

Overview of Digital Billboard Safety Studies

1980 Federal Highway Administration (FHWA)– (Wachtel and Netherton Report)
cited the following studies:

1951 – Minnesota Dept. of Highways conducted field study that found that an increase in commercial billboards would result in increased crash rate.

1951 – Iowa State College found that more crashes caused by driver inattention occurred on road segments with more billboards.

1952 - Michigan State Highway Dept. found highway signs did not correlate with number of crashes.

1961 – California Route 40 – road segments with billboards experienced more crashes than segments without.

1967 – Chicago – Field study compared crash history at three locations after installation of illuminated changeable message signs. One of three showed increase in crash rates. The one that showed an increase was a brightly illuminated flashing sign with white lights. Highway officials replaced the white lights with blue lights.

1976 – Boston - Massachusetts Outdoor Advertising Board conducted analysis of crashes 3 years before and 2 ½ years after installation of a “Tele-Spot” off premise electronic advertising sign. Showed reduction in crashes along expressway but where the sign was visible, the reduction in overall crashes was 10% less. Board concluded 10% difference was significant enough to revoke the license for the sign.

1994 - Wisconsin Department of Transportation Report

Studied crash rates on I-94, near an electronic variable message advertising sign on Milwaukee County Stadium. The sign displayed sports scores and advertisements and changed every 5 seconds. Study showed a 36% increase in crashes eastbound and 21% increase westbound. The sign remained for 16 years until new stadium was built. A similar sign is on the new stadium.

2000 - The Curriden Article

Discussed a court case due to a crash caused by a driver reading an electronic sign that listed departure and arrival times at an airport. The airline using the sign was sued and lost. The sign was removed.

2006 – “Impact of Driver Inattention on Near Crash/Crash Risk: Analysis Using the 100 Car Naturalistic Driving Study Data.” National Highway Transportation Safety Administration

Examined driver inattention using naturalistic (behavioral) data with crash data. Conclusion: Brief glances from the forward roadway for the purpose of scanning the driving environment are safe, unless glances exceed 2 seconds.

100 Car Naturalistic Driving Study surveyed driving habits of 100 drivers in instrumented cars. Instruments included video cameras, to watch eyeglance movements.

2007 - Driving Performance and Digital Billboards - Virginia Tech

Examined driver performance in the presence of digital billboards and similar comparison events (bright on-premise signs, etc) in Cleveland. 36 drivers drove instrumented vehicles in 50 mile loop by day. 12 drove at night.

Conclusion: Digital billboards and comparison events **may** result in more active glance patterns overall. Stopped short of stating that digital billboards cause more accidents.

2007 – A Study of the Relationship Between Digital Billboards and Traffic Safety in Cuyahoga County, Ohio - Tantala Associates

Examined seven digital billboard locations in Cuyahoga County to find a correlation between digital billboards and traffic safety. Examined accidents using police reports before and after 2005 for equal length of time (temporal) and the association between digital billboard locations and measured accident density and viewer reaction distance to billboard proximity (spatial).

Conclusion: Accident statistics are consistent, exhibiting statistically insignificant variations. Digital billboards have no statistical relationship with the occurrence of accidents.

2007 - A Critical, Comprehensive Review of Two Studies Recently Released by the Outdoor Advertising Association of America (OAAA) for Maryland State Highway Administration – Jerry Wachtel

Wachtel cited problems associated with the Virginia Tech and Tantala studies. According to him, both studies showed bias (released and publicized by OAAA) and flawed assumptions were made. The methodology was questioned as insufficient amounts of data were used. Wachtel recognizes research on this subject is challenging, but more study is needed. “...no research yet published can fully answer the question of whether EBB’s (electronic billboards) create a sufficient distraction of driver’s attention that they should be banned or strictly regulated under certain roadway, environmental and traffic conditions. Such research is needed to guide future policy and regulation.”

Upcoming Studies: Federal Highway Administration (FHWA)

Per phone conversation with Jerry Wachtel, a report by the FHWA is due this month that sets the groundwork for a study to be released in 2010.

