WYDOT
Focus on Transportation Safety

August 11, 2015
Snowbird, Utah

R. Vince Garcia, P.E.
GIS/ITS Program Manager
Agenda

- Background information
- Methods to inform the public
  - Commercial Vehicle Operators
  - WAT
  - Pathfinder
  - Smart TVs
  - VOCE
  - Mobile App
U.S. Annual Hours of Blowing Snow
Estimated from Modeled Data

Map generated July 2012 by Meridian Environmental Technology
Under funding of Clear Roads Project #10-02.

Data portrayed in this map were generated using data from the North American Model (NAM) over the course of the 2004/05 through 2010/11 winter seasons, and 1-km landcover data from the University of Maryland. The NAM data were used to track "blowable snowpack", which was subsequently evaluated against wind speed and surface roughness. No reliable, national observational record of the frequency of blowing/drifting snow exists for calibration, so data should be treated only as a gross estimate of where, and how often, blowing snow occurs. More information as to the specific process used to develop this map is available from Clear Roads.
Winter Weather Crashes
Blowover Crashes
Blowover Crashes
Strategy

- Avoid problems with good design
  - Geometric design
  - Account for blowing snow – slope selections
  - Account for shadows on roadway – cut sections

- Mitigate
  - Snow fence
  - Slope flattening

- Deploy ITS and inform the public
Stats

- During the 2014-15 Winter season (October to May) - 700+ million web hits (up from 600 million during previous year).

- 2014-2015 511 Notify Service – Sent 18.6 million text messages and 15.8 million emails

- 2014-2015 Phone system - Received 502,505 calls (down from a peak of 1.9 million)
How TMC Achieves It’s Goals?

Affect driver behavior

- Advisories/Recommendations/Information
- Enforceable requirements
  - Variable Speed Limits
  - Closures
  - Chain laws
Minimize Blowovers

- Closure to light, high profile vehicles
- Authority granted in W.S. 24-1-108 and 109
- Wind gust 65 mph or a single blowover
- No cost associated with this option
Results

Bordeaux Blowovers

- Dynamic Message Sign Installed
- Began using "Closure to Light, High Profile Vehicle" Message
WAT and WAT4B
WAT and WAT4B

- WYDOT Authorized Travel (for Business)
- Genesis: Legislator wanted to be able to get to his home and his ranching operations

- Process: If a road closed but a portion of the road is safe to travel (as assessed by Patrol and Maintenance), an authorization can be issued for pre-approved travelers.
WAT and WAT4B

- WYDOT Authorized Travel
- Authority granted in W.S. 24-1-108 and 109
- Pre-approved citizens can travel on a closed road segment **if, and only if**, WHP and/or Maintenance deems the road safe
- Intended for citizens who live or work beyond a closure gate

http://wyoroad.info/wat
WAT and WAT4B

- In the event of a closure, TMC coordinates WAT
- Patrol and Maintenance must approve
- Citizens automatically notified of authorized limits
Commercial Vehicle Operator Portal

- Working directly with Trucking Industry to tailor information
- Forecasting/meteorology
- Use of technologies/messaging
CVOP Specifics

- System built specifically for CVOs with their direct involvement

- IMPACT forecasts in 12 hr increments for 72 hrs
  - Surface condition
  - Visibility
  - Wind speed
CVOP Specifics

- Text/email alerts for high impact forecasts
- Map and text formats
- 150+ companies involved in the system
Okay, Windy Wyoming. Here is your President’s Day (Monday) forecast. Strong winds will create very dangerous travel conditions along I-80 and I-25 across southeast WY today through Tuesday morning. Gusts in the 50-60 mph range will be very likely, with some gusts 65 mph+. Gusts in the 55-65 mph range are common to cause tractor-trailer blow-overs. Another area with strong winds will be through South Pass (WY-28) and through Meeteetse-Cody-Clark area (esp. WY-120). Highest gusts are likely this afternoon and again very early Tuesday morning.

Snow (statewide) and much colder temperatures will cause travel concerns on Wednesday! This next winter storm sets up a snowy and cold pattern for Thursday through Saturday this week. These mild temperatures will not stick around for long.

https://apps.wyoroad.info/cvop/
# CVOP Detailed Wind Grid

**WGs:** Average wind direction (mph)

**WS:** Average wind speed (mph)

**Strong:** Forecast wind > 35 mph

**Low:** Forecast wind < 15 mph

**Closed:** To light and high profile vehicles only (45 mph+) or a road closure

The following are average forecasted wind speeds. Higher gusts may occur which are not always defined in the averages.

**Last Updated:** Today, 10:40 AM

### Friday, February 14

<table>
<thead>
<tr>
<th>Wind Direction</th>
<th>ROO - 3PM</th>
<th>3PM - 6PM</th>
<th>6PM - 9PM</th>
<th>9PM - MIDNIGHT</th>
<th>MIDNIGHT - 3AM</th>
<th>3AM - 6AM</th>
<th>6AM - 9AM</th>
<th>9AM - 12PM</th>
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### Saturday, February 15

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<tr>
<th>Wind Direction</th>
<th>ROO - 3PM</th>
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[https://apps.wyoroad.info/cvop/](https://apps.wyoroad.info/cvop/)
VOCE
Call Before You Dig

- WYDOT responds to 20,000 “Call before you dig” requests
- TMC is responsible for making routine calls
SMART TVS
Smart TVs

- Custom displays for business or event locations
Smart TVs

- Hotel lobbies
- Ports of Entry
- Sporting events
- Truck stops
- Other businesses
- Funding for the project may be available through the Department of Workforce Service Safety Improvement Fund. For more information, visit: http://tinyurl.com/q48tfbd
Pathfinder

- FHWA and NWS Project
- Improved relationships
- Improved communications
  - More consistency, more action-oriented
- Coordinated statements
- Highlighted impacts
## Pathfinder

<table>
<thead>
<tr>
<th>NWS</th>
<th>WYDOT</th>
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<tbody>
<tr>
<td>Text products</td>
<td>Dynamic Message Signs</td>
</tr>
<tr>
<td>Graphical products</td>
<td>Highway Advisory Radios</td>
</tr>
<tr>
<td>Social Media</td>
<td>Email Subscription Alerts</td>
</tr>
</tbody>
</table>

- Big storm events coordinated through NWS Chat and Telephone calls

- The public benefits by improved information and consistent messaging.
MOBILE APP
Mobile App

- WYDOT is very late to the game
- Four major functions
  - Pre-trip information in map format
  - En route information – hands free
  - Emergency
  - Submit a snapshot
Thank You

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