REGION II
UNIVERSITY TRANSPORTATION
RESEARCH CENTER

RFP COVER SHEET

Title: Effects of a Modified Mowing Regime in NYSDOT ROWs on Pollinators and Vegetation
RFP Number: C-17-12
Sponsor: New York State Department of Transportation
Date Issued: March 14, 2018
Final Proposal Due at UTRC: April 26, 2018 (COB)
Please submit electronically through the UTRC online submission system at *http://ppms.utrc2.org/.* Do not send electronic copies directly to NYSDOT.

Ten hard copies are also required within one week of electronic submission. You may send the hard copies to:

Ms. Deborah Mooney
Head, Research & Policy Studies Section
Statewide Planning Bureau | Policy & Planning Division
New York State Department of Transportation
50 Wolf Rd, 6th Floor, Albany, NY 12232

RFP Closing Date: April 26, 2018

If you plan to apply:

Please contact Penny Eickemeyer at peickemeyer@utrc2.org to let us know you are assembling a Proposal. We will make sure you receive any additional information that becomes available about this RFP.

Proposal submission guidelines:

Please submit your technical and budget proposals electronically to UTRC. All proposals must include the UTRC cover page, http://www.utrc2.org/resources.
Budget forms can be downloaded at http://www.utrc2.org/sites/default/files/budget-Template.xls

Funding available:

Up to $200,000 (Exclusive of RFCUNY and UTRC administrative fees) is available from NYSDOT.

For questions about this proposal, please contact:

Deborah Mooney, Deborah.Mooney@dot.ny.gov

For questions about budget preparation, please contact: Penny Eickemeyer, peickemeyer@utrc2.org

New York State Department of Transportation
Request for Proposals
SPR # C-17-12: Effects of a Modified Mowing Regime in NYSDOT ROWs on Pollinators and Vegetation
March 14, 2018

RESEARCH PROBLEM STATEMENT

The goal of this project is to measure the effects on insects, specifically pollinators, and plants utilizing a modified mowing regime in New York State Department of Transportation's (NYSDOT's) rights of way (ROWs). The research results will be used to provide NYSDOT managers with data-based information on how to address the needs of pollinators in roadside vegetation management.

This project's main objective is to help address NYSDOT's state-wide response to national pollinator conservation efforts. Pollinators such as honey bees, native bees, flies and butterflies have been declining over last few decades. It is a broad scale decline, likely from compounding factors such as diseases, parasites, pesticide use and habitat loss. Since pollinators serve important economic and ecologic services for society, this decline is concerning. It has captured the attention of the federal government and led to the development of task forces to find solutions to reverse this decline (for more information see: June 2014 *Presidential Memorandum—Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators*.) Federal agencies and agencies that receive federal funding are assessing their operations and how they can help with pollinator conservation.

In 2015, NYSDOT started a Pollinator Project in NYSDOT Region 4 by modifying mowing limits and frequency within a 6-mile section of Interstate I-390 for pollinator conservation. The modified mowing regime differs from the Department's current policy in frequency, timing, and extent (limits) of mowing. The modified mowing regime assumes that the main means to help pollinators will be through promoting the natural regeneration of wildflowers. No plantings are done as part of this regime. The modified mowing regime is fostering the natural regeneration of wildflowers, specifically milkweed (*Asclepis* sp.) within the ROW.

To date, NYSDOT has only been able to qualitatively describe the benefit to pollinators. Quantifying impacts of the mowing modification on insect populations could confirm the impacts of modified mowing and inform roadside vegetation management decisions for NYSDOT statewide and potentially for other Department of Transportations (DOTs) in the Eastern United States and southern Ontario. Using a modified mowing regime also has the potential to affect the spread of non-desirable vegetation. Non-desirable vegetation includes invasive plant species (common reed, Japanese knotweed and purple loosestrife, etc.) as well as native plant species that are a risk to worker safety (poison ivy and wild parsnip). This study will also quantify the impacts and measure the effects of a modified mowing regime on the spread of noxious and invasive terrestrial plants.

This research is different from other pollinator road-sided focused research (such as research underway on behalf of the Maryland Department of Transportation) because it focuses on the use of existing vegetation. Other research projects have focused on the use of newly planted roadside vegetation specifically for pollinators. Managing roadsides with modified mowing to promote natural regeneration of wildflowers could be more cost-effective than planting new vegetation. Specific information on the insect species diversity and population levels with existing vegetation will strengthen the ability of roadside vegetation managers to estimate the potential benefits and costs of changing mowing practices for pollinator conservation purposes and identify possible safety and operational concerns.

OBJECTIVE(S)

- A scientific comparison of insect (including, but not limited to, pollinators) density and diversity in the ROW between the current NYSDOT mowing management (NYSDOT Vegetation Management Mowing Policy TMI 14-10) and a modified mowing regime. The modified mowing regime entails that the existing vegetation be mowed every two years, late-season, after a plant-killing frost (herein referred to as the modified mowing regime).

- A scientific analysis of vegetation that is regenerating and the rate of spread for noxious and invasive terrestrial plants under the modified mowing regime. For the purposes of this research study, noxious and invasive plants identified as priority species include: poison ivy (*Toxicodendron radicans*), wild parsnip (*Pastinaca sativa*), common reed (*Phragmites australis*), Japanese knotweed (*Fallopia japonica*), mile-a-minute (*Persicaria perfoliata*), oriental bittersweet (*Celastrus orbiculatus*), and purple loosestrife (*Lythrum salicaria*).

PROPOSED RESEARCH TASKS

Task descriptions are intended to provide a framework for conducting the research. NYSDOT is seeking the insights of proposers on how best to achieve the research objectives. Proposers are expected to describe research plans that can realistically be accomplished within the constraints of available funds and research period. Proposals must present the proposers' current thinking in sufficient detail to demonstrate their understanding of the issues and the soundness of their approach to meeting the research objectives.

Possible Tasks:

- Identify study site locations in the major NYS Hardiness Zones (excluding the Adirondacks Region, New York City, and zones 7a and 6b in coordination with NYSDOT (http://www.plantmaps.com/interactive-new-york-usda-plant-zone-hardiness-map.php)

- Inventory and compare insect density and diversity present under current NYSDOT roadside vegetation management policy and the modified mowing regime

- Compare a subset of pollinator insect and diversity present under the modified mowing regime

- Determine whether ROW vegetation is providing functional habitat for pollinators to complete their life cycles

- Determine the benefits and costs of using a modifying mowing regime for the benefit of pollinators while still addressing safety/operational concerns associated with roadside vegetation management

- Summarize the effects of the modified mowing regime on the spread of invasive and/or noxious species (common reed (*Phragmites australis*), Japanese knotweed (*Fallopia japonica*) and purple loosestrife (*Lythrum salicaria*)), poison ivy (*Toxicodendron radicans*), wild parsnip (*Pastinaca sativa*), mile-a-minute (*Persicaria perfoliata*), and oriental bittersweet (*Celastrus orbiculatus*)

- Develop research-based roadside vegetation maintenance recommendations for the benefit of pollinators in NYS

- Provide presentations and/or training sessions and training materials to NYSDOT Group Directors and other NYSDOT decision-makers and interested staff, as deemed appropriate, to share research results

RESEARCH PRODUCTS

- Final report summarizing the research and results, including all tasks, deliverables, findings, recommendations and an implementation strategy, as applicable. Final reports are to adhere to **Attachment A**, ***Requirements for the Final Report*** (page 6)

- Presentations and/or training sessions provided to NYSDOT Group Directors and other NYSDOT decision-makers and interested staff, as deemed appropriate

URGENCY / EXPECTED BENEFITS

In 2016 the New York State Departments of Environmental Conservation and Agriculture and Markets led a Pollinator Protection Taskforce, which examined and developed short and long-term solutions to address pollinator losses in the state and developed a statewide *Pollinator Protection Plan*. In the *Plan* the Taskforce emphasized the need for comprehensive, state-focused research to better understand the status of native pollinators in the state and the factors that impact both managed and wild pollinator health and performance. This project seeks to address the need for comprehensive research on native pollinator status of wild populations' health and performance.

Quantifying impacts of the modified mowing regime on insect populations could more confidently justify the modified mowing regime and inform roadside vegetation management decisions for NYSDOT and, potentially, other Departments of Transportation (DOTs) in the Eastern United States and southern Ontario.

Modifying the current NYSDOT mowing regime has the potential to affect the spreading rate of non-desirable vegetation. Non-desirable vegetation includes invasive terrestrial plant species (common reed, Japanese knotweed and purple loosestrife, etc.) and plant species that are a risk to worker safety (poison ivy and wild parsnip). Preventing the spread of these species has been identified as priority by NYSDOT.

RESEARCH PERIOD

The estimated research period is three (3) years, or 36 months, starting May 2018.

FUNDING

$200,000 has been budgeted for this project, exclusive of the City University of New York Research Foundation (RF-CUNY) and the University Transportation Research Center (UTRC) research consortium administrative fees. New York State believes this is a reasonable estimate for the total cost of the work being requested.

The net cost to New York State is one of the selection criteria. When compared to competing proposals, a proposal that requires fewer New York State dollars will receive a higher score on the cost component of the selection criteria. The value of New York State funds required could be reduced through efficiencies (fewer hours per task and / or lower cost per hour) or through cost-sharing where other funds substitute for New York State funds.

Proposals with a New York State cost over the budgeted amount will also be considered, provided the New York State cost, exclusive of RF-CUNY and UTRC administrative fees, does not exceed the budget estimate by more than 10%. (Note: Cost-sharing funds may increase the total project cost further.)

If a sufficient number of potential Principal Investigators indicate in writing that they believe the research cannot be reasonably conducted within these funding constraints and there are only a limited number of proposals submitted within the funding constraints, New York State reserves the option of not proceeding with the work or revising the budget estimate and issuing a new Request for Proposals. Potential Principal Investigators who believe the budget estimate is unreasonable should write to:

Deborah L. Mooney, SPR Program Administrator
Head, Research and Policy Studies Section, 6th Floor
Statewide Planning Bureau, Policy and Planning Division
New York State Department of Transportation
50 Wolf Road, Albany, NY 12232

SPECIAL NOTES

- **Proposals are due by close of business, Thursday, April 26, 2018.** This Request for Proposals is being offered to the University Transportation Research Center (UTRC) members only**.** UTRC members must submit both a technical and a cost proposal through the UTRC research consortium RFP online submission system. The receipt of an electronic PDF copy of the proposal by NYSDOT on or before the above due date is satisfactory, providing hard copies follow within a week.

- **Ten (10) hard copies** of the proposal should be provided.

- NYSDOT and the City University of New York Research Foundation (RF-CUNY) on behalf of the UTRC have an executed University Transportation Research Consortium Agreement, Contract #C030793, in place. RF-CUNY/UTRC is the prime consultant for NYSDOT Task Assignments executed under this prime contract agreement. All sub-consultants (UTRC consortium members included) and sub-contractors performing work under the prime consultant contract shall be bound by the same required contract provisions as the prime Consultant. All sub-agreements between UTRC and a sub-consultant or sub-contractor shall include all standard required contract provisions, and such agreements shall be subject to review by the State.

- Publicity, including any material, data, information or analyses other than Confidential Information, that derive from activity under the Project; State materials; the State's name or other references to the State or NYSDOT ("Project Information"), in any document or forum disclosed to the public, is subject to the publicity and disclaimer terms and conditions of the NYSDOT/RF-CUNY UTRC prime contract agreement #C030793-01, Supplemental Agreement #1, Article 8, Section 8.05, Publicity, and Article 2, Section 2.03, Disclaimer.

- Proposals should indicate direct and indirect costs, hourly rates and hours by task, travel costs, and material costs to assist NYSDOT in understanding how the total cost for the work was estimated. The winning proposal will result in a fixed cost contract based on the details provided in a supporting detailed budget.

- Please provide a Budget Chart which shows for each task the deliverable and cost. Task headings in the Budget Chart are to match the scope task headings.

- Please include a Gantt Chart, showing the duration (start to finish) for each task in terms of months (i.e. Month 1, Month 2, etc.) since the actual start date is an estimate. This can be combined on one page with the Budget Chart.

- If the proposal involves a joint venture or sub-consultants, it must be clear as to how tasks will be distributed or shared in the scope of work.

- The Principal Investigator is required to submit quarterly project status reports to the NYSDOT Project Manager, as specified in the Task Assignment.

- The final report on the results of the research is to contain, at a minimum, the information described in **Attachment A**, ***Requirements for the Final Report***.

- The Principal Investigator is required to submit all project task deliverables, first, in draft formats for review and comment by the NYSDOT Project Manager and Technical Working Group (TWG). The Principal Investigator is required to revise draft task deliverables, based upon comments, as needed, and re-submit to the NYSDOT Project Manager for review. Upon acceptance by the NYSDOT Project Manager, the Principal Investigator is required to submit draft task deliverables to the NYSDOT Project Manager in final formats, as specified in the Task Assignment.

- Principal Investigators should be familiar with and follow the requirements of New York State regarding the *Compliance Procurement Lobbying Law* and consultant contract procurement. Information can be found on the NYSDOT website under Business Center / Doing Business with NYSDOT / Consultants / Non-Architectural Engineering Information / Active Solicitations:
  https://www.dot.ny.gov/main/business-center/consultants/non-architectural-engineering/active-solicitations

- **The designated contact for this solicitation is Deborah L. Mooney**.
  Questions seeking clarification on the RFP will be accepted up to three (3) weeks prior to the due date for proposals and should be e-mailed to: Deborah.Mooney@dot.ny.gov

CRITERIA FOR SELECTION

- **Expertise / Understanding / Approach (**Weight: 70%)

  Expertise: What is the extent of the relevant expertise of the Principal Investigator? What is the extent of the relevant expertise of others who will be involved in the research?

  Understanding of the Problem: Does the proposal reflect an understanding of the problem and its relevance to New York State? Does the proposal reflect an understanding of existing data and the current state of knowledge in New York State?

  Approach: Is the proposed approach clear, especially in how it will build upon and enhance the state of knowledge in New York State? Will it yield the deliverables called for in the RFP? Does the approach show insight that will lead to results that will sufficiently assist New York State in addressing the problem? Is the proposed approach practical given the schedule and total budget? Will the proposed research draw upon all critical sources of pertinent information?

- **Investigators Previous Experience with Similar Projects** (Weight: 10%)

  Successful completion of previous projects by the Investigator(s) will be considered. These projects should be in the area of expertise required for successful completion of this project, such as entomological and vegetation monitoring.

- **Cost to New York State** (Weight: 20%)

  The lower the New York State cost, the greater consideration a proposal will receive.

Attachment A

Requirements for the Final Report

Copies of Final Report – **Ten (10)** color, hard copies of a bound, final report are required at the completion of the research study. An electronic PDF copy of the final report is required, as well. In addition to the final report, a one-page document or research brief, summarizing the project and project findings, shall be provided for technical transfer purposes. This is required in PDF format only.

Required Organization for the Final Report

Title Page (front cover) - that contains:

- The research number (C#) assigned by the Research & Policy Studies Section;
- The title of the research study as stated in the Task Assignment (contract);
- The words "Final Report;"
- The date (month & year) the final report is completed;
- The name(s) of the Consultant(s) / Principal Investigator(s), along with the name(s) of the organization(s) they represent and their address(es);
- A color photograph or design on cover to add professional appearance; and,
- If the final report has a security classification, it shall be noted on the title page.

Disclaimer (inside cover) - as follows:

DISCLAIMER

> This report was funded in part through grant(s) from the Federal Highway Administration, United States Department of Transportation, under the State Planning and Research Program, Section 505 of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the United States Department of Transportation, the Federal Highway Administration or the New York State Department of Transportation. This report does not constitute a standard, specification, regulation, product endorsement, or an endorsement of manufacturers.

Form DOT F 1700.7 – complete the standard form used throughout the country to summarize federally funded transportation research

Table of Contents

Executive Summary - a non-technical summary of the research and its findings

Introduction – a discussion of the problem, its background, and a concise history of research previously completed on the topic, and a discussion of what NYSDOT policies, procedures, and practices are currently in place related to the research topic.

Research Method – a description of the methods used in conducting the research

Findings and Conclusions – a discussion on the analysis of the data (findings) and the conclusions reached based on the findings. Suggestions for additional research, if appropriate, would appear in this section.

Statement on Implementation – a brief discussion on what would need to occur to introduce the results into practice, and a discussion on possible technology transfer activities

Appendices – as appropriate