



# IT innovations in Iowa

Iowa County Engineers Association

NaCO Peer Exchange, Johnson County, Iowa – May 12, 2016

Steve De Vries, P.E., Exec. Director, ICEA Service Bureau

# Today's topics

- Who we are – ICEA Service Bureau
- The Iowa county engineers business website
- The Iowa Transportation Program Management System
- County Work Orders tracking tool
- Future concept for ICEA “Operations Management” System
- Additional innovations
- Last slide – something that IT can't fix

# ICEA Service Bureau

- “28-E” intergovernmental agency tasked with developing IT resources to assist county engineers to provide the public with the best possible roads.
  - Faster access to information
  - Tools for performing analysis, communications and operations
  - Enables every county to tap the collective knowledge of all
- Established 1998
- Funded by ¼ of 1 percent of county RUT
- Staff of 5, co-located with Iowa State Association of Counties
- Key services: ICEA website, Iowa TPMS, Work orders tool, Operations management (in development)

# ICEA Website

- ICEASB.ORG is a business website dedicated to providing county engineers and their staff with access to information, communications and tools that will result in the delivery of better roads and bridges.
- Contains a variety of options that have been winnowed from a larger set tested over time
- Most valuable function: communications support.
- Re-written in 2015 to modernize UI, improve security and move towards county/user self registration.
- Unfortunately – not open to the public
  - (Working on a public information companion)

# ICEASB Basics

The screenshot shows the ICEASB Basics website interface. The browser address bar displays <https://www.iceasb.org>. The page header includes the "ICEA Service Bureau" logo and a "Menu" section with links: News & Updates, Find & Contact, Online Tools, Downloads, Jump To, and Admin. A "Utilities" section is also visible, featuring a search bar and an "Add Article" button. The main content area, labeled "Main work area", contains several news items: "ICEA Exec Board" (5/4/2016), "Workshop on Use of Ultra High Perf. Concrete" (5/4/2016), "NACE 2016 - Tacoma" (5/1/2016), "Oversize/Overweight Permitting in Iowa" (4/8/2016), and "TPMS mapping fins" (4/6/2016). A "Pod dashboard area" is highlighted at the bottom, showing a calendar for May 2016 with events: "Safety Inspection of In-Service Bridges" and "Motor Grader Operator Training". The page also includes a pagination bar at the bottom with options for "Articles", "Featured", "Columns", "1-5 of 5", "Page", "1", and "Per page", "10".

ICEA Service Bureau

Menu

News & Updates Find & Contact Online Tools Downloads Jump To Admin

Utilities

Add Article

Main work area

ICEA Exec Board 5/4/2016  
Minutes from recent meetings: [March 11, 2016](#) | [April 15, 2016](#) Next meeting will be held May 20 at ISAC.

Workshop on Use of Ultra High Perf. Concrete 5/4/2016  
The Iowa Highway Research Board is sponsoring a one day workshop for local public agencies to provide training on Ultra High Performance Concrete with technical experts that will share the characteristics and benefits of this material. Register at <http://intrans.iastate.edu/events/UHPC/> Reminder: Registration must be completed by May 9. [Additional info](#)

NACE 2016 - Tacoma 5/1/2016  
Now that the 2016 conference is complete, here are a few photos to remember it by. Shots from the area: [Seattle waterfront](#) | [Tacoma Narrows bridges](#) From the banquet: [Delegation Ladies Engineers](#) "The Mountain" Mt Rainier towers over the Puget Sound area but is only occasionally visible. It refused to show much of itself during the conference, but did relent as everyone departed: [Aerial view](#) [Telephoto shot](#)

Oversize/Overweight Permitting in Iowa 4/8/2016  
Iowa LTAP is sponsoring a free webinar on OS/OW permitting. It will be held on Tuesday, May 17, 2016, starting at 9:00 AM. [Agenda and registration](#) Please contact Keith Knapp at 515-294-8817 or [kknapp@iastate.edu](mailto:kknapp@iastate.edu) if you have additional questions.

TPMS mapping fins 4/6/2016

Articles Featured Columns 1 1-5 of 5 Page 1 Per page 10

Calendar

May 2016

Add Event

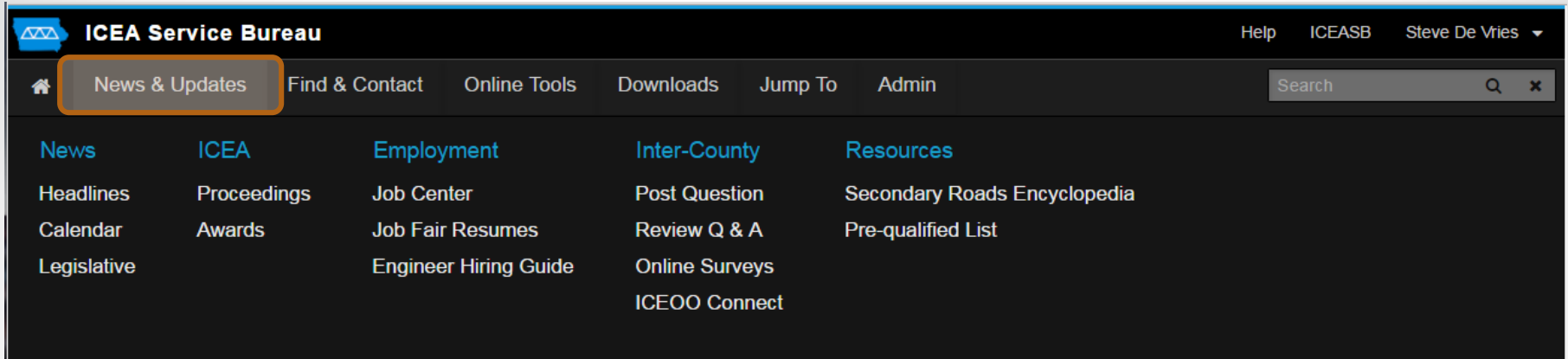
Pod dashboard area

Safety Inspection of In-Service Bridges

Safety Inspection of In-Service Bridges

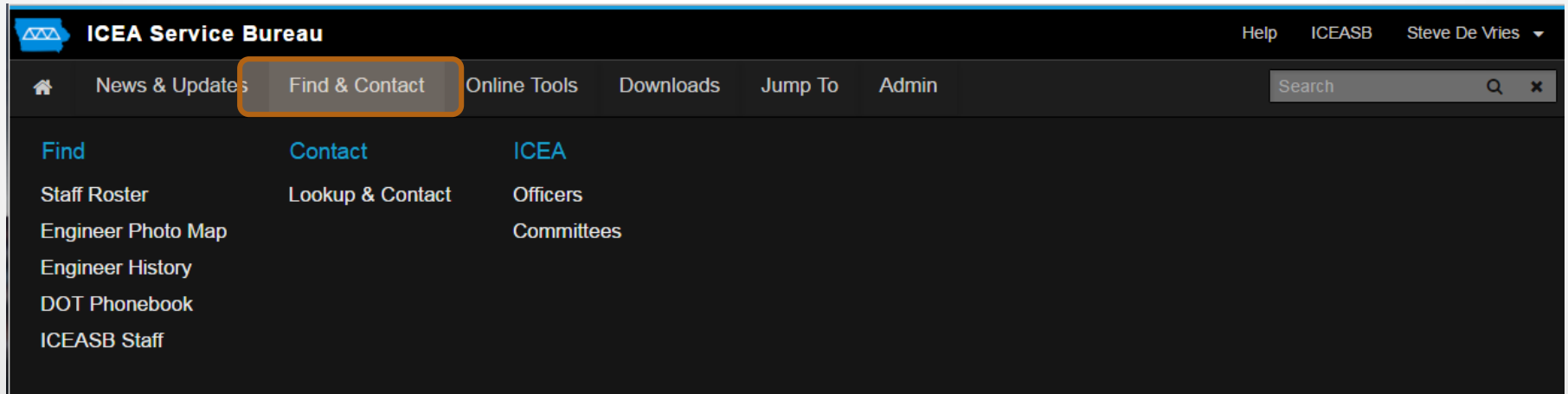
Motor Grader Operator Training

# ICEASB Menus 1



The screenshot shows the top navigation bar of the ICEA Service Bureau website. The 'News & Updates' menu item is highlighted with an orange box. The main content area displays a grid of links under various category headers.

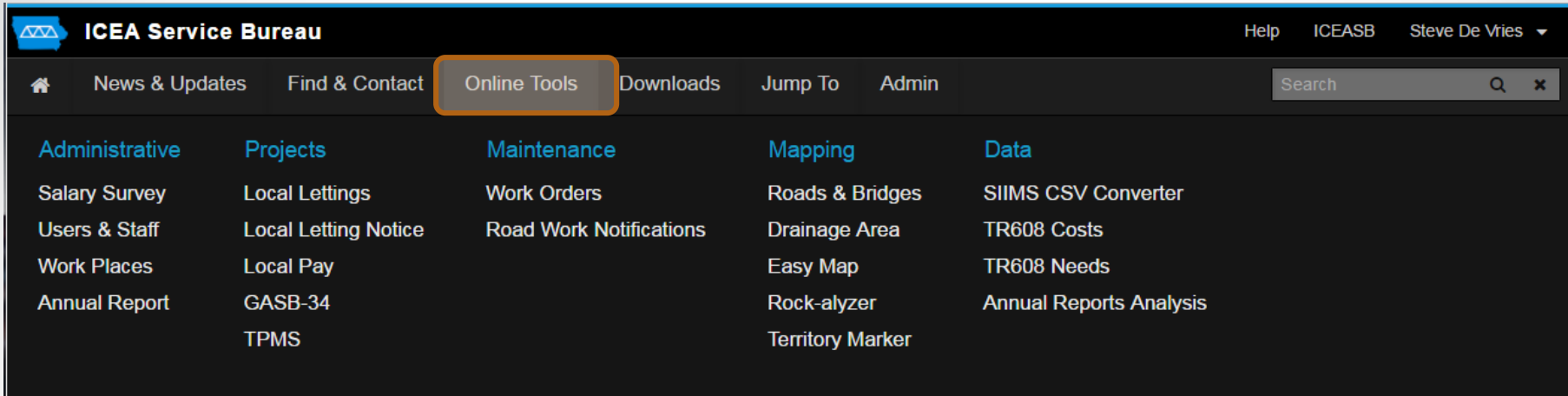
News	ICEA	Employment	Inter-County	Resources
Headlines	Proceedings	Job Center	Post Question	Secondary Roads Encyclopedia
Calendar	Awards	Job Fair Resumes	Review Q & A	Pre-qualified List
Legislative		Engineer Hiring Guide	Online Surveys	
			ICEOO Connect	



The screenshot shows the top navigation bar of the ICEA Service Bureau website. The 'Find & Contact' menu item is highlighted with an orange box. The main content area displays a grid of links under various category headers.

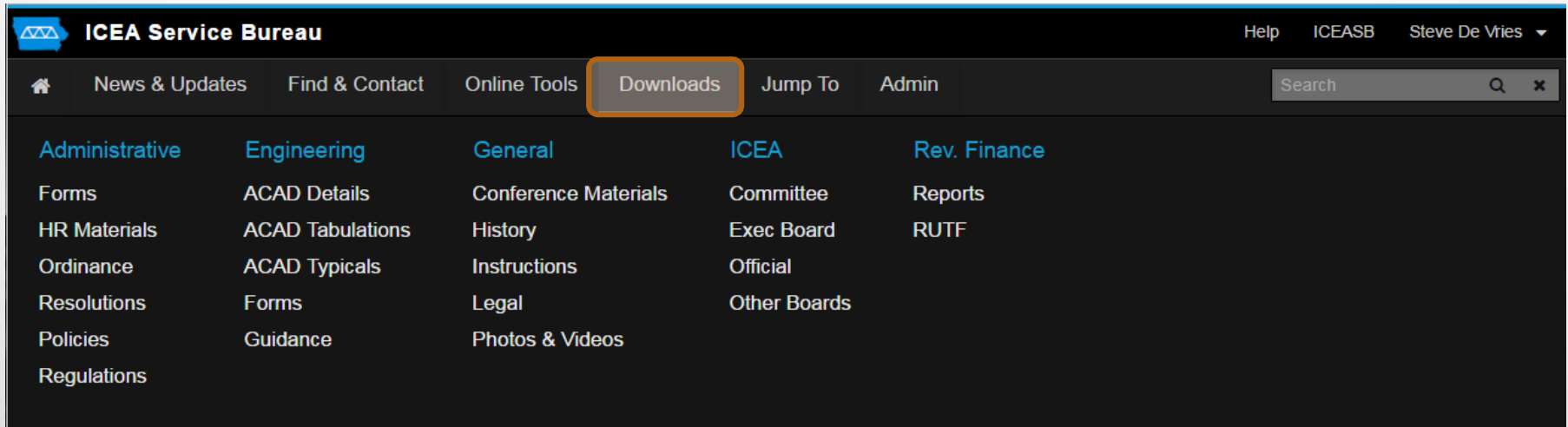
Find	Contact	ICEA
Staff Roster	Lookup & Contact	Officers
Engineer Photo Map		Committees
Engineer History		
DOT Phonebook		
ICEASB Staff		

# ICEASB Menus 2



This screenshot shows the ICEA Service Bureau website with the 'Online Tools' menu item highlighted in the top navigation bar. The page features a dark blue header with the ICEA logo and navigation links. Below the header, a grid of links is organized into five columns: Administrative, Projects, Maintenance, Mapping, and Data. A search bar is located in the top right corner.

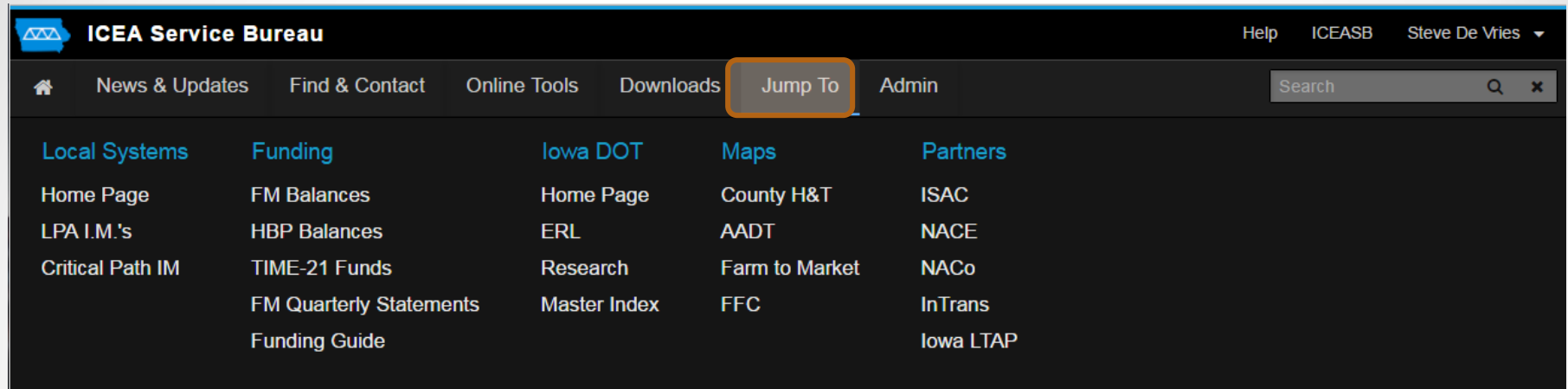
Administrative	Projects	Maintenance	Mapping	Data
Salary Survey	Local Lettings	Work Orders	Roads & Bridges	SIIMS CSV Converter
Users & Staff	Local Letting Notice	Road Work Notifications	Drainage Area	TR608 Costs
Work Places	Local Pay		Easy Map	TR608 Needs
Annual Report	GASB-34		Rock-alyzer	Annual Reports Analysis
	TPMS		Territory Marker	



This screenshot shows the ICEA Service Bureau website with the 'Downloads' menu item highlighted in the top navigation bar. The page features a dark blue header with the ICEA logo and navigation links. Below the header, a grid of links is organized into five columns: Administrative, Engineering, General, ICEA, and Rev. Finance. A search bar is located in the top right corner.

Administrative	Engineering	General	ICEA	Rev. Finance
Forms	ACAD Details	Conference Materials	Committee	Reports
HR Materials	ACAD Tabulations	History	Exec Board	RUTF
Ordinance	ACAD Typicals	Instructions	Official	
Resolutions	Forms	Legal	Other Boards	
Policies	Guidance	Photos & Videos		
Regulations				

# ICEASB Menus 2

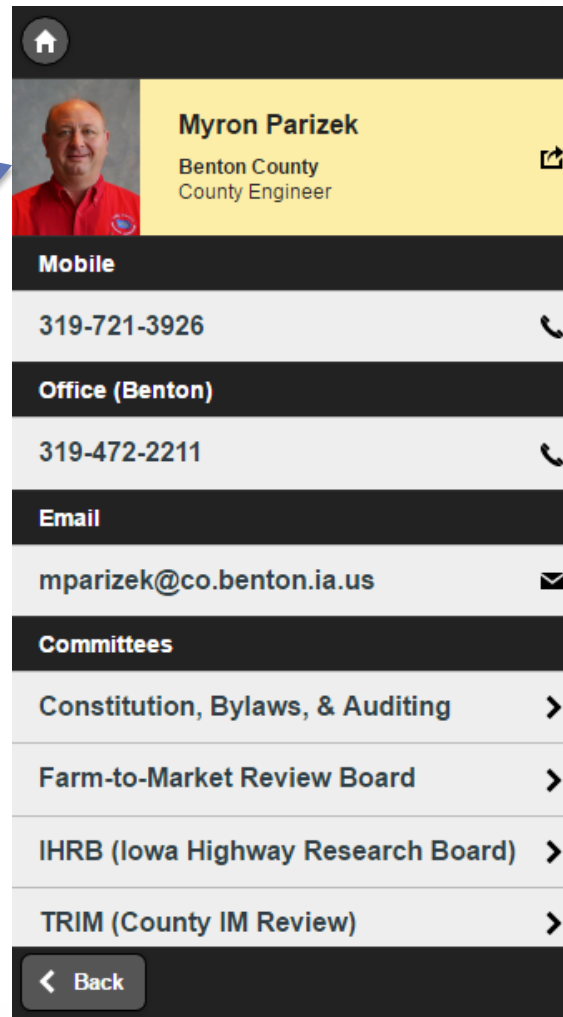
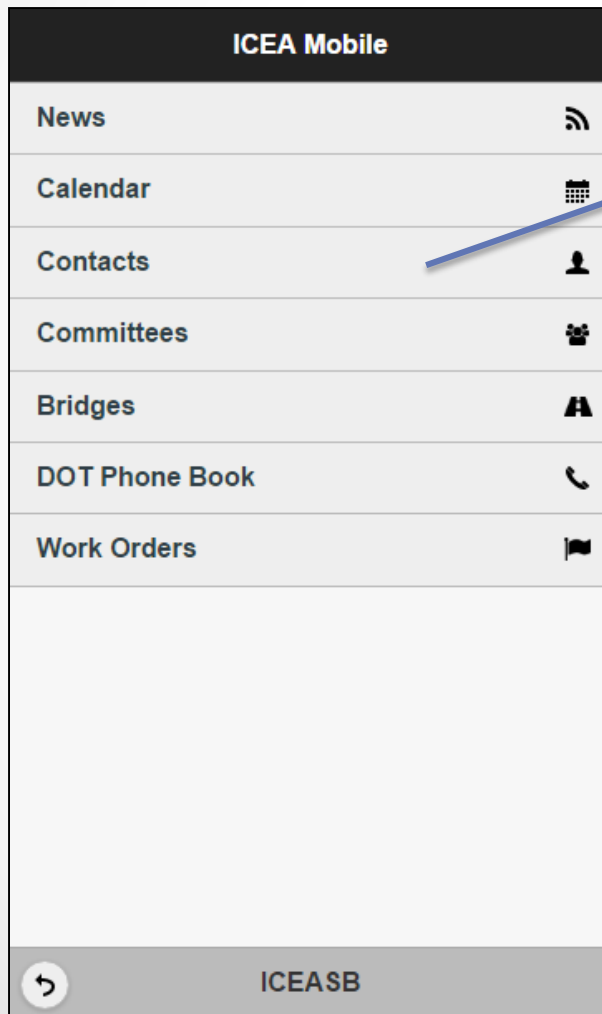


ICEASB is used by: Engineers, DOT staff, Office administrators, engineering staff, maintenance staff and various business partners.

Accessibility: everything is public domain, but access is restricted to registered users and organizations to protect data integrity. Getting ready to open parallel public information website



# ICEASB Mobile version



# TPMS: Transportation Program Management System

- Online system for automation of the following activities:
  - Annual County Five Year Program & Budget
    - Preparation, submittal, approval
    - Counties and DOT office of Local Systems\*
  - Annual federal Transportation Improvement Program
    - Preparation, submittal, multi-jurisdictional reviews, approval
    - Cities, counties, planning agencies, DOT planners, DOT office of Program Management\* and Iowa office of FHWA.
  - Pre-bid project development tracking
    - Submission, review and approval of project documents & clearances
    - Cities, counties, consultants, DOT District Local Systems Engineers, DOT Project Scheduling System\*

# TPMS views

TPMS Programming		TPMS III		Tama CRD (DIST 3)		<a href="#">View Another County</a> <a href="#">Development</a> <a href="#">Logout</a> <a href="#">Switch County</a>		
<b>CIYP Program Status</b>						<b>Past Fgms</b>	<b>Past Bgts</b>	
Program & Year	Five Year Program Version	Status	Status	Secondary Version	Status	Status	Status	
Current -- 2016	<a href="#">V0.0</a>	Original	Approved	04/21/2015	<a href="#">V0</a>	Original	Approved	04/21/2015
			<a href="#">Revise</a>				<a href="#">Revise</a>	
Draft -- 2017	<a href="#">V0.0</a>	Original	Approved	04/18/2016	<a href="#">V0</a>	Original	Approved	04/18/2016
			<a href="#">Revise</a>				<a href="#">Revise</a>	

<b>RPA TIP</b>							
Program	Preparation and review progress						
	In Prep	Submitted	TIP Approved	UP Approved	DOT Approved	FHWA Approved	Authorized
<a href="#">Approved - 2016</a>	0	0	0	0	0	6	1
<a href="#">Draft - 2017</a>	0	8	0	0	0	0	0

## County start screen

**TIPMS III**

TIP / STIP Corridor										Development / Legend / Switch PA														
Program & Project Selection					Approval Status					Additional Options					Keys									
<b>Viewing:</b> 2016 Approved All Projects Update Filter Reset Defaults					<input checked="" type="checkbox"/> Authorized <input checked="" type="checkbox"/> FHWA Approved <input checked="" type="checkbox"/> DOT Approved <input checked="" type="checkbox"/> DE Approved <input checked="" type="checkbox"/> TIP Approved <input checked="" type="checkbox"/> Submitted <input checked="" type="checkbox"/> In Prep					Check All  75 projects  Default					PDF Excel Excel Vt by Vr Transit Maps Mapping					Add Project County CFPs Mapping Development State Program Descriptions Sponsor Descriptions Help				
Dist	DP	PA	COR	PGRM	Type	Sponsor	TIPMS #/STIP#	PA / Location / Type Work	'16	'17	'18	'19	Total	Status	Sorting									
RPA-07																								
Everything																								
1	DR-MC	RPA-07	38	HSPD	CRD	Grundy CRD DOT: 07/19/2016	34137 60279	On Intersection of T19 & D17 Traffic Signs	Total	16	--	--	16	Final Approved										
									FA	15	--	--	15											
									Right	--	--	--	--											
<b>SPONSOR NOTE:</b> Upgrade signing at flashing light north of Wellburg and Beaman																								
1	DR-MC	RPA-07	38	HSPD	CRD	Grundy CRD DOT: 07/19/2016	34137 60279	HSPD-S-C(38)(98)-6C-38 Intersections of T19 & D17 and T29 & D67 Traffic Signs	Total	16	--	--	16	Submitted	Approve / Reveal									
									FA	15	--	--	15											
									Right	--	--	--	--											
<b>SPONSOR NOTE:</b> Upgrade signing at flashing light north of Wellburg and Beaman																								
TIGER-(CEDAR RIVER PKWY.)																								
2	DR-MC	RPA-07	7	NHPF	DOT-Fgm	DOT-DOT-RPA07 DOT-Fgm	34678 60622	MNSH-Q20-6(68,70)-3H-07 US 520, from I-380 Interchange to Co Rd V15 (Bespap) Pavement Rehabilitation	Total	11,156	--	--	11,156	Authorized	Reveal									
									FA	9,925	--	--	9,925											
									Right	--	--	--	--											
<b>SYSTEM NOTE:</b> CANDIDATE FOR SIGNATURE CONSTRUCTION																								
BRN-014AC-39-12																								
									Total	117	--	--	117											

## Planning agency screen

[TPMS Development](#)
[View: My Agency's Projects](#)
[- Letting -> Sponsor -> PIN](#)
[Show Descriptions](#)
[Reset View](#)
[Instructions](#)
[Logout](#)
[Screen D1](#)

Sponsor (Type/ID)	Let At:	Let Date:	Project Number: Click PN to view Status Click S to see Map Find by PN text:	TPMS: Click TPMS # for details	STRA Struct ID: Click to view	OK with Appr. CFPP	OK with Appr. STIP	In PS:	PSS Status:	Development Progress:	Dev Est.
All ▼	All ▼	All ▼	Go			All ▼	All ▼	All ▼	All ▼	CSPRPPFPPCDCTI	
Davis (CRD)	DOT	15-Dec-2015	RBOS-C058(67)-SF-26	28738	133690	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	500,000
Jefferson (CRD)	DOT	15-Dec-2015	RBOS-C051(60)-SF-51	25068	201780	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	240,000
Jefferson (CRD)	DOT	15-Dec-2015	RBOS-C051(61)-SF-51	25074	200550	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	240,000
Jefferson (CRD)	DOT	15-Dec-2015	RBOS-C051(62)-SF-51	25079	200530	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	240,000
Washington (CRD)	DOT	15-Dec-2015	RBOS-C092(83)-60-92	17474	336710	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	950,000
Keokuk (CRD)	DOT	19-Apr-2016	RBOS-C054(101)-SF-54	23711	212470	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	550,000
Monroe (CRD)	DOT	19-Apr-2016	RBOS-C058(73)-SF-68	8852	252540	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	350,000
Oreston (City)	DOT	17-May-2016	BDM-1710(510)-8V-88	26534	2720	NA	✓	✓	Active	✓✓✓✓✓✓✓✓	985,000
Dallas (CRD)	DOT	17-May-2016	RBOS-C028(101)-SF-25	27116	132421	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	500,000
Jefferson (CRD)	DOT	17-May-2016	FM-C051(56)-SS-51	10480	201130	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	280,000
Marion (CRD)	DOT	17-May-2016	RBOS-C030(119)-SF-63	27045	241470	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	1,100,000
Wapello (CRD)	DOT	17-May-2016	STP-S-C090(73)-SS-90	19244		✓	✓	✓	Active	✓✓✓✓✓✓✓✓	4,500,000
Benton (CRD)	DOT	21-Jun-2016	RBOS-C006(101)-SF-06	16305	70070	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	400,855
Keokuk (CRD)	DOT	21-Jun-2016	RBOS-C054(102)-SF-54	23701	212020	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	518,000
Benton (CRD)	DOT	19-Jul-2016	RBOS-C006(100)-81-06	17473	70500	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	900,000
Tama (CRD)	DOT	19-Jul-2016	RBOS-C058(84)-SF-66	10427	316460	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	2,500,000
Union (CRD)	DOT									✓✓✓✓✓✓✓✓	590,000
Weldon (City)	DOT									✓✓✓✓✓✓✓✓	656,702
Benton (CRD)	DOT									✓✓✓✓✓✓✓✓	305,000
Benton (CRD)	DOT									✓✓✓✓✓✓✓✓	500,000
Cherokee (CRD)	DOT									✓✓✓✓✓✓✓✓	600,000
Franklin (CRD)	DOT	16-Aug-2016	RBOS-6940(601)-60-36	23242	901210	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	800,000
Franklin (CRD)	DOT	16-Aug-2016	RBOS-C058(155)-SF-58	24729		NA	✓	✓	Active	✓✓✓✓✓✓✓✓	190,000
Keokuk (CRD)	DOT	16-Aug-2016	RBOS-C058(104)-83-54	21270	212550	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	550,000
Lucas (CRD)	DOT	16-Aug-2016	RBOS-C058(19)-83-59	14444	227380	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	380,000
Lucas (CRD)	DOT	16-Aug-2016	RBOS-C058(40)-83-59	14571	227880	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	450,000
Grundy (CRD)	DOT	20-Sep-2016	RBOS-C038(101)-83-38	18954	166130	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	650,000
Hardin (CRD)	DOT	20-Sep-2016	RBOS-C041(70)-63-42	28315	27310	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	630,000
Jefferson (CRD)	DOT	20-Sep-2016	RBOS-C051(59)-SF-51	25066	000540	✓	✓	✓	Active	✓✓✓✓✓✓✓✓	290,000

## Consultant start view

**TPMS Development :: Status :: PMPS #22108**

Sponsor Request Update	Detailed PSS Status	Design Request Update	Screen D02.2
---------------------------	---------------------	--------------------------	--------------

Mason City  
Mark Rahm  
City Engineer  
641-423-3505

STP-U-4822(633)-70-17  
On S. Kentucky Ave begin at intersection of 19th Street SE north to where street is 41' full width urban section.  
PCC Pavement Widening  
AADT = 1150 VPD / Eng. Est = \$200,000.00

PMPS - Mason City  
S. Scott Street  
Mason City IA 50402  
Ph. 641-423-6272

D017 - 16-Aug-2016  
Project Schedule  
D027's Robert Wagner  
Ph. 641-423-7584

Close/Cancel Project

---

Status Setup Log Contacts

Email Files

### Programming Consistency

All Programming

STIP(2016) Funding: ✓ Desc.: ✓ Timing: ✓ View

CFYP Funding: NA Desc.: NA Timing: NA

For more information about warnings or errors, hover your cursor over the item in question.

Development Progress	State	Date Posted	Action	By	Form	Items
✓ Concept Statement	Cleared	07/15/2015	Reset	CS		[Icons]
✓ Preliminary Plans	Cleared	09/03/2015	Reset	CS		[Icons]
✗ Check Plans Due on 05/03/2016	Not Cleared ▼	[Input]	Update			[Icons]
✗ Final Plans Due on 05/24/2016	Not Cleared ▼	[Input]	Update			[Icons]
✗ Proj. Dev. Cert. Due on 05/24/2016	Not Cleared ▼	[Input]	Update			[Icons]
✗ Plan Turn-in Due on 06/07/2016	▼	[Input]	Update	CS	✓	[Icons]

\* Checklist begin MP is located and verified. End MP is 0.65 (verified). Construction is within footprint (0.9)

☑ Davis Bacon / NOT NPDES / Field Manager = No

Clearances	State	Date Posted	Action	By	Update Protocol	Items
✓ Agreements						
✓ Project Agreement	Cleared	09/18/2015	Reset	RW	TPMS → PSS	[Icons]

- Environmental / Cultural

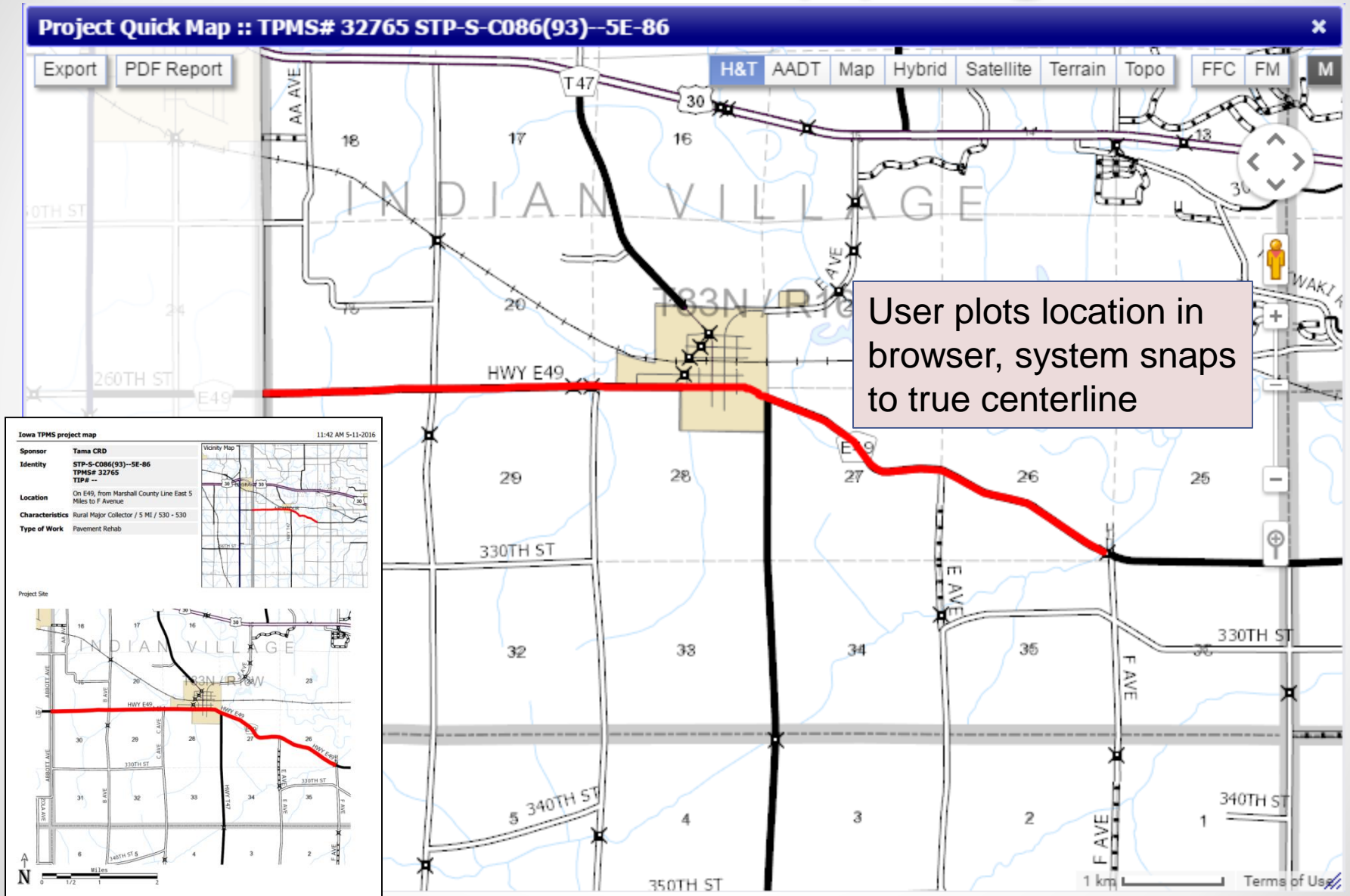
✓ NEPA	Cleared	03/28/2016	PSS	TPMS ← PSS	[Icons]
* DOE sent to [Redacted]					
✓ SHPO					

## DOT District LSE view

# TPMS facts & figures

- Went into operation in 2002
- Holds data on:
  - 3000 + future county projects (in CFYP)
  - 1600 + future FA projects ( in TIP / all jurisdictions )
  - 820 + projects in development
    - 313 projects reached ready-to-let status in FY2015
- Works to assure that all users see the same data at the same time. – yet provide task specific screens
- Provides near complete automation of program submit, review approve processes
- Provides partial automation of project development work
  - Will be working with DOT to automate 'Project Concept Statement' as prototype for future process enhancement
    - Seeking to convert form into an app with built in review features
- Unique example of inter-jurisdictional cooperation

# TPMS mapping



# Work orders

- The Work Orders tool supports the capture, communication, administration and recording of work on secondary roads and bridges
- Makes full use of mobile devices, 4G data, GPS location, mapping, email, push-notifications and photo capture.
- Fully customized to fit the needs of counties in general and each county specifically.
- Launched in August 2013 and is now used by 55 counties.
- Allows both “Work Requests” and “Work Orders”



# Work orders

## Marion County Work Orders Console

Help Settings Users Equipment Logged in as Jay Davis

Work Requests Work Orders						
Search		Active*	New Work Order			
ID	Submitt...	Closed	Type	Assigned To	Status	Priority
8757	4/20/2016	4/18/2016	420 Bridges	Doug Harsin	Completed	1
8758	4/20/2016		430 Culverts	Dwight Kelder...	New	2
8759	4/20/2016		430 Culverts	Dwight Kelder...	New	2
8760	4/25/2016		460 Surface M...	Jeff Moon	New	1
8761	4/25/2016		460 Surface M...	Jeff Moon	New	2
8763	4/25/2016		450 Roadway ...	Doug Harsin	New	2
8765	4/26/2016	4/15/2016	460 Surface M...	Jeff Moon	Completed	2
8766	4/26/2016	4/4/2016	460 Surface M...	Jeff Moon	Completed	2
8767	4/26/2016	4/1/2016	460 Surface M...	Jeff Moon	Completed	2
8768	4/26/2016	4/4/2016	460 Surface M...	Jeff Moon	Completed	2
8769	4/26/2016	4/4/2016	460 Surface M...	Jeff Moon	Completed	2
8770	4/26/2016	4/1/2016	460 Surface M...	Jeff Moon	Completed	2
8771	4/26/2016	3/30/2016	460 Surface M...	Jeff Moon	Completed	2
8772	4/26/2016	4/13/2016	480 Roadside ...	Jeff Moon	Completed	2
8773	4/26/2016	4/11/2016	460 Surface M...	Jeff Moon	Completed	2
8774	4/26/2016	4/13/2016	460 Surface M...	Jeff Moon	Completed	2
8775	4/27/2016	4/12/2016	450 Roadway ...	Doug Harsin	In-Progress	2
8776	4/28/2016	4/22/2016	480 Roadside ...	Ted Dykstra II	Completed	2
8777	4/28/2016		430 Culverts	Doug Harsin	New	1
8778	4/28/2016	4/22/2016	480 Roadside ...	Ted Dykstra II	Completed	2
8779	4/28/2016	4/22/2016	480 Roadside ...	Ted Dykstra II	Completed	2
8780	4/28/2016		430 Culverts	Dwight Kelder...	New	2
8781	4/28/2016	4/22/2016	480 Roadside ...	Ted Dykstra II	Completed	2
8782	4/28/2016	4/22/2016	480 Roadside ...	Ted Dykstra II	Completed	2
8783	4/28/2016	4/22/2016	480 Roadside ...	Ted Dykstra II	Completed	2
8784	5/2/2016		430 Culverts	Doug Harsin	New	2
8785	5/2/2016		430 Culverts	Doug Harsin	New	2
8786	4/28/2016	4/22/2016	480 Roadside ...	Ted Dykstra II	Completed	2
8787	4/28/2016	4/22/2016	480 Roadside ...	Ted Dykstra II	Completed	2
8789	5/3/2016	4/26/2016	420 Bridges	Jeff Moon	Completed	2
8790	5/3/2016	4/26/2016	480 Roadside ...	Jeff Moon	Completed	2
8791	5/3/2016	4/29/2016	460 Surface M...	Jeff Moon	Completed	2
401-437 of 437						
		Page	9	Per page	50	

Welcome	Map	Work Order 7784 ✕	Work Order 7785 ✕	Work Order 7463 ✕	✕
Work Order 8431 ✕	Work Order 7483 ✕	Work Order 8574 ✕	Work Order 7974 ✕		
Work Order 7789 ✕	Work Order 7631 ✕				

### Work Order 8574

Email Print Edit Archive Delete

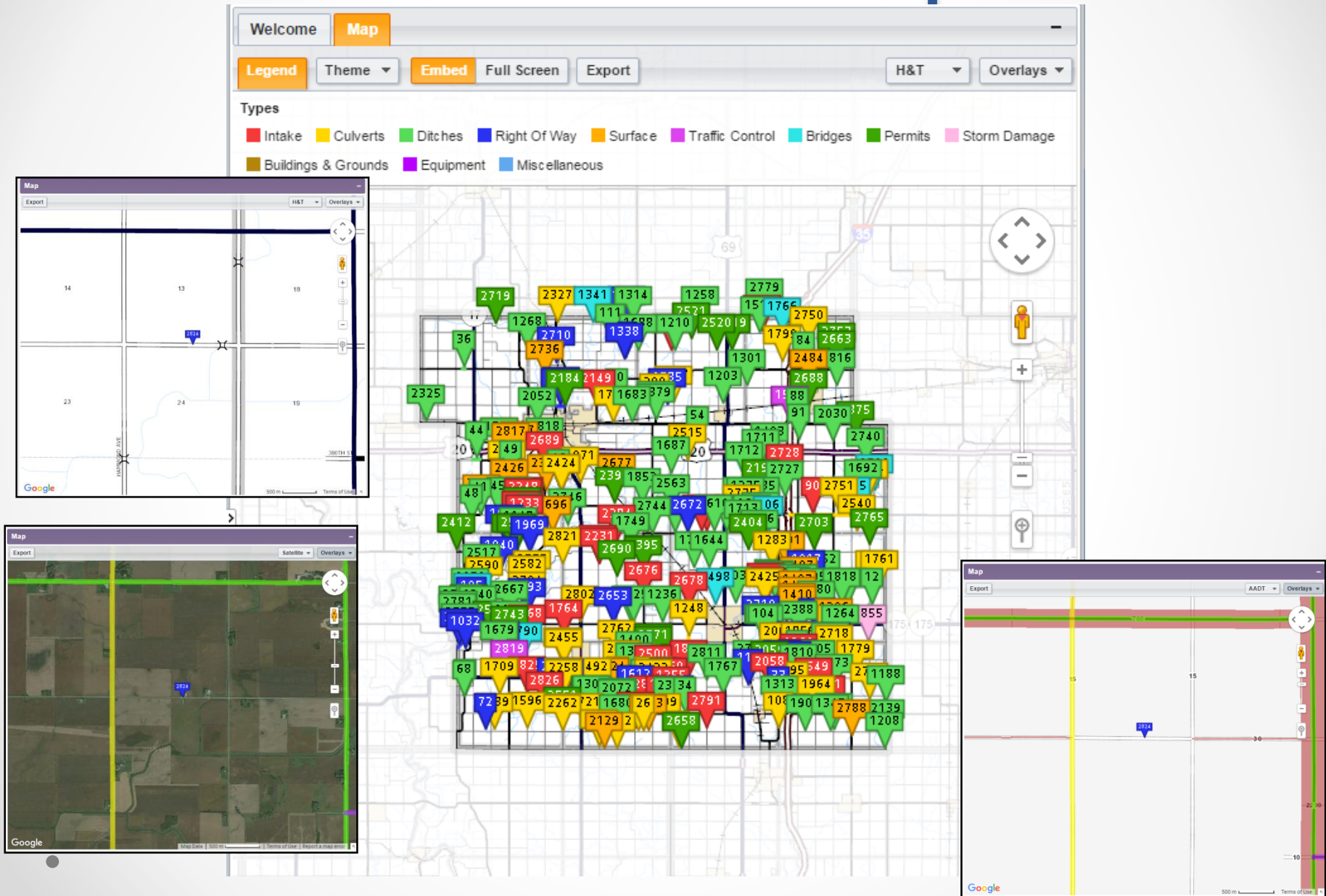
#### Summary

Submitted	Tue, Jan 5, 2016
Closed	
Type	430 Culverts
Sub-Type	431 Pipe culverts
Status	New
Priority	1
Assigned To	Doug Harsin
Address	1782-1792 40th Place Melcher-Dallas, IA 50062
Coordinates	41.262829, -93.265340
Bridge Local ID	51272597
Civil Township	Franklin
District	West
S-T-R	S27 - T75N - R21W
Reported By	Jay Davis
Property Owner	Fred Richards 515-205-5477
Estimated Cost	\$5,000
Comments	Channel alignment changes and revetment placement on east side of road ; outlet side. Excavate south channel bank and place dirt on north channel bank, shifting channel southward. Place dirt around cottonwood trees. Place broken concrete revetment on new channel alignment. Try to protect trees.

#### Activity

Log Emails Update One Call Add Note

# Work orders – map view





# Future Work Order refinements

- Seeking direct inter-connect with Iowa One-Call
- Looking into text notifications
- Expand user familiarity, acceptance and proficiency
- Permit tracking
- Analysis for management and public information
- Citizen submission of Work Requests

# Operations Management

- Asset Management typically brings to mind tracking the number, extent, location and condition of fixed facilities out in the field – and using that information to make optimized decisions about future resource allocation.
- In county roads, more so than for a DOT, much of the transportation serviceability is furnished to the public in the form of low capitalization, with the facilities kept usable via constant renewal: e. g. granular roads.
- Therefore, Iowa counties are exploring development of a system to better manage the ‘active assets’: the labor, equipment, and materials needed to keep the system usable.

# OM planning and implementation

- ICEA Computer & IT committee has gotten excited about the use of modern cell-system based technologies and has been generating a lot of ideas on how it could be used.
- There came to be so many ideas, that we've had to spend some time sorting, classifying and prioritizing.
- Currently working on: Sign management, Detour signing planner, Work site mapper/quantifier.
- In initial planning for "T-C-D" : Time tracking, Communications and Decision support tool as basis of Operations Management.

# Operations management

## AVL / GeoDB / WO

### Time tracking:

- \* Call out tool
- \* Clock in/out
- \* Work codes & hrs
- \* OT/Comp time
- \* Pd Lv requests
- \* Payroll reviews
- \* Payroll uploading
- \* Mgmt tally/analysis

### Communications:

- \* Dept. Calendar
- \* General messages
- \* Specific messages
- \* Work chat support
- \* Equip. need report
- \* Shop need report
- \* Road status notice
- \* Q&A – Local
- \* Q&A - Statewide
- \* Training resources
- \* Safety resources

### Decision Support:

- \* Activity console
- \* Mapping
  - Status, Activity, Needs
- \* Bridge postings
- \* Staff/Equip status
- \* Dept. policies
- \* Equip. svc. tracker
- \* Lic.. & cert. tracker
- \* Key contacts
- \* External resources
- \* *Road usage info\*\**

Inventories: Equipment, Materials, Parts, Tools, Road/Bridge assets

# Additional Iowa innovation vectors

- Iowa NACE members have been participating in setting up a national pavement management information clearing house.
- After working with the Iowa DOT's Asset Mgmt Steering Committee, ICEA synthesized concepts for IPAT and GRAMS
- Buchanan county has made project observation cameras accessible to external viewers
- Many counties are taking advantage of Iowa's statewide LIDAR coverage to accelerate design work.
- Many have built extensive GIS databases, scanned old plans in, and then linked to documents directly to roads and bridges.
- Last but not least there are a number of great spreadsheet apps – from academia, from trade associations, from county engineers themselves

# Thank you! Questions?

Keeping things in perspective, the innovation needed here is more rock.



Madison County, IA – (where the covered bridges are,  
and birthplace of John Wayne) – March 2016