Open Data under the Clarus Initiative

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Outline

- **Clarus overview and open data**
  - Focus on data feeds into and out of the *Clarus* System
- Liability concerns
Clarus Overview and Open Data

The Clarus System

• Observations
• Metadata
• Quality Flags

Collector Services
Quality Checking
Web Portal

State DOT RWIS Server
Environment Canada RWIN Server
State DOT GPS/AVL
IDrive Probe Based Data
State DOT RWIS Server

7 Day Data Cache
Metadata Cache
Participation Status for *Clarus* as of October 15, 2010

Canadian RWIN Participation

**Local DOT Participation**
- City of Indianapolis, IN
- McHenry County, IL
- City of Oklahoma City, OK
- Kansas Turnpike Authority
- NY State Thruway
- City of Denver, CO
- Washington, DC
- City of Overland Park, KS

**Sensor & Station Count**
- 2,161 Sensor Stations (ESS)
- 48,109 Individual Sensors

**Clarus Connection Status**
- Connected
  - (38 States, 4 Locals, 3 Provinces)
- Pending
  - (3 States, 3 Locals)
- Considering
  - (4 States)
Data Feeds into/out of Clarus

• Data feeds into Clarus
  ♦ We’ll ingest the data in any format we can get it
  ♦ Prefer NTCIP 1204

• Includes full metadata for each sensor station
  ♦ As important as the data itself

• We do not require data sharing agreements – but expect to when moved to NOAA
  ♦ Protects provider – everyone on same page about use of data
  ♦ Data provider gets to limit who gets to their data for use

• Data feeds out of Clarus
  ♦ Accessible via the Clarus System – www.clarus-system.com
  ♦ Website includes disclaimer

• Data outputs available in 3 formats: XML, CSV, & CMML
  ♦ In processing of working with mapping format – KML
  ♦ Clarus data provided in support of final end products
Liability Issues

- Examined RWIS-related liability concerns and identified recommended strategies for addressing policy and institutional issues
- Work conducted by the Natl. Conference of State Legislators (NCSL)

Methodology:
- Conducted legal review to identify law/precedence on liability exposure
- Reviewed relevant statutes and legal statements for all 50 States and the District of Columbia
- Surveyed experts

Primary Institutional/Policy Issues:
1. Dissemination of RWIS information directly to traveling public
2. Providing RWIS information indirectly, through third party such as Clarus
3. A DOT’s duty to respond to RWIS notifications of hazards
4. Liability for not using RWIS when expected or indicated.
Key Takeaways

#1: RWIS is a largely unexplored question of law — which must be conceptualized within complex, state-specific legal contexts.

- Sovereign immunity and exceptions to waivers of immunity
- Limitations on assuming duties of care
- Weather immunity statutes

#2: RWIS is a tool that can help reduce state exposure to liability.

- Helps state DOTs meet traditional legal duties to correct or warn of known, dangerous conditions
- Can provide evidence for a DOT

#3: Over half of the surveyed experts identified no RWIS-related liability concerns.

- 19 of 36 responses, representing 18 State DOT
Report Guidance for RWIS Users

#4: State DOTs and legislators have many strategies to address RWIS-related liability concerns.

- **Data Sharing Strategies:**
  - Limits on Information Sharing
  - Online Disclaimers
  - Agreement with Third Parties
  - System Optimization

- **DOT Departmental Policies and Regulations**
  - Public Outreach and Education
  - Risk Management
  - Ongoing Allocation of Funds

- **Legislative Strategies**
  - Legislation Relating to Tort Liability and Immunity
  - Appropriations
Final Report is available online at:

- At NCSL: [http://www.ncsl.org/documents/transportation/Weather_or_Not_Full_Report_Rall_04.30.10.pdf](http://www.ncsl.org/documents/transportation/Weather_or_Not_Full_Report_Rall_04.30.10.pdf)
Q&A