NEW YORK STATE OF OPPORTUNITY. | NYSERDA | Department of Transportation

Making Transportation Smart and Sustainable
Program Opportunity Notice (PON) No. 3345
$3,000,000 Available

NYSERDA reserves the right to extend and/or add funding to the Solicitation should other program funding sources become available.

PROPOSALS DUE: November 29th, 2016 by 5:00 pm Eastern Time*

In partnership with the New York State Department of Transportation (NYSDOT), the New York State Energy Research and Development Authority (NYSERDA) seeks proposals that have the potential to reduce the greenhouse gas (GHG) emissions and the associated energy consumption of the existing multi-modal transportation system in New York State. Project Focus Areas will be limited to: 1) Smart Mobility Solutions, 2) Smart Infrastructure and Systems Planning, and 3) Smart Freight and Urban Delivery Systems. Total available funding is $3,000,000. All, some, or none, of the available funding may be awarded. In funding this solicitation, the sponsors seek to promote an integrated, multi-faceted, energy-efficient, and sustainable transportation system through the identification of innovative strategies, policies, emerging technologies and partnerships, and through useful demonstrations that validate underutilized commercial products in New York State.

Proposal Submission: Electronic submission is preferable. NYSERDA will also accept proposals by mail or hand-delivery. If submitting electronically, proposers must submit the proposal in either PDF or MS Word format with a completed and signed Proposal Checklist and Disclosure of Prior Findings of Non-Responsibility, in PDF format. Proposal PDFs should be searchable and should be created by direct conversion from MS Word, or other conversion utility, rather than scanning. For ease of identification, all electronic files must be named using the proposer's entity name in the title of the document. Proposals may be submitted electronically by following the link for electronic submissions found on this PON's webpage, which is located in the "Current Opportunities" section of NYSERDA's website (https://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities)

Instructions for submitting electronically are located in Attachment G to this PON. If mailing or hand-delivering, proposers must submit two (2) paper copies of their proposal with a completed and signed Proposal Checklist, along with a CD or DVD containing both a PDF and a MS Word digital copy of the proposal, following the above guidelines. Mailed or hand-delivered proposals must be clearly labeled and submitted to:

Venice Forbes, PON 3345
New York State Energy Research and Development Authority
17 Columbia Circle, Albany, NY 12203-6399

If you have technical questions concerning this solicitation, contact Joseph Tario, (518) 862-1090 ext. 3215 (Joseph.Tario@nyserda.ny.gov). If you have contractual questions concerning this solicitation, contact Nancy Marucci, (518) 862-1090 ext. 3335 (Nancy.Marucci@nyserda.ny.gov).

No communication intended to influence this procurement is permitted except by contacting Joseph Tario (Designated Contact) at (518) 862-1090, ext. 3215 (Joseph.Tario@nyserda.ny.gov). Contacting anyone other than this Designated Contact (either directly by the proposer or indirectly through a lobbyist or other person acting on the proposer's behalf) in an attempt to influence the procurement: (1) may result in a proposer being deemed a non-responsible offeror, and (2) may result in the proposer not being awarded a contract.

*Late proposals will be returned. Incomplete proposals may be subject to disqualification. It is the bidder's responsibility to ensure that all pages have been included in the proposal. Faxed or e-mailed proposals will not be accepted. Proposals will not be accepted at any other NYSERDA location other than the address above. If changes are made to this solicitation, notification will be posted on NYSERDA's web site at http://www.nyserda.ny.gov/

I. INTRODUCTION

New York State seeks to provide safe, efficient, balanced and environmentally sound transportation. Effective and efficient transportation supports economic and community development. Cities and communities throughout New York are pursuing solutions that will provide a comprehensive response to improve transportation mobility, systems, and networks. New York's transportation system can be improved through a range of options that move toward dynamic, connected, and integrated mobility platforms. This Program Opportunity Notice (PON) seeks innovative transportation solutions that enhance transportation efficiency, resiliency, reliability, safety and energy efficiency; increase economic competitiveness and quality of life; and support community revitalization and environmental sustainability.

Smart cities and communities are adopting a connected "system-of-systems" approach that interfaces with transportation infrastructure, networks, and related services. Smart transportation solutions are scalable, use connected information and use digital technologies to improve mobility, reliability, safety, and security. Smart solutions use real-time operational data to enhance strategic decision-making; take advantage of collaborative service models focused on shared outcomes across organizational boundaries; and maximize energy efficiency through smart grid technologies and modal alternatives.[1]

Three categories of projects or Focus Areas will be considered for funding. These are described in the following sections, but all three Focus Areas share the following common features:

- *Integrated Technologies and Communications.* Optimize the use of and access to broadband internet, sensor networks, Internet of Things (IoT), information and communications technology (ICT), intelligent transportation systems (ITS), and other technologies. This PON encourages use of digital innovations and platforms that enable intelligent, dynamic, and integrated communications between transportation organizations, networks, modes, and users.
- *Intermodal Connections.* Emphasize increased and more efficient use of multimodal choices and better management through systems engineering, operational improvements, and other planning strategies with the goal of enhancing network efficiencies, safety, resiliency, and redundancy.
- *Environmental Sustainability.* Reduce the energy impacts of transportation, reduce GHG emissions, balance planning for growth, protect and preserve limited natural resources, and support energy efficiency, resiliency, economic productivity, and livability.
- *Cooperative Governance.* Support integration of open data, digital technologies, and transparency resulting in improved outcomes aligned with strategic priorities, built on collaboration.
- *Applied Planning and Research.* Lead to the development and deployment of practical solutions that address New York's transportation needs, meet traveler expectations and desires, and enhance the reliability, efficiency, resiliency and safety of New York's transportation system.

Proposals should clearly indicate how these features will be incorporated or addressed in the proposed project delivery.

Within each Focus Area, there are five Funding Categories which vary with the type of project proposed (e.g. conference, paper study, field demonstration, etc.) The Funding Categories are further described later in this document, but each individual proposal must select a single Focus Area and a single Funding Category.

1 Some of the elements that make transportation smart and sustainable are explored in the findings, conclusions, and recommendations of the report entitled The Smart/Connected City and Its Implications for Connected Transportation, Federal Highway Administration, 2014. http://ntl.bts.gov/lib/54000/54200/54204/smart_connected_city_FINAL_111314.pdf

Focus Area 1: Smart Mobility Solutions.

Transportation innovations are rapidly changing the way travelers and commuters move. This is seen by the growing implementation and use of shared use mobility and peer-to-peer networks – integrated operations that provide a variety of dynamic, connected, options enhanced with information and communications technology (ICT). Often, though, these innovations are not optimized to provide travelers with convenient, practical, affordable, and sustainable door-to-door transportation.

Smart mobility solutions optimize travel by using applications and offering services that process real-time conditions, provide accurate, instantaneous information about desired destination points, and how best to reach them. They provide multifaceted, readily accessible, efficient, easy to understand, and safe travel options. These solutions apply open multi-agency, multimodal data to support alternatives to driving alone, provide personalized travel information on modal and routing options and improve the travel experience. Smart mobility solutions bring together various sectors and sub-system components, working together to provide relevant, responsive information and choice of services.[2]

The objectives of this focus area are to engage in planning, applied research, exploration and deployment of solutions that improve the efficiencies of transportation systems, projects, processes, and products. Successful projects should support a redistribution of travel demand across various modes, routes, and time; alter the way travelers use transportation systems and services by equipping them with more and better information; and/or seek to achieve a balance that optimizes transportation services and demand for travelers who use them.

Activities in this area may include, but are not limited to, initiation and/or application of:

- Mobility services, products, designs, and solutions that are redefining how travelers commute and move about.
- Technologies that build or enhance efficiencies, relevancy, simplicity of alternative modes of transportation.
- Modal designs that enhance greater use of public transportation, bicycling, and walking.
- Business models, partnerships, and collaborative alliances that support next generation transportation options and system operations that enhance mobility; reduce congestion; and improve safety and resiliency, environmental sustainability and community livability.
- Innovative platforms and decision-support systems that facilitate optimized multi-modal travel responses before, during and after disruptive events including those caused by storms and extreme weather.

2 These ideas are examined in Shared Mobility and the Transformation of Public Transit, American Public Transportation Association, 2016. http://www.apta.com/resources/reportsandpublications/Documents/APTA-Shared-Mobility.pdf

Focus Area 2: Smart Infrastructure and Systems Planning.

Smart infrastructure and systems planning enhance and improve existing transportation systems, networks, and operations. Projects in this focus area should support operational coordination and optimization, which could include multiple transportation networks and connections. The primary focus is on optimizing traffic operations, expanding integrated modal options and intelligent infrastructure and processes. Smart infrastructure and systems projects should leverage frequently collected and rapidly disseminated, multi-source data procured from connected travelers, various alternative transportation modes, and infrastructure.

The objective of this focus area is to engage in planning, applied research, decision support system development, systems operation and engineering, concept development and deployment, outreach and training, partnerships, and community involvement. Concepts, strategies, and solutions should demonstrate how they are dynamic and integrated, build capacity and more efficiently use existing capacity in day-to-day operations, or improve flexibility and capacity in responding to disruptive events including storms and extreme weather.

Activities in this area may include, but are not limited to, initiation and/or application of:

- Active transportation demand management (ATDM), intelligent transportation systems (ITS), information and communications technology (ICT), and integrated corridor management (ICM) strategies that improve multi-modal network convenience, efficiency, and safety.
- Predictive analytics relative to highway, public transportation, and freight related systems and infrastructure that improve operations, management, efficiencies, functionalities, decision support, and collaboration.
- Connected and/or autonomous systems, infrastructure, vehicles, and technologies that leverage the capabilities of government, non-governmental organizations (NGOs), and the private sector to create integrated, multimodal system environments.

Focus Area 3: Smart Freight and Urban Delivery Systems.

Developing efficient freight transportation and related urban delivery systems are important for business and New York's economy. However, numerous challenges exist ranging from chronic congestion and unpredictable travel conditions, aging infrastructure regulated by multiple agencies, demanding delivery windows, rapidly changing technologies, varying rules, regulations, and policies between jurisdictions, and fragmented management. This is further exacerbated by a constrained funding environment making it difficult to develop projects aligned with future needs.

ICT, IoT, and ITS tools and technologies, methods, and processes can improve business operations and functions in ways that improve overall freight system efficiencies and logistics management. They can provide increased levels of reliability, connectivity, and capacity by increasing the potential for using open data; greatly enhanced predictive capabilities and digital networks; and real-time, dynamic decision-making that improves reliability, efficiency, and security in a complex transportation sector. These new capabilities offer the potential to dramatically improve freight system operations, logistics, and supply chain management.

The objective of this focus area is to engage in planning, applied research, and development of innovative technology-based approaches that reduce or eliminate barriers to the more widespread adoption of innovative tools and technologies in freight and goods movement operations, make better use of freight networks, reduce freight ton miles traveled, and reduce freight sector energy use and emissions without sacrificing reliability and freight performance, operations, or objectives.

Activities in this area may include, but are not limited to, initiation and/or application of:

- Innovative and transformative technology or corridor management solutions that result in enhanced integration and interoperability of traffic management systems and freight operations, in day-to-day operations and/or in response and preparation for disruptive events.
- Innovative technologies and systems leading to improvements in freight vehicle operations and logistics; load and vehicle tracking; cost-benefit analyses; route and distribution facility optimization; and collaborative distribution through use of open source information and services, on-board equipment, or integrated wireless communications infrastructure.
- Standardization of communication protocols, equipment, and technologies demonstrating how feasibility, security, and cost savings can be optimally achieved.
- Innovative business models, partnerships, and functions that facilitate optimized, unimpeded integration and flow of information and goods within supply chains and beyond corporate boundaries.

Funding Categories. Five categories will be considered for funding, at the below enumerated funding levels. Further information follows this initial listing and all proposals MUST select one of the following:

1. Education and Technology Transfer ($30,000 max). Outreach activities to advance the education and awareness of the general public, policy makers, stakeholders, students, metropolitan planning organizations (MPOs) and others on the issues, consequences, objectives and resources, associated with reductions in transportation GHGs/energy consumption.
2. Research, Policy, and Feasibility Studies ($150,000 max). Applied research to develop and evaluate new strategies and policies for New York State that have the potential to achieve reductions in transportation GHGs/energy consumption, and to improve energy efficiency.
3. Demonstrations of Underutilized Strategies and Policies ($200,000 max). Demonstrations that have not been previously deployed in New York State to any significant extent which have the potential to reduce transportation GHGs/energy consumption and that require only minor amounts of equipment and/or materials purchased for implementation (< 30% of the total project budget).
4. Integration of Existing Mobility Strategies through Collaborative Partnerships ($300,000 max). Partnerships on a larger scale in which numerous and diverse public and private entities team up and pool resources to work together to reduce transportation GHGs/energy consumption.
5. Demonstrations of Underutilized Commercial Technologies ($500,000 max). Demonstrations of technologies that have not been previously deployed in New York State to any significant extent which have the potential to reduce transportation GHGs/energy consumption and that require significant amounts of equipment and/or materials purchased for the proposed implementation (> 30% of the total project budget).

Category 1 seeks to fund technology transfer/outreach activities and materials, including workshops, webinars, publications, guidebooks, and brochures. Outreach activities may focus on implementing new strategies or technologies, as well as seek to modify the behavior of New York State residents. The funded activity should produce a project-specific deliverable to promote impact and replication beyond the timeframe of the project. (e.g. webcast, curriculum materials, etc.).

Category 2 is designed to fund specific research, plans, and studies, which may include feasibility assessments, engineering studies, policy research and related analysis necessary to establish the energy, environmental, and additional benefits of a relevant policy, strategy, product or technology. Examples of additional benefits include financial impacts, as well as potential impacts in the areas of operations, maintenance, safety, reliability, mobility, and security.

Applied research is defined as the systematic inquiry to solve practical problems resulting in practical applications, whereas, basic research is defined as the systematic study toward gaining greater knowledge or understanding, but without focus on specific practical applications, end results or products.

Category 3 seeks to demonstrate underutilized strategies, plans, and policies that have been proven to be effective elsewhere, nationally or internationally. The intent, however, is to replicate fundamental changes in system operations, which can be readily implemented without major equipment expenditures. For this category, proposed purchases of materials and equipment are limited to 30% of the total project budget.

Examples of qualifying Category 3 demonstration proposals might include: a) demonstration of tailor-made ICMS or system of systems approaches to corridor management that facilitate the organization, integration, and communication of innovative, multimodal system concepts, products, and services; b) generation of an ICMS capability maturity framework of planning, operational, institutional, and technical deployments that produce optimal economies-of-scale and achieve full integration of system synergies that fully meet traveler needs; c) expanded access to and re-purposing of underutilized facilities for consolidated freight services; and d) emerging innovations in transportation research, standards, and practices related to pedestrian and bike-related infrastructure that ensure the safety and greater accommodation of pedestrians and bicyclists.

Category 4 seeks to support and implement larger Collaborative Partnerships that integrate and leverage across modes, strategies, agencies, and sectors. Innovations and opportunities are rapidly evolving and encompassing numerous aspects of commuting and traveling, urban goods movement and supply chain management, telecommunications, use of wireless technologies, e-business and social media, real estate and land use patterns, and design (products, services, technologies, and community). The quality of the Collaborative Partnership is as important as the transportation issue being addressed and proposers should establish diverse, innovative collaborations exploring social and business opportunities, as well as the emerging strategies and technologies being deployed.

Examples of Collaborative Partnerships are a) shared economy alliances and peer-to-peer transportation networks that bundle transportation modal options with related services such as smart parking solutions, insurance, toll charging, and multichannel single payment networks; b) optimal use of digital innovation, online information, and social media platforms that encourage open market insights and public and business collaboration; and c) utilizing the business community as strategic partners to assist in delivering and showcasing a dynamic 'solutions landscape' of innovative measures, creative problem solving initiatives, and cross-cutting solutions with respect to overcoming barriers and challenges to creating a fully integrated, multimodal transportation systems environment.

Category 5 is similar to Category 3, but differs in the amount of materials and equipment required to be procured for the demonstration. Category 5 is designed to fund the limited demonstration of existing underutilized commercial technologies that have been successfully deployed in other states or countries (e.g., adaptive traffic signal control systems and connected vehicle technologies), but have not been previously deployed in New York State to any significant extent. The intent is not to research the existing technology per se, but to quantify and validate potential benefits and identify specific barriers to adoption for New York. In contrast to Category 3, it is recognized that significant procurement of material and equipment may be necessary (>30% of the total project budget).

Category 3 and **Category 5** proposers will be required to establish that their proposed strategy or technology is truly underutilized in New York State. Proposers should conduct a review of available literature, news articles, and internet sites and published studies to present a convincing case for the value in a New York State demonstration.

Category 5 proposers will also be required to establish that the transportation technology is fully commercial and that no significant product development is required. Transportation technologies requiring additional product development should be proposed to NYSERDA's Advanced Transportation Innovations solicitation, which is issued annually and specifically targets transportation product development.

A commercial technology is defined to be a product, such as an item, material, component, subsystem, or system, applicable to transportation and sold or traded in reasonable quantities on the open market within the course of normal business operations at prices based on established catalog or market prices with industry-standard deliveries, terms, and warranties.

Project Scope. To be selected for funding, proposals must:

- Offer readily quantifiable reductions in GHG emissions and transportation energy use in New York State with a clearly identified process for verifying these benefits.
- Demonstrate a viable path to market acceptance resulting in additional technology adoption and replication beyond a single demonstration.
- Emphasize the ultimate deployment of technical solutions rather than perform basic research.
- Document accessibility, sustainability, mobility, reliability, environmental, economic, safety and/or security benefits in New York State.
- Be consistent with metropolitan transportation plans in New York State and with transportation related regulations at the federal or state level.
- Provide the minimum required amount of cost-sharing by the proposer or third parties in the form of cash or in-kind labor, materials, equipment, facilities, and other resources, subject to reasonable and verifiable valuation. Co-funding may be from the proposer or other private or government sources. New York State funds cannot be used to reimburse or replace normal expenses of other government organizations.

Due to the objectives of PON 3345, teaming arrangements are encouraged and may be necessary to achieve project success. Proposal teams may include commercial firms, industry associations, research organizations, universities, government agencies, end-users, and other stakeholders.

Letters of Commitment. If you are relying on any other organization to provide services, equipment or cost share, include a letter from that organization describing its planned participation. Where appropriate, proposed field demonstrations should include Letters of Commitment from the host site or vehicle fleet owner. Absence of Letters of Commitment will be interpreted as the proposer not having support from the identified parties.

Letters of Support. In addition to Letters of Commitment, also include Letters of Support from other organizations and entities that are not on the Project Team, but that are critical to the success of the project. Letters of Support are highly valued by the sponsors and by the evaluation committee. The proposer should give strong consideration as to who the project will impact and seek Letters of Support where appropriate. However, due to their active sponsorship of this collaborative solicitation, Letters of Support should not be solicited from NYSDOT or NYSERDA personnel.

Other Considerations. In addition, note that:

- A proposal may be considered **non-responsive** if it fails to comply with the requirements above, the Proposal Requirements of Section III, or the General Conditions of Section VI.
- Prior to an award being made, potential awardees may be required to demonstrate: access to financial and staffing resources sufficient to perform the proposed work; technical experience and adequate facilities (or the ability to access them); a good performance record; and the ability to qualify for an award under applicable laws and regulations.

The proposer's goal should be to concisely present the information needed to fully address the evaluation criteria (see Section V). Proposals that grossly exceed the word limits or fail to follow the format guidelines may be rejected as non-responsive. If you believe proprietary information must be submitted to provide an adequate proposal, you must comply with the Section V instructions for submitting proprietary material.

Unnecessary attachments beyond those sufficient to present a complete, comprehensive, and effective proposal may reduce, rather than increase, a proposal's standing per the evaluation criteria. Each page of the proposal should state the name of the proposer, the PON number, and the page number. The proposal must be in the following format, with items in the sequence shown.

Proposal Sections. Sections of your proposal should be formatted and assembled as follows:

1. Proposal Checklist. Complete the specific Proposal Checklist attached as part of this PON (Attachment A), and include it as the front cover of the proposal (if mailing or hand delivering, the Proposal Checklist must be included as the front cover of the original and each copy of the proposal). Note the following:

- Indicate whether you accept the standard terms and conditions as contained in the attached Sample Agreement. If you do not accept the standard terms and conditions, provide alternate terms with justification based on the risk and benefit to NY State. NYSERDA reserves the right to consider only exceptions to terms that are specifically included with the proposal. Any negotiation of terms will be at NYSERDA's sole discretion.
- Do not leave any blanks. If a specific question is not applicable, indicate N/A.
- Be sure the individual signing the Proposal Checklist is authorized to commit the proposer's organization to the proposal as submitted.

2. Procurement Lobbying Requirements - **State Finance Law sections 139-j and 139-k**.
In compliance with §139-j and §139-k of the State Finance Law (see Section V, General Conditions below for additional information), additional forms must be completed and filed with proposals:(1) a signed copy of the Proposal Checklist including required certifications under the State Finance Law and (2) a completed Disclosure of Prior Findings of Non-Responsibility form. Failure to include a signed copy of the Proposal Checklist referenced in this solicitation may disqualify your proposal.

3. Executive Summary (two pages maximum). Indicate the Focus Area and the Funding Category to which your proposal is being submitted. Briefly summarize the team members, the related problem or opportunity, the proposed solution and its innovative characteristics, and the potential for energy/GHG reductions in NY State. Use the following outline: a) Team Members; b) Background; c) Objective and Scope of Proposed Project; and d) Project Benefits.

4. Background and Proposed Approach (two to three pages). Provide a narrative of the transportation sector being impacted, how it currently operates and what opportunities exist for improvement. Explain fully how the transportation energy and GHGs will be reduced and how the efficiency of the existing NY State transportation system will be enhanced. If applicable, discuss your solution's relevance to any metropolitan transportation plan or transportation-related regulation.

For Category 3 funding, proposers must include a proposal section documenting the NY State underutilization of their strategy. This should include the results of literature reviews and internet scans as previously discussed and contrast New York to other areas where utilization occurs. For Category 5 funding, proposers must include a proposal section documenting the commercial availability and NY State underutilization of their technology. This should include previous sales and deployments, and include client references and contact information.

5. Proposed Statement of Work and Schedule (three to four pages). The Statement of Work (SOW) is the primary contractual document that outlines work activities and specifies deliverables. It delineates each step required to accomplish the project objectives. Therefore, each action needs to

be identified, indicating who will perform it, how it will be performed and its intended result. At the end of each task description, specific task deliverable(s) must be listed. Be sure to identify the task deliverable, as this will be a measure of your performance.

Be clear and specific: concentrate on "how" and not "why". Use "active voice" sentence structure to make clear who is responsible for specific actions. Use the following phrase to start the description of every task and subtask ("The Contractor shall...."). The SOW structure should include:

Task 0: Project Management.

Subcontracts. The Contractor shall enter into the following agreements. Describe all required subcontracts, even if the subcontractor is yet to be defined.

Meetings. The Contractor shall hold a Kick-Off Meeting, Interim Review Meetings (as warranted), and a Wrap-Up Meeting at the end of the project.

Progress Reports. NYSERDA and NYSDOT will expect to receive written monthly or quarterly progress reports, as part of the project management task. These activities should be considered when developing your cost proposal. Such reports shall describe any difficulties encountered during the reporting period and shall include a statement of the Project Director setting forth the cost of the work during the reporting period.

Data Collection and Benefit Reporting. For Category 1 and 2 Outreach/Study Projects, NYSERDA will require two brief annual updates on the effectiveness of the information dissemination (e.g. conference presentations, workshops, publications, citations, etc.). A simple, web-based PDF form will be provided for electronic filing (Attachment F).

For Category 3, 4, and 5 Implementation/Demonstration Projects, the proposal should include a detailed plan to collect data and provide reporting to validate the claimed transportation benefits. Depending on the project, this may require periodic data collection and reporting activities, conducted by the proposer or subcontracted to an unbiased third party. This is an important aspect of a properly-crafted project and it will benefit the proposer and NY State if done properly.

For Category 3, 4, and 5 Implementation/Demonstration Projects, NYSERDA will also require five brief annual updates on the effectiveness and additional replication of the Strategy/Technology. A simple, web-based PDF form will be provided for electronic filing (Attachment F2).

Additionally, NYSERDA may retain an independent third party to evaluate the results of funded projects in selected areas of interest. Upon such a request from NYSERDA, the Contractor shall make available project files and data for evaluation for a period of time not to exceed 5 years.

Report. The Final Report is a significant project deliverable and should detail all of the work performed and task deliverables, but exclude proprietary information. The comprehensive Final Report shall cover all aspects of the project and shall merge together, and build further on, the previously generated monthly progress and benefit reports. Although not onerous, NYSERDA, NYSDOT and FHWA each have elements of required report formats, which need to be satisfied and which will be provided to successful proposers at the start of the project.

In the Final Report, the Contractor shall quantify the magnitude of the potential GHG and energy reductions under various scenarios. Annual estimates for the next five years shall be developed assuming realistic adoption in NY State. If appropriate, larger regional or national impacts shall be estimated assuming reasonable replication. All estimates shall reference credible sources and estimating procedures, and all assumptions shall be documented.

A payment based on the Final Report will be reserved until project completion. If awarded, NYSERDA may choose to negotiate the amount of such payment.

Task 1, 2, 3, etc. Project-specific Work Scope Tasks. Add as many tasks and subtasks as necessary to cover all actions needed to achieve the goals and objectives of the project. Each task should include a concise narrative description of the work that will be performed and how the work will be performed and specific deliverables to be provided. Typical tasks may include, but are not limited to, requirements definition, preliminary design, field testing, final design, and demonstration.

Schedule. Present a work schedule with a starting point and duration for each task and subtask. Presentation of the schedule in a table or bar chart is preferred starting with "Month 1," "Month 2," etc. along the top horizontally with tasks and subtasks running vertically down the left hand side. Although other timeframes will be considered, typical project schedules run nine to eighteen months.

6. Proposer Qualifications (two to three pages). Provide an overview of the relevant qualifications of the proposer, other team members and major subcontractors. Note that subcontracts of $50,000 or more are subject to competitive bid procedures except where the proposal identifies a specific subcontractor as an integral participant in the proposed work (see Att. E: Sample Agreement). Resumes, facility qualifications, and data sheets do not belong in the body of the proposal, but should be included in the appendix. Key individuals identified in the proposal need to be available to commit to the project in the time frame proposed and subsequent personnel substitutions will require NY State approval. Additionally, discuss any NYSDOT and/or NYSERDA contracts awarded to the proposer in the past five years and identify the associated NY State project managers.

To the extent that proposed Category 5 activities include the use of any existing intellectual property (IP) assets, the proposer must describe the IP and provide details identifying any granted patents or pending applications related to the IP. If the proposer does not own the relevant IP, but is a licensee of the IP, then the proposal must specifically identify and describe any relevant license agreements. Proposers are encouraged to provide copies of relevant IP license agreement(s) and/or letter(s) of support from licensors as attachments to the proposal. To the extent any of the above represents non-public information, please refer to the "Proprietary Information" section in Article V below.

7. Project Benefits (one to two pages). Discuss how the proposed project will reduce GHG emissions and transportation energy in NY State and estimate the potential improvement. Quantify any additional project benefits to the extent possible: mobility and reliability benefits (e.g., congestion reduction, reduced travel variability, etc.), environmental benefits (e.g., emissions, minimizing hazardous materials, etc.), economic benefits (e.g., jobs created or retained, reduced life-cycle costs, etc.), safety and security benefits (e.g., reduction in deaths, injuries and real property losses, etc.), and other benefits (e.g., cost of compliance with regulations, enhanced quality of life, etc.). Describe the methodology that will be used to collect the necessary data and quantify the project benefits.

8. Path to Market Acceptance (one page). Provide evidence that relevant stakeholders are interested in the technology being investigated. Explain how they would benefit from the technology being widely introduced in New York State and why they would be likely to favor that adoption over alternatives. Describe the barriers standing in the way of broad acceptance of the technology being studied and explain how the project will educate stakeholders about ways to avoid or break down these barriers. Characterize a plausible path to broader adoption of the technology, including a description of the resources and stakeholders that must be engaged to accomplish this.

9. Budget. A Contract Pricing Proposal Form (CPPF), with associated instructions, is provided as Attachment D to this PON. Each proposal must include a completed CPPF and also a cost-sharing table (see example below) identifying the allocation of funding by task. NY State funds cannot pay for efforts that have already been undertaken or be used to reimburse or replace normal expenses of other government organizations. All proposals must provide additional funding as cost share and this shall be an important evaluation criteria. Cost share cannot include expenses that have already been incurred. The net cost to NY State is one of the evaluation criteria and will be closely considered.

Category 2 proposals seeking more than $100,000 of NYS funds and Category 5 proposals seeking more than $350,000 of NYS funds are required to provide a minimum of 35% of the total project cost as cost share. All other proposals must provide a minimum of 25% of the total project cost as cost share. For example, proposals seeking $75,000 of NYS funds are required to provide a minimum of $25,000 in cost share, which is 25% of the total project cost of $100,000.

Contributions of direct labor (for which the laborer is paid as an employee) and purchased materials may be considered "cash" contributions. Unpaid labor, indirect labor, or other general overhead may be considered "in-kind" contributions. For example, labor may be provided at discount rates, while products for commercial demonstration may be provided at a significant discount or “at cost” to the project. It is the responsibility of the proposer to adequately document the level of cost share being provided from all sources. If funded, the proposer will also need to provide cost share documentation with each invoice submitted. Show the cost sharing plan in the following format within your proposal.

PROPOSAL COST SHARING TABLE (expand as needed)						
Proposed Funding By Task (Cash and In-Kind)					Project Total	
Funding Source	Task 0 ($)	Task 1 ($)	Task 2 ($)	...	Cash ($)	In-Kind ($)
NY State						
Proposer						
Co-Funder (identify)						
Co-Funder (identify)						
Task Total ($)						

Indirect Costs. Attach supporting documentation to support indirect cost (overhead) rate(s) included in your proposal. Describe the basis for the rates proposed (i.e., based on prior period actual results; based on projections; based on federal government or other independently approved rates). If the rate(s) is approved by an independent organization, such as the federal government, provide a copy of such approval. If the rate(s) is based on estimated costs or prior period actual results, include calculations to support proposed rate(s). Calculations should provide enough information for NYSERDA to evaluate and confirm that the rate(s) are consistent with generally accepted accounting principles for indirect costs. NYSERDA reserves the right to audit any indirect rate presented in the proposal and to make adjustment, if warranted. Requests for financial statements or other financial information may be made if deemed necessary.

10. Annual Metrics Reports. If awarded, the proposer will be required to submit to NYSERDA's Project Manager on an annual basis, a prepared analysis and summary of metrics addressing the anticipated energy, environmental and economic benefits that are realized by the project. All estimates shall reference credible sources and estimating procedures, and all assumptions shall be documented. Reporting shall commence the first calendar year after the contract is executed. Reports shall be submitted by January 31 for the previous calendar year’s activities. Please see Attachments F, and F1: Sample Metrics Reporting Guides for the initial metrics that you will be expected to provide and the reporting duration.

It will be the responsibility of the awarded proposers to use the most current version of the metrics reporting guides, which are housed on the NYSERDA website. The guides may change as NYSERDA’s needs evolve over time. Additionally, awardees are expected to cooperate with NYSERDA evaluation as needed during and after completion of the project, these activities will ensure that the NYSERDA transportation projects are both effective and responsive to the needs of the market. NYSERDA may decline to contract with awardees that are delinquent with respect to metrics reporting for any previous or active NYSERDA agreement.

11. Appendices. Include any resumes, company qualifications, or ancillary information which is deemed necessary to support your proposal. Also include Letters of Commitment and Letters of Support.

Proposals will be reviewed by a Scoring Committee and will be scored and ranked according to the following criteria, **listed in order of importance**. After the proposals are reviewed, NYSERDA will issue a letter to each proposer indicating whether the proposal has been selected for contract negotiations. The proposer will be required to submit – and reach agreement on – a detailed Statement of Work, budget, and schedule, and may also be asked to address specific questions or recommendations of the Scoring Committee before contract award.

Requirements. A negative response to any one of the questions below may eliminate the proposal from further consideration. Does the proposal:

- Show the potential to reduce GHG emissions and transportation energy use in NY State?
- Adequately document the commercial availability and/or underutilization of the technology and/or strategy to be demonstrated?
- Provide the minimum required amount of cost share by the proposer or third parties?
- Provide additional mobility and reliability, environmental, economic, safety and security benefits in NY State?
- Provide Letters of Commitment/Support from all co-funders and key stakeholders?

Proposal Evaluation Criteria.

- **Proposed Solution/Scope.** How significant is the issue or opportunity for NY State? Is it likely to be adopted and result in NYS benefits? If a demonstration, is the technology/strategy truly commercial and underutilized in NY State? Is the proposed work plan technically feasible, innovative, and superior to potential alternatives? Has the proposer demonstrated that the technology being studied is something that stakeholders are interested in implementing and does the proposer identify a path to market acceptance and economic viability? Is there a path for it to be replicable beyond a single demonstration?
- **Project Benefits.** How significant is the statewide potential for NYS transportation energy and GHG reductions? Are the expected benefits likely to be realized, given other constraints or barriers? Are there additional significant mobility, reliability, environmental, economic, safety, and security benefits? If adopted, will there be economic benefits in NY State in the form of subsequent manufacturing or technical service activity? Are the processes for estimation of benefits in preparation of the project, during project implementation, and post project implementation clearly explained and do they reference defensible sources or reliable measurement methods?
- **Proposer(s).** To what degree does the team have relevant and necessary technical and business background and experience? If a Collaborative Partnership, is it truly diverse and potentially effective? Does the team include NY State businesses, thereby providing economic benefits in the form of NYS jobs? Does the proposal contain Letters of Commitment/Support from all essential participants, co-funders, and related businesses and other organizations?
- **Project Outcome and Cost.** Is the overall project cost justified based on the expected benefits? Relative to the project cost, how significant are the potential benefits? Has the minimum cost share requirement (25% or 35%) been met? How appropriate are the proposer's cost share contributions (sources and amounts) with respect to their potential to benefit from the work and the financial status of the proposing organization and project team? Is the pricing and hourly rates in line with the rest of the market?
- **Other Considerations.** Proposals will be reviewed to determine if they fit well within the elected Focus Area and that they have been submitted to the proper Funding Category. Proposals should emphasize the ultimate deployment of technical solutions rather than perform basic research.

Program Policy Evaluation Factors. NYSERDA may consider the following program policy factors in making award selection decisions:

- Whether the proposed project will advance the goals of the State Energy Plan and the Clean Energy Fund, which include improving resilience and reducing GHG emissions.
- The degree to which the proposed project directly addresses NYSERDA's mission and strategic goals.
- The degree to which there is diversity of technologies, approaches, methods and institutions that would be complementary to and support a diversity of geographic locations and of technical approaches and methods that, in conjunction with the existing portfolio of projects funded by NYSERDA, best achieve the overall goals and objectives of NYSERDA.
- The degree to which there is industry involvement and demonstrated ability to accelerate the adoption of energy or related technologies.
- Whether the proposed project will accelerate transformational technology advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty.
- The degree to which there are technical, market, organizational and/or environmental risks associated with the projects that outweigh the potential benefits.
- The degree to which the proposed project, including proposed cost shares, optimizes the use of available funding to achieve programmatic objectives.
- The degree to which the applicant has the resources (human and financial) to be able to complete the project.

The award selection process contains multiple phases including an initial eligibility review, ranking by a Scoring Committee of subject matter experts, considerations such as program policy factors and the amount of funds available to make the selection decisions.

V. GENERAL CONDITIONS

Proprietary Information. Careful consideration should be given before confidential information is submitted to NYSERDA as part of your proposal. Review should include whether it is critical for evaluating a proposal, and whether general, non-confidential information, may be adequate for review purposes.

The NYS Freedom of Information Law, Public Officers Law, Article 6, provides for public access to information NYSERDA possesses. Public Officers Law, Section 87(2)(d) provides for exceptions to disclosure for records or portions thereof that "are trade secrets or are submitted to an agency by a commercial enterprise or derived from information obtained from a commercial enterprise and which if disclosed would cause substantial injury to the competitive position of the subject enterprise" (emphasis added). Information submitted to NYSERDA that the proposer wishes to have treated as proprietary and confidential trade secret information, should be identified and labeled "Confidential" or "Proprietary" on each page at the time of disclosure. This information should include a written request to except it from disclosure, including a written statement of the reasons why the information should be excepted. See Public Officers Law, Section 89(5) and the procedures set forth in 21 NYCRR Part 501. http://www.nyserda.ny.gov/About/-/media/Files/About/Contact/NYSERDA-Regulations.ashx However, NYSERDA cannot guarantee the confidentiality of any information submitted.

Omnibus Procurement Act of 1992. It is the policy of New York State to maximize opportunities for the participation of NY State business enterprises, including minority- and women-owned business enterprises, as bidders, subcontractors, and suppliers on its procurement Agreements.

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

Empire State Development / Division for Small Business
625 Broadway, Albany, NY 12207

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

Empire State Development / Minority and Women's Business Development Division
625 Broadway, Albany, NY 12207

State Finance Law sections 139-j and 139-k. NYSERDA is required to comply with State Finance Law sections 139-j and 139-k. These provisions contain procurement lobbying requirements which can be found at: http://www.ogs.ny.gov/aboutogs/regulations/advisoryCouncil/StatutoryReferences.html.

The attached Proposal Checklist calls for a signature certifying that the proposer will comply with State Finance Law sections 139-j and 139-k and the Disclosure of Prior Findings of Non-responsibility form includes a disclosure statement regarding whether the proposer has been found non-responsible under section 139-j of the State Finance Law within the previous four years.

Tax Law Section 5-a. NYSERDA is required to comply with the provisions of Tax Law Section 5-a, which requires a prospective contractor, prior to entering an agreement with NYSERDA having a value in excess of $100,000, to certify to the Department of Taxation and Finance (the "Department") whether the contractor, its affiliates, its subcontractors and the affiliates of its subcontractors have registered with the Department to collect New York State and local sales and compensating use taxes. The Department has created a form to allow a prospective contractor to readily make such certification. See ST-220-TD, which is available at: http://www.tax.ny.gov/pdf/current_forms/st/st220td_fill_in.pdf).

Prior to contracting with NYSERDA, the prospective contractor must also certify to NYSERDA whether it has filed such certification with the Department. The Department has created a second form that must be completed by a prospective contractor prior to contacting and filed with NYSERDA. See, ST-220-CA (available at http://www.tax.ny.gov/pdf/current_forms/st/st220ca_fill_in.pdf). The Department has developed guidance for contractors which is available at: http://www.tax.ny.gov/pdf/publications/sales/pub223.pdf.

Contract Award. NYSERDA anticipates making multiple awards under this solicitation. It may award a contract based on initial applications without discussion, or following limited discussion or negotiations pertaining to the Statement of Work. Each offer should be submitted using the most favorable cost and technical terms. NYSERDA may request additional data or material to support applications. NYSERDA will use the Sample Agreement to contract successful proposals. NYSERDA may at its discretion elect to extend and/or add funds to any project funded through this solicitation. NYSERDA reserves the right to limit any negotiations to exceptions to standard terms and conditions in the Sample Agreement to those specifically identified in the submitted proposal (see Attachment A: Proposal Checklist). Proposers should keep in mind that acceptance of all standard terms and conditions will generally result in a more expedited contracting process. NYSERDA expects to notify proposers in approximately ten weeks from the proposal due date, whether your proposal has been selected to receive an award. NYSERDA may decline to contract with awardees that are delinquent with respect to any obligation under any previous or active NYSERDA agreement.

Limitation. This solicitation does not commit NYSERDA to award a contract, pay any costs incurred in preparing a proposal, or to procure or contract for services or supplies. NYSERDA reserves the right to accept or reject any or all proposals received, to negotiate with all qualified sources, or to cancel in part or in its entirety the solicitation when it is in NYSERDA's best interest. NYSERDA reserves the right to reject proposals based on the nature and number of any exceptions taken to the standard terms and conditions of the Sample Agreement. NYSERDA reserves the right to disqualify proposers based upon the results of a background check into publicly available information and the presence of a material possibility of any reputational or legal risk in making of the award.

Disclosure Requirement. The proposer shall disclose any indictment for any alleged felony, or any conviction for a felony within the past five years, under the laws of the United States or any state or territory of the United States, and shall describe circumstances for each. When a proposer is an association, partnership, corporation, or other organization, this disclosure requirement includes the organization and its officers, partners, and directors or members of any similarly governing body. If an indictment or conviction should come to the attention of NYSERDA after the award of a contract, NYSERDA may exercise its stop-work right pending further investigation, or terminate the agreement; the contractor may be subject to penalties for violation of any law which may apply in the particular circumstances. Proposers must also disclose if they have ever been debarred or suspended by any agency of the U.S. Government or the NY State Department of Labor.

VI. ATTACHMENTS

Attachment A - Proposal Checklist
Attachment B - Disclosure of Prior Findings of Non-Responsibility Form
Attachment C - Statement of Work
Attachment D - Contract Pricing Proposal Form and Instructions
Attachment D1 - Contract Pricing Proposal Form and Instructions (Excel)
Attachment E - Sample Agreement
Attachment F - Information Dissemination Metrics Reporting Guides
Attachment F1 - Demonstration Metrics Reporting Guide
Attachment G - Instructions for Electronic Proposal Submission