

It has been independently proven and universally accepted that the most effective way to achieve a long term adjustment in driver behavior towards inappropriate speed is to establish a multi-faceted **Targeted** strategy which is **Consistent, Clear in its message, Reasoned** and **Educational**.

With this objective in mind and with the independent data and growing track record of VATCS supporting its claims as the future for display based traffic calming, the City of Orange are leading the way in southern California by installing School Zone, Curve Warning and Posted Speed Limit VATCS as part of the HSIP Highway Safety Improvement Program on five streets across the City.



The signs were initially set up to collect base line traffic speed data from drivers passing through Cannon Street, Santiago Canyon Road, Serrano Ave, Chapman Ave and La Veta Ave in covert mode. More recently residents will have seen the signs operating in dynamic active mode working in tandem with the existing static street regulatory and warning signage by targeting specific speeding drivers with a clear message to slow down and educating them to the reason behind the request.

Inappropriate driver speed – by the numbers

- Circa 30,000 people are killed on North America’s roads each year, the equivalent of several 747’s falling out of the sky each week.
- Inappropriate speed is the major contributory factor in over 32% of road fatalities.
- The economic cost to society of road fatalities is significant, NHTSA estimate each fatality at \$3m, equating to \$120b/annum.
- The greatest numbers of traffic fatalities occur away from the major highways on rural county and urban conventional roads.
- Nearly 25% of people who die each year on the Nation’s roadways are killed in vehicle crashes at curves.

VATCS versus Speed Feedback Displays SFDs

If you ask a City traffic engineer what LED vehicle activated display options he has in his traffic calming toolbox , more often than not if the city deploys them you will hear the words ‘We use Speed Feedback Displays or Signs’.

Speed feedback signs have been the predominant display approach that has been used in traffic calming in the US and Canada for the last 15 years – there is a wide variety of models, types and sizes on offer from circa 6 to 8 established manufacturers .

However there is a marked difference in the approach between a speed feedback display (examples pictured opposite) and the VATCS which Unipart Dorman introduced to north America in 2008.

This paper aims to clarify the difference makers that the VATCS approach offers to end clients and why more communities and DOTs are starting to experiment and rely on VATCS .



'Making Roads Safer In Your Community'

Why VATCS and not SFDs ?

Independent data VATCS are the only traffic calming display technology to have been independently large scale field tested to prove long term effectiveness, with driver respect of the technology being maintained over a 3 year period. See UK report *TRL548 Vehicle Activated Signs - A Large Scale Evaluation* where 60 signs were tested and driver speed recorded using a variety of devices and locations together with statistical accident analysis. The end of 3 year results provided a strong endorsement

- A **7MPH** reduction of average speed in advance of horizontal curves
- A **4MPH** reduction of average speed in posted speed limit zones
- A **1/3** reduction in accidents recorded over the 3 year period

Clarity of Message Drivers are not informed what speed they are travelling as is the case with SFDs, which could encourage racing the sign, rather they are clearly advised of the posted speed limit or approaching hazard and to Slow Down where excessive speed has been detected. There is no ambiguity in the message .

Consistency of Message In line with the core philosophy of a consistent road speed management strategy, VATCS utilize diagrams that are already recognized in the MUTCD. The display uses the MUTCD font alphabet rather than a seven segment display and is available in a range of MUTCD sizes to match the road speed. SFDs as shown in previous page pictures come in a variety of sizes and types, providing a potential lack of consistency across a community.

Targeted Message when not activated VATCS are entirely blank giving them a much better driver impact than SFDs which have a Your Speed reflective sign fascia present whether sign is active or not. The increased driver impact ensures better long term effectiveness with less potential for drivers to tune out.

Dynamic VATCS realize its important to be dynamic but at the same time recognizes the importance of getting the message across clearly to it's audience. A wide range of driver ages are out on today's roads, all drivers have a limited time to read and react to warning messages and so VATCS incorporate flashing beacons in each corner of the display to attract the drivers attention whilst keeping the main warning steady , they don't attempt to flash the display as SFDs invariably do to try to indicate unsafe speed.

Hazard Specific by Incorporating recognized diagrams from the MUTCD, VATCS educate drivers to particular hazards that call for more attention to their speed than normal. e.g. Sharp Curve Ahead , Entering a School Zone. SFDs just can't deliver the same reasonable educational impact by providing one basic message for all scenarios.

Reasoned Message The MUTCD requires that SFDs are used in conjunction with posted or advisory speed fixed sign plates to ensure drivers can correlate their speed to the posted speed. VATCS are also designed to work in tandem with static plate regulatory and warning signage but don't need to be on the same post and can hence be more effectively deployed downstream as a targeted reminder as their message is both clear and reasoned



Amir Farahani ... City of Orange Traffic Engineer

"A well thought out product, which offers a consistent hazard specific approach, a welcome addition to our traffic calming toolbox."

There is little doubt the customized VATCS approach will eventually become the industry benchmark for display based traffic calming as more and more communities across north America learn of its benefits over the existing speed feedback sign panacea.

Unipart Dorman in conjunction with our regional partners is pleased to be able to offer and support the unique award winning VATCS sign series. Please contact us now to set up a demonstration and learn more about this exciting new advancement in vehicle activated based traffic calming.

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