

## Instant Speed on Work Zones at Key Sections Using the SHRP2 NDS Database

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Work zones tend to provide an unconventional and abnormal highway environment for motorists who are instead accustomed to an unobstructed roadway. The instant speed of drivers is frequently used as surrogate safety performance measure. In work zones in particular, it is important to understand how and how different factors contribute to the speed of a vehicle within a workzone, upstream and other fixed distances relative to the start of the work zone. In this work, we study the instant speed on several sections on work zones from the SHRP2 NDS data on multilane and four lane divided roads and different work zone configurations. We achieve this with a multiple multivariate regression analysis with mixed factors, thus, allowing the comparison of the speed at such sections; the “multiple” component comes from the covariates while the “multivariate” part comes from the speed measured at different sections. We place a particular emphasis on drivers’ eye glance and cell phone distraction. Other important factors considered in the model are different work zone signs, speed limit and channelizing device.

*Keywords:* work zone; instant speed; multiple multivariate regression