



Florida Department of Transportation Research

A Human Factors Examination of Driver Response to a Specific Work Zone Design (Design Standard #613, Duration Note 2) and Key Moderating Factors BD548-18 (10/07)

Employees whose occupations require them to set up and work within roadway work zone barriers are at significant risk from traffic. Shortening taper lengths could make work zone set-up faster and, thus, reduce the amount of time these workers are exposed to traffic. Whether shortening the distance between oncoming traffic and the work zone would reduce risk, however, was unknown.



A typical tapered approach to a work zone.

Researchers at the University of Central Florida created simulated work zones with

both standard and shortened taper lengths to evaluate how the reduced work zone might impact employee safety. In the simulation, participants drove vehicles towards and through standard and modified versions of a work zone set up according to FDOT Design Standard #613, Duration Note 2, which specifically addresses short duration work zones (60 minutes or less) with speed limits of 45 mph or less. Each driver approached and entered the work zone, some following lead vehicles that blocked the view of the work zone setup. The simulated work zone did not include standard warning devices, such as signs or arrow boards, since they are not required for short duration work zones.

The researchers collected and analyzed data about the performance of the drivers. The participants filled out an extensive survey on their driving habits and attitudes. The results of the simulation analysis showed that shortening the taper zone resulted in more frequent accidents. However, the lack of warning devices in the simulation may have affected the test results.

The researchers believe that driver behavior in work zone areas may also be affected by factors that the simulation did not account for, such as time of day, weather, traffic density, and distractions (e.g., cell phones).

The findings of this study do not support the use of a reduced taper length for work zones. However, the simulation results have not been verified with field research.

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