



# CALIFORNIA STATE SCIENCE FAIR 2016 PROJECT SUMMARY

<b>Name(s)</b> <b>Christopher C. Kulick</b>	<b>Project Number</b> <b>J0417</b>
<b>Project Title</b> <b>The Effectiveness of Vehicle Speed Feedback Signs</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The objective of this project was to determine if vehicle speed feedback signs are effective in reducing speeds. <b>Methods/Materials</b> A radar gun with pencil, paper, and clipboard to record observations while positioned near street. Measured speed of 100 vehicles approaching each of 4 different signs and also measured speed of speeding vehicles before and after 2 of the signs. <b>Results</b> To determine if the Vehicle Speed Feedback Signs are effective in reducing speeds, we collected data two different ways. A first collection effort was performed with the goal of recording vehicle speeds as they approach VSFS to determine if the 85th percentile speed is at or below the posted speed limit of 40mph. A second study was performed to collect data to isolate individual driver behavior in response to the signs. The first study results showed that all signs failed to achieve the goal of the 85th percentile of drivers complying with the posted speed limit of 40 mph. The best achieving sign, Northbound Sign 1, reported a 43 mph 85th percentile speed. For the second speeder study, the results continue to indicate that the signs do not result in the majority of drivers reducing their speeds. The results show the majority of vehicle maintaining the same or increased speeds; the Northbound sign had 82% of drivers with the same or increased speeds and the Southbound sign had 75.5%. <b>Conclusions/Discussion</b> My study of the 100 vehicles at each sign showed that none of the signs were successful in getting vehicles to reduce speeds to the 40mph speed limit. The best performing sign achieved a 43 mph speed with 85% or the majority of drivers. The other signs achieved either 44 or 45 mph speeds for 85% of drivers observed. The individual speeder study where I isolated speeders and took speed observations before and after the signs also showed limited effectiveness in influencing the majority of drivers to reduce speeds. The Southbound Sign 1 showed that 24% of speeders reduced their speed and the Northbound Sign 1 showed only 18%. In reviewing the post sign data, only 8% of speeding drivers reduced their speed to the 40 mph limit for the Southbound sign and 2% of drivers reduced to the limit on the Northbound sign.	
<b>Summary Statement</b> I was able to observe that vehicle speed feedback signs are ineffective in reducing the speeds of vehicles under the posted speed limit.	
<b>Help Received</b> I met with Rob Blough City of Encinitas Traffic Engineer to review data and implementation details of the vehicle speed feedback signs I studied.	