



## **OPERATIONAL GUIDELINES**

**May 29, 2009**

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## INTRODUCTION

The Illinois Center for Transportation (ICT) is a premier transportation research center at the University of Illinois (UI) at Urbana-Champaign. ICT was created as a partnership between the Illinois Department of Transportation (IDOT) and the UI to serve the needs of IDOT, the State of Illinois, and the nation through research, education, and outreach. ICT operates under the umbrella of an Intergovernmental Agreement (IGA) between IDOT and the UI.

The initial ICT IGA was executed August 22, 2005, for the term of July 1, 2005, through June 30, 2008; and the current ICT IGA was executed June 27, 2008, for the term of July 1, 2008, through June 30, 2011. The current IGA be viewed at [http://www.ict.uiuc.edu/research/IDOT-IGA\\_DOH-ICT06.pdf](http://www.ict.uiuc.edu/research/IDOT-IGA_DOH-ICT06.pdf).

ICT's operation follows the terms and provisions of the current ICT IGA. ICT has developed additional Guidelines, Processes, and Procedures to supplement this IGA. These Guidelines, Processes, and Procedures are intended to provide guidance for the public, ICT researchers, IDOT staff, university staff, etc., on the administration of the IGA and the ICT research program. If there is any conflict between these Guidelines, Processes, and Procedures and the current IGA, the IGA supersedes these Guidelines, Processes, and Procedures.

## **RESEARCH PROJECT SELECTION**

### **1. APPOINTMENTS TO THE TECHNICAL ADVISORY GROUPS (TAGS)**

The ICT IGA requires IDOT to establish Technical Advisory Groups (TAGs), comprised of IDOT personnel, an ICT representative, industry representatives (as appropriate), and a representative from the Federal Highway Administration (FHWA), Illinois Division. TAGs are charged with reviewing and prioritizing research proposals to be presented to the ICT Executive Committee.

IDOT appoints the chair and at least one other IDOT employee to each TAG.

ICT appoints an ICT representative to each TAG. ICT appoints representatives with expertise in the subject area of the TAG and/or experience in transportation research. No person may serve as the ICT TAG representative on more than one TAG. Starting July 1, 2009, the ICT representative appointment is for one two-year term and may be renewed one time. No appointment may exceed four years on a TAG. If any ICT representative has already served for four years, as of the effective date of this amendment, he/she will be allowed to serve until February 28, 2010.

The FHWA, Illinois Division, appoints the FHWA representative to each TAG.

If industry representatives are appropriate for a TAG, IDOT appoints these members.

There are currently eight TAGs:

- Pavements and Materials
- Safety
- Structures and Bridges
- Traffic Operations and Roadside Maintenance
- Public Transportation
- Environment
- Planning
- Construction

### **2. TAG RESEARCH NEEDS/FOCUS AREAS**

Twice annually, the TAGs are asked to identify specific transportation research topics or focus areas where they see a need for ICT research. These TAG research needs/focus areas are posted to the ICT website and advertised to potential researchers to encourage the submission of research ideas that will meet IDOT's and the State of Illinois' current needs.

### **3. SOLICITING RESEARCH IDEAS/PROBLEM STATEMENTS**

Twice annually, the ICT "Proposed Research Idea"/problem statement form is updated to reflect the new deadline (generally January 31 and June 30) for submitting research ideas to IDOT. This typically occurs after the semi-annual ICT Executive Committee meeting and approximately six weeks to two months prior to the deadline for submitting new research ideas.

The "Proposed Research Idea" form is posted on the ICT website (on the ICT Forms/Guidelines page). Potential investigators and others who wish to suggest a specific research topic can download and fill out the form. Potential investigators who submit ideas are encouraged to identify an IDOT sponsor willing to champion the research. All Proposed Research Idea forms are submitted to the IDOT Technical Research Coordinator.

ICT encourages the submission of specific research ideas by:

- alerting the current and former ICT Principal Investigators of the deadline
- posting a notice on the UI weblog
- sending an e-mail to all Illinois colleges and universities with civil engineering/transportation programs
- including a notice in the quarterly ICT newsletter
- emailing a notice to those who have signed up for the ICT RFP notification listserv

Although ICT encourages research ideas based on the priorities the TAGs have identified, research ideas on any transportation-related topic are considered. Submitting a research idea does not guarantee that the idea submitter will be the Principal Investigator (PI) of the topic if selected by the ICT Executive Committee.

#### **4. TAG EVALUATIONS OF RESEARCH IDEAS/PROBLEM STATEMENTS**

IDOT receives all Proposed Research Idea forms and determines which TAG(s) should receive each Proposed Research Idea for review and consideration. The Proposed Research Idea forms submitted by the semi-annual deadlines are copied and sent to one or more TAG chairs, depending upon the subject of the proposed research.

Twice annually, the TAG chairs schedule meetings of the TAGs to review and discuss all Proposed Research Ideas submitted and forwarded to the TAG. These TAG meetings are open to members only; non-members can attend only by invitation of the TAG chair. At these TAG meetings, the Proposed Research Ideas are discussed and prioritized, according to the perceived benefits of the research. The TAG develops specific recommendations on which Proposed Research Ideas should be funded and ranks their recommendations. The TAG chair transmits these recommendations to the IDOT Research Coordination Manager for presentation to the ICT Executive Committee at its semi-annual meeting.

#### **5. EXECUTIVE COMMITTEE SELECTION OF RESEARCH IDEAS FOR FUNDING AS ICT RESEARCH PROJECTS**

Per the ICT IGA, IDOT has established an ICT Executive Committee to review and select projects for the ICT research program and oversee ICT activities. The ICT Executive Committee is chaired by the Director of Highways, or the director's designee, and is comprised of the directors of the offices and divisions of IDOT (or their designees), a representative from FHWA, and the Director of ICT.

The ICT Executive Committee meets semi-annually to discuss the overall activities of ICT and the TAGs' recommendations for funding various Proposed Research Ideas.

The Executive Committee discusses each research idea recommended by the TAGs and votes on whether each should be funded or not. The Executive Committee makes the final decision on which Proposed Research Ideas are funded as ICT research projects.

Proposed Research Ideas that are approved by the Executive Committee for ICT funding are referred to ICT to administer the research project. The PI is selected by ICT, who may consult with IDOT, or by issuing a request for proposals, as described in the Research Project Administration section of the ICT Guidelines, Processes, and Procedures.

## **6. ESTABLISHMENT OF SPECIAL STUDIES/PROJECTS**

When an immediate need for a study of narrow-scope but of extreme urgency arises, the IDOT Engineer of Materials and Physical Research will notify ICT that he or she requires a Special Study/Project.

The ICT Director, or the Director's designee, will work with IDOT personnel to develop the scope, timeline, and deliverables for the Special Study Project.

When the details of the Special study are finalized, the administration of the Special Study/Project will follow normal procedures.

## **RESEARCH PROJECT ADMINISTRATION**

If the ICT Executive Committee approves a Proposed Research Idea for funding, it is referred to ICT to administer the research project.

### **1. SELECTION OF THE TECHNICAL REVIEW PANEL FOR APPROVED PROJECTS**

For each new ICT research project, IDOT appoints a Technical Review Panel (TRP) to oversee and guide the research. Members can be IDOT employees, FHWA representatives, local government representatives, private contractors, private citizens, etc., but the TRP chair is generally an IDOT employee. Projects may have co-chairs, of which one shall be an IDOT employee.

### **2. SELECTION OF THE PI FOR APPROVED ICT RESEARCH PROJECTS**

It is primarily ICT's responsibility to determine who serves as the PI(s) on a funded research project; however, ICT frequently consults with IDOT personnel, e.g., the TAG chair, and the Bureau of Materials and Physical Research about this selection.

Under the terms of the IGA, ICT can select a PI from one of the UI campuses: Urbana-Champaign, Chicago, or Springfield. If ICT identifies a UI researcher(s) to perform a new research project, the PI will be invited to submit a research proposal/workplan and budget for review and approval by ICT and the TRP.

Alternatively, ICT can solicit proposals from researchers outside the UI's three campuses. This is commonly done if the UI does not have faculty or research assistants that are knowledgeable and available to perform the subject research. Occasionally, ICT will solicit proposals outside UI to allow alternative research approaches to be considered by the TRP. In addition, ICT must consider meeting the outsourcing requirements as stated in the IGA.

To ensure inclusion of as many researchers as possible, ICT will not select a PI to lead more than two research projects simultaneously without the approval of the ICT Director. This two-project limit will not apply to "special"/ short-term ICT research projects or non-research projects, e.g., projects that involve training or administration. These special and non-research projects may list the ICT Director, an ICT staff, or other individual as PI and will not be considered in determining the total number of projects or time that any PI has committed to ICT research projects.

### **3. PREPARATION, ADVERTISING, AND ADMINISTERING REQUESTS FOR PROPOSAL (RFPS)**

For those research projects that ICT proposes to outsource, ICT solicits formal research proposals to select a PI and best research approach. Twice annually ICT follows these steps to prepare and advertise via Request for Proposals (RFPS):

ICT, in consultation with IDOT, determines which Executive Committee-approved research projects will be advertised. This typically occurs within two weeks after the semi-annual ICT Executive Committee meeting.



ICT drafts an RFP based upon the specific research needs identified within the Proposed Research Idea form submitted to/approved by the Executive Committee. All RFPs include identical instructions about the content and format for ICT research proposals and a list of the responsibilities of ICT PIs. A typical RFP that is made available to all interested researchers is included in Attachment A. Each RFP outlines the project scope and budget and includes guidelines for preparing and submitting the completed proposal to ICT.

The draft RFP is sent to the IDOT TRP chair for revisions, if needed. The TRP will generally need about two weeks to one month to review and edit/approve the draft RFP, depending on whether or not the TRP needs to meet and discuss the draft RFP.

ICT finalizes the RFPs and posts them on the ICT website. When this occurs, ICT highlights the posting on its homepage, sends an email to the RFP notification listserv, and advertises the postings in its newsletter (if newsletter timing is appropriate).

Research proposals (in response to RFPs) are due to ICT no less than one month after they are posted to the ICT website.

Research proposals are not accepted after the deadline (advertised in the RFP) for submitting proposals.

#### **4. SELECTION OF INVESTIGATOR(S) & RESEARCH APPROACH (PROPOSAL/WORKPLAN) FOR OUTSOURCED PROJECTS**

ICT forwards the proposals received in response to the RFPs to the appropriate TRP chair who sets up a meeting with his or her panel to review and discuss the proposals.

ICT usually asks the TRP to complete its review of the research proposals and make a recommendation for action within 30 days. If the TRP has questions about one or more proposal, it is allowed to write follow-up questions for the researcher(s), but the questions and answers must be forwarded to/from the researcher(s) through ICT.

The TRP can recommend only one research team and proposal from among the proposals received by ICT or it can recommend that none of the proposals received be funded by ICT. If none of the proposals are recommended, the RFP may be revised and/or reissued at a later date.

#### **5. REVIEW AND APPROVAL OF THE PROPOSAL/WORKPLAN & BUDGET FOR NEW PROJECTS**

For each newly approved ICT research project, the PI must prepare a proposal/workplan that includes a timeline and budget in the format approved by ICT. The PI works with the TRP to develop an acceptable proposal/workplan, including timeline, scope, deliverables, reporting requirements, and budget, for the approved project. The use of interim deliverables (literature review, software, technical memos, testing plan etc.) is encouraged to facilitate timely completion of projects.

In addition, ICT works with the PI to ensure that the budget complies with the ICT agreement. Again, to ensure inclusion of as many researchers as possible, for full-time faculty, no research project shall include more than one month of PI time per year nor more than two months in total per PI per year for all ICT projects. Any exceptions must be approved by the ICT Director. However, no full time faculty is allowed to receive more than three months of salary per year on regular ICT research projects.

The budget must be consistent with the total budget approved by the Executive Committee for the research project; for UI projects, it must include the 5% ATREL Facility and 5% ICT Research Services fees; it cannot include more than 20% charged to IDOT for indirect costs; and it must provide 25% cost share (of the total project cost). Specific budget requirements are outlined in the guidelines for proposal preparation.

Before any project can begin, the budget must be reviewed and approved by ICT; and the TRP assigned to the project must approve both the proposal/workplan and budget for the project.

When the TRP approves the research proposal/workplan and budget, ICT will set up a UI spending account (for UI researchers) or request a UI subaward, for outsourced projects. As soon as the spending account or subaward is executed, the research may begin. All research projects shall include a grace period of six months at the end of the project (included in the timeline) for reviewing and publishing the project report.

## **6. ONGOING OVERSIGHT OF ICT PROJECTS**

The TRP chair will maintain contact with the PI and initiate quarterly to semi-annual TRP meetings, as needed, to review research progress. Given IDOT travel restrictions, web-based meetings and conference calls are encouraged. However, face-to-face meetings are recommended for the first and final project meetings, and at least one meeting annually. To assist with research documentation, the ICT Communication Coordinator is available to record meeting notes. Requests for the Communication Coordinator to attend a TRP meeting should be directed through the IDOT Research Coordination Manager.

At least quarterly, the PI must update the project information shown on the ICT website to show the progress of the research project. (See Research Reporting Section 1 below for more instructions/information on quarterly progress reports.)

During the conduct of the research, the PI and TRP chair will maintain communication regarding the progress and any problems that may develop. When appropriate, the TRP chair will communicate special needs to the IDOT Research Coordination Manager. This would include items such as change in scope and budget, project extensions, etc. The IDOT Technical Research Coordination Manager will coordinate with ICT to ensure appropriate support is provided.

When a necessary change in research effort is required, the awarding of additional funds of up to 15% of a project's initial budget can be considered with the recommendation of the TRP chair and approval of the IDOT's Bureau of Materials and Physical Engineer.

## **RESEARCH REPORTING**

### **1. RESEARCH QUARTERLY PROGRESS REPORT SUBMISSION**

Every quarter, the PI for each project must update the progress shown for the project on the ICT website.

Two weeks prior to the end of the quarter, ICT may send an email to each PI reminding him/her to update the progress of his/her project on the ICT website. When the PI completes the update, he/she notifies the TRP chair that the project has been updated and asks the TRP chair to review the project status shown.

The TRP chair reviews the quarterly progress shown on the website for the project, provides comments (electronically) to the PI, or can indicate that he/she approves content of the quarterly status report.

The PI revises the online information for his/her project, as needed, and notifies ICT that the online project is current and approved by the TRP chair.

ICT uses the online project information to produce a PDF quarterly progress report for each ongoing ICT research project. When all active project quarterly reports are complete they are put in PDF format and sent to IDOT – approximately three weeks after the quarter ends.

The following specific instructions are available on the ICT website:

- Instructions for PIs to update their projects online.
- Instructions for TRP chairs to review and comment/approve quarterly progress reports for their projects.

The instructions for the TRP chairs and PIs to update the project information are included in Attachment B.

### **2. DRAFTING, REVIEWING & APPROVING ICT RESEARCH REPORTS**

All ICT project research reports should be drafted by the PI in the ICT format prescribed on the ICT website. The ICT formatting guidelines are provided in Attachment C.

After drafting, the PI must send the report to the ICT Editor for review before forwarding it to the TRP for review. The ICT Editor will return the report to the PI or send it to the TRP chair, as requested by the PI.

The TRP will review the draft report and provide comments or approve the report. The PI should work with the TRP to revise the report, as appropriate.

When the PI and TRP reach agreement on the technical content of the final report(s), the PI should re-send the report to the ICT Editor to check the format and finalize the report. The final

report should be accompanied by the completed Report Information Page and the completed Documentation Page.

#### **4. REPORT POSTING, PRINTING AND DISTRIBUTION**

After a project report has been approved by the TRP and the ICT Editor, the following steps are taken to finalize the report:

- Assign an ICT report number
- Request a UI Engineering Library number from the CEE copy shop
- Format cover page and fill in the blanks on the Technical Documentation Page
- Convert files to PDF
- Post the report to the ICT Publications page by uploading the PDF file to the appropriate folder on the server and updating the Publications database.

Once the report has been finalized and posted, the IDOT Technical Research Coordinator is contacted to inform IDOT of the new report and to give them the chance to request printed copies or CDs of the report. The appropriate number of copies are produced and mailed to the distribution list, which includes IDOT, UIUC Library, FHWA libraries, TRISNET libraries, and the authors.

#### **5. PRESENTATIONS AND PUBLICATIONS**

Regarding presenting and publishing ICT research, each PI shall understand and follow the specific details outlined in the IGA for ICT. General guidelines are provided here.

All documents, data and records produced by any ICT investigator in carrying out his/her obligations and services shall become and remain the property of IDOT as described in the IGA.

All parties, ICT, IDOT, and the PI retain the right to publish or present non-confidential project findings following a 45 day review by IDOT. Presentations may be scheduled with less than a 45 day period if an abstract is supplied for review by IDOT, but formal publication must follow the 45 day review requirement.

The ICT shall have the authority to copyright reports, forms, and other material that are part of the project work, providing specific rights to IDOT and the Federal Government as specified in the IGA.

# **ICT COMMUNICATIONS**

## **1. DEVELOPING AND MAINTAINING CONTENT ON THE ICT WEBSITE**

Several regular updates are made to the ICT website, including:

- Project spotlight (every two weeks)
- News items (as alerted of news items, within two to three days)
- Basic information (as notified of changes, within a week)
- Event calendar (as notified of events, within two days)
- Newsletter (updated/posted quarterly)
- Final project reports (posted as finalized)
- Project status (updated quarterly)
- RFPs and Call for Research Ideas (as soon as finalized)
- Other items, such as training classes, short courses (as needed)

## **2. DEVELOPING AND MAINTAINING CONTENT OF THE ICT NEWSLETTER**

The ICT newsletter is e-mailed quarterly on the first day of the month (or the first workday after the first of the month). The ICT Editor adds the newsletter as an agenda item at the staff meeting to collect ideas for topics and offers IDOT the opportunity to add news. Usual content includes but is not limited to:

- Any website news items already posted
- ICT news, including recent executive committee meetings, project count, RFPs posted, Call for Research Ideas, job postings, etc.
- IDOT news (IDOT is always invited to submit news items)
- UIUC news (student, faculty awards from the past quarter)
- Project spotlight
- Alumni spotlight
- Upcoming events
- Recently sponsored events

# ICT ADMINISTRATION

## 1. IDOT- ICT ADMINISTRATIVE MANAGEMENT

Management personnel from the IDOT Bureau of Materials and Physical Research (BMPR) meet monthly with the ICT Director to discuss the ICT research program. Every other month, they meet face to face. The location of these meetings alternates between Springfield and the Advanced Transportation Engineering and Research Lab (ATREL), Rantoul.

Meeting notes are taken and all action items are revisited until they are implemented/resolved and therefore closed and removed from the list of action items.

## 2. ACCOUNTABILITY & FEEDBACK BETWEEN IDOT TRP AND PI'S

Twice annually each TRP is asked to evaluate the performance of the PI for each project, and the PI is asked to evaluate the performance of the TRP.

- The feedback is usually provided in late May to early June and late November to early December.
- The TRP uses a "Project Performance Evaluation Form" to perform its evaluation and the PI uses an "Administrative Performance Evaluation Form" to perform its evaluation.
- The evaluation forms are on the ICT Research Forms and Guidelines website at [http://ict.illinois.edu/research/research\\_forms.html](http://ict.illinois.edu/research/research_forms.html).

## 3. PURCHASING PROCEDURES

ICT PIs are expected to follow the purchasing procedures of their institution when spending ICT funds. ICT administrative offices follow the procedures set forth by the UI Urbana-Champaign campus' Office of Business and Financial Services (OBFS). A copy of the OBFS policy and procedures manual can be found at <http://www.obfs.uillinois.edu/>.

In addition, PIs must request approval to purchase any equipment item costing more than \$500 using ICT funds. PI's should work with the ICT Resource and Policy Analyst to submit an equipment justification form including cost estimate, description of the item, and its proposed use to the IDOT Research Coordination Manager.

## 4. EQUIPMENT INVENTORY; EQUIPMENT CALIBRATION & MAINTENANCE

ICT maintains a database to keep track of the testing equipment inventory. The database is updated when new equipment is acquired or when calibration or maintenance is performed and includes:

- the equipment manufacturer
- model number
- serial number
- calibration and maintenance scheduling requirements

## **5. MATERIAL HANDLING**

All materials and samples for ICT research projects are labeled and stored either on pallet racks or sample shelves as received.

The materials and samples for each project are labeled with the PI or Co-PI (if applicable), project title, research assistants, and project timeframe.

Individual samples are labeled with unique identification numbers.

## **6. ICT STAFF HIRING & ACCOUNTABILITY FOR IDOT/ICT TIME**

All salaried ICT staff are UI Academic Professional personnel. Their hiring is governed by the UI personnel policies and procedures. All personnel are hired through a search committee procedure with EEOC representation. They must have a minimum education of a Bachelor's degree. Their benefits are governed by the UI.

ICT administration and other ICT staff who are funded from an FHWA-funded ICT project, or through state funded line items, must complete quarterly reports of their activities. These quarterly reports are submitted to IDOT with the quarterly progress reports for all ICT research projects.

## **7. ATLAS USAGE - RECORDKEEPING**

The Advanced Transportation Loading System (ATLAS) is a state-of-the-art, full-scale accelerated pavement testing machine located at the ATREL facility in Rantoul, Illinois. ICT fills out a log book during ATLAS run times that indicates specific project responsibility, personnel identification, and all ATLAS activities. The ATLAS log book also includes:

- The date and time of each usage event. This usage event will include project identification. Events include system test, starting a test, stopping a test, and sometimes errors. It is not always possible to be specific about the error title, but the number of occurrences is recorded. This information helps troubleshoot error sources.
- The preventative maintenance performed.
- The corrective maintenance performed by all parties, including the names and companies performing corrective maintenance.
- A record of when ATLAS is physically moved and when it is moved from one project to another.

When ATLAS is not used, no entries are made in the logbook. Any gaps in the dates of the logbook reflect inactivity of ATLAS. The ATLAS logbook is used to determine ATLAS usage costs for billing purposes and is available to IDOT and the FHWA.

**ATTACHMENT A: RFP EXAMPLE**





## REQUEST FOR PROPOSAL (RFP) #09-1:

### “GREEN FRIENDLY” BEST MANAGEMENT PRACTICES (BMP) FOR INTERSTATE REST AREAS

**POSTED DATE: 6/15/09**

#### **PROJECT DATA**

**Funds:** \$100,000 total, including a required 25% (\$25,000) cost share from proposing agency

**Contract Time:** 12 months

**Estimated Start Date:** December 1, 2009

**RFP Close Date:** July 15, 2009

**Proposals Due via Email to:** [DaveKing@illinois.edu](mailto:DaveKing@illinois.edu)

#### **BACKGROUND**

Illinois Interstate Rest Areas are one of the most visible amenities we have in our State. These facilities range in age from 10 to nearly 50 years old and are on display and used 365 days a year by the nearly 40 million annual users. This high usage coupled with higher utility costs is putting an increasing demand on the State's budget. This situation along with Illinois' desire to be more "Green Friendly" presents a unique opportunity to not only find more cost-effective methods of operation but also to be more "Green Friendly".

These sites include 53 buildings, which provide rest room facilities, vending and 11 Welcome Centers that include tourism information for the traveling public. The facilities are presently being maintained as well as budgets allow, but still are in need of upgrading especially in the area of being environmentally maintained. Presently, the sites have not had any upgrades above and beyond normal repairs that would make them more energy efficient and "Green Friendly". This is apparent in the monthly utility bills received for the sites.

## **OBJECTIVE**

The primary purpose of this project is to investigate, determine and provide a list of "Green Friendly" Best Management Practices (BMP's) for use at the Interstate Rest Areas. These BMP's would include but not be limited to such practices as solar – both passive and active, motion activated lighting, LED lighting, geothermal HVAC, water saving plumbing fixtures, thermal pane glass, etc.

A previous ICT project (number R27-31) titled "Wind Powered Electrical Systems: Highway Rest Areas, Weigh Stations and Team Section Buildings" was recently completed and the final report is available at <http://ict.illinois.edu/Publications.asp>. ICT project R27-31 investigated the feasibility and benefit/ cost of using wind turbines at rest areas and team section headquarters. It is important that the research recently completed on using wind power at IDOT facilities is not duplicated with this proposed research topic.

## **RESEARCH TASKS AND REQUIRED DELIVERABLES**

Energy costs have risen at the Rest Areas and even though presently we have seen a decline in fuel costs they will inevitably increase over time. This means we can expect both higher visitation numbers and increased annual energy bills for these sites. Any preventative measures, especially in the area of "Green Friendly" techniques, that will save money and at the same time show our commitment by the State to be more environmentally conscious would be very beneficial and well received.

The information provided by this project would allow us to look at each individual site and determine what modifications could be made from the simple to the complex for generating energy savings (dollars) while being "Green Friendly" (environmentally aware). When added to the fact that this would take place at state facilities that are now experiencing nearly 40 million visitors a year, this would go a long way to improve the fiscal and environmental image of Illinois on both a state and national level.

Several steps are envisioned in developing the list of "Green Friendly" BMP's:

- 1) Gather utility use statements and other pertinent data for a one-year period for each rest area location to develop energy cost baseline data.
- 2) Visit select sites to conduct on site assessment of existing conditions and aid in the development of a "Green Friendly" BMP list.
- 3) Investigate and determine which "Green Friendly" BMP's would provide potential cost savings and be environmentally friendly.
- 4) Explore possible energy saving alternatives such as solar practices, motion activated lighting, LED lighting, geothermal HVAC, water saving plumbing fixtures, thermal pane glass, etc, and determine which ones might work for the various sites.
- 5) Generate a plan/report detailing the overall costs and payback figures of each of the suggested "Green Friendly" BMP's.

- 6) Prepare a plan/report with recommendations for each location detailing the recommended “Green Friendly” BMP’s to use with individual and statewide cost estimates for full implementation, including payback estimates.

## **INSTRUCTIONS FOR SUBMITTING A PROPOSAL**

The proposal shall be prepared in accordance with the guidelines presented in Appendix A. The contact name/email and due date are presented on the first page. All potential Principal Investigators (PIs) should read and understand the responsibilities of ICT Principal Investigators, which are presented in Appendix B.

Technical questions should be submitted to Craig Mitckes via email at [Craig.Mitckes@illinois.gov](mailto:Craig.Mitckes@illinois.gov).

Questions regarding the RFP procedures can be directed to Dave King at ICT via email at [DaveKing@illinois.edu](mailto:DaveKing@illinois.edu).

## **SPECIAL CONDITIONS FOR REVIEWING PROPOSALS AND AWARDING ICT FUNDS**

Please note that the following two conditions will be applied in reviewing all proposals received and in awarding ICT funds:

- 1) In reviewing and evaluating the proposals received from this solicitation, preference will be given to Illinois universities (both public and private) over others.
- 2) The award of this project is contingent upon the availability of funds at the time of award.

## **APPENDIX A: GUIDELINES FOR PREPARING PROPOSALS FOR THE ILLINOIS CENTER FOR TRANSPORTATION (ICT)**

Please use the following format for submitting ICT proposals for consideration. Please limit your total proposal to 15 pages in length (not including the Cover/Summary Page or optional Appendices) and use a font size no smaller than 10. We suggest Arial font with 1.5 spacing between lines.

### **1. Cover/Summary Page**

Use the cover page included in Appendix C.

### **2. Research Plan**

The research plan should describe in a specific and straightforward manner the proposed approach for solving the problem described in the problem statement. The research plan should be subdivided into the following sections:

#### **(a) Introduction, including Research Idea Statement**

Provide an introduction to the proposal and a concise overview of the research approach. Outline the objectives of the research project and explain the questions that will be answered by the research.

#### **(b) Research Approach/Work Plan**

Include the details of how the investigator will carry out the project and accomplish the project objectives. Itemize the tasks to be completed, explaining each in sufficient detail so the reviewers understand what will be done for each task and what will be produced or completed with each task.

#### **(c) Anticipated Research Results**

Specifically state the anticipated research results.

#### **(d) Applicability of Results to IDOT Practice**

Describe how the anticipated research results can be used to improve IDOT practices.

### **3. Qualifications and Accomplishments of the Research Team**

Identify who will perform the research and provide a brief explanation of each researcher's qualifications to perform the research. Please provide examples of similar research that the proposed individuals have conducted.

### **4. Other Commitments of the Research Team**

Briefly outline the other commitments of the proposed principal and co-principal investigators to demonstrate that both will be able to fulfill the commitments of the proposal.

**5. Equipment and Facilities**

Describe the facilities and equipment available to undertake the research proposal.

**6. Time Requirements**

Describe the time that will be required to complete the research proposal. Include a timeline for each task.

**7. Itemized Budget**

Provide an itemized budget for the entire project, including the cost of personnel, consultants, subcontracts, equipment, materials, travel, overhead and cost share. This budget should clearly show the portion of the total project cost that is requested from IDOT/ICT and the 25% matching funds/cost share required from the proposing agency. If you anticipate having a sub-award for extra support from outside your agency, please be aware that the sub-award cannot exceed 50% of the total project budget without prior approval.

**8. Cooperative Features (if appropriate)**

If assistance or cooperation is required from other agencies, public or private, to complete this proposed research, describe the plans for securing this assistance.

**9. Appendices (if appropriate)**

You may include such things as statements regarding previous work on the problem or related problems, abstracts of related projects, a bibliography or list of references, or materials describing the submitting organization.

## **APPENDIX B: RESPONSIBILITIES OF ILLINOIS CENTER FOR TRANSPORTATION (ICT) PRINCIPAL INVESTIGATORS**

1. Prepare and submit a project proposal/work plan and multi-year line-item budget, consistent with the “ICT Research Idea”/problem statement or RFP (if applicable) for the newly-approved research project.
2. Meet with the Technical Review Panel (TRP) and revise the project proposal/work plan and multi-year budget, as agreed with the TRP. E-mail the approved work plan and budget to ICT (attention [DaveKing@illinois.edu](mailto:DaveKing@illinois.edu)). Update budget annually and e-mail to ICT (attention [DaveKing@illinois.edu](mailto:DaveKing@illinois.edu)).
3. Enter the project description, approved work plan (tasks), PI personal information, TRP members, etc., on the ICT website. Update project information quarterly.
4. Carry out the project as agreed with the TRP, or notify the TRP if any problem develops regarding the project.
5. Provide online quarterly progress reports to the TRP chair for review and approval.
6. Attend regular (typically quarterly or semi-annually) meetings of the TRP to provide project updates and answer TRP members’ questions about the project.
7. Complete brief semi-annual Administrative Performance Evaluations of the TRP. (You may download this form from the ICT website – <http://ict.illinois.edu/>.)
8. At the completion of the research project, draft a final research report in accordance with the ICT report format. Submit it to the TRP chair and work with the TRP chair to finalize the content of the report.
9. Submit the “final” report to the ICT Technical Editor (attention Leslie Sweet Myrick at [lsweet@illinois.edu](mailto:lsweet@illinois.edu)) for editing and publication. ICT will post the final edited report to the ICT website and will arrange to publish the edited final report.
10. Prior to finalizing and posting the final research report on the ICT website, any publication or release of interim reports, results, etc., must be submitted to IDOT for review and comment at least 45 days prior to the planned release/presentation. In the event of non-concurrence by IDOT or the FHWA, the release/publication shall set forth the non-concurrence.
11. When the scheduled time for presentation of a paper releasing project information does not permit formal review of a complete report, notify IDOT of the scheduled presentation and provide an abstract of the presentation. Such presentations shall include a statement that the paper/presentation has not been reviewed by either IDOT or the FHWA.

12. Include the IDOT/ICT acknowledgement statement and disclaimer statement (available on the ICT website) in all publications and presentations regarding research sponsored partially or fully by ICT.
13. Comply with the terms of the current ICT Intergovernmental Agreement with IDOT. The current agreement can be found at [http://ict.illinois.edu/research/IDOT-IGA\\_DOH-ICT06.pdf](http://ict.illinois.edu/research/IDOT-IGA_DOH-ICT06.pdf).
14. The PI is responsible for meeting the ICT requirements regarding the number of ICT projects for which he/she is the PI as well as limiting the time charged annually on each ICT project and the total time charged annually on all ICT projects.



**APPENDIX C:  
PROPOSAL COVER SHEET FOR  
SOLICITATION #09-1**

**“GREEN FRIENDLY” BEST MANAGEMENT PRACTICES  
(BMP) FOR INTERSTATE REST AREAS**

**DUE JULY 15, 2009  
TO [DaveKing@illinois.edu](mailto:DaveKing@illinois.edu)**

<b>Submitted by: (Include Name and Address of Organization)</b>	
<b>Proposed Investigator(s):</b>	
<b>Corresponding Investigator Name:</b>	
<b>Corresponding Investigator Phone:</b>	
<b>Corresponding Investigator Fax:</b>	
<b>Corresponding Investigator Email:</b>	
<b>Submission Date:</b>	



**ATTACHMENT B: INSTRUCTIONS FOR UPDATING PROJECT INFORMATION**

## Step-by-Step Instructions for Principal Investigators (PI's) for Updating ICT Projects on the ICT Website

- Go to the **ICT/IDOT MEMBER LOGIN** website at: <http://ict.illinois.edu/Projects/>
- Your ICT user/login ID will be your “net ID” (for UI researchers) *or* the first part of your e-mail address before the “@”. If you do not know your password, please contact Lori Carpenter at [lcarpen@illinois.edu](mailto:lcarpen@illinois.edu).
- After you log into the site, click “Update Your Project”, select and update each project through the quarter ending, including the “**Progress to Date**” box, the appropriate quarterly progress for each task, and the percentage of project complete.
- At the bottom of the edit screen, select the appropriate status for your project update, i.e., choose “Draft” or “Final” edit/update and confirm that the correct quarter is shown for that quarter ending.
- For draft updates, you can automatically notify your TRP chair that the project has been updated and request feedback by selecting “Yes” in the “Notify TRP Chair” box.
- Be sure to click the “**Change Project**” box to record your edits/update.

## Step-by-Step Instructions for TRP Chairs for Reviewing ICT Projects on the ICT Website

- After the PI has made his/her updates and selects “Yes” to “Notify TRP Chair” the website will generate an email to the TRP Chair and PI. The email will direct you where to look for that specific project. (In this email another web address will also be given to you for other TRP members to view the quarterly progress report.)
- At the top of the quarterly report there are two links: one to “[Comment](#)” on the progress report; and another to “[Print](#)” the progress report.
- You can easily send questions/comments to your PI or let your PI know that you approve the progress report by clicking on the “[Comment](#)” link, typing your comments, and then clicking on the “Add This Comment” box. Your comments will be sent to the PI.
- When you approve the quarterly report, please check the “Approve This Report” box.

IF YOU ARE CHECKING YOUR PROJECT REPORTS NOT PROMPTED BY AN EMAIL, USE THESE INSTRUCTIONS.

- Go to the **ICT/IDOT MEMBER LOGIN** website at: <http://ict.illinois.edu/Projects/>
- Your ICT user/login ID will be the first part of your e-mail address before the “@” sign (e.g., “fred.smith”). If you do not know your password, please contact Lori Carpenter at [llcarpen@illinois.edu](mailto:llcarpen@illinois.edu).
- After you log into the site, under “IDOT”/“View Current ICT Projects”,  “[Display a list of Your Sponsored Projects](#)” to view your ICT project(s). Choose a project from the list and (near the bottom of the web page) click on the link “[View the most recent progress report.](#)”
- At the top of the quarterly report there are two links: one to “[Comment](#)” on the progress report; and another to “[Print](#)” the progress report. TRP Chairs can also copy and paste the quarterly report web address into an email to send to the TRP. Then follow the last two procedures from above.

**ATTACHMENT C: GUIDELINES FOR ILLINOIS CENTER FOR  
TRANSPORTATION (ICT) REPORTS**

## **GUIDELINES FOR ILLINOIS CENTER FOR TRANSPORTATION (ICT) REPORTS**

Reports should fulfill project objectives set forth in the contract, show adequate documentation, and be presented clearly. To assist authors in preparing ICT reports, specific instructions are summarized below. Complying with these formatting guidelines will minimize publication delays. All communications will be with the PI or a designated contact.

### **REVIEW PROCESS, CRITERIA, AND SUBMISSION**

The following are the review and publication steps:

- Upon the completion of the report, the PI should submit the report in MSWord format to the ICT Editor for review. Please familiarize yourself with the ICT report formatting guidelines on the next few pages, and submit the report in this format.
- The Editor will return the report to you or send the report on to the TRP chair, as requested by the PI.
- After addressing all the TRP comments/suggestions and obtaining its approval, forward the report back to the ICT Editor who will do one last formatting check. An ICT Report number will be provided at this time.
- The report will then be posted on the ICT website, printed, and distributed.

### **REPORT SUBMISSION**

To submit reports for review, contact:

Leslie Sweet Myrick  
Technical Editor  
Illinois Center for Transportation  
1611 Titan Drive  
Rantoul, IL 61866  
Phone: (217) 892-5018 x225  
Fax: (217)893-0601  
lsweet@illinois.edu  
[www.ict.uiuc.edu](http://www.ict.uiuc.edu)

- *Guidelines revised January 2009.*

## MANUSCRIPT SPECIFICATIONS

### Clearances and Copyrighted Materials

It is the authors' collective responsibility to obtain all copyright permissions before submitting the manuscript for TRP review.

### Manuscript Organization

Submit the manuscript in a single electronic file organized in the following sequence. Start each section on a new page.

1. **Acknowledgment, Disclaimer, Manufacturers' Names**
2. **Executive Summary**
3. **Table of Contents**
4. **Body of Report**
5. **References**
6. **Appendices, if any**

Submit the Report Information Page and the Technical Documentation Page (the sections you are able to fill out) in separate Word documents.

### Manuscript Page Setup

The manuscript should be formatted as follows:

- **Margins:** 25.4 mm (1 in) top, bottom, and right; 31.75 mm (1.25 in) left [to allow for binding].
- **Font (typeface):** Arial, 11 points.
- **Numbering:** Center page numbers at bottom of the page; use Arabic numbers starting from the manuscript.
- **Text:** Single-spaced between lines. One space between sentences.
- **Paragraphs:** Indent first line of all paragraphs 12.7 mm (0.5 in.); do not use an extra line space between paragraphs; do not indent or center heads or subheads. 0 pt. spacing above and below headings.
- **Subheads:** All subheads should be flush with the left margin, with one line space above.
- **Citations in text:** Al-Qadi 2006 (for one author); Al-Qadi and Janajreh, 2006 (for two authors); Al-Qadi et al. 2006 (for more than two authors; "et al." is not italicized when cited in text).
- **Footnotes:** Do not use footnotes in the text. Incorporate the information into the text or delete the notes.
- **Abbreviations, Acronyms, and Symbols:** Abbreviations, acronyms, and symbols must be fully defined at first use in the report; the definition should be given first, followed by the abbreviated term in parentheses.
- **Length:** The maximum length for reports is 75 pages (not including appendices). Any exceptions should be approved by ICT/IDOT prior to submission.

- **Measurements:** Measurements should be provided in U.S. customary units. Equivalent SI (metric) measurements may be placed after the U.S. measurements in parentheses.
- **Justification:** Left

## **REPORT INFORMATION PAGE**

Use form available on ICT website ([ict.illinois.edu/research/research\\_forms.html](http://ict.illinois.edu/research/research_forms.html)) or use the form included on the next page. The final report number will be provided by ICT.

**REPORT INFORMATION PAGE**

To ensure timely and efficient publication, please complete this form and return it to Leslie Myrick ([lsweet@uiuc.edu](mailto:lsweet@uiuc.edu)) with the items indicated.

**ICT project number**.....

**Project title**.....

**Report title**.....

**PI** (*will serve as corresponding author*).....

E-mail ..... phone .....

**Authors** in order appearing in report

1 ..... 2 .....

3 ..... 4 .....

**Current job title and affiliations** of authors (in the same order)

1 .....

2 .....

3 .....

4 .....



## DOCUMENTATION PAGE

Use the documentation page available on ICT website  
 ((ict.illinois.edu/research/research\_forms.html) or use the form included on the next  
 page. Fill in the parts you are able to.

### Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle		5. Report Date	
		6. Performing Organization Code	
7. Author(s)		8. Performing Organization Report No.	
9. Performing Organization Name and Address		10. Work Unit ( TRAIS)	
		11. Contract or Grant No.	
		13. Type of Report and Period Covered	
12. Sponsoring Agency Name and Address		14. Sponsoring Agency Code	
15. Supplementary Notes			
16. Abstract			
17. Key Words		18. Distribution Statement No restrictions. This document is available to the public through the National Technical Information Service, Springfield, Virginia 22161.	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages	22. Price

## **ACKNOWLEDGMENT, DISCLAIMER, MANUFACTURERS' NAMES**

All publications for ICT projects should include the following acknowledgment:

This publication is based on the results of ICT-RXX (project number to be provided by ICT), **Project Title here**. ICT-RXX was conducted in cooperation with the Illinois Center for Transportation; the Illinois Department of Transportation; and the U.S. Department of Transportation, Federal Highway Administration.

Members of the Technical Review Panel are the following:

Name, Affiliation (indicate the chair)

All publications giving the results of any investigation should contain the following disclaimer statement:

The contents of this report reflect the view of the author(s), who is (are) responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Illinois Center for Transportation, the Illinois Department of Transportation, or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

If any trademark or manufacturers' names appear in the report, add the following statement to the end of the disclaimer:

Trademark or manufacturers' names appear in this report only because they are considered essential to the object of this document and do not constitute an endorsement of product by the Federal Highway Administration, the Illinois Department of Transportation, or the Illinois Center for Transportation.

**For sensitive reports that should not be distributed without permission, also use the following wording:**

WARNING: THIS DOCUMENT CONTAINS SENSITIVE INFORMATION THAT IS CONTROLLED. NO PART OF THIS DOCUMENT MAY BE RELEASED WITHOUT THE WRITTEN PERMISSION OF THE SECRETARY OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

## **EXECUTIVE SUMMARY**

The executive summary must be no longer than three pages. It should present the study's primary objectives and scope or the reasons for writing the report; the techniques or approaches should be described only to the extent necessary for comprehension; and findings and conclusions should be presented concisely and informatively. The executive summary should not contain unfamiliar terms that are not defined, undefined acronyms, reference citations, or displayed equations or lists.

**TABLE OF CONTENTS (14 point Arial bold, all caps, flush left)**

Include a Table of Contents formatted as below:

**Acknowledgment/Disclaimer (14 pt Arial bold, initial cap, flush left)**.....i  
**Executive Summary**.....ii  
**Chapter 1**.....Page number?  
**Chapter 2, etc.**.....Page number?  
**References**.....Page number?  
**Appendices (if any)**.....Page A-1?

## **BODY OF REPORT**

This is the report proper, where a researcher introduces the research, documents what has been done, and makes conclusions and recommendations for future research.

### **SETUP FOR BODY TEXT:**

**CHAPTER 1 TITLE OF CHAPTER (14 pt Arial bold, all caps, flush left)**

**1. x FIRST-LEVEL HEAD (11 pt Arial bold, all caps, flush left)**

**1.x.x Second-Level Head (11 pt Arial bold, initial caps for each word, flush left)**

*1.x.x.x. Third-Level Head (11 pt Arial italics, initial cap for each word, flush left)*

1.x.x.x.x. Fourth-level head (11 pt Arial underline, initial cap for first word only, flush left)

### **STYLE FOR FIGURES AND TABLES:**

All figures and tables should be included as close as possible to their callout in the text. Figure captions and table titles must be used consistently in the text. All reports will be printed in black and white; but PDF reports may have colored figures/tables. See examples below:

***Example of figure caption** (11 pt Arial, centered, sentence case [begins with a capital letter, ends with period], regular (not bold): Placed below figure.*

Figure 1. Critical pavement responses collected during trafficking (a) at the bottom of the HMA layer, and (b) vertical displacement at the top of the subgrade.

***Example of table title** (11 pt Arial, centered, initial capital letter for each noun and verb, no period, regular (not bold): Placed above table.*

Table 1. Properties of Geogrid Product Used in the Full-Scale Test Sections

## REFERENCES

In the manuscript, use last name and year of author in parentheses to reference the work. For example, (Smith, 2005).

List all references in alphabetical order.

### **Examples of references and their style (11 pt Arial for all):**

**Book** (italics for title, invert name for first author only, comma after last author's name)  
Findley W. N., J. S. Lai, and K. Onaran, *Creep and Relaxation of Nonlinear Viscoelastic Materials*, Dover Publications, Inc., New York, NY, 1976, 364 p.

**Book chapter** (chapter title within parentheses, in regular type; name of book in italics, give inclusive page numbers):  
Lauer, K. R. "Magnetic/Electrical Methods," Handbook on Nondestructive Testing of Concrete, V. M. Malhotra and N. J. Carino, Eds., CRC Press, Inc., Boca Raton, FL, 1991, pp. 203-226.

### **Doctoral (PhD) dissertation:**

Sussmann, T. R., Application of Ground Penetrating Radar to Railway Track Substructure Maintenance Management, PhD Dissertation, University of Massachusetts, Amherst, MA, May 1999, 230 p.

**Periodical** (invert name for first author only, comma after last author's name, name of article within parentheses, journal name in italics):

Yoo, J. P., I. L. Al-Qadi, M. A. Elseifi, and I. Janajreh, "Flexible Pavement Responses to Different Loading Amplitudes Considering Layer Interface Conditions and Lateral Shear Forces," *International Journal of Pavement Engineering*, Vol. 7, No. 1, 2006, pp. 73-86.

**Proceedings** (paper title in regular type, proceedings title in italics, page numbers for the paper)  
Al-Qadi, I. L. and M. Elseifi, "Analytical Modeling And Field Performance Testing of Geocomposite Membrane in Flexible Pavement Systems," *7th International Conference on Geosynthetics*, Ph. Delmas and P. G. Grous, Eds., Nice, France, Sep 22-27, 2002, pp. 907-912.

**Reports** (italics for report title):

Al-Qadi, I. L., S. Lahouar, A. Loulizi, T. E. Freeman, and K. G. McGhee, *GPR Calibration at The Virginia Smart Road And Signal Analysis to Improve Prediction of Flexible Pavement Layer Thicknesses*, Final Contract Report No. FHWA/VTRC 05-CR7, Virginia Transportation Research Council, Virginia Department of Transportation, Charlottesville, VA, Jan 2005, 65 p.

**Web sites** (give all information as for regular citation but include URL and date accessed):

Nemmers, C. "Transportation Asset Management," *Public Roads Magazine*, July 1997, [www.tfhrc.gov/pubrds/july97/tam.htm](http://www.tfhrc.gov/pubrds/july97/tam.htm), accessed January 13, 2002.

## **APPENDICES, IF ANY**

Use capital letters to number appendices. Appendix number and Title should be in the middle of the first page. Numbering of appendix page should be as follows: "A-1." No numbering should be used on the title page of the appendix.