



**The value of organized and  
accessible transportation  
information in academic research**

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Presented to

**Midwest Transportation  
Knowledge Network  
Conference**

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By

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# Outline of talk – A Researcher Perspective on

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- Knowledge
- The ideal library
- Research and learning
- Examples of library activities at WisDOT- WHRP
- Future needs



# What is Knowledge

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- **Data**: Documented observations / opinions
  - Natural observations- No control
  - Experimental observations - More control
  - Experts' opinion – Full control
- **Information**
  - What is the data telling us – Interpretation
- **Knowledge**
  - Concepts tested and agreed upon

# Libraries –

Access points to organized data / information

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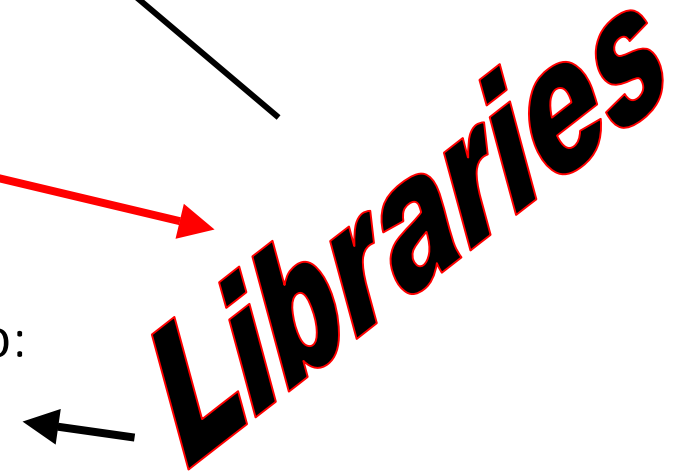
- **Classic** Libraries: *Literature*
  - Books, periodicals, standards, patents
- **Non-Classic** Libraries
  - *Materials* Reference Libraries
    - Strategic Highway Research Program
  - *Data* Libraries
    - Many National Projects required research databases
    - State DOTs management systems
      - Highways, Traffic, Bridges



# Research and Learning

- **Research** objectives: three steps
  - **Learn** what has *already been done*
    - Literature review
  - **Define** what is *really missing*
    - Problem statement
  - **Create** what is *not known*
    - Research Work plan
- **Learning** objectives:
  - **Knowing** what is documented to:
    - Develop opinions
    - Make decisions
  - **Implement** knowledge
- Without libraries the process is difficult, perhaps not possible

**Libraries**



# How Much Practitioners use Libraries? A WisDOT example.

## *1. Survey of WisDOT Regional Staff (Spring 2007)*

*1.1 Use of **library resources***

*1.2 Participate in research activities.*



# WisDOT Regional Offices Library Survey



Survey Question	Southwest			Southeast			Northwest			North Central			Northeast			Totals	
	yes	#	% yes	yes	#	% yes	yes	#	% yes	yes	#	% yes	yes	#	% yes	yes	% yes
Have you used services of the Library?																	

***Have Used Services of Central Library? 38% Yes***

online?	5	17	29%	14	23	61%	2	12	17%	4	11	36%	6	19	32%	31	38%
Were you aware																	

***Were you aware you can request services? 50% Yes***

Research & Library Unit?	7	17	41%	12	23	52%	7	12	58%	5	11	45%	10	19	53%	41	50%
Do you have topics you would like us to get started on?	6	16	38%	4	23	17%	2	12	17%	4	7	57%	0	19	0%	17	22%
Were you aware of the pooled fund (PF) research program?	10	17	59%	9	23	39%	7	12	58%	8	11	73%	5	19	26%	39	48%
Would you like to be contacted for suggesting WisDOT contributions to PF projects?	9	15	60%	6	23	26%	5	12	42%	6	10	60%	5	19	26%	31	39%
Were you aware of the Wisconsin Policy Research Program?	8	17	47%	9	23	39%	4	12	33%	5	11	45%	4	19	21%	30	37%
Would you like to make suggestions for policy projects?	8	15	53%	8	23	35%	5	12	42%	7	10	70%	7	19	37%	35	44%

# WHRP Non-classic Libraries

- **Web site for all Research Results**
  - Currently progress and final reports
  - Future – Research data will be posted
- **Research Needs**
  - Just started – Survey of staff and industry
  - Update once / twice a year
- **Regional Coordination (Frozen four project)**
  - WI, MN, IL, MI
  - Database for
    - Reports, Research Needs, Implementation activities
- Fully accessible, interactive, up to date

# Web-Based Survey For Research Needs

Research Needs in Flexible Pavement - Microsoft Internet Explorer provided by Computer - Aided Engineering

Address: [http://www.surveymonkey.com/Users/67281023/Surveys/799231784732/01D988A5-04F6-4E95-93A5-A7E90EA4C8F2.asp?U=799231784732&DO\\_NOT\\_COPY\\_THIS\\_LINK](http://www.surveymonkey.com/Users/67281023/Surveys/799231784732/01D988A5-04F6-4E95-93A5-A7E90EA4C8F2.asp?U=799231784732&DO_NOT_COPY_THIS_LINK)

## Research Needs in Flexible Pavement

### 1. Flexible Pavements

The Wisconsin Highway Research Program at UW-Madison carries out materials and construction research for the Wisconsin Department of Transportation. We are interested in identifying critical research needs related to the procedures required by WisDOT in these guidance documents: Standard Specifications, Construction and Materials Manual, and Facilities Development Manual. Because of your involvement with the design and construction of asphalt pavements, we would appreciate your assistance in indicating those sections of the WisDOT guidance documents that you believe need immediate research and development. The need could be because these sections are not currently meeting needs or because changes would permit greater use of new techniques for improved pavements.

For more information on WHRP, please visit the [WHRP Web site](#).

Thank you for your assistance. The results of this survey will be shared with all who participate.

Hussain Bahia, WHRP Director

**1. Please enter your name. (Optional)**

**2. Please indicate the type of organization you work for.**

Wisconsin DOT  
 Contractor  
 Consulting firm  
 Other (please specify)

**3. This survey covers three WisDOT guidance documents. We would appreciate your feedback on as many documents as you can.**

For more information on any topic please refer to the source document. Source documents can be accessed on WisDOT's website. If you do not have a login, the site provides a registration page for you to obtain one. The documents are available at the following links:

**Standard Specifications and Construction and Materials Manual:**  
[dotnet](#) (for WisDOT staff)  
[Extranet](#) (for contractors and consultants)

**Facilities Development Manual:**  
[dotnet](#) (for WisDOT staff)  
[Extranet](#) (for contractors and consultants)

**Please select a document and click "Next" to begin.**

Standard Specifications  
 Construction and Materials Manual  
 Facilities Development Manual

**Next >>**

Targeting WisDot Specification Items as listed in Manuals

Start | WisMail 2.09 [5] | Handouts 7-21-06.d... | https://wismail.wi... | SurveyMonkey.com ... | Research Needs in ... | Internet | 5:02 PM

# Non-Classic Libraries

[WWW.Frozenfour.US](http://WWW.Frozenfour.US)



**North Central Pavement Research  
Coordination Partnership  
The Frozen Four**

**RESEARCH ADMINISTRATION**

- Frozen Four Plan
- Partner Plans

**Welcome**  
The North Central Pavement Research Partnership was created in 2005 to facilitate effective information sharing and coordinated implementation efforts related to highway pavement research. State DOTs, universities and FHWA participate in this exciting new pooled fund research project.

**Publications**  
Publications available for download. For more information on publications, visit the Publications page.

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- *Problem Statements*
- *On-going Research*
- *Completed Research*
- *Implementation Activities*



# Future Needs

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- **Standardized** protocols for reporting transportation data:
  - Materials testing results, traffic, condition
  - WisDOT has database(s) for each.
- **Linking** the classic and non-classic libraries
  - Data, reports, and experts
- **Access** protocols
  - Authorization protocols
  - Security of libraries
- **A new breed** of Librarians
  - Classic and IT expertise

# A new TOC

## Data Integration (DI) TOC

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- Main Objective: Provide remote access to broad range of digital information in real time and in user-friendly formats to improve project delivery and system operation.
- The first 5-year plan is focused on database identification, integration and access.

# Thank you, Contact information

- The WHRP website,  
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