TALKING WEATHER TO THE DRIVER

Tim Boyer, P.E.
IT STARTED WITH SNOW SQUALLS
A UNIQUE SAFETY ISSUE

- Localized but high impact
- Dynamic situation
- Warning the driver

But we’re not meteorologists 😐
ODOT: To provide easy movement of people and goods from place to place, we will . . .

1. Take care of what we have.
2. Make our system work better.
3. Improve safety.
4. Enhance capacity.

The National Weather Service (NWS) provides weather, water, and climate data, forecasts and warnings for the protection of life and property and enhancement of the national economy.
OVERLAPPING MISSIONS

Keep this...

From turning into this
DEVELOPING A PARTNERSHIP

2014

- Begin serious interaction with NWS Wilmington (State liaison)
- Focus on snow squalls
DEVELOPING A PARTNERSHIP

2014
DEVELOPING A PARTNERSHIP

- Added NWS Cleveland territory
- All ODOT DMS now included
- Lake effect snow
DEVELOPING A PARTNERSHIP

- Why limit to snow squalls?
- Why limit to two offices?

Pathfinder!
WHAT IS PATHFINDER?

- Collaborative effort
  - National Weather Service (NWS)
  - ODOT
  - Weather Contractor (DTN)
- High-impact weather
- Unified message
  - What, when, how
  - Before, during, after
PATHFINDER – THE DOT SIDE

- Traffic Management Center
  - Posting to DMS
  - Posting road closures

- Maintenance forces
  - Responding to forecast
  - Confirming conditions

- Public Information Officers
  - Publish expected road impacts
  - Publish expected DOT actions
ODOT WEATHER MESSAGING

- What’s appropriate?

  HIGH FIRE DANGER
  YOUR BUTTS CAN SPARK A FIRE

  HIGH FIRE DANGER
  KEEP YOUR BUTTS IN YOUR VEHICLE
<table>
<thead>
<tr>
<th>Condition/NWS Product</th>
<th>Message Prior to Time Frame(^1,\ 2)</th>
<th>Message During Time Frame(^1,\ 3) (17 char.)</th>
<th>Message During Time Frame(^1,\ 3) (10 char.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter Storm Warning</td>
<td>SEVERE WINTER WEATHER FRI 9P - SAT 11A</td>
<td>SEVERE WINTER WEATHER UNTIL SAT 11A</td>
<td>SEVERE WINTER WEATHER UNTIL SAT 11A</td>
</tr>
<tr>
<td>Winter Weather Advisory</td>
<td>WINTER WEATHER EXPECTED FRI 9P - SAT 11A</td>
<td>WINTER WEATHER CONDITIONS UNTIL SAT 11A</td>
<td>WINTER WEATHER CONDITIONS UNTIL SAT 11A</td>
</tr>
<tr>
<td>Lake Effect Snow Warning</td>
<td>HEAVY SNOW EXPECTED FRI 9P - SAT 11A</td>
<td>HEAVY SNOW POSSIBLE UNTIL SAT 11A</td>
<td>HEAVY SNOW POSSIBLE UNTIL SAT 11A</td>
</tr>
<tr>
<td>Ice Storm Warning (Winter Weather Advisory) (Snow/Ice on road)</td>
<td>ICY CONDITIONS EXPECTED FRI 9P - SAT 11A</td>
<td>ICY CONDITIONS EXPECTED UNTIL SAT 11A</td>
<td>ICY CONDITIONS EXPECTED UNTIL SAT 11A</td>
</tr>
</tbody>
</table>
ODOT WEATHER MESSAGING

I-77 at S of Grant Ave 2016-03-01 15:04:05

2017-12-29 13:43:01

W 260/ - 07

WINTER WEATHER CONDITIONS
FRI 4P TO SAT 10A

I-70 at Courtright Rd
Figure 21. Graph. Aggregate Vehicle Miles Traveled versus Time of Day.
(Source: Utah Department of Transportation)
December 2016 – More than 50 car crash on I-90 in Lake County
(Source: Lake County Sheriffs Department)
# Variable Speed Limits

V VARIABLE SPEED LIMITS

**Ohio Revised Code 4511.21 (H)(3)**

- June 2017 – allowed for Variable Speed Limits (VSL) on three interstate routes

## Variable Speed Limit Matrix

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>NWS Product Advisory/Warning Issued</td>
<td>“Dry” or “Trace” (Dry) “Wet” or “Chemically wet” (wet)</td>
<td>Good; ≥ 0.5 miles</td>
<td>“Light” Precip</td>
<td>No lanes and/or Shoulder blocked</td>
<td>If measured speeds fall below the resulting VSL for a given severity level for a minimum of 5 minutes, then post for that severity level.</td>
<td>70</td>
<td>65</td>
</tr>
<tr>
<td>1</td>
<td>NWS Product Advisory/Warning Issued</td>
<td>“Ice Watch” (Snow Covered Road, Wet road &lt;33 Deg)</td>
<td>Fog; &lt; 0.5 miles</td>
<td>“Moderate” Precip</td>
<td></td>
<td></td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>2</td>
<td>NWS Product Advisory/Warning Issued</td>
<td>“Ice Warning” (Blowing/Drifting Snow, Icy pavement)</td>
<td>Poor; &lt; 0.25 miles</td>
<td>“Heavy” Precip</td>
<td>Lanes blocked &amp; traffic &gt; 50MPH</td>
<td></td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>NWS Product Advisory/Warning Issued</td>
<td>“Ice Warning” (Blowing/Drifting Snow, Icy pavement)</td>
<td>Poor; &lt; 0.1 miles</td>
<td>“Heavy” Precip</td>
<td>Lanes blocked &amp; traffic &lt; 50MPH</td>
<td></td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>NWS Product Advisory/Warning Issued</td>
<td>Full road closure or other high impact situation*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

*Verify with District personnel before posting for Level 4 Severity*
VARIABLE SPEED LIMITS - PILOT PROJECT

I-90 in Lake County
CHALLENGES

- Crying wolf
- No one-size-fits-all
- Efficiency
- Translation
- Treating roadways
LESSONS LEARNED: MUST HAVES

- Event reviews
- Face to face meetings
- Open lines of communication
- Understanding each other’s operations
- Feedback and input
- Confidence in pulling the trigger
NEXT STEPS

- TMC Specialist
- Enhanced communication
- Tailored event messages
- Continued education
“The Ohio Department of Transportation reaches motorists where they are impacted based off of NWS products.”

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