

## Inside this issue

- 2 From the Director: Cultivating connectedness
- 3 Traffic and Safety Forum asks “What does safety mean to you?”
- 4 CP Tech Center publishes update to *Guide to Concrete Overlays*
- 5 Aurora Program research projects consider optimal RWIS density and location
- 6 In brief: Lasting LTAP impacts
- 6 Data integration efforts aid in assessing crash factors
- 7 Workshop and conference calendar

Iowa Local Technical  
Assistance Program

2711 S. Loop Drive, Suite 4700  
Ames, IA 50010-8664

Phone: 515-294-8103  
FAX: 515-294-0467

[iowaltap.iastate.edu](http://iowaltap.iastate.edu)

IOWA STATE UNIVERSITY  
Institute for Transportation

## SUDAS establishing Iowa Public Works Service Bureau

### New organization will connect city agencies

The Statewide Urban Design and Specifications (SUDAS) program has taken on the daunting—but exciting—challenge of creating a new public works service bureau in Iowa to connect the state's more than 900 city agencies.

The Iowa Public Works Service Bureau (PWSB) will provide a mechanism to establish much-needed communication between public works departments and be responsive to ongoing and emerging public works initiatives and concerns.

“Development of the Public Works Service Bureau will fundamentally change information exchange between cities of all sizes, as well as allow the Service Bureau to provide analysis of data to improve efficiencies and effectiveness of public works operations across the state,” said SUDAS Director Paul Wiegand, who is the principal investigator on the project.

Some of the anticipated benefits of the PWSB are that it will provide the following:

- Invaluable tools and resources for public works departments that provide essential services

- Efficient use of public resources to maintain infrastructure, which is critical to long-term sustainability
- Specific data that helps public works staff and civic leaders make informed decisions and policies to improve quality of life
- Stable and sustainable communities through the in-depth understanding of the workings of public works departments
- Improved infrastructure operational efficiencies by cultivating communication between agencies

SUDAS conducted a feasibility study in 2019 that included a literature review to determine that no such similar organization existed, a survey of Iowa's public agencies that showed overwhelming support for a public works service bureau, and laid out the steps to initiate implementation. The second phase of the project is a two-year effort to officially establish the PWSB.

Specifically, work is underway at SUDAS to continually enhance the newly developed PWSB website, establish a permanent advisory committee, and secure permanent funding with a Road Use Tax Fund off-the-top allocation.

*PWSB continued on page 3*



Typical service activities being performed by public works staff

## Acronyms and Abbreviations in *Technology News*

AASHTO	American Association of State Highway and Transportation Officials
APWA	American Public Works Association
FHWA	Federal Highway Administration
ICEA	Iowa County Engineers Association
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

### About LTAP

LTAP is a national program of the FHWA. Iowa LTAP, which produces *Technology News*, is financed by the FHWA and the Iowa DOT and administered by the Institute for Transportation at Iowa State University:

Institute for Transportation  
ISU Research Park  
2711 S. Loop Drive, Suite 4700  
Ames, Iowa 50010-8664  
Telephone: 515-294-8103  
Fax: 515-294-0467  
intrans.iastate.edu

### Disclaimers

Any reference to a commercial organization or product in this newsletter is intended for informational purposes only and not as an endorsement.

The opinions, findings, or recommendations expressed herein do not necessarily reflect the views of LTAP sponsors. All materials herein are provided for general information, and neither LTAP nor its sponsors represent that these materials are adequate for the purposes of the user without appropriate expert advice.

Iowa State University makes no representations or warranties, expressed or implied, as to the accuracy of any information herein and disclaims liability for any inaccuracies.

### Nondiscrimination

Iowa State University does not discriminate on the basis of race, color, age, ethnicity, religion, national origin, pregnancy, sexual orientation, gender identity, genetic information, sex, marital status, disability, or status as a US veteran. Inquiries regarding nondiscrimination policies may be directed to the Office of Equal Opportunity, 3410 Beardshear Hall, 515 Morrill Road, Ames, Iowa 50011, telephone: 515-294-7612, hotline: 515-294-1222, email: [eooffice@iastate.edu](mailto:eooffice@iastate.edu).

### Subscribe to *Technology News*

Subscriptions to *Technology News* are free. Subscribe online ([iowaltap.iastate.edu/subscribe-to-technology-news/](http://iowaltap.iastate.edu/subscribe-to-technology-news/)) or by contacting the editor (see page 4).

To obtain permission to reprint articles, contact the editor (see page 4). Readers' comments and article topic suggestions are welcome.



## From the Director: Cultivating connectedness

What defines a meaningful encounter, conversation, or gathering? It can depend on the context, of course, but it is really deeper than that, I think. The word “meaningful,” for example, and I say this most grudgingly given what I do for a living, is not typically a term used when a person leaves a technical workshop or event. At best, the response is probably more like: “That was helpful” or “I learned a lot today” or something similar. At least, that is our wish as a program. When, then, do we walk away and verbalize or think “Wow, that was really meaningful to me!?” There is something bigger, it seems, when this phrase is embraced by someone. Something bigger than the analytical, cultural, and societal death grip that often rules what spills from our mouths in response to an encounter, conversation, or gathering. In fact, it feels like when something is truly meaningful to someone, they don’t often verbalize it. And, when it is verbalized, it comes out in hushed tones of great gravity and heartfelt conviction.

The really great thing is that, due to a variety of physiological mechanisms, including mirror neurons, it is not always necessary for someone to verbalize something for us (and other species too) to understand that a meaningful moment has happened or is currently occurring. Paying close attention to visual cues and our own felt senses provides clues to the fact that something special has occurred to this person, and they have now passed that meaning on to you. Like a chain. Words in these situations can be of limited consequence. The circumstance should be savored and might even be considered sacred by some. Something to be cultivated by truly being right there when it is happening. Expanding its impact into a greater circle.

Einstein said, “A human being is a part of the whole, called by us ‘Universe,’ a part limited in time and space. He experiences himself, his thoughts and feelings as

something separated from the rest—a kind of optical delusion of his consciousness.” Here, he is pointing to what is our often embraced “optical delusion” of separateness. Could it be, though, that we can practice to purposefully touch base and work to not define these meaningful times by how rarely they occur? Breaking down this delusion by stopping, listening, and connecting through meaningful interactions one person and one encounter at a time. During times of cultural craziness and technological toxicity, it can be easy to walk away from this idea, but it is during these times that it is also most needed. Meaning is, after all, “...a function of connectedness, and is always participatory” (Jeremy Lent, *The Web of Meaning*).

The Iowa LTAP hopes that, at least in the area of analytical and technical gatherings we facilitate, that there is meaning in the content that is shared with you. That attendees walk away with one or more items that help them in their day-to-day work. Of course, our charge, in the greater context of things, is also much easier to accomplish than the one discussed above. In 2022, we will initially continue to offer our twice-a-month webinars. The webinar subjects for January are low-cost safety improvements for signalized intersections and multi-discipline safety teams. In February, we are scheduling a webinar that will discuss new commercial driver’s license (CDL) clearinghouse and training requirements. On-site, the registration links for the Work Zone Safety Series and bridge inspection workshops are open. We are also currently planning workshops in motor grader operation and the MUTCD, along with a local agency bridge innovation day. We hope to see you there.

With all gratitude,

Keith ■

*PWSB continued from page 1*

“Our contract started March 1st, and we have hit the ground running,” said SUDAS Program Coordinator Beth Richards, who is a co-author on the project. “The new website launched in August, and we have been promoting and improving it ever since. We are also working on a major project task of marketing, marketing, marketing!”

### How you can support PWSB

- Help spread the word about the PWSB
- Register as a PWSB member at [www.IowaPWSB.org](http://www.IowaPWSB.org)
- Once you are a member, peruse the various features of the website, such as member forums, contacts, job opportunities, etc.
- Encourage the Iowa Legislature to adopt an off-the-top allocation from the street construction portion of Iowa’s Road Use Tax Fund to support the PWSB ■



## Traffic and Safety Forum asks “What does safety mean to you?”

### 2021 event attracted 125+ attendees

The 2021 Traffic and Safety Forum was held in mid-November, a week after Iowa reached a grim milestone: surpassing 300 roadway fatalities this year. This prompted Iowa Department of Transportation (DOT) Director Scott Marler to pose two questions to the transportation community in attendance.

“What does safety mean to you? How do you internalize the word safety?” Marler asked the 125-plus people in the room.

For many attendees, the answers came easily. They have lost friends and/or loved ones due to traffic crashes; they know the public depends on them to provide solutions to make roadways safer; and they practice safe techniques, like not looking at their smartphone while driving.

“We have to tell our stories, even when it’s hard, even when it’s not the most comfortable conversation,” said Iowa DOT State Safety Engineer Jan Laaser-Webb. “Do you put your phone down? I do.”

Though Marler knows the impacts that stories can have—whether they are shared with loved ones or the state legislature—he also stressed that there are opportunities to implement new programs and practices throughout the transportation community that will make roadways safer. He also laid out the vision and five-year goal for the Iowa DOT during his speech.



Keynote speaker David Harkey addresses the 2021 Traffic and Safety Forum attendees

The theme of improving safety and making the story personal was also emphasized during the morning’s keynote address by David Harkey, the president of the Insurance Institute for Highway Safety (IIHS).

“Everything that you do is so important, and it has to be a part of the safe systems approach,” Harkey said, adding, “That’s why it’s so important to change behavior and infrastructure, because changes on vehicles take time.”

The IIHS assesses vehicle safety as far as how it protects vehicle occupants after a crash and what manufacturers do to help drivers avoid crashes. He said there has been a lot of progress since the institute started testing vehicles in 1995, but he acknowledged that it takes time for the overall fleet of vehicles on the roadways to catch up to the latest innovations available.

Several other presenters comprising consultants and Iowa DOT staff shared innovations, opportunities, and challenges in the transportation industry throughout the day-long event.

The Traffic and Safety Forum is an annual event organized and hosted by the Iowa DOT and the Institute for Transportation at Iowa State University. The purpose of the forum is to enable traffic and safety engineering professionals to learn about new and innovative systems and processes, share individual experiences, and collectively address issues of interest. ■

## 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.

### Staff

Keith Knapp  
Director of Iowa LTAP  
[kknapp@iastate.edu](mailto:kknapp@iastate.edu)

Paul Albritton  
Technical Training Coordinator  
[palbritt@iastate.edu](mailto:palbritt@iastate.edu)

Shari Butterfield  
Administrative Event Coordinator  
[sharib@iastate.edu](mailto:sharib@iastate.edu)

Christinia Crippes  
Technology News Editor  
[ccrippes@iastate.edu](mailto:ccrippes@iastate.edu)

Theresa Litteral  
Statewide MDST Facilitator  
[litteral@iastate.edu](mailto:litteral@iastate.edu)

David Veneziano  
Safety Circuit Rider  
[dvenez@iastate.edu](mailto:dvenez@iastate.edu)

### Advisory Board

Tyler Christian  
Marion County Engineer  
641-828-2225  
[tchristian@co.marion.ia.us](mailto:tchristian@co.marion.ia.us)

Matt Greiner  
Public Works Director, City of Johnston  
515-278-0822  
[mgreiner@cityofjohnston.com](mailto:mgreiner@cityofjohnston.com)

Tim Herrstrom – Chair  
Road Foreman, Boone County  
515-795-2825  
[bctjh@iowatelecom.net](mailto:bctjh@iowatelecom.net)

Ron Knoche  
City Engineer, City of Iowa City  
319-356-5138  
[ron-knoche@iowa-city.org](mailto:ron-knoche@iowa-city.org)

Corey Mellies  
Operations Manager, City of Ames Public Works  
515-239-5276  
[cmellies@cityames.ia.us](mailto:cmellies@cityames.ia.us)

Nicole Moore  
Iowa DOT, Office of Local Systems  
515-239-1506  
[nicole.moore@iowadot.us](mailto:nicole.moore@iowadot.us)

Brad Skinner  
Appanoose County Engineer  
641-856-6193  
[bskinner@appanoosecounty.net](mailto:bskinner@appanoosecounty.net)

Steve Struble  
Harrison County Engineer  
712-644-3140  
[sstruble@harrisoncountya.org](mailto:sstruble@harrisoncountya.org)

Wade Weiss  
Greene County Engineer  
515-386-5650  
[wweiss@co.greene.ia.us](mailto:wweiss@co.greene.ia.us)

Andrew Zimmerman  
Transportation Engineer, FHWA - Iowa  
515-233-7334  
[andrew.zimmerman@dot.gov](mailto:andrew.zimmerman@dot.gov)

# CP Tech Center publishes update to *Guide to Concrete Overlays*

Concrete overlays have matured into a standard rehabilitation option for public agencies during the past four decades as they've been shown to be an economical, long-lasting solution to extend the life of an existing pavement.

In addition, concrete overlays can contribute meaningfully to an agency's overall asset management program and have the potential to provide service lives of 30 to 40 years.

Since 2007, the National Concrete Pavement Technology Center (CP Tech Center) has published the *Guide to Concrete Overlays* to present to pavement engineers the basic principles needed to design and construct concrete overlays on existing asphalt, composite, and concrete pavements. The CP Tech Center recently released the fourth edition of this guide, available here: <https://cptechcenter.org/concrete-overlays/>.

The *Guide to Concrete Overlays* (Fourth Edition) provides updates that include current information on continuously reinforced concrete pavement (CRCP) overlays, geotextile separation layers, fiber reinforcement, design procedures, and lessons learned from the experiences of numerous state highway agency engineers.

"The intent of this guide is to increase the technical proficiency of experienced engineers in the use of concrete overlays, provide less experienced users with the essential knowledge to address the needs of various types of concrete overlay projects, and help all users recognize the versatility of concrete overlays, whether on low-volume roads, city streets, primary roadways, or Interstate highways," said Gary Fick, of The

Transtec Group Inc., a contributing author to the guide.

The other authors are Jerod Gross, PE, LEED AP, Snyder & Associates, Inc.; Mark B. Snyder, PhD, PE, Pavement Engineering and Research Consultants, LLC; Dale Harrington, PE, Harrington Civil Engineering Services; Jeffery Roesler, PhD, PE, University of Illinois at Urbana-Champaign; and Tom Cackler, PE, Woodland Consulting, Inc. The guide was published with funding from and as part of the Federal Highway Administration cooperative agreement Advancing Concrete Pavement Technology Solutions.

"Rather than as a step-by-step manual or series of prescriptive formulae, the material in this guide is presented in the form of expert guidance meant to supplement the professional experience of the reader," said Gross.

The guide provides users with important considerations in designing and constructing concrete overlays, starting with high-level scoping questions, such as the type and condition of the existing pavement, through detailed engineering considerations, such as treatment of the jointing system.

In addition to this guide, the CP Tech Center has developed a set of resource materials—including webinars, tech briefs, and manuals and guides—to train and educate users on the applications and benefits of concrete overlay technology. These and other concrete overlay resources developed by the CP Tech Center and its partners are available for free download at <https://cptechcenter.org/concrete-overlays/>. ■



Unbonded concrete overlay on Missouri Route D (Todd LaTorella, ACPA, MO/KS Chapter)

# Aurora Program research projects consider optimal RWIS density and location

A series of research projects to determine the optimal quantity and placement of road weather information systems (RWISs) led by Tae J. Kwon, an assistant professor at the University of Alberta, has recently concluded.

The Aurora Program-sponsored Phase III project developed a systematic, yet transferrable, method for estimating key road surface condition variables between RWIS stations using large-scale data and advanced modeling techniques such as Geostatistics for spatial inference and mapping and Deep Learning for image recognition.

The projects culminated in techniques that transportation agencies can use to expand their road surface condition (RSC) spatial coverage substantially and enhance their ability to perform winter road maintenance activities, ultimately providing the general public with a greater level of service in terms of safety and mobility.

This is critical as RWIS technologies are relatively expensive to maintain and operate and are therefore only installed at a limited number of locations to provide real-time and near-future surface condition information to make timely maintenance related decisions.

The limited number of RWIS stations along with the need to monitor spatially large road networks with vastly varied conditions necessitate a strategic and scientific approach to the continuous and accurate monitoring of RSCs during inclement weather events.

The project also sought to automate the process of image recognition to fill in the spatial gap of unmonitored areas using RWIS and other mobile sensing technologies (e.g., maintenance fleet dash cameras and automatic vehicle locations). In particular, because most RWIS stations have cameras that provide a direct view of surface conditions but require users to manually view the images, the ability to automate the

process would allow agencies to use the data more effectively and improve the level of service they provide.

Future phases of the project are planned to further validate the methodology and improve image recognition by covering a larger range of road, weather, environmental conditions, as well as testing alternative deep learning models for real-time implementation. These efforts are expected to provide winter maintenance personnel with newfound knowledge and analytical tools required to make better use of available resources, resulting in better maintenance and improvements to their highway infrastructure thereby promoting improved winter mobility and safety.

To learn more about the projects, visit <https://intrans.iastate.edu/research/completed/optimal-rwis-sensor-density-and-location-phase-3/>. ■



The Iowa Streets and Roads Workshop and Conference attendees heard from keynote speaker Devin Henderson, left, and met with vendors, right



## Save the date

The 13th TRB International Conference on Low Volume Roads will be held July 23–26, 2023 in Cedar Rapids. The conference is convened by the Transportation Research Board and is a global forum to examine new technologies and new techniques in planning, design, construction, operation, maintenance, and administration of low-volume roads. A draft agenda is available here: <https://trb.secure-platform.com/a/page/lowvolumeroads>. Mark your calendars today. ■



Ben Hull

## In brief: Lasting LTAP impacts

2021 has been a busy year for the Iowa LTAP and its' Equipment Loan Program. The collection continues to grow, and more equipment has been added due to demand—such as the addition of a second trailer-based speed feedback sign.

A total of 18 loans were made to 17 counties and cities in 2021, with the most popular equipment being the radar traffic/speed data recorders (a.k.a. sidefire radars). But all the types of equipment available saw use this year.

One of the greatest perks of the available equipment is the ability to collect similar types of data—just in different ways. For example, in October, Kossuth County borrowed a speed feedback trailer to collect data on speed and counts to determine where speed limit changes may be needed. This type of equipment is especially good at addressing a proven speeding problem along a roadway but can also be used to collect speed data.

Additionally, Webster City borrowed a sidefire radar unit in the fall for a similar purpose, collecting speed and count data on residential streets to use in answering resident inquiries. Iowa LTAP's sidefire units provide a non-invasive mechanism to collect data on vehicle speeds, lengths, gaps, and volumes. The difference between the radar unit and the speed feedback sign?

The radar recorder is installed by attaching it to a roadside pole at approximate level with the traffic stream. Besides being more non-invasive, it allows for the collection of bi-directional data and is ideal for use on unpaved roadways.

“The continued use of the different equipment available through the LTAP loan program has assisted local agencies in Iowa in the collection of (or in the case of the speed feedback signs— display of) data to improve the safety of their roadways,” said David Veneziano, LTAP Safety Circuit Rider. “The frequency of loan requests has continued to grow as new equipment is added, and looking forward to 2022, I would expect that demand to continue.”

Here are the loan totals/roundup for 2021:

Digital Ball Bank (1)

- Plymouth County

Retroreflectometer (4)

- Warren County
- Adams County
- Linn County
- Union County

Radar Traffic/Speed Recorders (7)

- Webster County (borrowed twice)
- City of Cumming
- City of Decorah
- Quad Cities MPO
- Hancock County
- Webster City

Speed Feedback Trailer (4)

- City of Alleman
- Mills County
- City of Hazelton
- Kossuth County

Wood Piling Test Drill (2)

- Audubon County
- Washington County

As always, the entire collection is available to loan year-round (except for the speed feedback sign trailers during the winter season). If interested, fill out the form here to request the equipment: <https://iowaltap.iastate.edu/speed-feedback-signs/>. Check out all the currently available equipment available here: <https://iowaltap.iastate.edu/equipment-loan-program/>, and don't forget to continue sharing your impact stories with us! ■

*Article written by Brandy Haenlein, a communication specialist with InTrans.*

## Data integration efforts aid in assessing crash factors

Crash data provide useful information about some of the factors at the time of the incident. However, the addition of other data sets—such as weather and traffic conditions—can begin to give a fuller picture of the incident and can ultimately lead to better decision-making.

Recently completed research from the Institute for Transportation's Center for Transportation Research and Education (CTRE) developed a proof-of-concept architecture to integrate mobility and weather data into available crash data to

better understand the role these factors have in crashes.

“Despite access to unprecedented amounts of data, decision-makers are often restricted in their ability to explore multiple data due to factors that include the storage of data in silos and the size and availability of different data sources,” said Skylar Knickerbocker, the project principal investigator and CTRE research engineer.

The developed architecture is useful in itself, but as importantly the research created a

foundation for integrating additional data sets in the future.

Additional data sets that can be used to enhance the crash data or used in future research based on input from the Iowa Department of Transportation (DOT) and other relevant stakeholders include the following: Advanced Traffic Management System, snowplow automatic vehicle location (AVL), winter road conditions, traffic and road weather snapshot and videos, pavement condition data, intersections, and work zones.

# Workshop and conference calendar

[Information current as of December 15, 2021] Iowa LTAP will continue with some virtual efforts throughout the winter, but it will also continue planning and holding some in-person events and trainings.

For the most up-to-date information about in-person attendance requirements and additional upcoming virtual events, please check regularly at <https://iowaltap.iastate.edu/events/> and consider subscribing to our mail list at <https://iowaltap.iastate.edu/> for email updates.

2022	Event Name	Location	Contact
<b>January</b>			
7	Low Cost Safety Improvements for Signalized Intersections	Webinar (12:00 p.m. CT)	David Veneziano
21	Iowa's Multi-Discipline Safety Team (MDST) Program	Webinar (12:00 p.m. CT)	Keith Knapp
<b>February</b>			
3	Iowa Work Zone Safety Workshop	Ames	Paul Albritton
8–10	Bridge Inspection Refresher Training (NHI 130053)	Ames	Paul Albritton
9	Iowa Work Zone Safety Workshop	Council Bluffs	Paul Albritton
10	Iowa Work Zone Safety Workshop	Storm Lake	Paul Albritton
15	Iowa Work Zone Safety Workshop	Ottumwa	Paul Albritton
16	Iowa Work Zone Safety Workshop	Cedar Falls / Waterloo	Paul Albritton
17	Iowa Work Zone Safety Workshop	Cedar Rapids	Paul Albritton
<b>March</b>			
1	Iowa Work Zone Safety Workshop	Ames	Paul Albritton
2–4	Greater Iowa Asphalt Conference	Des Moines	Keith Knapp
10–11	ISAC Spring Conference	Des Moines	Keith Knapp
29–31	Bridge Inspection Refresher Training (NHI 130053)	Ames	Paul Albritton
<b>April/May</b>			
25–6	Safety Inspection of In-Service Bridges (NHI 130055)	Ames	Paul Albritton

## Contact information

David Veneziano, 515-294-5480, [dvenez@iastate.edu](mailto:dvenez@iastate.edu)

Keith Knapp, 515-294-8817, [kknapp@iastate.edu](mailto:kknapp@iastate.edu)

Paul Albritton, 515-294-1231, [palbritt@iastate.edu](mailto:palbritt@iastate.edu) ■

## Event details and online registration

Watch for details and online registration information, by specific dates and events, on the Iowa LTAP Workshops page, [iowaltap.iastate.edu/workshops/](https://iowaltap.iastate.edu/workshops/). ■

*Data integration continued from page 6*

The architecture includes the following benefits over the existing system:

- Data from multiple sources are saved in a format that leads to extended ability to query across these data sources. Thus, queries, such as how many crashes occurred during snow and congested conditions, should be easy to perform.
- High-performance computing systems are used to store and manipulate the data, and hence the data processing time will be significantly reduced.

- The crash data has been integrated with the roadway asset management system (RAMS) back to 2015 which will provide easier integrations with other datasets

In addition to developing the integration processes, the research team developed a prototype online safety and operations evaluation tool to explore the interactions between the crash, weather, and probe data. While the research team did explore methods of analyzing the data, it expects that future research will further explore and analyze the data to understand the relationships among crash factors.

“This research addresses some of the constraints on decision-makers but also opens up additional data sets for the Iowa DOT or other researchers to explore without the additional time and effort needed to integrate the data,” Knickerbocker said. “Users can spend additional time analyzing the data rather than interpreting and processing the raw data.”

Read more about the project here: <https://intrans.iastate.edu/research/completed/developing-an-architecture-to-integrate-safety-mobility-and-traffic-data/>. ■

Institute for Transportation  
Iowa State University  
ISU Research Park  
2711 S. Loop Drive, Suite 4700  
Ames, IA 50010-8664

**RETURN SERVICE REQUESTED**

## LTAP Materials

- √ Order library materials
- √ Add a name to our mail list
- √ Correct your mailing information

To make a change to the *Technology News* mail list or to order library materials, please complete the information below and mail or fax this page (including mail label) to the InTrans address below:

**Institute for Transportation**  
2711 S. Loop Drive, Suite 4700  
Ames, IA 50010-8664  
Fax: 515.294.0467

- Add the name/address below to the *Technology News* mail list.
- Delete the name/address below from the *Technology News* mail list.
- Correct the name and/or address below on the *Technology News* mail list.

**New or corrected mailing information:**

Name \_\_\_\_\_

Title \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

- Send the following library materials to the address above:

Title: \_\_\_\_\_

P-, V-, DVD or CR-number: \_\_\_\_\_

Title: \_\_\_\_\_

P-, V-, DVD or CR-number: \_\_\_\_\_

**Subscribe to *Technology News* online at**  
[iowaltap.iastate.edu/subscribe-to-technology-news/](http://iowaltap.iastate.edu/subscribe-to-technology-news/)