

Clarus Regional Demonstration Development & Deployment Phase

Ben McKeever
Program Manager, Traveler Info & Road Weather
Research & Innovative Technology Administration
Washington, D.C.

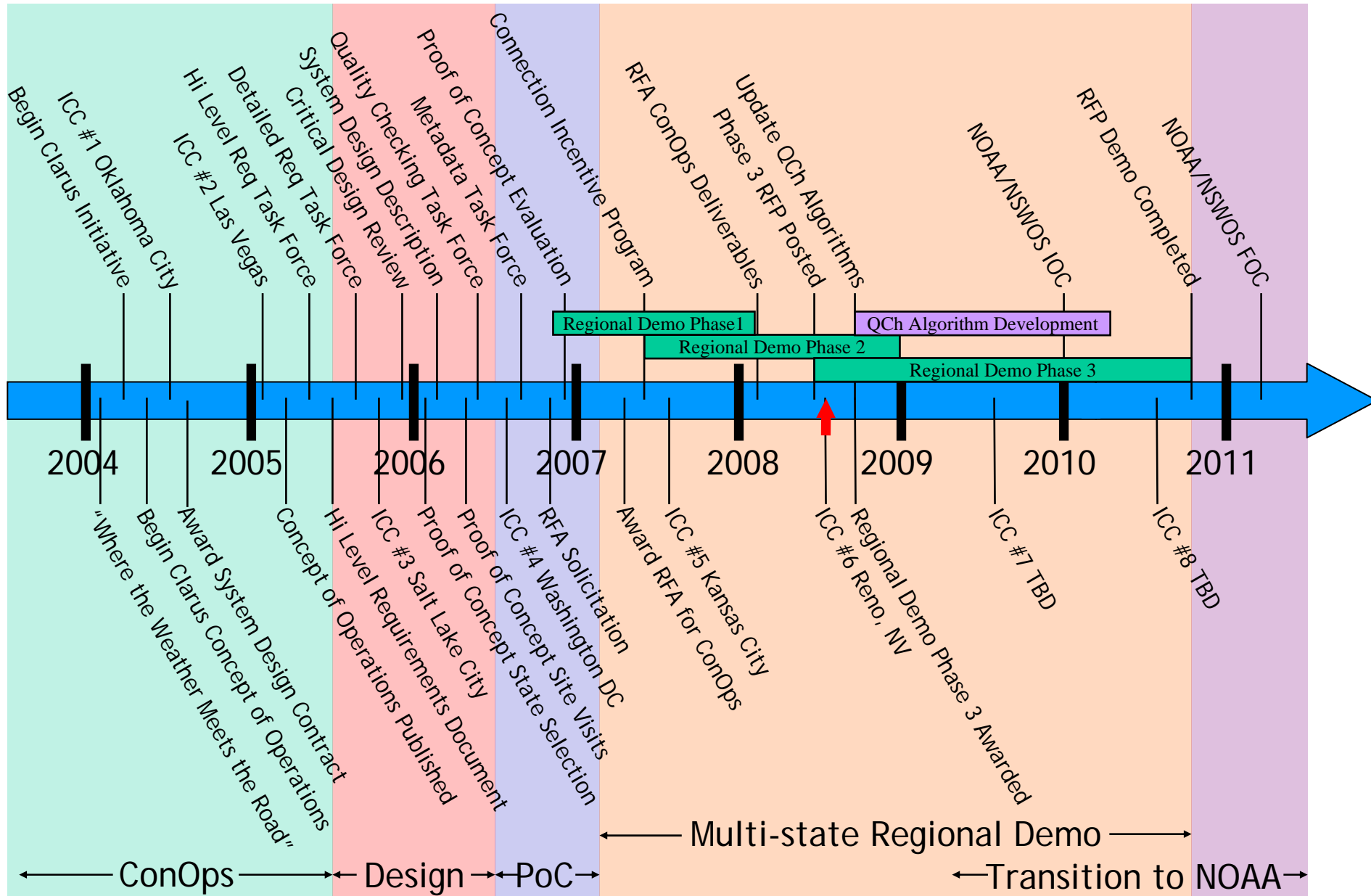
August 5, 2008 - Reno, NV

6th *Clarus* ICC Meeting

Contact: Ben.McKeever@dot.gov, 202-366-4876



Clarus Development Milestones



Phase 3 Objectives

- Development & deployment of *Clarus*-enabled services
- Built upon Phase 1 ConOps Scenarios
- Further the state of the practice for surface transportation meteorology
- Focused on innovative Business-to-Government (B2G) and Business-to-Traveler (B2T) services



Innovation

- Services are not bounded; They can be new or improved products, techniques, algorithms, processing systems, decision support tools or other new innovations
- B2G: Service focused on improving public transportation agency strategies or operations
- B2T: Service provided directly to travelers via some communications medium to aid their decision making



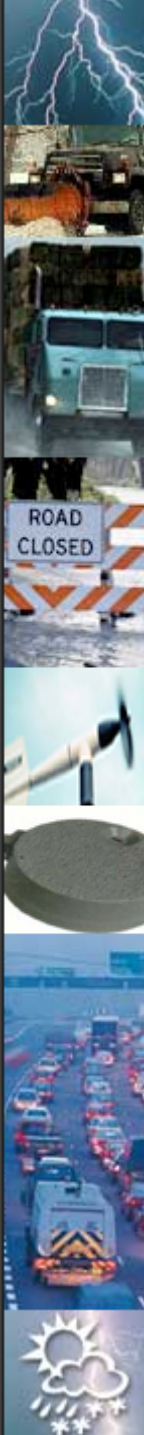
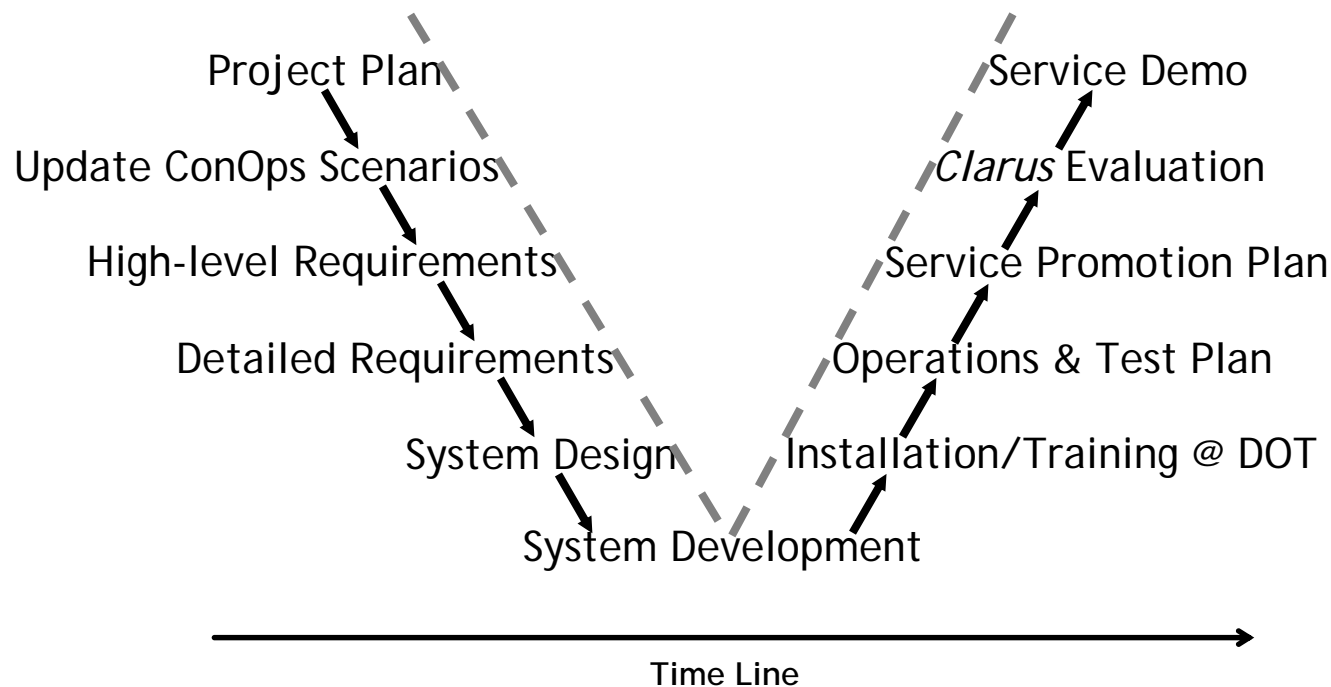
Qualifications

- Respondent must team with 2 or more public transportation agencies, with a common transportation corridor
- Preference given to Phase 1 participants
- DOT must operate an ESS network & agree to connect to *Clarus*
- DOT will operate/evaluate new service
- New service will also be independently evaluated



Systems Engineering

- All services are subject to the systems engineering process



Use Case Scenarios

- 5 use case scenarios included in RFP
- Based upon ideas within Phase 1 ConOps
- Scenarios focus on improving
 - Surface transportation meteorology,
 - Decision support tools, &
 - Control & advisory strategies
- First scenario is mandatory; all remaining are optional



Scenario 1

- “Enhanced Road Weather Forecasting Enabled by *Clarus*”
- Justification: To raise the state of the practice for surface transportation meteorology
 - Innovations can focus on the road pavement or the lower atmosphere
 - Innovation can be new or improve upon an existing capability
 - Evaluation to measure improvements



Scenario 1 - Outputs

- Examples of innovations could be improved:
 - Model assimilation fields
 - Short range forecasts (of road or weather conditions)
 - Boundary layer modeling
 - Forecast elements that are important to operations (e.g. precipitation type/amount, visibility, blowing/drifting snow, bridge and road frost, black ice, gustiness, etc)
- Innovations must utilize *Clarus* data & show traceability



Scenario 2

- “Seasonal Weight Restriction Decision Support Tool”
- Issue: Lack of a tool to assist with weight restriction calculations in rural western Canada and Alaska (& along northern tier of U.S.)
- Uses ESS (pavement & subsurface) data along with historical information & forecasts to provide recommendations during critical freeze/thaw periods



Scenario 2 - Outputs

House OKs gas pipeline plan

24-16 VOTE: Several amendments go down; the Senate gets it now.

By WESLEY LOY
wloy@adn.com

Published: July 23rd, 2008 12:05 AM
Last Modified: July 23rd, 2008 12:44 PM

JUNEAU -- Members of the House of Representatives voted late Tuesday to approve an exclusive state license for a Canadian energy company proposing to build a natural gas pipeline down the Alaska Highway to Alberta.

If the Alaska Senate approves the new natural gas pipeline, it will follow the ALCAN Highway into Alberta. Weight restriction advise will become much more valuable. Natural gas from the Alaska fields may eventually be used to heat homes in the U.S. Midwest.



ALCAN Highway (in blue) extending from Delta Junction, Alaska to Dawson Creek, British Columbia.



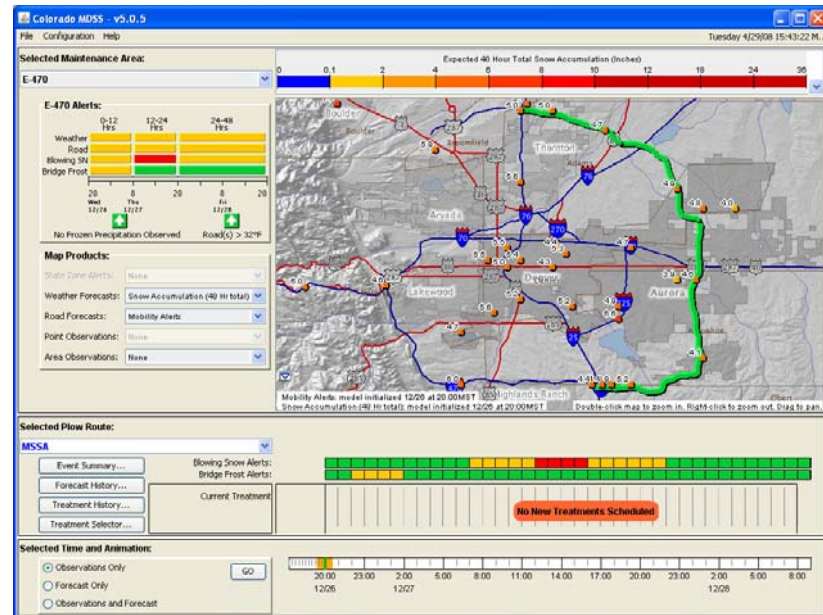
Scenario 3

- “Non-winter Maintenance & Operations Decision Support Tool”
- Problem: MDSS was designed to focus on snow and ice control
- Extend decision support to year round activities to support traffic flow, mobility and construction-related scheduling decisions

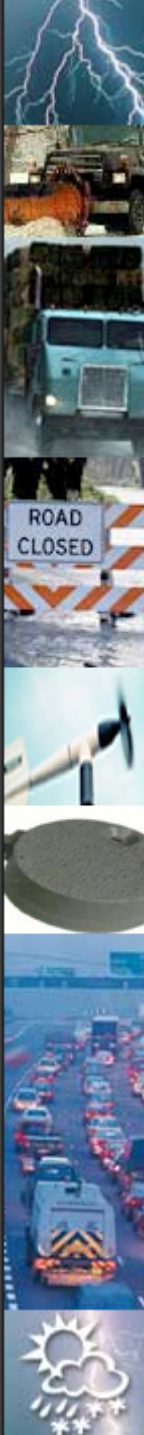


Scenario 3 - Outputs

- Leverage work already created for MDSS, but extend to year-round operations
 - Lane closures
 - Striping
 - Pothole filling
 - Pavement Application
 - Curing
 - Patch Sealing
 - Seal Coating
 - Bridge/Deck Repairs
 - Culvert Maintenance
 - Mowing



MDSS Federal Prototype for winter maintenance



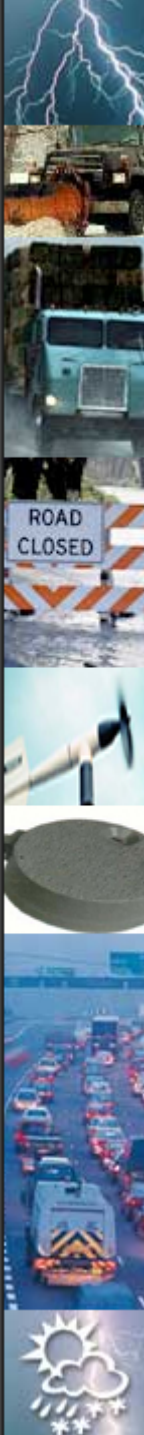
Scenario 4

- “Multi-state Control Strategy Tool”
- Problem: Improve intra & interstate coordination during adverse weather & evacuations
- Create a data management system that includes *Clarus* & road condition data that feeds into a tool that supports control strategies across multiple jurisdictions



Scenario 4 - Outputs

- Examples of control strategies include:
 - Advisories for use of snow tires or chains,
 - Details of road or bridge closures due to flooding
 - Advisories for strong or gusty winds in canyons or on high-span bridges



Scenario 5

- “Enhanced Road Weather Content for Traveler Advisories”
- Problem: Improve content for traveler information and advisories
- Does not intend to change the framework of existing traveler information systems
- Warehouses traveler information, *Clarus* data & route-specific forecasts



Scenario 5 - Outputs

- Examples of advisory strategies include:
 - Innovative use of mobile 'push' technologies
 - Regional traveler alert system
 - Enhanced 511
 - HAR
 - DMS
 - In-vehicle Navigation Systems



RFP Details

- Proposal Response Period: 6/3/08 - 8/1/08
- Estimated Award Date: 10/1/08
- Period of Contract: 2 years (FY 09 & 10)
- Preference given to teams including Phase 1 participants
- Open to all private/academic sector organizations that meet qualifications

