Scenic America
Mary Tracy, President

Highway Beautification Agencies

American Association of State Highway and Transportation Officials
The Voice of Transportation
50th Anniversaries

• Highway Beautification Act

• White House Conference on Natural Beauty
WHITE HOUSE CONFERENCE ON NATURAL BEAUTY
LBJ AT SIGNING OF HBA:

This bill does not represent everything that we wanted.

It does not represent what we need.

It does not represent what the national interest requires.

But it is a first step, and there will be other steps. For though we must crawl before we walk, we are going to walk.
WHERE HAVE WE MADE PROGRESS?

At the state and local levels in many places.
HOUSTON, TEXAS

15,000 billboards in 1980 to fewer than 1500 today
4 STATES TOTALLY BILLBOARD FREE

Last billboard comes down in Maine in 1984
ALASKA
VERMONT
NATIVE FLOWERS AND LANDSCAPING

Texas
NORTH CAROLINA
CALIFORNIA
“We have to believe that place by place, mile by mile, we can preserve scenic America and even reclaim ugly America. I haven’t a doubt from all these years of wandering that Americans want to do that.”
The Future of Outdoor Advertising
Watch Me Change

Clear Channel
OUTDOOR
MN DOT: $4.3 million for a digital
RECREATIONAL EAST ST LOUIS
SAME SIGN IMPACTS RESIDENTIAL
Wachtel review of FHWA study

Eno Brief Newsletter

FHWA’s 2013 Research Report On Digital Billboards (CEVMS) – Seriously Flawed

BY JERRY WACHTEL

The Veridian Group, Inc.

Background

Prepared by Jerry Wachtel, President, The Veridian Group, Inc.

January 2015
Report found concerns with:

- **Equipment:** *FHWA’s use of this equipment in a moving vehicle on open roads was unproven, the researchers were not experienced with it, and the resultant data suffered as a result.*

- **Data Analysis:** *FHWA’s description of these eye-glance cutoff points changed between the draft and final reports!*

- **Billboard luminance:** *the average nighttime luminance for digital billboards in other studies is 16 times higher than the values measured by FHWA*
Some billboards appeared in the final report that were not in the draft; others that were present in the draft disappeared in the final.

Billboard setback from the road changed dramatically from the draft to the final report.

At least two billboards moved from one side of the road to the other between the draft and final reports.

The length of “data collection zones” (DCZ) changed significantly. In fact, there is not a single agreement between the billboard DCZ measurements shown in the draft to the equivalent distances in the final report.
ALL TYPES OF RESEARCH

Studies sponsored by:
- Government agencies/contractors
- Insurance companies
- Universities by grant or self-funded

Methods have included:
- Lab studies including simulation
- On-road quasi-naturalistic
- Web surveys of crash-involved drivers
- Statistical analysis of crashes (before/after with controls)
- Critical reviews of literature and existing guidelines
Roadside advertising signs (primarily digital) are detrimental to driver attention - they distract from the driving task.

When the driving task is demanding, or when unexpected events occur, this distraction reduces a driver’s ability to respond in a timely way.

In simulator studies, drivers fail to see imminent hazards, and crash into vehicles ahead that stop short.

Recent research shows that distractions from outside the vehicle are of greater concern than those inside.
MAYHEM IS EVERYWHERE
So get an Allstate Agent
Allstate

(Lamar)
- TRL on behalf of Transport for London
  - Significant detriments in drivers’ visual behavior and driving performance with both static and video billboards.
  - Results support and extend findings of prior studies of driver distraction by advertising.
  - Advertising sign distractions adversely affected speed control, braking, and lane position maintenance.

Young, et al. 2009
- Brunel University; sponsored by insurance fund
  - “We must emphasize the persuasive overall conclusion that advertising has adverse effects on driving performance and driver attention.”
Divekar, et al, 2013
- University of Massachusetts, Amherst
- Peer reviewed; Transportation Research Board (TRB).

1/3 of distraction crashes caused by sources outside the vehicle.
- Of these, digital billboards stand out because of their brightness and changing imagery.
- This simulator study compared older to younger drivers, with in-vehicle vs. outside-the-vehicle distractors.
- As expected, experienced drivers were much less likely to take long glances at distractors inside the vehicle.
- Surprisingly, experienced drivers were just as likely as novice drivers to take long glances at the billboards, and this came at the cost of both identifying potential hidden hazards and seeing exposed moving threats.
Dukic, et al, 2012

Swedish Road Safety Institute (VTI) for the Government

Quasi-naturalistic: drivers passed digital billboards and other signs

- Drivers had significantly longer dwell time, + more and longer fixations on billboards than any other signs.
- Government chose to remove all DBBs at end of trial period
NORWAY

- Backer-Grøndahl & Sagberg, 2010
- By Government research institute
- Web survey of >4000 crash involved drivers
  - Separated at-fault from not-at-fault drivers
  - Drivers selected from a list of possible causes.
  - Most frequent – conversations with passengers; children in back seat.
  - Highest relative risk – billboards; searching for addresses
Gitelman, et al., 2010

For the National Roads Authority

Peer reviewed, crash study on busy highway.

At control sites (billboards visible throughout study) crash numbers were unchanged.

At treatment sites (billboards visible “before” but covered “after,” crashes declined dramatically:

- Total crashes reduced by 60%
- Injury and fatal crashes reduced by 39%
- Property damage crashes reduced by 72%
Milloy & Caird, 2011
- University of Alberta
- Peer reviewed, published in edited book.

*Causal* relationship between video billboards and crashes into lead vehicle due to delayed driver response.

Authors believe real-world problem may be worse because:
- Study not conducted at night, when DBB distraction would be worse.
- Simulator can’t reproduce brightness levels of actual signs.
Main conclusions:
- Movement or changes in luminance on signs involuntarily captures attention.
- Information of interest captures attention to detriment of driving performance.
- Particular problem for inexperienced drivers.
- In demanding situations, safety consequences may be significant.
- Drivers’ eyes off the road for extended time (2 sec +) further reduces safety.
- Road environments with visual clutter irrelevant to driving make it difficult to extract important information, especially for older drivers.

Studies show convincingly that roadside advertising is distracting and may lead to poorer vehicle control.
Every study in the past 5 years has produced consistent findings – that roadside billboards, especially digital and video, cause significant levels of driver distraction.

These distractions result in poorer speed control and lane positioning, and may increase crashes in demanding situations when unexpected events occur.

Roads with high visual clutter make it hard to extract critical driving information – especially for older drivers.

Unlike in-vehicle distractions, experienced drivers are just as susceptible to such distractions and adverse behaviors as are young, novice drivers.
DIGITAL BILLBOARD SAFETY STUDIES

- Swedish Study: Drivers looked at digital billboards more than at other signs, and dwell times were significantly longer for than for other signs. As a result of this and a related study the Government removed the billboards at the end of trial period.
DIGITAL BILLBOARD SAFETY STUDIES

- Austroads summary report states: “The studies that have been conducted show convincingly that roadside advertising is distracting and that it may lead to poorer vehicle control.”

“No matter what the vehicle control measures indicate it is clear that both experienced and younger drivers are at elevated risks of getting in a crash when they are looking away from the forward roadway at external distractions”

Compendium of safety studies on our website soon.
Researchers studied crash rates on a major roadway near Tel Aviv while a group of billboards was present, and again while the billboards were covered as part of a State-mandated trial period. They also studied “control” sections of the same roadway during the same two time periods – in the control sections there were no billboards present during either time period.
The results were dramatic. In the control sections of highway (those without billboards) both the total number of crashes and the number of crashes with serious injuries and/or property damage remained stable from year to year;

Whereas the crash rates for the treatment sites (those where pre-existing billboards were covered) declined significantly from the “before” to the “after” period.
Results: Injury Crashes before and after sign removal

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<th>Injury/Fatal Crashes</th>
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<th>Treatment sites</th>
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David Shinar
Results: All Crashes before and after sign removal

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<th>Year</th>
<th>Total Crashes</th>
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</table>

David Shinar
OUTDOOR ADVERTISING CONTROL PRACTICES
IN AUSTRALIA, EUROPE, AND JAPAN

MAY 2011

Sponsored by:
U.S. Department of Transportation
Federal Highway Administration

In cooperation with:
American Association of State Highway and Transportation Officials
National Cooperative Highway Research Program
Develop permit fee schedule for State DOTs to cover OAC program regulation and enforcement costs

Safety Checklists and Design Guidelines for Evaluation of Outdoor Advertising Signs and Permit locations by Departments of Transportation-
Thank You!

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