

VARIABLE SPEED LIMITS

Description

Variable speed limits use speed limit signs that can be changed to alert drivers when traffic congestion is imminent. Sensors along the roadway detect when congestion or weather conditions exceed specified thresholds and automatically reduce the speed limit in five mile per hour increments to slow traffic uniformly and delay the onset of congestion. Depending upon the objectives set for the system, speed limits can be regulatory or advisory. Dynamic message signs (DMS) can also be deployed in conjunction with this system to give drivers travel-time information or explanations.



Target Market

- Freeways or roads experiencing frequent congestion
- Areas susceptible to adverse weather conditions

How Will This Help?

- Improve safety through a reduction in crashes during adverse weather conditions and congestion by slowing motorists entering an area of stop-and-go traffic.
- Delay onset of congestion allowing traffic to flow smoothly and efficiently and improving trip reliability.
- Provide environmental benefits through decreased emissions, noise, and fuel consumption.

Implementation Issues

This technology has been successful in Europe, but is new to the United States. Public acceptance and understanding of the system is crucial to its success. Drivers must be able to understand why the speed limit is being reduced and that their travel times and trip reliability will improve. Whether the new speed limit is advisory or mandatory must also be clearly understood by all drivers. Furthermore, the automated implementation of the dynamic speed display without operator intervention ensures that changes are implemented prior to breakdown. Also, the speed limit signs have to be visible to all vehicles.

Cost:	●●○○○
Time:	Moderate
Impact:	Corridor
Who:	State
Hurdles:	Public Support, Legal Authority, Operations

Success Stories

- Smarter Highways, Seattle, WA
<http://www.wsdot.wa.gov/smarterhighways/>
- Minneapolis, MN
https://support.mnpass.net/kayako/index.php?_m=knowledgebase&_a=viewarticle&kbarticleid=123
- England
http://www.highways.gov.uk/knowledge_compendium/64A9E660C4D342578695740F018E3BDC.asp