



**REGION 2
UNIVERSITY TRANSPORTATION RESEARCH CENTER
RFP COVER SHEET**

Title: Integrated Vegetation Management Program Enhancements

RFP Number: C-06-24

Sponsor: NYSDOT

Date Issued: April 2, 2009

Draft Budget Due at UTRC: **May 12, 2009** (send to ckamga@utrc2.org)

Final Proposal Due at UTRC: **May 14, 2009** (submit through the UTRC Online Submission System at www.utrc2.org)

RFP Closing Date: May 14, 2009 at 5:00 PM

If you plan to apply:

Please contact Penny Eickemeyer at peickemeyer@utrc2.org (cc: ckamga@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.

The New York State Department of Transportation's Integrated Vegetation Management Program document can be accessed at the following link:

<http://www.utrc2.org/research/rfps/C-06-24/C-06-24-appendixA.doc>

Proposal submission guidelines:

Please submit your proposal electronically to UTRC at www.utrc2.org. All proposals must include the UTRC cover page (<http://www.utrc2.org/research/assets/Technical-CoverSheet.doc>)

We will confirm that the proposals make comparable budget assumptions and will deliver the electronic proposals to the sponsoring agency by the closing date.

Funding available:

Up to \$360,000 is available from NYSDOT. Facilities and Administrative Costs (or Indirect Costs) charged by academic institutions are included in the above amount.

Budget forms can be downloaded at

<http://www.utrc2.org/research/assets/budget-Template.xls>

For questions about this RFP, please contact:

Paul Hoole, Director
Research and Policy Studies Section, 6th Floor
New York State Department of Transportation
50 Wolf Road
Albany, NY 12232

For questions about budget preparation, please contact: Camille Kamga, ckamga@utrc2.org

New York State Department of Transportation
Request for Proposals
C-06-24: Integrated Vegetation Management Program Enhancements
April 2, 2009

RESEARCH PROBLEM STATEMENT

The New York State Department of Transportation (NYSDOT) uses Integrated Vegetation Management (IVM) to manage vegetation along its right of way (ROW). IVM is the system of information gathering, planning, implementing, reviewing and improving vegetation management treatments. It is ensuring that we “do the right thing, with the right plant, at the right time and in the right place.”

The IVM plan identifies and offers guidance on the following vegetation management techniques:

- **Biological/cultural:** our primary control method. This includes establishment and maintenance of grass turf after completing any construction work. This control method also includes leaving roadsides natural and undisturbed, such as leaving areas unmowed or trees uncut, if safety considerations permit.
- **Biological control** has grown to include techniques such as release of insects that consume unwanted species such as purple loosestrife.
- **Mechanical control** includes the use of equipment, such as mowers, string trimmers or chainsaws to control vegetation.
- **Chemical control** includes use of herbicides or plant growth regulators to control vegetation.
- **Alternatives to herbicides** include the use of materials that may control vegetation without the use of herbicides. This category includes vegetation barriers. It also includes substances that are not composed of synthetic chemicals - - but may be regulated by the United States Environmental Protection Agency

NYSDOT’s IVM Program/Plan was prepared in 1999. **A copy is posted online, as Appendix A.**
<http://www.utrc2.org/research/rfps/C-06-24/C-06-24-appendixA.doc>

The plan requires updating to reflect changes in work practices; include information previously omitted on tree work; and to reflect new environmental mandates, challenges and opportunities. Recommendation for prioritizing work in times of budgetary challenges would also be welcome.

Further, the IVM plan needs revisions to provide simple decision support tools that roadside vegetation managers can use to decide which vegetation management treatments are most suitable for their roadsides and transportation assets. There is no single vegetation management tool that works best in every roadside situation. In some locations, herbicides are the safest for worker and traveler safety. In other locations, such as near watersheds or crops, mechanical controls are required to avoid environmental impacts.

Well researched and balanced plans, justifications, procedures and decisions incorporating information on the performance, benefits, and risks of vegetation control alternatives (mowing, herbicides, paving, and other options) are needed to communicate and implement best practices and procedures.

The primary focus of this research is to develop vegetation management procedures and planning specific to NYSDOT. Roadside vegetation management is of high interest to transportation and resource agencies nationally. Such agencies are struggling to balance the need for clear sight distances and obstacle-free roadside; control the spread of invasive species through the ROW corridor; and minimize the potential environmental impacts from vegetation control. The results of certain components could be useful to agencies at other levels of government within New York or in the rest of the nation.

OBJECTIVES

- Update the Department's *Integrated Vegetation Management Plan* to reflect changes in work practices. The update will include information previously omitted on tree work and new environmental mandates, challenges and opportunities.
- Develop simple decision support tools that NYSDOT roadside vegetation managers can use to decide which vegetation management treatments are most suitable for their roadsides/transportation assets and to help schedule treatments for maximum effectiveness.
- Undertake field research on the effectiveness of the Waipuna system, a combination of hot water and foam, in controlling unwanted roadside vegetation on a sample of highways in NYSDOT's Poughkeepsie Region (Columbia, Dutchess, Orange, Putnam, Rockland, Ulster and Westchester Counties). "Effectiveness" would include success in controlling vegetation and clear costs to compare Waipuna to other control techniques.

If Waipuna's vendor cannot mobilize in time for this research, the scope of work allows the researcher to propose a test of another alternative to herbicides.

If Waipuna is field-tested, the researcher will buy the services of the vendor and will report on the results; it is not expected that the researcher will purchase equipment from Waipuna. If another alternative is tested, the vendor might buy materials or equipment and such items would revert to NYSDOT ownership at the end of the research.

- Undertake research on whether foliar applications of glyphosate based herbicides, Rodeo and Round-Up, control Oriental Bittersweet, *Celastrus orbiculatus*, in a manner that is efficacious, consistent with regulations and safe to workers and the environment. NYSDOT would use this research to support an application to the New York State Department of Environmental Conservation (DEC) to allow off label use of Rodeo and Round-Up, a "2ee letter," to control Oriental Bittersweet. NYSDOT may not use these materials for control unless and until DEC grants approval.

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 proposer's 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:

The Department views the work as falling into five parts.

This is the first multi-task vegetation research project proposed for NYSDOT in several years. It is not certain if all the tasks can be completed within the budget and schedule. If the cost of all five tasks is too much, the Department reserves the right to limit the research to those tasks that can be adequately funded and completed within the schedule.

PART I: Update IVM Plan

- I-A Research existing DOT IVM plans and guidelines from across the country. Some State DOT's that are working actively with IVM include: Maryland, Minnesota, Vermont and Washington.
- I-B Meet with - - or contact by telephone - - NYSDOT staff in NYSDOT's Main Office and 11 regions to discuss vegetation management practices and issues of concern.

- I-C Review the NYSDOT IVM plan and recommend areas of improvement.
- I-D Undertake revisions to the IVM plan in close consultation with NYSDOT. This consultation will include contact with two or three vegetation management staff in NYSDOT's Main Office - - and in each of NYSDOT's 11 regions.
- I-E Construct template for work, operational plans
- I-F Identify any future issues and opportunities to address, such as the feasibility of converting the IVM plan into an Environmental Management System.

PART II: Decision Support Tools

- II-A Develop decision support tools to aid in choosing vegetation management treatments using a combination of objective and subjective measures of cost effectiveness. Such tools would range from scheduling and resource estimating to risk management/cost effectiveness matrices for various types of vegetation management practices.
- II-B Ensure tools are consistent with staffing levels, staff skills and existing maintenance systems such as the Maintenance Assets Management Information System (MAMIS).
- II-C Use Delphi approach with mail and phone surveys of NYSDOT stakeholders. As with IVM Plan update above, the researcher should plan to consult with staff in each of the 11 regions

PART III: Evaluate Field Performance of the Waipuna Vegetation Control System or Other Alternative to Herbicides

- III-A Waipuna
 - III-A-1 Develop evaluation methodology
 - III-A-2 Use the Waipuna system for the test
 - III-A-3 Oversee the test in NYSDOT's Poughkeepsie Region (Region 8)
 - III-A-4 Prepare report on system performance
- III-B Other Alternative to Herbicide
 - III-B-1 If in consultation with NYSDOT, researcher concludes regulatory or other concerns result in the Waipuna system not being available, propose an alternative to test
 - III-B-2 Develop evaluation methodology
 - III-B-3 Obtain an alternative system for the test
 - III-B-4 Oversee the test in one or more NYSDOT regions
 - III-B-5 Prepare report on system performance

PART IV: Analysis of the efficacy, worker safety issues, and environmental impact of using glyphosate herbicides to control Oriental Bittersweet

- IV-A Review literature about use of Glyphosate herbicides on these invasive species
- IV-B Identification of opportunities and threats.
- IV-C Recommendation on use rates, timing, frequency of operation and needed use restrictions.
- IV-D In consultation with NYSDOT and DEC, preparation of 2ee application

PART V: Technology Transfer

- V-A Share information from the first four parts of this study with Department staff, regulatory agencies, the general public, and other transportation agencies.

RESEARCH PRODUCTS

Multiple products are envisioned to support NYSDOT in managing vegetation and the roadside right-of-way environment:

PART I: Updated IVM Plan

- IVM strategic plan (document applicable at the department level, providing philosophy, policy and general guidance on procedure for use at the region level). This document will update an existing IVM guidance document dating back to 1999.
- Templates for IVM tactical and operational plans (documents usable at region and residency levels)

PART II: Decision Support Tools

- Decision Support tools (documented, detailed cost effectiveness model to aid in choosing and justifying vegetation management treatments)
- Documented efficacy measures of various treatments (including both non-herbicide and herbicide methods) for controlling vegetation

PART III: Evaluate Field Performance of the Waipuna Vegetation Control System or other alternative to herbicides

- Evaluation methodology
- Report on system performance

PART IV: Analysis of the efficacy, worker safety issues, and environmental impacts of using glyphosate herbicides for foliar and cut stem control of Oriental Bittersweet

- Review of existing studies by universities, state agencies, and herbicide manufacturers.
- Identification of opportunities and threats.
- Recommendation on use rates, timing, frequency of application and any needed use restrictions.
- In consultation with NYSDOT and DEC, preparation of off label application (2ee letter), provided analysis supports this approach.

PART V: Technology Transfer

- Training/educational workshops for each NYSDOT region to transfer knowledge about accomplishments in the updated plan, decision tools and suitability of herbicide. (see I & II, above)
- Simple, illustrated fact sheets on vegetation control techniques for managers and practitioners to support the sharing and use of information and knowledge developed in planning and treatment alternatives work (see I & II above)
- Distribution of information on herbicide tests, as appropriate

URGENCY / EXPECTED BENEFITS

Strong vegetation management is already key to NYSDOT's Priority Result Areas (PRAs). This project will further strengthen NYSDOT's vegetation management program, and further support the PRA's. This project will also provide goodwill to the Department by strengthening the ability of Department staff to be environmental stewards in their work along the right-of-way.

Improved vegetation management positively affects:

- **Safety of the traveling public and NYSDOT workers** by ensuring that efforts to allow good drainage, remove hazardous trees, maintain clear zones and preserve sight distances occur in the most effective manner possible.
- **Transportation system reliability** by contributing to long-term maintenance and overall lifetime of road surfaces by minimizing roots causing pavement breakage and maintaining slope stability allowing for drainage of water off the roadway
- **Environmental conditions** by optimizing control of plants and: protecting water quality and habitat; preserving native plant communities and biodiversity; and protecting the roadside from infestation by invasive species.
 - protection of water quality
 - protection of habitat for wildlife
 - preservation of native plant communities
 - protection of roadside areas against infestation and invasion by noxious weeds/invasive species
 - preservation and expansion of biodiversity.
- **Economic competitiveness of the State** by potentially creating new or expanded businesses in the State devoted to innovative vegetation management

RESEARCH PERIOD

36 months

FUNDING

\$360,000 has been budgeted for this project, exclusive of 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 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:

Paul Hoole, Director
Research & Policy Studies Section, 6th Floor
New York State Department of Transportation
50 Wolf Road
Albany, NY 12232

SPECIAL NOTES

- The project will build on information from an earlier NYSDOT research study, C-02-09: Assessing Alternatives to Herbicides, Integrated Vegetation Management, and Related Programs. The research reports for C-02-09 can be found on NYSDOT website:
First – double click on “Programs & Services
Next – double click on “Research & Training” under Environmental
Finally – double click on “Environmental Research”
Alternatively, the link below may be used:
<https://www.nysdot.gov/portal/page/portal/divisions/engineering/environmental-analysis/research-and-training/environmental-research>
- **Proposals are due by close of business, May 14, 2009.** This Request for Proposals (RFP) is being offered to the University Transportation Research Center (UTRC) members only. Members should submit proposals through the Administrator of this consortium. 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.
- **Twelve (12) hard copies** of the proposal should be provided.
- 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 details provided.

- 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.
- 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 final report on the research will be expected to contain, at a minimum, the information described in Attachment A, *Requirements for the Final Report*.
- **The designated contacts for this solicitation are Paul Hoole and Deborah 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: phoole@dot.state.ny.us **and** dmooney@dot.state.ny.us
- Principal Investigators should be familiar with and follow the requirements of New York State with regard to 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.nysdot.gov/main/business-center/consultants>

CRITERIA FOR SELECTION

- **Expertise / Understanding / Approach (Weight: 55%)**
Expertise: What is the extent of the relevant experience of the Principal Investigator? What is the extent of the relevant experience 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 25%)**
 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 highway or right-of-way vegetation management.
- **Cost to New York State (Weight 20%)**
 The lower the New York State cost, the greater consideration a proposal will receive.

Requirements for the Final Report

Copies of Final Report – **Twenty Five (25)** hard copies of a bound, final report shall be provided at the conclusion of the research study. An electronic PDF copy of the final report is required as well.

Required Organization for the Final Report

Title Page - that contains:

- The research number (C#) assigned by the Research & Policy Studies Section of the Policy & Planning Division;
- The name 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); and,
- If the final report has a security classification, it shall be noted on the title page.

Disclaimer - 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 policies 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 – A copy of USDOT form DOT F 1700.7

Executive Summary

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 statement on the potential for implementation, along with what resources and actions will be required to have the benefits of the research fully achieved.

Appendices – as appropriate