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IOWA STATE UNIVERSITY
Institute for Transportation

Iowa LTAP remembers Tom McDonald

State, regional, and national LTAP personnel and hundreds of people from Iowa's city and county roadway agencies are joining InTrans faculty and staff in mourning the loss of our colleague and friend Tom McDonald, 72. Tom, Iowa's Safety Circuit Rider since early 1998, died Monday, October 28, 2013, at Israel Family Hospice House in Ames.

After a 30-plus year career with the Iowa DOT, including several years as district engineer and then development engineer, Tom retired from the department in 1998, then joined InTrans (at that time the Center for Transportation Research and Education) as the Safety Circuit Rider.

For 15 years, Tom led Iowa's award-winning circuit rider program, part of the state's Local Technical Assistance Program (LTAP). Tom helped develop this program into a model for other transportation centers around the country.

Whatever the weather or road conditions, every week Tom drove Iowa's highways and back roads to city and county shops, garages, and meeting rooms where he led safety-related workshops for transportation workers. His Principles of Flagging workshop, for example, was a regular staple around the state. Tom also organized and led major safety-related conferences, like the Fall Safety School and the Signs and Pavement Markings training.

In addition, and perhaps most important, Tom personally responded to hundreds of requests for information or advice from

local agencies, often driving several hours to size up a specific situation with local staff.

Tom's dedication to transportation safety went beyond his efforts as a tireless trainer and resource for Iowa's local agencies. He managed and/or participated in almost two dozen safety-related research projects at InTrans. He conducted safety audits of 20 specific roadway segments and/or intersections at the request of local agencies. Not least, Tom authored

several manuals, including Iowa's in-depth Manual for Traffic Control Devices and Pavement Markings and Iowa Drainage Law Manual, both sponsored by the Iowa Highway Research Board (TR-441 and TR-497, respectively).

Through all these activities, Tom's professional efforts made life better and safer for Iowans.

Many state, city, and county staff who knew and worked with Tom have been surprised to learn that for the last several years he was quietly living with and combating cancer. Tom's professional enthusiasm never lagged. Only a couple of months ago, he was still barreling full steam ahead, planning his next projects and scheduling spring 2014 Work Zone Safety Training events.

We at the Institute for Transportation and Iowa LTAP extend our heartfelt condolences to Tom's wife Judy and their family. You can read many personal and professional tributes to Tom (and add your own if you wish) at his online obituary, www.tributes.com/show/Thomas-McDonald-96608115. ■



Tom McDonald

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

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Printed with soy ink



From the director: Cold Iowa winds

The cold winds of winter have just started to blow here in Iowa and as I look out my window I realize that the sun has already set. It's 5 pm. It could be 7 am. But there is something else. Something is missing. It's at these times that I most notice the fact that we've lost someone special. Tom McDonald, Iowa Safety Circuit Rider for 15 years, and so much more, isn't here. Tom passed away on October 28th. My friend and colleague, but so much more.

There is a silence that is something I can't get used to. Tom is not next door providing advice, planning the next big event, wrapping some local research, or giving guidance to someone that has just shown up at his office or called seeking help. Not just here in Iowa, but from around the country, and the world. So much more.

The walls are thin here at InTrans and the silence is deafening. Tom's not here. Tom may not have realized it but he taught me many things simply by example.

Commitment to serving others.

If you are going to do a job, do it well, and for the right reasons.

Say what you mean, and mean what you say.

Countless other things. So much more.

Tom's impact was both personal—with all the people he touched and helped throughout his life—and far reaching. Tom would meet with a local resident to talk about the curve "out front" one night and present information to county or city staff the next day when they needed help with proper work zone setup or flagging. And drive to the next person in need of help. So much more.

He might travel to another state as a national resource on road safety audits and assist as a safety expert down the street. As a matter of course, in the past year I know Tom spoke about road safety audits, through a video webinar, for some people in Tanzania. These are the things Tom did in his self-effacing manner. Help. Assist. Guide. So much more.

My last communication with Tom was related to how to cover his projects and most importantly for him the customers that had called in looking for some on-site training. Iowa's Safety Circuit Rider. An example being used throughout the country. So much more.

Our thoughts are with Tom's family.

So much more.

Keith

ADA sidewalk curb ramp clarifications

by Beth Richards and Paul Wiegand, Statewide Urban Design and Specifications (SUDAS) program

When we (SUDAS) initially developed the new SUDAS/Iowa DOT Design Chapter 12 based on the Americans with Disabilities Act (ADA), one of the main points of contention was the issue of resurfacing. The question was if all resurfacing projects trigger the need to install curb ramps.

On July 1, we received information from FHWA, Iowa Division, that the U.S. DOT and Department of Justice (DOJ) developed clarifications on what constitutes resurfacing and further identified work elements that are considered maintenance.

Based on those clarifications, the Iowa ADA Standardization Design Committee (consisting of SUDAS, Iowa DOT, and Iowa FHWA staff) met to revise Section 12A-2 accordingly. Here's a summary of the changes made:

Resurfacing is an alteration that triggers the requirement for curb ramps—new, or reconstruction of non-conforming curb ramps.

There are additional surface treatments listed that may have been considered maintenance that are now considered alterations. For example, mill and fill, micro-surfacing, and thin lift overlays are alterations.

Section 12A-2 now incorporates the same expanded list of maintenance activities that is included in the U.S. DOT/DOJ technical assistance document.

The U.S. DOT/DOJ technical assistance document stated, “A combination of several maintenance treatments occurring at or near the same time may qualify as an alteration and would trigger the obligation to provide curb ramps.” We included that language following the list of maintenance items. It will be up to the individual agency to determine what constitutes “several” and to document the decision if the determination is maintenance.

The numbered descriptions for the various situations depicted in Figure 12A-2.06 were revised.

As a result of information provided in the technical assistance document, our committee asked for further clarification on where curb ramps must be provided. The response, according to Federal regulation 28 CFR 35.151, indicates, “When there is an alteration on the street where there are curbs or barriers in the path of travel between the sidewalk on one side of the street to the sidewalk on the other side of the street, curb ramps are required. Barriers can be the grass portion from the back of curb to the pedestrian walkway.”

This clarification impacted situation #3 on Figure 12A-2.06; in those situations, construction of a curb ramp is now required. The U.S. DOT/DOJ clarification also necessitated revisions of situations #4 and #5.

The updated version of Chapter 12 has been approved by FHWA, Iowa Division, and the SUDAS board of directors and is included on the Iowa DOT and SUDAS websites. SUDAS printed versions were distributed with the 2014 edition updates.

It is important to note that these requirements must be included in any project let after January 1, 2014.

For more information

See the online clarification documents issued by the U.S. DOT/DOJ, www.fhwa.dot.gov/civilrights/programs/doj_fhwa_ta_glossary.cfm and www.fhwa.dot.gov/civilrights/programs/doj_fhwa_ta.cfm.

The SUDAS manuals can be found on the program website, www.iowasudas.org.

Contact Beth Richards, 515-294-2869, brich@iastate.edu. ■

Editor's note: This article is reprinted with minimal changes from an article in the fall 2013 issue of APWA Iowa Chapter Newsletter, with permission.

“Resurfacing is an alteration that triggers the requirement for curb ramps—new, or reconstruction of non-conforming curb ramps.”



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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Update: Funding for safety improvements on Iowa's secondary roads

Iowa's local agencies have been asked to submit Letters of Interest to the Iowa DOT for funding safety-related projects under the new HSIP–Secondary Roads initiative.

The Office of Traffic and Safety will review the letters in the order they are received and, using crash data and other determining factors, identify projects for funding.

Overview

The Iowa DOT is collaborating with the Iowa County Engineers Association to fund safety improvements on the county road system under the federal highway bill “Moving Ahead for Progress in the 21st Century” (MAP-21, signed July 2012).

This initiative—HSIP–Secondary Roads—focuses on low cost, systemic safety improvements along an entire corridor. Such projects may involve multiple neighboring counties.

HSIP–Secondary Roads is providing a \$2 million set-aside for approved projects. The program receives a 90 percent federal reimbursement, and the Iowa DOT's Transportation Safety Improvement Program will

provide the required 10 percent local match. In other words, counties will provide net zero funding for approved projects.

County engineering staff (or their consultant) will oversee construction activities and appropriate Iowa DOT District Local Systems staff perform project construction and material reviews and audits in the same manner as for other county federal aid projects.

For more information

Contact the Iowa DOT, Office of Traffic and Safety, for specific details: Terry Ostendorf, terry.ostendorf@dot.iowa.gov, 515-239-1077, or Jan Laaser-Webb, Jan.Laaser-Webb@dot.iowa.gov, 515-239-1349.

Information can also be found online, www.iowadot.gov/traffic/sections/HSIP.html. ■

Editor's note: Additional details about the HSIP–Secondary Roads initiative can be found in the Jan-Mar 2013 issue of Technology News, pages 4 and 5, www.iowaltap.iastate.edu/documents/TN/2013/Jan-Mar/funding-changes-for-high-risk-roads.pdf.

Master Roads Scholars recognized

The Iowa LTAP recently recognized five Master Roads Scholars as part of its Roads Scholar Program. The Master level is the highest level of recognition in the current program. The new Master Roads Scholars all work for the City of West Des Moines. They are

- Mike Coughlon
- Jon Jorgensen
- Beav McDaniel
- Josh Reynolds
- Scott Thomas

These recognitions are long overdue. Roads Scholar I and II certificates, for those who have achieved these levels, will be mailed out in the coming months.

As we've noted in past newsletters, the Roads Scholar program is being updated. With the certificates mailed there will be a letter asking if the recipient(s) would like to remain involved with the new program. Please respond if that is something you'd like to do. ■

Iowa responds: Asset management requirements of MAP-21

Several asset management–related requirements for roadway agencies are outlined in the Moving Ahead for Progress in the 21st Century act (MAP-21, effective Oct. 1, 2012). Most important, highway agencies must develop a risk-based Transportation Asset Management Plan to guide the preservation, improvement, and performance of the highway system.

At a minimum, such plans are required to cover only those routes in the National Highway System (NHS). Because most NHS roadways are not under local jurisdiction, local agencies are, for the most part, currently exempt from the requirement to develop a Transportation Asset Management Plan. Both the legislation and FHWA, however, encourage state DOTs to include all their state miles plus assets beyond pavements and bridges.

This article summarizes key concepts in asset management and describes Iowa's response to date to MAP-21 requirements.

Summary of asset management

According to MAP-21, asset management is

... a strategic and systematic process of operating, maintaining, and improving physical assets, with a focus on engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the lifecycle of the assets at minimum practicable cost.

This definition is based on three key concepts:

- It can be more cost effective to repair and/or renovate road and bridge assets early in their life cycles, before they have experienced significant distress, rather than later in their life cycles, after they

Historical context: Iowa is well situated to comply with MAP-21 regarding asset management

In recent decades, asset management concepts have evolved and gained importance as agencies have struggled to maintain or rebuild deteriorating infrastructure with sometimes sharply reduced budgets. Asset management strategies attempt to gain the most benefit with available resources.

In 1991 the federal Intermodal Surface Transportation Efficiency Act (ISTEA) mandated that each state develop several discrete management systems for physical assets or transportation-related functions. At that time, Iowa became a national leader in organizing state and local management efforts in several areas, including pavements, bridges, and safety.

Although the mandate was withdrawn with the next long-term highway bill in 1995, Iowa has continued and enhanced several of its management programs. The Iowa Pavement Management Program (IPMP), an Iowa DOT–led initiative that supports city and county involvement, is an ongoing result of ISTEA; for details see the program website, www.ctre.iastate.edu/ipmp/. Iowa has developed tools and guidelines for management systems at many levels, such as pavement markings and signs.

Through the IPMP, detailed high-quality distress data can be collected for all of Iowa's paved highways, including those under local jurisdictions, through a fully automated system. The system provides the following distress-related information:

- A crack detection system for pavement condition rating
- A longitudinal profile of the pavement surface, with calculations of International Roughness Index (IRI) information and other roughness indices in real time
- A transverse road profile, which includes the amount and severity of rutting
- Right-of-way videologs with six perspectives of the right-of-way
- Technician recorded pavement conditions and roadside features, such as signs, bridges, culverts, guardrails, grade crossings, etc.
- Global positioning system (GPS) technology to determine three-dimensional coordinates in geographic space

With its requirements for Transportation Asset Management Plans, MAP-21 renews the federal mandate for states to manage transportation investments as cost effectively as possible. However, under MAP-21 agencies are encouraged to weigh expenditures across all physical asset systems rather than discrete systems, and to weigh not only the value of investments but also the risks of not investing.

“Gravel roads were identified as a priority by county members of the LTAM Steering Committee.”

Asset continued from page 5

have experienced significant distress and may be seriously deteriorated and depreciated.

- Efficient use of scarce resources (i.e., cost effectiveness) can be optimized through the use of formal systems that periodically measure and track roadway asset conditions and analyze the data to anticipate future conditions based on various maintenance and repair scenarios.
- The quality of such analyses depends on the quality of roadway condition data.

According to MAP-21, each state’s Transportation Asset Management Plan must cover all pavement and bridge assets within the NHS right of way. The plan may cover other transportation-related assets on the system, such as markings, culverts, guardrails, signs, traffic signals, lighting, intelligent transportation system (ITS) infrastructure, rest areas, etc.

Each state’s plan must include the following:

- Summary of the state’s pavement and bridge assets on the NHS (an inventory)
- Summary of their condition
- Asset management objectives and measures
- Identification of gaps between objectives and actual performance
- Analysis of life-cycle costs related to enterprise risk management
- A financial plan with investment strategies

Activities involving Iowa’s local transportation agencies

To support communication among agencies across the state about their asset management activities, representatives of the Iowa DOT, Iowa cities and counties, and the Institute for Transportation at ISU have formed Iowa’s Local Transportation Asset Management (LTAM) Steering Committee.

The LTAM Steering Committee has been meeting about once a month since February 2013.

Its purpose, as stated in its charter, is to

“... collaborate and coordinate efforts in striving to reach new levels of efficiency and effectiveness and improve the state of the art [of asset management].” Toward that end, the committee is guiding the development of tools, information, and resources.

One of the committee’s first activities is to develop a web page that “tells the story” of roadway investments versus risks to the general public and elected officials. The web site will provide a GIS-based condition assessment map that will display some basic information about the condition of paved roads and bridges in Iowa.

A second initial focus is to support management of gravel roads. Gravel roads were identified as a priority by county members of the LTAM Steering Committee. Nearly half of the typical county secondary road department budget is used to maintain gravel roads. However, due to the massive extent of gravel road systems and the fluid nature of gravel road conditions, these roads don’t lend themselves to automated data collection methods used for paved roads in Iowa.

As part of the steering committee’s efforts, the Iowa County Engineers Association has been developing simplified analysis tools for both paved and gravel secondary roads.

For more information

FHWA has published a Q&A on asset management requirements under MAP-21, which is available online, www.fhwa.dot.gov/map21/qandas/qaassetmgmt.cfm.

Matt Haubrich is the Iowa DOT’s asset management coordinator; you can contact him at 515-233-7902, matthew.haubrich@dot.iowa.gov.

Or contact Charlie Purcell, director of the Office of Local Systems at the Iowa DOT, who provided the background information for this article: 515-239-1532, charlie.purcell@dot.iowa.gov.

For information about Iowa’s Pavement Management Program, see the website, www.ctre.iastate.edu/ipmp/. ■

Conference calendar

January 2014			
22	Work Zone Safety Workshops (County, City, Utility, Iowa DOT Construction/Contractors, Iowa DOT Maintenance)	Ames	Keith Knapp
23	Work Zone Safety Workshops (County, City, Utility, Iowa DOT Construction/Contractors, Iowa DOT Maintenance)	Cedar Rapids	Keith Knapp
24	Work Zone Safety Workshops (County, City, Iowa DOT Con- struction/Contractors, Iowa DOT Maintenance)	Ottumwa	Keith Knapp
27–28	Intro to Federal-Aid Right of Way Requirements for Local Public Agencies	Ames	Keith Knapp
30–31	Intro to Federal-Aid Right of Way Requirements for Local Public Agencies	Coralville	Keith Knapp
February 2014			
18–20	NHI Bridge Inspection Refresher Training	Ames	Sharon Prochnow
24	Work Zone Safety Workshops (County, City, Utility, Iowa DOT Construction/Contractors, Iowa DOT Maintenance)	Waterloo	Keith Knapp
March 2014			
10	Work Zone Safety Workshops (County, Iowa DOT Construction/ Contractors, Iowa DOT Maintenance)	Storm Lake	Keith Knapp
11	Work Zone Safety Workshops (County, City, Utility)	Sioux City	Keith Knapp
12	Work Zone Safety Workshops (County, City, Utility, Iowa DOT Construction/Contractors, Iowa DOT Maintenance)	Council Bluffs	Keith Knapp
28	Work Zone Safety Workshops (County, City, Utility, Iowa DOT Construction/Contractors, Iowa DOT Maintenance)	Ames	Keith Knapp
April 2014			
7–11	NHI Safety Inspection of In-Service Bridges	Ames	Sharon Prochnow
14–18	NHI Safety Inspection of In-Service Bridges	Ames	Sharon Prochnow

Conference contact information

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Event details and online registration

Watch for details and online registration information, by specific dates/events, on the online calendar, www.intrans.iastate.edu/mors/calendar/. ■

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