

ICC Breakout Session Notes

- **User Needs**
 - Who are all of the users? Are there categories missing?
 - Categories “Order 1” and “Order 2” are inverted. The “middle users” (service providers) could take care of the “end users” (the surface transportation decision makers). These data drivers are in the original 2nd order group. The owners and operators of the roadways should benefit from these data in the forms of services and products.
 - The traveling public will also be taken care of if the middle users are provided the data first.
 - The question was raised, “Is the data collected for meteorological services or for surface transportation? Is RWIS there to support DOTs or the meteorological community?”
 - What funding sources are available when considering the audiences?
 - The DOTs care about helping the surface transportation system. What do the meteorological folks need to support surface transportation activities. Some of what the meteorologists want may not be relevant to DOTs.
 - LA DOT has to cull through hundreds of items from their provider to get what they need for surface transportation. They are only interested with safety issues for the roadways. Perhaps that is only 10% of the total data set they get from their provider. They throw away the remaining 90%.
 - The SHRP report (by Boselly) indicated that the greatest benefit from RWIS is the “better forecasts generated because of the data that is provided.” That is what makes the raw data so important.
 - The data are for both meteorologists and surface transportation decision makers. Front line decision makers need ground truth. Meteorologists need more dense data to make better forecasts and to verify their products. As the forecasters get better, then the decision makers need the raw data less (they won’t need the ground truth raw data because they will be able to better rely on the forecasts).
 - Look into the prioritization of the needs. What weather parameters are the most important for the DOTs?
 - MNDOT reported that in rural MN, trooper observations are collected by police dispatchers. This information is manually forwarded. We need to automate this process. We also need a way to share data across state borders. Jurisdictions surrounding each state need a way to share data and coordinate. Need to automate as much as possible both road and driving conditions.
- **Validation of User Needs**
 - Key Foundational Information – parameters needed by State DOTs
 - Onset of precipitation and duration (stop time)
 - Precipitation intensity
 - Precipitation type
 - Pavement temperature
 - Pavement condition (depth of liquid on road)
 - Road Surface Chemical concentration

- Precipitation accumulation
 - Visibility (e.g., snow, fog, sand)
 - Wind direction, speed and gusts
 - Water level
 - Air temperature (heat index/wind chill) for construction and 511 (travelers)
 - Temperature trends
 - Dew Point
 - Subsurface Temperatures
 - Frost deposition on bridges and roadways
 - Black Ice
- **Metadata**
 - One of the most important parameters in this entire process. Enough said.
- **Models of Data Collection**
 - The following is a summary of all collection media from each state
 - UT: fiber, phone, cell phone, CDPD, Mediaburst, 700 MHz radio
 - AZ: no difference
 - NY: T1 line
 - OK: OLETS radio, 900 MHz radio
 - KS: no difference
 - MN: internet
 - LA: no difference
 - VA: no difference
 - Canada: satellite data collection
- **Level of Standardization**
 - AZ: Provides data via XML format on internet. Needs to know the fields to have standard field names. They are NTCIP compliant, however, there is still the chance that all field names will be different from state to state
 - VA: Originally, SSI picked up the RWIS data and sent it back to a VA server. Now, VDOT is getting polling software that is NTCIP compliant. There are 3 other vendors in VA and they will poll data from these other sites using the same field definitions.
 - The entire group wants to have a standard format with definitions so that everyone can use the same data fields. They want Clarus to be a leader to help all states follow one data field format.
 - The aviation community has agreed to one naming convention. There isn't such a continental naming convention for surface transportation. States and vendors have all their own naming conventions. NTCIP is only a communications protocol. Weather has no respect for jurisdictions and borders and a consistent naming convention is needed.
- **Expectations**
 - States expect Cost Free, consistent data available
 - Cheap communications costs would allow for greater frequencies of data collection

- If Clarus could show each state how to use their existing resources better, then that would be a no-cost improvement. Give a roadmap to each state to make data collection better. States can then decide if they want to add resources.
- LA DOT expects a hands-on deliverable for a demonstration so that states can relate to it (like MDSS).
- Perhaps a multi-mirrored site with XML data available at no cost
- Support products
 - Ground truth data presented in a format that allows a front line decision maker to digest large volumes of surface weather information (facilitates decision making). Easily digested for improved forecasting. For example, third party products such as temperature verification, wind speeds, precipitation occurrence. Also, onset of precipitation, and precipitation locations. Much is already provided by vendors – but they want RWIS data added to traditional data sources (e.g., ASOS and AWOS).
 - In many states, the decision maker is not available 24/7. They want some level of automation. However, Motorists are on the roads 24/7. They want a decision support system to automatically determine if there is some sort of threat.
 - Most DOTs do not have meteorologists. Some do not have consultants. Clarus data will help augment decision makers.
 - Want to take Clarus information (valid information) and automatically disseminate via 511.
- **Institutional Issues**
 - Data Ownership
 - SSI – the states own all raw data. Value added products are owned by the company/provider. You cannot share GUI or proprietary formats.
 - Liability
 - The states generally agreed that all RWIS data fields should not be made available to the general public. It would be okay to send data to other agencies. However, one must include a data restriction bit for restrict general transmission of certain fields.
 - There are more data ownership issues with CCTV data. Images are being used more and more by traffic and maintenance groups.
 - For-profit agencies must pay for data from the OK mesonet. Data could be sent to other private networks via share agreements.
 - May need data rights management. Does it become proprietary?
 - Who owns VII data?
 - Public safety related data will be made generally available (but personally identifying information will be removed).
- **Possible Task Forces**
 - Leveraging Ongoing Partnerships task force should provide input relatively soon (before much more work occurs on the Con Ops)
 - “Evolutionary Migration” – how do current state efforts fit into federal plans?
 - Outreach: Provide a product showing the purpose of the Clarus data pool. Provide a conceptual web presentation showing ways that data could be used

and presented. Visually show potential partners short term and long term benefits.

- Cambridge Systematics believes that Meteorologists and Engineers should not be on the outreach task force as leaders because they cannot communicate effectively with transportation personnel.
- Look at graphical standardization of weather features, human factors, data presentations so that everyone across the country would see the same picture.
- 8 or 9 states have already developed a common interface from the CARS system. Have a task force identify what is out there.
- The group does not have a good handle on the breadth of the Clarus project. It is almost amoebic. May need a task force to define exactly what Clarus will and will not do. The people who review the ConOps must understand the vision and limitations of the initiative. We are constrained by the needs that we in our group bring to the table. We must think about the big picture.
- There is a need to have a task force to explore institutional issues: agency specific processes that limit data sharing, processing, usage, communications, etc. Potentially come up with licensing for data so that states do not restrict data at least into the Clarus database. Get buy-in from states now to use the data.
- Look at organizational issues. How many TMC's have meteorologists sitting in them to interpret data? How many TMC's have access to RWIS data?