Managing Ride Data

Presented by
Gary Lynch, Atwood Systems

Break On Through to the Other Side:
Collect Data as Enterprise Information

The foundation for:
Quality Management Programs
Performance Based Programs

About Us...we build business systems.

► We provide data collection and management reporting systems.

► 10+ years pavement and structures QC,QA,QV data collection

► Our suite of Infrastructure management products:

    MRS HMA - Hot Mix Asphalt Data Collection
    MRS PCC - Portland Concrete Cement Data Collection
    MRS IRI - Ride Data Collection
    MRS IM - Inspection Manager

► We also provide:

    Project Tracking Software
    Materials Tracking Software

Current State of Ride Data Collection
Observations from Non -Engineer (me)

The good news

- The industry / engineering process is improving each year.

- Measuring equipment is constantly being improved.

- Specs / Standards formalized and constantly being refined.

- Proval analytical software constantly enhanced and improved.

- The data collected is having an impact on business decisions.

Any thing you want to add?

Current State of Ride Data Collection
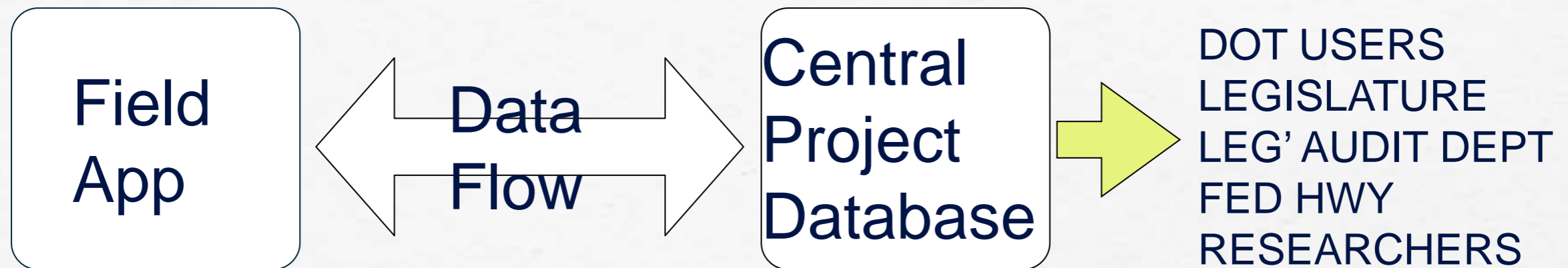## Observations from a Business Technology Person(me)

The not-so-good news
- Data not collected in a standardized and integrated manner.
- Data reported in spreadsheet format and filed into a folder.
- A very time-consuming business process when paper-based.
- The business of collecting ride data is not complete management system.

The consequences
- Managing data is more costly then it should be.
- Analysis of collected data over the year(s) problematic; time consuming.
- Current approaches do not facilitate building knowledge-based systems.

How to start implementing an enterprise system for Quality Management Programs or Performance Based Programs

| Field App | ⟷ Data Flow | Central Project Database | ⟶ | DOT USERS LEGISLATURE LEG' AUDIT DEPT FED HWY RESEARCHERS |

- Transmit Project data to Field Apps
- Standardized format Ride Data Entered by Lane (Imported)
- Ride Data Uploaded to Central Database
- Data Reviewed and Bonus / Deduct Applied

Management Reporting Systems

from Atwood Systems

A look at our success at WisDOT

Key Points:

- Secured Access

- View access for all

- Only Project Administrators can enter bonus and deduct amounts

MRS Pavement Data

System Information Browser
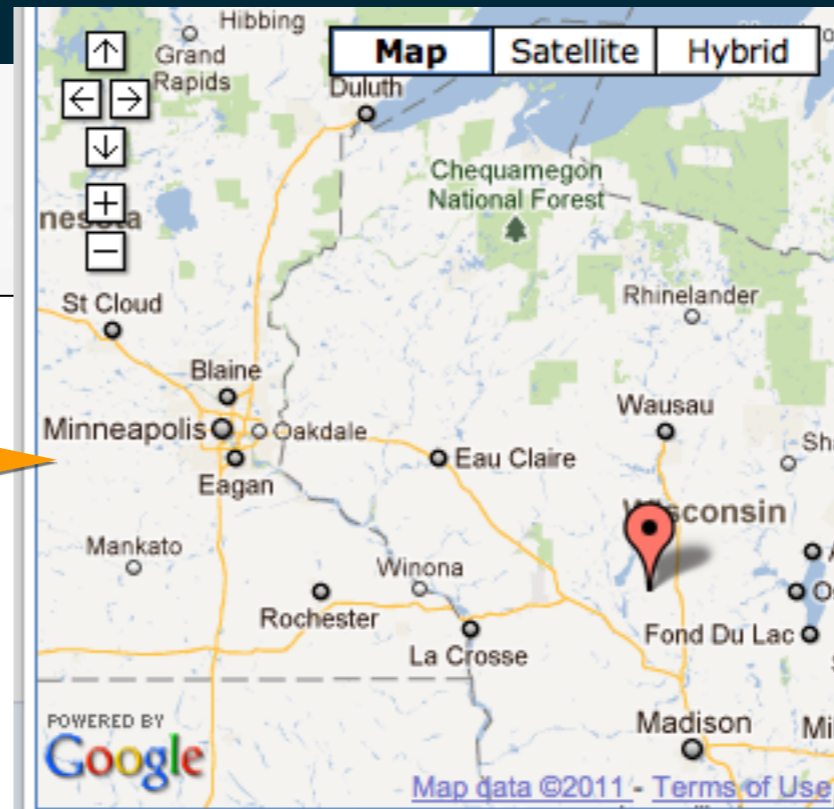
User ID: [ ]

Password: [ ]

Sign In

Sign Up As New User

Forgot Your User ID or Password?

Select the Project

Select Projects from map

or type it

View All Runs for the Project

Data Summary [▼] (Go)

IRI Data Summary for project 1196-04-79

View Lane Master ▶ **Print Summary Report**

	Description	Run Date & Time	Type	Pay Spec	Station Start	Station End	Bonus/Deduct Left	Right	Reviewed By Review Date
Tester Name: KEVIN OL		● View Certification Information							
🔍 Details	NB PASS. LN. 12+00	09/02/2010 12:57	HMA	QMP 1.03	12+00	418+16	$ -815.00	$ -1914.64	Not Reviewed
🔍 Details	NB DRIV. LN. 12+00	09/13/2010 11:04	HMA	QMP 1.03	12+00	419+68	$ 1825.75	$ -1150.00	Not Reviewed
🔍 Details	NB DRIV. LN. 420+28	10/07/2010 01:42	HMA	QMP 1.03	420+28	894+31	$ -844.64	$ -2070.58	Not Reviewed
🔍 Details	NB PASS. LN. 420+28	10/12/2010 10:46	HMA	QMP 1.03	420+28	894+31	$ -3624.70	$ -6345.73	Not Reviewed

Certification Information for John Wayne

AGGTEC IPP: Certification expires on 06/10/2010

HMA IPT: Certification expires on 06/18/2010

NUCLEAR DENSITY: Certification expires on 06/06/2011

PROFILER: Certification expires on 05/20/2011

View / Print Project Summary

Project Summary Report

🖨 Print

Project: 1066-00-71 - MADISON - MILWAUKEE ROAD

Printed On 09/14/2011 at 2:20 PM

Description	Run Date & Time	Type	Pay Spec	Station Start	Station End	Bonus/Deduct		Total Amount
						Left	Right	
Tester Name: JUSTIN KOEBERL								
I-94 EB LN 1	10/19/2010 03:30	HMA	QMP 1.03	1032+56	1314+32	$ 1567.81	$ -240.17	$ 1327.64
I-94 EB LN 2	10/19/2010 03:30	HMA	QMP 1.03	1032+56	1314+29	$ -366.74	$ -1168.87	$ -1535.61
I-94 WB LN 1	10/19/2010 03:30	HMA	QMP 1.03	1314+60	1031+24	$ -827.20	$ 1319.57	$ 492.37
I-94 WB LN 2	10/19/2010 03:30	HMA	QMP 1.03	1314+60	1031+24	$ 947.13	$ -2128.06	$ -1180.93
					Final Bonus/Deduct Total			$ -896.53

Reviewed By: _____

Printed Name: _____

9

Run Details with Pay Adjustment

Project ID: 1066-00-71

Pay Specification: QMP 1.03

Tester: JUSTIN KOEBERL

Run Description: I-94 EB LN 2

Station Start: 1032+56

Run Date and Time: 10/19/2010 03:30
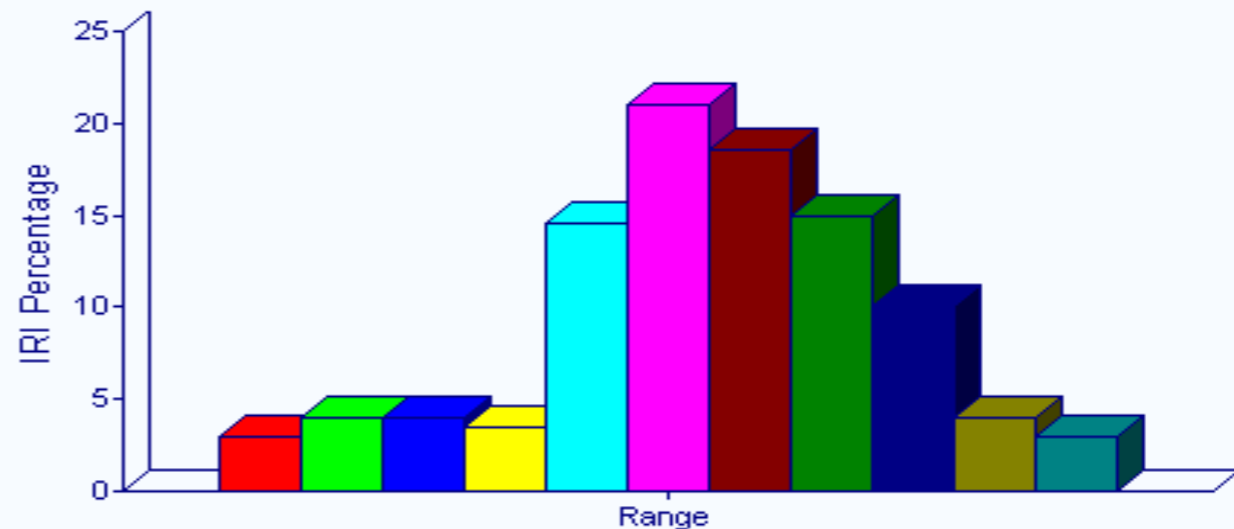
Pay Spec.: QMP 1.03

Station End: 1314+29

Pavement Type: HMA

Category	Segment Type	Lane	Station Start	Station End	Segment Length	IRI (in/mile)		Pay Adjustment $$$		Exclude Segment	
						Left	Right	Left	Right	Left	Right
HMA III	BRIDGE	2	1267+56	1272+56	500	56.00	59.50	0.00	0.00	N	N
HMA III	BRIDGE	2	1272+56	1277+56	500	88.30	92.20	0.00	0.00	N	N
HMA I	MAINLINE	2	1277+56	1282+56	500	37.10	45.30	0.00	0.00	N	N
HMA I	MAINLINE	2	1282+56	1287+56	500	37.30	42.00	0.00	0.00	N	N
HMA I	MAINLINE	2	1287+56	1292+56	500	36.90	39.60	0.00	0.00	N	N
HMA I	MAINLINE	2	1292+56	1297+56	500	38.10	43.20	0.00	0.00	N	N
HMA I	MAINLINE	2	1297+56	1302+56	500	36.60	42.30	0.00	0.00	N	N
HMA I	MAINLINE	2	1302+56	1307+56	500	42.00	38.60	0.00	0.00	N	N
HMA I	MAINLINE	2	1307+56	1312+56	500	38.40	36.80	0.00	0.00	N	N
HMA I	MAINLINE	2	1312+56	1314+29	173	72.80	82.00	-73.81	-86.50	N	N

Ride Bonus/Deduct:	272.86	-628.17
Localized Roughness Deduct:	-639.60	-540.70
Total Bonus/Deduct:	**-366.74**	**-1,168.87**

Systems, Inc.

subject to these Terms of Use.

Graphed Run Details & Project Summary

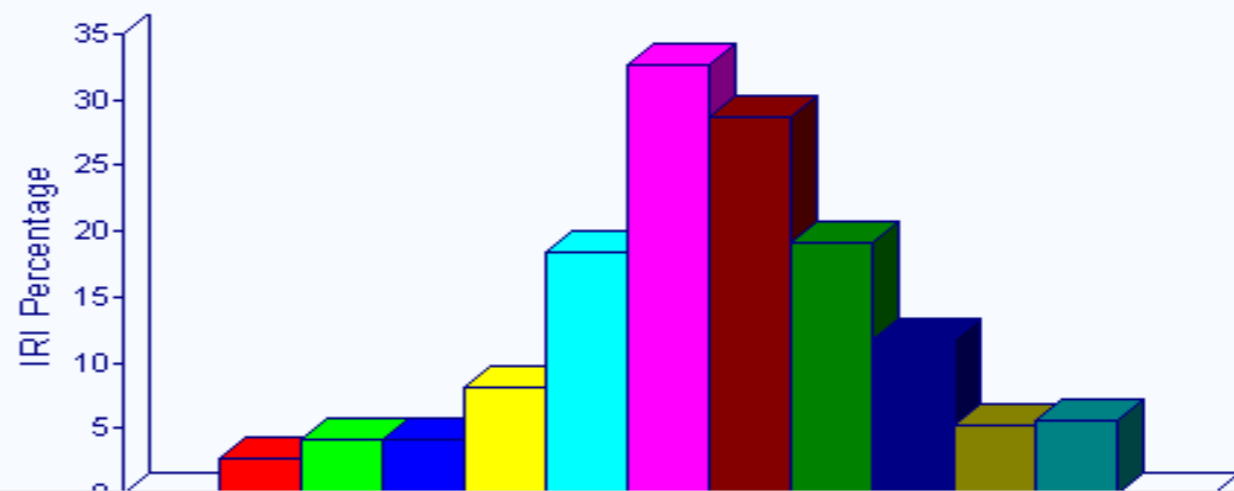| Description	Iri Pct
Percent in 0 to 25 IRI range	3.00
Percent in 25+ to 50 IRI range	4.00
Percent in 50+ to 75 IRI range	4.00
Percent in 75+ to 100 IRI range	3.50
Percent in 100+ to 125 IRI range	14.50
Percent in 125+ to 150 IRI range	21.00
Percent in 150+ to 175 IRI range	18.50
Percent in 175+ to 200 IRI range	15.00
Percent in 200+ to 225 IRI range	10.00
Percent in 225+ to 250 IRI range	4.00
Percent in 250+ IRI range	3.00

IRI Run 2 Histogram

Summary (3 Runs)

Description	Iri Pct	Iri Amt ($)
Percent in 0 to 25 IRI range	2.70	3,375.00
Percent in 25+ to 50 IRI range	4.10	2,050.00
Percent in 50+ to 75 IRI range	4.10	1,025.00
Percent in 75+ to 100 IRI range	8.14	0.00
Percent in 100+ to 125 IRI range	18.46	0.00
Percent in 125+ to 150 IRI range	32.60	0.00
Percent in 150+ to 175 IRI range	28.70	(14,350.00)
Percent in 175+ to 200 IRI range	19.20	(24,000.00)
Percent in 200+ to 225 IRI range	11.76	(14,700.00)
Percent in 225+ to 250 IRI range	5.24	(13,100.00)
Percent in 250+ IRI range	5.60	(21,000.00)

IRI Summary Histogram

Pay Adjustments are by Administrator

Localized Roughness Pay Adjustment

View Ride   View Localized Roughness   View Equipment Data   Run Summary Report   Run Details Report

Project ID: 1066-00-71

Tester: JUSTIN KOEBERL

Run Date and Time: 10/19/2010 03:30

Description: I-94 EB LN 1

Pavement Type: HMA

Lane	Wheel Path	Station Start	Station End	IRI Value	Corrected	Pay Adjustment	Exclude
1	L	1177+98	1178+08	205.80	N	-250.00	N

Review Comments: A VERIFICATION RIDE INSPECTION WAS MADE ON 10/29/10 BY PAUL ESERHUT. NO CORRECTIVE ACT.

| 1 | L | 1272+86 | 1273+10 | 206.10 | N | -250.00 | N |

Review Comments: A VERIFICATION RIDE INSPECTION WAS MADE ON 10/29/10 BY PAUL ESERHUT. NO CORRECTIVE ACT.

| 1 | R | 1177+99 | 1178+08 | 204.30 | N | -250.00 | N |

Review Comments: A VERIFICATION RIDE INSPECTION WAS MADE ON 10/29/10 BY PAUL ESERHUT. NO CORRECTIVE ACT.

Left Wheel Adj: $ -500.00
Right Wheel Adj: $ -250.00
Total Adjustment: $ -750.00

Update Pay Adjustment

Capture Equipment Operator Info

Ride Data

View Localized Roughness   View Bump Pay Adjust   View Equipment Data   Run Summary Report   Run Details Report

Project ID: 1066-00-71

Run Description: I-94 EB LN 1

Pay Spec.: QMP 1.03

Pay Specification: QMP 1.03

Station Start: 1032+56

Station End: 1314+32

Tester: JUSTIN KOEBERL

Run Date and Time: 10/19/2010 03:30

Pavement Type: HMA

Equipment Data

Run: I-94 EB LN 1

Equipment Operator/Tester:

Operator: JUSTIN KOEBERL

HTCP Certification Nbr:

Equipment:

Manufacturer: SSI

Model: HIGH SPEED PORTABLE

Collection Software Version: 3.1

Serial No: #40

Certification No: 315149

Analysis Software Version: 1.71

Equipment Settings:

Bump Height: 175.00

Bump Length: 25.00

Bump Identification Method: > 175 inches per mile IRI based on a 25 foot moving average IRI using the ProVAL Smoothness Assuranc

Other Settings: 250MM FILTER. IRI FILTER

An example of our total concept with ride and materials data instantly available for
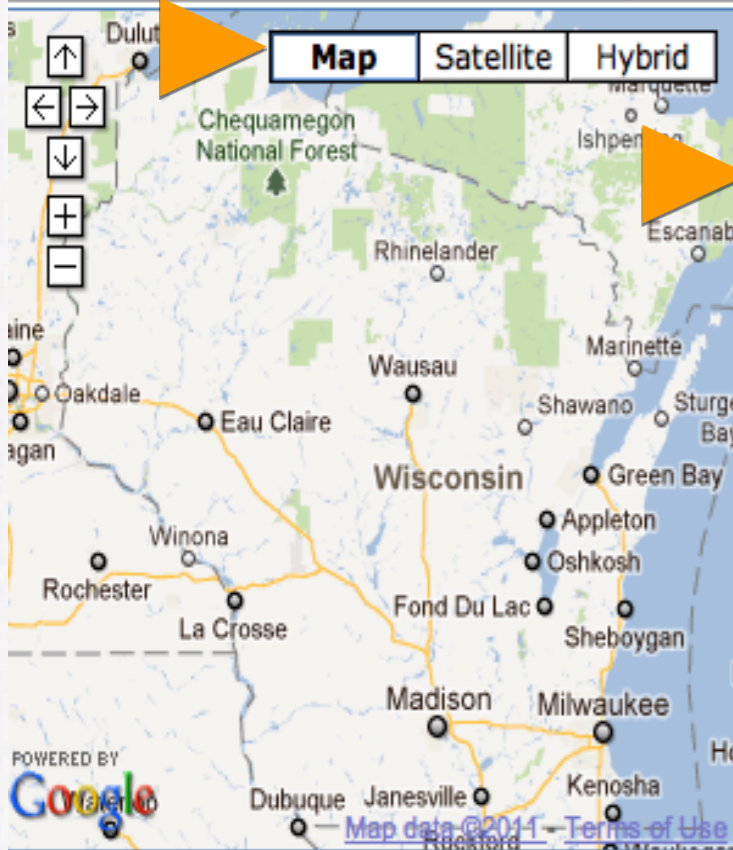QC / QA / IA / V / QA

Next...

Using a Total Quality Management Program

Using Atwood's SIB

System Wide Access to All Data

System Information Browser
ASi Management Reporting Systems

Project Details	Materials Data	Structures Data	Pavement Data	IRI Data	PCCP Thickness	HMA Density	eGuide Details	Cert. Tester	Aggt. Sources

Project Contact Information   Print Location

Project ID & Description: 1066-00-71 MADISON - MILWAUKEE ROAD

Contract ID: 20100413003

Office: (608) 243-6472   Address: 5100 Eastpark Boulevard, Suite 200 Madison, WI 53718

Cell: Directions:

Fax: (608) 241-3914

Leader: Paul Eserhut	Cell #: (608) 212-3580	Office #: (608) 212-3580
Manager: Jim Buschkopf	Cell #: (920) 296-2201	Office #: (608) 246-3851
Supervisor: John Steiner	Cell #: (608) 574-2645	Office #: (608) 246-3862
Traffic Co: Q3	Traffic Co. #: (414) 397-5155	
Contractor's Mat'l Contact:	Cell #:	Office #:

View materials data   View Concrete Structures data

View Testing & Sampling Guide   No Pavement data found.

No Certified Tester information found.   View IRI data

View HMA Density data   No PCC data found.

Request DOT Approval Authority   My Account Info

ASI Administration (For ASI use only)   Project Tracking Support (For Authorized use only)

Map | Satellite | Hybrid

Chequamegon National Forest

Click on the map to get all projects in the selected county. Or click here to enter another Project ID.

Year 2010

1066-00-71   MADISON - MILWAUKEE ROAD (I 94)

Atwood Systems

The End-Result of our Software

- Data collected in a standardized and integrated manner.

- More timely data capture, reporting and review

- A central location of available for historical analysis and research

- Instant secured access to pavement data for use by:

> - Contractors / Engineers
> - Departments of Transportation
> - Federal Highways
> - Audit Agencies
> - Researchers

Please see Atwood's Display Booth

Our Ride Data Collection software can be seen at our booth.

Contact Us toll-free: (877) 518.1920

If you have questions for us, call.

If you have suggestions for us, call.

If you would like a trial version of our desktop software call and we can get you started.

That's it.

Thanks for listening.