



Adverse Visibility Information System Evaluation (ADVISE)

Fog is a major problem in many parts of Utah. Many drivers react differently to and choose different speeds. If the person behind you is going too fast, you are more likely to get rear-ended. Even worse, you could be trapped in a fog bank in the middle of the road with vehicles coming from behind that have no idea that you have had an accident.



The Utah Traffic Lab (UTL) and the Utah Department of Transportation (UDOT) installed ADVISE near the highway to evaluate visibility and recommend speeds to drivers. This speed advisory system, called ADVISE, reduces the variability of speed associated with foggy conditions. ADVISE continuously measures visibility and displays the safe speed when visibility descends below a fixed threshold as shown in table 1.

Table 1: Message Display

Highway Visibility Range (in meters)	Message
> 250	No Message
200 - 250	"Fog Ahead"
200 - 150	"Dense Fog" alternating with "Advise 50 mph"
150 - 100	"Dense Fog" alternating with "Advise 40 mph"
60 - 100	"Dense Fog" alternating with "Advise 30 mph"
< 60	"Dense Fog" alternating with "Advise 25 mph"

UTL and UDOT have measured and evaluated the effectiveness of ADVISE on the I-215 corridor in Salt Lake City, Utah, where fog is a recurring problem (see figure 1 above).

In 1995, UDOT set up visibility sensors and, in 1997 to 1998, Variable Message Signs (VMS) for inclement, low visibility weather. UTL gathered and evaluated data from two time periods. UDOT and UTL only used sensor equipment during the first period and did not use VMS to warn drivers

<u>Summary of Findings</u>	<u>Conclusion</u>	<u>Recommendations</u>
Speed variation decreased 22% during lower visibility conditions. However, faster vehicles did not contribute to the variation decrease. Slower vehicles went faster when alerted by VMS and caused the variation to narrow.	Many drivers are likely to travel slower while others do not slow down at all during foggy conditions. ADVISE reduces the difference between the fast drivers and the slower drivers.	<ol style="list-style-type: none"> 1. Continue using ADVISE 2. Evaluate the correlation between ADVISE and Accident Reduction. 3. Install other highway safety technology (Road Weather information Systems).

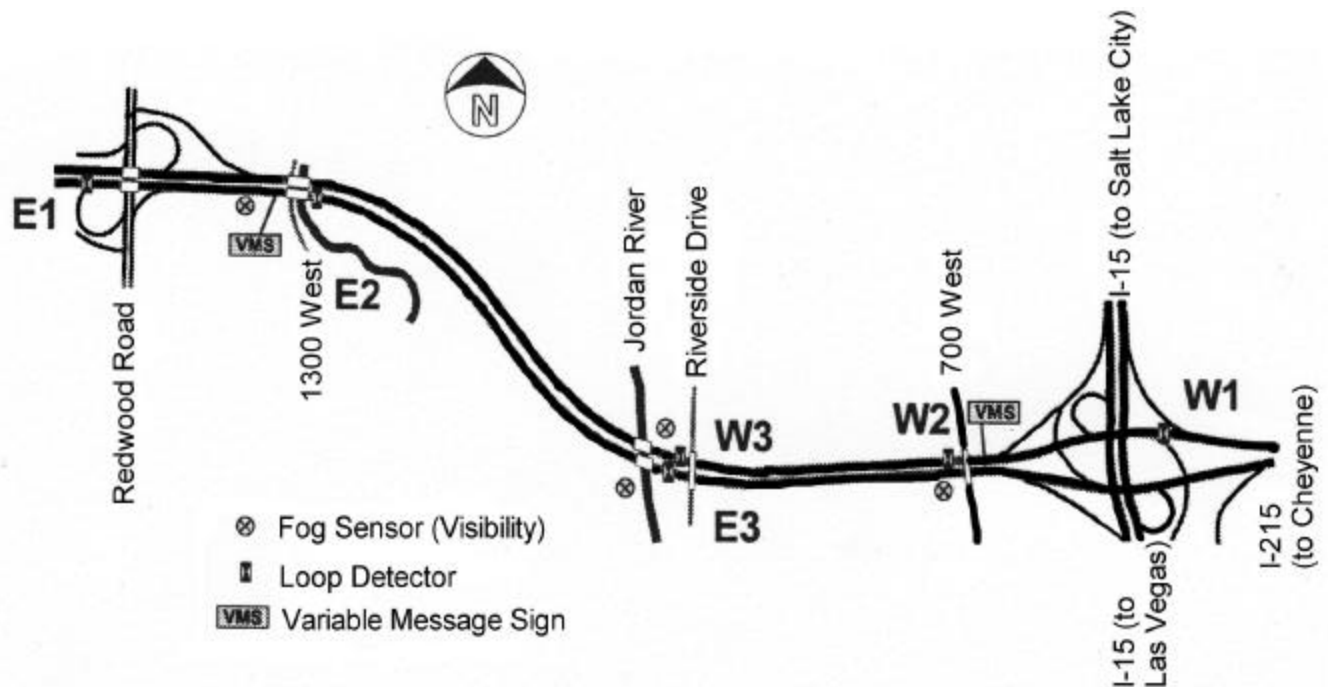


Figure 1: Project Location Map

of upcoming conditions. UTL installed VMS during the second half of the study at the entrance of the I-215 corridor shown as E2 and W2 in Figure 1. UTL compared the data and focused specifically on visibility and vehicle speed.

Without these message signs, some drivers will slow from 55 MPH to 20 MPH while others will continue driving at 65 MPH. The installation of ADVISE minimized the gap between speeds by 22%. However, results were not what UTL expected. It found that the cautious drivers sped up during foggy conditions, whereas faster drivers did not heed the VMS and did not slow down at all.

Project Contacts

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