



Intelligent Compaction

ICPF Meeting WisDOT HMA IC Demo

11:00 a.m. to 12:00 p.m. CDT

April 5, 2010

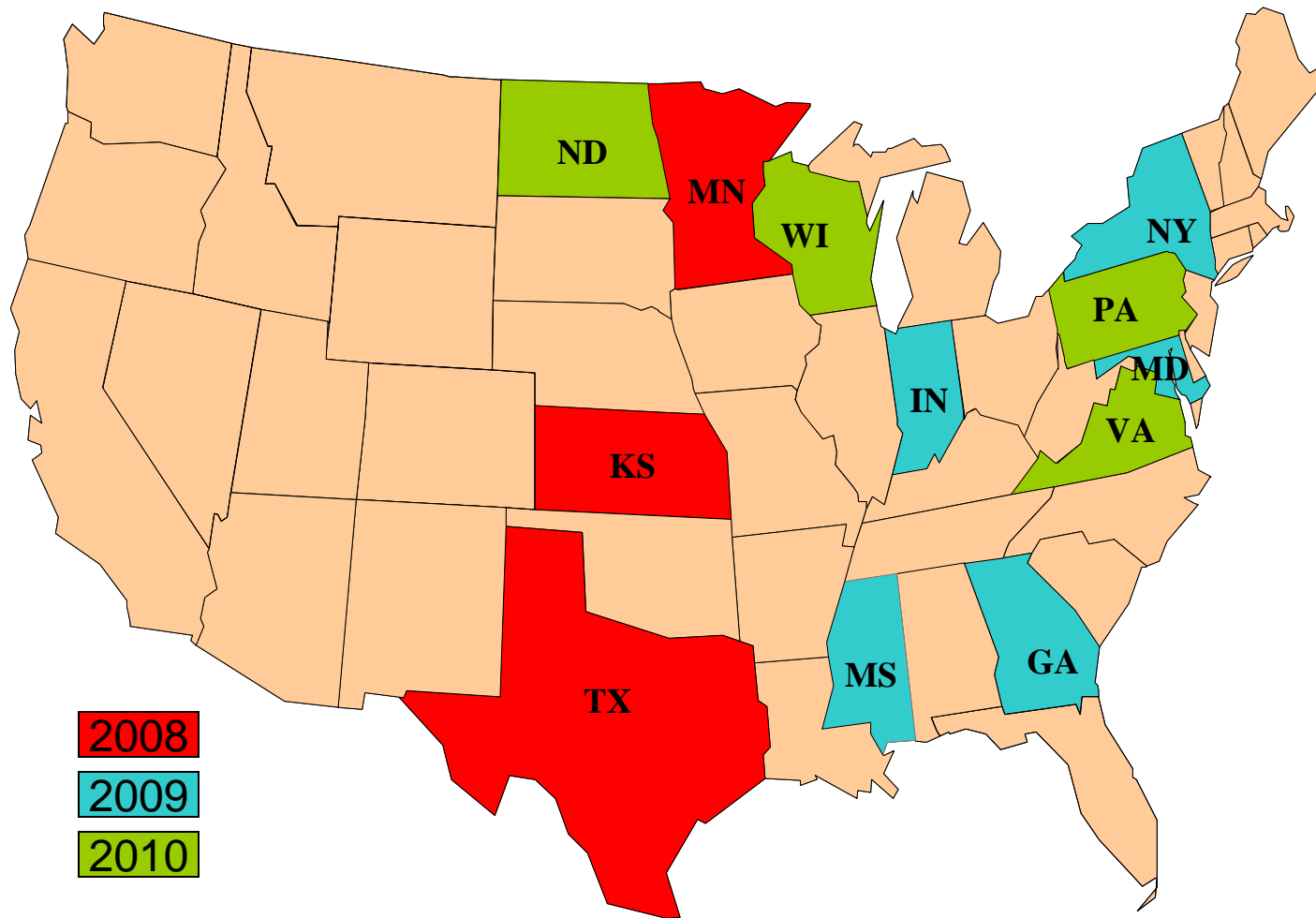
Purpose

- Review Schedule/Activities
- Coordinate Work/Responsibilities
- Review Experimental Plan



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FHWA/TPF Demo Projects



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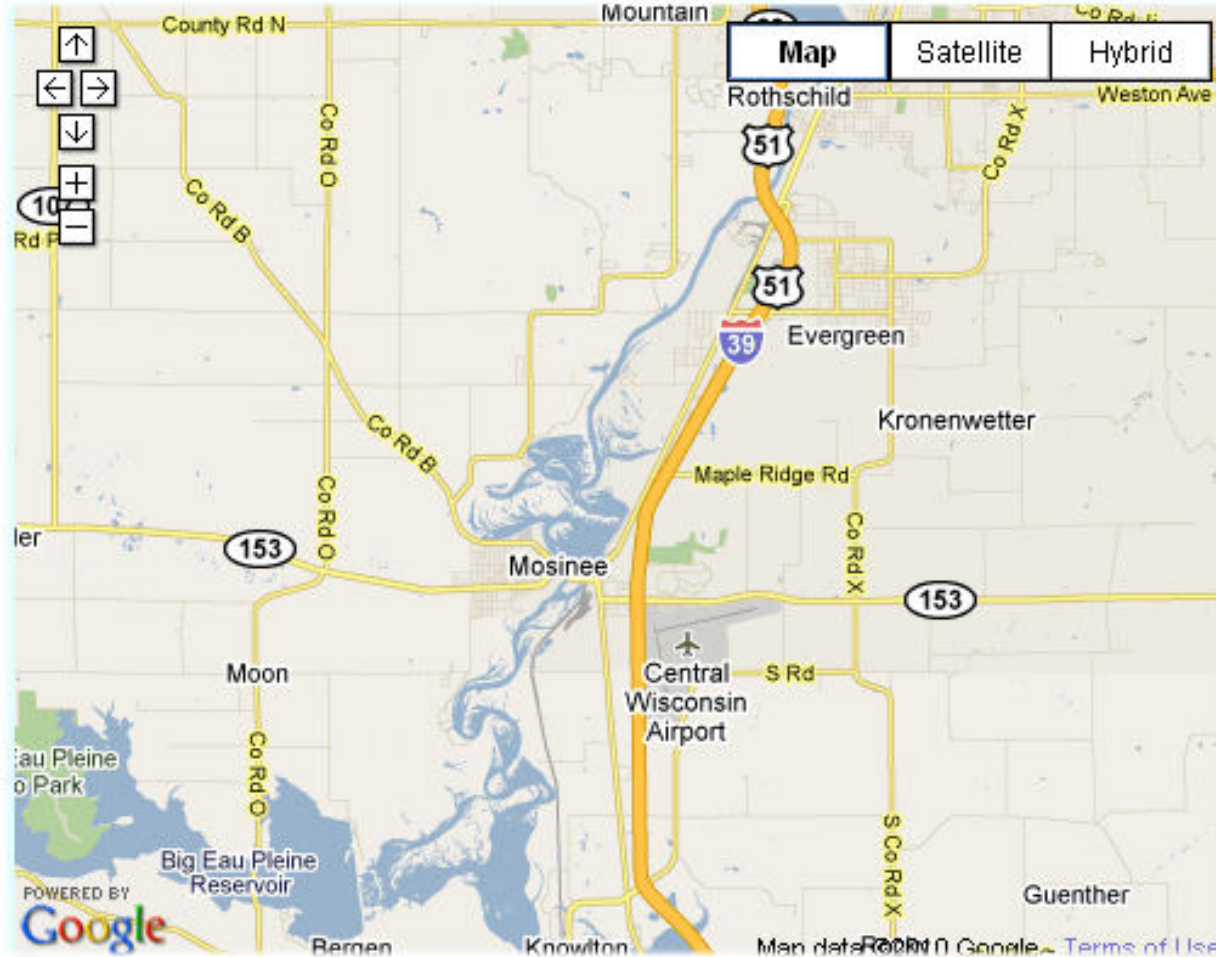
Update from Paving Contractor

- Test Site and Schedule
 - Rubblization and Paving Schedule
 - Overlay Layers (lifts, lanes)
- Provide
 - 2 roller operators
 - Mobilization of IC rollers if necessary
 - Two density gauges and a operator
 - A GPS rover and an operator
 - Fuel for IC rollers
 - Corings



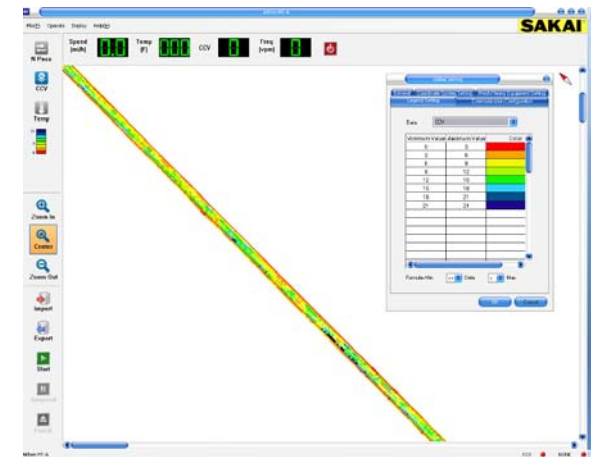
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Project Test Site – IH 39 May 10 – 14, 2010



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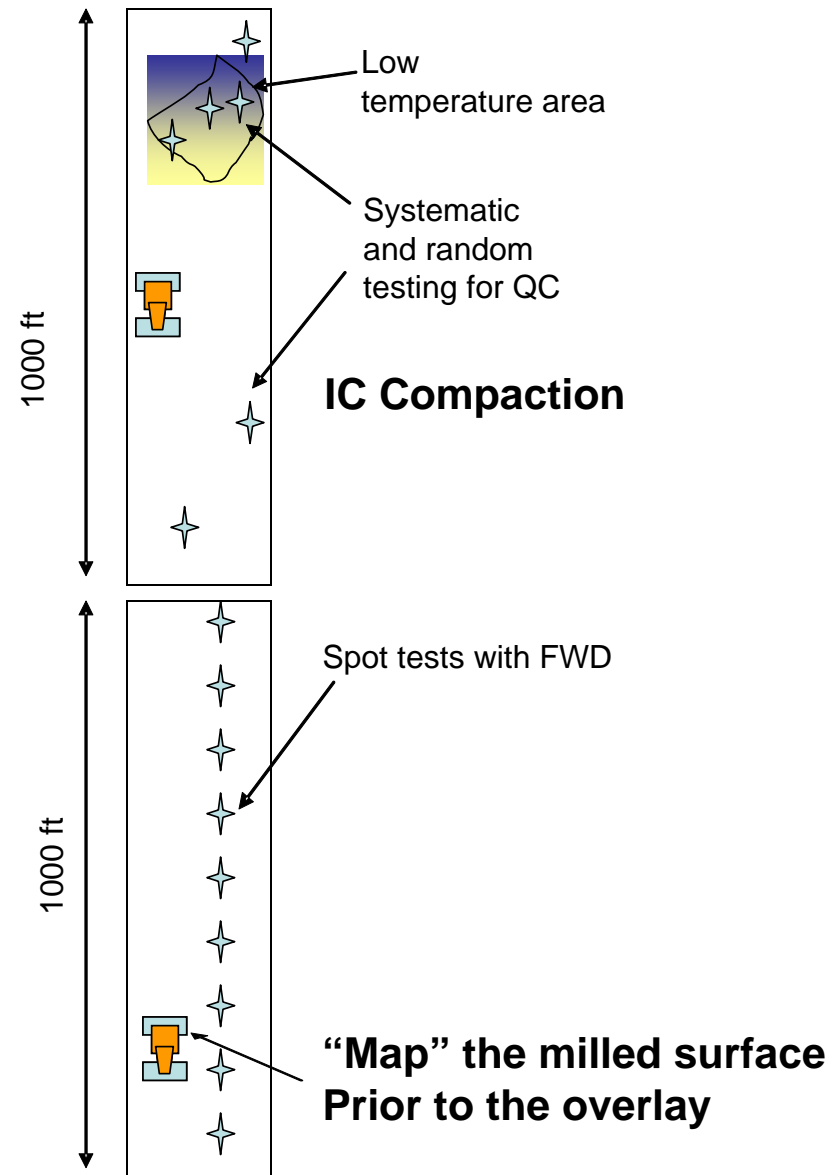
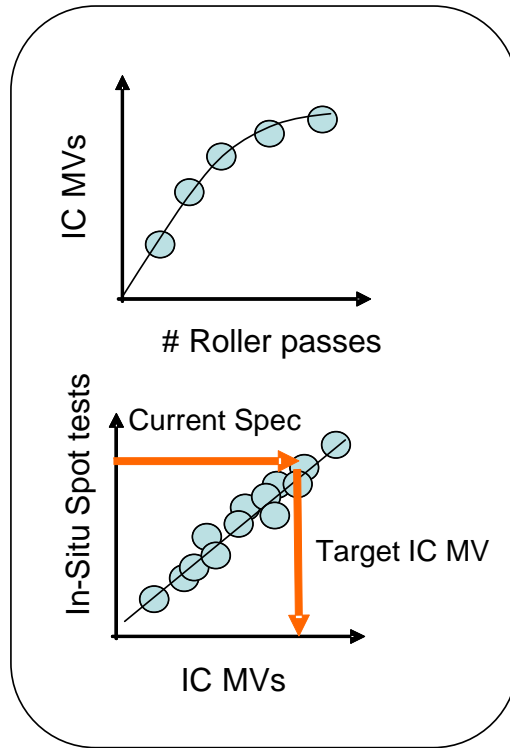
Sakai Double-Drum IC Roller



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Test Strip

Correlation test strip with 20 in-situ spot test measurement
Can be done after selected roller passes (e.g. 3, 6, 8 passes) to build **compaction curve**. Also used to establish **IC target value**.



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Schedule	Activities (tentative)
Days 1	<ul style="list-style-type: none"> • Conduct project briefing (all parties) at the local project office/trailor. • Discussion, training of DOT and contractor personnel in machine operations, data collection, data management, and in-situ testing strategies. • At project site, set up the GPS base station and IC roller/GPS system. • Conduct trial runs to verify the machine is operating and communicating with the GPS. Verify that GPS rover location corresponds to GPS roller location. • Training of roller operators • Compaction of the HMA overlay layer.
Day 2	<ul style="list-style-type: none"> • Mapping of existing surface using roller measurement system of the IC rollers within a 1000-ft test strip. • FWD testing and GPS measurements at dignated locations within the test strip. • Compaction of the HMA overlay layer. • Conduct in-situ tests (nuclear guauge and core density testing) on the test strip. At least 20 locations on the pavement will be marked and both density and GPS measurements will be obtained at each location. • The IC roller will be used in the breakdown roller position and all measurement values will be taken when the surface temperature measurements are in excess of 230 °F and the internal measured temperature is in excess of 240 °F.
Day 3	<ul style="list-style-type: none"> • Repeat the Day 2 operation on the HMA overlay layer.
Days 4	<ul style="list-style-type: none"> • Analyze and report the IC and in situ results, generating a preliminary report and presentation of results for the Open House.



Update from WisDOT

- DOT Personnel Support
 - A FWD and an operator
 - Test on a 1000-ft test strip of rubblized PCC prior to the HMA overlay
- Open House
 - Thursday, May 13, 2010: 9AM to Noon
 - 2-hr indoor presentation & 1-hr field demonstration
 - Invitation to WisDOT, Cities, Counties, Universities, APA, and others



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Logistics

- Rollers and Tech Support
 - Shipment of IC Rollers
 - Storage and mobilization onsite
 - On-site Tech support personnels (including GPS)
- Research Team Travel Details





Experiment Plan

- GPS Base Station and Roller Setup
- Mapping of existing base/In-Situ Tests
(may be on 2nd or 3rd day)
- IC Test Strip/In-Situ Tests
- IC Production Rolling/In-Situ Tests



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Date	TB	Machine	Amp (mm)	Spot Tests	Notes/Comments
5/9	Arrive on site.				2" ?  9.5-mm HMA wearing course 2 3" ?  19-mm HMA intermediate course 1
5/10	1	Sakai ???	0.3 (low) at 4000 vpm	NG Others	Machine and GPS setup and trial runs. Production rolling for HMA overlay. 1. Verify the roller temperature measurements 2. Compact HMA overlay with normal roller passes. 3. Spot test with nuclear density gauge.
5/11	2	Sakai ???	0.3 (low) at 3000 vpm 0.3 (low) at 4000 vpm	FWD NG Others	Mapping of Existing Base. 1. Map the existing base for 1000 ft. 2. Spot test with FWD and GPS within the test strip. Production rolling for HMA overlay. 1. Verify the roller temperature measurements 2. Compact HMA overlay with normal roller passes. 3. Detailed spot test with nuclear density gauge and other devices within the test strip.
5/12	3	Sakai ???	0.3 (low) at 4000 vpm	NG Others	Production rolling for HMA overlay. 1. Verify the roller temperature measurements 2. Compact HMA overlay with normal roller passes. 3. Spot test with nuclear density gauge and other devices.
5/13	Open House –presentation of preliminary results and roller demonstrations.				



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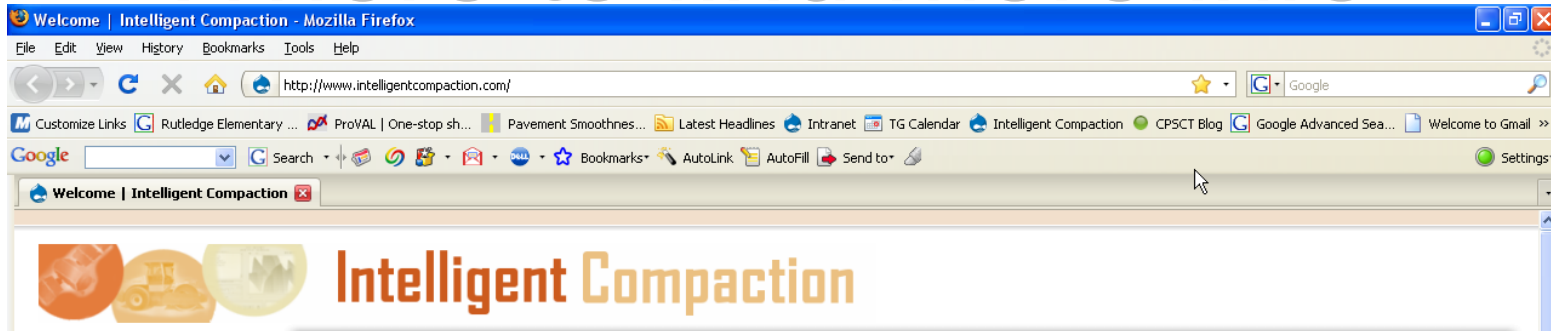
Wrap up

- Follow up action items
- Date/Time for the next meeting



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Where to find more info



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Field Demonstration

- **Mn/DOT Demo** - The first IC field demo was conducted in Willmar, Minnesota from June 2 to June 23, 2008. This demo included several HMA test sections - thanks to big help and additional funding from Mn/DOT. Missed the actions of the field demo? Now you can see them in YouTube!

You Find out more and view all video clips ...
Tube

- **TxDOT Demo** - The second IC field demo was conducted in Fort Worth, Texas from July 20 to 25, 2008. It covered cohesive soil, lime stabilized base, and granular/flex base. [Find out more and see all video clips here...](#)
- **KSDOT Demo** - The third IC field demo was conducted on US 69, Kansas from August 17 to 24, 2008. It covered cohesive soil. [Find out more...](#)

Extra! Extra! The Mn/DOT HMA IC demo was on the **front page** of the West Central Tribune! Read the online article "The future is this Moment" - [pdf'ed web version](#) or the [scanned print version](#).



Download an IC Flyer

[Download a flyer](#) to catch an overview on the IC demonstration projects now!

Done

Now: Cloudy, 69° F Tue: 75° F Wed: 76° F