Applicant and Proposal Profile
Low or No Emission Vehicle Deployment Program (LoNo) 2015 Program

Is this a resubmission due to an invalid/error message from FTA?  ☐ Yes  ☑ No

Section I. Applicant Information

Organization Legal Name: University of New Hampshire

FTA Recipient ID Number: 6168

Applicant Eligibility:  ☐ A designated recipient under the Clean Air Act
  ☑ A state in which an eligible area exists

Section II. Project Information  (this section repeats per Project)

About the Project

Project Title: Wildcat Transit Fleet Replacement - Adoption of Compressed Natural Gas (CNG) as primary transit fuel in New Hampshire

Brief Abstract of the Project:
As the State leader in alternative fuel use the University of New Hampshire seeks funding to transition the primary fuel of the transit fleet to compressed natural gas (CNG) by purchasing 8 HD buses.

Description of the Project:
The University of New Hampshire is seeking funding to replace 8 heavy duty transit buses that will have been in service for the stated useful life in order to provide a safe and sustainable public transit system. The University is committed to replacing these buses with 8 35’ heavy duty buses powered by Compressed Natural Gas, a fuel that the University has demonstrated success with in smaller fleet segments over the last 13 years and is now ready to expand into the primary fuel for transit operations. As the leader in CNG fuel statewide the University is building on our academic mission by educating the residents of New Hampshire on the benefits and safety of natural gas as a vehicular fuel and is paving the way to further integration of low and no emission fuels throughout the State.

Name of Entity to Implement Project: University of New Hampshire

Eligibility Projects:
☒ Acquiring or leasing low or no emission transit buses
☐ Construction or leasing facilities and related equipment for low or no emission transit
☐ Constructing new public transportation facilities to accommodate low or no emission transit buses
☐ Rehabilitating or improving existing public transportation facilities to accommodate low or no emission transit buses
Bus Model

Describe the extent to which the proposed bus has been largely proven in testing and demonstrations but is not yet widely deployed in transit fleets:

Note: If you are unable to identify the specific bus model because you have an existing open procurement for the bus, please describe the existing procurement action. Include opening and closing dates. Describe how FTA may obtain a copy of the procurement notice.

The University has a currently awarded FTA compliant contract with Eldorado National to supply fleet vehicles for transit operations. This procurement would utilize available options under this existing contract to replace eight 35' heavy duty diesel buses which have no on-board emission mitigation measures with 8 35' heavy duty low floor transit buses powered by compressed natural gas. At this time CNG-hybrid vehicles are not available in a configuration to meet the University’s needs; however, should a viable option become available the University will pursue CNG-hybrid vehicles in lieu of dedicated CNG. The University has purchased several CNG buses to date, starting with small cutaway style and dabbling with larger heavy duty transit buses, all with great success. These low emission vehicles currently represent the minority of our 35 vehicle transit fleet but this project would shift the balance of fleet fuels and ensure CNG as the primary fuel in the transit fleet.

This shift represents a critical opportunity within the State of New Hampshire for the deployment of natural gas vehicles. Currently in our State UNH operates the largest transit system in terms of alternative vehicles and annual passenger trips. Considering all other transit agencies in the entire state there is only one other CNG bus in service today. Through the University’s outreach efforts we will use this shift in fleet fuels to demonstrate success and reliance on an alternative fuel in our State thereby educating and encouraging other transit agencies to follow along in the deployment of low and no emission vehicles.

Describe the Transit Bus Model(s) being supported (Include Propulsion Type, Operating Ranges & Recharging/Refueling Requirements, and include whether documentation exists of Successful Revenue Operation):

The University proposes the purchase of 35' heavy duty transit buses powered by CNG; specifically, the Eldorado EZ-Rider II which is included in the current UNH fleet contract. UNH has implemented pilot programs of purchasing this exact same bus for smaller fleet segments and has demonstrated success with these vehicles in revenue service. Similar buses have also been successful in revenue service in fleets nationwide.
Select the Technologies present:  
☐ Battery Electric  
☐ Electric Trolley Bus  
☐ Fuel Cell  
☒ Internal Combustion Engine  
☐ Other

Describe the FTA Bus Testing (Altoona) status of the proposed bus model:
The 30’ and 32’ version of this bus has been Altoona tested and approved. UNH will seek FTA approval to procure the 35’ of this vehicle under this certification as there are no cardinal or material changes by adding the additional length and seating capacity. The University is currently operating a pilot fleet of the 35’ version of this vehicle, which was purchased 100% with local funds, and has verified that no deviation from the 32’ version in terms of operations, maintenance, or life expectancy exist. If rejected the University will opt to substitute the previously Altoona tested and accepted 32’ version of this vehicle in lieu of the 35’ version.

Describe the extent to which the proposed buses meet or exceed Buy America Domestic content requirements:
This vehicle as proposed exceeds the Buy America Domestic content requirements as certified by the manufacturer and witnessed by the University of New Hampshire. The purchase of this vehicle supports domestic jobs and keeps America moving forward.

Describe the extent to which the proposed bus model can lead to better or less costly zero emission buses:
The implementation of these low emission buses in New Hampshire will bring awareness and education to all transit agencies and fleet operators within the State of New Hampshire. This has been demonstrated already in the purchase of a single CNG vehicle by the City of Nashua for their fleet operations. Not only did the City consult with UNH, tour our facility, and learn from our experiences, but the University also assisted the City in specifying and ordering the vehicle, even attending a factory meeting to help educate City staff. The University is poised as a leader in the alternative fuel segment of New Hampshire and will help spread the use of alternative fuels state wide.

Project Effectiveness

Eligibility Vehicles or Types of Facilities being supported:  
☒ Zero Emission Bus  ☐ Low Emission Bus

What is the minimum number of buses that are required?  
8

How many buses of this type will be Operational at the Proposed Project Location as a result of this LoNo project?  
8

Please list all Greenhouse Gases & Criteria Pollutants that may be emitted by the Project Buses:
Compressed natural gas powered transit buses may emit low levels of CO, NOx and PM10. The replacement of these vehicles will result in a reduction of 0.731 g/mile or 97% drop in PM10, a reduction of 8.98 g/mile or 96% drop in NOx, and a reduction of 2.65 g/mile or 90% drop in CO emissions within the seacoast area of New Hampshire. Over the 12 year life of these vehicles overall emissions will be reduced by 10,176 Kg of CO, 34,483.2 Kg of NOx and 2,807 Kg of PM10.

Describe your existing Zero Emission Bus Fleet, if any:
The University currently employs a mixed fleet of biodiesel (B20) and compressed natural gas transit fleet vehicles with B20 as the primary fuel. This proposal makes application for the funding to transition our fleet to primarily compressed natural gas (CNG) as we approach a total low emission bus fleet.
Describe existing Support Facilities:

The University of New Hampshire has made significant investments in compressed natural gas infrastructure and training to support the purchase of these vehicles. With over $1.3 million invested in our high speed CNG fueling station the University is running 3 redundant compressors and carrying 600 GGE at 4,500 psi on hand at all times. Coupled with our direct access to the natural gas pipeline fuel for these buses is readily available. Our maintenance facility has been upgraded with gas monitoring sensors, gas evacuation systems, and automatic reporting to emergency personnel. Our driver and mechanic training programs have been developed to educate our personnel on how to safely operate and work on CNG vehicles with 2 mechanics certified as CNG inspectors for tank certifications.

Describe new Support Facilities proposed:

This grant application does not propose to build any new support facilities. The University is well equipped to implement this project already.

Describe the extent to which the Proposal builds on task or current Federally funded research efforts:

This proposal will build on the efforts and Federal funding expended nationwide over the last decade to introduce compressed natural gas in the transit environment. While large metropolitan areas have been successful with the implementation of compressed natural gas vehicles more rural States such as New Hampshire struggle to introduce this fuel as a viable option. Funding this proposal will allow the University of New Hampshire to shift from a primarily fossil fuel powered transit fleet to a primarily CNG powered transit fleet thereby paving the way for others in New Hampshire to witness the reliability and importance of alternative fuels.

Transit Agency and Community Commitment

Describe your commitment to deploying a Zero Emission Bus Fleet:

The University of New Hampshire has actively pursued alternative fuel fleet as part of its greenhouse gas emissions strategy. UNH has completed greenhouse gas emissions inventories (GHGI) for over ten years and considers emissions reduction a core value in its climate strategy. CNG is a core component of the University's adopted Climate Action Plan (WildCAP). More information on this institutional focus can be found at http://www.sustainableunh.unh.edu/wildcap.

Describe the transit agency's consideration of, commitment to, workforce development and training in support of zero-emission technology:

The core mission of the University of New Hampshire is education and outreach to ensure we are improving the lives of individuals and communities alike. Through direct employee training as well as opportunities for outside certifications, courses, and industry research we are fostering the knowledge of our employees with regard to the use of alternative fuels. Further more we are sharing this knowledge and awareness with our community through the EcoCat program where all of our alternative fuel vehicles prominently display the EcoCat logo. Passengers and community members alike use this logo to trigger discussions of alternative fuel with drivers and other Transportation staff as they learn about alternative fuel use in our fleet.

Describe the project's approach to using LoNo funds to cover only the incremental cost of the proposed bus model of facility:

Given that the University receives no Federal formula funding for operations we are requesting coverage for 80% of the total purchase cost of these vehicles under this program. The remaining 20% balance will be funded by the University through local match derived from mandatory Student Transportation fees.
Safety

Identify any unique safety considerations of the proposed technology:

Compressed Natural Gas (CNG) has been demonstrated as a very safe technology for transit fleet vehicle use. In addition to the inherent safety mechanisms of the fuel system the University has included gas detection and fire suppression systems in all natural gas transit buses.

Describe how the project will address the unique safety considerations of the proposed technology:

This project will fund the purchase of these vehicles which will include the on-board gas detection and fire suppression systems.

Technical Capacity

Do you wish to name Project Team Member(s) Organization(s)?  
☐ Yes  ☐ No

If Yes, please provide each team member organization by name and describe the role of this organization:

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dirk S. Timmons</td>
<td>Director of Transportation</td>
</tr>
</tbody>
</table>

Has a letter of commitment from this Project Team Member Organization been attached to the SF424?  
☐ Yes  ☐ No

Description of Technical Capacity to implement Project:

The University has demonstrated success with fleet replacement projects administered through the Federal Transit Administration. The University has completed three Triennial Reviews with no findings in the area of Technical Capacity. Key staff in the transportation administration, financial management office, and dedicated grant management personnel within the Sponsored Programs Administration office will all be working together to ensure the success of this project.

Describe the Roles of Project Team Member:

Under direction of the President of the University oversight of this program will be delegated to Associate Vice President David J. May who is responsible for the Office of Business Affairs. Working under David the Director of Transportation, Dirk S. Timmons, and his team will administer the purchase of rolling stock to complete this fleet replacement project. Joining in this effort will also be the Director of Sponsored Programs Administration, Director of Purchasing, and Director of Finance & Administration who all play critical roles in the approval process. The University team possesses decades of experience and has demonstrated success managing FTA projects previously.

Project Management

Description of Project Management Plan:

The University of New Hampshire will manage this project locally. The University has dedicated departments responsible for oversight including Transportation Administration, Procurement Services, Office of Business Affairs, and Sponsored Programs. With the
procurement process already completed this project will kick-off with Sponsored Programs who will review all of the grant documentation and requirements before establishing dedicated accounting codes for this project. Once complete Transportation staff will work with the Office of Business Affairs and Procurement Services to review the vehicles to be ordered and issue a purchase order. University staff will then conduct an on-site inspection of the factory where the buses will be built including a pre-build meeting to ensure all of the University specifications are clear and the manufacturer is capable of meeting them. Once construction is complete the University will conduct a second on-site factory inspection to review where the vehicle was built and to inspect the vehicle to ensure it is satisfactory. After delivery and testing the University will issue payment to the vendor and subsequently draw down funds from the FTA through the ECHO process. Once the project is complete it will be closed out in TEAM-Web and our financial accounts will be closed with all records preserved. The vehicles will remain in operation for at least their minimum useful life. At the conclusion of this time they will be sold in accordance with FTA asset dispostion guidelines and all funds derived from the sale will be used to fund the purchase of replacement vehicles.

Description of Legal Capacity to Implement Project:

The University of New Hampshire is a direct FTA grantee and meets all requirements to receive funding under the LoNo Emissions program. The legal status of the University as an eligible recipient has been reviewed in several FTA Triennial reviews with no issues identified.

Description of Financial Capacity to Implement Project:

The University of New Hampshire has adequate financial capacity to implement this project without delay by supplying the local match for this project as well as to continue the operation of these vehicles for the duration of their life expectancy. As one of the few transit agencies nationwide that operates with no FTA formula funded operating funds the University relies on a mandatory student fee to fund the transit operation and provide local match for capital which has proven to be a very reliable source of steady income for the transit program at UNH. Additionally, key staff in the Office of Business Affairs (OBA) Business Service Center (BSC) and Sponsored Programs Administration (SPA) will be assigned to process and administer all transactions related to this project. These financial administration grant procedures have been reviewed under the FTA’s Triennial Review as well as the annual A-133 audit to ensure full compliance.

Describe any proposed deviations from the FTA Circular 5010 Grants Management:

The University does not propose to deviate in any way from FTA Circular 5010 with regard to grant management. The University has demonstrated success with FTA grant management in numerous FTA Triennial Reviews including the management of several fleet replacement projects with similar scope to that described in this application.

Does the Project require a waiver of any Federal Requirements?  ☐ Yes  ☐ No

If so, please explain:

Is the Project scalable up?  ☐ Yes  ☐ No

If Yes, specify maximum funds necessary:  

Provide explanation including the maximum number of buses that could be responsibly deployed and for which a budget has been included in this application:
Is the Project scalable down?  ☐ Yes  ☐ No

If Yes, specify minimum funds necessary:  

Provide explanation including the minimum number of buses needed:  

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**Project Readiness**

Project can be obligated within:  ☐ 6 Months  ☐ 12 Months  ☐ 18 Months  ☐ 24 Months

Is the Project proposed listed in the TIP/STIP?  ☐ Yes  ☐ No

Is the TIP/STIP approved?  ☐ Yes  ☐ No

TIP/STIP can be amended (evidence by MPO/State endorsement):  ☐ Yes  ☐ No

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**Bus Budget Summary**

Bus Description:

ElDorado EZ-Rider II - 35' Heavy Duty Low Floor CNG Powered Transit Buses

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Bus Grand Total:  

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<th>QTY</th>
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<tr>
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<td>890,288</td>
<td>0</td>
<td>0</td>
<td>4,451,440</td>
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</table>

Describe Bus Budget Justification:

This bud budget reflects actual costs per UNH request for proposal # 12869, an FTA compliant procurement, with available options for the replacement of these fleet vehicles.

If the project is scalable, include breakdown of cost per bus:

This project is not scalable.
## Facilities & Equipment Budget Summary

**Facilities & Equipment Description:**

Not Applicable.

<table>
<thead>
<tr>
<th>QTY</th>
<th>LoNo Federal Amount</th>
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**Describe Facilities & Equipment Budget Justification:**

The University of New Hampshire is not applying for any facilities or equipment to support this purchase.

If the facilities and required equipment are scalable, please present the details:

Not applicable.

## Project Timeline

<table>
<thead>
<tr>
<th>Timeline Item Description</th>
<th>Timeline Item Date</th>
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<tbody>
<tr>
<td>Release RFP (completed previously)</td>
<td>07/31/2015</td>
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<tr>
<td>Award Contract (completed previously)</td>
<td>10/05/2015</td>
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<tr>
<td>Notice of LoNo Grant Award (subject to approval)</td>
<td>06/01/2016</td>
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<tr>
<td>STIP/TIP Revisions Approved</td>
<td>09/30/2016</td>
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<td>Purchase order issued</td>
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<td>Vehicles Delivered</td>
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<td>Project Close Out</td>
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**Congressional Districts (Place of Performance)**

<table>
<thead>
<tr>
<th>Congressional District</th>
<th>Congressional Representative</th>
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<tbody>
<tr>
<td>NH-001</td>
<td>Shea-Porter, Carol</td>
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