• 180-Day Offer: This proposal is a firm offer for a 180-day period from the date of submission.
• The firm has read and will follow the procedure outlined in Section 7.3 of the RFP if it proposes the services of a former NYSDOT employee(s).
• Vendor Responsibility: If selected for contract award, the firm will complete and submit the required Vendor Responsibility Questionnaire via the OSC VendRep portal within 10 days of notification of designation. (http://www.osc.state.ny.us/vendrep/forms_vendor.htm)

• ST-220: If selected for contract award greater than $100,000, the firm will complete and submit the required Forms ST-220-TD and 220-CA (Contractor Certifications) prior to negotiation with NYSDOT. You should make yourself familiar with these forms by visiting the following Web sites:
  http://www.tax.ny.gov/pdf/current_forms/st/st220ca_fill_in.pdf (Form ST-220-CA)
  http://www.tax.ny.gov/pdf/current_forms/st/st220td_fill_in.pdf (Form ST-220-TD)

Signature: __________________________________________

III. ACCEPTANCE OF CONTRACT

By signing below, I, _______________________________, authorized individual (Name)
of _______________________________ hereby certify that I have read and (Firm)
accept all terms and conditions contained in the draft Contract, including
Appendix A, which is included as Attachment 1 to this Request for Proposals.

Signature: __________________________________________ (Name of Acceptor)
8.5. Attachment 5: Procurement Lobbying Law Compliance

1. Required Forms: The Contractor shall sign and e-mail/fax the following forms. These forms are part of and due with the Contractor’s proposal.

- Proposer’s Affirmation of Understanding of and Agreement pursuant to State Finance Law §139-j (3) and §139-j (6) (b) [https://www.dot.ny.gov/main/business-center/Operators/Operators-repository/offers_affirmation_and_agreement_form.pdf](https://www.dot.ny.gov/main/business-center/Operators/Operators-repository/offers_affirmation_and_agreement_form.pdf)


2. NYSDOT Guidelines and Procedures

Under the requirements of the State Procurement Act all communications regarding advertised projects are to be channeled through Contract Management (*Designated Contacts). Until a designation is made, communication with any other NYSDOT employee concerning this project that is determined to be an attempt to influence the procurement may result in disqualification.


3. Summary of the policy and prohibitions regarding permissible contacts

a) Contacts prior to designation:

Any communications involving an attempt to influence the procurement are only permitted with the following Designated Contact Persons:

- The Contract Management Designation Contract Analyst
- The Contract Management Designation Analyst Supervisor
- The Contract Management Civil Rights Unit Supervisor
- The Contract Management Assistant Directors
- The Contract Management Director

These are some communications exempted from this restriction:

- Participation in a pre-proposal conference.
- Protests, complaints of improper conduct or misrepresentation
If any other NYSDOT employee is contacted and they believe a reasonable person would infer that the communication was intended to influence the procurement, the contact must be reported by NYSDOT employee. If the Department determines an impermissible contact was made, that proposer cannot be awarded the contract. A second violation would lead to a four-year bar on the award of public contracts to the proposer.

b) Contacts after designation

NYSDOT identifies its primary negotiation contacts. The designated contacts include:

- The Contract Management Designation Contract Analyst
- The Contract Management Designation Analyst Supervisor
- The Contract Management Civil Rights Unit Supervisor
- The Contract Management Assistant Directors
- The Contract Management Director
- The Operator Management Bureau Operator job manager
- The Operator Management Bureau Operator job manager’s immediate supervisor

The law does not limit who may be contacted during the negotiation process. However, if any NYSDOT employee is contacted and they believe a reasonable person would infer that the communication was intended to influence the procurement, the contact must be reported by NYSDOT employee.

c) Information Required from Proposers that contact NYSDOT staff, prior to contract approval by the Office of the State Comptroller:

The individuals contacting NYSDOT should refer and shall be prepared to provide the following information, either by e-mail or fax as directed by NYSDOT:

Person’s name, firm person works for, address of employer, telephone number, occupation, firm they are representing, and whether owner, employee, retained by or designated by the firm to appear before or contact NYSDOT.

d) Applicability to an executed contract:

Restrictions similar to those described above apply to approval or denial of an assignment, amendment (other than amendments that are authorized and payable under the terms of the procurement contract as it was finally awarded or approved by the comptroller, as applicable), renewal or extension of a procurement contract, or any other material change in the procurement contract resulting in a
financial benefit to the proposer. The staff noted above as well as the project manager and Operator manager are considered designated contact persons. The Department may identify other contact persons for each of these processes.

4. Rules and regulations and more information on this law, please visit:

http://ogs.ny.gov/Aboutogs/regulations/defaultAdvisoryCouncil.html (Advisory Council FAQs)

For more information, go to NYSDOT’s Web Site at http://www.dot.ny.gov or contact:

Peter Russell
NYSDOT Contract Management
50 Wolf Road, 6th Floor
Albany, New York 12232
E-mail: contract.specialist@dot.ny.gov
Tele: (518) 457-2600
8.6. Attachment 6: Contractor Disclosure Legislation Forms A&B

OSC Use Only:

Reporting Code:

Category Code:

Date Contract Approved:

FORM A

State Operator Services – Contractor’s Planned Employment

From Contract Start Date Through The End Of The Contract Term

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<td>Contract Start Date:</td>
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<th>Number of Employees</th>
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<th>Amount Payable Under the Contract</th>
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Name of person who prepared this report:

Title:  

Preparer's Signature:  

Date Prepared:  

(Use additional pages, if necessary)  

Page  of
State Operator Services
Contractor’s Annual Employment Report
Report Period: April 1, to March 31,

Contracting State Agency Name: Transportation
Agency Code: DOT01

Contract Number:
Contract Term to
Contractor Name:
Contractor Address:
Description of Services Being Provided:

Scope of Contract (Choose one that best fits):
Analysis □ Evaluation □ Research □ Training □
Data Processing □ Computer Programming □ Other IT consulting □
Engineering □ Architect Services □ Surveying □ Environmental Services □
Health Services □ Mental Health Services □
Accounting □ Auditing □ Paralegal □ Legal □ Other Consulting □

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Name of person who prepared this report:

Preparer's Signature:___________________________________________________

Title: ________________________ Phone #: ________________________

Date Prepared: / /

Use additional pages if necessary)
8.7. **Attachment 7: M/WBE Participation Information**

Please complete the following table for the prime firm and all subcontractors (Contractor team composition): please identify each firm’s legal name, checking if they are an Empire State Development (ESD)-certified MBE and/or an ESD-certified WBE, and indicating each firm’s percentage of the total salary for the contract. Please keep in mind that only ESD-certified MBE and/or certified WBE prime Contractors and/or ESD certified MBE and/or certified WBE subcontractors are eligible to participate toward attainment of this state-funded procurement.

Further, participation by a certified MBE and/or WBE prime Contractor as well as certified MBE and/or WBE subcontractors may count towards the M/WBE participation goal.

If the combined percentage of total salary for all certified MBEs and/or all certified WBEs proposed is less than the M/WBE participation goal, then the proposing prime firm is required to fill out and submit the Participation Solicitation Log (Attachment 8: Subcontractor Participation Solicitation Log; one for each goal not attained), and is required to submit a M/WBE Goal Attainment Explanation Letter.

Contract#: __________________________

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<th>NYS ESD Certified MBE/WBE</th>
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<td><strong>B. Subcontractor s</strong></td>
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<td><strong>Total</strong></td>
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8.8. Attachment 8: Subcontractor Participation Solicitation Log
(Good Faith Effort Documentation)

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<th>PARTICIPATION GOALS (SELECT ONE)</th>
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141
8.9. Attachment 9: Solicitation Log Instructions

SOLICITATION LOG INSTRUCTIONS

(Good Faith Effort Documentation)

To be deemed responsive to this solicitation, Contractors whose proposed D/M/WBE participation does not meet the established participation goal must document and report their efforts to solicit participation by certified D/M/WBE in this Non-Architecture/Non-Engineering contract. The Solicitation Log is used for this purpose.

PLEASE NOTE: For RFP’s with a DBE goal, only participation by New York State Unified Certification Program (NYSUCP) certified DBE prime Contractors as well as NYSUCP certified DBE subcontractors may count toward goal attainment. For RFP’s with MBE and/or WBE goals, only Operators or subcontractors certified by New York State Empire State Development may count toward goal attainment.

Guidance concerning Good Faith Efforts in meeting D/M/WBE participation goals is located at the end of this section.

The log is to be filled out and submitted with the proposing firm’s Cost and Contract Proposal. In order for a proposal to be determined as responsive when the D/M/WBE participation goal is not attained at all or only partially attained, then the proposer must complete all sections of this form and submit a Solicitation Log, along with a Goal Attainment Explanation Letter, documenting the firm’s Good Faith Effort. A separate Solicitation Log must be submitted for each Participation Goal established in the RFP.

*** DBE CERTIFICATION IS A FEDERAL PROGRAM CERTIFICATION. ***

IT IS SEPARATE AND DISTINCT FROM THE NEW YORK STATE MBE & WBE PROGRAM. PLEASE DO NOT CONFUSE THE TWO. FIRMS WITH QUESTIONS REGARDING THESE PROGRAMS ARE ENCOURAGED TO SUBMIT WRITTEN QUESTIONS

CONTRACT NO: Enter NY State DOT contract number (Example: C012345).

PARTICIPATION GOAL: Enter applicable MBE/WBE/DBE participation goal percentage as stated in the proposal.

PAGE NO.: Enter 1 of 1; or 1 of 2 and 2 of 2; etc. Use additional forms as needed.

PRIME NAME/ADDRESS/ZIP CODE: Enter name of the Prime Contractor, its address and zip code.

CONTACT PERSON: Enter the name of the person your firm has designated as the authorized contact person for this solicitation.
CONTACT PERSON TELEPHONE AND E-MAIL: Enter area code, phone number and e-mail address for the person your firm has designated as the authorized contact person for this solicitation.

**MBE/WBE/DBE CONTRACTORS SOLICITED:**

SOLICITED COMPANY NAME AND CONTACT PERSON: Enter name of solicited firm and name of the individual associated with the firm to whom the solicitation inquiry was sent.

TELEPHONE (With Area Code): Enter TELEPHONE number of the solicited firm.

FEDERAL EMPLOYER ID #: Enter the Federal Employer Identification Number of the solicited firm.

WORK TYPE(S) BEING SOLICITED: Enter the work type(s) or Commercial Useful Function for which this firm has been solicited in connection with the Scope of Services for this contract. NOTE: Work type codes are provided for every certified firm listed in the DBE Registry. Commodity type codes are provided for every certified firm listed in the ESD M/WBE Registry.

TYPES AND DATES OF CONTACT: Enter dates on which your firm contacted the solicited firm, either by mail (date solicitation sent), telephone (including date and time of call) or other person-to-person contacts. Identify the type of contact by prefacing each date with ‘M’ if a mail contact; “T” if a telephone call; and “D” if a direct meeting with the firm.

CONTACT RESULT(S): Enter the code(s) which indicates the result(s) of your solicitation.

*** USE ADDITIONAL PAGES AS NEEDED ***

A description of the codes to use is as follows:

**CODE DESCRIPTION:**

1 This firm is unavailable to participate in the contract for the reason(s) stated on the DBE Solicitation Response. (Attach explanation to the Log.)

2 This firm is no longer in business. (NOTE: If this action is checked, attach your explanation as to why the solicitation was sent to the firm and how evidence that it was no longer in business was obtained. Attach the returned envelope showing that it was undeliverable, for instance.

3 The soliciting Prime Contractor was unable to reach this firm after having a telephone conversation to follow-up on the participation solicitation inquiry. (NOTE: Indicate in the Types and Dates of Contact column the dates and times at which follow-up was attempted.)

4 This firm did not respond to repeated telephone messages. (NOTE: Indicate in the Types and Dates of Contact column the dates and times at which messages were left.)
Guidance Concerning Good Faith Efforts in Meeting D/M/WBE Participation Goals in Federally-Funded Contracts

The following is a list of types of actions that demonstrate good faith efforts in obtaining D/M/WBE participation. This list is not exclusive or exhaustive. The bidder must show that it took all necessary and reasonable steps to achieve a D/M/WBE goal which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient D/M/WBE participation, even if they were not fully successful.

- Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, utilizing the NYSUCP DBE Directory – [http://www.nysucp.net/](http://www.nysucp.net/) or the ESD M/WBE Directory - [https://ny.newnycontracts.com/FrontEnd/VendorSearchPublic.asp?TN=ny&XID=4687](https://ny.newnycontracts.com/FrontEnd/VendorSearchPublic.asp?TN=ny&XID=4687)) the interest of all certified D/M/WBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the D/M/WBEs to respond to the solicitation. The bidder must determine with certainty if the D/M/WBEs are interested by taking appropriate steps to follow up initial solicitations.

- Selecting portions of the work to be performed by D/M/WBEs in order to increase the likelihood that the D/W/BBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate D/M/WBE participation, even when the bidder might otherwise prefer to perform these work items with its own forces.

- Providing interested D/M/WBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

- Negotiating in good faith with interested D/M/WBEs – it is the bidder’s responsibility to make a portion of the work available to D/M/WBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available D/M/WBE subcontractors and suppliers, so as to facilitate D/M/WBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of D/M/WBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for D/M/WBEs to perform the work.

- A bidder using good business judgment should consider a number of factors in negotiating with subcontractors, including D/M/WBE subcontractors, and would take a firm’s price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding a D/M/WBE is not in itself sufficient reason for failure to meet the contract D/M/WBE goal. Also, the ability or desire to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts.

- Do not reject D/M/WBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor’s standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union versus non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor’s efforts to meet the project goal.

- Making efforts to assist interested D/M/WBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contract.
8.10. Attachment 10: New York Business Reporting

Encouraging Use of New York State Businesses in Contract Performance

New York State businesses have a substantial presence in State contracts and strongly contribute to the economies of the state and the nation. In recognition of their economic activity and leadership in doing business in New York State, bidders/proposers for this contract for commodities, services or technology are strongly encouraged and expected to consider New York State businesses in the fulfillment of the requirements of the contract. Such partnering may be as subcontractors, suppliers, protégés or other supporting roles.

Bidders/proposers need to be aware that all authorized users of this contract will be strongly encouraged, to the maximum extent practical and consistent with legal requirements, to use responsible and responsive New York State businesses in purchasing commodities that are of equal quality and functionality and in utilizing services and technology. Furthermore, bidders/proposers are reminded that they must continue to utilize small, minority and women-owned businesses, consistent with current State law.

Utilizing New York State businesses in State contracts will help create more private sector jobs, rebuild New York’s infrastructure, and maximize economic activity to the mutual benefit of the contractor and its New York State business partners. New York State businesses will promote the contractor’s optimal performance under the contract, thereby fully benefiting the public sector programs that are supported by associated procurements.

Public procurements can drive and improve the State’s economic engine through promotion of the use of New York businesses by its contractors. The State therefore expects bidders/proposers to provide maximum assistance to New York businesses in their use of the contract. The potential participation by all kinds of New York businesses will deliver great value to the State and its taxpayers.

Bidders/proposers can demonstrate their commitment to the use of New York State businesses by responding to the question below and if answered in the affirmative, completing and submitting the following table for all firms (prime Contractor and all subcontractors) participating in your proposal. The definition of ‘NYS Business’ is: ‘Any firm with a business address which lies within the borders of New York State from which location the proposed services from this firm shall be provided under this contract’. Indicate whether each proposed firm is classified as a NYS Business, the total dollar amount attributable to each firm, the total proposed contract cost, and the NYS business address of each firm.
Will New York State Businesses be used in the performance of this contract?

Yes _____
No _____

<table>
<thead>
<tr>
<th>Firm Legal Name</th>
<th>NYS Business? (Y or N)</th>
<th>% of Total Proposed Contract Cost</th>
<th>NYS Business Address</th>
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<td>A. Prime Contractor</td>
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<td>Total Proposed Contract Cost:</td>
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8.11. Attachment 11: Form AOR

ACKNOWLEDGMENT OF RECEIPT OF
RFP, MODIFICATIONS AND RESPONSES TO QUESTIONS

<table>
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<tr>
<th>NAME OF PROPOSER</th>
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We hereby acknowledge receipt of the Contract Operation of the Intercounty Bus Rapid Transit Service for NYSDOT (contract #C031487) Request for Proposals, dated June 27, 2016 and subsequent responses to questions and Modifications issued by the Department, as listed below.

Add additional lines in tables below, if needed.

<table>
<thead>
<tr>
<th>Modification number:</th>
<th>Date issued by Department:</th>
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NON-COLLUSIVE BIDDING CERTIFICATION REQUIRED BY

SECTION 139-D OF THE STATE FINANCE LAW

SECTION 139-D, Statement of Non-Collusion in bids to the State:

BY SUBMISSION OF THIS BID, BIDDER AND EACH PERSON SIGNING ON BEHALF OF BIDDER CERTIFIES, AND IN THE CASE OF JOINT BID, EACH PARTY THERETO CERTIFIES AS TO ITS OWN ORGANIZATION, UNDER PENALTY OF PERJURY, THAT TO THE BEST OF HIS/HER KNOWLEDGE AND BELIEF:

[1] The prices of this bid have been arrived at independently, without collusion, consultation, communication, or agreement, for the purposes of restricting competition, as to any matter relating to such prices with any other Bidder or with any competitor;

[2] Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly, to any other Bidder or to any competitor; and

[3] No attempt has been made or will be made by the Bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

A BID SHALL NOT BE CONSIDERED FOR AWARD NOR SHALL ANY AWARD BE MADE WHERE [1], [2], [3] ABOVE HAVE NOT BEEN COMPLIED WITH; PROVIDED HOWEVER, THAT IF IN ANY CASE THE BIDDER(S) CANNOT MAKE THE FOREGOING CERTIFICATION, THE BIDDER SHALL SO STATE AND SHALL FURNISH BELOW A SIGNED STATEMENT WHICH SETS FORTH IN DETAIL THE REASONS THEREFORE:

[AFFIX ADDENDUM TO THIS PAGE IF SPACE IS REQUIRED FOR STATEMENT.]

Subscribed to under penalty of perjury under the laws of the State of New York, this _______ day of ____________, 20____ as the act and deed of said corporation of partnership.
**NON-COLLUSIVE BIDDING CERTIFICATION REQUIRED BY**

**SECTION 139-D OF THE STATE FINANCE LAW**

IF BIDDER(S) (ARE) A PARTNERSHIP, COMPLETE THE FOLLOWING:

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<tr>
<th>NAMES OF PARTNERS OR PRINCIPALS</th>
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IF BIDDER(S) (ARE) A CORPORATION, COMPLETE THE FOLLOWING:

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President:

Secretary:

Treasurer:

President:

Secretary:

Treasurer:
NON-COLLUSIVE BIDDING CERTIFICATION REQUIRED BY

SECTION 139-D OF THE STATE FINANCE LAW

Identifying Data

Potential Contractor: __________________________________________________

Address: __________________________________________________________________________

                             Street

____________________________________________________________________________________

City, Town, etc.

Telephone: __________________  Title ____________________________________

If applicable, Responsible Corporate Officer

Name: ______________________  Title ____________________________________

Signature: ______________________

Joint or combined bids by companies or firms must be certified on behalf of each participant.

Legal name of person, firm or corporation

By

Name

Title

Address: ____________________

                            Street

City      State

Legal name of person, firm or corporation

By

Name

Title

Address: ____________________

                            Street

City      State

FORM SCD

SCHEDULE OF CONTRACT DURATIONS – INTERIM MILESTONE DATES TO BE FILLED OUT BY THE CONTRACTOR

Table SCD - 1

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<th>TRANSIT SYSTEM OPERATIONAL</th>
<th>Activity</th>
<th>Projected Completion Date MM/DD/YYYY</th>
<th>Liquidated Damages amount (per day) (See Note 2)</th>
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<tr>
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<td>Transit System Operational</td>
<td>10/29/2018</td>
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Table SCD - 2

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<tr>
<th>INTERIM MILESTONES</th>
<th>Milestone</th>
<th>Projected Completion Date (MM/DD/YYYY)</th>
<th>Liquidated Damages amount (per day) (See Note 2)</th>
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<td>Delivery of final version of the Project Management Plan (see Note 3)</td>
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<td>Fleet vehicles ordered (See Note 4)</td>
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<td>Fleet vehicles delivered (See Note 5)</td>
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<td>Maintenance/storage facility completed (See Note 6)</td>
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<td>Transit ICM systems integration (See Note 7)</td>
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<td>NYSDOT acceptance of vehicles (See Note 8)</td>
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<td>Vehicle testing completed (see Note 9)</td>
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Notes:
1.) Transit System Operational, for the purposes of this Form SCD, is defined as all testing, integration and training complete and vehicle running scheduled service on the routes detailed in Attachment 21: Transit Service Plan.

2.) Liquidated Damages will be assessed, in the amount indicated, for failure to achieve the completion of these milestones as outlined in this RFP and attachments.

3.) Delivery of the final version of the Project Management Plan, for the purposes of this Form SCD, is defined as all testing, integration and training complete and vehicle running scheduled service on the routes detailed in Attachment 21: Transit Service Plan.

4.) Fleet vehicles ordered, for the purposes of this Form SCD, is defined as a signed agreement with a vehicle manufacturer to build and deliver vehicles specified in Attachment 26: Vehicle Specification.

5.) Fleet vehicles delivered, for the purposes of this Form SCD, is defined as the last vehicle delivered by the manufacturer.

6.) Completion of the maintenance and storage facility, for the purposes of this Form SCD, is defined as the available use of a maintenance and storage facility for the LHTL BRT vehicles as detailed in Section 4.4.3.

7.) Completion of the Transit ICM systems integration, for the purposes of this Form SCD, is defined as all on-board, in-shelter and back office transit ICM systems integrated and operable with the ICM systems in the I-287 corridor, as detailed in Attachment 23: Technology Specification and Attachment 26: Vehicle Specification.

8.) NYSDOT acceptance of vehicles, for the purposes of this Form SCD, is defined as NYSDOT signoff on the quality, features and appearance of the vehicle, as detailed in Attachment 26: Vehicle Specification.

9.) Completion of vehicle testing, for the purposes of this Form SCD, is defined as all testing and training complete as detailed in Section 4.4.3.

The Proposer commits to meet the Contract Durations specified above.

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To be downloaded from the NYSDOT project web site, located at https://www.dot.ny.gov/business. Click on “Consulting Services” and then click on “Opportunities”.
8.15. Attachment 15: Bus Operations Requirements

1. Driving Record Required Qualifications:

1.1. Drivers must have a valid New York State operator's license.

1.2. Drivers must be a minimum of 21 years of age.

1.3. A five-year driving record is required. The Contractor must review a five-year record issued within the past 45 days from any state where the applicant has held an operator's license in the past five years. When a five-year record is unavailable, a three-year driving record must be obtained.

1.4. If an out-of-country driving record is unavailable then the applicant must have possessed a valid operator's license in the U.S. for the past three years.

1.5. No more than two moving violations in the past five years are allowed. A driving safety course taken for a moving violation will not change the record for a commercial operator license holder.

1.6. No more than two accidents in the past five years are allowed.

1.7. Driving records must not reflect any conviction of a serious traffic violation (e.g., DUI, reckless driving, driving with a suspended license) in the past seven years.

1.8. Driving records must not reflect more than two convictions of serious traffic violations in a lifetime.

1.9. No more than two violations for No Liability Insurance in a five-year period are allowed.

1.10. Moving violations, accidents, and/or other infractions may also disqualify an applicant.

1.11. Any proposed hiring should be conditioned upon the prospective employee being allowed within the facilities and cleared with his or her background screening.

1.12. In conjunction with this Contract, the Contractor shall not employ any person with any felony or misdemeanor drug offense, theft, assault or other conviction within the past ten (10) years for an offense that conflicts with the duties of the position.

1.13. In conjunction with this Contract, the Contractor shall not employ any person with any conviction for a felony or a conviction or deferred adjudication for misdemeanor offense beyond 10 years that is serious enough to be considered in conflict with the duties of the position. For example, murder or sexual assault conviction.

1.14. Other Qualifications:

a. All bus operators must be employees (full or part time) of the Contractor.

b. All bus operators must have the ability to effectively read, write, and speak English.

c. All bus operators must have sensitivity to passenger needs.
d. All bus operators must have the ability to resolve complaints and problems as required.

e. All bus operators must pass a biennial United States Department of Transportation (USDOT) physical exam and be included in a "pool" of safety sensitive positions for random drug and alcohol testing as required by FTA regulations.

2. The Contractor shall conduct an annual review, and provide a comprehensive report to NYS DOT by July 15 of each Contract year, of driving records as required by 49 CFR 391.25 to ensure all employees continue to meet the preceding qualifications. Employees failing to meet these qualifications shall not be used to perform services under this Contract. For the final year of the Contract the report shall be submitted on the date requested by NYSDOT.

3. The Contractor shall put all vehicles into service on a fixed rotation schedule to ensure vehicle miles and hours are accumulated equally.

Staff Performance and Other Requirements

1. Uniform Specifications and Appearance Standards

1.1. The consideration for safety must be applied to all dress code components for all staffing levels and duty assignments.

1.2. All employees of the Contractor must wear their Contractor-issued employee ID/security badge visibly while in the provision of service. While on duty, bus operators shall be well groomed, clean and in complete uniform. The complete uniform should consist of a collared shirt and professional pants. All operator uniforms will be of the same exact color(s), have the exact decal or logo placement, must be neat in appearance, clean and pressed. The shoes must be shined; hair clean and neatly cared for. Bus operators must conform to these standards of appearance at all times.

1.3. If NYSDOT identifies a Contractor driver not in complete uniform, then NYSDOT may collect liquidated damages of $100.00 per occurrence.

2. Employee Conduct

2.1. No driver will be allowed to make personal calls or text while inside a vehicle. Only direct communications with dispatch is authorized. NYSDOT will collect $250.00 in liquidated damages for every instance where it can be verified via video surveillance that a driver was texting or making a personal call on their cell phone inside a vehicle. The driver will be subject to all state laws regarding cell phone usage while driving.

2.2. All employees of the Contractor must maintain a professional demeanor, a professional appearance and a clean, organized work area at all times.

2.3. All employees of the Contractor must not eat or drink while driving, boarding or deboarding passengers.

3. Bus Operator Training Plan and Program

3.1. The Contractor shall provide training for all personnel working on this Contract. The Contractor shall ensure that individuals are fully knowledgeable of their duties and
responsibilities and that appropriate personnel can operate a bus, fuel a bus, and operate equipment used to maintain a bus in a safe manner. The Contractor shall also provide additional training if the training requirements approved by NYSDOT are insufficient.

3.2. The Contractor shall develop, implement and maintain a formal training and retraining plan and program for all bus operators. The training plan and program must be submitted to NYSDOT for review with 60 days of startup. All training must be documented and NYSDOT may audit the Contractor’s compliance with its training plan and program and its documentation at any time.

3.3. The Bus Operator Training Plan and Program must include classroom instruction, behind-the-wheel training under supervision of a qualified instructor, and in-service training. Such training shall include training and familiarization with assigned route(s), fare collection and regional fare policies, and bus stop placement prior to the bus operator's assignment to revenue service.

3.4. The plan and program must provide formal retraining measures, including criteria for determining the success of retraining efforts.

3.5. All vehicle operations personnel must be trained to proficiency, as appropriate for their duties, in assisting passengers with disabilities, including those using mobility aids, in a respectful and courteous way.

3.6. The plan and program must include training in personal safety, including, at a minimum, theft/robbery prevention, violence in the workplace, assault prevention, ADA sensitivity and annual refresher training, and information regarding Contractor responsibilities in NYSDOT's Transit Watch program.

3.7. Persons designated as a "qualified instructor" under the Contract must have a proven, documented record of safe driving; at least two (2) years' experience driving professionally, and a demonstrated ability to provide high-quality customer service.

3.8. Annual retraining measures shall include refresher courses on systems installed on buses, including but not limited to Automatic Vehicle Location (AVL)/Computer-Aided Dispatch (CAD), fare collection system, headsigns and annunciators, WiFi, etc.

4. Minimum Staff Training Requirements

4.1. For operators, Contractor must certify in writing, by name, each individual operator as having satisfactorily completed all requirements and training courses prior to allowing that individual operator to operate a bus in revenue service. This certification requires a minimum of forty (40) hours of training for each operator, full and part-time.

4.2. The minimum forty (40) hours shall include the eight (8) hour minimum National Safety Council Defensive Driving Course or equivalent, with satisfactory scores. It shall also include a minimum of twenty-four (24) hours of wheel time. Each operator shall operate all types of vehicles during training unless designated as only Commercial Driver’s License (CDL) driver or only demand response driver. At least eight (8) hours of classroom instruction shall be performed for the following categories: 1) passenger relations, 2) accident reporting procedures, 3) radio communication procedures and
codes, and 4) ticket handling procedures. An operator may receive up to sixteen (16) hours credit for the road training if the operator has at least one-year of experience in passenger transportation.

4.3. To maintain each individual operator's certification, the Contractor must provide and document annual refresher training of at least eight (8) hours for each operator covering passenger relations, operating procedures, ADA regulations and equipment updating. Additionally, the Contractor's trainer shall conduct and document an on-board evaluation with each operator.

4.4. At a minimum, operator training must comply with the following requirements:

a. Acquisition of a valid New York State CDL, with a Passenger (P) endorsement and Medical Certificate.

b. Prior to release to operate in revenue service, operators must have a working knowledge of all assigned routes and procedures. Operators shall drive all routes to which they are assigned under supervision and without passengers before being allowed to drive in service unsupervised.

c. Prior to release to operate in revenue service, operators must have received the minimum hours of first aid training.

d. Prior to release to operate in revenue service, operators must have received the minimum hours of ADA Sensitivity Training for working with persons with disabilities.

4.5. Drivers must also meet a 19-A Certification and/or medical examiners’ certificate. These programs are administered by the New York State Department of Motor Vehicles. Please see https://www.dot.ny.gov/divisions/operating/osss/bus/driver for details.

5. ADA Training – The Contractor shall provide initial and annual refresher ADA training to all personnel providing service to the public. All service providers shall be included whether they perform such service on a regular, intermittent, or infrequent basis.

5.1. Drivers must be knowledgeable of on-board ADA securement equipment for wheelchair users and other ADA equipment in the spaces allotted in each vehicle. Drivers must know how to operate the ramp to allow for patrons in need of ramp use to board the vehicle.

5.2. At a minimum, such training shall include Initial and Refresher training, to include:

a. Lecture on the ADA law with hands-on employee participation and also such other appropriate instructional media (e.g. slides, video, etc.) as may be successfully integrated into the instructional process.

b. Panel discussion led by persons with disabilities presenting information regarding different types of disabilities.

c. Three full hours of classroom ADA operational training. This training shall include a discussion of various disabilities that present transportation issues, scenarios...
regarding service to passengers with disabilities, and the practical remediation of access problems presented in those scenarios, and equipment and other resources available to make public transit a viable transportation alternative to passengers with disabilities. Included within this training shall be a discussion of:

- Operator responsibilities.
- Equipment and devices currently in use.
- Proper use and securement of such equipment and devices.
- Other matters as the Contractor deems appropriate.

5.3. Field time on the bus with instructors to evaluate operator expertise in boarding, securement, and deboarding of mobility-aid devices and the operator's familiarity with other equipment and devices then in use. Several types of mobility-aid devices shall be used to conduct the hands-on training. For use in hands-on training and hands-on evaluation, the Contractor shall provide a minimum of one (1) of each of the following:

a. A manual wheelchair.

b. An electric device with three or more wheels; e.g., a scooter.

c. An electric wheelchair.

5.4. Annual Refresher Training each year, which shall include the same classroom session as the Initial Training (without the hands-on session).

5.5. A minimum of one hands-on check to evaluate operator expertise in boarding, securement, and deboarding of mobility-aid devices and the operators' familiarity with other equipment and devices then in use. Several types of mobility-aid devices shall be used to conduct the hands-on training. For use in hands-on training and hands-on evaluation, the following must be provided:

a. A manual wheelchair.

b. An electric scooter.

c. An electric wheelchair.

6. Ancillary Training - The Contractor shall assume and pay for all ancillary training (e.g. Going for Green (G4G), Roadeo planning, etc.) not specifically directed or required by NYSDOT.

6.1. The Contractor shall include a defensive driving course in the initial training of bus operators. All operators must successfully complete a defensive driving course at a minimum of once every three (3) years.

6.2. In addition to the training requirements identified above, the operators must obtain sensitivity training related to transporting persons with disabilities.

7. Contractor performance evaluations - The Contractor shall establish a program to conduct in-service evaluations of bus operators employed under this Contract.
7.1. When required, the Contractor's qualified instructor shall ride with an operator to perform an evaluation and re-training, if necessary.

7.2. 100% of the Contractor’s staff shall complete the training laid out in the Contractor’s Training Plan. Failure to meet this target can result in liquidated damages of $250.00 per staff member not completing training.
8.16. Attachment 16: Operating Performance Standards

The following performance standards have been developed by NYSDOT to ensure the delivery of a high-quality transit service. Failure to meet these standards will incur liquidated damages, to be applied to monthly invoices.

The obligations of the Contractor hereunder shall be subject to force majeure. The Contractor shall not be liable for any failure to perform, or for any delay or cancellation in connection with the performance of any obligation hereunder if such failure, delay or cancellation is due or in any manner caused by the laws, regulations, acts, demands of any governmental authority or by Acts of God, strikes, fire, flood, weather, war, acts of picketing, rebellion, insurrection or terrorism, or any other cause beyond the Contractor’s control.

On-time Performance

1. The Carrier shall be responsible for serving all scheduled stops on-time according to publicly published schedules. A bus is considered on-time if it:

1.1. Departs no more than 3 minutes after its scheduled departure time at time points that are not more than 20 minutes (scheduled time) distant from the initial terminal (beginning of trip).

1.2. Departs no more than 5 minutes after its scheduled departure time at time points that are more than 20 minutes (scheduled time) distant from the initial terminal (beginning of trip).

1.3. Arrives at intermediate time points not more than one minute early

1.4. Never leaves before its scheduled departure time

1.5. Arrives at the terminal not more than 5 minutes early

2. The on-time performance standard is ninety-four percent (94%) or above. NYSDOT will assess liquidated damages for failure to achieve the performance standard as follows:

<table>
<thead>
<tr>
<th>On-time Performance %</th>
<th>Liquidated Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>93.99% - 90%</td>
<td>-$1,000.00</td>
</tr>
<tr>
<td>89.99% - 87%</td>
<td>-$2,000.00</td>
</tr>
<tr>
<td>86.99% and below</td>
<td>-$3,000.00</td>
</tr>
</tbody>
</table>

3. Embedded in the performance standard are allowances for Global Positioning System (GPS) anomalies, acceptable service delays, incidents/accidents, vehicle breakdowns and schedule adjustments. NYSDOT will not consider adjustments to on-time performance for any of the abovementioned occurrences.

4. A minimum of 1,500 observations per month should be made at mutually agreed timepoints, but not including terminals, to determine on-time percentages.
5. The operator shall not skip any posted stops to improve on-time performance. For all observations of stops skipped when passengers were waiting, NYSDOT will assess liquidated damages in the amount of $1,000.00 for each stop skipped.

6. Dwell time at stops should be minimized so that the average boarding time is no greater than two (2) seconds per passenger. This can be achieved through level boarding and alighting using all doors, enforcement of off-board fare payment, and any other strategies the operator chooses to utilize surrounding quicker boarding and fare payment technologies.

7. In addition, for any underperforming route, as defined by any route that achieves less than ninety percent (90%) on-time performance for two consecutive months, the Contractor shall provide NYSDOT an analysis and resolution plan in writing to bring the underperforming routes into compliance.

7.1. The Contractor shall provide NYSDOT the analysis and resolution plan by twenty-one (21) calendar days following the end of the second month of the identified underperforming route(s). The analysis shall include, but not be limited to:

   a. an on-time performance report by time point (as obtained from the Vehicle Management System) by route and by assigned bus operators; any route anomalies (e.g. detours, construction, etc.);

   b. resource availability (bus operators and vehicles); and passenger load issues that may be contributing to the underperformance of the route(s).

7.2. NYSDOT and the Contractor will meet to review the analysis report and resolution plan, as necessary. If the review identifies route underperformance due to circumstances under the Contractor’s control or noncompliance to Contract requirements, the Contractor will have thirty (30) calendar days from the review date, unless otherwise approved by NYSDOT, to bring the route(s) into compliance.

7.3. If the route is not brought into compliance within a time period approved by NYSDOT, the following liquidated damages will be collected:

   Underperforming Route Compliance Liquidated Damage
   Within 40 days (not incl. extended deadlines by NYSDOT) -$1,000.00
   Within 50 days (not incl. extended deadlines by NYSDOT) -$2,000.00
   Within 60 days (not incl. extended deadlines by NYSDOT) -$3,000.00

**Missed/Canceled Trips**

1. Missed Revenue Miles: Revenue miles is defined as scheduled miles operated with a vehicle in service and available to the general public with the expectation of carrying passengers.

   1.1. This also includes miles operated due to detours (planned or unplanned). Revenue miles exclude deadhead mileage, vehicle maintenance or bus operator testing, school bus service, charter/special event and/or bus bridge service, and scheduled miles not operated due to unforeseen incidents/accidents (preventable or non-preventable) and vehicle break downs.
1.2. For purposes of reporting revenue service (miles, hours and trips), the National Transit Database (NTD) definition shall be followed.

1.3. The Contractor shall implement policies and procedures to monitor service delays, and if necessary, replace or insert a bus to fill in for a portion of a trip to ensure the timely completion of that trip.

1.4. Buses involved in accidents or mechanical breakdowns must be immediately replaced.

1.5. Under any of the circumstances described above, the Contractor shall take appropriate action to minimize the disruption of service.

1.6. Missed revenue miles will be reported on a monthly basis and measured by being divided by the total scheduled revenue miles for the month.

1.7. The performance standard for missed revenue miles is 0.40% or less. NYSDOT will assess liquidated damages for failure to achieve the performance standard as follows:

<table>
<thead>
<tr>
<th>% of Missed Revenue Miles</th>
<th>Liquidated Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.41% - 0.50%</td>
<td>-$1,000.00</td>
</tr>
<tr>
<td>0.51% – 0.70%</td>
<td>-$2,000.00</td>
</tr>
<tr>
<td>0.71% and above</td>
<td>-$3,000.00</td>
</tr>
</tbody>
</table>

**Safety Requirements**

1. The Contractor shall assign staff and establish a process that complies with the Americans with Disabilities Act of 1990 (ADA), as amended. Contractor staff will provide an effective rescue system when passengers who use a wheelchair or authorized mobility device require a lift or ramp and are stranded due to an inoperable lift, ramp or vehicle. Minimum rescue policy standards for passengers using wheelchairs are:

1.1. If the passenger will be stranded for more than thirty (30) minutes, the Contractor shall rescue the passenger.

1.2. Vehicles that are dispatched for rescue shall attempt to pick up the stranded passenger within 30 minutes of the request for rescue.

1.3. The Contractor shall ensure that all managers, operators, road supervisors, and dispatchers are trained annually on rescue procedures, mobility device movement, securement, safety, and passenger sensitivity, as per the ADA training guidelines in Attachment 15: Bus Operations Requirements.

2. As part of the requirements for the New York State Public Transportation Safety Board, the Contractor shall identify staff responsible for the accident reporting to enroll and participate in NYSDOT-sponsored Bus Accident Investigation Training For Identifying Safety Hazards (BAITFISH) and have at least one certified investigator always employed and responsible for reviewing accidents and training protocols for drivers to ensure the highest standard of safety.
3. Total Preventable Accidents per 100,000 Revenue Miles: For reporting purposes, an accident means an occurrence associated with the operation of a vehicle, if as a result: (1) an individual dies; or (2) an individual suffers bodily injury and immediately receives medical treatment away from the scene of the accident; or (3) with respect to an occurrence in which the mass transit vehicle involved is a bus, electric bus, van, or automobile, one or more vehicles (including non-FTA funded vehicles) incurs disabling damage as the result of the occurrence and such vehicle or vehicles are transported away from the scene by a tow truck or other vehicle (49 CFR Part 655.4). The term accident does not include an occurrence involving only the boarding or alighting from a stationary motor vehicle (49 CFR Part 390.5).

3.1. A preventable accident is defined as an occurrence involving a motor vehicle that results in an accident in which the bus operator in question failed to exercise every reasonable precaution to prevent it. Preventable accidents shall be recorded by the Contractor on a monthly basis. The performance standard is 3 or fewer preventable accidents per 100,000 revenue miles. NYSDOT will assess liquidated damages for failure to achieve the performance standard as follows:

<table>
<thead>
<tr>
<th>Accident Rate</th>
<th>Liquidated Damage (per accident over the performance standard)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>5-8</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>8 and above</td>
<td>-$2,000.00</td>
</tr>
</tbody>
</table>

4. Photo Traffic Citations: For all photo traffic citations received by any Contractor employee while operating an LHTL revenue vehicle, NYSDOT will assess liquidated damages in the amount of $250.00 for each photo citation.

5. The Contractor shall be fully responsible for ensuring that vehicles placed into service have all safety items fully operational (e.g. lights, brakes, horn, tires, wheelchair tie downs, seat belts, fire suppression systems, etc.). Liquidated damages will be assessed at $1,000.00 for every occurrence of a safety item not fully operational on a vehicle placed into revenue service.

Other Requirements

1. The Contractor shall operate the service using only those vehicles defined in Attachment 26: Vehicle Specification (double-decker BRT transit vehicles). Unless prior approval has been received from NYSDOT, the Carrier shall be penalized for the use of non-conforming vehicles, with liquidated damages assessed at $500.00 for each non-approved vehicle used in revenue service per instance it is used.

2. Contractor Accessible Features Operation: For each occurrence in which the Contractor puts into service a vehicle with an inoperable ramp/lift, securement devices and/or seat/lap belts, the bus operator refuses to accommodate a passenger request to board or alight a bus utilizing the passenger accessibility ramp (49 CFR Part 37.165), and/or the bus operator refuses to
board a passenger with a service animal (49 CFR Part 37.167), NYSDOT will assess liquidated damages in the amount of $500.00 per occurrence.

3. Announcement of Stops: For each occurrence in which the operator fails to announce stops in compliance with 49 CFR Part 37.167 during the malfunction of a vehicle’s annunciator system or as requested by a passenger, NYSDOT will assess liquidated damages in the amount of $100.00 for each occurrence.

4. Transit Technology System Operation: On-board, in-shelter, and back office technology [including but not limited to Wi-Fi, automatic vehicle location (AVL), automatic passenger counting (APC), and traffic signal priority (TSP), real-time passenger information (RTPI)] will be critical for a positive customer experience, the smooth operation of the system, and quick and accurate performance reporting. The Contractor shall provide transit technology systems as outlined above, and liquidated damages will be assessed for failure to maintain fully functioning on-board systems. NYSDOT will require on-board systems across the fleet to be operational and functioning as per system specifications at least 98% of the time. This will be measured by assessing reports from the transit technology systems as delivered automatically to the HVTMC. Below that percentage, NYSDOT will assess liquidated damages as follows:

<table>
<thead>
<tr>
<th>Transit Technology Systems Availability Percentages</th>
<th>Liquidated Damages</th>
</tr>
</thead>
<tbody>
<tr>
<td>95% to 97.99%</td>
<td>$500.00</td>
</tr>
<tr>
<td>90% to 94.99%</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>89.99% and below</td>
<td>$1,500.00</td>
</tr>
</tbody>
</table>

If this standard is exceeded, the operator is entitled to incentive payments for exemplary performance. The incentive payments, to be assessed monthly by NYSDOT review of transit technology systems availability percentages, are as follows:

<table>
<thead>
<tr>
<th>Transit Technology Systems Availability Percentages</th>
<th>Incentive Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>98% – 98.99%</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>99% – 100%</td>
<td>$1,500.00</td>
</tr>
</tbody>
</table>
8.17. Attachment 17: Fleet Maintenance & Service Requirements

1. Maintenance personnel qualifications and requirements

1.1. Safety sensitive positions: All employees in the contractor's maintenance department that are classified as "Safety Sensitive" as defined by USDOT, FMCSA, NYSDOT or any other governing agency shall be subject to all of the rules and regulations defined under those agency's regulations, statutes or law. Safety sensitive employees include: Mechanics, Mechanic supervisors, service personnel and other vocations within the contractor's organization

1.2. Driving Record Required Qualifications:

1.2.1. Maintenance personnel must have a valid New York State Class B Commercial operator's License with Air Brake and Passenger endorsements.

1.2.2. Maintenance Personnel must be a minimum of 21 years of age.

1.2.3. A five-year driving record is required. The Contractor must review a five-year record issued within the past 45 days from any state where the applicant has held an operator's license in the past five years. When a five-year record is unavailable, a three-year driving record must be obtained.

1.2.4. If an out-of-country driving record is unavailable then the applicant must have possessed a valid operator's license in the U.S. for the past three years.

1.2.5. No more than two moving violations in the past five years are allowed. A driving safety course taken for a moving violation will not change the record for a commercial operator license holder.

1.2.6. No more than two accidents in the past five years are allowed.

1.2.7. Driving records must not reflect any conviction of a serious traffic violation (e.g., DUI, reckless driving, driving with a suspended license) in the past seven years.

1.2.8. Driving records must not reflect more than two convictions of serious traffic violations in a lifetime.

1.2.9. No more than two violations for No Liability Insurance in a five-year period are allowed.

1.2.10. Moving violations, accidents, and/or other infractions may also disqualify an applicant.

1.2.11. Any proposed hiring should be conditioned upon the prospective employee being allowed within the facilities and cleared with his or her background screening.

1.2.12. In conjunction with this Contract, the Contractor shall not employ any person with any felony or misdemeanor drug offense, theft, assault or other conviction within the past ten (10) years for an offense that conflicts with the duties of the position.
1.2.13. In conjunction with this Contract, the Contractor shall not employ any person with any conviction for a felony or a conviction or deferred adjudication for misdemeanor offense beyond 10 years that is serious enough to be considered in conflict with the duties of the position. For example, murder or sexual assault conviction.

1.2.14. Other Qualifications:

A. All bus maintenance personnel must be employees (full or part time) of the Contractor.

B. All bus maintenance personnel must have the ability to effectively read, write and speak English.

C. All bus maintenance personnel must have sensitivity to passenger needs.

D. All bus maintenance personnel must have the ability to resolve complaints and problems as required.

E. All bus maintenance personnel must pass a biennial United States Department of Transportation (USDOT) physical exam and be included in a "pool" of safety sensitive positions for random drug and alcohol testing as required by FTA regulations.

1.3. The Contractor shall conduct an annual review, and provide a comprehensive report to NYSDOT by July 15 of each Contract year, of driving records as required by 49 CFR 391.25 to ensure all employees continue to meet the preceding qualifications. Employees failing to meet these qualifications shall not be used to perform services under this Contract.

1.4. For the final year of the Contract the report shall be submitted on the date requested by NYSDOT.

1.5. Mechanic qualifications:

1.5.1. Knowledge and Abilities:

A. Methods, materials, tools, and standard practices related to the maintenance and repair of heavy-duty vehicles and equipment; principles of spark-ignited or diesel powered engines; safety precautions followed in heavy equipment repair shops.

B. Possession of Automotive Service Excellence (ASE) certification as a Master Transit Bus Technician (Tests H1-H8) is desirable.

C. EPA 608 Certification in refrigerant handling and recycling

D. Ability to: use jacks, wrenches, grease guns, hydraulic hoists, cleaning materials and other tools and equipment used in the service and repair of heavy equipment; understand and carry out oral and written instructions; work with other employees in a directed work team environment; conceptualize required work through personal observation or a verbal description and determine what is necessary to obtain quality results; perform computerized work order procedures; pass a job related examination;
pass federally required drug and alcohol testing; drive all job-related vehicles and maintain a valid New York State driver's license and CDL as required.

1.5.2. Minimum Qualifications (any one of the following):

A. 3 years of journey-level mechanical work experience OR

B. Completion of a 2-year diesel mechanic vocational course of study plus 2 years journey-level mechanical work OR

C. Completion of a 4-year diesel mechanic apprentice program.

1.5.3. Special Requirements:

A. Must have the ability to perform the essential functions of the job as described above including the ability to maneuver objects weighing up to fifty pounds.

B. Must meet and maintain physical requirements in order to safely perform all job duties and tasks.

C. Must have the strength to stand for extended periods of time when inspecting buses and making repairs and adjustments.

D. Must be able to walk to various areas of the bay to retrieve parts and spot check buses.

E. Must be able to lift and carry parts, equipment, and materials weighing up to 100 pounds including: fire extinguishers, tire assemblies, barrels of oil, fuel tank drain pans, and various bus parts and components.

F. Must be able to climb approved ladders and scaffolds and maintain balance when working atop bus roofs.

G. Must be able to stoop, kneel, crouch, and crawl when repairing bus floors, walls, etc., and when working underneath buses and in hard to reach spaces.

H. Must be able to reach for tools and parts while working on buses.

I. Requires manual dexterity for making repairs and adjustments on equipment.

J. Requires visual acumen and the ability to see in and distinguish colors.

K. Must be able to hear verbal instructions, announcements, alarms, and horns.

2. Vehicle Maintenance Plan – As part of the larger System safety plan required of transit operations in New York State, the Contractor shall develop, implement and maintain a formal vehicle maintenance plan and program for all vehicles. All vehicle maintenance must be documented, and NYSDOT may audit the Contractor’s compliance with its vehicle maintenance plan and program and its documentation at any time.

2.1. The Contractor is required to update the plan annually and submit to NYSDOT in electronic form for its review.
2.2. An effective maintenance plan and program addresses the unique needs of each type of transit vehicle and the unique characteristics of each operating environment. At a minimum, the plan and program shall:

A. Identify and define goals and objectives, and provide tangible evidence of how they will be achieved;

B. Address and be specific to the current mix of vehicles operated and maintained by the Contractor;

C. Outline procedures for maintaining safety and accessibility equipment including but not limited to all on-board systems;

D. Describe preventive maintenance procedures; and

E. Adhere to manufacturer’s requirements for vehicles and parts under warranty.

3. Vehicle Condition and Maintenance - The Contractor shall provide supervision during all work shifts to ensure that its maintenance technicians and facility workers maintain vehicles and facility equipment in compliance with required specifications.

3.1. The Contractor will be responsible for all maintenance and shall maintain records for same. Maintenance will be performed to OEM standards, NYSDOT’s written instructions, and the Contractor’s Vehicle Maintenance Plan as annually submitted by the Contractor to NYSDOT.

3.2. The Contractor shall perform all routine preventive maintenance, heavy repair, running repairs, and major and minor cleaning necessary to keep NYSDOT-furnished vehicles in a safe, reliable and well-maintained condition, and the Contractor shall ensure that all on-board systems—including automated passenger counters (APC), automatic vehicle location (AVL), Wi-Fi, the destination announcement system and screens and other on-board technology specified in Attachment 26: Vehicle Specification are fully functional and operational.

3.3. The Contractor shall perform all urgent response duties (heavy towing, provision of back-up buses and drivers, etc.) to respond to bus breakdowns and stranded passengers immediately. Failure to rescue passengers stranded for more than 30 minutes—barring circumstances deemed by NYSDOT as extenuating—will result in the following liquid damage assessment:

- 31 – 35 minutes - $500.00
- 36 – 40 minutes - $1,000.00
- 41 minutes or more - $1,500.00

3.4. Preventive Maintenance Inspections (PMI) shall occur at the OEM-recommended intervals and shall include a review of accessibility equipment to ensure proper operation of annunciators, ramps/lifts, securements and seat/lap belts, and destination signs prior to a vehicle being returned to service. Such inspections shall be documented and tracked by the Contractor and randomly audited by NYSDOT.
a. The Contractor shall maintain a ninety percent (90%) or above on-time percentage for vehicle PMI scheduled and completed. This is measured as not beyond 10% from the OEM-required interval. Failure to maintain the required on-time percentage will result in the following liquid damage assessment:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Liquid Damage Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>89.99% - 80%</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>79.99% - 70%</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>69.99% and below</td>
<td>$2,000.00</td>
</tr>
</tbody>
</table>

b. PMI will be based on the life to date mileage of the vehicle. Maintenance actions shall be based on time intervals, mileage intervals, or a combination of mileage and time intervals. The Contractor shall track and record these inspections.

3.5. The Contractor, at its sole cost, shall maintain the vehicles, including tires, in the same operating condition and appearance in which the vehicles are purchased, subject to reasonable wear and tear based on mileage and age and without any cost to NYSDOT. Replacement tires are to be OEM quality or a grade better and shall be provided by the Contractor. Retreads are permitted under the following requirements: (a) tested by non-destructive testing equipment and computer-controlled machinery including, but not limited to, laser shearography; (b) new casings shall be retread no more than two times; and (c) retread tires are only to be used on the center and rear axles of passenger-carrying vehicles. No tire patching or plugs will be accepted.

3.6. The Contractor shall be fully responsible, without exception, for ensuring that vehicles placed into service:

a. Have a pre-trip inspection performed to ensure that the vehicle is safe before leaving the facility and entering into revenue service (49 CFR Part 392.7), including a complete cycling of the wheelchair ramp as required by the original equipment manufacturer and a post-trip inspection (and post-trip inspection documentation) performed at the completion of each day’s work (49 CFR Part 396.11).

b. Have fully operational air conditioning, wheelchair ramps and lifts, securement belts, flip seats, radios, CCTV, APCs, destination signs, Wi-Fi, AVL, RTPI, and any other on-board systems required for service (specified in Attachment 23: Technology Specification and Attachment 26: Vehicle Specification).

c. Have all certifications current including NYSDOT semi-annual annual inspection requirements, emissions, fire suppression systems, and fire extinguishers. The Contractor shall be responsible for all associated costs of the aforementioned testing and certification requirements.

d. Are marked on both sides of the vehicle as required by 49 CFR Part 390.21. The Contractor shall be responsible for the cost of applying the markings to each revenue vehicle.

e. Be free of body and decal damage, have no missing or unpainted panels, any defects, flats, curbing, or missing lugs, and with wheels and tires at proper inflation.
f. Be free of graffiti. The Contractor shall take all necessary steps to address graffiti on the interior and exterior of revenue vehicles.

g. All parts must be properly attached using the same number and quality fasteners as installed by the OEM.

h. Maintain a clean appearance of both the exterior and interior of the vehicle while in service at all times.

3.7. If any revenue vehicle fails to comply with these standards, NYSDOT will assess liquidated damages in the amount of $500.00 per occurrence.

4. Monthly Vehicle Inspections – In addition to the semi-annual NYSDOT bus inspections, all revenue vehicles must be inspected on a monthly basis to ensure they are in good working order. These inspections shall be undertaken by a qualified vehicle mechanic employed by the Contractor, and a record of inspections shall be submitted monthly to NYSDOT.

5. Servicing - The Contractor shall provide supervision to ensure service personnel maintain vehicles to the required specifications. Vehicles returning from revenue service must be serviced as described below:

5.1. Vehicles must be fueled and serviced by the Contractor; oil, transmission, coolant levels, and windshield washer fluid checked and added, if necessary, with all tasks being recorded daily.

5.2. Vehicle floors must be swept and mopped. Buses must not be hosed out for cleaning. Operator’s area must be wiped down, including, but not limited to, dash controls, dash board, above the operator area and along the front dashboard.

5.3. Vehicle interiors and exteriors must be cleaned to maintain the vehicle in a clean, dust-free, and professional appearance. Interiors must be wiped down to achieve cleanliness of the entire vehicle interior. The vehicle exterior must be kept clean with special attention given to the rear of the vehicle. Vehicles used in revenue service must go through the bus wash bay a minimum of once per week or as often as necessary to maintain the vehicle in a clean and professional appearance.

5.4. Vehicle rims must be cleaned as often as necessary to maintain the vehicle in a clean and professional appearance.

5.5. All passenger and operator seats must be shampooed twice per year or at the discretion of NYSDOT following inspection.

5.6. Every thirty (30) days, a detailed, intense cleaning of the interior and exterior must be performed. Detailed cleaning involves such areas as engine compartments, wheels, back-ends, and underbody. Detailed interior cleaning must address the entire interior. The intent is to have twelve-yearly intensive cleanings per vehicle at consistent intervals. This listing will be provided to NYSDOT upon request.

5.7. The Contractor shall establish a quality assurance plan to ensure that the vehicles are cleaned in compliance with the requirements set forth in this work scope.
5.8. If any revenue vehicle fails to comply with the standards outlined above regarding appearance or cleanliness, NYSDOT will assess liquidated damages in the amount of $100.00 per occurrence.

6. Body Work – The Contractor shall be responsible for all vehicle body repair work and painting. All body work and painting must be performed to industry best standards or OEM specifications. No vehicle may be run in revenue service with any type of major body damage. This standard includes large dents, cracked glass, and major scratches to any surface of the vehicle.

7. Total Miles between Road Calls – A road call is any disruption of service caused by a mechanical failure which results in the dispatch of a maintenance or supervisory vehicle to correct and/or the removal or replacement of the motor vehicle while in revenue service. Such mechanical failures shall not include those caused by issues related to passenger incidents and non-preventable accidents. The Contractor shall document total miles (deadhead and revenue) as recorded between road calls on a monthly basis. The performance standard is 11,000 total miles or above between road calls. NYSDOT will assess liquidated damages for failure to achieve the performance standard as follows:

<table>
<thead>
<tr>
<th>Total Miles Between Road Calls</th>
<th>Liquidated Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>11,000 – 11,999</td>
<td>-$1,000.00</td>
</tr>
<tr>
<td>12,000 – 12,999</td>
<td>-$1,500.00</td>
</tr>
<tr>
<td>6,999 and below</td>
<td>-$2,000.00</td>
</tr>
</tbody>
</table>

If this standard is exceeded, the operator is entitled to incentive payments for exemplary performance. The incentive payments, to be assessed monthly by NYSDOT review of total miles between road calls, are as follows:

<table>
<thead>
<tr>
<th>Total Miles Between Road Calls</th>
<th>Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>11,000 – 11,999</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>12,000 – 12,999</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>13,000 and above</td>
<td>-$2,000.00</td>
</tr>
</tbody>
</table>

8. Vehicle Storage and Maintenance Facility – The Contractor is responsible for providing a vehicle storage and maintenance facility with capacity for the required LHTL vehicles.

8.1. In addition to the requirements outlined in Section 4.4.4, this maintenance facility must be required to have associated with it the following key factors:

a. Space for the revenue vehicles required to operate the service;
b. Space to accommodate staff and visitors’ personal vehicles;
c. Space for a general lobby and customer service activities to occur;
d. Space for at least one conference room for Contractor management and/or NYSDOT staff to conduct formal business meetings and staff training;
e. Interior office space to perform the functions of the staffing plan highlighted above;
f. Cash handling room with security surveillance. Surveillance system can be integrated with the on-board vehicle surveillance system, to allow for live streaming from secure access points from internal LAN computers, as well as NYSDOT staff secure remote connections. This surveillance should cover the entire path the money takes, from the point of removal from fareboxes of each individual vehicle through whichever corridor, and then into the cash handling room;

g. Space for employee training;

h. Space for employee breaks;

i. Space for separate gender changing rooms, with uniform/personal storage, as well as showers;

j. Space for bathrooms adequate to serve current desired staffing levels, as well as the anticipated growth the system may encounter during the timeframe of this Contract;

k. Adequate maintenance equipment to perform all necessary preventive maintenance and major vehicle maintenance issues (aside from painting and structural needs);

l. A backup generator to ensure power delivery for all essential technological/maintenance equipment and personnel to keep transit services operating at required levels during any sustained power outage or disruption;

m. An electronic, keyless, security badge entrance system (either card swipe or RFID key/card technology), distributed to Contractor staff only – to be managed by Contractor General Manager;

n. A 100% secure property perimeter – with some type of fencing or barricading in place to provide security for vehicles and staff at all times. Video surveillance is also required inside and outside the building that ensures all parked vehicles are within range of recordings.

8.2. If the proposed property is missing any of these key elements, it is expected that the Contractor work with the property owner to meet these requirements.
8.18. Attachment 18: Customer Satisfaction

1. Customer complaints, comments, commendations - The Contractor’s customer service staff shall coordinate all inquiries or complaints received from any and all individuals.

   1.1. All inquiries, complaints or commendations shall be recorded on a permanent customer comment form.

   1.2. Detailed questions and all complaints must receive follow-up responses to customers within two business days from when the question or complaint is received.

   1.3. Detailed questions and all complaints must be resolved or otherwise closed within seven business days from when the question or complaint is received.

   1.4. If NYSDOT identifies and verifies that the Contractor received a complaint(s) from citizens or passengers that has not been documented on the Contractor’s monthly invoice report submitted to NYSDOT, then NYSDOT will assess $100.00 in liquidated damages for each occurrence of a failed reporting of a complaint.

   1.5. Any complaints received through the offices of the Governor, NYSDOT, or NYSTA about the service must be coordinated by the Contractor’s staff through NYSDOT and must be responded to within 24 hours.

   1.6. A comprehensive report must be provided to NYSDOT monthly, showing a summary of all customer communication (both received and sent). The report must be organized by the customer comment category (as defined by contractor), date and customer name or employee name. Follow up action taken to address concerns must be specified in each report. All complaints more than two business days old which have not resulted in a follow up response (telephone or written) to the customer, and complaints more than seven business days old which have not resulted in a completed investigation and closeout must be listed separately and forwarded to NYSDOT. The performance standard is to have no more than five occurrences on this list per month. NYSDOT will assess liquidated damages for failure to achieve the performance standard as follows:

   Response Rate Liquidated Damage
   6-10 occurrences - $500.00
   10-15 occurrence - $1,000.00
   15-20 occurrences - $1,500.00
1.7 If this standard is exceeded, the operator is entitled to incentive payments for exemplary performance. The incentive payments, to be assessed monthly by NYSDOT review of customer query response times, are as follows:

Response Rate Incentive
4-6 occurrences - $500.00
1-3 occurrences - $1,000.00
0 occurrences - $1,500.00

2. Customer Service Training – The Contractor will implement an effective and proven customer service training program on a consistent basis throughout the year. All CRC staff and bus drivers must have hands-on learning and quality class exercises to ensure customer service is trained at a high level and relayed to the transit passengers each and every day.

3. Lost and Found Policy – The Contractor is responsible for the retrieval and storage of customer items left on revenue vehicles

3.1. The Contractor shall make a reasonable attempt to identify and return lost items to the passenger the same day found. When it is not possible to return the item, the Contractor shall:
   a. Tag the item and note the route, trip number or location where the item was found, date found;
   b. Include name of person turning in the item; a brief description of the item; and
   c. Maintain a log of lost and found items.

3.2. The Contractor shall provide a location for customers to pick up lost items, whether it is the vehicle maintenance and storage facility or the CRC. This facility must be available from 9am to 5pm, Monday – Friday, at a minimum.

4. Customer Satisfaction Survey – The Contractor shall secure a third-party vendor to conduct a quarterly survey of a random sample of bus riders to gauge their satisfaction with the transit service. Survey questions will be approved by NYSDOT in advance of survey administration, and responses will be delivered from the third party directly to NYSDOT.

Results from a minimum number of passengers shall be compiled to produce Customer Satisfaction Index (CSI) scores. CSI scores are compiled quarterly, and the Carrier will receive incentive payments for achieving target scores. Incentive payments shall be made as follows:

   a. Base Targets are NYSDOT’s expectations of satisfactory CSI score results for the period.
   b. Stretch Targets are NYSDOT’s expectations of superior CSI scores for the period.

CSI Incentives:
   a. Achievement of Base Target - $500.00
   b. Achievement of Stretch Target - $1,000.00
8.19. Attachment 19: Stop and Shelter Maintenance

1. The Contractor is responsible for the maintenance of LHTL stops and shelters.

2. General Conditions – The Contractor (or its subcontractor) will maintain these stations on a twice weekly basis to appear neat, clean, and free of graffiti. The station areas will be kept free of dangerous and hazardous materials such as broken glass, bottles and cans or other materials, which could be a threat to public health or safety. Trash and recycling containers as applicable will be emptied twice weekly or as necessary.

   2.1. Approximately once each month, shelter seating areas will be wiped down and exterior windows and walls will be washed.

   2.2. Where applicable, lawns, landscaped areas, and irrigation systems will be maintained and cleared of litter. Snow and ice will be removed in a timely manner.

The Contractor will also be responsible for maintaining the functionality of all on-time information regarding bus arrival and departure and for the technological aspects of the shelter (including WiFi, real-time passenger information and off-board fare payment machines.

3. The stations that are to be maintained by the Contractor are detailed in the following table:

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Stop</th>
<th>Stop/Intersection Improvement Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suffern</td>
<td>Chestnut St</td>
<td>Hallet St at Chestnut St</td>
</tr>
<tr>
<td>Airmont</td>
<td>Airmont Rd at Rt 59</td>
<td>Airmont Road / NY 59</td>
</tr>
<tr>
<td>Monsey</td>
<td>Monsey Park &amp; Ride</td>
<td>Main St (NY 306) at NY 59</td>
</tr>
<tr>
<td>Spring Valley</td>
<td>Spring Valley Transit Center</td>
<td>Franklin St at Municipal Plaza</td>
</tr>
<tr>
<td>Nanuet</td>
<td>Exit 14 Park &amp; Ride</td>
<td>NY 59 at Forman Dr</td>
</tr>
<tr>
<td>West Nyack</td>
<td>Palisades Center Park &amp; Ride</td>
<td>Palisades Center Dr (northwest corner of mall) - Lot J</td>
</tr>
<tr>
<td>West Nyack</td>
<td>Palisades Center Macy’s</td>
<td>Palisades Center Dr at NY 59</td>
</tr>
<tr>
<td>Nyack</td>
<td>Central Nyack</td>
<td>NY 59 at Mountainview Ave</td>
</tr>
<tr>
<td>Nyack</td>
<td>Downtown Nyack</td>
<td>Franklin St at Artopee Way</td>
</tr>
<tr>
<td>South Nyack</td>
<td>South Nyack</td>
<td>Franklin St at Clinton Ave</td>
</tr>
<tr>
<td>Tarrytown</td>
<td>Tarrytown / NY 119</td>
<td>Broadway at NY 119</td>
</tr>
<tr>
<td>Tarrytown</td>
<td>Tarrytown / Broadway</td>
<td>West Elizabeth St at US 9</td>
</tr>
<tr>
<td>Tarrytown</td>
<td>Tarrytown MNRR Station</td>
<td>Depot Plaza</td>
</tr>
<tr>
<td>White Plains</td>
<td>Westchester County Center</td>
<td>Tarrytown Rd at Central Ave</td>
</tr>
<tr>
<td>White Plains</td>
<td>White Plains MNRR Station</td>
<td>Main St at Bank and Hamilton Ave at Ferris Ave</td>
</tr>
<tr>
<td>White Plains</td>
<td>Galleria Mall at Main St</td>
<td>Main St at Court St</td>
</tr>
<tr>
<td>White Plains</td>
<td>Martine Ave at Court St</td>
<td>Martine Ave at Court St</td>
</tr>
<tr>
<td>White Plains</td>
<td>Main St at Broadway</td>
<td>Main St at Broadway</td>
</tr>
</tbody>
</table>

4. NYSDOT will designate inspectors (either NYSDOT staff or a third-party vendor) to verify that stations are being maintained as described in this section.
4.1. In the event that a designated inspector asserts, based on personal observation, or is presented with photographic or other evidence, that a station is not being maintained as described in this section, NYSDOT shall notify the Contractor of the alleged situation within two (2) business days via either electronic mail or the contact information provided, supplying any related supporting information or photographs.

4.2. Upon receipt of notice from NYSDOT that a station is not being maintained as described in this section, the Contractor shall have three (3) business days to verify the reported conditions, remedy the situation, and inform NYSDOT of its actions. The Contractor will take reasonable steps to ensure public safety and protect property before and while remedying the situation.

5. In the event that the Contractor does not remedy the situation and inform NYSDOT, liquidated damages will be collected for the amount of $200.00 per day per unremedied station maintenance/repair.
### 8.20. Attachment 20: Reporting Requirements

1. The Contractor is required to provide a number of real-time, monthly, quarterly, and annual reports on the operation of the LHTL service to NYSDOT, as follows:

<table>
<thead>
<tr>
<th>Report Description</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real time bus occupancy</td>
<td>To feed into ICM system</td>
</tr>
<tr>
<td>Real-time bus location</td>
<td>To feed into ICM system</td>
</tr>
<tr>
<td>Passengers by Route</td>
<td>To feed into ICM system</td>
</tr>
<tr>
<td>Passengers by Trip</td>
<td>To feed into ICM system</td>
</tr>
<tr>
<td>Invoice</td>
<td>Monthly</td>
</tr>
<tr>
<td>Operating Statement</td>
<td>Monthly</td>
</tr>
<tr>
<td>Monthly Management Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Vehicle Accident Summary Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Safety and Security Incident Report (NTD)</td>
<td>Monthly</td>
</tr>
<tr>
<td>Wheelchair Rescue Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Road Call Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Vehicle Mileage Report (Incl. Missed Revenue Miles)</td>
<td>Monthly</td>
</tr>
<tr>
<td>Vehicle Detail Cleaning Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Vehicle PMI Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Vehicle Inspection Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Farebox Probe/Cash Box Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Application User Account Validation Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>Wheelchair Ramp Status</td>
<td>Monthly</td>
</tr>
<tr>
<td>Automatic Passenger Counter System Status</td>
<td>Monthly</td>
</tr>
<tr>
<td>Mobile Radio Failure Status</td>
<td>Monthly</td>
</tr>
<tr>
<td>GPS Failure Status Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>MDT Status</td>
<td>Monthly</td>
</tr>
<tr>
<td>Annunciator Image Load Status</td>
<td>Monthly</td>
</tr>
<tr>
<td>Customer Complaint Report</td>
<td>Monthly</td>
</tr>
<tr>
<td>DBE Utilization Report</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Required Training Update Report</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Transfer Status Report (between the intercounty BRT service and other regional transit services)</td>
<td>Quarterly</td>
</tr>
<tr>
<td>National Transit Data Report</td>
<td>Annually</td>
</tr>
<tr>
<td>Management Information System Report</td>
<td>Annually</td>
</tr>
<tr>
<td>MVD Report</td>
<td>Annually</td>
</tr>
<tr>
<td>Review of Driving Records</td>
<td>Annually</td>
</tr>
<tr>
<td>Transit Application Plan</td>
<td>Annually</td>
</tr>
<tr>
<td>Vehicle Engine Tune Up Report</td>
<td>Annually</td>
</tr>
<tr>
<td>Audited Financial Report</td>
<td>Annually</td>
</tr>
<tr>
<td>Service and Highway Performance Objectives</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>--</td>
</tr>
<tr>
<td>Utility Costs</td>
<td>Annually</td>
</tr>
<tr>
<td>Employee Receipt of NYSDOT AR 1.63 and 1.84</td>
<td>Annually</td>
</tr>
<tr>
<td>Substance Abuse Prevention Policy</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>Fare Revenue Policy</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>Facility Custodial Service Schedule</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>Facility Emergency Response Plan</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>Continuity of Operations Plan</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>Vehicle Maintenance Plan</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>Equal Employment Opportunity/Affirmative Action Plan</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>Risk Control and Safety Plan</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>Bus Operator Training Plan and Program (including ADA training)</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>ADA and Title VI Complaint Resolution Plan</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>Vehicle Idling Policy</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>Fuel Inventory Control Procedure</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>NYSDOT Provided Equipment Maintenance Program</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>IT Contacts</td>
<td>Due Within 60 Days of Startup</td>
</tr>
<tr>
<td>Environmental Management Program</td>
<td>Due Within 90 Days of Startup</td>
</tr>
<tr>
<td>Underperforming Route Analysis and Resolution Plan</td>
<td>Required After Two Months of Underperformance</td>
</tr>
</tbody>
</table>

2. Failure of the Contractor to provide the above reports complete and within 10 calendar days after the end of the month (or at the annual or initial due date from startup) will result, at NYSDOT’s discretion, in liquidated damages of $100.00 for that specific report.
8.21. Attachment 21: Transit Service Plan

8.21.1. Introduction

The Lower Hudson Transit Link (LHTL) Program delivers the adopted transit vision for the I-287/Thruway Corridor in Rockland and Westchester Counties.

The project will introduce a coordinated, high-quality, regional transit system to serve trips between Rockland County and Westchester Counties and facilitate seamless connecting service to and from Manhattan. The system will conveniently connect major concentrations of residential, employment, commercial, entertainment, medical, and educational land uses and provide key connections to existing bus (Transport of Rockland and Westchester Bee-Line) and rail (Metro-North and NJ Transit) systems.

The package of improvements included in the LHTL program is informed by the short-term improvement recommendations made by the Mass Transit Task Force (MTTF), a 31-member body convened by Governor Andrew Cuomo, the New York State Thruway Authority (NYSTA), and the New York State Department of Transportation (NYSDOT) in December 2012. Comprised of key stakeholders from around the region, as well as planning and transportation professionals, the MTTF built upon previous planning efforts to make transit recommendations for the I-287 corridor that best meet the needs of the region.

The LHTL will be rolled out progressively over time, with each phase expanding upon the previous phase’s span of service. This Transit Service Plan defines the need for enhanced regional transit service, outlines service objectives, and defines potential routes for the first phase of the LHTL program.

8.21.2. Methodology

To inform a Transit Service Plan for the LHTL Program, the project team:

- Conducted an analysis of existing conditions along the corridor, studying current ridership demand, travel patterns, key origins and destinations, and complementary local and regional transit services;

- Surveyed transit research organizations and peer transit operators to design service levels and objectives for the system; and

- Undertook an extensive stakeholder engagement effort to gather technical, political, and community input into the design of the transit service.

Each of these processes is described in detail herein.

8.21.3. Background and Existing Conditions

Rockland and Westchester Counties make up the northern suburbs of New York City. While they mostly experienced major population growth and development throughout the 20th century, development did not consist entirely of stereotypical “sprawl”. The corridor is home to distinct centers that are connected by local, state, and federal roadways, many running east-west.
However, transportation options, especially public transit options, are limited, and the need for improved service and better access is growing.

Since they are suburbs of New York City, the counties do have a large number of Manhattan-bound commuters, but they also have their own robust local economies and a shared regional economy with major employment centers on both sides of the Hudson River. Key destinations include Suffern, Spring Valley, the Palisades Mall, and Nyack in Rockland County and Tarrytown and White Plains in Westchester County, with less trafficked destinations interspersed between.

8.21.3.1. Roadway Network

The LHTL program focuses on the east-west corridor between Rockland and Westchester counties, including the New York State Thruway (I-87/287) and parallel state highways (see Figure 1).

Figure 1: Primary east-west corridors serving Rockland and Westchester Counties

I-87/I-287 connects Rockland and Westchester Counties by way of the existing Tappan Zee Bridge (TZB), which is due to be replaced with the New NY Bridge (NNYB) in 2018. Two key parallel routes in this corridor are Route 59 in Rockland County and Route 119 in Westchester County, both of which host large concentrations of commercial development and carry traffic on both local and longer-distance trips. All three of these routes will be utilized for the LHTL system.
8.21.3.2. Existing Transit Network

The MTA Metro-North Railroad (MNR) provides key connections to Manhattan on both sides of the Hudson River. West of the Hudson, this consists of the Main/Bergen-Port Jervis Line (running through Suffern) and the Pascack Valley Line (originating in Spring Valley), both of which terminate at Hoboken Terminal in New Jersey and are operated by NJ Transit under contract to MNR. On the east side of the Hudson, MNR runs service on the Hudson Line (running through Tarrytown), the Harlem Line (running through White Plains, and the most frequent of the lines), and the New Haven Line. All three of these lines terminate at Grand Central Terminal in Manhattan.

Trans-Hudson bus service along the I-87/I-287 corridor is currently provided by the Tappan Zee Express (TZx), contracted out by Transport of Rockland (TOR). The TZx connects to Manhattan-bound MNR trains and serves intercounty trips with stops at Tarrytown and White Plains, running almost 20 different route variations.

Intra-county bus service is provided by TOR and the Westchester Bee-Line. TOR operates ten bus routes, and Bee-Line operates more than 50 on roads that either use or intersect with the project corridors. The Bee-Line carried 32.7 million passengers in 2013, with the highest daily ridership along the Central Avenue corridor. The TOR system, including TZx, carried approximately 3 million riders in 2014, with about one-third of those trips ending along the Route 59 corridor. The TZx alone carried approximately 361,000 passengers in 2015, with Palisades Center capturing the highest share of boardings (see Figure 2).
8.21.3.3. Existing Travel Patterns

The New York Metropolitan Transportation Council’s (NYMTC) Regional Household Travel Survey (RHTS), released in 2013, provides a comprehensive assessment of regional travel patterns, estimating travel flows for different transportation modes and trip purposes.

Figure 2: TZx Boardings by Stop
The survey shows that the majority of trips (both work trips and all trips) take place within each county. But what also emerges is that more trips (both work trips and all trips) take place between Rockland and Westchester than between Rockland and Manhattan (though Manhattan is still a large generator of trips from Rockland County). In addition, travelers in the Rockland-Manhattan Corridor often use the Rockland-Westchester Corridor to access Manhattan, making this an even more important link between the two counties. Conversely, Westchester-to-Rockland work travel is a very small proportion of overall travel originating from Westchester County. This data is represented in Figure 3 above.

Rockland-to-Westchester work travel generally moves across the TZB and towards concentrations of jobs in White Plains, Elmsford, Tarrytown, and Valhalla (as illustrated in Figure 4).
TZx ridership data shows that eastbound travel is concentrated between the hours of 6–9am, while westbound travel is concentrated between 4–7pm (Figure 5).
8.21.3.4. Fares

Transit systems in the region utilize a number of legacy fare collection technologies, all of which cause varying amounts of delay from boarding passengers paying their fare. The MTA’s MetroCards are the standard smart card for the region, as a large number of travelers in Rockland and Westchester counties also travel into the five boroughs of New York City for work or leisure. The MetroCard itself was originally due to be replaced in 2012 but the project is currently delayed until at least 2022. The MTA has released an RFP to replace the MetroCard with electronic readers accepting near-field communications (NFC) links from contactless bank cards, smartphones or any other mobile devices, or MTA-issued smart cards. Westchester Bee-Line currently utilizes MetroCards on its system (it accepts cash as well), and will be transitioning to a new system in line with the MTA’s phase out of the MetroCard.

Transport of Rockland utilizes cash fareboxes, alongside a variety of student passes, Metro-North UniTickets, and pre-paid multi-trip discount tickets. Current fare levels are as follows:
## TZx Fare Type

<table>
<thead>
<tr>
<th>Fare Type</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Fare</td>
<td>$3.00</td>
</tr>
<tr>
<td>Standard Transfer</td>
<td>$1.00</td>
</tr>
<tr>
<td>Senior Citizen / Disabled Fare</td>
<td>$1.50</td>
</tr>
<tr>
<td>Senior Citizen / Disabled Transfer</td>
<td>$0.50</td>
</tr>
<tr>
<td>SuperSaver Tickets - Strip of 10 (TZx Fare = 2 tickets)</td>
<td>$11.00</td>
</tr>
<tr>
<td>R.C.C./Dominican/STAC Student Discount Bus Pass (4-month Semester)</td>
<td>$60.00</td>
</tr>
<tr>
<td>Monthly Metro-North/TZx UniTicket (as of 3/22/15)</td>
<td>$360.00</td>
</tr>
<tr>
<td>Weekly Metro-North/TZx UniTicket (as of 3/22/15)</td>
<td>$116.00</td>
</tr>
</tbody>
</table>


According to 2015 ridership data from Rockland County, over 40% of customers pay the higher cash fare, and 11% are transferring from another service.

The remaining 45% use a bus pass or multi-trip ticket of some sort. 25% of riders are UniTicket users, meaning they purchase a monthly combination fare with MTA Metro-North, a percentage that is expected to remain steady in the future. 18% of riders use the ‘Super-Saver’ tickets, available by mail from the Rockland County Department of Transportation or from various retailers in the County. Nearly 2% of riders utilize the student discount bus pass, available for students at Rockland County College, Dominican College, and St. Thomas Aquinas College.

### 8.21.4. Transit Service Objectives

A detailed planning process has been conducted for the LHTL project. A key output is a set of Transit Service Objectives, which provides the basis for the service specifications set forth in this Transit Service Plan. These standards are based on guidance promulgated through research organizations, non-profit institutes, and observations of peer transit operators.

The Service Objectives are based on six key passenger-serving concepts:

- Safety
- Reliability
- Frequency
- Span of Service
- Speed
- Access
8.21.4.1. Safety

Safety is always the highest priority and ensures that passengers (and others) will not be harmed, harassed, or otherwise endangered when riding. Safety is a policy priority.

LHTL Service Objective: 100% of trips completed without incident

8.21.4.2. Reliability

Reliability means “living up to the intent of the schedule” – either through on-time operation or headway adherence. Transportation Research Board (TRB) studies\(^5\) show that “arrival at intended time” is perceived as the second most important travel attribute for work trips (after safety).

LHTL Service Objective: 94% on-time performance

8.21.4.3. Frequency

Frequency means that the bus needs to operate at least every 15 minutes for it to be considered a convenient, “turn-up-and-go” option by most potential customers, as identified by the Transit Capacity and Quality of Service Manual.\(^6\) Frequencies (scheduled bus arrivals) between 11 and 15 minutes are identified as relatively frequent service, allowing the maximum desirable wait time for the next transit trip (allowing for random arrivals).

It should also be noted that based upon studies of travel behavior, most travel demand models assign a larger penalty to wait time than to in-vehicle time—typically a factor of four, meaning that a minute spent waiting for the bus is perceived by the customer as four times longer than a minute spent on the bus.

LHTL Service Objective:

- Peak service frequency (on average during peak commute hours) –15 minutes
- Off-peak service frequency –30 minutes

8.21.4.4. Span of Service

Span of Service refers to the total operating hours of the transit service. Changes to service span appear to have about the same elasticity of demand as frequency changes; however, the research is not consistent, and the case studies often include additional service improvements, making precise comparisons difficult. The Transit Capacity and Quality of Service Manual defines the ranges of service span as follows:

---


Service Span | Passenger Perspective
---|---
> 18 hours | Full range
15-18 hours | Broad range
12-14 hours | Work based
7-11 hours | Slightly inflexible
4-6 hours | Peak only
< 4 hours | Little flexibility

**LHTL Service Objective: 20 hours of daily service (4am–midnight)**

8.21.4.5. **Speed**

*Speed* impacts both passenger acceptance and operator cost. As the transit vehicle schedule speeds increase (and transit trip times decrease), costs are reduced, and passenger volumes usually increase. However, passengers value in-vehicle time less than waiting time, so if trade-offs occur, frequency is more important than fast service.

Speed is a function of in-vehicle time (time spent traveling from one stop to another) and terminal (or stop) time. Terminal time includes deceleration, dwell time, and acceleration and can include associated delays with reentering traffic, including signal delay. Dwell time is a function of door cycling (opening and closing), passenger boarding time, and fare collection.

**LHTL Service Objective:**

- Thruway/highway minimum speed – 40 mph
- Arterial minimum speed – 18 mph

8.21.4.6. **Access**

*Access* focuses on the ability of passengers to access the transit system. There is a tradeoff between access and speed; the more stops/stations on the transit service, the slower (and often less reliable) the transit service becomes. For instance, while the wide spacing of stops in a commuter rail system allows trains to quickly travel long distances, passengers often must travel long distance to reach a stop and board a train. On the other hand, the frequent stops characterizing local downtown bus service offer easy access to the system but slower travel times.

BRT stop spacing must strike an appropriate balance between customers’ desires for access to multiple destinations and for fast point-to-point service at a speed competitive with automobile travel. These needs can be met through a combination of local and express stop spacing, with factors such as density of destinations, ridership levels, area walkability, and intermodal accessibility influencing stop locations.

**LHTL Service Objective:**

- Local area stop spacing – 0.2–2.0 miles
- Express area stop spacing – 5.0–12.0 miles
8.21.5. Stakeholder Engagement

In addition to laying the groundwork for a transit service with the MTTF, the LHTL project team conducted an extensive campaign of stakeholder engagement to help guide further transit planning decisions. The engagement strategy was designed to synthesize technical expertise with local knowledge of community needs and concerns. To do so, the team sought input from stakeholders in the corridor including state, regional, and municipal governments; transit users; and the general public by organizing a number of different forums:

- Executive Committee – includes representation from NYSDOT, the New York State Thruway Authority (NYSTA), the Governor’s Office, and consultant team project management lead personnel. This group oversees the progress of the LHTL and is responsible for making high-level decisions and, ultimately, for the success of the project.

- ICM Strategy Group – takes on policy-level discussions of issues related to overall project management and delivery, corridor management, technology, transit and traffic operations, and the implementation of major project elements.

- Transit Working Group (TWG) – discusses issues around vehicle procurement, the intersection between ICM and transit, the implementation of transit infrastructure, and service planning in the corridor.

- Technical Advisory Committee (TAC) – resolves technical issues and receives feedback on items such as operations in the corridor. There is one TAC in Rockland County and one in Westchester County.

- General public – kept informed throughout the project process via public events (open houses, workshops, and community meetings), as well as general project outreach, including newsletters and monthly updates to the project website. An email contact database will be maintained and supplemented during the project through additions from meeting sign-in sheets and NYSDOT website comment forms.

8.21.6. Program Details

The LHTL program will link the region along an east-west corridor with

- An optimized bus rapid transit (BRT) system utilizing double-decker transit buses;

- New bus shelters with unified branding; improved pedestrian connections; amenities, including real-time bus arrival information; and off-board ticket vending/fare collection;

- Signal upgrades along New York State Routes 59 and 119 with technology-focused improvements, including transit signal priority and intelligent signal control, to provide better operating conditions for transit and to allow the operators to predict, adapt, and respond to changing traffic conditions;
Ramp metering and queue jump lanes along I-287 to stabilize mainline vehicle flows and allow buses to move past vehicle queues, increasing transit reliability, and the investigation of transit queue jump lanes along Routes 59 and 119; and

Integrated Corridor Management (ICM) technology and systems along I-287 and Route 59 in Rockland County and Route 119 in Westchester County, including enhanced traveler information; advanced monitoring and control equipment to give both the public and all operational partners (NYSDOT, NYSTA, transit operators, etc.) a greater awareness of traffic conditions and incidents along the enhanced transit corridor; and the ability to rapidly respond to changing conditions. The operation of the ICM system will require all partner agencies and operators to be integrated at the Hudson Valley Transportation Management Center (HVTMC) in Hawthorne, NY.

The operator for the LHTL transit service is expected to deliver a turnkey and expandable solution for NYSDOT in Rockland and Westchester counties. This Transit Service Plan describes the first phase of the service. The system is expected to expand in the future, as ridership and available funding allow.

8.21.7. Service Specifications

Figure 6: LHTL System Map

The system map above shows the selected routes for the LHTL service. The LHTL routes are designed to provide both intra- and inter-county service between key destinations in Rockland and Westchester Counties. Routes terminate at the Metro-North stations in White Plains and Tarrytown, and schedules are pegged to the Metro-North commuter rail schedule—with priority given to express trains—to allow passengers to make timed connections to rail service to or from Grand Central Terminal.
The following stations and stops have been established and will continue to be expanded upon by NYSDOT as funding and ridership warrant.

8.21.7.1. Stations and Stops

NYSDOT has identified a number of stops (detailed in the table below) where they will be implementing new stations and associated amenities, as well as local area improvements. High-quality bus stations with amenities will improve the experience for all riders.

Stations will offer comfortable, well-lit, weather-protected waiting environments with seating, real-time bus arrival information, off-board fare collection, a system map, Wi-Fi, and bike parking (where appropriate and space allows). Stations will feature unique system branding, utilizing distinctive materials and visual elements to distinguish the LHTL stations from those of other regional systems. These distinct elements will be used consistently across the system to create a legible, noticeable, and high-quality system. Stations will also offer improved pedestrian connections to local destinations.

The list of stops and their locations is detailed below.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Stop</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suffern</td>
<td>Chestnut Street</td>
<td>Hallett Pl. &amp; Chestnut St.</td>
</tr>
<tr>
<td>Airmont</td>
<td>Airmont Road</td>
<td>Airmont Rd. at NY 59</td>
</tr>
<tr>
<td>Monsey</td>
<td>Monsey Park &amp; Ride</td>
<td>Main St. at NY 59</td>
</tr>
<tr>
<td>Spring Valley</td>
<td>Spring Valley Transit Center</td>
<td>Franklin St. at Municipal Plaza</td>
</tr>
<tr>
<td>Nanuet</td>
<td>Exit 14 Park &amp; Ride</td>
<td>NY 59 EB &amp; Forman Dr.</td>
</tr>
<tr>
<td>West Nyack</td>
<td>Palisades Center Lot J</td>
<td>Palisades Center Dr. Lot J</td>
</tr>
<tr>
<td>West Nyack</td>
<td>Macy’s</td>
<td>Palisades Center Dr. &amp; NY 59</td>
</tr>
<tr>
<td>Nyack</td>
<td>Central Nyack</td>
<td>NY 59 &amp; Mountainview Av.</td>
</tr>
<tr>
<td>Nyack</td>
<td>Downtown Nyack</td>
<td>Franklin St. &amp; Artopee Way</td>
</tr>
<tr>
<td>South Nyack</td>
<td>South Nyack</td>
<td>Franklin St. &amp; Clinton Ave.</td>
</tr>
<tr>
<td>Tarrytown</td>
<td>Route 119 &amp; Broadway</td>
<td>Broadway &amp; NY 119</td>
</tr>
<tr>
<td>Tarrytown</td>
<td>Elizabeth Street</td>
<td>US 9 at W. Elizabeth St.</td>
</tr>
<tr>
<td>Municipality</td>
<td>Stop</td>
<td>Location</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Tarrytown</td>
<td>Tarrytown MNR Station</td>
<td>Depot Plaza</td>
</tr>
<tr>
<td>White Plains</td>
<td>Westchester County Center</td>
<td>Tarrytown Rd. &amp; Central Av.</td>
</tr>
<tr>
<td>White Plains</td>
<td>White Plains Train Station</td>
<td>Main St. &amp; Bank St. (EB) Hamilton Ave. &amp; Ferris Ave. (WB)</td>
</tr>
<tr>
<td>White Plains</td>
<td>Galleria Mall</td>
<td>Main St. &amp; Court St.</td>
</tr>
<tr>
<td>White Plains</td>
<td>Court Street</td>
<td>Martine Ave. &amp; Court St.</td>
</tr>
<tr>
<td>White Plains</td>
<td>Broadway</td>
<td>Main St. &amp; Broadway</td>
</tr>
</tbody>
</table>

8.21.7.2. Dark Blue Route

*Route description*

The Dark Blue route is designed to provide peak-hour service for riders in western Rockland County. It serves passengers from Suffern and Airmont to the LHTL hub at Palisades Center Lot J, where they may make a timed connection to either a White Plains- or Nyack-bound bus.
Figure 7: Dark Blue Route
Span of service

The Dark Blue Route operates on weekdays and weekends during peak hours (6:00–8:30am and 4:30–6:30pm) only.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday</td>
<td></td>
</tr>
<tr>
<td>Peak</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Off-peak</td>
<td>No service</td>
</tr>
<tr>
<td>Weekend</td>
<td></td>
</tr>
<tr>
<td>Peak</td>
<td>60 minutes</td>
</tr>
<tr>
<td>Off-peak</td>
<td>No service</td>
</tr>
</tbody>
</table>

8.21.7.3. Light Blue Route

Route description

The Light Blue Route is the system’s main express trunk line, connecting key Rockland County population centers with Metro-North service, shopping, and employment in downtown White Plains. In Rockland, the Light Blue Route serves Monsey Park-and-Ride, the Spring Valley Transit Center, Nanuet Park-and-Ride, and the Palisades Center Park-and-Ride at Lot J, from where it runs express to White Plains, providing speedy intercounty connectivity.
<table>
<thead>
<tr>
<th>Peak Running Time (Minutes)</th>
<th>LHTL Light Blue Stops</th>
<th>Transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROCKLAND COUNTY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastbound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0:00</td>
<td>Monsey</td>
<td></td>
</tr>
<tr>
<td>0:06</td>
<td>Spring Valley</td>
<td>NJ Transit Pascack Valley Line</td>
</tr>
<tr>
<td>0:12</td>
<td>Nanuet</td>
<td></td>
</tr>
<tr>
<td>0:26</td>
<td>Palisades Center Lot J</td>
<td>LHTL</td>
</tr>
<tr>
<td>WESTCHESTER COUNTY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastbound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:02</td>
<td>Westchester County Center</td>
<td>LHTL</td>
</tr>
<tr>
<td>1:04</td>
<td>White Plains Train Station</td>
<td>MNR Harlem Line</td>
</tr>
<tr>
<td>1:07</td>
<td>Galleria Mall</td>
<td>LHTL</td>
</tr>
<tr>
<td>1:10</td>
<td>Broadway</td>
<td>LHTL</td>
</tr>
<tr>
<td>1:13</td>
<td>Court Street</td>
<td>LHTL</td>
</tr>
</tbody>
</table>

Figure 8: Light Blue Route
Span of service

The Light Blue Route operates seven days a week from 4am–midnight.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday Peak</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Off-peak</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Weekend All day</td>
<td>30 minutes</td>
</tr>
</tbody>
</table>

8.21.7.4.  Dark Gold Route

Route description

The Dark Gold Route is the system’s main local trunk line, connecting Palisades Center and Nyack with Metro-North service, shopping, and employment in downtown White Plains. The Dark Gold Route travels on local roads from Palisades Center through Central Nyack, Nyack and South Nyack providing trans-Hudson service to the villages’ residents and employees.
Figure 9: Gold Route
Span of service

The Dark Gold Route operates seven days a week from 4am–midnight.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday</td>
<td></td>
</tr>
<tr>
<td>Peak</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Off-peak</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Weekend</td>
<td></td>
</tr>
<tr>
<td>All day</td>
<td>30 minutes</td>
</tr>
</tbody>
</table>

8.21.7.5. Light Gold Route

Route Description

The Light Gold Route provides local service from Lot J to Nyack and Tarrytown. The Light Gold connects to Metro-North in Tarrytown, which offers access to Manhattan, as well as key destinations along the Hudson Line such as Yonkers, Poughkeepsie, and the west Bronx.

On Saturdays and Sundays, this runs as the designated ‘Weekender’ service connecting Nyack and Tarrytown, serving both ends of the New New York Bridge Shared-Use Path (SUP).
## Lower Hudson Transit Link - Phase A

### Transit Service and Highway Performance Objectives

<table>
<thead>
<tr>
<th>Peak Running Time (Minutes)</th>
<th>LHTL Light Gold Stops</th>
<th>Transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ROCKLAND COUNTY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastbound</td>
<td>Westbound</td>
<td></td>
</tr>
<tr>
<td>0:00</td>
<td>0:39</td>
<td>LHTL</td>
</tr>
<tr>
<td>0:04</td>
<td>0:34</td>
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<td>0:12</td>
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<td>0:18</td>
<td>0:21</td>
<td>LHTL</td>
</tr>
<tr>
<td>0:22</td>
<td>0:18</td>
<td>LHTL</td>
</tr>
<tr>
<td><strong>WESTCHESTER COUNTY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastbound</td>
<td>Westbound</td>
<td></td>
</tr>
<tr>
<td>0:37</td>
<td>0:06</td>
<td>LHTL</td>
</tr>
<tr>
<td>0:41</td>
<td>0:03</td>
<td>LHTL</td>
</tr>
<tr>
<td>0:46</td>
<td>0:00</td>
<td>MNR Hudson Line</td>
</tr>
</tbody>
</table>

---

**LHTL Light Gold Stops**:
- Palisades Center Lot J
- Palisades Center Macy's
- Mountainview Ave
- Downtown Nyack
- South Nyack
- Rt 119 & Broadway
- Elizabeth St
- Tarrytown Metro-North
Span of Service

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday</td>
<td></td>
</tr>
<tr>
<td>Peak</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Off-peak</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Weekend</td>
<td></td>
</tr>
<tr>
<td>All day</td>
<td>30 minutes</td>
</tr>
</tbody>
</table>

8.21.8. Fare Policy

NYSDOT will be responsible for setting fares, which are envisaged to closely match the ones that are used on the TZx today. The Contractor may recommend fare changes to increase efficiency and ridership through the proscribed tariff process for regulated carriers found at the NYCRR Part 720 at https://www.dot.ny.gov/divisions/operating/osss/bus-repository/PARTS%2520730.pdf. NYSDOT will review and approve or deny the suggested change. NYSDOT will also have the authority to change fares at any point throughout the contract.

The LHTL BRT operator will be expected to maintain the Metro-North weekly and monthly UniTicket fare, accommodate the MetroCard and its eventual replacement, and is encouraged to develop a range of discounted and institutional tickets that is similar to what is offered today, as well as work with local business and institutions to create new fare types. The operator is also encouraged to develop mobile ticketing technology for use on the LHTL intercounty BRT system, and incentivize users to avail themselves of this medium.

8.21.9. Transit System Technology

The LHTL project seeks to use technology to improve travel times and enhance the effective management of the road network in the I-287 Corridor. The transit service is a key component of the Integrated Corridor Management (ICM) system to achieve these goals.

8.21.9.1. Fare Payment Options for Meeting System Goals

A key component supporting transit system reliability and the customer experience is the fare payment system. Maintaining reliability and ensuring that the buses reach stops at their scheduled times, with even spacing between them, requires minimizing the dwell time at stops – the amount of time the bus waits to load and unload passengers. The processing of cash fares or validating of passes onboard by the driver increases the dwell time at stations, delaying bus departure times and disrupting the schedule.

In its final report, the MTTF recommended providing off-board fare payment machines where riders can purchase tickets. Off-board fare collection is a recommended feature of BRT systems.
from both ITDP’s international Bus Rapid Transit Standard\(^7\) and NACTO’s transit guidelines\(^8\). The use of proof-of-payment, rather than driver fare control, also requires regular inspections and fare evasion deterrents, usually fines.

To achieve the system performance goals for the LHTL system, it is proposed that a combination of off-board fare payment and mobile ticketing is used for fare collection. Off-board fare payment machines (supplied by NYSDOT) will be able to accept MetroCard or credit/debit card payments and will issue a ticket with a QR or barcode that can be read by optical scanners on the bus. The mobile ticket will be required to have the same QR or barcode to allow scanning verification on-board.

While there will be some movement from the high percentage of cash fares to mobile and off-board payment, it is still anticipated that there will be a need to collect cash fares, so the bus fareboxes will be equipped to accept this. It is preferable for the fareboxes to also be able to accommodate NFC technology, so that they can be made compatible with the MetroCard replacement when it is available.

8.21.9.2. Integration with the I-287 Corridor ICM System

The Operator will be expected to work with the ICM Systems Integrator to ensure all onboard, in-shelter, and backoffice technologies are integrated with the main ICM system. The transit system will be flexible and responsive to corridor conditions, enabled by the Operator presence within the Hudson Valley Transportation Management Center, where the ICM operations will be located.

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\(^7\) Institute for Transportation and Development Policy, [https://www.itdp.org/library/standards-and-guides/the-bus-rapid-transit-standard/](https://www.itdp.org/library/standards-and-guides/the-bus-rapid-transit-standard/)

8.22. Attachment 22: ICM and Transit Operational Framework

8.22.1. Purpose

8.22.1.1. The purpose of this document is to establish an operational framework for the effective and integrated management of transit within the I-287 Integrated Corridor Management (ICM) system. By identifying system requirements and a model for addressing these requirements, this document can outline a clear structure for the way transit operations and their relationship to the ICM system can be organized.

8.22.1.2. This document serves as a foundation for the private transit operator requirements specification, which is part of the NYSDOT Request for Proposals (RFP) for Operation of the LHTL Intercounty Bus Rapid Transit Service and subsequent operating contract.

8.22.2. Project Background

8.22.2.1. The Lower Hudson Transit Link (LHTL) is a program of integrated transit supportive infrastructure projects, with independent utility, being developed in Westchester and Rockland Counties. The LHTL program will:

A. respond to the unmet needs for better east-west travel options that residents and employees are seeking in the region;

B. enhance the existing transit service within and between the counties; and lay the foundation for introducing Bus Rapid Transit (BRT), creating an east-west transit priority corridor;

C. begin implementing the consensus regional transit plan put forward by the 31-member Mass Transit Task Force (MTTF) convened by Governor Andrew M. Cuomo

8.22.2.2. The LHTL program will link the region along the east-west corridor with:

A. Improved transit connections with more frequent, direct routes connecting to regional travel markets, new bus stations with unified branding, improved amenities (including Wi-Fi and real-time bus arrival) and improved pedestrian connections;

B. Signal upgrades along Route 59 and 119 with technology-focused improvements, including transit signal priority and intelligent signal control, to provide better operating conditions for transit and to allow the operators to predict, adapt and respond to changing traffic conditions;
C. Ramp meters and transit queue jump lanes along I-287 to stabilize mainline vehicle flows and allow buses to move past vehicle queues, thereby increasing transit speed and reliability; and

D. Integrated Corridor Management (ICM) technology and systems along I-287 in Rockland County, Route 59 and Route 119, including enhanced traveler information and advanced monitoring and control equipment to improve operators’ corridor awareness and their ability to rapidly respond to changing conditions.

8.22.2.3. ICM

8.22.2.4. Integrated Corridor Management is a partnership between the various agencies that have operational responsibility over the corridor’s assets. ICM frameworks include roadway operators, whether state or local, public safety components, special authorities, and transit operators. Operating within a pre-defined management framework with agreed-upon performance targets and protocols for normal and abnormal operations, an ICM system facilitates real-time corridor management. This allows the Traffic Management Center (TMC) and the operational stakeholders to efficiently manage the scarce roadway resource, and accomplishes the goal of improving the speed, safety, and reliability of travel times across the corridor.

8.22.2.5. In order to develop the necessary infrastructure, procure the proper equipment, and ensure the stakeholders are working towards a common defined goal, a Concept of Operations (ConOps) for the I-287 corridor has been developed.

8.22.2.6. The ConOps includes a description of the stakeholders, frameworks of the various interagency collaboration groups, the goals for how benefits are transmitted to the end users, and a description of the hardware and software required with protocols for its operation. The ConOps also includes methods and protocols for measuring progress and evaluating the effectiveness of the measures put in place as part of the project.

8.22.2.7. As the transit vehicles themselves will be part of the ICM system and transit users will be a major beneficiary of the ICM interventions, the high-level ICM requirements are being incorporated into the vehicle specifications and the operator requirements being promulgated.

8.22.2.8. The vehicles will have a two-way information flow with the operations center. They will receive system status information to be passed on to the passengers and
potential routing strategies to be adopted by the drivers. In turn, the HVTMC will receive information on the vehicle position and performance, which can both advise strategy development and feed into long-term network performance assessment.

8.22.2.9. **Transit**

8.22.2.10. Following on from the MTTF transit recommendations, a number of transit planning activities have been completed. These activities support the MTTF’s conclusions, which were to implement a cross-Hudson BRT system. This new system will replace the current intercounty bus service, the Tappan Zee Express (TZx).

8.22.2.11. Through a competitive bidding process, NYSDOT will enter into a contract with a private transit operator to run the BRT service. This approach was decided upon after evaluating several other potential models for the system. The State will set performance and service standards and provide all on-street infrastructure, while the private operator will develop detailed schedules to meet the service’s standards, and will procure, operate and maintain transit vehicles and on-board, in-shelter and back office technology.

8.22.2.12. Research on potential types of transit vehicles indicated that the system is best suited by a double-decker bus, which offered low-floor boarding, ample capacity, and a smoother highway ride than articulated buses. Functional requirements for this vehicle have been specified, to guide the future operator through fleet procurement.

8.22.2.13. The collaboration and cooperation of the transit operator is an integral input of the operations of the Hudson Valley Transportation Management Center (HVTMC), the nerve center for the corridor operations. As an important provider of person-mobility in the corridor, the transit operator is envisioned as a full partner in the daily operations of the ICM system, and will be expected to allocate staff in the HVTMC. The transit operator will participate in the daily operations of the corridor, be involved in incident response, contribute to the strategic planning of corridor functions, and be assessed as part of the corridor’s performance metrics.

8.22.3. **System and Asset Requirements**

8.22.3.1. The ICM workstream has identified transit-specific high-level operational user needs for the I-287 ICM system, as follows:
A. Characterization of transit operations:
   ○ Frequency of passage of transit vehicles along relevant transit routes
   ○ Average occupancy of transit vehicles operating along each relevant transit routes
   ○ Active service deviations
   ○ Real-time BRT vehicle location
   ○ Bus failure frequency
   ○ Time lost to congestion

B. Effective and on-time transit operations
   ○ Variation in run time between the same trip on different days

8.22.3.2. The ICM assets identified to satisfy these needs are as follows:
A. Transit signal priority
B. Transit monitoring systems:
   ○ Automatic Vehicle Locators (AVL)
   ○ Automated Passenger Counters (APC)
   ○ On-board CCTV
   ○ Agency-based transit performance assessment system
C. Communication links with transit agency operations management system

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9 I-287 SRS v0.07, page 15
10 I-287 SRS v0.07, page 18
8.22.3.3. These asset requirements and need for interagency coordination will demand a certain level of flexibility and expertise beyond the normal procedures of bus procurement and in-house dispatch and operational control of the vehicles.

8.22.4. **Operational Framework**

8.22.4.1. This section contains a high-level outline of how the transit service and overall ICM system for the corridor will interact in the day-to-day operation of the corridor.

8.22.4.2. **Staffing**

8.22.4.3. The bus operator will provide appropriate staff in the HVTMC to allow for communication between the roadway operators and the transit operator and to allow for improved overall system monitoring. The co-location of staff in the TMC also allows for better partnership and coordination with law enforcement, when required.

8.22.4.4. The transit operator staff allocated to the HVTMC will have multiple functions:

A. To determine, in concert with roadway operators, when changes in conditions require joint attention

B. To provide instantaneous information about roadway conditions to the bus drivers

C. To receive field reports from the bus drivers

D. To interface with the other transit operators (Metro-North and Bee-Line) in case of disruptions on any of those systems that may have an impact to the corridor

E. To facilitate the communication between law enforcement and the bus operator in the event of any security-related incident.

F. To share the bus CCTV footage with NYSDOT and law enforcement upon request.
8.22.4.5. **Roles and Responsibilities**

8.22.4.6. The transit operator will take an active role in incident response using general response protocols developed jointly between the transit operator and the other stakeholders, with modifications to each individual incident.

8.22.4.7. These modifications may require the operator to divert, delay, adjust, or add service where able and when practical.

8.22.4.8. The HVTMC Transit Service Coordinator will perform the following functions:

A. Assess transit conditions  
B. Monitor vehicle operations  
C. Monitor station conditions  
D. Supply information to ICM system  
E. Monitor all on-board and in-station ICM assets  
F. Maintain on-board and in-station ICM assets and repair any system faults within the agreed performance targets

8.22.4.9. During incidents, the transit operator and the roadway manager will set up a “situation room” for coordination during the event and its recovery. Situation rooms are preferred, as they provide a single venue for decision making with all parties participating in seeing a unified operations picture and jointly making decisions. The situation room also provides an appropriate venue for after-action reviews and a chance to share lessons learned. The situation room will also serve as the venue for providing joint oversight to large pre-planned events.

8.22.5. **Assets**

8.22.5.1. The vehicle on-board technology will be procured and then maintained by the transit operator. In the cases when the equipment is not covered under manufacturers’ warranties, the transit operator will have to use outside technical support. The transit operator will procure and operate equipment according to their own procedures and those set forth in the proposal.

8.22.5.2. It is assumed that the transit operator will contract on their own with a third-party systems integrator, but this may not be required if the transit operator has the
requisite in-house capability. There will be a milestone design review as part of the equipment procurement, in which the operator will meet the systems integration that is being separately bid and contracted by the ICM operator. It is expected that regular collaboration will take place between the transit operator, the systems integrator(s), and the ICM operator to allow for the seamless and effective functioning of the transit-related equipment within the ICM framework.

8.22.5.3. The onboard systems will send and receive route, schedule, and position information on feeds operated by and provided by other transit agencies. This will likely require the intervention of the systems integrator to ensure mutually acceptable feeds providing accurate information.

8.22.5.4. The transit operator will also maintain the back office functions of the various equipment and data collection devices with the processed information to be delivered to the HVTMC in such a way as to integrate with the other pieces of ICM equipment.

8.22.5.5. The technology at the bus stops will be the responsibility of the transit operator to procure, operate, and maintain, and connections must be made via the transit operator to the ICM systems in the corridor and in the HVTMC. The fare collection equipment will be compatible with the “UniTicket,” or another contemporary fare system that allows a passenger to purchase a combined ticket between this bus service and Metro-North Rail.

8.22.5.6. Transit-related equipment at the transit operator will be procured, maintained, and operated by the transit operator.

8.22.6. Monitoring

8.22.6.1. The equipment installed on the transit vehicles will have real-time transmission to the HVTMC via the transit operator, allowing the ICM operators to monitor the status of the transit network contemporaneously. This will provide for performance monitoring, incident detection and analysis, troubleshooting, and on-the-go operational improvements. The transit operator will negotiate KPIs and output data relative to KPI adherence to the ICMS.

8.22.6.2. The data will also be recorded and archived to allow for detailed analysis, trend discovery, problem identification, and compliance with the operating agreement.

8.22.6.3. CCTV

VERSION 6 – June 27, 2016
8.22.6.4. The transit operator will be responsible for procuring, installing, maintaining, and monitoring CCTV equipment on the vehicles and at the shelters.

8.22.6.5. The CCTV is intended to be used for asset protection, operations monitoring, incident detection, and passenger security. It is not expected that the CCTV be actively monitored, but will be an asset used for incident detection and incident response upon external notification.

8.22.6.6. The transit operator will provide a method by which state and local law enforcement can access the live feeds and archived video upon request. CCTV footage will be archived for a time to be determined after the appropriate consultation with local law enforcement.

8.22.7. Communications

8.22.7.1. Information from the buses will be transmitted via the transit operator to the HVTMC using GPRS for AVL functions, and a higher-capacity system for CCTV as the requirements of that system dictate. The bus stop equipment will use either moderate-bandwidth (GPRS) wireless or wired (Ethernet/fiber) connections, with a requirement that passenger transactions be near instantaneous and have such latency as to interfere with the boarding process. The onboard components of the fare collection system should use the 4G WiFi system installed on the bus, with GPRS as a backup. All fare payment equipment should have a primary and a secondary method of communication.

8.22.7.2. The WiFi system used on the shelters and the buses will use the same login protocols, such that a passenger who logs into the network at a stop will be able to continue on the same session while on the vehicle without any drop in coverage or necessity to log in once again.

8.22.7.3. The operator will also provide their schedule information in GTFS (General Transit Feed Specification) format, which will be provided to 511NY and the HVTMC for integration into the ICM management. This information will also be made available to the public on a website that will be operated by the transit operator for the purposes of providing information and marketing about the service.

8.22.7.4. It is likely that the bus operator will have their own control center, located in the vehicle storage and maintenance facility or elsewhere. The bus operator’s control center is required to have a communications link with the HVTMC to allow for information to be transferred back and forth. This is necessary to allow for the
transit operator to be integrated into the ICMS and the transit workstation that will be located at the HVTMC.

8.22.8. Capabilities for Response

8.22.8.1. There will be a number of set protocols in place to respond to major disruptions to either the roadway network or the non-Tappan Zee bus network in such a way that it will affect the Rockland-Westchester bus system.

8.22.8.2. Many of the scenarios are known and common, and will occur in one iteration or another on multiple instances per month. Ongoing incidents like mid-day workzones and minor crashes on either I-287 or the parallel arterials will provoke responses that may be limited to algorithmically updating next time of arrival signs on the buses, or may require rerouting where possible between I-287 and the arterials. The transit system will have the ability to respond and maintain fast, reliable travel for its users.

8.22.8.3. In the event that the ICMS Decision Support System recommends a bus rerouting, the transit operator will be informed though the ICMS interface and will then manually instruct the vehicles on the road and those about to be dispatched from the endpoints using the installed CAD AVL system.

8.22.8.4. Large catastrophic events that may occur only a few times each year such as a major snowstorm or a full roadway closure will be mitigated because of the two-way, multi-party data communication between the vehicle, the bus command center, the HVTMC, and other corridor users.

8.22.9. Conclusion

8.22.9.1. The participation of the transit operator as a full partner in the LHTL-ICM project is a necessary step towards providing the type of efficient and reliable travel experience that the corridor’s users demand. Through the use of accurate and effective technology onboard transit vehicles and in wayside applications, the goal of greater transit adoption is fostered, and travel across the corridor improves for all users.

8.23.1. General

8.23.1.1. These technical specifications define requirements for the LHTL BRT ICM solution. The transit vehicles will require certain technologies to be installed to fulfill the desired ICM mission. Many of these components will work in tandem with devices installed at the shelters, with the data to be fed into back office functions that integrate the information being collected by the vehicles into the overall ICM solution.

8.23.1.2. The requirements in this specification detail the in-shelter and back office requirements of the Contractor. All requirements in this specification will be the responsibility of the Contractor, unless otherwise indicated. The technological vehicle elements are detailed in the Vehicle Specification, appended to this document as Attachment 26: Vehicle Specification.

8.23.2. Definitions

- Automated Passenger Counter (APC): an electronic device available for installation on transit vehicles which accurately records boarding and alighting data
- The Advanced Traffic Management System (ATMS): a management system that integrates technology primarily to improve the flow of vehicle traffic and improve safety. Real-time traffic data from cameras, speed sensors, and other sources flows into a Transportation Management Center where it is integrated and processed (e.g. for incident detection), and may result in actions taken (e.g. traffic routing, DMS messages) with the goal of improving traffic flow.
- Automatic Vehicle Location (AVL): The use of computers and Global Positioning Systems (GPS) in dispatching and tracking transit vehicles
- Back office: A back office application comprises the software that an organization uses to administer operations that are not related to any direct sales effort and interfaces that are not seen by consumers
- Closed-circuit television (CCTV): a TV system in which signals are not publicly distributed but are monitored, primarily for surveillance and security purposes. CCTV relies on strategic placement of cameras, and observation of the camera's input on monitors somewhere
- General Packet Radio Service (GPRS): a packet-based mobile data service on the global system for mobile communications (GSM) of 3G and 2G cellular communication systems.
- General Transit Feed Specification (GTFS): a common format for public transportation schedules and associated geographic information
• Geographic information system (GIS): a system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data
• Hudson Valley Transportation Management Center (HVTMC): The control center for the I-287 ICM Corridor, and a place for the co-location and coordination of relevant highway and transit operators in the corridor, including NYSDOT, NYSTA, and the Operator chosen for the LHTL intercounty BRT service
• Integrated Corridor Management (ICM): the operational coordination of multiple transportation networks and cross-network connections comprising a corridor, and the institutional coordination of those agencies and entities responsible for corridor mobility
• Integrated Corridor Management System (ICMS): A set of tools to help the corridor’s transportation network managers and operators achieve the ultimate goal of keeping their networks operating at optimal levels
• Real-time passenger information (RTPI): provided to customers over an onboard or in-shelter electronic information system. It generally provides information about vehicle location (both on and off the bus) and can include real-time information from connecting transit systems
• Rich Site Summary (RSS): a family of standard web feed formats to publish frequently updated information, like blog entries, news headlines, audio, video. An RSS document (called "feed", "web feed" or "channel") includes full or summarized text, and metadata, like publishing date and author's name.
• Transit signal priority (TSP): a name for various techniques to improve service and reduce delay for mass transit vehicles at intersections controlled by traffic signals. The signals can detect the bus as it is approaching, allowing it to receive an extended green light
• Thin-Film Transistor (TFT): a liquid crystal display (LCD), common in notebook and laptop computers
• Ticket Vending Machine (TVM): a vending machine that produces tickets. The typical transaction consists of a user using the display interface to select the type and quantity of tickets and then choosing a payment method. The ticket or tickets are printed and dispensed to the user.
• Wi-Fi: A system allowing computers, smartphones, or other devices to connect to the Internet or communicate with one another wirelessly within a particular area. For the purposes of the LHTL BRT system, Wi-Fi will be provided both at stations and on the bus.

8.23.3. ICM System Components and Requirements

8.23.3.1. Automatic Vehicle Location (AVL)

A. The system shall have the ability to track vehicles in real time, showing at least the vehicle location, vehicle identifier, journey reference and driver ID.
B. The system shall log vehicle locations and have the ability to view historical vehicle movements.
C. The system shall have the ability to show vehicle latency for individual vehicles/the entire fleet of vehicles with this information being fed into the ICMS. Severity levels shall be configurable by the user.

D. The system shall display vehicles and bus stops in real time on a map with this information being fed into the ICMS.

E. The system shall be able to store vehicle information and provide a reporting tool which allows transit operators and the contract manager to at a minimum view historic schedule deviation, journey times between stops, vehicle speeds and dwell times.

F. The system shall have the ability to feed into an authority hosted central system in future if required.

G. The system shall provide a real time, vehicle-centric feed in an open data format which allows app/website developers to use the information.

H. The system shall push real time information to applications such as Google via GTFS or Siri feed.

I. The system shall integrate with the ICMS and be viewable on the ICMS GIS dashboard. The AVL solution provider will be required to work closely with the ICM System Integrator to ensure this is achieved.

8.23.3.2. Real-time Passenger Information (RTPI)

To be installed at bus stop:

A. RTPI displays at stops shall be rich media 28-32 inch TFT displays.

B. RTPI displays shall be able to accept RSS feeds, have the capability of the display being split into multiple sections allowing for the HVTMC to place images/posters on a section and have a back office content management system.

C. The HVTMC shall have the ability to publish messages by either blanking the entire screen or a message at the bottom of the display.

D. RTPI displays shall be capable of either running off a fiber network or over GPRS.

E. The bus stop displays should show minutes to arrival, a map and schedule, and “next bus” information.

8.23.3.3. Back office requirements:

A. The HVTMC/transit operator shall have the ability to interrogate displays remotely seeing exactly what information is being displayed.

B. The RTPI system shall have the ability to accept feeds from other transport sources and populate information on RTPI displays. E.g. Metro-North.

C. The RTPI system must be able to interpret detours and route diversions and update arrival times accordingly.

D. The RTPI system must be in a format that can be published to a website and/or mobile app.
8.23.3.4. Closed-circuit Television (CCTV)

A. CCTV cameras shall be IP based with images/streams being available to HVTMC and the transit operator via a web portal. Integration into the ICMS is required.
B. CCTV cameras will not be required to constantly stream under normal operations, but images should refresh at least every 6 seconds and have the ability to live stream if required.
C. CCTV cameras shall have Pan Tilt Zoom (PTZ) functionality and pre-set camera views will be agreed and set up in advance.
D. The HVTMC shall have a system login enabling them to move cameras or select already established views.
E. CCTV cameras shall be encompassed by a protective dome.
F. Transit operators shall have the ability to remotely re-set CCTV cameras.
G. The transit operator shall have primary control of the on-board CCTV cameras and the cameras located at the shelters.
H. CCTV shall provide a view of the entire bus both upper and lower decks.
I. CCTV shall provide a front facing view showing the drivers line of sight.

8.23.3.5. Automated Passenger Counters (APC)

A. Historical information shall be logged indefinitely.
B. Real-time APC information shall be wirelessly fed from the APC device into the ICMS, giving HVTMC a live view of bus patronage. Collaboration will be required between the APC system provider and the ICM system integrator.
C. There shall be a back office system in place which allows the contract manager to request reports on location based passenger boarding and alighting figures.

8.23.3.6. Wi-Fi

To be installed at shelter:
A. Wi-Fi routers and associated antennas to be installed at bus shelters.
B. The passenger Wi-Fi shall have a 4G modem and support 4G networks.
C. The Wi-Fi system shall allow for at least 50 simultaneous connections per location.
D. The Wi-Fi system shall allow for remote updates.

Back office requirements:
A. The Wi-Fi system shall allow for at least 50 simultaneous connections per location.
B. Should CCTV or any other modules communicate via the on board Wi-Fi this shall not cause any degradation to the customer experience.
C. Passenger Wi-Fi shall allow for a branded landing page to be used by the state.
D. Usage and trend statistics shall be made available to HVTMC.
E. MAC addresses for each passenger shall be stored, along with date and time and the MAC address for the router which they have logged on to. The router MAC address shall be referenced e.g. for buses the address will be relevant to the fleet number/number plate and bus stops will be relevant to the bus stop identifier.
This information shall be stored and provided to the Contract Manager in CSV file on a monthly basis.

F. Only require one time log in, so when passengers sign up to the WiFi it is then a seamless experience and there is no differentiation between logging into the WiFi at the shelter and logging into the WiFi on bus.

8.23.3.7. Fare Collection and Ticketing

To be installed at bus stops (NYSDOT ACTIVITY):

A. Ticket Vending Machines (TVM) shall be located at bus stops along the route as determined by NYSDOT.
B. The TVM shall consist of a compact structure resistant to vandalism.
C. The TVM shall be protected against fraudulent access to sensitive financial data and theft of revenue.
D. The TVM shall accept credit/debit cards and MTA MetroCards.
E. The TVM shall be accessible to all patronage, complying with ADA standards.
F. The TVM shall be waterproof and suitable for installation indoor or outdoor and with or without a shelter.
G. The TVM shall have a choice of Ethernet, ADSL, GPRS/3G connectivity.
H. Tickets shall be issued with either a barcode or a QR code, to be compatible with the optical scanners on board the intercounty BRT buses.

To be installed on-board (OPERATOR ACTIVITY)

A. Cash payments must be accepted onboard the vehicles
B. Ticket validators shall be installed on all buses at entry points.
C. Validators shall be easily accessible to all passengers and shall comply with ADA standards.
D. Ticket validators shall have the ability to validate paper and mobile tickets through either barcode or QR code.
E. Ticket validators shall flag issues with ticket validity to the driver for resolution.
F. The ticket validators shall integrate with the off board vending machines and mobile app

G. It is preferable for the fareboxes to also be able to accommodate NFC technology, so that they can be made compatible with the MetroCard replacement when it is available.

Software (OPERATOR ACTIVITY):

A. The Contractor shall supply a mobile app to allow for tickets to be purchased in advance of travel. The app will aim to fulfill the requirements below:
   a. The mobile app should be available on iOS, Android and Windows platforms.
   b. The mobile app should have offline functionality in order to allow tickets to be validated without an internet connection.
   c. The mobile app should support multiple riders.
   d. The mobile app should accept multiple payment methods, including credit/debit card and PayPal.
e. The mobile app account statistics and usage figures should be made available to HVTMC upon request.
f. The mobile app should be able to support multiple types of tickets simultaneously (i.e., a monthly pass and also pay-per-ride)

8.23.3.8. Transit Signal Priority (TSP)

TSP information is to be fed back to the ATMS in real time. Collaboration will be required between the TSP provider and the ICM system integrator.
### 8.24. Attachment 24: Liquidated Damages & Incentive Payments

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Metric</th>
<th>LD Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>LHTL system launch</td>
<td>Operational on the day the TZx contract expires</td>
<td>$100,000.00 per day not operational</td>
</tr>
<tr>
<td>Provide specified service levels</td>
<td>Full service provided each day</td>
<td>$100,000.00 per day that service is reduced</td>
</tr>
<tr>
<td>Fare assessment (4.4.12)</td>
<td>Always collect fares in adherence to regional fare structure and use proper farebox operation</td>
<td>$50.00 per occurrence</td>
</tr>
<tr>
<td>Key personnel availability (5.1.8)</td>
<td>Each key personnel appointed by Contractor performs required duties during initial 30 days of contract</td>
<td>$10,000.00 per personnel title</td>
</tr>
<tr>
<td>Replacing key personnel (5.1.8)</td>
<td>Contractor must submit qualified replacement candidate within 45 calendar days to NYSDOT for approval</td>
<td>$100.00 per day after 45 days that replacement is not submitted to NYSDOT for approval</td>
</tr>
<tr>
<td>Replacing key personnel (5.1.8)</td>
<td>Use of in-house NYDSOT personnel</td>
<td>$100.00/hour that in-house NYDSOT personnel works to replace Contractor key personnel</td>
</tr>
<tr>
<td>Replacing key personnel (5.1.8)</td>
<td>Use of out-of-house contractor</td>
<td>10% administrative fee on top of and in addition to billable rate</td>
</tr>
<tr>
<td>Staff appearance (Attachment 15: Bus Operations Requirements)</td>
<td>Drivers dressed in complete uniform</td>
<td>$100.00 per each occurrence that driver not dressed in full uniform</td>
</tr>
<tr>
<td>Employee conduct (Attachment 15: Bus Operations Requirements)</td>
<td>No texting or personal phone calls while in a vehicle</td>
<td>$250.00 for each video-verified instance of a driver using phone</td>
</tr>
<tr>
<td>Employee training (Attachment 15: Bus)</td>
<td>100% of staff completes</td>
<td>$250.00 per staff member who has not completed</td>
</tr>
<tr>
<td>Operations Requirements</td>
<td>required trainings</td>
<td>training</td>
</tr>
<tr>
<td>--------------------------------------------------------------</td>
<td>--------------------------------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>On-time performance (Attachment 16: Operating Performance Standards)</td>
<td>Arrives on-time 94% of the time or above</td>
<td>93.99% - 90% -$1,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>89.99% - 87% -$2,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>86.99% and below -$3,000.00</td>
</tr>
<tr>
<td>Skipped stops (Attachment 16: Operating Performance Standards)</td>
<td>Does not skip any stops while passengers are waiting</td>
<td>$500.00 for each stop skipped</td>
</tr>
<tr>
<td>Underperforming routes (Attachment 16: Operating Performance Standards)</td>
<td>Underperforming routes brought into compliance within designated time period (not including extended deadlines)</td>
<td>Within 40 days - $1,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Within 50 days - $2,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Within 60 days - $3,000.00</td>
</tr>
<tr>
<td>Missed revenue miles (Attachment 16: Operating Performance Standards)</td>
<td>Not missing 0.40% or fewer revenue miles</td>
<td>0.41% - 0.50% -$1,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.51% – 0.70% -$2,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.71% and above -$3,000.00</td>
</tr>
<tr>
<td>Preventable accidents (Attachment 16: Operating Performance Standards)</td>
<td>3 or fewer preventable accidents per 100,000 revenue miles (per accident over the performance standard)</td>
<td>3-5 - $1,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-8 - $1,500.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 and above -$2,000.00</td>
</tr>
<tr>
<td>Operational safety equipment (Attachment 16: Operating Performance Standards)</td>
<td>All safety equipment fully operational on any vehicle placed into revenue service</td>
<td>$1,000.00 for every occurrence of a safety item not fully operational on a vehicle placed into revenue service</td>
</tr>
<tr>
<td>Vehicle conformance (Attachment 16: Operating Performance Standards)</td>
<td>Use of vehicles conforming to vehicle spec</td>
<td>$500.00 for each instance of a non-conforming vehicle used in revenue service</td>
</tr>
<tr>
<td>Photo traffic citations (Attachment 16: Operating Performance Standards)</td>
<td>Photo traffic citations received</td>
<td>$250.00 for each photo citation</td>
</tr>
<tr>
<td>Accessible features operation (Attachment 16: Operating Performance Standards)</td>
<td>ADA compliance met, and operator accommodates passengers</td>
<td>$500.00 for each violation</td>
</tr>
<tr>
<td>Announcement of stops (Attachment 16: Operating Performance Standards)</td>
<td>Operator announces stops when vehicle’s annunciator system malfunctions</td>
<td>$100.00 for each violation</td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
</tr>
</tbody>
</table>
| Transit technology system operation (Attachment 16: Operating Performance Standards) | All transit technology functions at least 98% of the time | 95% to 97.99% - $500.00  
90% to 94.99% - $1,000.00  
89.99% and below - $1,500.00 |
| Urgent response (Attachment 17: Fleet Maintenance & Service Requirements) | Urgent response duties performed immediately. Passengers stranded no more than 30 minutes. | 31 – 35 minutes - $500.00  
36 – 40 minutes - $1,000.00  
41 minutes or more - $1,500.00 |
| Preventive Maintenance Inspection (Attachment 17: Fleet Maintenance & Service Requirements) | PMI scheduled and completed on-time at least 90% of the time | 89.99% – 80% -$1,000.00  
79.99% – 70% -$1,500.00  
69.99% and below -$2,000.00 |
| Vehicle appearance (Attachment 17: Fleet Maintenance & Service Requirements) | Vehicles must be compliance with designated rules | $100.00 for each violation |
| Running repairs (Attachment 17: Fleet Maintenance & Service Requirements) | Contractor completes all running repairs within 7 days from identification | $100.00 per occurrence |
| Major repairs (Attachment 17: Fleet Maintenance & Service Requirements) | Contractor completes all major repairs within 7 days from identification | $100.00 per occurrence |
| Vehicle appearance and cleanliness (Attachment 17: Fleet Maintenance & Service Requirements) | Vehicles must comply with standards | $100.00 per occurrence |
| Miles between road calls (Attachment 17: Fleet Maintenance & Service Requirements) | 11,000 miles or above between road calls | 10,999 – 9,000 -$1,000.00  
8,999 – 7,000 -$1,500.00  
6,999 and below -$2,000.00 |
<table>
<thead>
<tr>
<th>Customer complaint documentation (Attachment 18: Customer Satisfaction)</th>
<th>Contractor documents complaint on monthly invoice submitted to NYSDOT</th>
<th>$100.00 for each failure to report a complaint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer complaint response (Attachment 18: Customer Satisfaction)</td>
<td>Report submitted to NYSDOT detailing complaints older than 2 days with no response and complaints more than 7 days old without completed investigation and closeout</td>
<td>6-10 occurrences - $500.00 10-15 occurrence - $1,000.00 15-20 occurrences - $1,500.00</td>
</tr>
<tr>
<td>Facility maintenance (Attachment 19: Stop and Shelter Maintenance)</td>
<td>Contractor must remedy any noncompliant conditions</td>
<td>$200.00 per day per unremedied station maintenance/repair</td>
</tr>
<tr>
<td>Reporting requirements (Attachment 20: Reporting Requirements)</td>
<td>Submission of all required reports on-time</td>
<td>$100.00 per late report</td>
</tr>
</tbody>
</table>

**Incentive Payments**

<table>
<thead>
<tr>
<th>Transit technology system operation (Attachment 16: Operating Performance Standards)</th>
<th>All transit technology functions above the standard of 98% of the time</th>
<th>98% – 98.99% - $1,000.00 99% – 100% - $1,500.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miles between road calls (Attachment 17: Fleet Maintenance &amp; Service Requirements)</td>
<td>Performance better than 11,000 miles between road calls</td>
<td>11,000 – 11,999 - $1,000.00 12,000 – 12,999 - $1,500.00 13,000 and above -$2,000.00</td>
</tr>
<tr>
<td>Customer complaint response (Attachment 18: Customer Satisfaction)</td>
<td>Report submitted to NYSDOT detailing complaints older than 2 days with no response and complaints more than 7 days old without completed investigation and closeout</td>
<td>4-6 occurrences - $500.00 1-3 occurrences - $1,000.00 0 occurrences -$1,500.00</td>
</tr>
<tr>
<td>Customer Satisfaction Index (CSI) Score (Attachment 18: Customer Satisfaction)</td>
<td>Achievement of Base or Stretch Target CSI score</td>
<td>Base Target - $500.00 Stretch Target - $1,000.00</td>
</tr>
</tbody>
</table>
8.25. Attachment 25: NYSDOT ITS Policy

1. PROTECTION OF DATA, INFRASTRUCTURE AND SOFTWARE

Contractor is responsible for providing physical and logical security for all Data, infrastructure (e.g. hardware, networking components, physical devices), and software related to the services the Contractor is providing under the Authorized User Agreement.

All Data security provisions agreed to by the Authorized User and Contractor within the Authorized User Agreement may not be diminished for the duration of the Authorized User Agreement. No reduction in these conditions in any fashion may occur at any time without prior written agreement by the parties amending the Authorized User Agreement.

2. SECURITY POLICIES AND NOTIFICATIONS


The Contractor and its personnel shall review and implement all State security policies, procedures and directives currently existing or implemented during the term of the Contract, including ITS Policy NYS-P03-002 Information Security Policy (or successor policy(ies)).

2.2. Security Incidents

Contractor shall address any Security Incidents in the manner prescribed in ITS Policy NYS-P03-002 Information Security Policy (or successor policy(ies)), including the New York State Cyber Incident Reporting Procedures incorporated therein or in such successor policy(ies).

3. DATA BREACH – REQUIRED CONTRACTOR ACTIONS

3.1. Unless otherwise provided by law, in the event of a Data Breach, the Contractor shall:

3.1.1. Notify the NYSDOT Project Coordinator or their designated contact person(s), by telephone as soon as possible, but in no event more than four (4) hours from the time the Contractor has knowledge of a Data Breach;

3.1.2. Consult with and receive authorization from the NYSDOT Project Coordinator as to the content of any notice to affected parties prior to notifying any affected parties to whom notice of the Data Breach is required, either by statute or by the Authorized User;

3.1.3. Coordinate all communication regarding the Data Breach with the NYSDOT Project Coordinator

3.1.4. Cooperate with the NYSDOT Project Coordinator in attempting (a) to determine the scope and cause of the breach; and (b) to prevent the future recurrence of such security breaches; and
3.1.5. Take corrective action in the timeframe required by the NYSDOT Project Coordinator. If Contractor is unable complete the corrective action within the required timeframe, the NYSDOT Project Coordinator may contract with a third party to provide the required services until corrective actions and services resume in a manner acceptable to NYSDOT, or until NYSDOT has completed a new procurement for a replacement service system. The Contractor will be responsible for the cost of these services during this period.

Nothing herein shall in any way (a) impair the authority of the OAG to bring an action against Contractor to enforce the provisions of the New York State Information Security Breach Notification Act (ISBNA) or (b) limit Contractor's liability for any violations of the ISBNA or any other applicable statutes, rules or regulations.

4. DATA OWNERSHIP, ACCESS AND LOCATION

4.1. Data Ownership

NYSDOT shall own all right, title and interest in Data.

4.2. Authorized User Access to Data

NYSDOT shall have access to its Data at all times, through the term of the Contract.

NYSDOT shall have the ability to import or export Data in piecemeal or in its entirety at NYSDOT’s discretion, without interference from the Contractor.

4.3. Contractor Access to Data

The Contractor shall not copy or transfer Data unless authorized by NYSDOT. In such an event the Data shall be copied and/or transferred in accordance with the provisions of this Section. Contractor shall not access any Data for any purpose other than fulfilling the service. Contractor is prohibited from Data Mining, cross tabulating, monitoring NYSDOT’s Data usage and/or access, or performing any other Data Analytics other than those required within the Contract. At no time shall any Data or processes (e.g. workflow, applications, etc.), which either are owned or used by NYSDOT be copied, disclosed, or retained by the Contractor or any party related to the Contractor. The Contractor is allowed to perform industry standard back-ups of Data. Documentation of back-up must be provided to NYSDOT upon request. Contractor must comply with any and all security requirements within the Contract.

4.4. Data Location and Related Restrictions

All Data shall remain in CONUS. Any Data stored, or acted upon, must be located solely in Data Centers in CONUS. Services which directly or indirectly access Data may only be performed from locations within the Continental United States (CONUS). All Data in transit must be handled in accordance with FIPS- 140-2 or TLS1, or TLS2 (or successor).

4.4.1. Support Services
All helpdesk, online, and support services which access any Data must be performed from within CONUS. At no time will any Follow the Sun support be allowed to access Data directly, or indirectly, from outside CONUS.

5. CONTRACTOR PORTABLE DEVICES

Contractor shall not place Data on any portable Device unless Device is located and remains within Contractor's CONUS Data Center.

The Data, and/or the storage medium containing the Data, shall be destroyed in accordance with applicable ITS destruction policies (ITS Policy S13-003 Sanitization/Secure Disposal and S14-003 Information Security Controls or successor) when the Contractor is no longer contractually required to store the Data.

6. TRANSFERRING OF DATA

6.1. General

The Contractor will not transfer Data unless directed to do so in writing by NYSDOT.

6.2. Transfer of Data at end of Contract and/or Authorized User Agreement Term

At the end of the Contract, Contractor may be required to transfer Data to a new Contractor. This transfer must be carried out as specified by NYSDOT in the Contract. This transfer may include, but is not limited to, conversion of all Data into or from an industry standard format(s) including comma/delimited files, txt files, or Microsoft standard file formats.

6.3. Transfer of Data; Charges

Transfer of Data shall be done at no additional charge to NYSDOT.

6.4. Transfer of Data; Contract Breach or Termination

In the case of Contract breach or termination for cause of the Contract, all expenses for the transfer of Data shall be the responsibility of the Contractor.

7. ENCRYPTION

All Data must be encrypted at all times unless specifically authorized by the NYSDOT Project Coordinator. At a minimum, encryption must be carried out at the most current NYS Encryption Standard (NYS-S14-007), (or successor policy(ies) with key access restricted to NYSDOT only, unless with the express written permission of the Authorized User. The Authorized User Agreement shall specify the respective responsibilities of the Authorized User and the Contractor for the encryption of Data.

8. REQUESTS FOR DATA BY THIRD PARTIES

Unless prohibited by law, Contractor shall notify the NYSDOT Project Coordinator in writing within 24 hours of any request for Data (including requestor, nature of Data requested and timeframe of response) by a person or entity other than NYSDOT, and the Contractor shall secure Written acknowledgement of such notification from the NYSDOT before responding to the request for Data.
Unless compelled by law, the Contractor shall not release Data without NYSDOT’s prior written approval.

9. SECURITY PROCESSES

If requested by an Authorized User as part the Request for Quote process, Contractor shall complete a Consensus Assessment Initiative Questionnaire (CAIQ) including on an annual basis thereafter. The form is available at Cloud Security Alliance (https://cloudsecurityalliance.org/). The CAIQ may be used to assist the Authorized User in building the necessary assessment processes when engaging with Cloud providers.

In addition to a request for a CAIQ, Contractor shall cooperate with all reasonable Authorized User requests for a written description of Contractor's physical/virtual security and/or internal control processes. The Authorized User shall have the right to reject any Contractor's RFQ response or terminate an Authorized User Agreement when such a request has been denied.

For example, Federal, State and local regulations and/or laws may require that Cloud Contractors operate within the Authorized User's regulatory environment. In order to ensure that security is adequate and free of gaps in control coverage, the Authorized User may require information from the Contractor's Service Organization Controls (SOC) audit report.

10. UPGRADES, SYSTEM CHANGES AND MAINTENANCE/SUPPORT

The Contractor shall give a minimum of five (5) business days advance Written notice to the designated Authorized User(s) contact of any upgrades or system changes that will impact services as provided in the Authorized User Agreement.

11. EXPIRATION, TERMINATION OR SUSPENSION OF SERVICES

11.1. Return of Data

The Contractor shall return Data in a format agreed upon within the Contract or as agreed to with the NYSDOT Project Coordinator. The Contractor must certify all Data has been removed from its system and removed from backups within timeframes established in the Contract or as agreed to with the NYSDOT Project Coordinator.

11.2. Suspension of Services

During any period of suspension of service, NYSDOT shall have full access to all Data at no charge. The Contractor shall not take any action to erase and/or withhold any NYSDOT Data, except as directed by the NYSDOT Project Coordinator.

11.3. Expiration or Termination of Services

Upon expiration or termination of the Contract, NYSDOT shall have full access to all Data for a period of 60 calendar days at no charge. During this period, the Contractor shall not take any action to erase and/or withhold any Data, except as directed by the NYSDOT Project Coordinator.

12. SECURE DATA DISPOSAL
When requested by the NYSDOT Project Coordinator, the Contractor shall destroy Data in all of its forms, including all backups. Data shall be permanently deleted and shall not be recoverable, according ITS Policy S13-003 Sanitization/Secure Disposal or successor and S14-003 Information Security Controls or successor. Certificates of destruction, in a form acceptable to NYSDOT, shall be provided by the Contractor to the NYSDOT Project Coordinator.

13. ACCESS TO SECURITY LOGS AND REPORTS

Upon request, the Contractor shall provide reports to NYSDOT in a format as specified in the Contract.

14. CONTRACTOR PERFORMANCE AUDIT

The Contractor shall allow NYSDOT to assess Contractor's performance by providing any materials requested in the Contract (e.g., page load times, response times, uptime, fail over time). NYSDOT may perform this Contractor performance audit with a third party at its discretion.

The Contractor shall perform an independent audit of their Data Centers, at least annually, at Contractor expense. The Contractor will provide a full version of the audit report upon request by NYSDOT. The Contractor shall identify any confidential, trade secret, or proprietary information in accordance with Appendix B, Section 9(a), Confidential Trade Secret Materials.

15. PERSONNEL

15.1. Background Checks

NYSDOT may require the Contractor to conduct background checks on certain Contractor staff at no charge to NYSDOT.

15.2. Separation of Duties

The Contract may require the separation of job duties, and limit staff knowledge of Data to that which is absolutely needed to perform job duties.

16. BUSINESS CONTINUITY/DISASTER RECOVERY (BC/DR) OPERATIONS

The Contractor shall provide a business continuity and disaster recovery plan to the NYSDOT Project Coordinator within 30 days of receiving the Notice to Proceed.

17. COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

If required within the Authorized User Agreement, Contractor will provide verification of compliance with specific Federal, State and local regulations, laws and IT standards that the Authorized User is required to comply with. See Appendix D -Primary Security and Privacy Mandates.

18. AUTHENTICATION TOKENS

The Authorized User Agreement may require authentication tokens for all systems. For more details, please see NYS ITS Policy S14-006 Authentication Tokens Standard or successor.
19. MODIFICATION TO CLOUD SERVICE DELIVERY TYPE AND DESCRIPTION
WITHIN AN AUTHORIZED USER AGREEMENT

As Cloud services can be flexible and dynamic, delivery mechanisms may be subject to change. NYSDOT requires notification of any such changes to ensure security and business needs are met.

Any changes to the description, type of service(s), or SKU (e.g., PaaS to IaaS) must be provided to NYSDOT.

In addition, notification must be provided to the NYSDOT Project Coordinator for review and acceptance, prior to implementation. Any changes to the Contract will require NYSDOT to re-assess the risk mitigation methodologies and strategies and revise the Contract as needed.

1. Introduction 8
2. Civil Rights Requirements 12
3. Project and Contract Objectives 14
4. Scope of Services 19
5. Proposal Format and Contents 47
6. Proposal Evaluation 59
7. Administrative Specifications 64
8. Attachments 69
1 General
   A Scope

   1) These technical specifications define requirements for Heavy-Duty, Double Decker, Bus Rapid Transit (BRT) Commuter Vehicles to be used in service in the Lower Hudson Transit Link System (LHTL) which is part of the Integrated Corridor Management System (ICM) for the I-287 corridor between Rockland and Westchester counties in New York State.

   2) The vehicles provided to this request for proposals shall be able to operate successfully in the geographic area so defined as well as in the climatic variations found in the service area.

   3) Vehicles are intended for the widest possible spectrum of passengers, including children, adults, the elderly and people with disabilities.

2 Definitions

   Alternative: An alternative specification condition to the default vehicle configuration. NYSDOT may approve alternatives to the default configuration to satisfy local operating requirements. Alternatives for the default configuration will be clearly identified.

   Ambient Temperature: The temperature of the surrounding air. For testing purposes, ambient temperature must be between 16°C (50°F) and 38°C (100°F).

   Analog Signals: A continuously variable signal that is solely dependent upon magnitude to express information content.

   NOTE: Analog signals are used to represent the state of variable devices such as rheostats, potentiometers, temperature probes, etc.

   Audible Discrete Frequency: An audible discrete frequency is determined to exist if the sound power level in any 1/3-octave band exceeds the average of the sound power levels of the two adjacent 1/3-octave bands by 4 decibels (dB) or more.

   Battery Compartment: Low-voltage energy storage, i.e. 12 volt maintenance-free batteries.

   Capacity (fuel container): The water volume of a container in gallons (liters).

   Code: A legal requirement.

   Consultant: In most cases in the context of this RFB, an entity contracted by NYSDOT to perform certain tasks and provide deliverables as defined by a contract between these parties

   Contractor: In most cases the provider and contract operator of the LHTL vehicles. In some contexts it may mean a sub supplier of contract deliverables to an entity involved in the project

   Curb Weight: Weight of vehicle, including maximum fuel, urea, oil and coolant; and all equipment required for operation and required by this Specification, but without passengers or operator.

   DBA: Decibels with reference to 0.0002 microbar as measured on the “A” scale.

   DC to DC Converter: A module that converts a source of direct current from one voltage level to another.

   Destroyed: Physically made permanently unusable.

   Discrete Signal: A signal that can take only pre-defined values, usually of a binary 0 or 1 nature, where 0 is battery ground potential and 1 is a defined battery positive potential.
DPF: Diesel particulate filter.

Fuel Line: The pipe, tubing or hose on a vehicle, including all related fittings, through which fuel passes.

Fusible Material: A metal, alloy or other material capable of being melted by heat.

Fire Resistant: Materials that have a flame spread index less than 150 as measured in a radiant panel flame test per ASTM-E 162-90.

GAWR (Gross Axle Weight Rated): The maximum total weight as determined by the axle manufacturer, at which the axle can be safely and reliably operated for its intended purpose.

Gross Load: 150lbs for every designed passenger seating position and for the operator.

GVW (Gross Vehicle Weight): Curb weight plus gross load.

GVWR (Gross Vehicle Weight Rated): The maximum total weight as determined by the vehicle manufacturer, at which the vehicle can be safely and reliably operated for its intended purpose.

High Voltage (HV): Greater than 50 VAC and VDC.

Hose: Flexible line that conveys liquids or powders from one place to another.

Human Dimensions: Specifications are defined in Humanscale 1/2/3, N. Diffrient, A. R. Tilley, J. C. Bardagiy, MIT Press.

Inverter: A module that converts DC to and from AC.

Labeled: Equipment or materials to which has been attached a label, symbol or other identifying mark of an organization, which is acceptable to the authority having jurisdiction and concerned with product evaluation, which maintains periodic inspection of production labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

Leakage: Release of contents through a Defect or a crack. See Rupture.

Line: All tubes, flexible and hard, that carry fluids.

Local Regulations: Regulations below the state level.

Low-Floor Vehicle: A vehicle that, between at least the front (entrance) and rear (exit) doors, has a floor sufficiently low and level so as to remove the need for steps in the aisle between the doors and in the vicinity of these doors.

Low Voltage (LV): 50 V or less (AC and DC).

Manufacturer: The manufacturer of the vehicles to be supplied under this contract

Metallic Hose: A hose whose strength depends primarily on the strength of its metallic parts; it can have metallic liners or covers, or both.

Module: An assembly of individual components

Motor (Electric): A device that converts electrical energy into mechanical energy.

Operating Pressure: The varying pressure developed in a container during service.

Operating Profile: is the expected physical conditions in which the vehicle will be operating, this includes grades, altitude, temperature range and speeds.

Operator’s Eye Range: The 95th-percentile ellipse defined in SAE Recommended Practice J941, except that the height of the ellipse shall be determined from the seat at its reference height.

Physical Layer: The first layer of the seven-layer International Standards Organization (ISO) Open Systems Interconnect (OSI) reference model. This provides the mechanical, electrical,
functional and procedural characteristics required to gain access to the transmission medium (e.g., cable) and is responsible for transporting binary information between computerized systems.

**Pipe:** Nonflexible line.

**Power:** Work or energy divided by time

**Power Density:** Power divided by mass, volume or area.

**Proposer:** An entity that is answering this request for proposals

**Real-Time Clock (RTC):** Computer clock that keeps track of the current time.

**Retarder:** Device used to augment or replace some of the functions of primary friction based braking systems of the vehicle.

**Rupture:** Sudden and unstable damage propagation in the structural components of the container resulting in a loss of contents. See *Leakage*.

**Seated Load:** 150lbs for every designed passenger seating position and for the operator.

**SLW (Seated Load Weight):** Curb weight plus seated load.

**Serial Data Signals.** A current loop based representation of ASCII or alphanumeric data used for transferring information between devices by transmitting a sequence of individual bits in a prearranged order of significance.

**NOTE:** An example is the communication that takes place between two or more electronic components with the ability to process and store information.

**Specification:** A particular or detailed statement, account or listing of the various elements, materials, dimensions, etc. involved in the manufacturing and construction of a product.

**Standard:** A firm guideline from a consensus group. Standards referenced in “Section 6: Technical Specifications” are the latest revisions unless otherwise stated.

**Standee Line:** A line marked across the vehicle aisle to designate the forward area that passengers may not occupy when the vehicle is moving.

**Stress Loops:** The “pigtails” commonly used to absorb flexing in piping or electrical cabling.

**Structure:** The basic body, including floor deck material and installation, load-bearing external panels, structural components, axle mounting provisions and suspension beams and attachment points.

**Wheelchair:** A mobility aid belonging to any class of three- or four-wheeled devices, usable indoors, designed for and used by individuals with mobility impairments, whether operated manually or powered. A “common wheelchair” is such a device that does not exceed 30 in. in width and 48 in. in length measured 2 in. above the ground, and does not weigh more than 600 lbs. when occupied.
3 Acronyms

The following is a list of acronyms used in these Technical Specifications.

4G                 Fourth Generation cellular data transmission protocol
ABS                Antilock Brake System
ADA                Americans with Disabilities Act
ANSI               American National Standards Institute
APC                Automatic Passenger Counter
ASHRAE            American Society of Heating, Refrigerating and Air Conditioning Engineers
ASR                Anti Slip Regulation
ATC                Automatic Traction Control
ASTM               American Society for Testing and Materials
AVL                Automatic Vehicle Location system
BRT                Bus Rapid Transit
CAD                Computer Assisted Dispatching
CAAA               Clean Air Act Amendment
CCTV               Closed Circuit Television
DEF                Diesel Exhaust Fluid
EMI                Electromagnetic Interference
EPA                Environmental Protection Agency
FMCSA              Federal Motor Carrier Safety Administration
FMVSS              Federal Motor Vehicle Safety Standards
FTA                Federal Transit Administration
GPS                Global Positioning Satellite
GPRS               General Packet Radio Service
HVTMC              Hudson Valley Traffic Management Center
IEEE               Institute of Electrical and Electronics Engineers
I/O                Input/output
ICM                Integrated Corridor Management system
IP                 Internet Protocol
ISO                International Organization for Standardization
ITS                Intelligent Transit System
JIC                Joint Industrial Council
LED                Light Emitting Diode
LHTL               Lower Hudson Transportation Link
LTE                Long Term Evolution cellular data transmission protocol
MTBF               Mean Time between Failures
NEC                National Electrical Code
NFPA               National Fire Protection Association
NYSDOT             New York State Department of Transportation
NHTSA              National Highway Traffic Safety Administration
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVA</td>
<td>On Vehicle Audio</td>
</tr>
<tr>
<td>OVD</td>
<td>On Vehicle Display</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Admin</td>
</tr>
<tr>
<td>P/A</td>
<td>Public Address system</td>
</tr>
<tr>
<td>RFI</td>
<td>Radio Frequency Interference</td>
</tr>
<tr>
<td>RTPI</td>
<td>Real Time Passenger Information</td>
</tr>
<tr>
<td>SAE</td>
<td>Society of Automotive Engineers Int'l</td>
</tr>
<tr>
<td>SPI</td>
<td>Society of the Plastics Industry</td>
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<tr>
<td>UL</td>
<td>Underwriters Laboratories</td>
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<tr>
<td>USDOT</td>
<td>United States Department of Transpor</td>
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</table>
4 Legal Requirements

A Requirements

1) The Proposer shall assure that the Vehicles supplied and operated under this RFP shall comply with all applicable Federal, State and local regulations. These shall include, but are not be limited to, NYSDOT, Federal Transit Administration, ADA, CAAA as well as state and local accessibility, safety and security requirements and regulations in effect at the moment of commencement of the aforementioned service.

2) Local regulations are defined as those below the Federal level. In the case of NYSDOT regulations, some of the requirements (i.e. braking) are more stringent than Federal regulations. Title 17 (Vehicle and Passenger Carrier Vehicle Safety Regulations).

3) It is the responsibility of the Proposer and the vehicle manufacturer to identify, be familiar with, and comply with all Federal, State and local regulations.

NYSDOT regulations are available at:
https://www.dot.ny.gov/divisions/operating/osss/bus/rules-regulations
and
https://www.dot.ny.gov/divisions/operating/osss/bus

4) In the event of any conflict between the requirements of these specifications and any applicable legal requirement, legal requirement shall prevail. Technical requirements that exceed the legal requirements are not considered to conflict and shall be honored by the proposer.

B Referenced Publications

1) These documents or portions thereof referenced within this specification shall be considered part of the requirements of the specification. The edition indicated for each referenced document is the current edition, as of the date of NYSDOT’s issuance of this specification.

5 Safety Requirements

A General Requirements

1) The Proposer shall ensure that the Manufacturer conducts a safety program throughout design, engineering, manufacturing, testing and warranty to ensure the vehicle and components achieve a level of safety consistent with NYSDOT’s goals. The program shall provide safety for the following:

- Passengers being transported by the vehicle.
- Personnel, who are operating, maintaining or testing the vehicle and its associated equipment.
- The vehicle, its associated equipment and support facilities.
- Any and all other persons or property that could be affected by deficiencies noted in this section.
2) The Proposer shall ensure that the Manufacturer properly performs the application and installation of major vehicle subcomponents and systems in compliance with all such subcomponent vendors’ requirements and recommendations.

3) The Proposer shall identify subcomponent vendors that shall submit installation/application approval documents with the completion of a pilot or lead vehicle.

4) Components used in the vehicle shall be of heavy-duty design and proven in conventional commuter transit vehicle service.

6 Overall Requirements

A Requirements

1) It shall be a design goal to construct each vehicle to be as light in weight as possible without degradation of safety, appearance, comfort, traction or performance.

2) Vehicles at a maximum load capacity shall not exceed tire safety factor limits, brake test criteria or structural design criteria.

B Capacity

1) The vehicle shall be designed to carry the gross vehicle weight, which shall not exceed the vehicle at curb weight plus full fuel and other fluids plus a full passenger load which constitutes the total number of passenger seats multiplied by 150 lbs. per person plus an allowance for the bus operator of 150 lbs.

7 Operating Environment

A General

1) The vehicle shall achieve normal operation in ambient temperature ranges of -10 °F to 115 °F, at relative humidity between 5 percent and 100 percent, and at altitudes up to 3000 feet above sea level.

2) Degradation of performance due to atmospheric conditions shall be minimized at temperatures below -10 °F, above 115 °F or at altitudes above 3000 feet.

3) Speed, gradeability and acceleration performance requirements shall be met at, or corrected to, 77 °F, 29.31 in. Hg, dry air per SAEJ1995.

4) Special equipment or procedures as recommended by the Manufacturer may be employed to start the vehicle after being exposed for more than 12 hours to temperatures less than 30° F without the engine in operation.

5) The interior climate control system shall perform in accordance with the Technical Specifications.

B Interior Noise

1) NYSDOT requires that documentation and certification of compliance with the noise requirements specified herein will be provided by the Proposer with the bid package.
2) The combination of inner and outer panels and any material used between them shall provide sufficient sound insulation so that a sound source with a level of 80 dBA measured at the outside skin of the vehicle shall have a sound level of 65 dBA or less at any point inside the vehicle.

3) These conditions shall prevail with all openings, including doors and windows, closed and with the engine and accessories switched off.

4) The vehicle-generated noise level experienced by a passenger at any seat location in the vehicle shall not exceed 79 dBA and the operator shall not experience a noise level of more than 75 dBA under the following test conditions.

   The vehicle shall be empty except for test personnel, not to exceed 4 persons, and the test equipment. All openings shall be closed and all accessories shall be operating during the test.

   The vehicle shall accelerate at full throttle from a standstill to 35 mph on level commercial asphalt or concrete pavement in an area free of large reflecting surfaces within 50 feet of the vehicle path.

   During the test, the ambient noise level in the test area shall be at least 10 dBA lower than the vehicle under test.

   Instrumentation and other general requirements shall conform to SAE Standard J366. If the noise contains an audible discrete frequency as defined in Section SSS a penalty of 5 dBA shall be added to the sound level measured.

C **Exterior Noise:**

1) Airborne noise generated by the vehicle and measured from either side shall not exceed 79 dBA under full power acceleration when operated at 0 to 35 mph at curb weight.

2) The maximum noise level generated by the vehicle pulling away from a stop at full power shall not exceed 83 dBA.

3) The vehicle-generated noise at curb idle shall not exceed 65 dBA.

4) If the noise contains an audible discrete frequency, a penalty of five (5) dBA shall be added to the sound level measured.

5) The Proposer shall comply with the exterior noise requirements defined in local laws and ordinances identified by NYSDOT and SAEJ366.

6) All noise readings shall be taken 25 feet from and perpendicular to, the centerline of the vehicle with all accessories operating.

7) Instrumentation, test sites, and other general requirements shall be in accordance with SAE Standard J366.

8) The pull away test shall begin with the front bumper even with the microphone.

9) The curb idle test shall be conducted with the rear bumper even with the microphone.
8 Fire Safety

A General

1) The vehicle shall be designed and manufactured in accordance with all applicable fire safety and smoke emission regulations. These provisions shall include the use of fire-retardant/low-smoke materials, fire detection systems, bulkheads and facilitation of passenger evacuation.

2) Materials: All materials used in the construction of the passenger compartment of the vehicle shall be in accordance with the Recommended Fire Safety Practices defined in FMVSS 302 and FTA Docket 90-A, dated October 20, 1993.

3) Materials entirely enclosed from the passenger compartment, such as insulation within the sidewalls and sub-floor, need not comply. In addition, smaller components and items, such as seat grab rails, switch knobs, small light lenses, door seals, window seals, steering wheel, steering column and escape hatches shall be exempt from this requirement.

B Fire Detection and Suppression System

1) The vehicle shall be equipped with an ABC dry chemical, automatically discharged, pre-engineered fire suppression system.

2) The system shall be approved and listed for use at –65 F to 150 F by Factory Mutual Research Corporation.

3) The automatic actuation system shall provide 24-hour fire detection of the engine compartment.

4) A minimum 25-pound capacity agent cylinder of the stored pressure type shall be constructed of welded steel and must conform to DOT specification 4BW, and be rated for 12-year minimum hydrostatic retest.

5) The cylinder shall be equipped with a gauge and a forged brass valve assembly.

6) The cylinder gauge shall be easily accessible for inspection through an inspection door.

C Fire Extinguishers

1) Two appropriately sized, portable, handheld, fire extinguishers shall be provided.

2) One shall be located in a space adjacent to the vehicle operator.

3) One shall be located in the upper deck area.

4) The upper deck fire extinguisher shall incorporate a system which shall inform the vehicle operator if the extinguisher is removed from its mounting system.

5) Extinguishers shall not exceed ten (10) lbs. in weight.

6) Extinguishers shall have the capability of extinguishing all types of fires normally occurring on vehicles, including but not limited to wood and paper, fuel, plastic and fabric and electrical.

7) Fire extinguishers shall be of USA manufacturer.
8) Fire extinguishers shall be fitted with inspection tags as required by all governing authorities in Rockland and Westchester County’s operating area that prove that the extinguisher is compliant with all applicable regulations and has been certified no more than 30 days before the delivery of the vehicle.

9 Dimensions

A Physical Size

1) With exceptions such as exterior mirrors, marker and signal lights, bumpers, fender skirts, washers, wipers, ad frames, cameras, object detection systems, bicycle racks, feelers and rubrails, the vehicle shall have the following overall dimensions as shown in Figure 1 at static conditions and design height.

FIGURE 1
Bus Rapid Transit Vehicle Exterior Dimensions

B Maximum Vehicle Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>No more than 102 inches (8.5 feet) (Excluding mirrors)</td>
</tr>
<tr>
<td>Height</td>
<td>No more than 162 inches (13.5 feet)</td>
</tr>
<tr>
<td>Length</td>
<td>No more than 528 inches (44 feet) (Excluding bicycle rack if used)</td>
</tr>
<tr>
<td>Wheelbase 1</td>
<td>No more than 255 inches (front axle to 2nd axle)</td>
</tr>
<tr>
<td>Wheelbase 2</td>
<td>No more than 60 inches (2nd axle to 3rd axle)</td>
</tr>
<tr>
<td>Front overhang</td>
<td>No more than 100 inches</td>
</tr>
<tr>
<td>Rear overhang</td>
<td>No more than 100 inches</td>
</tr>
</tbody>
</table>
Step height  No more than 15 inches at normal ride height
Step height  No more than 12.5 inches at kneeled height

C  Road Clearance

1) Underbody Clearance: The vehicle shall maintain the minimum clearance dimensions as defined and shown in Figure 2 of SAE Standard J689, regardless of load up to the gross vehicle weight rating.

2) Ramp Clearances: The approach angle is the angle measured between a line tangent to the front tire static loaded radius arc and the initial point of structural interference forward of the front tire to the ground.

3) The departure angle is the angle measured between a line tangent to the rear tire static loaded radius arc and the initial point of structural interference rearward of the rear tire to the ground.

4) The breakover angle is the angle measured between two lines tangent to the front and rear tire static loaded radius and intersecting at a point on the underside of the vehicle that defines the largest ramp over which the vehicle can roll.

5) Ground clearance shall be no less than nine (9) inches, (8 inches at jacking pad) except within the axle zone and wheel area.

6) Height of the step above the street shall be no more than 15 inches, measured at the centerline of the front and rear doorway.

7) All floor measurements shall be with the vehicle at the design running height and on a level surface and with the standard installed tires.
D  Interior Headroom

1) Headroom shall comply with NYSDOT and all other legal requirements

10  Vehicle Performance

A  Propulsion System

1) The vehicle shall be powered by a conventional Diesel engine – hydraulic transmission propulsion system as normally employed in commuter vehicles with the additional requirements of bus rapid transit service in the specified service area and conditions.

B  Power Requirements

1) The propulsion system shall be sized to provide sufficient power to enable the vehicle to meet the defined acceleration, top speed and gradeability requirements, and operate all propulsion-driven accessories using actual road test results and computerized vehicle performance data.

2) The vehicle shall be capable of achieving a top speed of 65 mph on a straight, level road at GVWR with all accessories operating. The vehicle shall be capable of safely maintaining the vehicle speed according to the recommendations by the tire manufacturer.

3) Gradeability requirements shall be met on grades with a dry commercial asphalt or concrete pavement at GVWR with all accessories operating.

4) The propulsion system shall enable the vehicle to achieve and maintain a speed of 40 mph on a 2½ percent ascending grade and 15 mph on a ten (10) percent continuous ascending grade.

5) Values are assumed to be sustained. The Manufacturer shall supply NYSDOT with data if there is a variance between peak performance and sustained vehicle performance.

6) The operating range of the vehicle shall be no less than 300 miles.

7) Vehicle acceleration shall meet the requirements in Table 1 below and shall be sufficiently gradual and smooth to prevent throwing passengers off-balance. Acceleration measurement shall commence when the accelerator is depressed.

<table>
<thead>
<tr>
<th>Speed (mph)</th>
<th>Maximum time (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>30</td>
<td>18</td>
</tr>
<tr>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>50</td>
<td>60</td>
</tr>
</tbody>
</table>

Maximum Start Acceleration Times on a Level Surface

VERSION 6 – June 27, 2016
Table 1
11 Drivetrain

A Engine

Vehicles shall comply with all applicable local, state and/or federal emissions requirements.

B Engine Electronics

1) Vehicles shall be equipped with electronically controlled management systems.
2) Engine control systems shall be capable of transmitting and receiving electronic inputs and data from other drivetrain components and broadcasting that data to other vehicle systems.
3) Communication between electronic drivetrain components and other vehicle systems shall be made using communications networks.
4) The engine’s electronic management system shall monitor operating conditions and provide instantaneous adjustments to optimize both engine and vehicle performance.
5) The system shall be programmable to allow optimization of programmable features.
6) The engine starting system shall be protected by an interlock that prevents its engagement when the engine is running.
7) The engine control system shall protect the engine against progressive damage.
8) The system shall monitor conditions critical for safe operation and automatically derate power and/or speed and initiate engine shutdown as needed.

C Automatic Engine Protection/Shutdown Override Feature

1) A control shall be available to the operator that when constantly depressed and released will override engine shutdown when the powertrain control system is in a failure mode which would otherwise require immediate engine shutdown. This capability is required to allow the vehicle to be moved out of imminently dangerous conditions. Override action shall be recorded. This data shall be retrievable by the operator and/or NYSDOT.

D Engine Emissions

1) The engine and related emission systems shall meet all applicable emissions and design/durability guidelines and standards.
2) The Manufacturer shall provide NYSDOT with expected durability of the engine and related emission systems.
3) The engine shall be equipped with an electronically controlled management system, compatible with vehicle and ITS multiplex wiring systems.

E Fast Idle

1) The engine shall be equipped with an operator-controlled fast idle device.
2) The fast idle control shall be switch controlled and shall activate only with the transmission in neutral and the parking brake applied.
F Oil and Hydraulic Lines

1) Oil and hydraulic lines shall be compatible with the substances they carry.
2) The lines shall be designed and intended for use in the environment where they are installed (for example, high-temperature resistant in the engine compartment, resistant to road salts near the road surface and so on).
3) Lines within the engine compartment shall be composed of corrosion resistant steel tubing where practicable, except in locations where flexible lines are required.
4) Hydraulic lines of the same size and with the same fittings as those on other piping systems of the vehicle, but not interchangeable, shall be tagged or marked for use on the hydraulic system only.

12 Engine Cooling

A General

1) The cooling system shall be what was used by the vehicle manufacturer during the engine manufacturer’s mandated IQA (Installation Quality Assurance) process.
2) A means of determining satisfactory engine coolant level shall be provided is a place accessible during normal everyday service procedures.
3) A spring-loaded, push-button type valve or lever shall be provided to safely release pressure or vacuum in the cooling system with both it and the water filler no more than ±60 inches above the ground.
4) Both the filler and pressure relief shall be accessible through the same access door.
5) The cooling fan(s) shall be temperature controlled, allowing the engine to reach operating temperature quickly.
6) The radiator and charge air cooler shall be of durable, corrosion-resistant construction.

B Cooling Systems

1) The cooling systems shall be of sufficient size to maintain all engine and transmission fluids and engine intake air at safe, continuous operating temperatures during the most severe operations possible and in accordance with engine and transmission manufacturers’ cooling system requirements.
2) The cooling system fan controls shall sense the temperatures of the operating fluids and the intake air, and if either is above safe operating conditions, the cooling fan should be engaged.
3) The fan control system shall be designed with a fail-safe mode of “fan on.” The cooling system shall meet the requirements stated in Section 8 “Operating Environment”.
4) The fan system shall be equipped with a reversing function to assist with cleaning debris and dust from the heat exchanger cores.
C Radiator Piping

1) Radiator piping shall be stainless steel, brass tubing or painted steel rated at 1,000 hours of salt spray according to ASTM B117.
2) Where practicable, hoses shall be eliminated.
3) Necessary hoses shall be impervious to all vehicle fluids, including biodiesel and DEF.
4) All hoses shall be secured with stainless steel clamps that provide a complete 360-degree seal.
5) Hose clamps shall be heavy duty and maintain a constant tension at all times, expanding and contracting with the hose in response to temperature changes and aging of the hose material.

D Heat Exchanger Screens

1) Heat exchangers shall be protected by easily cleanable screens designed to collect large debris.

E Heat Exchangers

1) Radiators with a fin density greater than 12 fins per inch or a louvered slit design shall not be allowed.
2) No heat-producing components or climate-control system components shall be mounted between the engine cooling air intake aperture and the radiator.
3) The radiator and charge air cooler shall be designed to withstand thermal fatigue and vibration associated with the installed configuration.
4) The radiator and charge air cooler cores shall be easily cleaned (to include engine side core surface) with appropriate-washing equipment.

F Coolant

1) The engine cooling system shall be equipped with a properly sized water filter with a spin-on element and an automatic system for releasing supplemental coolant additives as needed to replenish and maintain protection properties.
2) Quarter-turn ball valves shall be installed in the coolant filter base adaptor to facilitate coolant retention during filter changes.

G Electric Fans

1) The vehicle shall be equipped with a control and drive of the radiator and charge air cooler fan which shall be the Manufacturer’s standard design electric fan drive vehicle cooling system.
2) A screen guard shall be installed on electric motor fans per SAE J1308.

H Mounting

1) Mounting location of radiator and charge air cooler shall be the Manufacturer’s standard design.
2) Stacked heat exchangers are not allowed.
I Charge Air Cooling

1) The charge air cooling system, also referred to as after-coolers or intercooler, shall provide maximum air intake temperature reduction with minimal pressure loss.

2) The charge air cooler system and installation shall be approved by the engine manufacturer.

3) Air intake ducting and fittings shall be protected against heat sources and shall be configured to minimize restrictions and maintain sealing integrity.

4) Charge air piping and fittings shall be designed to minimize air restrictions and leaks.

5) Piping shall be as short as possible, and the number of bends shall be minimized.

6) Bend radii shall be maximized to meet the pressure drop and temperature rise requirements of the engine manufacturer.

7) The cross section of all charge air piping shall not be less than the cross section of the intake manifold inlet.

8) Any changes in pipe diameter shall be gradual to ensure a smooth passage of air and to minimize restrictions.

9) Piping shall be routed away from heat sources as practicable and shielded as required to meet the temperature rise requirements of the engine manufacturer.

10) Charge air piping shall be constructed of stainless steel, aluminized steel or anodized aluminum rated at minimum 1,000 hours of salt spray according to ASTM B117, except between the air filter and turbocharger inlet, where piping may be constructed of flexible heat-resistant material.

11) Connections between all charge air piping sections shall be sealed with a short section of reinforced silicon hose and secured with stainless steel constant tension clamps that provide a complete 360-degree seal.

J Transmission Cooling

1) The transmission shall be cooled by a dedicated heat exchanger sized to maintain operating fluid within the transmission manufacturer’s recommended parameters of flow, pressure and temperature.

2) The transmission cooling system shall be matched to the retarder and engine cooling systems to ensure that all operating fluids remain within recommended temperature limits established by each component manufacturer.

3) In the event that an engine coolant to transmission fluid heat exchanger is used, the engine cooling system shall provide coolant bypass flow to the transmission cooling system with the engine thermostats closed so that transmission cooling shall occur even if the engine is not yet up to operating temperature.

4) Unless cooling system design requires otherwise, the transmission cooler is to be the first component to receive cold water from the radiator outlet.
5) All coolant return piping, aside from the thermostat bypass line, is to be plumbed in after the transmission cooler.

13 Transmission

A General

1) The transmission shall be multiple speed, automatic shift with torque converter, retarder and electronic controls. Allison B-500R or approved equal.

2) Gross input power, gross input torque and rated input speed shall be compatible with the engine.

3) The transmission shall be designed to operate for not less than a 300,000-mile lifecycle in the design operating profile without replacement or major service.

4) The transmission shall be easily removable without disturbing the engine and be accessible for service.

5) Transmission electronic controls shall be capable of transmitting and receiving electronic inputs and data from other drivetrain components and of broadcasting data to other vehicle systems.

6) Communication between electronic drivetrain components and other vehicle systems shall be made using SAE J1939 communications networks.

7) Electronic controls shall be compatible with 24 volt power distribution, provide consistent shift quality, and compensate for changing conditions, such as variations in vehicle weight and engine power.

8) At a minimum, drivetrain components consisting of the engine, transmission, retarder, ASR, and anti-lock braking systems shall be powered by a dedicated and isolated ignition supply voltage to ensure data communication among components exists when the vehicle ignition is switched to the “on” position.

9) A brake pedal application of 6 to 10 psi shall be required to engage either forward or reverse range from standstill.

10) The electronically controlled transmission shall have on-board diagnostic capabilities, be able to monitor functions, store and time-stamp out-of-parameter conditions in memory, and communicate faults and vital conditions to service personnel.

11) The transmission shall contain built-in protection software to guard against damage.

12) The on-board diagnostic system shall trigger a visual alarm to the operator when a malfunction is detected.

13) An electronic transmission fluid level monitoring and protection system shall be provided.

B Hill Holder
1) A vehicle hill holder function shall be integrated with an automatic or reduced engine load state function to prevent inadvertent vehicle movement when activated by the vehicle operator. The vehicle door brake shall be activated in this state and shall be deactivated when the vehicle operator activates the throttle pedal. When this system is used, the vehicle may not roll back before the engine produces power suitable to propel the vehicle forward.

C Retarder

1) The transmission shall be equipped with a retarder designed to extend brake lining service life.

2) The application of the retarder shall cause a smooth blending of both retarder and service brake function and shall activate the brake lights.

3) Actuation of ABS, ATC or ASR shall override the operation of the transmission retarder.

D Standard Requirement for Retarder Activation

1) The retarder shall be adjustable within the limits of the powertrain and activated when the brake pedal is depressed.

2) NYSDOT requires that the Proposer will work with the OEM/drive system manufacturer to determine retarder performance settings.

E Retarder Disable Switch Not Accessible

1) The retarder disable switch shall not be accessible to the seated operator. The retarder disable switch shall be located behind a normally latched door in the operator’s area.

F Retarder Data Recording

1) Provision shall be made so that disabling retarder can be recorded for NYSDOT’s data collection system.

G Transmission Mounting

1) All power plant mountings shall be mechanically isolated to minimize transfer of vibration to the body structure and provide a minimum clearance of 0.75 inches between the powertrain and fixed parts of the vehicle at the most extreme extension of the powertrain.

2) Mounts shall control the movement of the power plant so as not to affect performance of belt-driven accessories or cause strain in piping and wiring connections to the power plant.

H Belt-Driven Accessories

1) NYSDOT requires that all belt-driven accessories are attached only to the powertrain and not to the vehicle chassis.

14 Drive Shaft
1) The drive shaft shall be guarded to prevent hitting any critical systems, including brake lines, vehicle floor or the ground, in the event of a tube or universal joint failure.

2) Drive shaft angles shall be limited to recognized industry norms and shall not be greater than the angles specified by the universal joint manufacturer’s specifications.

3) Drive shaft slip joint shall be robust enough to last the life of the transmission.

4) Slip Joint and Universal joint lubrication points shall be easily accessed so that ease of normal maintenance is facilitated.

5) The universal end cap retention bolts shall be retained by metal lock clips that prevent the bolt from loosening by deforming the metal clip against the head of the retention bolt. Lock Tite or similar thread locking chemical shall not be used to retain these bolts.

15 Powertrain Serviceability

A Serviceability

1) The propulsion system shall be arranged for ease of access and maintenance.

2) The Manufacturer shall list all special tools, fixtures or facility requirements recommended for servicing.

3) The muffler, exhaust system, air cleaner, air compressor, starter, alternator, radiator, all engine driven accessories and any other component requiring service or replacement shall be easily removable and independent of the engine and transmission removal.

B Engine compartment controls

1) An engine oil pressure gauge and coolant temperature gauge shall be provided in the engine compartment.

2) These gauges shall be easily read during service and mounted in an area where they shall not be damaged during minor or major repairs.

C Air Filter

1) An air cleaner with a dry filter element and a graduated air filter restriction indicator shall be provided.

2) The location of the air intake system shall be designed to minimize the entry of dust and debris and to maximize the life of the air filter.

3) The engine air duct shall be designed to minimize the entry of water into the air intake system.

4) Drainage provisions shall be included to allow any water/moisture to drain prior to entry into the air filter.

D Fluid Fillers

1) Engine oil and the radiator filler caps shall be hinged to the filler neck and closed with spring pressure or positive locks to prevent leakage.
2) All fluid fill locations shall be properly labeled to help ensure that the correct fluid is added.
3) All fillers shall be easily accessible with standard funnels, pour spouts and automatic dispensing equipment.
4) All lubricant sumps shall be fitted with magnetic-type drain plugs or magnets.

16 Power Steering
1) Power steering is the only engine-driven hydraulic system allowed.
2) Hydraulically actuated tag axle steering is considered to be part of the power steering system.
3) Power steering system service tasks shall be minimized and scheduled no more frequently than those of other major vehicle systems.
4) All elements of the power steering system shall be easily accessible for service or unit replacement.
5) Critical points in the power steering system shall be fitted with service ports so that portable diagnostic equipment may be connected or sensors used for an off-board diagnostic system.
6) The power steering system shall operate within the allowable temperature range as specified by the power steering component and the power steering hydraulic fluid manufacturer.
7) Power steering lines shall not be solid metallic lines but shall be flexible lines to dampen pump noise from entering the passenger compartment.
8) All power steering lines shall be isolated from the vehicle structure with resilient mounts to limit the amount of noise that enters the passenger compartment.

17 Piping and Fluid Lines
1) All piping and fluid lines shall be supported to prevent chafing damage, fatigue failures, degradation and tension strain.
2) Fluid lines must be sufficiently flexible to minimize mechanical loads on the components.
3) All lines passing through panels, frames or bulkheads shall be protected by grommets (or similar devices) that fit snugly to both the line and the perimeter of the hole that the line passes through to prevent chafing and wear.
4) Pipes and fluid hoses shall not be bundled with or used to support electrical wiring harnesses.
5) Solid piping and flexible lines shall be compatible with the fluids they are intended to carry at all expected temperatures and pressures plus industry standard safety margins.
6) Flexible hoses and fluid lines shall not touch one another, or any part of the vehicle. Lines shall be as short as practicable and shall be routed or shielded so that failure of a line shall not allow the contents to spray or drain onto any component operable above the auto-ignition temperature of the fluid.

7) All hoses, pipes, lines and fittings shall be specified and installed per the component manufacturer’s recommendations.

18 Fuel System

A Diesel Fuel Filter

1) A fuel/water separation system as supplied by Racor, model 382 or approved equal shall be provided and mounted as close to the fuel tank as possible in a location to facilitate service.

B Diesel Fuel Lines

1) Fuel lines shall be securely mounted, braced and supported as designed by the vehicle manufacturer to minimize vibration and chafing and shall be protected against damage, corrosion or breakage due to strain or wear.

2) Manifolds connecting fuel containers shall be designed and fabricated to minimize vibration and shall be installed in protected locations to prevent line or manifold damage from unsecured objects or road debris.

3) Fuel hose and hose connections, where permitted, shall be made from materials resistant to corrosion and fuel and protected from fretting and high heat. Fuel hoses shall be accessible for ease of serviceability.

4) Fuel lines shall be capable of carrying the type of fuel specified by NYSDOT (i.e., up to B20 type fuel).

5) Fuel lines shall be rated and sized to prevent freezing and plugging due to condensation and/or fuel gelling in extreme winter.

6) The fuel lines forward of the engine bulkhead shall be in conformance to SAE Standard J1149 Type 1 for corrosion-resistant stainless steel tubing or SAE Standard J844 for nylon tubing color coded orange.

C Fuel Tank

1) The fuel tank(s) and its mountings and fasteners shall be made of 300 series or ASTM A240 corrosion-resistant stainless steel or plastic if the vehicle manufacturer normally offers such a tank as a regular option

2) The fuel tank(s) shall be securely mounted to the vehicle to prevent movement during vehicle maneuvers.

3) The fuel tank(s) shall be equipped with an external, hex-head drain plug.

4) The plug shall be at least ½ inches in size and shall be located at the lowest point of the tank(s).

5) The fuel tank(s) shall have an inspection plate or easily removable filler neck to permit cleaning and inspection of the tank(s) without removal from the vehicle.
6) The tank(s) shall be baffled internally to prevent fuel-sloshing regardless of fill level.

7) The baffles or fuel pickup location shall assure continuous full power operation on a six (6) percent upgrade for 15 minutes starting with no more than 25 gallons of fuel over the unusable amount in the tank(s).

8) The vehicle shall operate at idle on a six (6) percent downgrade for 30 minutes starting with no more than ten (10) gallons of fuel over the unusable amount in the tank(s).

9) The materials used in mounting shall withstand the adverse effects of road salts, fuel oils and accumulation of ice and snow for the life of the vehicle.

D Labeling

1) The capacity, date of manufacture, manufacturer name, location of manufacture, and certification of compliance to the Federal Motor Carrier Safety Administration (FMCSA) shall be permanently marked on the fuel tank(s).

2) The markings shall be readily visible and shall not be covered with undercoating or any other material.

3) Markings shall be permanently affixed to tank identification plate, preferably by stamping the letters into the plate material.

E Dry-Break Fuel Filling System

1) The diesel fuel filler system shall be of the type known as “dry break”, and shall include dust cap, spring and poppet adapter assembly and pressure relief valve to insure spill free, automatic, fast fueling

2) The system shall be capable of handling flow rates up to fifty (50) US gallons per minute and shall form a locked and sealed connection during the refueling process to eliminate spills.

3) The fuel filler shall be located on the curbside of the vehicle.

4) The filler cap shall be retained to prevent loss and shall be recessed into the body so that spilled fuel will not run onto the outside surface of the vehicle.

5) With the nozzle open, fuel shall enter the tank(s) at a fill rate of not less than 40 gallons per minute of foam-free fuel without causing the nozzle to shut off before the tank(s) is full.

6) The nozzle shall automatically shut off when the tank(s) is/are essentially full.

7) Once disconnected, fuel shall not be allowed to flow through the nozzle at any time.

8) Any pressure over three (3) psi shall be automatically relieved from the fuel tank(s).

9) An audible signal shall indicate when the tank(s) reached 95% capacity.
10) The nozzle body shall be manufactured from cast aluminum and brass along with a stainless steel trim.

11) The system dust cap shall be manufactured from impact-resistant and flexible polypropylene.

12) The system cap shall also prevent foreign materials from reaching the nozzle. Due to the operating environment that exists on transit properties, the system dust cap must also be resistant to diesel fuel that may come into contact with it during fueling.

19 Exhaust System

1) The exhaust pipe shall be designed to prevent exhaust gases and waste heat from discoloring or causing heat deformation to the vehicle.

2) The entire exhaust system shall be adequately shielded to prevent heat damage to any vehicle component, including the exhaust after-treatment compartment area.

3) The exhaust outlet shall be designed to minimize rain, snow or water generated from high-pressure washing systems from entering into the exhaust pipe and causing damage to the after-treatment system.

4) Exhaust gases and waste heat shall be discharged from the street-side of the vehicle under the rear bumper.

20 Chassis

A Suspension

1) The front, drive and tag axle suspensions shall be pneumatic type.

2) The basic suspension system shall last the service life of the vehicle without major overhaul or replacement.

3) Adjustment points shall be minimized and shall not be subject to a loss of adjustment in service.

4) Routine adjustments shall be easily accomplished by limiting the removal or disconnecting the components.

5) All wheels and axles shall be properly aligned before vehicle delivery. An alignment report shall be included with each vehicle’s quality assurance documentation and shall be delivered to the customer when the vehicle is delivered.

6) Each vehicle shall be weighed before delivery. Each axle shall be weighed separately. Weight slips from each vehicle shall be delivered with the vehicle. Vehicles shall be weighed at curb weight with full fuel and fluids but no passengers or operators on board.

B Springs and Shock Absorbers

1) The suspension system shall permit a minimum wheel travel of 2.75 inches bump travel of a wheel when the vehicle hits a bump (higher than street surface), and 2.75 inches rebound-downward travel when the vehicle comes off a bump and the wheels fall relative to the body.
2) Elastomeric bumpers shall be provided to limit bump travel.
3) Rebound travel may be limited by elastomeric bumpers or hydraulically within the shock absorbers.
4) Suspensions shall incorporate appropriate devices for automatic height control so that regardless of load the vehicle height relative to the centerline of the wheels does not change more than ½ inch at any point from the height required.
5) The safe operation of a vehicle cannot be impacted by ride height up to one (1) inch from design normal ride height.
6) Vertical damping of the suspension system shall be accomplished by hydraulic shock absorbers mounted to the suspension arms or axles and attached to an appropriate location on the chassis.
7) Damping shall be sufficient to control vehicle motion to three (3) cycles or less after hitting road perturbations.
8) Shock absorber bushings shall be made of elastomeric material that will last the life of the shock absorber.
9) Shock absorbers shall incorporate secondary hydraulic rebound stops.

C Lubrication

1) All elements of steering, suspension and drive systems requiring scheduled lubrication shall be provided with grease fittings conforming to SAE Standard J534.
2) Fittings shall be located for ease of inspection and shall be accessible with a standard grease gun from a pit or with the vehicle on a hoist.
3) Each element requiring lubrication shall have its own grease fitting and a grease relief path.
4) The lubricant specified shall be standard for all elements on the vehicle serviced by standard fittings and shall require a service interval of no less than every 6000 miles.

D Kneeling

1) A kneeling system shall lower the curb side of the vehicle to a maximum of 12.5” clearance above the roadway measured at the center of each door opening during loading or unloading operations regardless of load up to GVWR.
2) Kneeling shall be controlled by a three-position, spring loaded switch. The switch will be spring loaded to return to center and shall have two (2) operating positions which shall provide the following functions:
   9. Downward control must be held to allow downward kneeling movement.
   10. Release of the control during downward movement must completely stop the lowering motion and hold the height of the vehicle at that position.
   11. Upward control actuation must allow the vehicle to return to normal floor height without the operator having to hold the control.
3) The brake and throttle interlock shall be activated any time the kneeling system is functioning to prevent movement when the vehicle is kneeled.
4) The kneeling control shall be disabled when the vehicle is in motion.
5) The vehicle shall kneel at a maximum rate of 1.25 inches per second at essentially a constant rate.
6) After kneeling, the vehicle shall rise within four (4) seconds to a height permitting the vehicle to resume service and shall rise to the correct operating height within seven (7) seconds regardless of load up to GVWR.
7) During the lowering and raising operation, the maximum vertical acceleration shall not exceed 0.2g, and the jerk shall not exceed 0.3g/second.
8) An indicator visible to the operator shall be illuminated until the vehicle is raised to a height adequate for safe street travel.
9) An audible warning alarm will sound simultaneously with the operation of the kneeler to alert passengers and bystanders.
10) Warning lights mounted near the front and rear doors, minimum 2.5 inches in diameter with an amber lens, shall be provided that will flash when the vehicle in in the process of kneeling.
11) Kneeling shall not be operational while the wheelchair ramp is deployed or in operation, with the exception that it shall be possible to raise the kneeled vehicle with the ramp deployed.

21 Wheels and Tires

A Wheels

1) All wheels shall be aluminum, hub-piloted, polished on both sides and shall be of the type Dura-Brite and Dura-Flange as produced by Alcoa or approved equal.
2) Wheels shall be interchangeable between all positions on all vehicles under this RFP...
3) Wheels shall be removable without a puller.
4) Wheels shall be compatible with tires in size and load-carrying capacity.
5) All wheels and tires shall be balanced as an assembly per SAE J1986.
6) Wheel nuts shall be positively retained with a systems that prevents lug nuts from loosening between servicing processes.
7) Operator shall develop and follow a strict procedure for the torqueing and maintenance of wheel nut torque that follows industry best practices.

B Tires

1) Tires shall be suitable for the conditions of transit BRT service and sustained operation at the maximum speed capability of the vehicle.
2) Load on any tire at GVWR shall not exceed the tire supplier’s rating.
3) Tires shall be certified by and marked so by their manufacturers to load and speed ratings appropriate for the service envelope of these vehicles.

C Tire Pressure Monitoring System

1) Vehicles shall be equipped with tire pressure monitoring systems.
2) The TPMS shall notify the vehicle operator when tire pressure drops below a specified warning level before pressure drops to a critical level.

3) The TPMS shall sound an audible warning and show a red light if tire pressure drops below a critical level.

4) Pressures associated with normal, warning and critical levels shall be determined by consensus between the contractor, tire manufacturer and vehicle manufacturer. Resulting pressures shall be reported to NYSDOT for approval.

22 Steering

A General

1) The fatigue life of all steering components shall exceed 1,000,000 miles.

2) No element of the steering system shall sustain a Class I failure when one of the tires hits a curb or strikes a severe road hazard.

3) Inadvertent alternations of steering as a result of striking road hazards are steering failures.

B Steering and Tag Axles

1) The front and tag axles shall be solid beam, non-driving with a load rating sufficient for the vehicle loaded to GVWR and shall be equipped with unitized, maintenance free, grease type wheel bearings and seals.

2) All friction points on the front axle shall be equipped with replaceable bushings or inserts and, if needed, lubrication fittings shall be easily accessible from a pit or hoist.

3) The steering geometry of the outside (front lock) wheel shall be within two (2) degrees of true Ackerman up to 50 percent lock measured at the inside (back lock) wheel.

4) The steering geometry shall be within three (3) degrees of true Ackerman for the remaining 100 percent lock measured at the inside (back lock) wheel.

C Turning Radius

1) The outside body turning radius shall not exceed 43 feet.

D Steering

1) Steering effort shall be measured with the vehicle at GVWR, the vehicle not moving with the brakes released and the engine at normal idling speed on clean, dry, level, commercial asphalt pavement and with the tires inflated to recommended pressure.

2) Under these conditions, the torque required to turn the steering wheel ten (10) degrees shall be no less than five (5) ft.-lbs. and no more than ten (10) ft.-lbs.

3) Steering torque may increase to 70 ft.-lbs. when the wheels are approaching the steering stops, as the relief valve activates.

4) Power steering failure shall not result in loss of steering control.
5) With the vehicle in operation, the steering effort shall not exceed 55 lbs. at the steering wheel rim, and perceived free play in the steering system shall not materially increase as a result of power assist failure.

6) Gearing shall require no more than seven turns of the steering wheel lock-to-lock.

7) The caster angle shall be selected to provide a tendency for the return of the front wheels to the straight position with minimal assistance from the operator.

E Steering Wheel

1) The steering wheel diameter shall be approximately 18 to 20 inches; the rim diameter shall be ⁷⁄₈ to 1¼ inches and shaped for firm grip with comfort for long periods of time.

2) Steering wheel spokes and wheel thickness shall ensure visibility of the dashboard so that vital instrumentation is clearly visible at center neutral position (within the range of a 95th-percentile male, as described in SAE 1050a, Sections 4.2.2 and 4.2.3).

3) Placement of steering column shall be as far forward as possible, either in line with or behind the instrument cluster.

4) The steering column shall have full tilt capability with an adjustment range of no less than 40 degrees from the vertical and easily adjustable by the operator and shall be accessible by a 5th-percentile female and 95th-percentile male.

5) The steering wheel shall have full telescoping capability and have a minimum telescopic range of two (2) inches and a minimum low-end adjustment of 29 inches, measured from the top of the steering wheel rim in the horizontal position to the cab floor at the heel point.

6) Table 2 below outlines steering column and steering wheel specifications.

### Table 2 Steering Wheel Height Relative to Angle of Slope

<table>
<thead>
<tr>
<th>Angle of Slope</th>
<th>At Minimum Height Adjustment (29 in.)</th>
<th>At Maximum Height Adjustment (5 in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Height</td>
<td>Angle of Slope</td>
</tr>
<tr>
<td>0 deg.</td>
<td>29 in.</td>
<td>0 deg.</td>
</tr>
<tr>
<td>15 deg.</td>
<td>26.2 in.</td>
<td>15 deg.</td>
</tr>
<tr>
<td>25 deg.</td>
<td>24.6 in.</td>
<td>25 deg.</td>
</tr>
<tr>
<td>35 deg.</td>
<td>22.5 in.</td>
<td>35 deg.</td>
</tr>
</tbody>
</table>

VERSION 6 – June 27, 2016
Drive Axle

F General

1) The vehicle shall be driven by a heavy-duty portal type drive axle produced by ZF, model AV 132 or approved equal.
2) Drive axle capacity shall be no less than 23,000 lbs.
3) Axle shall have a load rating sufficient for the vehicle loaded to GVWR.
4) The drive axle shall have a design life to operate for not less than 300,000 miles on the design operating profile without replacement or major repairs.
5) The lubricant drain plug shall be magnetic type. The axle and driveshaft components shall be rated for both propulsion and retardation modes with respect to duty cycle.

G Tag Axle

1) A steerable tag axle shall be located behind the drive axle.
2) The tag axle may be either a solid beam type or independent suspension type.
3) The tag axle wheels shall be identical to the wheels used on the front and drive axles.
4) With full passenger seating capacity, load on any axle shall not exceed 22,400 lbs.
5) Combined load capacity weight on the drive and tag axles shall not exceed 36,500 lbs.
6) A tag axle unloading feature shall allow full or partial unloading, or dumping of air from the tag axle air spring bellows. This feature enables weight to shift to the drive axle for more traction.
7) Control of tag axle unloading shall be the manufacturer's standard system and shall be operator activated and automatically controlled.

23 Brakes

A Service Brakes

1) The vehicle shall be equipped with disc brakes at all wheel positions.
2) Disk brake rotors shall allow machining of each side of the disc to obtain smooth surfaces per manufacturer’s specifications.
3) Brakes shall be self-adjusting.
4) Visible stroke indicators shall be combined with electronic brake monitoring system and a vehicle brake warning system to notify operator and maintenance personnel of unsafe brake system conditions.

B Actuation

1) Brake system shall be of the type known as Electronic Braking System or “EBS”.
2) Microprocessor controlled ATC or ASR shall be provided as well as ABS.
3) The ABS/EBC controller shall support EBC1 (PGN 61441) “Brake Pedal Position” (SPN 521) to support and enhance fuel savings technologies.
C Friction Material
   1) Brake friction material shall not contain asbestos or any other carcinogenic material.
   2) Brake lining wear condition shall be clearly visible from a vehicle lifting hoist or pit.
   3) Backing plates shall not be provided on any axle.

D Hubs and Disc Brake Rotors
   1) Wheel bearing seals shall be of an integral wear surface sealed design.
   2) Wheel bearing and hub seals and unitized hub assemblies shall not leak or weep lubricant when operating on the design operating profile for the duration of the initial manufacturer’s warranty.
   3) The brake system material and design shall be selected to absorb and dissipate heat quickly so that the heat generated during braking operation does not glaze the brake pads.

24 Parking/Emergency Brake
A Air Brakes
   1) The parking brake shall be a spring-operated system, actuated by a valve that exhausts compressed air to apply the brakes.
   2) The parking brake system shall be enabled when the air pressure is at the operating level per FMVSS 121.

B Emergency Brake Release
   1) An emergency brake release shall be provided to release the brakes in the event of automatic emergency brake application.
   2) The operator shall be able to manually depress and hold down the emergency brake release valve to release the brakes and maneuver the vehicle to safety.
   3) Once the operator releases the emergency brake release valve, the brakes shall engage to hold the vehicle in place.
   4) Air to the emergency brake release system shall be provided by a dedicated emergency air tank which shall be adequately sized to provide for a minimum of three (3) applications of the emergency park brake release system.

C Door Brake Interlock System
   1) Passenger door interlocks shall be provided to prevent opening the rear passenger doors while the vehicle is in motion.
   2) A speed sensor shall be integrated with the door controls to prevent the rear doors from being enabled or opened unless the vehicle speed is less than two (2) mph.
3) To preclude movement of the vehicle, an accelerator interlock shall disable the accelerator and a brake interlock shall engage the service brake system to stop movement of the vehicle when the operator selects rear door enable or open position, or the rear door panel is opened more than three (3) inches from the fully closed position (as measured at the leading edge of the door panel).

4) Engagement of the rear door interlock by actuation of the rear door emergency release shall bring the vehicle to a smooth stop and shall be capable of holding a fully loaded vehicle on a six (6) percent grade, with the engine at idle and the transmission in gear, until the interlocks are released.

5) Interlock functions shall be active whenever the vehicle master run switch is in any run position.

6) All door systems employing brake and accelerator interlocks shall be supplied with supporting failure mode effects analysis (FMEA) documentation, which demonstrates that failure modes are of a failsafe type, thereby never allowing the possibility of release of interlock while an interlocked door is in an unsecured condition, unless the door master switch has been actuated to intentionally release the interlocks.

D Hill Holder

1) A system shall be incorporated in the vehicle that will hold the vehicle in place when the operator holds the “hill hold switch” in the actuated position.

2) The hill hold function shall duplicate the door interlock function and shall disable throttle and apply drive axle service brakes while system is activated.

3) The switch will be a momentary, spring loaded guarded, self-canceling switch that returns to a deactivated condition when released.

25 Pneumatic System

A General

1) The vehicle air system shall operate air-powered accessories and braking systems with reserve capacity.

2) New vehicles shall not leak down more than five (5) psi over a 15-minute period of time as indicated on the dash gauge.

3) Provision shall be made to apply shop air to the vehicle air systems. Quick disconnect fittings shall be easily accessible and located in the engine compartment and near the front bumper area for towing.

4) Retained caps shall be installed to protect shop air fitting against dirt and moisture when not in use.

5) Inlet air for the air compressor shall be filtered.

6) The air system shall be fully compliant with and protected as per FMVSS 121.

B Air Compressor
1) The engine-driven air compressor shall be sized to charge the air system from 40 psi to the governor cutoff pressure in less than four (4) minutes while not exceeding the fast idle speed setting of the engine.

2) An auxiliary air filter (oil coalescing filter) shall be installed between the dryer and supply reservoir.

C  Air Lines and Fittings

1) Air lines, except necessary flexible lines, shall conform to the installation and material requirements of SAE Standard J844 for nylon tubing if not subject to temperatures over 200 °F.

2) The air on the delivery side of the compressor where it enters nylon tubing shall not be above the maximum temperature limits as stated in SAE J844.

3) Nylon tubing shall be installed in accordance with the following color-coding standards:
   12. Green: Indicates primary brakes and supply.
   15. Yellow: Indicates compressor governor signal.

4) Continuously insulated P-Clamp type line supports shall be used to prevent movement, flexing, tension, strain and vibration.

5) Rigid lines shall be supported at no more than 30-inch intervals.

6) Nylon lines may be grouped and shall be supported at 24-inch intervals or less.

7) The compressor discharge line between power plant and body-mounted equipment shall be flexible convoluted stainless steel line, or may be flexible Teflon hose with a braided stainless steel jacket.

8) Flexible hoses shall be as short as practicable and individually supported. They shall not touch one another or any part of the vehicle except for the supporting grommets.

9) Flexible (braided) lines shall be supported at two-foot intervals or less.

10) Air lines shall be cleaned externally and internally before installation and shall be installed to minimize air leaks.

11) All air lines shall be routed to prevent water traps to the extent possible.

12) Grommets or insulated clamps shall be employed to protect air lines at all points where they pass through understructure components.

D  Air Reservoirs

1) All air reservoirs shall meet the requirements of FMVSS Standard 121 and SAE Standard J10 and shall be equipped with guarded or flush type drain valves or remotely located drain valves.

2) All air reservoirs or remotely mounted reservoir drain valves shall be labeled as to the function of the air tank.

3) Major structural members shall protect these valves and any automatic moisture ejector valves from road hazards.
4) Reservoirs shall be sloped toward the drain valve.
5) All air reservoirs shall have drain valves that discharge below floor level with lines routed to eliminate the possibility of water traps and/or freezing in the drain line.

E Air System Dryer

1) An active compressed air dryer system shall be installed to prevent accumulation of moisture and oil in the air system, be rated for transit applications and be sized to meet the requirements of the air system.
2) The air dryer system shall include a replaceable desiccant bead, electrically heated drain, and thermostatically controlled activation device.
3) The air dryer shall be easily accessible and with the exception of a dust shield, no other vehicle equipment shall require removal to service the air dryer.
4) A 2M/3M mechanic shall be able to replace the desiccant in less than 15 minutes.
5) A self-draining oil separator shall be installed upstream of the air dryer to collect/remove oil from the air system and shall be equipped with a manual drain easily accessed from under the vehicle.
6) The sump and drain shall be electrically heated.

26 Structure
A General

1) The vehicle shall have a clean, smooth, simple design, primarily derived from vehicle performance requirements and passenger service criteria established by the Technical Specifications.
2) The exterior and body features, including grilles and louvers, shall be shaped to facilitate cleaning by automatic vehicle washers without snagging washer brushes.
3) Water and dirt shall not be retained in or on any body feature to freeze or bleed out onto the vehicle after leaving the washer.
4) The body, windows and doors shall be sealed to prevent leaking of air, dust, or water under normal operating conditions and during cleaning in automatic vehicle washers for the service life of the vehicle.
5) Exterior panels shall be sufficiently stiff to minimize vibration, drumming or flexing while the vehicle is in service.
6) When panels are lapped, the upper and forward panels shall act as a watershed. However if entry of moisture into interior of vehicle is prevented by other means, then rear cap panels may be lapped otherwise.
7) The windows, hatches, and doors shall be properly sealed.
8) Accumulation on any window of the vehicle of spray and splash generated by the vehicle’s wheels on a wet road shall be minimized.
9) All roof, wheelhouse and body seals shall be waterproof and there shall be no requirement for replacement of sealant for the service life of the vehicle.
B  Design

1) The structure of the vehicle shall be designed to withstand the transit service conditions typical of an urban or intercity duty cycle throughout its service life.

2) The vehicle structural frame shall be designed to operate with minimal maintenance throughout the 12-year design operating profile.

3) The design operating profile specified by NYSDOT shall be considered for this purpose.

C  Structural Validation

1) The structure of the vehicle shall have undergone appropriate structural testing and/or analysis.

2) At minimum, appropriate structural testing and analysis shall include Altoona testing and finite element analysis (FEA).

3) Distortion: The vehicle, loaded to GVWR and under static conditions, shall not exhibit deflection or deformation that impairs the operation of the steering mechanism, doors, windows, passenger escape mechanisms or service doors. Static conditions shall include the vehicle at rest with any one wheel or dual set of wheels on a six-inch curb or in a six-inch-deep hole.

4) All structure, body and panel-bending mode frequencies, including vertical, lateral and torsional modes, shall be sufficiently removed from all primary excitation frequencies to minimize audible, visible or sensible resonant vibrations during normal service.

5) The passenger and engine compartment shall be separated by fire-resistant bulkheads.

6) The engine compartment shall include areas where the engine and exhaust system are housed. This bulkhead shall preclude or retard propagation of an engine compartment fire into the passenger compartment and shall be in accordance with the Recommended Fire Safety Practices defined in FTA Docket 90A, dated October 20, 1993.

7) Only necessary openings shall be allowed in the bulkhead, and these shall be equipped with fire-resistant closeouts.

8) Any passageways for the climate control system air shall be separated from the engine compartment by fire-resistant material.

9) Piping through the bulkhead shall have fire-resistant fittings sealed at the bulkhead.

10) Wiring may pass through the bulkhead only if connectors or other means are provided to prevent or retard fire propagation through the bulkhead.

11) Engine access panels in the bulkhead shall be fabricated of fire-resistant material and secured with fire-resistant fasteners.

12) These panels, their fasteners and the bulkhead shall be constructed and reinforced to minimize warping of the panels during a fire that will compromise the integrity of the bulkhead.
13) The vehicle body and roof structure shall withstand a static load equal to 150 percent of the curb weight evenly distributed on the roof with no more than a six-inch reduction in any interior dimension.

14) Windows shall remain in place and shall not open under such a load. These requirements must be met without the roof-mounted equipment installed.

15) The vehicle shall withstand a 25 mph impact by a 4000 lb automobile at any side, excluding doorways, along either side of the vehicle, with no more than three (3) inches of permanent structural deformation at seated passenger hip height.

16) This impact shall not result in sharp edges or protrusions in the vehicle interior.

17) Exterior panels below 35 inches from ground level shall withstand a static load of 2000 lbs. applied perpendicular to the vehicle by a pad no larger than five (5) square inches

18) This load shall not result in deformation that prevents installation of new exterior panels to restore the original appearance of the vehicle.

D Corrosion

1) Vehicle flooring, sides, roof, understructure and axle suspension components shall be designed to resist corrosion or deterioration from atmospheric conditions and de-icing materials for a period of 12 years or 500,000 miles, whichever comes first.

2) The vehicle structural system shall maintain structural integrity and nearly maintain original appearance throughout its service life, with NYSDOT’s contract operator’s use of proper cleaning and neutralizing agents.

3) All materials that are not inherently corrosion resistant shall be protected with corrosion-resistant coatings.

4) All joints and connections of dissimilar metals shall be corrosion resistant and shall be protected from galvanic corrosion.

5) Representative samples of all materials and connections shall withstand a two-week (336-hour) salt spray test in accordance with ASTM Procedure B-117 with no structural detrimental effects to normally visible surfaces and no weight loss of over one (1) percent.

6) The vehicle body and structure, including but not limited to, flooring, sides, roof, understructure, axle suspension components shall resist corrosion or deterioration from atmospheric conditions and road salts for a period of 12 years or 500,000 miles whichever comes first. It shall maintain structural integrity and nearly maintain original appearance throughout its service life, provided that it is maintained by NYSDOT in accordance with the procedures specified in the Manufacturer’s service manual.

7) With the exception of periodically inspecting the visible coatings applied to prevent corrosion and reapplying these coatings in limited spots, the reapplication of corrosion compounds shall not be required over the 12-year service life of the vehicle.
8) The vehicle structure shall be corrosion resistant stainless steel. All exposed floor surfaces under the finished vehicle shall be protected with non-flammable undercoating.

9) All materials that are not inherently corrosion resistant shall be protected with corrosion-resistant coatings.

10) All interior tubing and other enclosed members shall be resistant to corrosion through the use of stainless steel.

11) The bidder shall submit during the approved equal process a complete description of the materials and dimensions used in construction of the body and structure to obtain maximum corrosion protection.

27 Towing

A Towing General

1) Towing devices shall be provided on each end of the vehicle.

2) Towing devices should accommodate flat-towing.

3) Each towing device shall withstand, without permanent deformation, tension loads up to 1.2 times the curb weight of the vehicle within 20 degrees of the longitudinal axis of the vehicle.

4) The rear towing device(s) shall not provide a toehold for unauthorized riders.

5) The front towing devices shall allow attachment of adaptors for a rigid tow bar and shall permit lifting of the vehicle until the front wheels are clear of the ground in order to position the vehicle on the towing equipment by the front wheels.

6) The rear towing devices shall permit lifting and towing of the vehicle for a short distance, such as in cases of an emergency, for instance to allow access to provisions for front towing of the vehicle.

7) The method of attaching the tow bar or adapter shall require the approval of NYSDOT. Each towing device shall accommodate a crane hook with a one-inch throat.

B Jacking

1) It shall be possible to safely jack the vehicle, at curb weight, with a common ten-ton floor jack with or without special adapter, when a tire or dual set is completely flat and the vehicle is on a level, hard surface, without crawling under any portion of the vehicle. Jacking from a single point shall permit raising the vehicle sufficiently high to remove and reinstall a wheel and tire assembly.

2) Jacking pads located on the axle or suspension near the wheels shall permit easy and safe jacking with the flat tire or dual set on a six-inch-high run-up block not wider than a single tire.

3) The vehicle shall withstand such jacking at any one or any combination of wheel locations without permanent deformation or damage.

4) Jacking pads shall be painted safety yellow or orange for ease of identification and jacking point decals installed.
C  Hoisting

1) The vehicle axles or jacking plates shall accommodate the lifting pads of a two-post hoist system.
2) Jacking plates, if used as hoisting pads, shall be designed to prevent the vehicle from falling off the hoist.
3) Other pads or the vehicle structure shall support the vehicle on jack stands independent of the hoist.
4) The vehicle shall be capable of being lifted by its wheels, and, as necessary to meet tire load requirements, the proper number of wheel lifts and/or adapters must be used.

28  Floor

A  Design, Lower Deck

1) The floor shall be essentially a continuous plane, except at the wheel housings and platforms.
2) Where the floor meets the walls of the vehicle, as well as other vertical surfaces such as platform risers, the surface edges shall be blended with a circular section of radius not less than ¼ inch or installed in a fully sealed butt joint.
3) Similarly, a molding or cover shall prevent debris accumulation between the floor and wheel housings.
4) The vehicle floor in the area of the entrance and exit doors shall have a lateral slope not exceeding two (2) degrees to allow for drainage.
5) The aisle of the vehicle shall not be sloped more than 5.5 degrees off horizontal.

B  Design, Upper Deck

1) The floor shall be essentially a continuous plane.
2) Where the floor meets the walls of the vehicle, as well as other vertical surfaces the surface edges shall be blended with a circular section of radius not less than ¼ inch or installed in a fully sealed butt joint.
3) Moldings or covers shall prevent debris accumulation between the floor and other items.
4) An increase slope shall be allowed on the upper level, not to exceed 3.5 degrees off the horizontal.

C  Strength

1) The floor deck may be integral with the basic structure or mounted on the structure securely to prevent chafing or horizontal movement and designed to last the life of the vehicle.
2) Sheet metal screws shall not be used to retain the floor, and all floor fasteners shall be serviceable from one side only.
3) Any adhesives, bolts or screws used to secure the floor to the structure shall last and remain effective throughout the life of the vehicle.
4) Tapping plates, if used for the floor fasteners, shall be no less than the same thickness as a standard nut of the size of the threaded fasteners being used, all floor fasteners shall be secured and protected from corrosion for the service life of the vehicle.

5) The floor deck shall be reinforced as needed to support passenger loads.

6) At GVWR, the floor shall have an elastic deflection of no more than 0.60 inches from the normal plane.

7) The floor shall withstand the application of 2.5 times gross load weight without permanent detrimental deformation.

8) The floor, with coverings applied, shall withstand a static load of at least 150 lbs. applied through the flat end of a ½-inch-diameter rod, with a 1/32-inch radius edge chamfer, without permanent visible deformation.

D Construction, Lower Deck

1) The floor shall be constructed of composite flooring material.

2) The subfloor and the floor covering shall last the life of the vehicle.

3) The floor as assembled, including the sealer, attachments and covering, shall be waterproof, non-hygroscopic and resistant to mold growth.

4) The subfloor shall be resistant to the effects of moisture, including decay (dry rot). It shall be impervious to wood-destroying insects such as termites.

E Construction, Upper Deck

1) The upper deck floor shall be of the manufacturers’ standard design and materials and shall last the life of the vehicle.

2) The floor as assembled, including the sealer, attachments and covering, shall be waterproof, non-hygroscopic and resistant to mold growth.

3) The floor deck shall be reinforced as needed to support passenger loads. At GVWR, the floor shall have an elastic deflection of no more than 0.375 inches (10 mm) from the normal plane.

4) The floor shall withstand the application of 3.0 times gross load weight without permanent detrimental deformation.

F Platforms

1) The covering of platform surfaces and risers, except where otherwise indicated, shall be the same material as specified for floor covering.

2) Trim shall be provided along top edges of platforms unless integral nosing is provided.

3) The operator’s platform shall be of a height such that, in a seated position, the operator can see an object located at an elevation of 42 inches above the road surface, 24 inches from the leading edge of the bumper. Notwithstanding this requirement, the platform height shall not position the operator such that the operator’s vertical upward view is less than 15 degrees.

4) A warning decal or sign shall be provided to alert the operator to the change in floor level.

G Farebox Placement
1) Farebox placement shall minimize impact to passenger access, minimize interference with the operator’s line of sight and meet NYSDOT and FTA ADA placement requirements.

2) If the operator’s platform is higher than 12 inches, then the farebox is to be mounted on a platform of suitable height to provide accessibility for the operator without compromising passengers’ access.

## H Wheel Housings

1) Sufficient clearance and air circulation shall be provided around the tires, wheels and brakes to preclude overheating when the vehicle is operating on the design operating profile. Wheel housings shall be constructed of corrosion-resistant and fire-resistant material.

2) Wheel housings, as installed and trimmed, shall withstand impacts of a 2 inch-steel ball with at least 200 ft-lbs. of energy without penetration.

3) Interference between the tires and any portion of the vehicle shall not be possible in maneuvers up to the limit of tire adhesion with weights from curb weight to GVWR.

4) Wheel housings shall be adequately reinforced where seat pedestals are installed.

5) Wheel housings shall have sufficient sound insulation to minimize tire and road noise and meet all noise requirements of this specification.

6) Design and construction of front wheel housings shall allow for the installation of a radio or electronic equipment storage compartment on the interior top surface, or its use as an interior luggage rack.

7) The finish of the front wheel housings shall be scratch-resistant and complement interior finishes of the vehicle to minimize the visual impact of the wheel housing.

8) If fiberglass wheel housings are provided, they shall be color-impregnated to match interior finishes.

9) The lower portion extending to approximately 10 to 12 inches above the floor shall be equipped with scuff-resistant coating or stainless steel trim.

10) Wheel housings not equipped with seats or equipment enclosure shall have a horizontal assist mounted on the top portion of the housing no more than four (4) inches higher than the wheel well housing. Additional braces shall be used to capitalize on the use of these areas as storage spaces for passenger possessions such as luggage or shopping bags.

11) Sufficient clearance shall exist between tires and wheel assemblies and wheel housings to allow for the use of tire snow chains.
29 Electrical, Electronic and Data Communications Systems

A Overview

1) The electrical system will consist of vehicle battery systems and components that generate, distribute and store power throughout the vehicle. (e.g., generator, voltage regulator, wiring, relays and connectors).

2) Electronic devices are individual systems and components that process and store data, integrate electronic information or perform other specific functions.

3) The data communication system consists of the bi-directional communications networks that electronic devices use to share data with other electronic devices and systems.

4) Communication networks are essential to integrating electronic functions, both onboard the vehicle and off.

5) Information level systems that require vehicle information for their operations or provide information shall adhere to J1939 data standard.

6) Data communications systems are divided into three levels.

7) Components related to the powertrain, including the propulsion system components: engine, transmission, EBS, ABS, ATC, and ASR at a minimum shall be powered by a dedicated and isolated ignition supply voltage to ensure data communication between components exists when the vehicle ignition is switched to the “on” position.

8) Information level: Components whose primary function is the collection, control or display of data that is not necessary to the safe drivability of the vehicle (i.e., the vehicle will continue to operate when those functions are inoperable). These components typically consist of those required for automatic vehicle location (AVL) systems, destination signs, fareboxes, passenger counters, radio systems, automated voice and signage systems, video surveillance and similar components.

9) Multiplex level: Electrical or electronic devices controlled through input/output signals such as discrete, analog and serial data information (i.e., on/off switch inputs, relay or relay control outputs). Multiplexing is used to control components not typically found on the drivetrain or information levels, such as lights; wheelchair ramps; doors; heating, ventilation and air conditioning (HVAC) systems (if applicable); and gateway devices.

B Modular Design

1) Design of the electrical, electronic and data communication systems shall be modular so that each electronic device, apparatus panel, or wiring bundle is easily separable from its interconnect by means of quick disconnect connectors.

2) Power plant wiring shall be an independent wiring harness. Replacement of the engine compartment wiring harnesses shall not require pulling wires through any bulkhead or removing any terminals from the wires.
C Environmental and Mounting Requirements

1) The electrical system and its electronic components shall be capable of operating in the area of the vehicle in which they will be installed, as recommended in SAEJ1455.

2) Electrical and electronic equipment shall not be located in an environment that will reduce the performance or shorten the life of the component or electrical system when operating within the design operating profile. As a recommendation, no vehicle component shall generate, or be affected by, electromagnetic interference or radio-frequency interference (EMI/RFI) that can disturb the performance of electrical/electronic equipment as defined in SAEJ1113 and UNECE Council Directive 95/54(R10).

3) The proposer shall follow recommendations from the vehicle manufacturer and subsystem suppliers regarding methods to prevent damage from voltage spikes generated from welding, jumpstarts, shorts, etc.

D Hardware Mounting

1) The mounting of the hardware shall not be used to provide the sole source ground, and all hardware shall be isolated from potential EMI/RFI, as referenced in SAE J1113.

2) All electrical/electronic hardware mounted in the interior of the vehicle shall be inaccessible to passengers and hidden from view unless intended to be viewed. The hardware shall be mounted in such a manner as to protect it from splash or spray.

3) All electrical/electronic hardware mounted on the exterior of the vehicle that is not designed to be installed in an exposed environment shall be mounted in a sealed enclosure.

4) All electrical/electronic hardware and its mounting shall comply with the shock and vibration requirements of SAEJ1455.

30 Electrical Requirements

A Low-Voltage Batteries

1) Suitable batteries comprising the 24 volt DC energy storage system, conforming to SAE Standard J537 shall be provided.

2) 12VDC batteries shall be connected in a series to provide a nominal 24VDC energy storage system to supply power to the 24VDC electrical system.

3) Each battery shall have a purchase date no more than 120 days from date of release, and shall be fully maintained prior to shipment to NYSDOT.

4) Positive and negative terminal ends on the batteries shall have different size studs (7/16” POS and 3/8” NEG) to prevent incorrect installation.

5) A locking mechanism shall positively secure the battery tray to prevent movement.

6) The battery terminal ends and cables shall be color-coded with red for the primary positive, black for negative, and another color for any intermediate voltage cables.
7) Battery cables shall be flexible and sufficiently long to reach the batteries with tray in the extended position without stretching or pulling on any connection and shall not lie directly on top of the batteries.

8) Except as interrupted by the master battery switch, battery and starter wiring shall be continuous cables with connections secured by bolted terminals; and shall conform to specification requirements of SAE Standard J1127 –Type SGT or SGX and SAE Recommended Practice J541.

9) All power and ground cable ends in the battery and engine compartments shall be coated with dialectic grease.

B Jump Start Connector

1) An Anderson SB-350 plug, or approved equal, adequately protected from moisture, dirt, and debris shall be provided in the curbside of the engine compartment to jump-start the vehicle.

2) The connector shall be of heavy-duty design and construction and shall be provided with a durable non-conducting dust cover attached to the connector or battery cables with a lanyard.

3) The jump start connector shall be easily accessible and be equipped with weather pack connectors, dust cap, adequately protected from moisture, dirt and debris and not be located adjacent to a heat-producing source.

C Battery Compartment Components

1) The battery compartment shall prevent accumulation of snow, ice and debris on top of the batteries and shall be vented and self-draining.

2) The battery compartment shall be accessible only from the outside of the vehicle.

3) All components within the battery compartment, and the compartment itself shall be constructed of 300-series stainless steel at a minimum and shall be protected from damage or corrosion from the electrolyte.

4) The inside surface of the battery compartment’s access door shall be electrically insulated, as required, to prevent the battery terminals from shorting on the door if the door is damaged in an accident or if a battery comes loose.

5) The battery compartment temperature should not exceed the battery manufacturers’ specification.

6) The battery hold-down bracket shall be constructed of a nonconductive and corrosion-resistant material (plastic or fiberglass).

7) The battery compartment access door shall not require any special locking devices to gain access to the switch, and the switch shall be accessible through a dedicated access door located on the exterior of the vehicle.

8) The door shall be flush-fitting and incorporate a spring tensioner or equal to retain the door in a closed position when not in use.

9) The batteries shall be securely mounted on a stainless steel tray that can accommodate the size and weight of the batteries.

10) The battery tray, if applicable, shall pull out easily and properly support the batteries while they are being serviced.
11) The tray shall allow each battery cell to be easily serviced.
12) A locking device shall retain the battery tray to the stowed position.
13) If not located in the engine compartment, the same fire-resistant properties shall apply to the battery compartment.
14) No devices that generate electrical sparks shall be located within the battery box.

D Battery Equalizer
1) A battery equalization system with a minimum capacity of 100 Amps shall be located in the vicinity of the batteries.
2) The battery equalizer shall maintain a balanced and full charge on all batteries and shall be rated for the maximum current expected to be carried in either the 12-VDC or 24-VDC circuits.

E Master Battery Switch
1) The location of the master battery switch shall be clearly identified on the exterior access panel, be accessible in less than ten (10) seconds for deactivation and prevent corrosion from fumes and battery acid when the batteries are washed off or are in normal service.
2) Turning the master switch off with the power plant operating, during an emergency, shall shut off the engine and shall not damage any component of the electrical system.
3) The master switch shall be capable of carrying and interrupting the total circuit load.

F Low-Voltage Generation and Distribution
1) The alternator(s) shall have sufficient capacity to maintain charge of fully charged batteries with engine at normal idle conditions on days with average climatic conditions. That is daylight conditions with ambient temperature of 70 degrees Fahrenheit, HVAC in automatic mode at 70 degrees F.
2) Voltage monitoring and over-voltage output protection (recommended at 32V) shall be provided.
3) Dedicated power and ground shall be provided as specified by the component or system manufacturer. Cabling to the equipment must be sized to supply the current requirements with no greater than a five (5) percent volt drop across the length of the cable.

G Circuit Protection
1) All branch circuits, except battery-to-starting motor, shall be protected by current-limiting devices such as circuit breakers, fuses or solid-state devices sized to the requirements of the circuit.
2) Electronic circuit protection for the cranking motor shall be provided to prevent engaging of the motor for more than 30 seconds at a time to prevent overheating.
3) Circuit breakers and fuses shall be easily accessible for authorized personnel only.
4) Fuses shall be used only where it can be demonstrated that circuit breakers are not practicable. This requirement applies to in-line fuses supplied by either the Manufacturer or a supplier.

5) Fuse holders shall be constructed to be rugged and waterproof.

6) Circuit breakers or fuses shall be sized to a minimum of 15 percent larger than the total circuit load. The current rating for the wire used for each circuit shall exceed the size of the circuit protection being used.

**H  Grounds**

1) The batteries shall be grounded to the vehicle chassis/frame at one (1) location only, as close to the batteries as possible. All battery grounds shall be coated with dielectric grease.

2) When using a chassis ground system, the chassis shall be grounded to the frame in multiple locations, evenly distributed throughout the vehicle to eliminate ground loops.

3) No more than three (3) terminal connections shall be made per ground stud with spacing between studs ensuring conductivity and serviceability.

4) Electronic equipment requiring an isolated ground of the batteries (i.e., electronic ground) shall not be grounded through the chassis.

**I  Low Voltage/Low Current Wiring and Terminals**

1) All power and ground wiring shall conform to specification requirements of SAE Recommended Practice J1127, J1128 and J1292.

2) Double insulation shall be maintained as close to the junction box, electrical compartment or terminals as possible.

3) The requirement for double insulation shall be met by wrapping the harness with plastic electrical tape or by sheathing all wires and harnesses with non-conductive, rigid or flexible conduit.

4) Wiring shall be grouped, numbered and/or color-coded.

5) Wiring harnesses shall not contain wires of different voltage classes unless all wires within the harness are insulated for the highest voltage presenting the harness.

6) Kinking, grounding at multiple points, stretching, and exceeding minimum bend radius shall be prevented.

7) Strain-relief fittings shall be provided at all points where wiring enters electrical compartments.

8) Grommets or other protective material shall be installed at points where wiring penetrates metal structures outside of electrical enclosures.

9) Wiring supports shall be protective and non-conductive at areas of wire contact and shall not be damaged by heat, water, solvents or chafing.

10) To the extent practicable, wiring shall not be located in environmentally exposed locations under the vehicle.

11) Wiring and electrical equipment necessarily located under the vehicle shall be insulated from water, heat, corrosion and mechanical damage.
12) Where feasible, front-to-rear electrical harnesses should be installed above the window line of the lower deck of the vehicle.

13) All wiring harnesses over five (5) feet long and containing at least five (5) wires shall include ten (10) percent (minimum one wire) excess wires for spares. This requirement for spare wires does not apply to data links and communication cables.

14) Wiring harness length shall allow end terminals to be replaced twice without pulling, stretching or replacing the wire.

15) Terminals shall be crimped to the wiring according to the connector manufacturer’s recommendations for techniques and tools. All terminals shall be crimped at the time of harness manufacture; no assembly line terminal crimping shall be accepted.

16) All cable connectors shall be locking type, keyed and sealed, unless enclosed in water tight cabinets or vehicle interior.

17) Pins shall be removable, crimp contact type, of the correct size and rating for the wire being terminated.

18) Unused pin positions shall be sealed with sealing plugs.

19) Adjacent connectors shall use either different inserts or different insert orientations to prevent incorrect connections.

20) Terminals shall be crimped, corrosion-resistant and full ring type or interlocking lugs with insulating ferrules.

21) When using pressure type screw terminal strips, only stranded wire shall be used.

22) Insulation clearance shall ensure that wires have a minimum of “visible clearance” and a maximum of two (2) times the conductor diameter or 1/16 inch, whichever is less.

23) When using shielded or coaxial cable, upon stripping of the insulation, the metallic braid shall be free from frayed strands that can penetrate the insulation of the inner wires.

24) All coaxial cable terminations are to be performed at the time of cable manufacturing; no assembly line terminations shall be performed on coaxial cable.

25) Ultra-sonic and T-splices may be used with 8AWG or smaller wire. When a T-splice is used, it shall meet these additional requirements:
   - Shall include a mechanical clamp in addition to solder on the splice.
   - The wire shall support no mechanical load in the area of the splice.
   - The wire shall be supported to prevent flexing.
   - All such connections shall be clearly noted and located in all electrical documentation.
   - All splicing shall be staggered in the harness so that no two (2) splices are positioned in the same location within the harness.

26) Wiring located in the engine compartment shall be routed away from high-heat sources or shielded and/or insulated from temperatures exceeding the wiring and connector operating requirements.
27) The instrument panel and wiring shall be easily accessible for service from the operator’s seat or top of the panel.
28) The instrument panel shall be separately removable and replaceable without damaging the instrument panel or gauges.
29) Wiring shall have sufficient length and be routed to permit service without stretching or chafing the wires.

J Electrical Components
1) All electrical components, including switches, relays, flashers and circuit breakers, shall be heavy-duty designs with either a successful history of application in heavy-duty vehicles or design specifications for an equivalent environment.
2) All electric motors shall be heavy-duty brushless type where practical, and have a continuous duty rating of no less than 40,000 hours (except cranking motors, washer pumps, auxiliary heater pumps, defroster and wiper motors). All electric motors shall be easily accessible for servicing.

K Electrical Compartments
1) All relays, controllers, flashers, circuit breakers and other electrical components shall be mounted in easily accessible electrical compartments.
2) All compartments exposed to the outside environment shall be corrosion-resistant and sealed.
3) The components and their functions in each electrical compartment shall be identified and their location permanently recorded on a drawing attached to the inside of the access panel or door. The drawing shall be protected from oil, grease, fuel and abrasion.
4) The front compartment shall be completely serviceable from the operator’s seat, vestibule or from the outside.
5) “Rear start and run” controls shall be mounted in an accessible location in the engine compartment and shall be protected from the environment.

31 Electronic Requirements

A General
1) If an electronic component has an internal real-time clock, it shall provide its own battery backup to monitor time when battery power is disconnected, and/or it shall be updated by a network component. If an electronic component has an hour meter, it shall record accumulated service time without relying on battery backup.
2) All electronic component suppliers shall ensure that their equipment is self-protecting in the event of shorts in the cabling, and also in over-voltage (over 32V DC on a 24V DC nominal voltage rating with a maximum of 50V DC) and reverse polarity conditions.
3) If an electronic component is required to interface with other components, it shall not require external pull-up and/or pull-down resistors.
B Wiring and Terminals

1) Kinking, grounding at multiple points, stretching and reducing the bend radius below the manufacturer’s recommended minimum shall not be permitted.

C Discrete I/O (Inputs/Outputs)

1) All wiring to I/O devices, either at the harness level or individual wires, shall be labeled, stamped or color-coded in a fashion that allows unique identification at a spacing not exceeding four (4) inches. Wiring for each I/O device shall be bundled together. If the I/O terminals are the same voltages, then jumpers may be used to connect the common nodes of each I/O terminal.

D Shielding

1) All wiring that requires shielding shall meet the following minimum requirements. A shield shall be generated by connecting to a ground, which is sourced from a power distribution vehicle bar or chassis.

2) Shields shall be connected to ground on one (1) end and at one (1) location only, typically a tone end of the cable. However, certain standards or special requirements, such as SAE J1939 or RF applications, have separate shielding techniques that also shall be used as applicable.

3) When using shielded or coaxial cable, upon stripping of the insulation, the metallic braid shall be free from frayed strands, which can penetrate the insulation of the inner wires. To prevent the introduction of noise, the shield shall not be connected to the common side of a logic circuit.

4) All shielded coaxial cable terminations are to be performed at the time of cable manufacturing; no assembly line terminations shall be performed on shielded coaxial cable.

E Communications

1) Data network cabling shall be selected and installed according to the selected protocol requirements. The physical layer of all network communication systems shall not be used for any purpose other than communication between the system components, unless provided for in the network specifications.

2) Communications networks that use power line carriers (e.g., data modulated on a 24V power line) shall meet the most stringent applicable wiring and terminal specifications.

F Radio Frequency (RF)

1) RF components, such as radios, video devices, cameras, global positioning systems (GPS), etc., shall use coaxial cable to carry the signal.

2) All RF systems require special design consideration for losses along the cable.
3) Connectors shall be minimized, since each connector and crimp has a loss that will contribute to attenuation of the signal. Cabling should allow for the removal of antennas or attached electronics without removing the installed cable between them. If this cannot be done, then a conduit of sufficient size shall be provided for ease of attachment of antenna and cable assembly.

4) The corresponding component vendors shall be consulted for proper application of equipment, including installation of cables.

G Audio

1) Cabling used for microphone level and line level signals shall be 22AWG minimum with shielded twisted pair. Cabling used for amplifier level signals shall be 18AWG minimum.

H Multiplexing

1) The primary purpose of the multiplexing system is control of components necessary to operate the vehicle. This is accomplished by processing information from input devices and controlling output devices through the use of an internal logic program.

I System Configuration

1) Multiplexing may either be distributed or centralized. A distributed system shall process information on multiple control modules within the network. A centralized system shall process the information on a single control module. Either system shall consist of several modules connected to form a control network.

J I/O Signals

1) The input/output for the multiplex system may contain four (4) types of electrical signals: discrete, modulating, analogue, serial data.

2) Discrete signals shall reflect the on/off status of switches, levers, limit switches, lights, etc.

3) Analog signals shall reflect numerical data as represented by a voltage signal (0–12V, 10–24V, etc.) or current signal (4–20 mA). Both types of analog signals shall represent the status of variable devices such as rheostats, potentiometers, temperature probes, etc. Serial data signals shall reflect ASCII or alphanumeric data used in the communication between other on-board components.

K Data Communications

1) All data communication networks shall be either in accordance with a nationally recognized interface standard, such as those published by SAE, IEEE or ISO, or shall be provided by the vehicle manufacturer to the contractor and NYSDOT with the following minimum information:

17. Protocol requirements for all timing issues (bit, byte, packet, inter-packet timing, idle line timing, etc.) packet sizes, error checking and transport (bulk transfer of data to/from the device).

18. Data definition requirements that ensure access to diagnostic information and performance characteristics.
19. The capability and procedures for uploading new application or configuration data.
20. Access to revision level of data, application software and firmware.
21. The capability and procedures for uploading new firmware or application software.
22. Evidence that applicable data shall be broadcast to the network in an efficient manner such that the overall network integrity is not compromised.
23. Any electronic vehicle components used on a network shall be conformance tested to the corresponding network standard.

L Diagnostics, Fault Detection and Data Access

1) Drivetrain performance, maintenance and diagnostic data, and other electronic messages shall be formatted and transmitted on the communications networks.
2) The drivetrain level shall have the ability to record abnormal events in memory and provide diagnostic codes and other information to service personnel. At a minimum, this network level shall provide live/fail status, current hardware serial number, software/data revisions and uninterrupted timing functions.

M Programmability (Software)

1) The drivetrain level components shall be programmable by the contractor with limitations as specified by the subsystem supplier.

N Multiplex Level

1) At a minimum, information shall be made available via a communication port on the multiplex system. The location of the communication port shall be easily accessible.
2) A hardware gateway and/or wireless communications system are options if requested by NYSDOT.
3) The communication port(s) shall be located as specified by NYSDOT.
4) The multiplex system shall have a proven method of determining its status (system health and input/output status) and detecting either active (online) or inactive (offline) faults through the use of on-board visual/audible indicators.
5) In addition to the indicators, the system shall employ an advanced diagnostic and fault detection system, which shall be accessible via either a personal computer or a handheld unit. Either unit shall have the ability to check logic function. The diagnostic data can be incorporated into the information level network or the central data access system.

O Programmability (Software)

1) The multiplex system shall have security provisions to protect its software from unwanted changes. This shall be achieved through any or all of the following procedures:
24. Password protection.
25. Limited distribution of the configuration software.
26. Limited access to the programming tools required to change the software.
27. Hardware protection that prevents undesired changes to the software.
28. Provisions for programming the multiplex system shall be possible through a PC or laptop. The multiplex system shall have proper revision control to ensure that the hardware and software are identical on each vehicle equipped with the system. Revision control shall be provided by all of the following:
   o Hardware component identification where labels are included on all multiplex hardware to identify components.
   o Hardware series identification where all multiplex hardware displays the current hardware serial number and firmware revision employed by the module.
   o Software revision identification where all copies of the software in service display their most recent revision number.
   o A method of determining which version of these of software is currently in use in the multiplex system.
   o Revision control labels shall be electronic.

P Electronic Noise Control
   1) Electrical and electronic subsystems and components on all vehicles shall not emit electromagnetic radiation that will interfere with on-board systems, components or equipment, telephone service, radio or TV reception, or violate regulations of the Federal Communications Commission.
   2) Electrical and electronic subsystems on the vehicles shall not be affected by external sources of RFI/EMI. This includes, but is not limited to, radio and TV transmission, portable electronic devices including computers in the vicinity of or onboard the vehicles, AC or DC power lines and RFI/EMI emissions from other vehicles.

32 Operator Provisions, Controls and instrumentation
   A Operator’s Area Controls
       1) In general when designing the operator’s area, it is recommended that SAE J833, “Human Physical Dimensions,” be used.
       2) Switches and controls shall be divided into basic groups and assigned to specific areas, in conformance with SAE Recommended Practice J680, Revised 1988, “Location and Operation of Instruments and Controls in Motor Truck Cabs,” and be essentially within the hand reach envelope described in SAE Recommended Practice J287, “Driver Hand Control Reach.”
3) The operator’s work area shall be designed to minimize glare to the extent possible. Objects within and adjacent to this area shall be matte black or dark gray in color wherever possible to reduce the reflection of light onto the windshield. The use of polished metal and light-colored surfaces within and adjacent to the operator’s area shall be avoided.

B Visors/Sun Shades

1) Three (3) scissor type sunscreens shall be provided at the right- and left-hand windshield and at the operator’s side window that shall allow for infinite positioning.
2) The sunscreens shall be shaped to minimize light leakage between the sunshades and windshield pillars.
3) The sunscreens shall not obstruct air flow from the climate control system or obstruct the operation of other equipment.
4) Deployment of the sunscreen shall not restrict the vision of the rearview mirrors.
5) Sunscreen adjustments shall be made easily by hand.

C Operator Hand Controls

1) All switches and controls necessary for the safe operation of the vehicle shall be conveniently located in the operator's area and shall provide for ease of operation.
2) Switches and controls shall be divided into basic groups and assigned to specific areas, in conformance with SAE Recommended Practice J680, Revised 1988, Location and Operation of Instruments and Controls in Motor Truck Cabs, and be essentially within the hand reach envelope described in SAE Recommended Practice, J287, Operator Hand Control Reach.
3) Operational controls, instrumentation, switches, and other system controls shall not be mixed with ventilation diffusers and non-operational controls or readouts.
4) Controls shall be located so that boarding passengers may not easily tamper with control settings.
5) The door control, kneel control, windshield wiper/washer controls, and run switch shall be in the most convenient operator locations. They shall be identifiable by shape, touch, and permanent markings.

D Switches and controls

1) All panel-mounted switches and controls shall be of the vehicle manufacturer’s standard type
2) Text designating position (on/off) shall be a minimum of nine (9) points, and identifying legends shall be a minimum of 11 points.
3) Extremely condensed or italic type fonts shall not be used.
4) Graphical symbols shall conform to SAE Recommended Practice J2402, Road Vehicles - Symbols for Controls, Indicators, and Tell Tales, where available and applicable.
5) Color of switches and controls shall be dark with contrasting typography or symbols.
6) Red type on a black or gray field (or vice versa) shall not be used.
7) Mechanical switches and controls shall be replaceable, and the wiring at these controls shall be serviceable from the vestibule or the operator's seat.
8) Switches, controls, and instruments shall be dust and water resistant.

E Normal Vehicle Operation

1) The following list for Normal Vehicle Operation identifies vehicle controls that are used to operate the vehicle safely and efficiently.
2) These controls are frequently used or they are critical to the operation of the vehicle. They should be located within easy reach of the operator. The operator shall not be required to stand or turn his/her body to view or to actuate these controls that include:
   • Engine Start Button (waterproof)
   • Four Position Master Run Switch
   • Transmission Shift Select
   • Parking Brake
   • Emergency Brake
   • Power Mirror Control (waterproof)
   • Door Control
   • High Beam (floor mount)
   • Turn Signals (floor mount)
   • Hazard Lights
   • Defroster and Operators Heater
   • Kneel Control
   • Windshield Wipers
   • Instrument Panel Lighting Intensity
3) Accelerator and brake pedals shall be designed for ease of ankle motion.
4) Foot surfaces of the pedals shall be faced with wear-resistant, nonskid, replaceable material.

F Master Run Switch

1) The run switch shall be a four-position rotary switch with the following functions:
   a) OFF All electrical systems off, except power available for the passenger interior lighting, stoplights, turn lights, hazard lights, radio, silent alarm, horn, fare box, fire detection equipment, engine compartment lights, auxiliary heater and electronic equipment that require continuous energizing. NOTE: If the vehicle is not operated for a period of three (3) days, the total electric load due to devices that require continuous energizing shall not cause the battery to be discharged below the level necessary to start the engine.
(b) PARK All electrical systems off, except those listed in OFF and power to destination signs, interior lights and marker lights.
(c) DAY RUN all electrical systems and engine on, including the headlights, parking lights and marker lights. Daytime running lights (DRL) shall be on.
(d) NITE/RUN All electrical systems and engine on.

G Door Control

1) Power-close rear doors shall be equipped with an obstruction-sensing system such that if an obstruction is within the path of the closing doors, the doors will stop and/or reverse direction prior to imparting a 10-lb force on 1 sq. in. of that obstruction. If a contactless obstruction sensing system is employed, it shall be capable of discriminating between the normal doorway environment and passengers or other obstructions within the doorway, and of altering the zones of detection based upon the operating state of the door system.

2) Doors shall open or close completely less than 3.5 seconds from the time of control actuation.

3) The door control shall be located on the street side of the operator’s area within the hand reach envelope described in SAE Recommended Practice, J287, Driver Hand Control Reach.

4) The front door shall remain in its commanded state position even if power is removed or lost.

5) Operation of, and power to, the front passenger door shall be completely controlled by the operator.

6) A control or valve in the operator's compartment shall shut off the power to, and/or dump the compressed air from, the front door mechanism to permit manual operation of the front door with the vehicle shut down.

7) A green indicator light shall be provided above the rear door that will indicate that the rear door has been activated.

8) A master door switch which is not within reach of the seated operator when set in the "Off" position shall close the doors, deactivate the door control system, release the interlocks, and permit only manual operation of the doors.

H Operator Interior Lights

1) The operator's area shall have a light to provide general illumination and it shall illuminate the half of the steering wheel nearest the operator to a level of 10 to 15 foot-candles.

2) This light shall be operator controlled by a switch located on the operator's control panel or other approved location.

3) A three-position switch, labeled "Interior Lights; On (at top), Off, Normal" shall control the lights.
   - "On" turns on all lights in any Master Switch position.
   - "Off" turns off lights except as noted.
• "Normal" turns on all lights in "Night Run" and "Night Park" except as noted in (2).
4) The first light on each side (behind the operator and the front door) is normally turned on only when the front door is opened, in "Night Run" and "Night Park." As soon as the door closes, these lights shall go out.
5) These lights shall be turned on at any time if the switch is in the "On" position.
6) To help eliminate windshield reflection on suburban roads where street lighting is at a low level, the second light on each side, when "Night Run" or "Night Park" is selected, shall be controlled by the switch; off in "Off" and on in "Normal." (These lights shall be turned on at any time if the switch is in the "On" position.)
7) All interior lighting shall be turned off whenever the transmission selector is in the reverse and engine run switch is in the "On" position. The interior lighting design shall require the approval of NYSDOT.

I Special Controls

1) The following list of special vehicle controls identifies the controls to initiate system diagnostics, aid the physically handicapped passenger, control mirrors and speakers, etc. They are less often used than those in normal vehicle operation. These controls should be within easy reach for viewing and actuation by the operator:
   • ABS Diagnostics Test
   • Engine Diagnostic Test
   • Stop Engine Override
   • Passenger Chime/ADA Passenger Chime
   • Operators Booster Fan
   • Fast Idle
   • Public Address System
   • Heater Blower
   • Interlock
   • Operators HVAC
   • Diagnostic Light Panel Test
   • Fire Suppression Emergency Release
   • Destination Sign On/Off
   • Hill Holder (guarded)
   • Remote Mirror Controls
   • Kneel/Ramp Control
   • Preheat Start Switch (momentary switch)

J Passenger Comfort Controls

1) The following list of passenger comfort controls identifies the vehicle controls for the interior vehicle temperature, lighting, air circulation, etc.
2) The settings of these controls are changed infrequently. The operator shall not be able to see or actuate these controls.
   - Climate Control
   - Temperature Select
   - Interior HVAC
   - Blower

K Operator’s Amenities
1) A hook to hold the operator’s coat or other garments shall be provided
2) A hook and loop strap shall be provided beneath the coat hook to secure the operator’s coat.
3) A device shall be provided to securely hold the operator’s drink container, which may vary widely in diameter. The drink holder shall be mounted within easy reach of the operator and shall have sufficient vertical clearance for easy removal of the container. When the container is in the device, the operator’s view of the road shall not be obstructed, and leakage from the container shall not propagate to any switches, gauges or controls.
4) An enclosed operator storage area shall be provided with a positive latching door and lock. The minimum size is 2750 in.\(^3\)

33 Windshield Wipers and Washers
A Windshield Wipers
1) The vehicle shall be equipped with a windshield wiper for each half of the windshield.
2) At 60 mph, no more than ten (10) percent of the wiped area shall be lost due to windshield wiper lift.
3) Windshield wiper motors and mechanisms shall be easily accessible for repairs or service.
4) The fastener that secures the wiper arm to the drive mechanism shall be corrosion-resistant.
5) Windshield wiper motors shall be electric two-speed / intermittent wiper.

B Windshield Washers
1) The windshield washer system, when used with the wipers, shall deposit washing fluid evenly and shall completely wet the entire wiped area.
2) The windshield washer system shall have a minimum five (5) -gallon reservoir, located for easy refilling from outside the vehicle. Reservoir pumps, lines and fittings shall be corrosion-resistant and shall include a means to determine fluid level.
### Operator’s Seat

1) The operator’s seat shall be comfortable and adjustable so that people ranging in size from a 95th-percentile male to a 5th-percentile female may operate the vehicle.

2) Seat shall be equipped with a Lap and Shoulder (Three-Point) Seat Belt

3) The belt assembly should be an auto-locking retractor (ALR). Seat belt shall-be stored in automatic retractors.

4) The belt shall be mounted to the seatframe so that the operator may adjust the seat without resetting the seat belt.

5) The seat and seatbelt assembly as installed in the vehicle shall withstand static horizontal forces as required in FMVSS 207 and 210.

6) Seat belts shall be provided across the operator’s lap and diagonally across the operator’s chest. The operator shall be able to use both belts by connecting a single buckle on the right side of the seat cushion. Three-point seatbelts shall be emergency locking retractor (ELR) in design.

7) All seatbelt assemblies shall come equipped with a warning switch device to remind operators to buckle up.

8) The lap belt assembly shall be a minimum of 72 inches in length.

9) Two (2) adjustable armrests shall be provided

10) While seated, the operator shall be able to make seat adjustments by hand without complexity, excessive effort or being pinched. Adjustment mechanisms shall hold the adjustments and shall not be subject to inadvertent changes.

11) Seat cushions shall be fully padded with at least three (3) inches of materials in the seating areas at the bottom and back.

12) Seat cushions shall be constructed of open-cell polyurethane (FMVSS 302) foam and fabric that meets FTA Docket 90A.

13) The seat bolster shall be adjustable

### Mirrors

#### A Exterior Mirrors

1) The vehicle shall be equipped with corrosion-resistant, outside rearview mirrors mounted with stable supports to minimize vibrations as supplied by Hadley or approved equal.

2) Mirrors shall be electrically operated and heated and shall be controlled by membrane switches as supplied by the mirror manufacturer.

3) Mirror heads shall be at least eight (8) x 14 inches in size with 80/20 split mirrors, 80 percent flat and 20 percent convex

4) Mirrors shall be firmly attached to the vehicle to minimize vibration and to prevent loss of adjustment with a breakaway mounting system. Mirrors shall permit the operator to view the roadway along the sides of the vehicle, including the rear wheels. Mirrors shall be positioned to prevent blind spots.
5) Mirrors shall retract or fold sufficiently to allow vehicle washing operations but avoid contact with windshield.

6) Exterior mirrors shall be installed with a breakaway mounting system.

7) The heaters shall be energized whenever the operator’s heater and/or defroster is activated or activated independently by using the mirror/defrost switch located on the side console.

B Interior Mirrors

1) Mirrors shall be provided for the operator to observe passengers throughout the vehicle without leaving the seat and without shoulder movement. The operator shall be able to observe passengers in the front/entrance and rear/exit areas (if applicable), anywhere in the aisle, and in the rear seats.

36 Windows

A Windshield

1) The windshield(s) shall permit an operator’s field of view as referenced in SAE Recommended Practice J1050. The vertically upward view shall be a minimum of 14 degrees, measured above the horizontal and excluding any shaded band. The vertically downward view shall permit detection of an object 3½-feet high no more than two (2) feet in front of the vehicle. The horizontal view shall be a minimum of 90 degrees above the line of sight. Windshield pillars shall not exceed ten (10) degrees of binocular obscuration. The windshield shall be designed and installed to minimize external glare as well as reflections from inside the vehicle.

2) The windshield glazing material shall have a ¼-inch nominal thickness laminated safety glass conforming to the requirements of ANSI Z26.1 Test Grouping AS-1 and the recommended practices defined in SAE J673.

3) The upper portion of the windshield above the operator’s field of view shall have a dark, shaded band and be marked AS-3, with a minimum luminous transmittance of five (5) percent when tested in accordance to ASTM D-1003.

B Operator’s Side Window

1) The operator’s side window shall be the sliding type, requiring only the rear half of the sash to latch upon closing. When in an open position, the window shall not rattle or close during braking. This window section shall slide in tracks or channels designed to last the service life of the vehicle. The operator’s side window shall not be bonded in place and shall be easily replaceable. The glazing material shall have a single-density tint.

2) The operator’s view, perpendicular through operator’s side window glazing, should extend a minimum of 33 inches (840 mm) to the rear of the heel point on the accelerator, and in any case must accommodate a 95th-percentile male operator. The view through the glazing at the front of the assembly should begin not more than 26 inches (560 mm) above the operator’s floor to ensure visibility of an under-mounted convex mirror. The operator’s side window construction shall maximize ability for full opening of the window.
3) The operator’s side window glazing material shall have a ¼-inch nominal thickness safety glass conforming to the requirements of ANSI Z26.1-1996 Test Grouping AS-2 and the recommended practices defined in SAE J673.

4) The design shall prevent sections from freezing closed in the winter.

5) Light transmittance shall be 75 percent on the glass area below 53 inches from the operator platform floor. On the top-fixed-over-bottom-slider configuration, the top fixed area above 53 inches may have a maximum five (5) percent light transmittance.

6) The operator’s side window will be of the type known as full slider hidden frame (flush “Euro-Look”) and will not be counted as an egress window.

C Side Windows

1) Non-egress windows may be bonded in place but shall be easily replaceable without disturbing adjacent windows and shall be mounted so that flexing or vibration from engine operation or normal road excitation is not apparent.

2) All aluminum and steel material will be treated to prevent corrosion.

3) Emergency egress windows shall be easily replaceable without disturbing adjacent windows and shall be mounted so that flexing or vibration from engine operation or normal road excitation is not apparent.

D Emergency Exit (Egress) Configuration

1) Emergency exit windows shall meet or exceed the requirements of 49 CFR 571.217 – FMVSS217; Bus Emergency Exits and Window Retention and Release.

2) Emergency escape windows shall be able to be opened with the use of durable release handles.

3) Metal identification and instruction signs for opening egress windows shall be installed by rivets on the inside of the window frame or between windows on the sidewall panel (mullion).

4) The window material shall conform with the requirements of ANSI Z26.1-1996, “Standard for Type AS-5 Safety Glazing Materials,” except for Test Number 17, which shall subject the specimen to 100 cycles with less than four (4) percent hazing and 500 cycles with less than 12 percent hazing.

5) Windows on the bus sides and in the rear door shall not exceed 59 percent luminous transmittance, as measured by ASTM E-424. Luminous transmittance shall be measured by ASTM D-1003.

6) Windows over the destination signs shall not be tinted.

7) Side windows glazing material shall have a minimum of 3/16-inch nominal thickness tempered safety glass. The material shall conform to the requirements of ANSI Z26.1-1996 Test Grouping 2 and the recommended practices defined in SAE J673.

8) All side and door windows shall be heat-rejecting glass with a solar heat gain coefficient (SHGC) of no greater than 40 percent and a visible light transmission of no less than 75 percent. Lower light transmission may be considered if SHGC values of less than 40 percent can be attained.
9) All glass treatments shall be permanent, within the glass and/or in the center membrane. Surface films are not permitted.

10) SHGC and light transmission performance shall be defined by the National Fenestration Rating Council.

37 Heating, Ventilation and Air Conditioning

A Capacity and Performance

1) The HVAC climate control system shall be capable of controlling the temperature and maintaining the humidity levels of the interior of the vehicle as defined in the following paragraphs.

2) With the vehicle running at the design operating profile with corresponding door opening cycle, and carrying a number of passengers equal to 150 percent of the seated load, the HVAC system shall control the average passenger compartment temperature within a range between 65 and 80 °F, while maintaining the relative humidity to a value of 50 percent or less. The system shall maintain these conditions while subjected to any outside ambient temperatures within a range of ten (10) to 95 °F and at any ambient relative humidity levels between five (5) and 50 percent.

3) When the vehicle is operated in outside ambient temperatures of 95 to 115 °F, the interior temperature of the vehicle shall be permitted to rise 0.5°F for each degree of exterior temperature in excess of 95 °F.

4) When the vehicle is operated in outside ambient temperatures in the range of -10 to 10 °F, the interior temperature of the vehicle shall not fall below 55 °F while the vehicle is running on the design operating profile.

5) System capacity testing, including pull-down/warm-up, stabilization and profile, shall be conducted in accordance to APTA’s Recommended Practice “Transit Bus HVAC System Instrumentation and Performance Testing.”

6) Additional testing shall be performed as necessary to ensure compliance to performance requirements stated herein.

B Capacity and Performance Requirements

1) The air-conditioning portion of the HVAC system shall be capable of reducing the passenger compartment temperature from 115 to 95 °F in less than 20 minutes after engine start-up using refrigerant R134a.

2) Engine temperature shall be within the normal operating range at the time of start-up of the cool-down test, and the engine speed shall be limited to fast idle, which may be activated by an operator-controlled device.

3) During the cool-down period, the refrigerant pressure shall not exceed safe high-side pressures, and the condenser discharge air temperature, measured six (6) inches from the surface of the coil, shall be less than 45 °F above the condenser inlet air temperature.

4) The appropriate solar load as recommended in the APTA “Recommended Instrumentation and Performance Testing for Transit Bus Air Conditioning System,” shall be used.
5) There shall be no passengers on board, and the doors and windows shall be closed.

C Controls and Temperature Uniformity

1) The HVAC system excluding the operator’s heater/defroster shall be centrally controlled with an advanced electronic/diagnostic control system with provisions for extracting/reading data.

2) The HVAC system shall be compliant with J1939 Communication Protocol for receiving and broadcasting of data.

3) Hot engine coolant water shall be delivered to the HVAC system operator’s defroster/heater and other heater cores by means of an auxiliary coolant pump manufactured by Ametek Rotron or approved equal, sized for the required flow, which is brushless and seal-less, having a minimum maintenance-free service life for both the brushless motor and the pump of at least 40,000 hours at full power.

D Fully Automatic Climate Control System

1) The climate control system shall be fully automatic and control the interior average temperature to within ±2 °F of the specified temperature control set point.

2) Interior temperature distribution shall be uniform to the extent practicable to prevent hot and/or cold spots. After stabilization with doors closed, the temperatures between any two (2) points in the passenger compartment in the same vertical plane, and six (6) to 72 inches above the floor, shall not vary by more than 5 °F with doors closed. The interior temperatures, measured at the same height above the floor, shall not vary more than ±5 °F from the front to the rear from the average temperature determined in accordance with APTA’s “Recommended Instrumentation and Performance Testing for Transit Bus Air Conditioning System.”

E Auxiliary Heater

1) An auxiliary heater fired by diesel fuel shall be provided to supplement the heat supplied by the engine and shall have an output necessary to meet the performance criteria. The heater shall be equipped with safety devices to prevent over fueling, overheating due to loss of coolant or water pump failure, and operation during conditions of low battery voltage.

2) Auxiliary heater shall have capability of functioning in the supplemental mode and preheat mode. The supplemental mode shall automatically cycle the auxiliary heater “on” and “off” according to the coolant temperature. No operator input shall be required when the engine is running.
3) Preheat mode shall be enabled through a single-pole double-throw momentary switch. With the master run switch in the “off” position, toggling the switch to its momentary upward (“on”) position shall enable the auxiliary heater to operate in preheat. Once in preheat mode, the unit shall continue to operate and cycle until either the preheat switch is switched to its momentary downward (“off”) position, or the master run switch is turned “on,” or the time elapsed exceeds 60 minutes, at which time the preheat mode will automatically be disabled. The supplement mode will always override the preheat mode.

4) The auxiliary heater coolant pump shall shut down when the coolant is up to temperature during the supplemental mode. With the engine running, there shall be coolant flow through the heater while interior temperature so warrants. The temperature sensor shall constantly measure the coolant temperature and cycle “on” if required, at which time the coolant pump turns on.

5) The auxiliary heater shall be equipped with a self-priming fuel pump. The unit shall be electronically controlled with appropriate diagnostics for troubleshooting. Operation, as well as diagnostic data, shall be stored and shall be retrievable through an IBM compatible PC. The auxiliary heater maintenance/diagnostic information shall be communicated through the appropriate protocol, SAE J1939.

F Air Flow

1) The cooling mode of the interior climate control system shall introduce air into the vehicle at a minimum rate of 25 cubic feet per minute (cfm) per passenger based on the standard configuration vehicle carrying a number of passengers equal to 100 percent of the seated load. The air shall be composed of no less than ten (10) percent outside air. Airflow shall be evenly distributed throughout the vehicle, with air velocity not exceeding 60 feet per minute on any passenger. The ventilating mode shall provide air at a minimum flow rate of 20 cfm per passenger.

2) Airflow may be reduced to 15 cfm per passenger (100 percent of seated load) when operating in the heating mode. Heated air introduced into the vehicle shall contain no less than 15 percent outside air. In the heating mode, the fans shall activate immediately to ensure an air outlet temperature of at least 70 °F air outlet temperature. Outside airflow may be cutoff during initial up/cool down, provided that manual manipulation is not required. The heating air outlet temperature shall not exceed 120 °F under any normal operating conditions.

3) The climate control blower motors and fans shall be designed such that their operation complies with the interior noise level requirements.

G Upper Deck A/C Ducts

1) Air ducts shall extend the greatest length of the vehicle as is practical.

2) Provision shall be made to provide conditioned air to flow down the glass of the side windows to provide de-misting of the interior windows and cooling of passengers.
3) Individual air outlets shall be installed above each paired (two-seat) seating position in a panel that also contains a stop request button and two (2) individual LED reading lights.

H Lower Deck A/C Ducts

1) Air ducts shall extend the greatest length of the vehicle as is practical.
2) Provision shall be made to provide conditioned air to flow down the glass of the side windows to provide de-misting of the interior windows and cooling of passengers.
3) Vents shall be placed as needed to provide conditioned air to all passengers including those in the areas where passenger mobility devices will be used.
4) Individual air outlets shall be installed above each paired (two-seat) seating position in a panel that also contains a stop request button and two (2) individual LED reading lights.

I Requirement for “Fresh Air” Mixture

1) The air shall be composed of no less than ten (10) percent outside air. Provision shall be made for up to 100 percent fresh air on days when outside air temperature is in a range where operation of the air conditioning compressor is not required. This requirement is designed to reduce fuel usage when possible.

J Operator’s Compartment HVAC Requirements

1) A separate heating, ventilation, defroster and air conditioning systems for the operator’s area shall be provided and shall be controlled by the operator. The system shall meet the following requirements:
2) The heater and defroster system shall provide heating for the operator and heated air to completely defrost and defog the windshield, operator’s side window, and the front door glasses in all operating conditions. Fan(s) shall be able to draw air from the vehicle body interior and/or exterior through a control device and pass it through the heater core to the defroster system and over the operator’s feet. A minimum capacity of 100 cfm shall be provided. The operator shall have complete control of the heat and fresh airflow for the operator’s area.
3) The defroster supply outlets shall be located at the lower edge of the windshield. These outlets shall be durable and shall be free of sharp edges that can catch clothes during normal daily cleaning. The system shall be such that foreign objects such as coins or tickets cannot fall into the defroster air outlets. Adjustable ball vents or louvers shall be provided at the left of the operator’s position to allow direction of air onto the side windows.
4) A ventilation system shall be provided to ensure operator comfort and shall be capable of providing fresh air in both the foot and head areas. Vents shall be controllable by the operator from the normal driving position. Decals shall be provided, indicating “operating instructions” and “open” and “closed” positions. When closed, vents shall be sealed to prevent the migration of water or air into the vehicle.
5) Using a separate, dedicated evaporator, the climate control system shall be designed to maintain the operator’s compartment temperatures within the range specified for the passenger compartment. The unit shall operate when the climate control switch is in the “Cool” position. It shall have a separate thermostatic control.

**K  Air Filtration**

1) Air shall be filtered before entering the AC system and being discharged into the passenger compartment. The return air filter shall meet the ANSI/ASHRAE 52.1 requirement for five (5 percent or better atmospheric dust spot efficiency, 50 percent weight arrestance, and a minimum dust holding capacity of 120 g per 1,000 cfm cell. Return air filters shall be easily removable for service, and shall be cleanable.

2) Manually controlled shut-off valves in the refrigerant lines shall allow isolation of the compressor and dehydrator filter for service.

3) To the extent practicable, self-sealing couplings utilizing O-ring seals shall be used to break and seal the refrigerant lines during removal of major components, such as the refrigerant compressor.

4) The condenser shall be located to efficiently transfer heat to the atmosphere and shall not ingest air warmed above the ambient temperature by the vehicle mechanical equipment, or to discharge air into any other system of the vehicle.

5) The location of the condenser shall preclude its obstruction by wheel splash, road dirt or debris.

6) HVAC components located within six (6) inches of floor level shall be constructed to resist damage and corrosion.

**L  Entrance/Exit Area Heating**

1) Heat shall be supplied to the entrance and exit areas to prevent accumulation of snow, ice, or slush with vehicle operating under design operating profile and corresponding door opening cycle. Sufficient heat shall be applied to the front entrance platform area. Heater outlets shall not restrict boarding space in the vestibule area and shall be flush mount or shielded. Rear door platform heat shall be provided from the floor level heating system controlled automatically through the HVAC when in the “heat” mode of operation.

**M  Floor-Level Heating**

1) Sufficient floor-level convection heaters shall be provided to evenly supply convection heated air across the length of the vehicle. Control of the floor-level heating shall be through the main heating system’s electronic controls.
38  Body

A  Design

1) The vehicle shall have a clean, smooth, simple design, primarily derived from vehicle performance requirements and passenger service criteria. The exterior and body features, including grilles and louvers, shall be shaped to facilitate cleaning by automatic vehicle washers without snagging washer brushes. Water and dirt shall not be retained in or on any body feature to freeze or bleed out onto the vehicle after leaving the washer. The body and windows shall be sealed to prevent leaking of air, dust or water under normal operating conditions and during cleaning in automatic vehicle washers for the service life of the vehicle.

2) Exterior panels shall be sufficiently stiff to minimize vibration, drumming or flexing while the vehicle is in service. When panels are lapped, the upper and forward panels shall act as a watershed. However, if entry of moisture into the interior of the vehicle is prevented by other means, then rear cap panels may be lapped otherwise. The windows, hatches and doors shall be able to be sealed. Accumulation of spray and splash generated by the vehicle’s wheels shall be minimized on windows and mirrors.

3) Body materials shall be selected and the body fabricated to reduce maintenance, extend durability and provide consistency of appearance throughout the service life of the vehicle. Detailing shall be kept simple, and add-on devices and trim shall be minimized.

B  Pedestrian Safety

1) Exterior protrusions along the side and front of the vehicle greater than ½ inch and within 80 inches of the ground shall have a radius no less than the amount of the protrusion. The streetside exterior rearview mirror, cameras and required lights and reflectors are exempt from the protrusion requirement. Advertising frames shall protrude no more than ¾ inch from the body surface. Grilles, doors, bumpers and other features on the sides and rear of the vehicle shall be designed to minimize toeholds or handholds.

2) Exterior protrusions shall not cause a line-of-sight blockage for the operator.

C  Body Serviceability

1) Only exterior panels that are above the rubrail may be structural components. Exterior surface panels shall not be installed or retained with visible fasteners. All exterior panels shall be properly aligned with no gaps, offsets or exposed unfinished edges. Exterior side panels above the rubrail and below the daylight opening shall be repairable and replaceable by a 3M mechanic in less than 1.5 hours for a section up to five (5) feet long (excluding repainting). Exterior panels below the rubrail shall be repairable and replaceable by a 3M mechanic in less than 30 minutes for a section up to five (5) feet long (excluding repainting).
D Rain Gutters
1) Rain gutters shall be provided to prevent water flowing from the roof onto the passenger doors and operator’s side window. When the vehicle is decelerated, the gutters shall not drain onto the windshields, operator’s side window or door boarding area. Cross sections of the gutters shall be adequate for proper operation.

E License Plate Provisions
1) Provisions shall be made to mount standard-size U.S./Canada license plates per SAE J686 on the front and rear of the vehicle. These mounting provisions shall be recessed mounting only so the license plates can be cleaned by automatic vehicle-washing equipment without being caught by the brushes. The rear license plate provision shall be illuminated as per SAE J587.
2) All brackets and miscellaneous fasteners required for attaching the front and rear license plates to all vehicles shall be provided.

F Rub rails
1) Rub rails composed of flexible, resilient material shall be provided to protect both sides of the vehicle body from damage caused by minor sideswipe accidents with automobiles. Rub rails shall have vertical dimensions of no less than two (2) inches (50 mm) with the centerline no higher than 35 inches above the ground between the wheelwells.
2) The rubrails shall withstand impacts of 200 ft-lbs. of energy from a steel-faced spherical missile no less than nine (9) inches in diameter and of a 500-lb load applied anywhere along their length by a rigid plate one (1) foot in length, wider than the rubrail, and with a ¼-inch end radii, with no visible damage to the rubrail, retainer or supporting structure.
3) The rub rail may be discontinued at doorways, wheel wells and articulated joints if applicable. A damaged portion of the rub rail shall be replaceable without requiring removal or replacement of the entire rub rail.

G Fender Skirts
1) Features to minimize water spray from the vehicle in wet conditions shall be included in wheel housing design.
2) Any fender skirts shall be easily replaceable. They shall be flexible if they extend beyond the allowable body width. Wheels and tires shall be removable with the fender skirts in place.

H Splash Aprons
1) Splash aprons, composed of ¼ in. minimum composition or rubberized fabric, shall be installed behind and/or in front of wheels as needed to reduce road splash and to protect underfloor components.
2) The splash aprons shall extend downward to within six (6) inches off the road surface at static conditions. Apron widths shall be no less than tire widths.
3) The splash aprons shall be bolted to the vehicle understructure.
4) The splash aprons and their attachments shall be inherently weaker than the structure to which they are attached. The flexible portions of the splash aprons shall not be included in the road clearance measurements.
5) The splash apron shall be installed as necessary to protect the wheelchair loading device from road splash.
6) Other splash aprons shall be installed where necessary to protect vehicle equipment.

**I  Service Compartments and Access Doors**

1) Conventional or pantograph hinged doors shall be used for the engine compartment and for all auxiliary equipment compartments, including doors for checking the quantity and adding to the engine coolant, engine lubricant and transmission fluid.
2) Access openings shall be sized for easy performance of tasks within the compartment, including tool operating space.
3) Access doors shall be of rugged construction and shall maintain mechanical integrity and function under normal operations throughout the service life of the vehicle.
4) Access doors shall close flush with the body surface. All doors shall be hinged at the top or on the forward edge and shall be prevented from coming loose or opening during transit service or in vehicle washing operations.
5) All access doors shall be retained in the open position by props or counterbalancing with over-center or gas-filled springs with safety props and shall be easily operable by one person. Springs and hinges shall be corrosion resistant.
6) Latch handles shall be flush with, or recessed behind, the body contour and shall be sized to provide an adequate grip for opening.
7) Access doors, when opened, shall not restrict access for servicing other components or systems.
8) If precluded by design, the manufacturer shall provide door design information specifying how the requirements are met.
9) Access doors larger than 100 square inches in area shall be equipped with corrosion-resistant flush-mounted latches or locks except for coolant and fuel fill access doors.
10) All such access doors that require a tool to open shall be standardized throughout the vehicle and will require a nominal 5/16-inch square male tool to open or lock.

**J  Battery Compartment**

1) The battery compartment shall be constructed of stainless steel, securely mounted and sealed to the vehicle body structure isolated from dissimilar metals to prevent galvanic corrosion.
2) The batteries shall be securely mounted on a stainless steel tray with steel slides that can accommodate the size and weight of the batteries.
3) The battery tray shall pull out easily and properly support the batteries while they are being serviced.
4) The tray shall allow each battery cell to be easily serviced and filled.
5) A locking device shall retain the battery tray in the stowed position.
6) The battery compartment or enclosure shall be vented and self-draining.
7) The battery compartment shall be accessible only from outside the vehicle and the compartment door openable without tools.
8) All components within the battery compartment, and the compartment itself, shall be protected from damage or corrosion from the electrolyte and gases emitted by the battery, and from snow, slush, salt spray, mud, etc. generated from environmental conditions outside the vehicle.
9) The inside surface of the battery compartment's access door shall be electrically insulated, as required, to prevent the battery terminals from shorting on the door if the door is damaged in an accident or if a battery comes loose.
10) The master battery switch accessibility requirements are defined in the Electrical section.

39 Bumpers

A Location

1) Bumpers shall provide impact protection for the front and rear of the vehicle with the top of the bumper being 27 inches (±2 inches), above the ground. Bumper height shall be such that when one vehicle is parked behind another, a portion of the bumper faces will contact each other.

B Front Bumper

1) No part of the vehicle, including the bumper, shall be damaged as a result of a 5 mph impact of the vehicle at curb weight with a fixed, flat barrier perpendicular to the vehicle’s longitudinal centerline.
2) The bumper shall return to its pre-impact shape within ten (10) minutes of the impact.
3) The bumper shall protect the vehicle from damage as a result of 6.5 mph impacts at any point by the common carriage with contoured impact surface defined in Figure 2 of FMVSS 301 loaded to 4000 lbs., parallel to the longitudinal centerline of the vehicle.
4) It shall protect the vehicle from damage as a result of 5.5 mph impacts into the corners at a 30 degree angle to the longitudinal centerline of the vehicle.
5) The energy absorption system of the bumper shall be independent of every power system of the vehicle and shall not require service or maintenance in normal operation during the service life of the vehicle.
6) The bumper may increase the overall vehicle length specified by no more than seven (7) inches.
7) Mounting provisions shall be provided for an integrated bike rack.

C Bicycle Racks, Exterior

1) Each vehicle shall be equipped with a bicycle rack or capable of accommodating at least two (2) bicycles.
2) The racks, located on the front of the vehicle above the bumper, shall be constructed of durable corrosion resistant stainless steel and fold up when not in use.

3) The rack shall be capable of being raised and lowered with one hand and both racks shall load or unload independently of the other.

4) The rack shall only contact the bicycle tires and will by design prevent contact between the two (2) bicycles.

5) Mounting of bicycle racks shall meet all NYSDOT requirements.

6) Manufacturer shall present available bike racks to NYSDOT during the approved equal process.

D Bicycle Racks, Interior

1) It is desired that provision for the placement of bicycles be included in the interior of the vehicles.

2) Contractors are requested to include their proposal for interior bicycle accommodation with their response to this RFP.

E Rear Bumper

1) No part of the vehicle, including the bumper, shall be damaged as a result of a 2 mph impact with a fixed, flat barrier perpendicular to the longitudinal centerline of the vehicle.

2) The bumper shall return to its pre-impact shape within ten (10) minutes of the impact.

3) When using a yard tug with a smooth, flat plate bumper two-feet wide contacting the horizontal centerline of the rear bumper, the bumper shall provide protection at speeds up to 5 mph, over pavement discontinuities up to one (1) inch high, and at accelerations up to 2 mph/sec.

4) The rear bumper shall protect the vehicle when impacted anywhere along its width by the common carriage with contoured impact surface defined in Figure 2 of FMVSS 301 loaded to 4000 lbs., at 4 mph parallel to or up to a 30 degree angle to the longitudinal centerline of the vehicle.

5) The rear bumper shall be shaped to preclude unauthorized riders standing on the bumper. The bumper shall not require service or maintenance in normal operation during the service life of the vehicle.

6) The bumper may increase the overall vehicle length specified by no more than seven (7) inches.

7) Bumper material shall be corrosion-resistant and withstand repeated impacts of the specified loads without sustaining damage. These bumper qualities shall be sustained throughout the service life of the vehicle.
40 Paint

A Finish and Color

1) All exterior surfaces shall be smooth and free of wrinkles and dents.
2) Exterior surfaces to be painted shall be properly prepared as required by the paint system supplier prior to application of paint to ensure a proper bond between the basic surface and successive coats of original paint for the service life of the vehicle.
3) Drilled holes and cutouts in exterior surfaces shall be made prior to cleaning, priming and painting, where possible, to prevent corrosion.
4) The vehicle shall be painted prior to installation of exterior lights, windows, mirrors and other items that are applied to the exterior of the vehicle.
5) Body filler materials may be used for surface dressing, but not for repair of damaged or improperly fitted panels.
6) Paint shall be applied smoothly and evenly with the finished surface free of visible dirt and the following other imperfections:
   - Blisters or bubbles appearing in the topcoat film
   - Chips, scratches or gouges of the surface finish
   - Cracks in the paint film
   - Craters where paint failed to cover due to surface contamination
   - Overspray
   - Peeling
   - Runs or sags from excessive flow and failure to adhere uniformly to the surface
   - Chemical stains and water spots
   - Dry patches due to incorrect mixing of paint activators
   - Buffing swirls
7) All exterior finished surfaces shall be impervious to diesel fuel, gasoline and commercial cleaning agents.
8) Finished surfaces shall resist damage by controlled applications of commonly used graffiti-removing chemicals.
9) Proper adhesion between the basic surface and successive coats of the original paint shall be measured using an Elcometer adhesion tester as outlined in ASTM D4541-85. Adhesion shall be a minimum 300 ft-lbs.
10) The vehicle manufacturer shall supply test samples of the exterior surface for each step of the painting process that may be subject to adhesion testing as per ASTM G4541-87 and ASTM D4145-85. ASTM D4541-93 may be used for inspection testing during assembly of the vehicle.
11) The vehicles shall be treated with a base coat/clear coat paint system. Colors and patterns are to be discussed at the pre-proposal meeting.
B Decals, Numbering and Signing

1) Monograms, numbers and other special signing shall be applied to the inside and outside of the vehicle as required. Signs shall be durable and fade-, chip- and peel-resistant. They may be painted signs, decals or pressure-sensitive appliqués. All decals shall be installed per the decal supplier recommendations. Signs shall be provided in compliance with the ADA requirements defined in 49 CFR Part 38, Subpart B, 38.27.

2) NYSDOT will supply a list of interior and exterior decals including size and location during the pre-production process.

3) ADA priority seating signs as required and defined by 49 CFR shall be provided to identify the seats designated for passengers with disabilities.

4) Requirements for a public information system in accordance with 49 CFR shall be provided.

41 Exterior Lighting

1) All exterior lights shall conform to FMVSS and NYSDOT requirements. Visible and audible warning shall inform following vehicles or pedestrians of reverse operation. Visible reverse operation warning shall conform to SAE Standard J593. Audible reverse operation warning shall conform to SAE Recommended Practice J994 Type C or D.

2) All exterior lights shall be designed to prevent entry and accumulation of moisture or dust, and each lamp shall be replaceable in less than five (5) minutes by a 2M mechanic helper.

3) Commercially available LED (Light Emitting Diode)-type lamps shall be used wherever certified LED lights are available.

4) The LED lights are to be direct wired and constructed with each LED potted in place and the lenses spin welded to the lamp assembly.

5) Lamps, lenses and fixtures shall be interchangeable to the extent practicable.

6) Two (2) hazard LED lamps, located in the engine compartment, shall be visible from behind when the engine service door is opened if the rear lights are located in the engine service door.

7) Light lenses shall be designed and located to prevent damage when running the vehicle through an automatic vehicle washer.

8) Lights located on the roof and sides (directional and marker signal lights) of the vehicle shall have protective shields to protect the lens against minor impacts.

9) Directional signal lights shall be provided on each side of the vehicle in front of each wheelhousing.

10) The rear tail, turn (directional) and stoplights shall be LED lights and be arranged in a vertical configuration, located on the rear corner panel of the vehicle and not on the engine door. Two (2) white back up lights shall be provided.
11) All lights shall be sealed to prevent intrusion of moisture. A red, rear auxiliary brake light shall be installed centered above the engine door in a final location to be approved by NYSDOT. All brake lights shall activate upon release of the accelerator pedal by the operator.

12) Lamps at the front and rear passenger doorways shall comply with ADA requirements and shall activate only when the doors open.

13) These lamps shall illuminate the street surface to a level of no less than one (1) foot-candle for a distance of three (3) feet outward from the outboard edge of the door threshold.

14) The lights may be positioned above or below the lower daylight opening of the windows and shall be shielded to protect passengers' eyes from glare.

15) With the master switch in the day run position, the vehicle headlights (only) shall illuminate with reduced voltage provisions.

16) Hazard lamps shall activate during the wheelchair ramp deployment and stow cycle.

17) An LED kneeling/ramp light, adjacent to the entrance door will flash when either the ramp or kneeling system are activated and operating.

18) Visible and audible warnings shall inform following vehicles or pedestrians of reverse operation. Visible reverse operation warning shall conform to SAE Standard J593. Audible reverse operation warning shall conform to SAE Recommended Practice J994 Type C or D.

19) LED lamps shall be provided in the engine and all other compartments where service may be required to generally illuminate the area for night emergency repairs or adjustments.

20) These service areas shall include, but not be limited to, the engine compartment, the communication box, junction/apparatus panels and passenger door operator compartments.

21) Lighting shall be adequate to light the space of the service areas to levels needed to complete typical emergency repairs and adjustments.

22) LED strip lights, minimum of four (4) total lights are to be provided throughout the engine compartment.

23) All service area lights shall be suitable for the environment in which they are mounted.

24) Engine compartment lamps shall be controlled by a switch mounted near the rear start controls.

25) All other service area lamps shall be controlled by switches mounted on or convenient to the lamp assemblies.

26) Power shall latch on with activation of the switch and shall be automatically discontinued (timed out) after 30 minutes to prevent damage caused by inadvertently leaving the service area lighting switch in the “on” position after repairs are made.
42 Interior Panels and Finishes

A General Requirements

1) Materials shall comply with the Recommended Fire Safety Practices defined in FTA Docket 90-A, dated October 20, 1993 as well as FMVSS 302.

2) Materials shall be selected on the basis of maintenance, durability, appearance, safety, flammability, and tactile qualities. Trim and attachment details shall be kept simple and unobtrusive. Materials shall be strong enough to resist everyday abuse and vandalism; they shall be resistant to scratches and markings. Interior trim shall be fastened to supporting surfaces to avoid resonant vibrations under normal operational conditions.

3) Interior surfaces more than ten (10) inches below the lower edge of the side windows or windshield shall be shaped so that objects placed on them fall to the floor when the coach is parked on a level surface.

4) The Proposer shall provide information on available anti-graffiti/vandalism surface treatments for interior surfaces during the approved equal process.

5) Selection of colors and material of all interior decoration elements will be made by the NYSDOT’s design consultant before the end of the clarifications process.

B Front End

1) The entire front end of the vehicle shall be sealed to prevent debris accumulation behind the dash and to prevent the operator's feet from kicking or fouling wiring and other equipment.

2) The front end shall be free of protrusions that are hazardous to passengers standing or walking in the front of the vehicle during rapid decelerations.

3) Paneling across the front of the vehicle and any trim around the operator's compartment shall be formed metal or plastic material.

4) Formed metal dash panels shall be painted and finished to the quality equal to the highest standards of the industry

5) Plastic dash panels shall be reinforced, as necessary, vandal-resistant, and replaceable.

6) All colored, painted, and plated parts forward of the operator's barrier shall be finished with a dull matte surface to reduce glare.

C Rear End

1) The rear bulkhead and rear interior surfaces shall be paneled with melamine-type material and trimmed with stainless steel, aluminum, or plastic.

2) Panels shall be easily replaceable and tamper resistant. They shall be reinforced, as necessary, to resist vandalism and other rigors of transit vehicle service.

3) Individual trim panels and parts shall be interchangeable to the extent practicable.

4) Interior side trim panels shall be melamine-type material or approved plastic trim panel material.
5) Panels shall be easily replaceable and tamper-resistant. They shall be reinforced, as necessary, to resist vandalism and other rigors of transit vehicle service. Individual trim panels and parts shall be interchangeable to the extent practicable.

6) Untrimmed areas shall be painted and finished to the quality described in the painting section of this document. Interior panels required to meet FMVSS 302.

D Operator Area Barrier

1) A barrier or bulkhead shall be integrated with the stairwell and shall be located between the operator and the street-side front passenger seats.

2) A door shall be included that defines the operator’s area. The door shall extend from the dash area to the rear part of the operator’s area and shall demark the Operator’s area from the public’s area of the vehicle.

3) The barrier shall minimize glare and reflections in the windshields directly in front of the barrier from interior lighting during night operation. Location and shape must permit full seat travel and reclining possibilities that can accommodate the shoulders of a 95th-percentile male.

4) The partition shall have a side return and stanchion to prevent passengers from reaching the operator by standing behind the operator’s seat.

5) The lower area between the seat and panel must be accessible to the operator. The partition must be strong enough in conjunction with the entire partition assembly for mounting of such equipment as flare kits, fire extinguishers, microcomputer, public address amplifier, etc.

6) The panel installation shall minimize noise and rattles.

E Modesty Panels

1) Sturdy divider panels constructed of durable, unpainted, corrosion-resistant material complementing the interior shall be provided to act as both a physical and visual barrier for seated passengers.

2) Design and installation of modesty panels located in front of forward-facing seats shall include a handhold or grab handle along its top edge.

3) These dividers shall be mounted on the sidewall and shall project toward the aisle no farther than passenger knee projections in longitudinal seats or the aisle side of the transverse seats.

4) Modesty panels shall extend from at least the window opening of the side windows, and those forward of transverse seats shall extend downward to 1- and 1½-inch above the floor.

5) Panels forward of longitudinal seats shall extend to below the level of the seat cushion. Dividers positioned at the doorways, where applicable, shall provide no less than a 2½-inch clearance between the modesty panel and a fully open, inward opening door, or the path of a deploying flip-out ramp to protect passengers from being pinched.

6) Modesty panels installed at doorways shall be equipped with grab rails if passenger assists are not provided by other means.
7) The modesty panel and its mounting shall withstand a static force of 250 lbs. applied to a four × four-inch area in the center of the panel without permanent visible deformation.

F  Front Interior Spaces

1) The entire front end of the vehicle shall be sealed to prevent debris accumulation behind the dash and to prevent the operator’s feet from kicking or fouling wiring and other equipment.

2) The front end shall be free of protrusions that are hazardous to passengers standing at the front of the standee line area of the vehicle during rapid decelerations.

3) Paneling across the front of the vehicle and any trim around the operator’s compartment shall be formed metal or composite material.

4) Composite dash panels shall be reinforced as necessary, vandal-resistant and replaceable.

5) All colored, painted and plated parts forward of the operator’s barrier shall be finished with a surface that reduces glare.

6) Any mounted equipment must have provision to support the weight of equipment.

G  Rear Bulkheads of Upper and Lower Decks

1) The rear bulkhead and rear interior surfaces shall be material suitable for exterior skin; painted and finished to exterior quality; or paneled with melamine-type material, composite, scratch-resistant plastic, fabric or carpeting and trimmed with stainless steel, aluminum or composite.

2) The rear bulkhead paneling shall be contoured to fit the ceiling, side walls and seat backs so that any litter or trash will tend to fall to the floor or seating surface when the vehicle is on a level surface.

3) Any air vents in this area shall be louvered to reduce airflow noise and to reduce the probability of trash or liter being thrown or drawn through the grille.

4) If it is necessary to remove the panel to service components located on the rear bulkhead, then the panel shall be hinged or shall be able to be easily removed and replaced.

5) Grilles where access to or adjustment of equipment is required shall be heavy duty and designed to minimize damage and limit unauthorized access.

H  Headlining

1) Ceiling panels shall be made of durable, corrosion resistant, easily cleanable material.

2) Headlining shall be supported to prevent buckling, drumming or flexing and shall be secured without loose edges.

3) Headlining materials shall be treated or insulated to prevent marks due to condensation where panels are in contact with metal members.
4) Moldings and trim strips, as required to make the edges tamperproof, shall be stainless steel, aluminum or plastic, colored to complement the ceiling material.

5) Headlining panels covering operational equipment that is mounted above the ceiling shall be on hinges for ease of service but retained to prevent inadvertent opening.

I Fastening

1) Interior panels shall be attached so that there are no exposed unfinished or rough edges or rough surfaces.

2) Fasteners shall be corrosion resistant.

3) Panels and fasteners shall not be easily removable by passengers.

4) Exposed interior fasteners should be minimized, and where required shall be tamper resistant.

J Insulation

1) Any insulation material used between the inner and outer panels shall minimize the entry and/or retention of moisture.

2) Insulation properties shall be unimpaired during the service life of the vehicle.

3) Any insulation material used inside the engine compartment shall not absorb or retain oils or water and shall be designed to prevent casual damage that may occur during maintenance operations.

4) The combination of inner and outer panels on the sides, roof, wheel wells and ends of the vehicle, and any material used between these panels, shall provide a thermal insulation sufficient to meet the interior temperature requirements.

5) The vehicle body shall be thoroughly sealed so that the operator or passengers cannot feel drafts during normal operations with the passenger doors closed. Insulation shall meet the requirements of FMVSS 302.

K Floor Covering

1) The floor covering shall be fabricated from PVC and shall have a non-skid walking surface that remains effective in all weather conditions.

2) The flooring shall be self-adhesive type as manufactured by Gerflor or approved equal.

3) The floor covering, as well as transitions of flooring material to the main floor and to the entrance and exit area, shall be smooth and present no tripping hazards.

4) Seams shall be welded per flooring manufacturer’s specifications.

5) The standee line shall be approximately two (2) inches wide and shall extend across the vehicle aisle.

6) The color and pattern shall be consistent throughout the floor covering.

7) Materials used in the stairwell shall be consistent with those used in the rest of the vehicle.
8) All step nosing shall be properly secured and shall minimize the possibility of tripping.
9) Step nosing shall be lit with internal LED lighting.
10) Any areas on the floor that are not intended for passenger access, such as areas “swept” during passenger door operation, shall be clearly and permanently marked.
11) The floor shall be easily cleaned and shall be arranged to minimize debris accumulation.
12) The floor covering shall closely fit the sidewall in a fully welded butt joint or extend to the top of the cove.

43 Interior Lighting

A Lower Deck

1) The lower deck passenger interior lighting system shall utilize LED lighting sources to provide an adequate amount of lighting to accommodate passenger needs while preventing windshield glare.
2) Allowable average light level for the rear bench seats shall be seven (7) foot-candles.
3) Floor surface in the aisles shall be a minimum of ten (10) foot-candles, vestibule area a minimum of four (4) foot-candles with the front doors open and a minimum of two (2) foot-candles with the front doors closed.
4) The front entrance area and curb lights shall illuminate when the front door is open and master run switch is in the “Lights” positions.
5) Rear exit area and curb lights shall illuminate when rear door is unlocked.
6) The light source shall be located to minimize windshield glare with distribution of the light focused primarily on the passengers’ reading plane.
7) High power solid state LED strip shall be in one (1)-foot section increments with high power LED designed to maintain on average 60-70 percent of original brightness after 60,000 hours of operation.
8) Lens material shall be non-flammable polycarbonate.
9) Lens shall be sealed to inhibit incursion of dust and insects and must be easily removable for service.
10) If threaded fasteners are used they shall be held captive in the lens.
11) Access panels shall be provided to allow servicing of components located behind light panels.
12) Individual driver modules shall be provided for each light fixture.
13) Driver module shall have built-in self-protection of thermal shut-down and restart, PWM (Pulse Width Modulation) output to regulate light level, reverse polarity protection.
14) When the master switch is in the RUN or NITE/RUN mode, the first light module on each side of the coach shall slowly fade to darkness when the front door is placed in the closed position and light output shall illuminate to reach maximum light level when the door is opened.
15) Solid state LED lighting shall have unlimited on-off cycles.
16) Failure of any light fixture or driver module shall be indicated via telltale light panel or dashboard display. The system shall insure supply current and lighting fixture temperature to be approximately the same for all of the driver modules, and will indicate which module(s) have a problem.
17) The light system may be designed to form part of the air distribution duct.
18) Step lighting for the stairwell between lower and upper floor levels shall be provided and shall illuminate in all engine run positions. The step lighting shall be an LED strip light integrated into the step nosing and be installed on the front of all risers.
19) Blue LED lamps shall be supplied under every other aisle seat installed in a staggered format with a wire security cage installed over each blue LED lamp to prevent theft. The number and location of lamps shall be at the direction of NYSDOT during the pre-production meeting.
20) Two (2) lower sidewall mounted lights shall be provided in each wheelchair securement location to illuminate the area and the securement system attachment points. Blue LED lights shall be positioned to reduce windshield glare in night run mode.
21) The lighting shall be low-profile to minimize tripping and snagging hazard for passengers and shall be shielded as necessary to protect passengers’ eyes from glare. Blue LED lamps should be pointed to the floor to illuminate the floor and reduce windshield glare.

B Seating Areas Upper Deck
1) General lighting in the upper deck area shall be provided so that passengers can safely navigate through the aisle and other walkable surfaces while entering and exiting the vehicle.
2) LED lamps shall be supplied under each seat to light the aisles. The number and location of lamps shall be at the direction of NYSDOT during the pre-production meeting.
3) Passenger service modules shall be mounted on the underside of the HVAC ducts and shall include individually controlled and adjustable LED passenger reading lights; an exit signal push button, red in color; and individual air distribution outlets. These outlets shall be adjustable from fully closed to fully open position.

C Operator’s Area
1) The operator’s area shall have lights to provide general illumination which shall illuminate the half of the steering wheel nearest the operator to a level of five (5) to ten (10) foot-candles.
2) Access for maintenance and replacement of equipment shall be provided by panels and doors that appear to be an integral part of the interior.
3) Removal of fixtures or equipment unrelated to the repair task to gain entry is prohibited. Panels shall be provided in overhead light fixtures to easily access air lines, air lines/tanks, and wiring mounted behind, sized for easy reach and identified with permanent decals on the inside of the access doors.
4) Access doors shall be hinged with gas props or over-center springs to hold the doors out of the mechanic's way. Panel fasteners shall be standardized so that only one tool is required to service all special fasteners within the vehicle. All access door fasteners shall be captive with permanently secured staked metal retainers. Nuts and/or fixtures that engage panel fasteners shall be permanently affixed to the frame.

5) Access doors for the door actuator compartments shall be secured with hand screws or latches, secured in the open position with over-center springs and shall be sealed to prevent entry of mechanism lubricant into the vehicle interior. All fasteners that retain access panels shall be captive in the cover.

D Floor Panels

1) Any access openings in the floor shall be sealed to prevent entry of fumes and water into the vehicle interior. Flooring material shall be flush with the floor and shall be edge-bound with stainless steel, or anodized aluminum, to prevent the edges from coming loose.

2) Access openings shall be asymmetrical so that reinstalled flooring shall be properly aligned. Fasteners (non-machine thread screws are not acceptable) shall tighten flush with the floor. Floor hatch (es) may be secured in the locked position with a 5/16-inch square key.

3) The number of special fastener tools required for panel and access door fasteners shall be minimized.

44 Passenger Accommodations

A Accommodations

1) NYSDOT recognizes that ramp location, foot room, hip-to-knee room, doorway type, width, seat construction, floor level type, seat spacing requirements, passenger accessibility ramp number of wheelchair positions, etc. ultimately affect seating capacity and layout.

B Passenger Seating

1) The passenger seating arrangement in the vehicle shall be such that seating capacity is maximized and in compliance to the following requirements.

2) All passenger seats shall be equipped with three-point seat belts which shall comply with FMVSS 210 regulations.

3) Seating and interior trim shall have features to maximize passenger comfort. The seat cushion shall be supported by springs. The seat cushion and back shall be padded with a cellular foam product and be no less than two (2) inches thick in areas contacted and loaded by passengers in the normal seated position and shall be upholstered with vinyl or leather and/or fabric materials.

4) Seats, back cushions and other pads shall be securely attached and shall be detachable by means of a simple release mechanism so that they are easily removable by maintenance personnel but not by passengers. To the extent practicable, seat cushions and pads shall be interchangeable throughout the vehicle. Materials shall have high resistance to tearing, flexing and wetting.
C  Lower Deck Seating

1) Passenger seats in front of the rear door shall be arranged in a longitudinal configuration facing the centerline of the vehicle. These seats shall be of the “flip-up” style to provide space for accommodation of mobility devices as well as the storage of bicycles.

2) The remainder of the seats on the lower deck level shall be of the reclining type where possible and shall be of padded high quality.

D  Upper Deck Seating

1) Passenger seats shall be arranged in forward-facing configuration with a minimum of 55 reclining and cushioned passenger seats. The Proposer shall provide seat layout to the NYSDOT’s design consultant once NYSDOT has approved the seat manufacturer and model number.

2) Hip-to-knee room measured from the center of the seating position, from the front of one seat back horizontally across the highest part of the seat to a vertical surface immediately in front, shall be a minimum of 28 inches. At all seating positions in paired transverse seats immediately behind other seating positions, hip-to-knee room shall be no less than 27 inches.

3) Foot room, measured at the floor forward from a point vertically below the front of the seat cushion, shall be no less than 14 inches. Seats immediately behind the wheel housings and modesty panels may have foot room reduced.

4) The aisle between the seats shall be no less than 20 inches wide at seated passenger hip height. Seat backs shall be shaped to increase this dimension to no less than 24 inches at 32 inches above the floor (standing passenger hip height).

E  Structure and Design - Lower Deck Seating

1) Lower deck seats shall be from the Kiel Ligero series or approved equal with the following salient attributes
   • Overall weight of double seats with all belts and mounting structure shall not exceed 100 pounds (maximum).
   • Top of seat to be tapered for maximum viewing
   • Seat belts shall be mounted on the outside of the seat for easy maintenance and change out, not internally mounted inside the seat.
   • Seats to be supplied with an electronic seat availability motorizing system that mounts in drivers area to alert driver to empty seats on upper salon as well as seated positions not utilizing their seat belts

2) The vehicle manufacturer shall work with NYSDOT’s design consultant’s design team and seat manufacturer’s engineering team to design the most appropriate seating layout to accommodate the largest number of seated passengers while also accommodating efficient circulation for fully-abled passengers as well as those who have disabilities.

3) The passenger seat frame and its supporting structure shall be constructed and mounted so that space under the seat is maximized.
4) Seats, structures and restraints around the securement areas shall not infringe into the mobility device envelope or maneuverability.

5) The transverse seat structures shall be attached to the sidewall and the floor with sufficient strength for the intended service.

6) NYSDOT shall have final authority over all seat and interior decoration choices.

F  Structure and Design - Upper Deck

1) Upper deck seats shall be luxurious, reclining seats known as Kiel Avance or approved equal with the following attributes
   - Overall weight of double seats with all belts and mounting structure shall not exceed 100 pounds (maximum).
   - Top of seat to be tapered for maximum viewing
   - Seat belts shall be mounted on the outside of the seat for easy maintenance and change out, not internally mounted inside the seat.
   - Seats to be supplied with an electronic seat availability motorizing system that mounts in drivers area to alert driver to empty seats on upper salon as well as seated positions not utilizing their seat belts

2) Reclining seats shall be installed in as many positions as possible. It is understood that certain positions such as the last row and some places around the stairwell will have no or limited recline.

3) All upper deck passenger seats shall be arranged in a transverse, forward-facing configuration.

4) Each pair of transverse, forward-facing seats, except the rear seats, shall accommodate two (2) adult passengers.

5) Seat frames shall be constructed of high-strength, fatigue-resistant, welded steel with a durable powder-coated, corrosion-resistant colored finish that complements the coach interior.

6) The seat frame shall be wall mounted with heavy gauge steel brackets and shall be attached to the coach floor with a heavy duty stainless steel T pedestal.

7) The seat back shall recline a minimum of one (1) inch to a maximum of five (5) inches (127 mm) maximum with an infinite number of stops.

8) The reclining seat backs shall be provided with a dress-up feature to facilitate coach cleaning. Seat width shall be a minimum of 36 inches and a maximum of 40.50 inches (1029 mm). The aisle shall not be less than 14 inches (356 mm) wide.

9) Seats shall be equipped with fold down tray tables where possible which should approximate the design found on airliner coach seats.

10) All seating positions shall be equipped with a USB charging port providing at least 2 amps of 5 VDC for use of charging portable electronic devices.

G  Seat Construction and Materials
1) Seat cushions shall be supported by steel serpentine springs. Seat covering shall be high-quality wool fabric as determined by NYSDOT’s design and branding contractor.

2) Wool fabric shall be tested to a minimum of 60,000 rubs per the Wyzendeek test method.

3) Seat foam padding shall be polyurethane. Seat upholstery shall be able to be removed with ease to aid for cleaning/replacement purposes.

H Passenger Assists

1) Passenger assists in the form of full grip, vertical stanchions or handholds shall be provided for passenger safety during ingress and egress.

2) Passenger assists shall be convenient in location, shape and size for both the 95th-percentile male and the 5th-percentile female standee. Starting from the entrance door and moving anywhere in the vehicle and out the exit door, a vertical assist shall be provided either as the vertical portion of the seat back assist or as a separate item so that a 5th-percentile female passenger may easily move from one assist to another using one hand and the other without losing support.

3) All handholds and stanchions at the front doorway, around the farebox, and at interior steps for bi-level designs shall be powder-coated in a high-contrast color to be determined by NYSDOT’s design and branding contractor.

4) Excluding those mounted on the seats and doors, the assists shall have a cross-sectional diameter between 1¼- and 1½-inches or shall provide an equivalent gripping surface with no corner radii less than ¼ inch.

5) All passenger assists shall permit a full hand grip with no less than 1½ inches of knuckle clearance around the assist.

6) Passenger assists shall be designed to minimize catching or snagging of clothes or personal items and shall be capable of passing the NHTSA Drawstring Test.

7) Any joints in the assist structure shall be underneath supporting brackets and securely clamped to prevent passengers from moving or twisting the assists.

8) Seat handhold design and placement shall be determined by NYSDOT’s design and branding contractor.

9) Door-mounted passenger assists shall be powder-coated steel.

10) Connecting tees and angles shall be welded or powder-coated metal castings.

11) Assists shall withstand a force of 300 lbs. applied over a 12-inch lineal dimension in any direction normal to the assist without permanent visible deformation.

12) All passenger assist components, including brackets, clamps, screw heads and other fasteners used on the passenger assists shall be designed to eliminate pinching, snagging and cutting hazards and shall be free from burrs or rough edges.

I Front Doorway
1) Front doors, or the entry area, shall be fitted with NYSDOT and ADA-compliant assists.

2) Assists shall be as far outward as practicable, but shall be located no farther inboard than six (6) inches from the outside edge of the entrance step and shall be easily grasped by a 5th-percentile female boarding from street level.

3) Door assists shall be functionally continuous with the horizontal front passenger assist and the vertical assist and the assists on the wheel housing or on the front modesty panel.

J Vestibule

1) The aisle side of the operator’s barrier, the wheel housings and when applicable the modesty panels shall be fitted with vertical passenger assists that are functionally continuous with the overhead assist and that extend to within 36 inches of the floor.

2) These assists shall have sufficient clearance from the barrier to prevent inadvertent wedging of a passenger’s arm.

3) A horizontal passenger assist shall be located across the front of the vehicle and shall prevent passengers from sustaining injuries on the fare collection device or windshield in the event of a sudden deceleration.

4) Without restricting the vestibule space, the assist shall provide support for a boarding passenger from the front door through the fare collection procedure. The assist shall be no less than 36 inches above the floor.

5) The assists at the front of the vehicle shall be arranged to permit a 5th-percentile female passenger to easily reach from the door assist, to the front assist, to vertical assists on the operator’s barrier, wheel housings or front modesty panel.

K Rear Doorway

1) Vertical assists that are functionally continuous with the overhead assist shall be provided at the aisle side of the transverse seat immediately forward of the rear door and on the aisle side of the rear door modesty panel(s).

2) Passenger assists shall be provided on modesty panels that are functionally continuous with the rear door assists.

3) Rear doors, or the exit area, shall be fitted with assists having a cross-sectional diameter between 1¼- and 1½-inches or providing an equivalent gripping surface with no corner radii less than ¼ inch, and shall provide at least 1½ inches of knuckle clearance between the assists and their mounting.

4) The assists shall be designed to permit a 5th-percentile female to easily move from one assist to another during the entire exiting process.

5) The assists shall be located no farther inboard than six (6) inches from the outside edge of the rear doorway step.

L Overhead (Lower Deck)

1) Except forward of the standee line and at the rear door, a continuous, full-grip, overhead assist shall be provided.
2) This assist shall be located over the center of the aisle seating position of the transverse seats. The assist shall be no less than 70 inches above the floor.

3) Overhead assists shall simultaneously support 150 lbs. on any 12-inch length. No more than five (5) percent of the full grip feature shall be lost due to assist supports.

M Wheel Housing Barriers/Assists (Lower Deck)

1) Passenger assists shall be mounted around the exposed sides of the wheel housings (and propulsion compartments if applicable), which shall also be designed to prevent passengers from sitting on wheel housings.

2) Such passenger assists shall also effectively retain items, such as bags and luggage, placed on top of wheel housings.

45 Passenger Doors

A General

1) Door systems shall be all electric, Plug Slide doors with minimal protrusion during operation.

2) Doorways will be provided in the locations and styles as follows. Passenger doors and doorways shall comply with ADA requirements.

3) The front door shall be located forward of the front wheels and under direct observation of the operator.

4) The rear door shall be located forward of the center axle.

B Materials and Construction

1) Structure of the doors, their attachments, inside and outside trim panels and any mechanism exposed to the elements shall be corrosion resistant.

2) Door panel construction shall be of corrosion-resistant metal or reinforced non-metallic composite materials.

3) When fully opened, the doors shall provide a firm support and shall not be damaged if used as an assist by passengers during ingress or egress.

4) Door edges shall be sealed to prevent infiltration of exterior moisture, noise, dirt and air elements from entering the passenger compartment, to the maximum extent possible based on door types.

5) The closing edge of each door panel shall have no less than two (2) inches of soft weather stripping.

6) The doors, when closed, shall be effectively sealed, and the hard surfaces of the doors shall be at least four (4) inches apart.

7) The combined weather seal and window glazing elements of the front door shall not exceed ten (10) degrees of binocular obstruction of the operator’s view through the closed door.

C Dimensions

1) When open, the doors shall leave an opening no less than 75 inches in height.
2) Structure of the doors, their attachments, inside and outside trim panels, and any mechanism exposed to the elements shall be corrosion-resistant. Door panel construction shall be of corrosion resistant materials.

3) The front door clear width shall be a minimum of 36 inches with the doors fully opened. The rear door clear width shall be a minimum of 43 inches with the doors fully opened.

D Door Glazing

1) All passenger doors shall be glazed for no less than 75 percent of the respective door opening area of each section.

2) Door glazing shall be easily replaceable.

3) Door glazing shall be bonded to door frame with readily available glass adhesive.

4) The front door panel glazing material shall conform to the requirements of ANSI Z26.1 Test Grouping 2 and the recommended practices defined in SAE J673.

E Door Projection

1) Exterior: The exterior projection of the doors beyond the side of the vehicle shall be minimized and shall not block the line of sight of the rear exit door via the curb-side mirror when the doors are fully open. The exterior projection of both doors shall be minimized and shall not exceed two (2) inches during the opening or closing cycles or when doors are fully opened.

2) Interior: Projection inside the vehicle shall not cause an obstruction of the rear door mirror or cause a hazard for passengers.

F Door Height above Pavement

1) It shall be possible to open and close either passenger door when the vehicle loaded to gross vehicle weight rating is not knelt and parked with the tires touching an eight (8)-inch-high curb on a street sloping toward the curb so that the street-side wheels are five (5) inches higher than the right-side wheels.

G Closing Force

1) Closing door edge speed shall not exceed 12 inches per second, and opening door speed shall not exceed 19 inches per second.

2) Power doors shall not slam closed under any circumstance, even if the door is obstructed during the closing cycle.

3) If a door is obstructed during the closing cycle, the pressure exerted on the obstruction shall not increase once initial contact has been made.

4) Whether or not the obstruction-sensing system is present or functional, it shall be possible to withdraw a 1½-inch-diameter cylinder from between the center edges of a closed and locked door with an outward force not greater than 35 lbs.

H Rear Door Closing Force
1) Rear doors shall be equipped with an obstruction-sensing system such that if an obstruction is within the path of the closing doors, the doors will stop and/or reverse direction prior to imparting a ten (10)-lb force on one (1) square inches of that obstruction.

2) If a contactless obstruction sensing system is employed, it shall be capable of discriminating between the normal doorway environment and passengers or other obstructions within the doorway, and of altering the zones of detection based upon the operating state of the door system.

I Actuators

1) Doors shall open or close completely in not more than 3.5 seconds from the time of control actuation and shall be subject to the closing force requirements.

2) Door actuators shall be adjustable so that the door opening and closing speeds can be independently adjustable to satisfy the above requirements.

3) Actuators and the complex door mechanism shall be concealed from passengers but shall be easily accessible for servicing.

4) Door actuators and associated linkages shall maximize door holding forces in the fully open and fully closed positions to provide firm, non-rattling, non-fluttering door panels while minimizing the force exerted by the doors on an obstruction midway between the fully open and closed positions.

J Door Operation

1) The rear doors shall be operator enabled and passenger controlled.

2) Switches shall be placed inside the vehicle adjacent to the rear passenger doors so that passengers can trigger the opening of the rear doors.

3) Switches shall be placed on the rear doors so passengers outside the vehicle can trigger opening of the rear doors for loading.

4) A blue colored switch marked with the universal symbol for disabled access shall be located on the rear door so that people in wheelchairs of with other similar needs can notify the vehicle operator that they need to enter the vehicle. This system should ring the same chime used for wheelchair securement area stop request and light the operator’s indicator used for the same purpose.

5) The operator shall control the enabling of the opening mechanism, which shall be annunciated by illumination of a green light near the door.

6) Locked doors shall require a force of more than 300 lbs. to open manually. When the locked doors are manually forced to open, damage shall be limited to the bending of minor door linkage with no resulting damage to the doors, actuators or complex mechanism.

K Rear Door Interlocks

1) See “section 23C Door Brake Interlock System”.

L Emergency Operation
1) In the event of an emergency, it shall be possible to manually open doors designated as emergency exits from inside the vehicle using a force of no more than 25 lbs. after actuating an unlocking device.

2) The unlocking device shall be clearly marked as an emergency-only device and shall require two (2) distinct actions to actuate.

3) The respective door emergency unlocking device shall be accessible from the doorway area.

4) The unlocking device shall be easily reset by the operator without special tools or opening the door mechanism enclosure.

5) Doors that are required to be classified as “emergency exits” shall meet the requirements of FMVSS 217.

M Door Control

1) The door control shall be located in the operator’s area within the hand reach envelope described in SAE Recommended Practice J287, “Hand Control Reach.” The operator’s door control shall provide tactile feedback to indicate commanded door position and resist inadvertent door actuation. The door control is to be located on the side console. The front door shall remain in commanded state position even if power is removed or lost.

2) A five-position operator’s door controller or push button switches may be used.

3) The control device shall be protected from moisture. Mounting and location of the door control device handle or switches shall be designed so that it is within comfortable, easy arm’s reach of the seated operator.

4) The door control device handle shall be free from interference by other equipment and have adequate clearance so as not to create a pinching hazard.

5) If a 5 position door control valve is used, the position of the door control handle shall result in the following operation of the front and rear doors:
   a) Center position: Front door closed, rear door(s) closed or set to lock.
   b) First position forward: Front door open, rear door(s) closed or set to lock.
   c) Second position forward: Front door open, rear door(s) open or set to open.
   d) First position back: Front door closed, rear door(s) open or set to open.
   e) Second position back: Front door open, rear door(s) open or set to open.

6) A control or valve in the operator’s compartment shall shut off the power to, and/or dump the power/air from, the front door mechanism to permit manual operation of the front door with the vehicle shut down.
7) A master door switch, which is not within reach of the seated operator, when set in the “off” position shall close the rear/center doors (if applicable), release the interlocks and permit only manual operation of the rear/center doors.

46 Accessibility Provisions

A Loading System for Double Decker Vehicle

1) An automatically controlled, power-operated ramp system compliant to requirements defined in 49 CFR Part 38, Subpart B, §38.23c shall be located in the front door opening and shall provide ingress and egress quickly, safely and comfortably, both in forward and rearward directions, for a passenger in a wheelchair from level street or eight (8)-inch-high curb.

2) The wheelchair loading system shall be located at the front door, with the powered ramp being of a simple hinged, flip-out type design being capable of deploying to the ground at a maximum 6:1 slope.

B Loading System for Level Boarding

1) For level-boarding during BRT operations, where the vertical and horizontal transition from the vehicle floor and the vehicle stop platform boarding and alighting surface is no more than two (2) inches, provision shall be made to allow mobility devices to load through both doors.

C Wheelchair Accommodations

1) Wheelchair securement systems shall compatible with the passenger seat system and shall comply with all applicable regulations in force when the vehicles enter service.

2) Two (2) wheelchair securement locations, as close to the wheelchair loading system as practical, shall provide parking space and securement system compliant with ADA requirements for a passenger in a wheelchair, in which the primary position shall be on the street side of the coach.

3) Securement areas shall be a minimum 30 × 48 inches as required by the ADA.

4) A separate three-point body belt securement shall be provided to effectively secure wheelchair passengers.

5) Final configuration will be decided during the RFP negotiation process.

D Interior Circulation

1) Maneuvering room inside the vehicle shall accommodate easy travel for a passenger in a wheelchair to and from the loading device and to and from the designated securement areas.
2) The securement areas shall be designed so that no portion of the wheelchair protrudes into the aisle of the vehicle when parked in the designated securement area(s).

3) When both positions are in use, aisle space of more than 20 inches shall be maintained.

4) Areas requiring 90-degree turning of wheelchairs should have a clearance arc dimension no less than 45 inches, and in the securement area where 180-degree turns are expected, space should be clear in a full 60-inch-diameter circle.

5) A vertical clearance of 12 inches above the floor surface should be provided on the outside of turning areas for wheelchair footrests.

E Lighting Requirements

1) Lighting for the mobility assist areas shall be designed to meet Title 13 and ADA and FMVSS 404 standards.

2) Lighting shall be provided to effectively illuminate the loading area.

3) Light shall be activated by the ramp master switch on the operator’s dash and shall automatically illuminate when this switch is in the “on” position.

4) The lighting design shall minimize the effect of glare on passengers entering the vehicle through the door.

5) During ramp operation, the street surface shall be illuminated to a minimum of six (6) candlepower a distance of three (3) feet beyond the external dimensions of the ramp platform once deployed.

6) Additional lighting shall be provided to ensure illumination of the instruction placard and the manual override when it is in use.

F Roof Escape Hatches

1) Rooftop ventilators are prohibited because of the height of these vehicles.

2) A breakable safety glass panel shall be installed to fulfill the emergency egress requirement of the regulations.

3) A glass breaking system shall be installed near the emergency escape panel. A switch shall be wired to the vehicle electrical system which will inform the vehicle operator that the escape panel release system has been used or tampered with.

47 Intelligent transportation Systems (ITS)

A Video Surveillance

1) The Proposer shall provide and install a video surveillance system for use by the vehicle operator to view the upper deck.

2) CCTV shall be installed on all buses adding an element of safety for customers and employees. The following shall be available from the CCTV system

3) CCTV cameras shall be IP based with images/streams being available to the transit operator and HVTMC/Police if required via a web portal with integration into the ICMS.
4) CCTV cameras views will be agreed to and set up in advance.
5) CCTV cameras shall be enclosed by a protective dome or other protective housing or lens as agreed.
6) CCTV shall provide a view of the entire bus both upper and lower decks.
7) Vehicle CCTV will integrate with the back office requirements and CCTV installed at bus shelters as specified within Attachment 23: Technology Specification.
8) The video surveillance system shall be comprised with enough cameras to view the entire interior of the vehicle with special emphasis on the door areas, driver’s area, stairwell and exterior including both sides looking rearward along the vehicle sides from the front of the vehicle. A forward view of the oncoming traffic and a rearward view of traffic.
9) The rearward view camera shall also operate as a reverse view camera to be viewed on the driver’s interior view monitor while reversing.

B Destination Signs

1) LED based SAE J-1939 compatible destination signs shall be provided and located in the front, right side and rear of each vehicle.
2) Front sign shall be the largest size that will fit in the space provided by the vehicle manufacturer.
3) The sign located near the front door shall not block the operator’s critical horizontal line of sight.
4) Display areas of destination signs shall be clearly visible in direct sunlight and/or at night.
5) Signs shall be installed to allow replacement by a 3M mechanic within 30 minutes.
6) All signs shall be controlled via the single RTPI operator interface control panel.
7) The destination sign compartments shall be designed to meet the following minimum requirements:
   a) Prevent condensation and entry of moisture and dirt.
   b) Prevent fogging of both compartment window and glazing on unit itself.
   c) Access shall be provided to allow cleaning of inside compartment window and unit glazing.
   d) Front window shall have an exterior display area of no less than 8.5 in. high by 56 in. wide.
C  Real Time Passenger Information (RTPI)

1) In order to ensure information is readily available to the customer, increase the overall journey experience and encourage modal shift RTPI next stop on vehicle displays (OVD) and on vehicle audio (OVA) announcements shall be installed on all transit vehicles utilized under this RFP.

2) The AVL system shall be linked to the RTPI system. Algorithms will be in place to use the AVL information to accurately predict when a bus will be arriving/departing a particular stop and populate the OVD and OVA.

3) OVD shall employ TFT, OLED or other high resolution displays.

4) Displays shall be located in both the lower and upper deck areas of the vehicles.

5) OVDs shall be located as necessary for all passengers to clearly view the OVD information and will be secured in place with appropriate brackets.

6) Depending on seating layout and sight line distances, it may be necessary to place more than one display on each deck. It may also be necessary to place displays in the center of the vehicles so that information can be viewed from distance.

7) Speakers to be installed on the bus allowing for on board vehicle announcements.

8) OVD shall have the ability for messages to be placed on one or both of the lines by HVTMC/transit operator.

9) OVD shall have the ability to show current time as well as “next stop” and “now at” stop information.

10) OVA shall have the functionality to provide “next stop”, “approaching” and “now at” announcements.

11) OVA shall not be used for anything other than providing next stop information in accordance with ADA regulations.

12) The RTPI system should have a control module that is accessible to the bus driver.

13) The RTPI driver’s module shall have a functionality that displays future stops and the ultimate destination.

14) Real time information on Metro-North and potentially other transit services shall be displayed to passengers throughout the bus journey.

15) On board RTPI displays and announcements will integrate with the back office requirements and shelter displays specified within Attachment 23: Technology Specification.

D  Public Address System

1) A public address system (PA) shall be installed that allows the driver to address the passengers directly as needed.

2) An exterior public address speaker shall be included so that the driver can address people outside of the vehicle as needed.

3) The public address system shall utilize the manufacturer’s standard public address speakers.
4) If not otherwise provided as part of another part of the ITS system specified in this RFP, a public address amplifier shall be provided and installed in the vehicle.

5) The vehicle operator shall have access to the PA systems volume control and inside-outside speaker activation.

6) A boom type microphone of the type that uses a tubular conductor to route voice to a transducer mounted in the microphone base.

7) The microphone shall be activated by a floor switch.

8) The PA system shall be used with the next stop announcement system.

E Automatic Vehicle Location

1) An Automatic Vehicle Location (AVL) system shall be supplied, integrated and maintained as part of each vehicle at the contractor’s expense.

2) The AVL system shall have the following capabilities:
   a. On board computer based AVL shall have the ability to feed into and populate the RTPI system.
   b. AVL location of each bus shall be updated at least every 30 seconds.
   c. AVL system on the bus shall communicate with the back office central system via GPRS.

3) AVL system shall integrate with the back office requirements specified within Attachment 23: Technology Specification.

F Automatic Passenger Counting (APC)

1) In order to monitor bus patronage on journeys and where passengers board and alight an APC system shall be installed.

2) This will consist of hardware on every transit vehicle and a back office software package to monitor information and historically log information with the ability to run reports on this stored information. The requirements of an APC system are:
   a. The APC system shall be installed on each vehicle to monitor bus patronage at every entry/exit from the bus.
   b. The APC system shall provide multi directional counting so that passenger boarding and alighting figures can both be obtained.
   c. The APC system shall have the ability to provide location based information on bus patronage. This shall be geocoded and fed into the ICMS.
   d. The APC system shall be at least 95% accurate in counting passenger boarding and alighting.
   e. The APC system shall qualify the passenger count by recording date and time of door opening and closing.

3) The APC system will integrate with the back office requirements as specified within Attachment 23: Technology Specification.
G  Passenger Wi-Fi

1) Free Wi-Fi shall be provided on all vehicles to improve customer satisfaction.

2) A Wi-Fi system shall be installed in vehicle and consist of the following:
   a. Wi-Fi routers and associated antenna’s to be installed on all vehicles.
   b. Wi-Fi shall utilize a 4G modem and support 4G networks or the most advanced system commonly available at the time of system implementation.
   c. System shall allow for at least 50 concurrent connections.
   d. The Wi-Fi system shall allow for secure remote updates of the passenger Wi-Fi system when vehicle is parked in the bus yard when out of revenue service.
   e. There shall be no data connection between the passenger Wi-Fi system and any vehicle electronic systems.

3) The on bus Wi-Fi shall integrate with the back office requirements and Wi-Fi to be installed in bus shelters as specified within Attachment 23: Technology Specification.

H  USB Charging

1) USB charging shall be supplied at each passenger seating position.

2) Each USB charging port shall be complaint with the USB 3.1 standard and shall have the capacity to charge compatible devices at a minimum of 2 amps each.

3) Each charging port shall have 2 USB 3.1 type A receptacles.

4) Each USB charger shall be connected to the vehicle's 12VDC or 24VDC system independently and shall have its own DC-DC converter.

5) Each USB port shall be protected with its own fuse.

6) Each USB port shall be easily replaceable or otherwise easily serviceable

7) Each forward facing seat located in front of another forward facing seat shall have a USB charging port located in the seatback in the area near the fold down table located on the seat back.

8) Each seating position not located directly behind a seat equipped with a fold down table and USB port will have a USB port located in a place easily reachable by the passenger using that seat.

9) All USB port locations shall be proposed by the Contractor and vehicle manufacture to NYSDOT or their designee for approval.

I  Fare Collection and Ticketing

1) In order to maximize the efficiency of the bus service an off board payment solution is required. The off-board fare payment machines will be procured and installed by NYSDOT. These machines will accept MetroCard (and its eventual replacement) and credit/debit, and will issue tickets with a QR or barcode that can be scanned by the on-board ticket validators.

2) Ticket validators shall be supplied by the successful operator and shall be installed on each vehicle.
3) The transit operator shall supply a mobile app that shall give passengers to pay fares using their own mobile devices.

4) On board fare payment validators shall have the following requirements:
   a. Cash payments must be accepted onboard the vehicles
   b. Ticket validators shall be installed on all buses at entry points.
   c. Validators shall be easily accessible to all passengers and shall comply with ADA standards.
   d. Ticket validators shall have the ability to validate paper and mobile tickets through either barcode or QR code.
   e. Ticket validators shall flag issues with ticket validity to the driver for resolution.
   f. The ticket validators shall integrate with the off board vending machines and mobile app as specified within Attachment 23: Technology Specification
   g. It is preferable for the fareboxes to also be able to accommodate NFC technology, so that they can be made compatible with the MetroCard replacement when it is available.

J Transit Signal Priority (TSP)

1) TSP shall be installed on all buses and at selected junctions (by the NYSDOT) helping to reduce transit time and ensuring a reliable bus journey.

2) In order to achieve interoperability with the Westchester Bee Line service Opticom GPS must be used.

3) The transit operator shall install TSP on every bus and integrate it with the back office system supplied by NYSDOT.

4) The TSP system shall be comprised of:
   a. Opticom TSP model 2100/1 GPS Control Unit,
   b. Opticom 1050 GPS/Radio Antenna to be installed on each vehicle

5) TSP shall integrate with the ICMS as specified within Attachment 23: Technology Specification

K System Accommodations

1) At minimum the Proposer will be obligated and shall anticipate costs and effort to provide the following:
   a. Cabinetry to house components
   b. Power to operate the different systems
   c. Connections to vehicle electronics to provide customarily used data
   d. Installation of components such as passenger displays
   e. Installation of video surveillance systems
   f. Installation of antennas and sensors
   g. Supply and Installation of all necessary ITS cables and wiring as per ITS contractor’s instructions.
h. Supply and installation of secure communications between ITS systems and back office
8.27. Attachment 27: Service Expansion Plans

The following is an update to the Mass Transit Task Force given in June 2015, detailing the potential expansion of the Intercounty BRT service. All capital cost and fleet size estimates are based on assumptions at the time of the presentation.