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www.intrans.iastate.edu/ltap

IOWA STATE UNIVERSITY
Institute for Transportation

Automating Iowa DOT lettings and contract administration

by Donna Buchwald, Deputy Director, Office of Local Systems, Iowa DOT

To make project lettings and contract administration more efficient, the Iowa DOT has developed several new processes. Following is a short explanation of changes made so far.

Electronic bidding documents

In January 2012, at the request of the governor, the Iowa DOT prepared a Road Use Tax Fund Efficiency Report that identified \$50 million in possible efficiencies that would reduce the cost of maintaining and improving Iowa's roadway system.

One of the recommendations was to prepare a plan to eliminate printing plans and proposals for all projects let by the Iowa DOT.

Electronic plan submittals

The Iowa DOT started requiring electronic plan submittal starting with the November 2012 letting.

The new requirements are explained in the Electronic Submittal section of I.M. 3.005, Project Development Submittal Dates and Information, which was revised on February 18, 2013.

If your agency is experiencing technical difficulty preparing or transmitting plans electronically, contact the Iowa DOT for assistance. The department realizes that not all agencies may be proficient in producing electronic plans and is committed to providing assistance to those that need help.

In the near term, project lettings will not be delayed if your agency is unable to submit plans in electronic format.

If you have any questions, please contact John Dostart, Office of Local Systems, 515-239-1291, john.dostart@dot.iowa.gov.

Bid Items Application

A new web-based Bid Items Application was implemented with the February 2013 letting. It replaces BIAS 2000, which local agencies have been using for years to provide an electronic bid item file for projects submitted for letting through the Iowa DOT.

The new Bid Items Application and additional instructions are found in I.M. 3.520, Electronic Bid Item Information.

The Iowa DOT is also investigating the possibility of enhancing the new Bid Items Application to enable its use for locally let projects as well. While additional enhancements are being considered, the old BIAS 2000 will temporarily remain available on the Iowa DOT's web site.

At a point yet to be determined, technical support for the BIAS 2000 will be discontinued.

Electronic submittal of Change Orders

To expedite the contract administration process, local agencies now have the option to electronically submit Change Orders (also known as Contract Modifications) for federal and state funded local agency construction projects.

Change Orders with the contractor and project engineer's signatures may now be scanned and sent electronically to the Iowa DOT Administering Office for review and approval.

However, in order to maintain the required internal controls, the Iowa DOT Administering Office will still apply an original signature to indicate its approval of the Change Order.

Lettings continued on page 6

Acronyms and Abbreviations in Technology News

AASHTO	American Association of State Highway and Transportation Officials
APWA	American Public Works Association
FHWA	Federal Highway Administration
IHRB	Iowa Highway Research Board
InTrans	Institute for Transportation (at ISU)
Iowa DOT	Iowa Department of Transportation
ISU	Iowa State University
LTAP	Local Technical Assistance Program
MUTCD	Manual on Uniform Traffic Control Devices
NACE	National Association of County Engineers
TRB	Transportation Research Board



U.S. Department of Transportation
Federal Highway Administration



Iowa Department
of Transportation

About LTAP

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Printed with soy ink



From the director

Rebuilding the “Roads Scholar” program: Evaluation and redesign

Iowa LTAP has a program to recognize personnel who continue their education through our workshops, etc. This program is called Roads Scholar. It has four levels of achievement, and the current program is described in more detail at www.iowaltap.iastate.edu/workshops/road-scholars/.

During the next year the components of this program will be evaluated and updated. The objective of this evaluation and update is to create a more sustainable program that allows Iowa LTAP to consistently offer participants the ability to advance through the achievement levels and also track their progress.

The registration process for many of our workshops is now automated, and this was a significant first step in our ability to track training efforts. But, we are still “debugging” how our new registration system and the Roads Scholar tracking work together and how the tracking output appears to participants. We are working on it.

Some of the Roads Scholar program components that will be evaluated in the next six months to a year include methods of entry into or opting out of the program, levels of achievement, optional and required workshops and courses in the curriculum, alternative methods of instruction, effort tracking, types of recognition, costs, and allowances for repeated courses. These components will be reviewed and updated to meet the objective noted above and provide a program that has a high value to local agency transportation personnel.

In the interim time period, we have placed a “notice” in this newsletter (see page 6) and on the Roads Scholar program website page. The notice has three parts. First, if you believe you've attained the workshop hours



for the Roads Scholar I, II, Senior, and/or the Master levels, please contact us if you want a certificate. We will also be contacting public agencies, if possible, to ask them the same question if our records indicate there are people that might be recognized.

The second part of the notice requires people to indicate that they would like to be involved with the “new” Roads Scholar program when it is initiated. We will continue to ask this question for some time after the new program starts and on our workshop registration forms in the future.

The third part of the notice indicates that we'll be announcing the changes to the Roads Scholars program as they are developed. It also provides my contact information if you have any suggestions or input to the process. We will also be asking the LTAP advisory board for their input on the final outcome of our evaluation and suggested updates.

We apologize for taking so long to start this process. The Roads Scholar program provides a great mechanism to give recognition to those that continue their education as transportation workers. Stay tuned as we complete this rebuild.

Sincerely,

Keith

For iron and steel used in construction, Buy America

Federal requirements for procuring domestically manufactured products (that is, those produced in the United States) have been around since 1933. Such requirements for steel and iron products and coatings are called Buy America (U.S. Code, Title 23, Section 313).

The Iowa DOT is responsible for enforcing Buy America provisions in Iowa. It is the role of the project inspector and project engineer to review material certificates to ensure steel/iron products are domestically sourced before they are incorporated into a project.

Summary of Buy America

Buy America requires the use of domestically manufactured steel and iron products, including coatings, in Federal-aid Highway Program (FAHP) funded projects.

In other words, when federal funds are involved in a project, and iron or steel materials are required (that is, materials that are predominately—90 percent or more—iron or steel), every effort must be made to use iron and steel materials manufactured in the United States, i.e., domestic iron and steel. Manufacturing processes include initial melting, rolling, extruding, machining, bending, grinding, drilling, and coating.

Applicable projects include pavements, bridges, tunnels, and other structures. They also include projects that, historically, may not have been considered highway construction, such as bicycle racks.

According to a December 2012 memo, examples of products subject to Buy America include, but aren't limited to, the following:

- Steel or iron products . . . [such as] . . . fabricated structural steel, reinforcing steel, piling, high strength bolts, anchor bolts, dowel bars, permanently incorporated sheet piling, bridge bearing, cable wire/strand, prestressing/post-tensioning wire, motor/machinery brakes and other equipment for moveable structures.
- Guardrail, guardrail posts, end sections, terminals, cable guardrail.
- Steel fencing material, fence posts.

- Steel or iron pipe, conduit, grates, man-hole covers, risers.
- Mast arms, poles, standards, trusses, or supporting structural members for signs, luminaires, or traffic control systems.
- Steel or iron components of precast concrete products, such as reinforcing steel, wire mesh, and prestressing/post-tensioning strands or cables.

Buy America applies to the following:

- Steel or iron products or materials that are permanently incorporated into a project. Buy America does not apply to temporary elements of a project such as falsework, temporary sheet piling, detour bridges, etc.
- Purchased project materials as well as materials donated by a state, local government, or third party.

The contracting agency cannot circumvent Buy America requirements by making steel/iron products non-participating.

Certain products are not subject to Buy America requirements. These include manufactured products that are not primarily steel or iron. They also include miscellaneous steel or iron components, subcomponents, and hardware necessary to encase, assemble, and construct the above-listed products. Examples include, but aren't limited to, the following: clamps, fittings, sleeves, washers, bolts, nuts, screws, tie wire, and spacers.

Minimal use of foreign-source materials

Buy America does not apply to the minimal use of steel/iron materials in a project. The total cost of all foreign-source items must be less than \$2,500 or one-tenth-of-one-percent of the total contract amount, whichever is greater. This minimal-use threshold covers small steel/iron products that are difficult to account for, such as bolts, nuts, and other fasteners.

Under the minimal-use provision, the contracting agency must keep a log of all steel/iron products used in a project, noting whether they are foreign or domestic.

If the threshold is exceeded, the contracting agency may lose all FAHP funding for the project.

Responsibility and enforcement

As previously stated, the project inspector and project engineer must review material certificates to ensure steel/iron products are domestically sourced before they are incorporated into a project. See the highlighted text in the sample source documentations below.

Even with the most conscientious effort, foreign steel/iron can be incorporated inadvertently into an FAHP project. There is no clear-cut policy on resolving the after-the-fact discovery of foreign materials in

Buy America continued on page 5

Signifies domestic steel

Customer Notes

NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY.
This material, including the billets, was melted and manufactured in the United States of America.

Signifies foreign-source steel

Customer Notes

NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY.
This material was rolled in the United States of America from billets that were melted in Canada.

Iowa LTAP Mission

To foster a safe, efficient, and environmentally sound transportation system by improving skills and knowledge of local transportation providers through training, technical assistance, and technology transfer, thus improving the quality of life for Iowans.

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Safety assessments to improve local road safety

by Tom McDonald, safety circuit rider

Local agency engineers and managers are responsible for and interested in improving safety for road users in their cities and counties. Several methods are available for examining roadways, evaluating their safety deficiencies, and selecting appropriate mitigation strategies. This article focuses on one of them: safety assessments.

Safety audits and reviews

One evaluation method is a road safety audit. Such audits are conducted by an independent team of multi-disciplined professionals.

Safety audits consist of an in-depth investigation of crash history, roadway conditions, and other factors, culminating in a formal written report documenting findings and suggestions for often low-cost safety improvements.

Another option might be called a simple “safety review.” A safety review of any road or street in the state can be conducted quickly and easily in the office. Such a review uses the Crash Analysis Mapping Tool (CMAT) to map crash history data for the identified roadway. Adding a detailed field examination enhances the value of this process.

CMAT enables mapping of past crash locations as well as their severity and important crash causes; see the sample partial image at right. With this basic information, an agency can identify past and potential future crash contributors, thus allowing selection of mitigation to address those safety concerns.

Consultation with local law enforcement can be valuable in selecting beneficial improvements, such as enhanced patrols.

Safety assessment

A third option could be designated as a “safety assessment.” A safety assessment combines useful features of a formal safety audit with those of the simpler and perhaps quicker safety review.

A safety assessment consists of a detailed examination of available data for a given road or street segment. It includes a review

of crash history, of course, but might also include vehicle speed data, roadway history, traffic volume and mix of road users, common citations, and information about drivers who were involved in recorded crashes.

Input from professionals in a variety of disciplines should be sought for a complete safety assessment. Such professionals may include, for example, law enforcement officers and driver educators. Even frequent road users can provide valuable information.

Suggested approach for safety assessment

Following is a list of suggested steps that a local agency can use to assess safety features of a given road or street segment:

- **Select the segment for examination.**

Perhaps a request has been received from a citizen or from an elected official, but an identification can be made by agency staff as well by using CMAT data to examine the entire jurisdiction roadway system and identify real and potential high-crash sites from a crash location map.

A detailed crash location map by severity can also be requested from InTrans through the Iowa Traffic Safety Data Service (ITSDS) staff.

For low-volume (<400 vehicles per day) roadways, at least 10 years of crash data



Partial map generated by CMAT, with road segment being assessed circled in white

should be used to achieve a high level of validity. A five-year record might be used for higher volume sections.

While safety evaluations have logically focused on higher volume paved roads, unpaved facilities should also be considered in the initial selection process.

- Following selection of high-crash intersections or segments, **perform a detailed examination of crash history**, particularly at high-crash intersections and segments.

Look at attributes such as crash severity, common contributing types and causes, time of crashes, weather and roadway conditions, and driver factors such as age, condition, and substance-use involvement. All of these factors are crucial to selecting potentially effective crash mitigation.

- **Meet with other agencies and departments** that might have interest, responsibility, or expertise in traffic safety. This may include the Iowa DOT (e.g., if intersections with state highways are involved), law enforcement, particularly the sheriff or city police, as well as school officials and driver educators if younger drivers have had a significant involvement in recorded crashes.
- **Perform a detailed field review.** While the gathering and examination of data is mandatory for a detailed analysis, a complete assessment is not possible without a review of road and street details in the field. Even an office review using a resource such as Google Earth cannot totally substitute for a field examination in identifying past and potential crash contributors.

Including law enforcement staff and perhaps professionals from other disciplines, as indicated by crash history, will be helpful.
- **Confer with maintenance staff and signing technicians** for valuable advice and information on common problems, limitations, sign age, and suggestions for safety improvement.
- Using all available data, input from staff and other sources, and observations about past and potential crash contributors from field reviews, **select low-cost**

improvements to address the identified safety concerns.

An experienced local agency engineer and/or manager might be capable of identifying and selecting effective crash mitigation strategies. However, outside advice from professionals such as those at the Institute for Transportation (InTrans) is also useful, particularly for selecting low-cost safety improvements in locations where a significant crash history has not yet been developed even though potential hazards might exist.

The Office of Traffic and Safety at the Iowa DOT offers several programs and funding sources to assist local agencies in accomplishing the selected improvements.

- **Analyze the results** of the selected mitigation strategy(ies) in reducing crashes. This valuable final step is too often omitted.

On low-volume roadways, a statistically valid analysis cannot typically be completed for a minimum of five years. But a simple before-and-after investigation per-

formed at any time can be a valuable first step in determining the potential benefit of a safety improvement or program.

For more information

For information or assistance in conducting a safety assessment, contact Bob Sperry, safety liaison, 515-294-7311, rsperry@iastate.edu; or Tom McDonald, safety circuit rider, 515-294-6384, tmcdonal@iastate.edu, at the InTrans office any time.

To request a detailed crash history map of a specific roadway section or segment, contact the ITSDS staff at InTrans via the online form, www.ctre.iastate.edu/itsds/.

For specific information about conducting safety audits, see the Technology News article "Road safety audits for local agencies," www.iowaltap.iastate.edu/resources/technology-news/ (see July-September issues, 2005).

For additional advice in conducting safety analyses, review available resources such as Iowa's Traffic Safety Analysis Manual (www.intrans.iastate.edu/publications/type/; see guides and manuals). ■

Buy America continued from page 3

a project. Each situation is resolved on a case-by-case basis and requires FHWA headquarters approval.

Possible solutions may include removal and replacement of the excess foreign steel/iron product(s), or making the non-compliant product(s) non-participating.

However, if carelessness, negligence, incompetence, or understaffing on the part of the contracting agency results in the permanent incorporation of excess foreign steel/iron product(s) in a project, all projects costs are made ineligible for federal reimbursement.

For more information

Buy America provisions are included in the Iowa DOT's Standard Specification articles 1107.06 and 2408.02. In addition, the Iowa DOT certification procedures for Buy America are outlined in Material IM 557.

Note: Buy America is not the same as Buy American. The Buy America requirements discussed in this article are narrower and cover iron and steel materials only.

For answers to commonly asked questions, see the FHWA Buy America Q and A, www.fhwa.dot.gov/construction/contracts/buyam_qa.cfm.

For further information about Buy America, contact Joe Jurasic, construction/transportation engineer, Iowa Division of FHWA, 515-233-7304, joe.jurasic@dot.gov. ■

“Roads Scholar” program notice

Iowa LTAP has a program, called Roads Scholar, for recognizing local agency personnel who regularly participate in continuing education activities (workshops, webinars, etc.). More information about the program can be found at www.iowaltap.iastate.edu/workshops/road-scholars/. Anyone who has taken our workshops in the past has been enrolled, automatically, in this program.

During the next year, the components of this program will be evaluated and updated. Thank you for your patience during this process. The director’s column on page 2 of this newsletter has more details about the update process and potential changes.

Have you attended past LTAP workshops?

If you believe you’ve reached one of the four achievement levels (Roads Scholar I, II, Senior, or Master) in the Roads Scholar program and would like a recognition certificate, please let me know at kknapp@iastate.edu or 515-294-8817.

We also plan to proactively contact, if possible, agencies with people our records show have not been recognized and may be interested in receiving certificate(s).

Want to be involved with the new Roads Scholar program?

If you would like to join the new Roads Scholar program when it is initiated, please send us your contact information at kknapp@iastate.edu. We will notify you when the new program starts.

Watch for announcements

We will announce and advertise the new Roads Scholar program when it is initiated.

If you have any input or suggestions on potential improvements, please feel free to contact me (kknapp@iastate.edu or 515-294-8817). ■

Stanley L. Ring Memorial Library: New materials

Publications

P1788

Current and Innovative Solutions to Roadside Revegetation Using Native Plants: A Domestic Scan Report

This report summarizes the observations, discussions, and broad conclusions of nationally recognized revegetation specialists during a 2009 scan tour.

DVDs

DVD398

Successful Roadside Revegetation Using Native Plants

This DVD documents the processes and techniques used in successful and innovative projects that used native plants for roadside vegetation.

Three ways to order LTAP library materials

- Mail or fax the order form on the back cover of this *Technology News*.
- Call the general InTrans telephone, 515-294-8103, and ask for the LTAP library.
- Email Jen Serra @ Jserra@iastate.edu.

Lettings continued from page 1

As is current practice, the Change Order with original signature(s) will be forwarded to the Office of Finance for processing. The Iowa DOT Administering Office will return an electronic copy of approved Change Orders to the local agency’s project engineer.

This process is optional, so if you would prefer to continue sending Change Orders on paper with original signatures, the Administering Office will continue to return signed originals for your records. This process is only applicable for Change Orders.

For more information

Contact John Dostart, urban engineer, Iowa DOT, 515-239-1291, john.dostart@dot.iowa.gov; or Nicole Fox, secondary roads engineer, Iowa DOT, 515-239-1506, nicole.fox@dot.iowa.gov. ■

Find letting/bidding information online

Action	Web URL
Download letting documents	www.iowadot.gov/contracts/lettings.html (follow the download instructions)
Download I.M. 3.005 (includes explanation of new requirements for electronic plan submittal)	www.iowadot.gov/local_systems/publications/im/3005.pdf
Download I.M. 3.520 (with link to Bid Items Application website and instructions for electronic application)	www.iowadot.gov/local_systems/publications/im/3520.pdf
Access May 2013 webinar training for local agencies and consultants on the use of new Bid Items Application (developed by Iowa DOT, Office of Local Systems)	www.iowadot.gov/local_systems/publications/fss.html ; click on link to webinar under Bid Item Application

Tom McDonald honored for traffic safety advocacy

LTAP’s own safety circuit rider, Tom McDonald, was recognized recently for his long-time traffic safety efforts. Tom was one of several nominated safety advocates who received the Commissioner’s Special Award for Traffic Safety at the annual conference of the Iowa Governor’s Traffic Safety Bureau (GTSB) in March 2013.

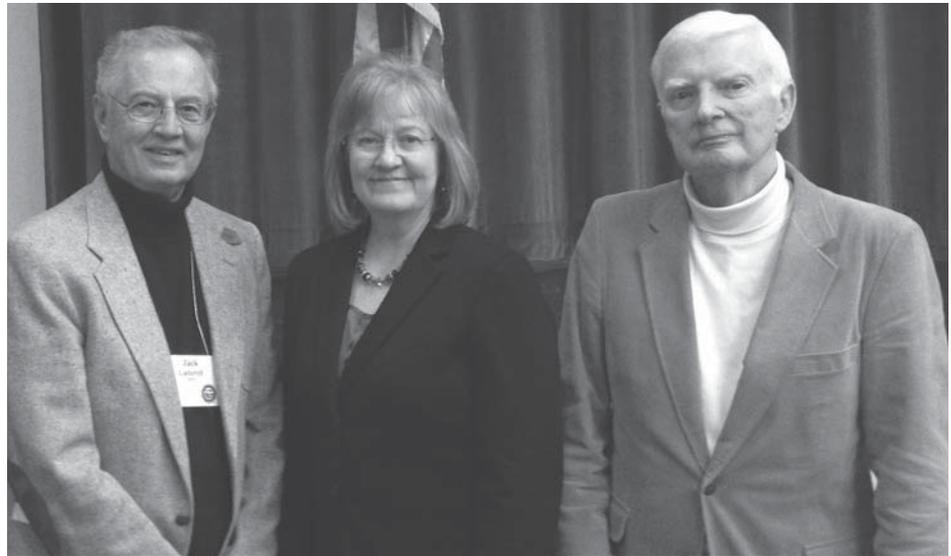
Since retiring from his 33-year stint as an Iowa DOT engineer, Tom has spent the last 15 years traveling the state for Iowa LTAP. Many of you have met him at one of his touring workshops about various safety topics: flagging, work zones, MUTCD requirements, signs and pavement markings, excavation, etc. He also serves on multidisciplinary safety teams across Iowa, unpaved rural road and low-volume road committees, and road safety audit teams.

In his spare time, Tom participates in safety-related research projects at InTrans. He has authored various manuals, including the

heavily used *Iowa Traffic Control Devices and Pavement Markings: A Manual for Cities and Counties*.

Like the Eveready® rabbit, the man just keeps on going.

Congratulations, Tom! ■



Familiar faces: These Iowa LTAP friends were among several Commissioner’s Special Awardees for Traffic Safety 2013 (left to right) — Jack Latterell, retired FHWA, Iowa Division; Mary Stahlhut, Office of Traffic and Safety, Iowa DOT; and our own Tom McDonald, Iowa LTAP

Conference calendar

August 2013	Event	Location	Contact
15–16	2013 Mid-Continent Transportation Research Symposium	Ames	Judy Thomas
September 2013			
10–11	Snow Plow Operators Training (SPOT)	Des Moines	Jennifer Serra
12	Snow Equipment Rodeo	Des Moines	Jennifer Serra
October 2013			
15–17	Countermeasure Design for Bridge Scour and Instability (NHI 135048)	Ames	Sharon Prochnow

Conference contact information

Sharon Prochnow 515-294-3781 prochnow@iastate.edu	Jennifer Serra 515-294-4401 jserra@iastate.edu	Judy Thomas 515-294-1866 jathomas@iastate.edu
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Online resource links

LTAP is in the initial stages of developing on an online resource webpage at www.iowaltap.iastate.edu (under the pulldown menu Tools and Resources). On the page, we will provide links to various published resources as well as to free online training opportunities sponsored by the FHWA or others.

Anyone can suggest a resource to be considered and potentially added to the list.

Also, the National Highway Institute now offers many free online training efforts (www.nhi.fhwa.dot.gov). Use the “more search options” link under “Search for a Course” and search the “Web-based Training (WBT)” delivery type. There are well over a 100, but you can do a more specific search also. ■

P 486-0524

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