Joint AASHTO SCOE and SCOD Meeting

Infrastructure Resilience
Design for Resiliency – I-35 over South Skunk River
I-35 over Raccoon River in West Des Moines
I-35 over Raccoon River
U.S. 30 over Iowa River near Le Grand, IA
U.S. 30 Flood Resiliency
Implementation of Real-Time Monitoring of Highway Overtopping:

1. Integrating IFC technologies into the IDOT Operational Framework for Roadway Flooding

2. Proactively notifying Garage Supervisors of Highway Overtopping
Since its creation in 2009 the IFC has been developing technologies for monitoring, predicting and anticipating the effect of floods and flash-floods in Iowa
Sonic Stage Sensors
Flood Forecasting Model
Garage Supervisors will receive information from actual observations by sonic-sensors or from model predicted states. In addition, roadway overtopping locations with rating curves will receive model forecast.
### 22 Most Susceptible Overtopping Sites

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<thead>
<tr>
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<th>CURRENT STAGE</th>
<th>FUTURE STAGE</th>
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<tbody>
<tr>
<td>11 Sensor Sites</td>
<td>Ultrasonic Bridge Mounted Sensor</td>
<td>Hydrological Model + Rating Curve</td>
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**CURRENT STAGE**
- **Ultrasonic Bridge Mounted Sensor**
  - High Accuracy

**FUTURE STAGE**
- **Hydrological Model + Rating Curve**
  - Limited but Higher Accuracy
Resiliency is Proactive – Not Reactive

Research will Accomplish:
**Consistency** - to develop a statewide framework which enhances public safety by proactively responding to overtopping alerts as opposed to responding to situations where overtopping has already occurred.

**Quality** - the degree to which the forecast corresponds to what actually happened.

**Value** - the economic benefits of the real-time forecast by properly allocating time and resources for monitoring and closing the road.
QUESTIONS?

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