

## The Traffic-Hazard Question Answered

FOARE's two studies address electronic-digital billboards and traffic safety.

By [Bob Klausmeier](#) (09-10-2007)

In the May, "Moving Message" column (*page 52*), I ranted about the lack of evidence that counters the oft-held allegation, "Electronic-digital displays cause traffic accidents." I said no research or reports existed that would put the issue to rest. Soon after, however, I learned that such a study was in progress.

Unknown to outsiders, the outdoor-advertising industry and its association, the Outdoor Advertising Assn. of America (OAAA), has issued two studies that regard electronic-digital billboards and traffic safety. The Foundation for Outdoor Advertising Research and Education (FOARE), a nonprofit, education fund administered by the OAAA, commissioned both studies. The studies provide evidence that electronic-digital displays (EDD), when properly used, aren't traffic hazards.

The Philadelphia-based research firm, Tantala Associates, whose principal engineer, Albert Tantala, is licensed in six states, conducted the most significant report, "A Study of the Relationship between Digital Billboards and Traffic Safety in Cuyahoga County, Ohio." In addition to this report, Tantala has co-authored a traffic-safety study for the United States Sign Council (USSC). Further, he specializes in engineering for wind loads and has conducted engineering work on numerous signs.

Cuyahoga, Ohio's most populous county, includes the city of Cleveland.

Tantala's 106-page study specifically addresses "moving message" displays and their relationship to vehicle accidents. It considers "before and after" data for installed, electronic-digital billboards. The researchers mined the Ohio Dept. of Transportation's statistics on traffic accidents that occurred near seven, electronic-digital billboards installed alongside Cuyahoga County freeways. The measurements incorporated pre- and post-sign-activation dates.

The study's summary said:

- At each digital billboard, and for periods of 12 months before and after the conversion, the accident statistics and metrics are consistent, exhibiting statistically insignificant variations. The same conclusion also applies for an 18-month period before and after the conversion.

The metrics include the total number of accidents in any given month, the average number of accidents over the 12- and 18-month periods, the peak number of accidents in any given month and the number of accident-free months. These conclusions account for variations in traffic-volume and vehicle-miles traveled.

- The correlation coefficients demonstrate no statistical relationship between vehicular accidents and billboards (including conventional and the seven, electronic-digital billboards). Also, these correlation coefficients strongly suggest no causal relationship between the billboards and vehicular accidents.
- Accidents occur with or without billboards (digital or conventional). The accident statistics on sections of interstate routes near billboards are comparable to the accident statistics on similar sections that have no billboards.

The study concluded that electronic-digital billboards have no relationship to automobile accidents. It said accidents are more likely attributable to other factors, such as alcohol use, deer on the roadway, adverse weather, speeding and more.

The Virginia Tech Transportation Institute (Blacksburg, VA) has conducted a separate, 90-page study, titled "Driving Performance and Digital Billboards," that also scrutinizes Cuyahoga County's seven, long-term electronic-digital billboards. Its researchers measured "eye glance" results, to determine if such billboards contributed to a greater distraction than the conventional boards previously studied by Virginia Tech in its 2004 study of Charlotte, NC's billboards.

Both studies are available at OAAA's sponsored website, [www.digitalooh.com](http://www.digitalooh.com).

Virginia Tech's research focuses on development and dissemination of advanced transportation knowledge. It's one of three Federal Highway Administration-sponsored Intelligent Transportation Systems research centers of excellence.

Virginia Tech's study concluded that [electronic] digital billboards appeared to attract more attention than conventional billboards and baseline sites. It also said LEDarrayed billboards were safety-neutral in their design and operation, from a human-factors perspective. The study's safety-neutral conclusion was, in part, based on EDDs that show static images that change every eight seconds.

Although these studies are specific to digital billboards, they readily connect to on-premise, LEDbased, electronic digital signage (EDS). The study's conclusions displayed EDS' impact on traffic.

You may also download OAAA's undated, but recent, "Regulating Digital Billboards" brochure at [www.digitalooh.org/digital/pdf/RegulatingDigitalBillboards.pdf](http://www.digitalooh.org/digital/pdf/RegulatingDigitalBillboards.pdf). It explains various technologies and includes sample "Model Sign Code" provisions.

Because "electronic digital" is the billboard industry's focus, the similarities between on- and off-premise signage have heightened. And, although the billboard market is a small segment of the greater advertising community, it's massive when compared to the on-premise, EDS market. It's rich with both resources and means to tackle tough problems and to conduct research that helps further its goals.

Therefore, even before I sold display products to billboard companies, I studied their tactics and measurements. In my first "Moving Message" column, I recommended OAAA's website ([www.oaaa.org](http://www.oaaa.org)) site as a data source.

The success of installed, electronic billboards proves that well-crafted, still images can generate profits. Essentially, they've shown that an LED-lamped board, coupled with the changing images, is the draw – that animation doesn't contribute to the message's power. In my view, animated ads are over-rated, even though message-center salespeople tout the draw of flashing messages and other moving-display effects.

Historically, flashing messages and animations have drawn attention to the limited copy available on early, low-resolution displays. However, Virginia Tech's recent study suggests that flashing and animation may alter its positive [safety] conclusions. Such messages may also enhance the perception that EDDs are a traffic hazard. This view deserves consideration when proposing EDD solutions to on-premise businesses (an exception is EDS placements in entertainment districts).

Today's high-resolution, electronic displays present quality images at a relatively low cost. Their slow-paced, still images stand out because of the design, color, LED-based illumination and information streaming.

Interestingly, these studies also reveal what I had already concluded -- that high-quality, still images, presented in a timely sequence, represents the most effective display format. Thus, OAAA's new evidence provides an excellent tutorial for those who sell both billboards and on-premise EDS. Further, the two studies give us additional tools to help convince governing entities to allow such advertising.