VARIABLE SPEED LIMITS (VSL)

Dennis O'Neil
John Macadam
https://www.youtube.com/watch?v=8wmlUh31DwY
OVER 50 VEHICLES INVOLVED
OTHER STATES HAVE SIMILAR PROBLEMS WITH WINTER CRASHES

- https://www.youtube.com/watch?v=7ZFG4CBWnyE
- https://www.youtube.com/watch?v=lxlvxvG8zOE
THE PROBLEM, THE PROCESS, THE SOLUTION

- https://www.youtube.com/watch?v=eNJQRjG6zdk&feature=youtu.be
February 16, 2016

- Sherriff Dunlap of Lake County calls a meeting with ODOT after Feb. 10 30+ vehicle crash
- Request message boards to warn motorists of white out conditions
- ODOT places 2 portable message boards on 90 in Lake County
- ODOT starts planning a Snow Squall Warning System
Snow Squall Warning System Sept. 2016

Lake 90 Snow Squall Warning System:
Additional work for ODOT Project 357-16. DMS and beam placement by others. Install DMS and provide power. Completion by Dec. 1 2016.

Location #1
90 east left side at Riverside Dr. MM192.1. Install DMS, left, side mounted 8’x15’. Install 18” pull boxes, power service, power to DMS, trench, conduit, ground mounted cabinet, etc. See details for Location #1.

Location #2
90 east left side at Hermitage Rd. MM 199.8. Install DMS, 8’x15’ on left side of 90. Install power service, 18” pull boxes, upgrade existing power service, trench, conduit, ground mounted cabinet, etc. See details for Location #2.

Location #3
90 west right side at South County Line Rd. MM 215.3. Install DMS, 8’x15’ on Right side of 90. Install 18” pull boxes, power service, trench, conduit, ground mounted cabinet, etc. See details for Location #3.

Beams in place by others. Ground mounted cabinet provided by others, and DMS provided by others. Miller to wire DMS and attach to beams. CEI service connection coordinated and paid by ODOT D-12.

Miller to provide pole (locations 1 and 3) and power service. Location 2, Miller is to upgrade the power service. All power service to be 120/240, 100 amp. Miller to provide 18” and 32” pull boxes, 2” conduit, 4 AWG wire, 30” trench ETC. to power up the DMS.
WINTER OF 2017

- Started installing the Snow Squall Warning System
- Placed portable message boards on 90
- Reduced the Speed Limit to 60 from Jan. to mid March.
Added Visibility Sensors to the RWIS

Added 3 CCTVs

Placed 3 DMS’s
EVENTS LEADING UP TO VSL’S

- Letter from the Lake County Sherriff requesting VSL’s.
- ODOT working with the Legislature to get Variable Speed Limit approved.
(3) For purposes of the safe and orderly movement of traffic upon any portion of a street or highway under the jurisdiction of the director, the director may establish a variable speed limit that is different than the speed limit established by or under this section on all or portions of interstate six hundred seventy, interstate two hundred seventy-five, and interstate ninety commencing at the intersection of that interstate with interstate seventy-one and continuing to the border of the state of Ohio with the state of Pennsylvania. The director shall establish criteria for determining the appropriate use of variable speed limits and shall establish variable speed limits in accordance with the criteria. The director may establish variable speed limits based upon the time of day, weather conditions, traffic incidents, or other factors that affect the safe speed on a street or highway. The director shall not establish a variable speed limit that is based on a particular type or class of vehicle. A variable speed limit established by the director under this section is effective when appropriate signs giving notice of the speed limit are displayed at the location.
PLANNING PHASE:  FIRST PROPOSAL FOR VSL’S

VSL Proposed Locations for Lake 90 4-8-2017

*Dual Mounted VSL to be full matrix.
4 VSL full matrix, at the beginning of the VSL zone
22 VSL with digital numerals
2 small DSL’s at Vrooman Rd Ramps
PLANNING PHASE: 5-26-18

19 VSLs
5 CCTVs
2 DMSs
4 Radar Detectors
DESIGN PHASE:

- Scope Complete 5/9/17
- Authorized Design Consultant 5/11/17
- Plan Package received 7/3/17
- Sale 8/24/17, $1.46M + $520,000 ODOT provided.
- Begin Construction, 9/1/17
- End Construction, 10/31/18
STATE OF OHIO DEPARTMENT OF TRANSPORTATION

LAK-90-14.67 VSL Signs

PID No. 105911
FEDERAL PROJECT No. 100% STATE

STATE JOB No. 527378
CONSTRUCTION PROJECT No.

PROJECT DESCRIPTION
INSTALL VARIABLE SPEED LIMIT (VSL) SIGNS AND ITS DEVICES ALONG I-90 FROM SR 44 TO SR 528.

2016 SPECIFICATIONS
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

LIMITED ACCESS
THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREeway BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 511.02 OF THE OHIO REVISED CODE.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE

PROJECT EARTH DISTURBED AREA: <1 Ac
EST. CONTRACTOR EARTH DISTURBED AREA: N/A*
NOTICE OF INTENT EARTH DISTURBED AREA: N/A*
RAILROAD INVOLVEMENT: NONE

*TYPE OF PROJECT: SIGNALIZATION ITEMS

DESIGN DESIGNATION: N/A
13 SITES ON I-90

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<tr>
<th>Site #</th>
<th>Sheet #</th>
<th>QDOT District</th>
<th>County</th>
<th>Location</th>
<th>State Log</th>
<th>Latitude</th>
<th>Longitude</th>
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<tr>
<td>1</td>
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<td></td>
<td></td>
<td>I-90 AT HERMITAGE ROAD</td>
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<td>W 81.263577</td>
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<td>I-90 WEST OF SR 44</td>
<td>200.1</td>
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ODOT AND CONTRACTOR ITEMS

- ODOT
  - VSL
  - DMS
  - RWIS updates
  - Cabinets
  - Cameras
  - Power Service w/ power co.
  - Beams state contract

- Contactor
  - Installation
  - Trench
  - CCTV poles
  - Everything else to make the system work
Interim completion Nov. 15, 2017. VSL signs did not arrive until mid Jan 18.

Power and communication cables
ODOT PUT OUT 8 VSL TRAILERS FOR THE WINTER OF 18.

Controlled from the TMC
PERMANENT VSL SIGN
CONSTRUCTION: VSL’S UP JULY
VISIBILITY OF THE VSL
CCTV, August.
Polecrete
70’ CONCRETE POLE
HOLLOW INSIDE