Federal Highway Administration study confirms safety of digital billboards and signs

The U.S. Department of Transportation Federal Highway Administration has released a landmark study declaring that digital billboards do not pose a safety risk to passing motorists. For those within the industry, the results of this study come as no surprise. Numerous traffic studies and analyses performed in the last couple of decades have come to a similar conclusion.

The report, actually divided into two studies, is officially titled "Driver Visual Behavior In The Presence of Commercial Electronic Variable Message Signs." For the purposes of the studies, the FHA refers to digital billboards as Commercial Electronic Variable Message Signs. The studies sought to address three specific questions:

1. Do CEVMS attract drivers' attention away from the forward roadway and other driving-relevant stimuli?

2. Do glances to CEVMS occur that would suggest a decrease in safety?

3. Do drivers look at CEVMS more than at standard billboards?

To conduct the study, the FHA tracked participant's eye movements with an eye-tracking camera device mounted in the vehicle. This device was able to track the driver's eyeball movement and determine if the driver was looking ahead at the roadway or off to the side of the roadway at a static bil board or CEVMS.

Drivers in Richmond, Va., and Reading, Pa., participated in the study, and the research concluded that drivers do indeed look at digital bil boards longer than they do at static billboards. Glance duration toward digital bil boards averaged 0.379 seconds, while glances at static billboards were at 0.335 seconds at both test sites. Both of these measurements fall far below the two-second benchmark, which would constitute a hazard, according to the National Highway Traffic Safety Administration.

In conclusion, the study states, “The results did not provide evidence indicating that CEVMS, as deployed and tested in the two selected cities, were associated with unacceptably long glances away from the road. When dwell times longer than the currently accepted threshold of 2,000 ms [milliseconds] occurred, the road ahead was still in the driver’s field of view. This was the case for both CEVMS and standard billboards.”

This peer-reviewed study should help put to rest concerns that digital bil boards, and other outdoor digital signs, pose a hazard to passing motorists. The study will also help pave the way for communities to bring this powerful outdoor advertising medium to their communities, benefiting not just local operators and advertisers but the entire local economy as well.

Topics: Advertising, Digital Billboards, DOOH Advertising, LED Signs, Trends / Statistics

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Billboard Insider

Tuesday, December 6, 2016

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Regulations

The Hunt For Distractions Leads To Inside The Vehicle

May 4, 2016 1:05 am · Comments Off on The Hunt For Distractions Leads To Inside The VehicleViews: 182

By **Ken Klein**, EVP-Government Affairs, **OAAA.**

I ran into a policy analyst (April 27) for the huge AAA auto club based in southern California. She said two things of note:

- A California lawmaker had invited AAA to join his effort to restrict digital billboards based on safety, but AAA declined because the science didn't show a problem
- I should read AAA's latest distraction report from its Foundation for Traffic Safety (based in Washington, DC)

I did. It's not about signs. The latest AAA report is about distraction ***inside the vehicle.***

In-vehicle information systems (IVIS) create "moderate to high level cognitive workload" for drivers, said this research, conducted by experts at University of Utah. Further:

- Practice does not eliminate interference caused by in-car info systems
- Older drivers have more trouble figuring out in-car gadgets compared to younger drivers
- After drivers interact with in-car info systems, it takes 27 seconds to return to normal levels of performance. "At 25 MPH, drivers would have traveled more than three football fields in this interval."

Thank you, AAA policy analyst.

The AAA safety study reminded me what Peter said about distraction a few days ago: *Billboards aren't the problem.*

 Peter is Congressman Peter DeFazio (D-OR), the top Democrat on the House Transportation & Infrastructure Committee.

Like the AAA motor club, the congressman is worried about information overload inside the vehicle, with more gizmos on the way.

DeFazio's home-state DOT (Oregon Department of Transportation) wants to "change cultural norms when it comes to distracted driving."

When Oregon's Transportation Director Matt Garrett says "cultural norms," he means driver behavior inside the vehicle.

Oregon commissioned new research that says:

- Three of four Oregon drivers admitted to driving while distracted, "mostly by using a cell phone."
- As passengers, more than eight of 10 feel uncomfortable riding with a driver who is distracted. But nearly half of those surveyed (by Oregon State University) "admitted to driving while distracted with passengers in the vehicle."
- A distracted-driver crash occurred every 2.5 hours, according to state data.

Driving into Portland (OR), I saw another example of government ***using billboards on behalf of safety.***

The kids-buckle-up message – on a digital bulletin — was posted by the National Highway Traffic Safety Administration (NHTSA).

When we hear terms like "distraction" and "changing cultural norms," remember these basics:

- Billboards helped change culture norms, for safety, by increasing seatbelt usage and making impaired driving un-cool
- Serious, respected safety advocates like the AAA's Foundation for Traffic Safety are focused on distraction inside the vehicle
- State and federal research shows that digital billboards are not distracting

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Tags: distraction

Author: billboardinsiderDave Westburg started billboard insider in September 2015 to provide a source of daily news and analysis for the outdoor business. He writes about what interests him as an outdoor advertising owner, lender and investor. You can reach Dave at billboardinsider@gmail.com or 206-910-1283.

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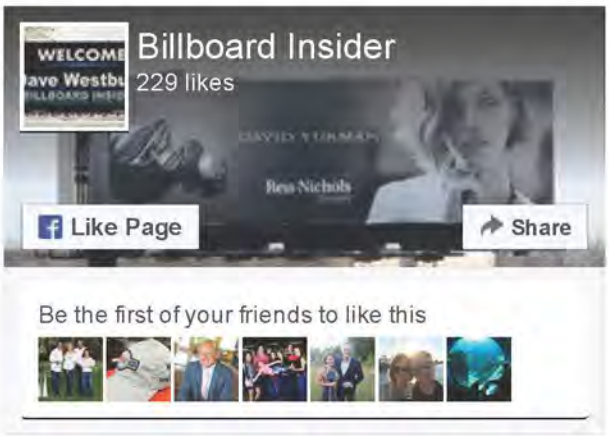

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Fresno, Route 168

Digital Billboards

Photometric Analysis

Project Number
2019062.00

Prepared By:

Michael Schrupp

Date Submitted
18 March, 2019

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1.0 NARRATIVE

We (exp engineering) have conducted a photometric review of the digital billboard being proposed at along Route 168 in Fresno, CA..

Using the photometric software AGI32, Google Maps and other tools, we studied the screen's output brightness and location to illustrate the following:

A) Output brightness of the sign relative to surrounding area with particular attention to the direction and amount of light shining upward toward the approach path of landing airplanes to the nearby airport

B) The proposed location of the billboard relative to the high-mast sports lighting illuminating the adjacent sports field.

C) A comparison of the proposed digital billboard to traditional, externally illuminated billboard.

The proposed billboard is to be 14'x48' with the top of the sign mounted at +65' above the ground with maximum screen brightness of 300 NITS (300 Candela per Square Meter) in the evening. Per OAAA guidelines, the proposed sign, displaying a full white image (for maximum brightness) should not exceed .3 foot candles over the surrounding ambient light levels at a distance of 250' in any direction.

The photometry used in this study is based on the specified Nichia series 336 LED modules, which output light horizontally at 90° and 45° vertically, at the evening output level of 300 Candela per Square Meter.

For purposes of comparing the relative position of the billboard to airlines on approach to land, we assumed a common 3° approach angle.

As we are unable to determine what the ambient light levels will be at the location, the studies were done assuming the worst-case scenario of no ambient light.

We have included graphical illustrations demonstrating the light levels in foot-candles we expect from the screen.

SHEET 1 of the attachment shows a pseudocolor rendering of the light distribution of the sign from overhead and output beam angle of the LEDs and shows the pattern in relation to the airline flight path above it.

SHEET 2 shows a section view of the pseudocolor rendering of the light distribution and output beam angle of the LEDs and shows the pattern in relation to the airline flight path above it.

SHEET 3 shows the proposed sign location relative to the adjacent softball field and compares the height of the sign to the high-mast sports lights.

SHEET 4 shows the perceived brightness of a digital billboard to a traditional front-illuminated billboard.

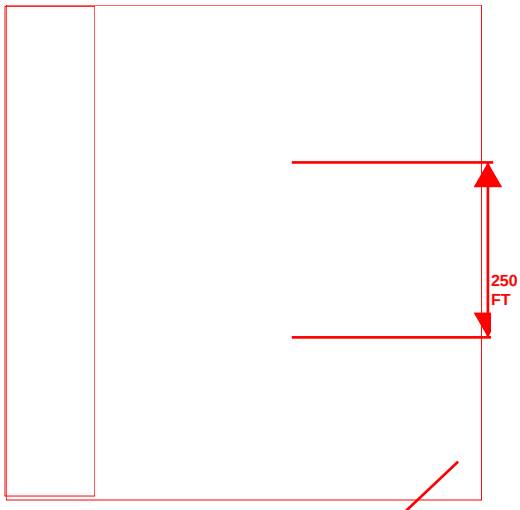
Conclusions

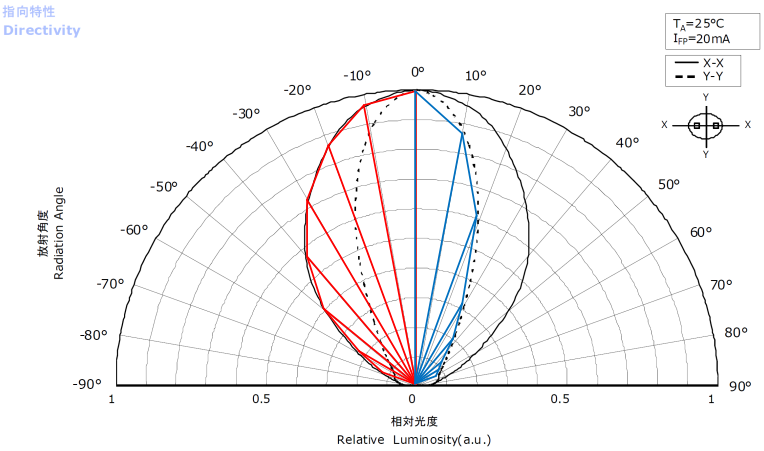
Given the limited amount of direct illumination shining beyond 90° nadir of the billboard, and that the proposed position of the billboard face is parallel to the flight direction of landing airplanes, and given the location relative to other existing tall, bright objects, we feel the sign should pose no distraction or other visual or physical impairment to the pilots on approach to land.

This report, prepared by **exp** Services Inc., is intended for the exclusive use of the City of Fresno, the Fresno Airport Land Use Commission, and Outfront Media. Neither **exp** Services Inc., the City of Fresno nor Outfront Media assume any liability for the use of this report, or for the use of any information disclosed in the report, or for damages resulting from the use of this report, by other parties.

Appendix

Foot-candle Level Graphic Sheets



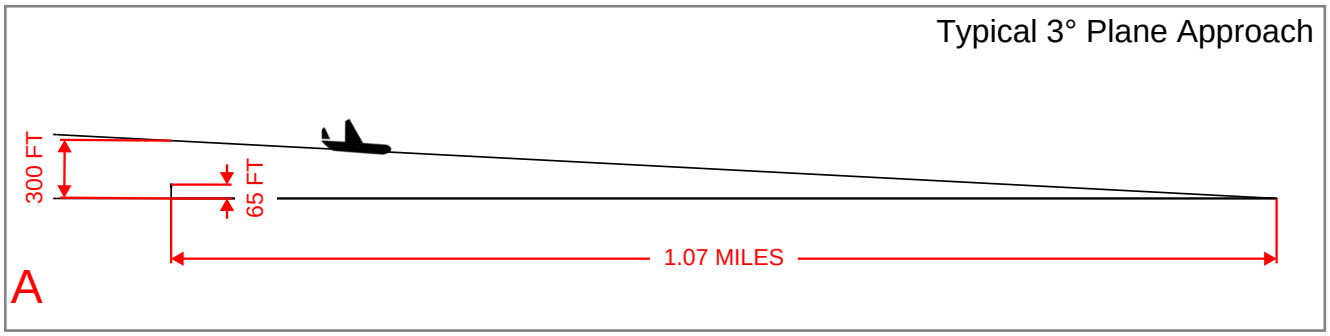


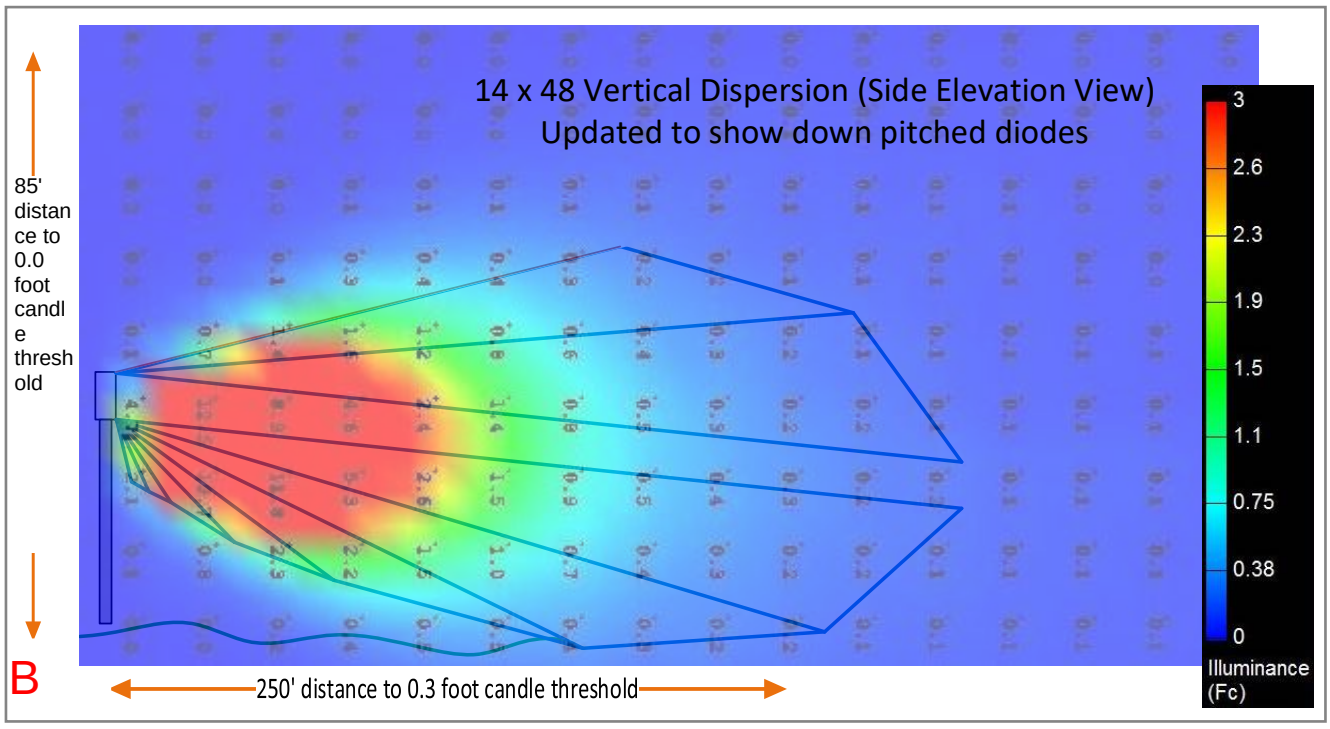
Nichia NSPX336 FOV 90 degree horizontal 45 degree vertical diodes with narrow light broadcast dispersion.

Horizontal dispersion mapped in red

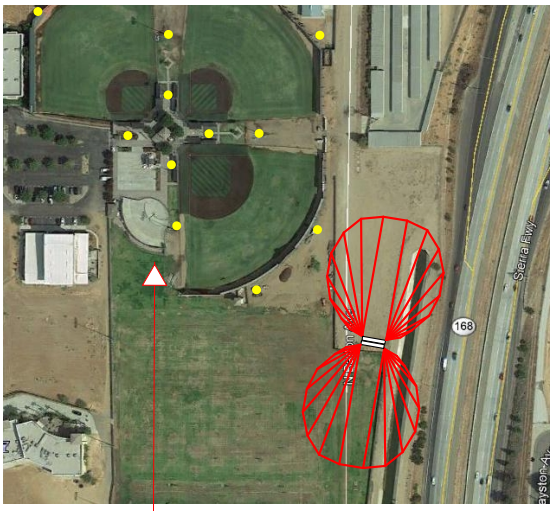
Vertical dispersion mapped in blue


B
N Chestnut Diagonal
E Dakota Ave
N Maple Ave
N Chestnut Ave
A

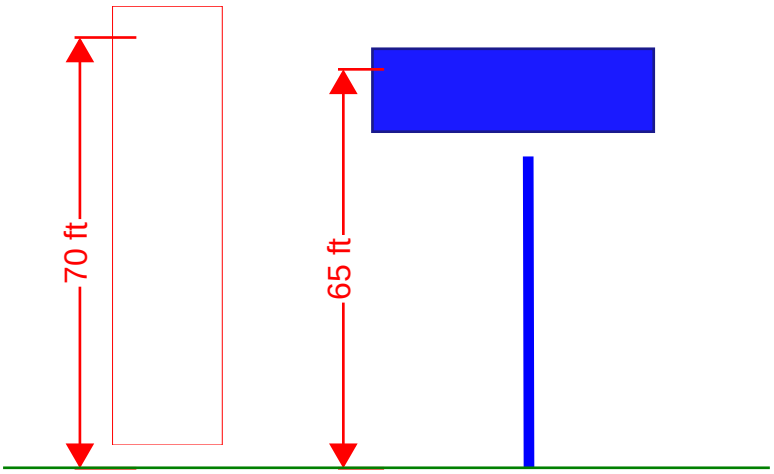

Typical 3° Plane Approach
300 FT
65 FT
1.07 MILES
A


14 x 48 Vertical Dispersion (Side Elevation View)
Updated to show down pitched diodes
85' distance to 0.0 foot candle threshold
B
250' distance to 0.3 foot candle threshold
3
2.6
2.3
1.9
1.5
1.1
0.75
0.38
0
Illuminance (Fc)

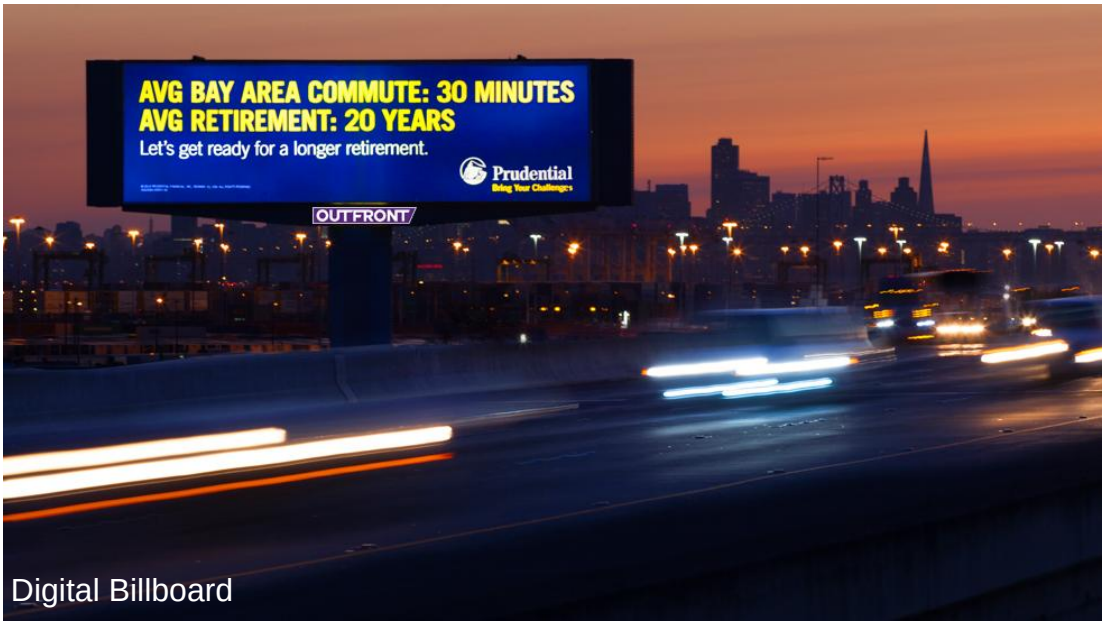
Granite Park



Denotes location of
70ft tall Field Lighting



Conventional



Digital Billboard

As can be seen in the above images, the impact of a digital billboard compared to a conventionally lit billboard on the surrounding environments is comparably similar. While the digital billboard needs to be very bright during the day in order to be visible under sunlight, it dims during evening and night hours to visually comfortable levels. Additionally, the conventionally lit billboard is typically lit from below with the light source facing upwards while a digital billboard has no such upward facing point source.