



June 5, 2012

Eileen Lipinski, Librarian Manager
Legislative Reference Bureau, Library Services Section
Milwaukee Common Council – City Clerk's Office
City of Milwaukee
Milwaukee City Hall, Room #B-11
200 E. Wells Street
Milwaukee, WI 53202

Dear Ms. Lipinski,

Per your request, attached please find a document summarizing the state changeable message duration time sequences. Please note that no state changeable message duration time exceeds 10 seconds. This is consistent with the Federal Highway Administration (FHWA) guidance memorandum dated September 25, 2007, which recommends an 8 second duration/dwell time. For your convenience, I have also attached the aforementioned memorandum.

In addition, attached please find a document summarizing the changeable message duration times from a few markets around the country. While this chart does not capture all markets where changeable message signs are allowed, which we estimate at over 400 local jurisdictions, it does contain the duration times of the ordinances we have in our files.

Additionally, I realize that there is a lot of misleading information being disseminated regarding the safety of digital billboards, so I am providing this letter to set the record straight.

Digital billboards have been extensively studied by the outdoor advertising industry and others. The research falls into three major categories: human factors, traffic accident, and anecdotal studies. The results of all three categories indicate digital billboards are safe.

The outdoor advertising industry's foundation (Foundation for Outdoor Advertising Research and Education) has pioneered research on digital billboards and traffic safety, commissioning top experts at the Virginia Tech Transportation Institute (VTTI) to study driver behavior. The initial study, released in 2007, was based on the "human factors" approach i.e. measuring drivers' eye glances and reactions in the presence of digital billboards.

This study determined that people look at digital billboards slightly longer than conventional billboards, but well under the threshold for being distracted. In 2006, VTTI released a study commissioned by the federal government called the 100 Car study. It used "eye-glance" tracking to determine where a driver's eyes were looking while they were driving. The study found when a driver takes their eyes off the road for longer than two seconds, there is a cause for concern.

VTTI used this same methodology to look at digital billboards, and the study found the mean glance towards digital billboards was less than one second. The researchers said that digital billboards safety neutral.

Anti-billboard activists like to tout the 2006 VTTI study and discredit the 2007 VTTI industry sponsored study. Nevertheless, it is important to note that the two research projects were performed by the same researchers using very similar methodologies. If the 2006 study is accurate and the two second threshold is valid, the 2007 study showing digital billboards to be well under that threshold must be accepted as well. Furthermore, it should be noted that the pending Federal Highway Administration (FHWA) study relies on the same eye-glance methodology used in the 2006 and 2007 VTTI studies.

Meanwhile, engineering experts have analyzed accident reports provided by state and local authorities in jurisdictions across the country. The engineering firm Tantala Associates has examined traffic accidents near digital billboards on highways and surface streets in:

- Cleveland, OH (2007 and updated in 2009)
- Rochester, MN (2009)
- Albuquerque, NM (2010)
- Reading, PA (2010)
- Richmond, VA (2010)

Using a peer-reviewed methodology developed for the New Jersey Turnpike, these studies in sum reviewed over 150,000 accident records around 69 digital billboards (approximately 3% of the total number of digital billboards) spanning over 300 years of data. **The results were unequivocal: there is no correlation between digital billboards and traffic accidents.** These studies also examined older drivers, younger drivers, driving at night, and driving during the day and found no subset of drivers where the presence of a digital billboard was associated with an increase in accidents. If digital billboards were distracting, researchers say the numbers would undoubtedly show some sort of relationship between the presence of digital billboards and traffic accidents. However, the numbers clearly don't support such a relationship.

Law enforcement and state departments of transportation have also examined digital billboards anecdotally, trying to determine if digital billboards were causing accidents. Government agencies in Massachusetts, Minnesota, Pennsylvania, Texas, Virginia, West Virginia, South Carolina, and Wisconsin have looked at sites near off-premise digital billboards and found there to be no increase in accidents near them. Accordingly, as a result, 42 of the 46 states with billboards and more than 400 communities have taken steps to allow digital billboards.

Furthermore, information received from FHWA via a Freedom of Information Act (FOIA) request validates the industry's research.

In 2009 and 2010, the Federal Highway Administration (FHWA) and its contractor Science Applications International Corporation (SAIC) studied drivers' behavior using sophisticated eye-movement recording equipment.

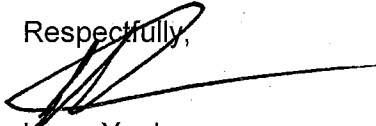
A summary of the study found that the maximum eye glance in the direction of a digital billboard was 1.28 seconds. This outcome was "well below accepted 'concern' thresholds," said an FHWA briefing memo on the research. The National Highway Traffic Safety Administration has set the "concern" threshold at two seconds – the period beyond which distracted driving was deemed to be dangerous.

This summary of the FHWA research was first released to FairWarning.org under a Freedom of Information Act request. FairWarning detailed the study's findings in February and the article is posted at <http://www.fairwarning.org/2012/02/feds-leaving-cities-states-in-dark-on-billboard-safety/>.

Unfortunately, the full report has not yet been released to the public and the agency says the full report is undergoing internal review.

I trust that you will find this information useful. Please do not hesitate to contact me at (202) 833-5566 if you have any questions or comments regarding this matter.

Respectfully,



Kerry Yoakum
Vice President Government Affairs

3 Enclosures

Changeable Message Duration Times by Market

CITY	STATE	DURATION/DWELL TIME
ALBUQUERQUE		
Albuquerque	NM	8 seconds
ATLANTA		
Acworth	GA	10 seconds
Chamblee	GA	10 seconds
City of Atlanta	GA	10 seconds
Cobb County	GA	10 seconds
DeKalb County	GA	10 seconds
Clarkston	GA	10 seconds
Roswell	GA	10 seconds
Lilburn	GA	10 seconds
Marietta	GA	10 seconds
Kennesaw	GA	10 seconds
Smyrna	GA	10 seconds
Dawson County	GA	10 seconds
BOSTON		
Stoneham	MA	10 seconds*
Medford	MA	10 seconds*
Lawrence	MA	10 seconds*
CHICAGO		
Maywood	IL	10 seconds
Cook County	IL	10 seconds
Will County	IL	10 seconds
Hodgkins	IL	No dwell time specified
Northlake	IL	No dwell time specified
Dixmoor	IL	No dwell time specified
Dolton	IL	No dwell time specified
Bolingbrook	IL	No dwell time specified
Justice	IL	No dwell time specified
Orland Hills	IL	10 seconds
East Hazel Crest	IL	No dwell time specified
Forest View	IL	No dwell time specified
Lynwood	IL	10 seconds
Villa Park	IL	10 seconds
Joliet	IL	10 seconds
Dixmoor	IL	No dwell time specified
Worth	IL	No dwell time specified
Wadsworth	IL	No dwell time specified
Stickney	IL	No dwell time specified
Broadview	IL	No dwell time specified
Crestwood	IL	No dwell time specified
CLEVELAND		
Cleveland	OH	8 seconds
Garfield Heights	OH	8 seconds

Changeable Message Duration Times by Market

CITY	STATE	DURATION/DWELL TIME
Bedford	OH	8 seconds
Brook Park	OH	8 seconds
Parma	OH	8 seconds
Elyria	OH	8 seconds
Eaton Twnshp	OH	8 seconds
COLUMBUS		
Columbus	OH	7 seconds
Franklin County	OH	7 seconds
DALLAS		
Dallas	TX	8 seconds
Arlington	TX	8 seconds
Grand Prairie	TX	8 seconds
Irving	TX	8 seconds
Little Elm	TX	8 seconds
Forest Hill	TX	8 seconds
Lake Dallas	TX	8 seconds
Corral City	TX	8 seconds
Duncanville	TX	8 seconds
Lewisville	TX	8 seconds
DATONA MELBOURNE		
Cocoa	FL	8 seconds
Brevard County	FL	8 seconds
DES MOINES		
Des Moines	IA	8 seconds
EL PASO		
El Paso	TX	8 seconds
FT SMITH, AR		
Ft Smith	AR	No dwell time specified
Bentonville	AR	8 seconds
Bethel Heights	AR	No dwell time specified
Springdale	AR	No dwell time specified
HOUSTON		
Conroe	TX	8 seconds
Humble	TX	8 seconds
League City	TX	8 seconds
Pasadena	TX	8 seconds
INDIANAPOLIS		
Marion County		No dwell time specified
Boone County		No dwell time specified
JACKSONVILLE		
Jacksonville	FL	8 seconds
LAS VEGAS		
Las Vegas/City	NV	6 seconds
County	NV	6 seconds

Changeable Message Duration Times by Market

CITY	STATE	DURATION/DWELL TIME
N. Las Vegas	NV	6 seconds
Henderson	NV	No dwell time specified
LOS ANGELES		
Los Angeles	CA	Settlement agreement dictates 4 seconds
Irwindale	CA	4 seconds
Compton	CA	4 seconds
MEMPHIS		
Memphis/Shelby County	TN	8 seconds
MIAMI		
MIAMI	FL	8 seconds
FLORIDA CITY	FL	6 seconds
DEL RAY	FL	No dwell time specified
PEMBROKE PARK	FL	6 seconds
WEST MIAMI	FL	6 seconds
RIVIERA BEACH	FL	6 seconds
DORAL	FL	8 seconds
HIALEAH GARDENS	FL	No dwell time specified
MILWAUKEE		
Milwaukee	WI	8 seconds
Wilson Township	WI	6 seconds
Washington County	WI	No dwell time specified
Waukesha on the interstate	WI	6 seconds
Waukesha non-interstate	WI	8 seconds
Jefferson County	WI	6 seconds
Concord Twnshp	WI	6 seconds
Racine County	WI	6 seconds
Greenfield	WI	No dwell time specified
MINNEAPOLIS		
Minneapolis	MN	8 seconds
St Paul	MN	12 seconds
Vadnais Heights	MN	8 seconds
Minnetonka	MN	8 seconds
West St Paul	MN	8 seconds
Landfall	MN	8 seconds
Eagan	MN	8 seconds
Inver Grove Heights	MN	8 seconds
Columbus	MN	8 seconds
NEW YORK/NEW JERSEY		
Newark	NJ	8 seconds
S Brunswick	NJ	8 seconds
S Plainfield	NJ	8 seconds
Weehawken	NJ	8 seconds
Hackensack	NJ	8 seconds
Paterson	NJ	8 seconds

Changeable Message Duration Times by Market

CITY	STATE	DURATION/DWELL TIME
Hillside	NJ	8 seconds
E Rutherford	NJ	8 seconds
Lodi	NJ	8 seconds
White Plains	NY	8 seconds
OCALA		
Ocala	FL	6 seconds
Marion County	FL	No dwell time specified
Sumter County	FL	No dwell time specified
Lady Lake	FL	No dwell time specified
Fruitland Park (unbuilt)	FL	No dwell time specified
ORLANDO		
Orange County	FL	8 seconds
City of Orlando	FL	8 seconds
Seminole County	FL	7 seconds
City of Belle Isle	FL	6 seconds
City of Longwood	FL	No dwell time specified
Osceola County	FL	8 seconds
City of Winter Park	FL	No dwell time specified
PHILADELPHIA		
Philadelphia	PA	5 seconds
Bensalem	PA	5 seconds
Upper Southampton	PA	5 seconds
Chester	PA	5 seconds
Upper Chichester	PA	5 seconds
Whitemarsh Twncsp	PA	5 seconds
Pennsauken	NJ	8 seconds
Pleasantville	NJ	8 seconds
Camden	NJ	8 seconds
PHOENIX		
Phoenix	AZ	8 seconds
Tempe	AZ	8 seconds
Guadalupe	AZ	No dwell time specified
Goodyear	AZ	8 seconds
Salt River Pima Indian Community	AZ	8 seconds
PORTLAND, OR		
Salem	OR	8 seconds
RENO, NV		
Sparks	NV	8 seconds
SACRAMENTO		
Sacramento	CA	8 seconds
Fairfield	CA	4 seconds
SALISBURY, MD		
Eden, MD	MD	8 seconds
Willards, MD	MD	8 seconds

Changeable Message Duration Times by Market

CITY	STATE	DURATION/DWELL TIME
SAN ANTONIO		
San Antonio	TX	10 seconds
Balcones	TX	8 seconds
Windcrest	TX	8 seconds
Converse	TX	8 seconds
SAN FRANCISCO		
Oakland	CA	No dwell time specified
Hayward	CA	8 seconds
SEATTLE		
Kent	WA	8 seconds
TAMPA		
Tampa/ FAP	FL	10 seconds
Tampa /Non FAP	FL	15 seconds
Pinellas County	FL	15 seconds
Hillsborough County	FL	8 seconds
Pinellas Park	FL	6 seconds
Pasadena	FLI	8 seconds
WASHINGTON/BALTIMORE		
Baltimore	MD	10 seconds
Washington DC(transit shelters)	DC	12 seconds
WICHITA		
Wichita	KS	No dwell time specified
Sedgwick County	KS	No dwell time specified

***8 seconds specified in MassDOT proposed rules**

Total Number of municipalities:	164	
No dwell time specified	34	21%
4 second dwell	4	2%
5 second dwell	6	4%
6 second dwell	15	9%
7 second dwell	3	2%
8 second dwell	73	45%
10 second dwell	25	15%
12 second dwell	2	1%
15 second dwell	2	1%



U.S. Department
of Transportation
**Federal Highway
Administration**

Memorandum

Subject: **INFORMATION:** Guidance on
Off-Premise Changeable Message Signs

Date: September 25, 2007

From: Original signed by:
Gloria M. Shepherd
Associate Administrator for
Planning, Environment, and Realty

In Reply Refer To:
HEPR -20

To: Division Administrators
Attn: Division Realty Professionals

Purpose

The purpose of this memorandum is to provide guidance to Division offices concerning off-premises changeable message signs adjacent to routes subject to requirements for effective control under the Highway Beautification Act (HBA) codified at 23 U.S.C. 131. It clarifies the application of the Federal Highway Administration (FHWA) July 17, 1996 memorandum on this subject. This office may provide further guidance in the future as a result of additional information received through safety research, stakeholder input, and other sources.

Pursuant to 23 CFR 750.705, a State DOT is required to obtain FHWA Division approval of any changes to its laws, regulations, and procedures to implement the requirements of its outdoor advertising control program. A State DOT should request and Division offices should provide a determination as to whether the State should allow off-premises changeable electronic variable message signs (CEVMS) adjacent to controlled routes, as required by our delegation of responsibilities under 23 CFR 750.705(j). Those Divisions that already have formally approved CEVMS use on HBA controlled routes, as well as those that have not yet issued a decision, should re-evaluate their position in light of the following considerations. The decision of the Division should be based upon a review and approval of a State's affirmation and policy that: (1) is consistent with the existing Federal/State Agreement (FSA) for the particular State, and (2) includes but is not limited to consideration of requirements associated with the duration of message, transition time, brightness, spacing, and location, submitted for FHWA approval, that evidence reasonable and safe standards to regulate such signs are in place for the protection of the motoring public. **Proposed laws, regulations, and procedures that would allow permitting CEVMS subject to acceptable criteria (as described below) do not violate a prohibition against "intermittent" or "flashing" or "moving" lights as those terms are used in the various FSAs that have been entered into during the 1960s and 1970s.**

This Guidance is applicable to conforming signs, as applying updated technology to nonconforming signs would be considered a substantial change and inconsistent with the requirements of 23 CFR 750.707(d)(5). As noted below, all of the requirements in the HBA and its implementing regulations, and the specific provisions of the FSAs, continue to apply.

Background

The HBA requires States to maintain effective control of outdoor advertising adjacent to certain controlled routes. The reasonable, orderly and effective display of outdoor advertising is permitted in zoned or unzoned commercial or industrial areas. Signs displays and devices whose size, lighting and spacing are consistent with customary use determined by agreement between the several States and the Secretary, may be erected and maintained in these areas (23 U.S.C. § 131(d)). Most of these agreements between the States and the Secretary that determined the size, lighting and spacing of conforming signs were signed in the late 1960's and the early 1970's.

On July 17, 1996, this Office issued a Memorandum to Regional Administrators to provide guidance on off-premise changeable message signs and confirmed that FHWA has "always applied the Federal law 23 U.S.C. 131 as it is interpreted and implemented under the Federal regulations and individual Federal/State agreements." It was expressly noted that "in the twenty-odd years since the agreements have been signed, there have been many technological changes in signs, including changes that were unforeseen at the time the agreements were executed. While most of the agreements have not changed, the changes in technology require the State and FHWA to interpret the agreements with those changes in mind". The 1996 Memorandum primarily addressed tri-vision signs, which were the leading technology at the time, but it specifically noted that changeable message signs "regardless of the type of technology used" are permitted if the interpretation of the FSA allowed them. Further advances in technology and affordability of LED and other complex electronic message signs, unanticipated at the time the FSAs were entered into, require the FHWA to confirm and expand on the principles set forth in the 1996 Memorandum.

The policy espoused in the 1996 Memorandum was premised upon the concept that changeable messages that were fixed for a reasonable time period do not constitute a moving sign. If the State set a reasonable time period, the agreed-upon prohibition against moving signs is not violated. Electronic signs that have stationary messages for a reasonably fixed time merit the same considerations.

Discussion

Changeable message signs, including Digital/LED Display CEVMS, are acceptable for conforming off-premise signs, if found to be consistent with the FSA and with acceptable and approved State regulations, policies and procedures.

This Guidance does not prohibit States from adopting more restrictive requirements for permitting CEVMS to the extent those requirements are not inconsistent with the HBA, Federal regulations, and existing FSAs. Similarly, Divisions are not required to concur with State proposed regulations, policies, and procedures if the Division review determines, based upon all relevant information, that the proposed regulations, policies and procedures are not consistent with the FSA or do not include adequate standards to address the safety of the motoring public. If the Division Office has any question that the FSA is being fully complied with, this should be discussed with the State and a process to change the FSA may be considered and completed before such CEVMS may be allowed on HBA controlled routes. The Office of Real Estate Services is available to discuss this process with the Division, if requested.

If the Division accepts the State's assertions that their FSA permits CEVMS, in reviewing State-proposed regulations, policy and procedures for acceptability, Divisions should consider all relevant information, including but not limited to duration of message, transition time, brightness, spacing, and location, to ensure that they are consistent with their FSA and that there are adequate standards to address safety for the motoring public. Divisions should also confirm that the State provided for appropriate public input, consistent with applicable State law and requirements, in its interpretation of the terms of their FSA as allowing CEVMS in accordance with their proposed regulations, policies, and procedures.

Based upon contacts with all Divisions, we have identified certain ranges of acceptability that have been adopted in those States that do allow CEVMS that will be useful in reviewing State proposals on this topic. Available information indicates that State regulations, policy and procedures that have been approved by Divisions to date, contain some or all of the following standards:

- Duration of Message
 - Duration of each display is generally between 4 and 10 seconds – 8 seconds is recommended.
- Transition Time
 - Transition between messages is generally between 1 and 4 seconds – 1-2 seconds is recommended.
- Brightness
 - Adjust brightness in response to changes in light levels so that the signs are not unreasonably bright for the safety of the motoring public.
- Spacing
 - Spacing between such signs not less than minimum spacing requirements for signs under the FSA, or greater if determined appropriate to ensure the safety of the motoring public.
- Locations
 - Locations where allowed for signs under the FSA except such locations where determined inappropriate to ensure safety of the motoring public.

Other standards that States have found helpful to ensure driver safety include a default designed to freeze a display in one still position if a malfunction occurs; a process for modifying displays and lighting levels where directed by the State DOT to assure safety of the motoring public; and requirements that a display contain static messages without movement such as animation, flashing, scrolling, intermittent or full-motion video.

Conclusion

This Memorandum is intended to provide information to assist the Divisions in evaluating proposals and to achieve national consistency given the variations in FSAs, State law, and State regulations, policies and procedures. It is not intended to amend applicable legal requirements. Divisions are strongly encouraged to work with their State in its review of their existing FSAs and, if appropriate, assist in pursuing amendments to address proposed changes relating to CEVMS or other matters. In this regard, our Office is currently reviewing the process for amending FSAs, as established in 1980, to determine appropriate revisions to streamline requirements while continuing to ensure there is adequate opportunity for public involvement.

For further information, please contact your Office of Real Estate Point of Contact or Catherine O'Hara (Catherine.O'Hara@dot.gov).

State Changeable Message Chart

(NOTE: Blue colored states are "Bonus States")

**No changeable
message
signs allowed:**
(3 STATES)
KY, MT, ND

Tri- action Only

(1 STATE)
WA

**Changeable Message
/Digital Technology**
(42 STATES)

AL, AR, AZ, CA, CO, CT, DE, FL,
GA, ID, IL, IA, IN, KS, LA, MA,
MD, MI, MN, MO, MS, NE, NV,
NH, NJ, NM, NY, NC, OH, OK,
OR, PA, RI, SC, SD, TN, TX, UT,
VA, WV, WI, WY

NOTE: no billboards in AK, HI, ME, VT,

OAAA Changeable Message Criteria Duration Time Sequence – By State (42 States)

<u>Duration Time (Static Message)</u>	<u>State</u>
<u>4 seconds</u>	CA, CO, VA
<u>5 seconds</u>	NM, PA, RI (5 to 7 seconds)
<u>6 seconds</u>	AL, AZ, CT, FL, IA, MI, MN, NV, NY, SD, WI
<u>8 seconds</u>	AR, ID, IN, KS, LA, MO, MS, NJ, NC, OH, OK, OR, SC, TN, TX, UT, WV, WY
<u>10 seconds</u>	DE, GA, IL, NE
<u>No regulations/Company Discretion</u>	NH, MD, MA (pilot)

Duration and Twirl Times for message changes and spacing criteria

States Allowing Changeable Message/Digital Technology

<u>State</u>	<u>Duration time</u>	<u>Twirl time</u>	<u>Spacing</u>
AL	6 seconds	None	500 ft
AR	8 seconds	2 seconds	1,500 ft
AZ	6 seconds	1 second	500 ft
CA	4 seconds	4 seconds	1,000 ft
CO	4 seconds	2 second	1,000 ft
CT	6 seconds	3 seconds	500 ft
DE	10 seconds	1 second	2,500 ft
FL	6 seconds	2 seconds	1,500 ft
GA	10 seconds	3 seconds	5,000 ft
ID	8 seconds	2 seconds	500 ft
IL	10 seconds	3 seconds	500 ft
IN	8 seconds	2 seconds	500 ft
IA	6 seconds	1 second	500 ft
KS	8 seconds	2 seconds	1,000 ft
LA	8 seconds	4 seconds	1,000 ft
MD	No regulations	No regulations	1,000 ft
MA* *(Pilot)	No regulations	No regulations	500 ft
MI	6 seconds	1 second	1,000 ft
MN	6 seconds	None	500 ft
MS	8 seconds	Instantaneous	500 ft

MO	8 seconds	2 seconds	1,400 ft
NE	10 seconds	2 seconds	5,000 ft
NV	6 seconds	3 seconds	500 ft
NH	No regulations	No regulations	500 ft
NJ	8 seconds	1 second	3,000 ft
NM	5 seconds	1-2 seconds	500 ft
NY	6 seconds	3 seconds	500 ft
NC	8 seconds	2 seconds	1,000 ft
OH	8 seconds	3 seconds	1,000 ft
OR	8 seconds	2 seconds	500 ft
OK	8 seconds	4 seconds	1,000 ft
PA	5 seconds	1 second	500 ft
RI	5-7 seconds	2-3 seconds	750 ft
SD	6 seconds	None	500 ft
SC	8 seconds	2-3 seconds	500 ft
TN	8 seconds	2 seconds	2,000 ft
TX	8 seconds	2 seconds	1,500 ft
UT	8 seconds	3 seconds	500 ft
VA	4 seconds	None	500 ft
WV	8 seconds	2 seconds	1,500 ft
WI	6 seconds	1 second	500 ft
WY	8 seconds	2 second	500 ft

States Allowing Tri-action Only

<u>State</u>	<u>Duration time</u>	<u>Twirl time</u>	<u>Spacing</u>
WA	8 seconds	4 seconds	500 ft
