

# ITS Technology Workshop for Municipalities

## “Next Generation ITS – Are We Ready?”

Calgary, AB  
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# Agenda

- Current ITS projects
- Near-immediate plans
- “Visioning”

# Current Projects

- Winter ITS Technologies
  - Road Weather Information System (RWIS)
  - Automated Vehicle Location Systems (AVLS)
- Traffic Management ITS
- Commercial Vehicle Operations
- Connected Vehicle Research
- 511 Alberta

# Road Weather Information System (RWIS)



- Assist Highway Maintenance Contractors with winter road maintenance activities
  - weather/pavement conditions and forecasts
  - road treatment recommendations
- Hot spot monitoring
- Traveller information (511 Alberta)
- Share info with Environment Canada, AB municipalities and researchers

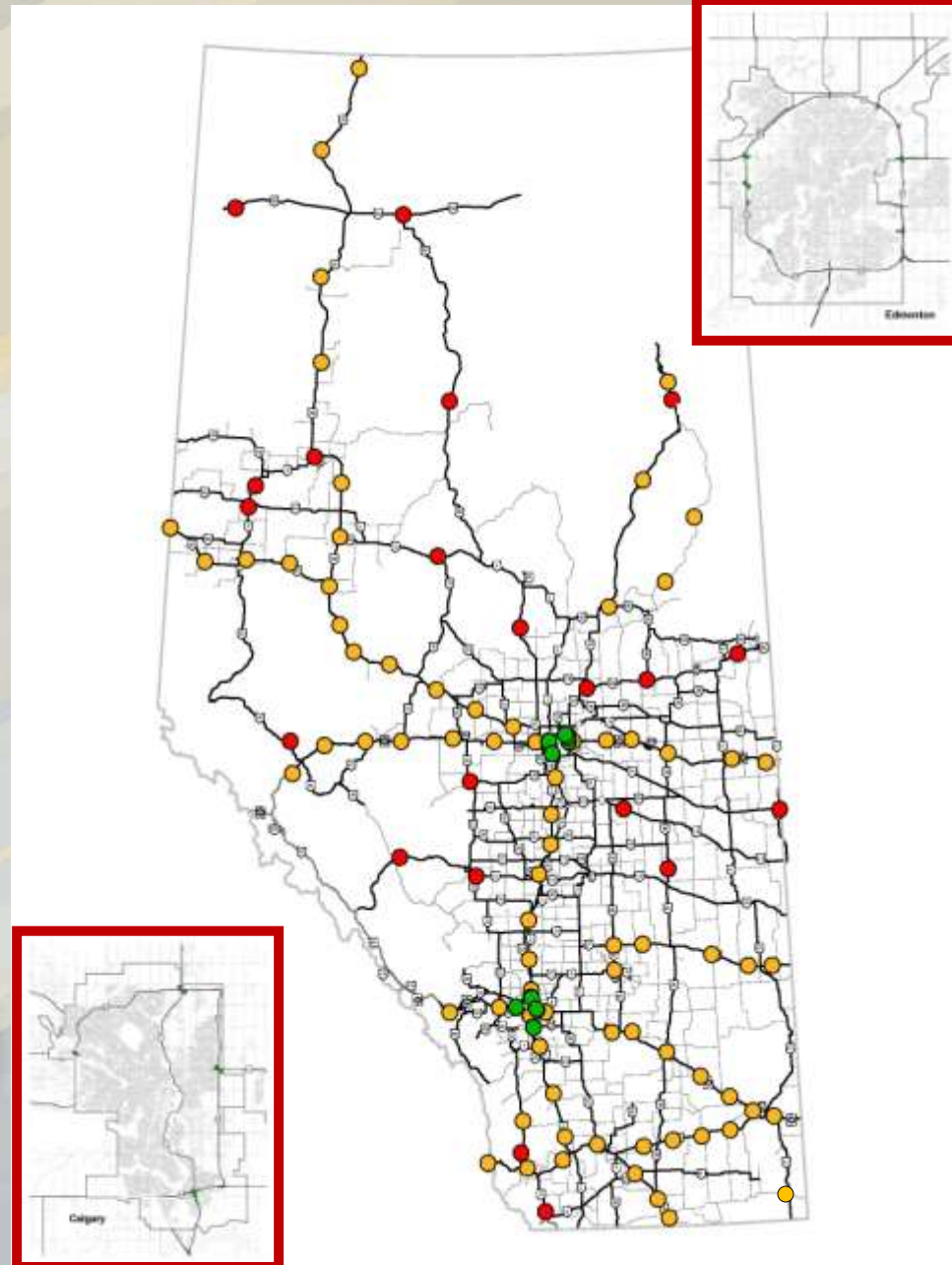


# RWIS Network Status

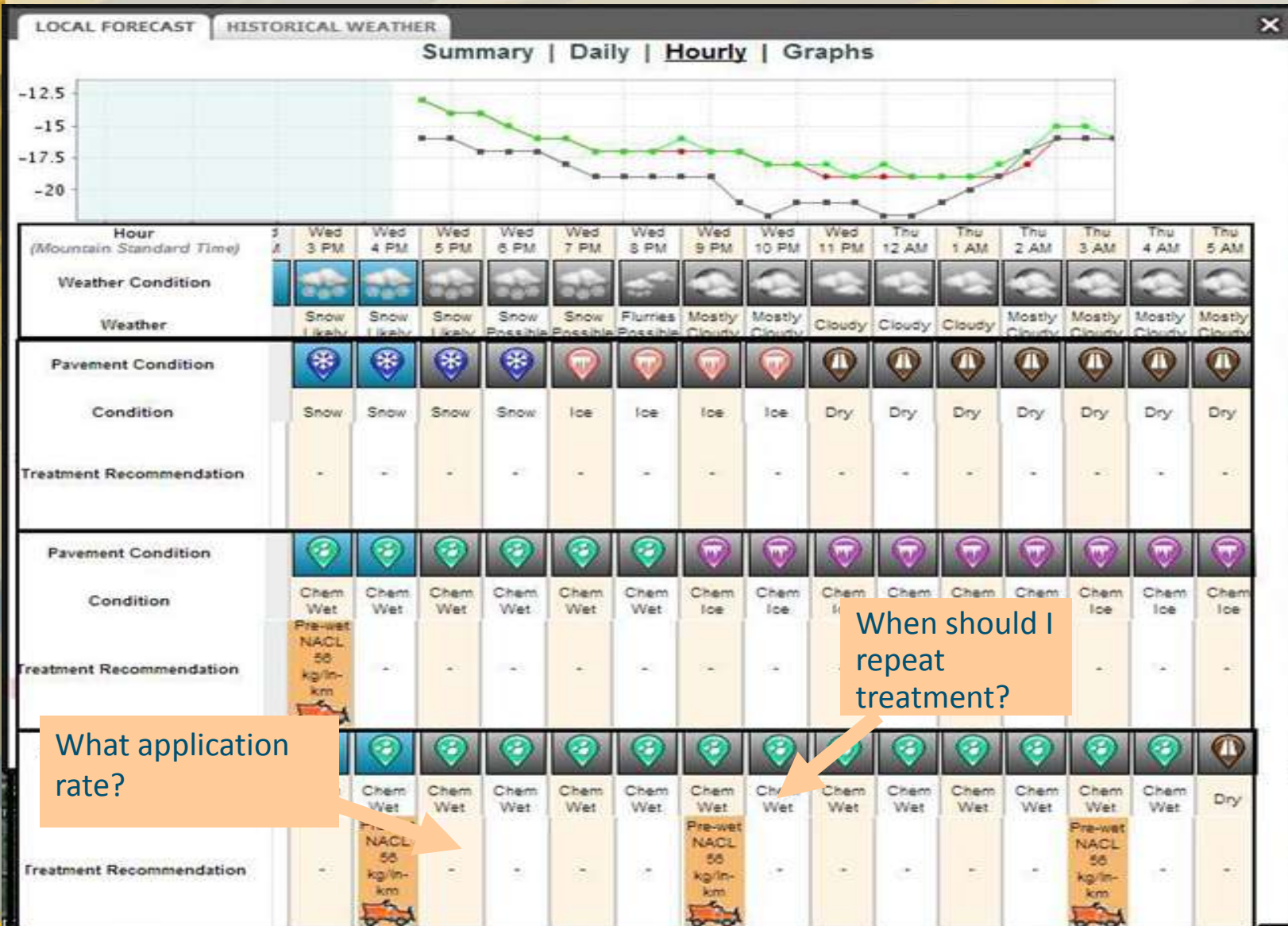
112 RWIS stations  
(97 rural, 15 ring roads)

Operational since  
2007

500 users (HMC and  
district staff and  
municipalities)



# Maintenance Decision Support System (MDSS) – Treatment Recommendations





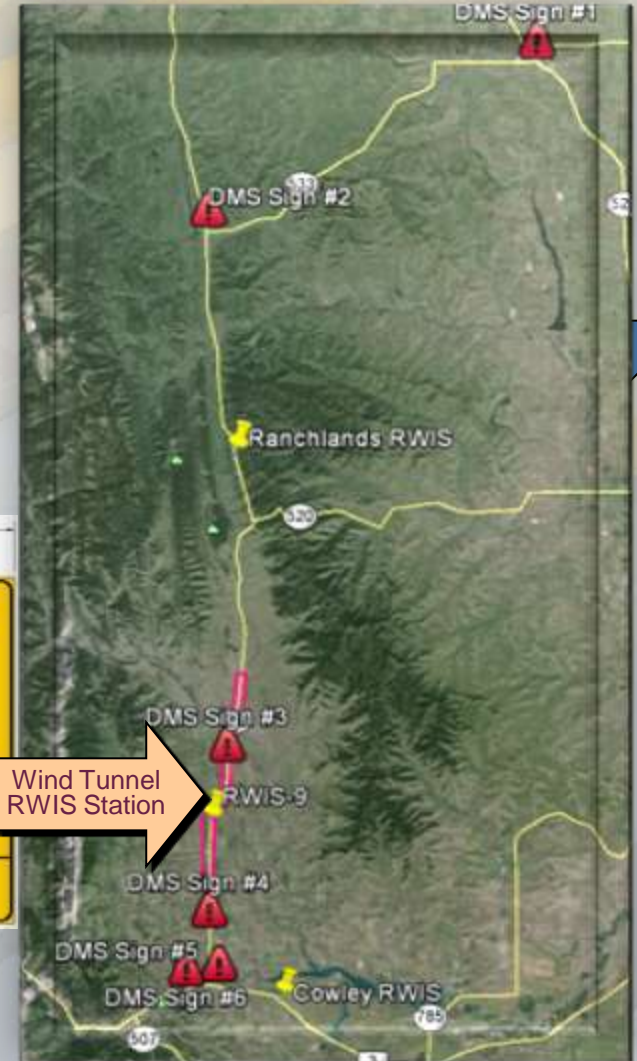
# Road Condition Warning System (RCWS) – Wind Advisory



ACTIVATE  
BEACONS

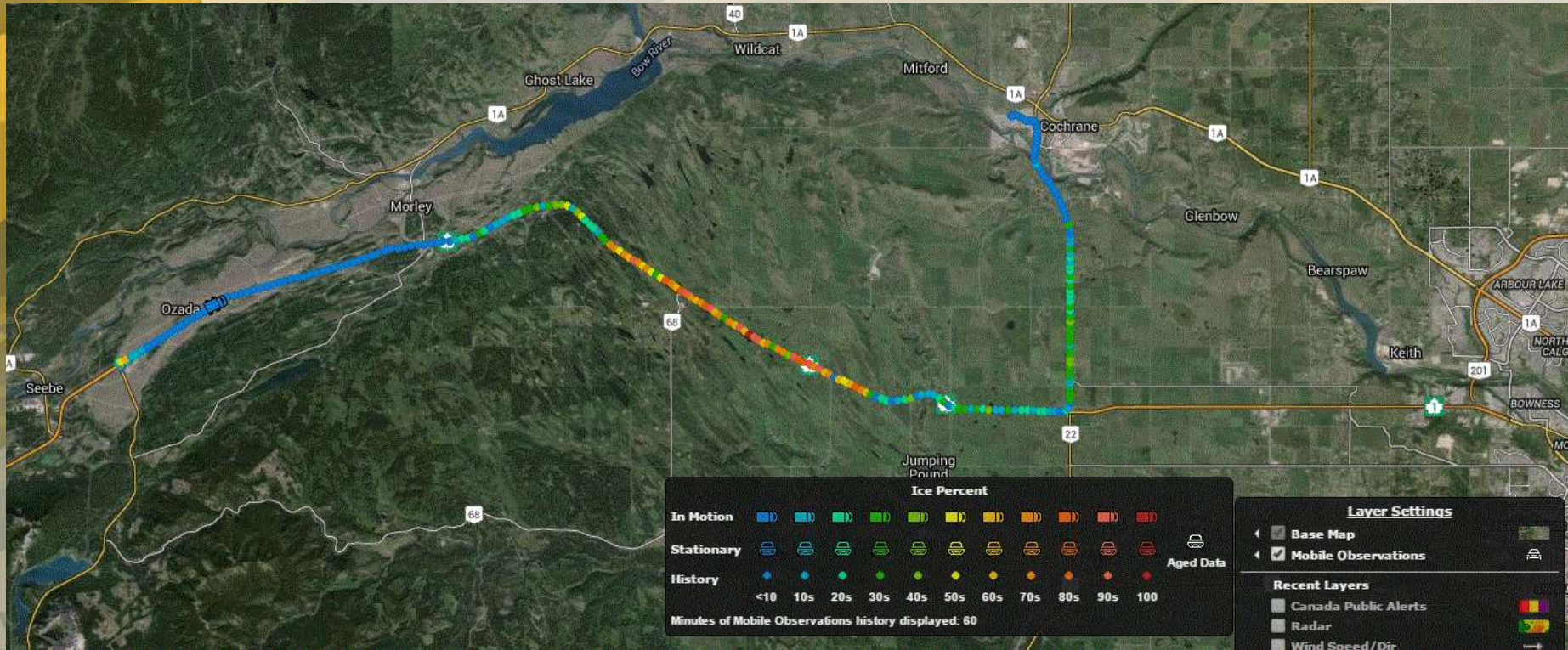
WIND SPEED

511 ALERTS





# Mobile Advanced RWIS (MARWIS)

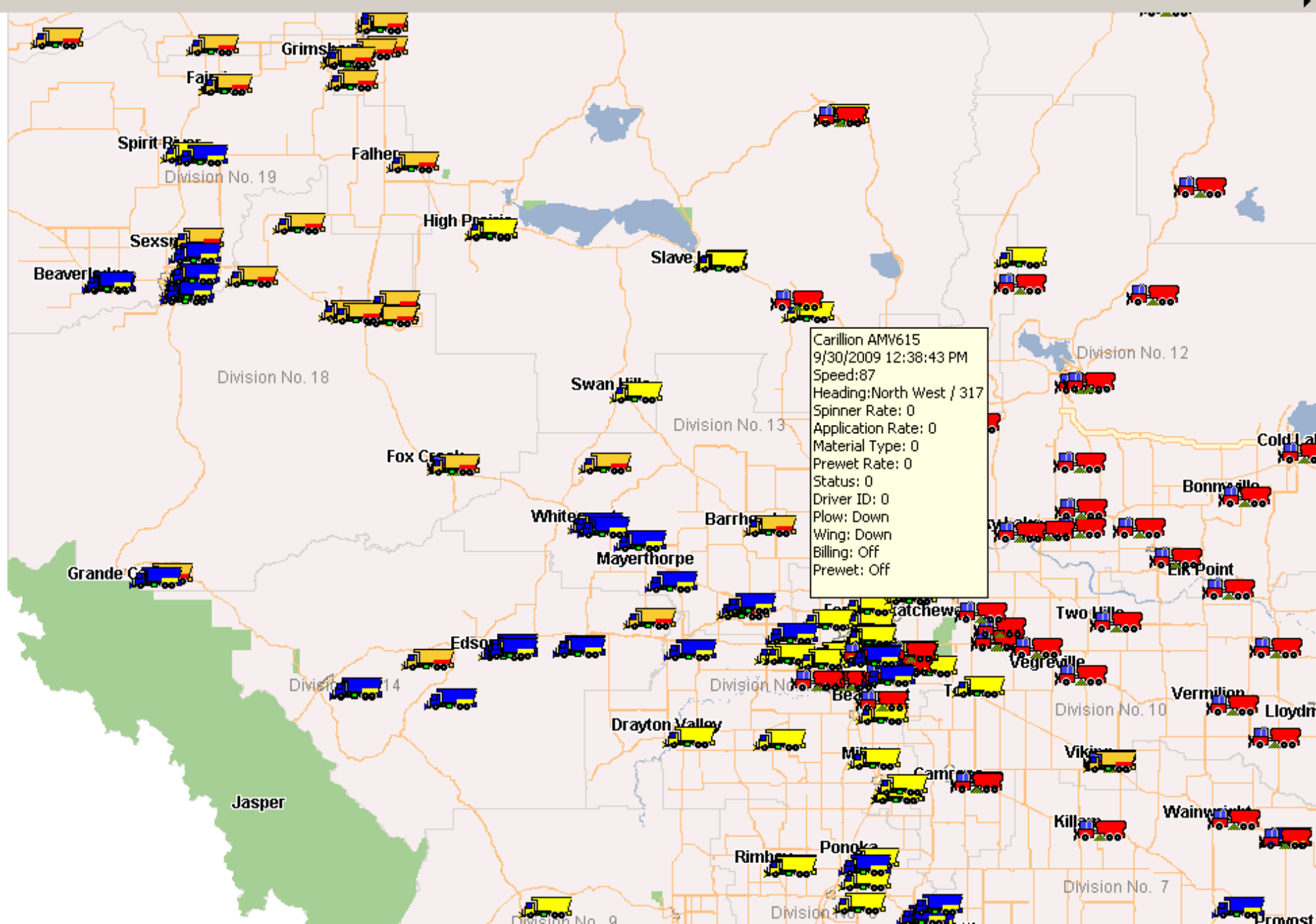


- Coverage between RWIS stations
- Pavement friction data
- Dynamic real-time observations



# Automated Vehicle Location System (AVLS)

- Track snowplow work
- Create automated billing sheets for invoicing
- Provide real-time info to the public (511)
- Help resolve public complaints/claims





# Traffic Cameras



- In addition to the 14 cameras on Deerfoot Trail and Stoney Trail
- 10 on AHD and in Ft Mac

# Dynamic Message Signs (DMS)

- 16 existing DMS
- 511 Alberta monitors and controls the message contents



Hybrid Signs Hwy 22 Wind Advisory



# Regional Traffic Management Centre (RTMC)

- Early detection of traffic incidents
- Coordinate response to incidents
- Reduce secondary collisions
- Reduce non-recurring congestion
- Maintain traffic flow
- Provide real-time travel info to the public

# Calgary RTMC

- Covers Deerfoot and Stoney Trails
- 14 cameras and 15 DMS so far
- Detour traffic signal coordination
- Bluetooth detection for travel times
- 24/7 monitoring and response coordination
- 511 Alberta alerts



# Future RWIS Plans

- New five-year RFP for RWIS and related services issued April 7, 2017:
  - Operations
  - Expansion of network for SW Calgary ring road and AHD (Anthony Henday Drive)
  - More connected vehicle stations?
  - DMS maintenance

# Future AVLS Plans

- New five-year RFP issued March 31, 2017
  - Automated billing will be phased out with performance-based maintenance contracts
  - Over 660 trucks tracked today, will include graders and other maintenance trucks later
  - RWIS integration?

# Other Plans

- Highway 2 Corridor Improvement Study
- Significant upgrades to 511 Alberta
- Expansion of cameras and DMS around the province
- Active wildlife warning systems
- Variable Speed Limit (VSL) pilot
- Working towards a Provincial TMC



# “Visioning”

# “Disruptive” trends in transportation

- Connected and Autonomous Vehicles (C/AV)
- Social crowdsourcing (“apps”)
- Uber and other ride-sharing services
- High speed mass transport
- I-o-T (Internet of Things)
- Drones
- Artificial intelligence
- Augmented or virtual reality
- ???

# What the Province can do strategically...

- Develop and implement Transportation's Long-Term Strategy (30-year outlook):
  - Connected and active communities
  - Multi-Modal transportation planning
  - Public transportation
- Policy and legislation on C/AV
- Policy and legislation on variable speed limits
- Policy on hyper-speed mass-transport technologies
- Transportation-as-a-Service model?
- Sharing of info and ideas with you!