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## FINDINGS

Cuyahoga County was a unique opportunity for study about the statistical associations between digital billboards and traffic safety and for revisiting the area with a more robust data set to analyze multiple locations for periods in excess of eight years. The overall conclusion is that the digital billboards in Cuyahoga County exhibit no statistically significant relationship with the occurrence of accidents. This conclusion is based on the Ohio Department of Transportation's own data and an objective statistical analysis; the data shows no increase in accident rates.

This study reinforces the findings of our 2007 study with longer periods of time for eight years of data. This study also finds that the age of drivers (younger, older) and the time of day (daytime, nighttime) are neutral factors which exhibit no statistically significant increase in accident rates near digital billboards along Interstates in Cuyahoga County, Ohio.

The specific conclusions of this study of Cuyahoga County indicate the following.

- The number of accidents and rates of accidents near the seven digital billboards collectively decreased in all vicinity ranges. The benchmark 0.6 mile vicinity experienced a 14.9 percent decrease (a normalized 2.2 percent decrease) in accidents over the eight-year span for all signs. Similar decreases and trends in both averages and peaks were observed for both smaller and larger vicinity ranges.
- The accident statistics and metrics remain consistent, exhibiting statistically insignificant variations, at each of the digital billboards. The metrics include the total number of accidents in any given month, the average number of accidents over an eight-year period, 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 other metrics.
- Consistent results were obtained for comparisons of daytime and nighttime accidents and for young and elderly drivers in accidents. Correlation coefficients were calculated and indicated a very strong correlation of accident patterns near digital billboards when compared with the accident patterns near the former, conventional-face billboards.

Simply stated, the data shows no increase of accident rates near these billboards.

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