



POSITION PAPER REGARDING THE PROPRIETY OF PERMITTING DIGITAL BILLBOARDS ON INTERSTATE AND FEDERAL-AID HIGHWAYS UNDER THE HIGHWAY BEAUTIFICATION ACT

State legislatures around the country are beginning to pass laws permitting the conversion of traditional static or tri-vision billboards to signs employing digital technology, generally in the form of electronic LED billboards. The outdoor advertising industry maintains that most states permit “changeable message signs,” and therefore allow digital signs.

It is the position of Scenic America that this statement is inaccurate and unsupported. The Highway Beautification Act’s unequivocal regulatory ban on flashing, intermittent, and changing lights is, per se, a ban on electronic signs. The Federal Highway Administration’s 1996 policy permitting changeable message signs in the form of mechanical tri-vision signs was not blanket permission for electronic signs and cannot be used as a justification for allowing digital signs on federal-aid highways. Further, state legislative actions permitting these signs along Interstate or federal-aid highways are in violation of almost all existing federal-state agreements that govern implementation of the Highway Beautification Act (HBA).

The Act stipulates that states that do not adhere to the laws and regulations governing the application of the HBA are subject to penalties equal to ten percent of their federal highway funds.

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Digital Billboards are “Intermittent” Lights, By Definition

Federal regulations and virtually all federal-state agreements ban billboards that employ “flashing, intermittent, or moving light or lights.” This clear, long-standing policy is an explicit ban on current electronic display technologies, because all digital signs by definition employ intermittent lights, unless their images remain static, which virtually none do.

Digital billboards along Interstate and federal-aid highways are therefore impermissible.

Digital billboards, like other large LED displays, use as a “basic element . . . a trichromatic pixel that emits light of a required chromaticity using additive color mixing.” [Source: Arturas Zukauskas, Introduction to Solid-State Lighting, 145 (2002)] When combined with other pixels, this process of additive color mixing allows for “1.0 to 68 million combinations of intensities, with millions of chromaticities and thousands of brightness levels possible.” [Zukauskas, *supra*, at 145-46]

The change between displays occurs through the adjustment of individual green, blue, or red diodes within the thousands of pixels that make up such giant signs. [Source: “The Big Picture/Electronic Displays/Understanding Electronics/The Big Picture,” downloaded from the website of YESCO.] Color changes are produced because variations in the color intensity of the red light, blue light, and green light provide a range of color intensity for the display itself. [Id. at 21.] For example, if a red light, blue light, and green light are all on at the same time it can generate a white light. If the blue light in a pixel were turned off but the green light and the red light remained on, the color yellow could be generated. Thus, if an array of

the three colors of diodes in a single pixel changed from white to yellow after eight seconds, the blue light could be expected to change **intermittently** from “on” to “off” in every sense of the term.

Webster’s Ninth New Collegiate Dictionary defines “intermittent” as “coming and going at intervals: not continuous.” That is a precise description of how LED signs work. At *intervals* set to four, six, or eight seconds, depending on state and local laws, the LED’s recombine their colored diodes and *the images come and go*. The fact that there is never a blank screen or that the image isn’t animated doesn’t change the fact that the lights on the sign are non-continuous.

No policy that bans “intermittent” lights can legitimately permit the erection of digital signs.

That, in fact, is the basis of the federal policy prohibiting these signs and reflects the explicit intent of Congress, making any attempt to place digital signs along federal highways a violation of the law, both in letter and spirit.

* * *

Congressional Intent

In 1978, under pressure from the industry, Congress reviewed the question of how electronic signs should be treated under § 131(c), and adopted a compromise. **Congress amended the law only to allow additional latitude for electronic *on-premises* signs, while leaving off-premises electronic signs (such as electronic billboards) subject to the long-standing categorization of these signs as belonging to a forbidden class.** FHWA regulations state that “[n]o sign may be permitted which contains, includes, or is illuminated by any flashing, intermittent or moving light or lights,” [23 C.F.R. § 750.108 (c)].

Before the adoption of the Surface Transportation Assistance Act of 1978 [Pub. L. No. 95-599, 92 Stat. 2689], a House Committee noted that “the Department of Transportation has characterized as a flashing light electronic information displays which neither flash nor animate static information, but where the only movement is the periodic changing of information against a solid, colorless background.” [Pub. L. 95-599, Surface Transportation Assistance Act OF 1978, H. Rep. 95-1485, August 11, 1978. at U.S. Code Cong. and Admin. News 6593.] In responding to this classification, Congress amended Section 131 to allow the addition of electronic signs to one of the existing exemptions from the general ban – **but not for off-premises signs**. As the so-called Wachtel and Netherton Report noted two years later:

Nothing in the 1978 amendments relating to CEVMS [commercial electronic variable message signs] changed the status of these signs when used in off-premises advertising, either as directional signs or as general outdoor advertising in zoned or unzoned commercial and industrial areas. The national standards for these forms of signage prohibited use of flashing, intermittent or moving lights, and moving or animated parts; **and FWHA interpreted CEVMS as falling within the scope of these prohibitions.**

[Source: *Safety and Environmental Design Considerations in the Use of Commercial Electronic Variable-Message Signage*, June 1980, Federal Highway Administration Offices of Research & Development Environmental Division] (emphasis in underlining and bold added)

The outdoor advertising industry’s creation of networks of off-premises electronic devices strategically postured along federal interstate highways ignores this important Congressional compromise by installing off-premises electronic devices as if they were entitled to the special protections that Congress specifically provided only to electronic devices installed on on-premises signs.

* * *

Tri-Vision Signs are Not Digital Signs

In justification for its position, the outdoor advertising industry often points to a July 17, 1996, Memorandum from the Director of the Office of Real Estate Services of the Federal Highway Administration to Regional Administrators (attached) that altered existing policy (erroneously, in our view) to state that “certain off-premise changeable message signs are consistent with State law and do not violate the lighting provisions of their State/Federal agreement.” This decision was specifically precipitated by the industry’s desire to allow tri-vision signs on federal roads. Tri-vision signs use rotating slats to change images at regular intervals, the timing of which is governed by state law. They are not digital or internally illuminated signs.

The outdoor advertising industry often cites this memorandum involving **tri-vision signs** as justification for allowing states to permit **digital signs utilizing intermittent lights and utilizing a technology that gives the appearance of flashing**, without having to change the existing agreements. This, however, is a selective reading of the memorandum. The memorandum states, “Changeable message signs are acceptable for off-premise signs, regardless of the type of technology used, *if the interpretation of the State/Federal agreement allows such signs. In nearly all States, these signs may still not contain flashing, intermittent, or moving lights.*” [Emphasis added]

The July 17, 1996, memorandum is clear in saying that in order for a state to allow tri-vision and other changeable message signs the federal-state agreement must be formally interpreted to permit them (a process even a decade later few have bothered to undertake). Although the states are given a lot of leeway by this memorandum, which we believe is excessive in its surrender of the federal interest in beautification, it is not a blank check. Even with tri-vision signs there must be a determination that the federal-state agreement permits them. It’s not automatic.

But ultimately the determination the memorandum makes about tri-vision signs doesn’t matter anyway. The sentence about the interpretation of the agreement is not the controlling one in the context of digital signs; it’s the sentence that follows that truly matters: **signs with flashing and intermittent lights are still banned.**

Despite industry claims to the contrary, **the 1996 memorandum is irrelevant to the new debate about digital signs.** The irrelevancy is due to the clear prohibition on flashing and intermittent lights contained in the federal-state agreements and as spelled out in FHWA’s own policies that were explicitly referenced in the memorandum.

* * *

Digital Signs Violate Federal-State Agreements

Although we believe that federal law and regulations, as they are currently written, prohibit digital billboards, any state that disagreed with that interpretation or that wished to adjust their agreement’s ban on “flashing and intermittent lights,” would need to explicitly amend their federal-state agreements.

To our knowledge, no state has followed the procedure, thereby placing those states with digital billboard legislation in potential violation of their federal-state agreement and subjecting them to the ten-percent penalty, assuming they are not limiting the signs to state or local roads not subject to HBA regulation.

States that have submitted opinions to the FHWA on the permissibility of tri-vision or other non-digital changeable message signs under their agreements and state laws, cannot automatically assume that the same principles carry over to digital signs. **Permission from FHWA to put up tri-vision signs is not the same as permission to put up digital signs.**

As the Federal Highway Administration's own web page entitled, *A History and Overview of the Federal Outdoor Advertising Control Program*, states:

There is increased interest in several States to allow the erection of off-premise commercial electronic variable message signs (CEVMS). **We have historically considered that the prohibition of flashing, intermittent, or moving light or lights in most of the various State/Federal agreements applies to all off-premise CEVMS regardless of message interval.**

In summary, in deciding whether to allow off-premise signs using rotating slats, glow cubes, or moving reflective disks, the applicable State law and agreement should be interpreted on an individual State basis looking at customary use, and if applicable, Court interpretations.

Off-premise message center type signs using internal lighting are not yet approved for general off-premise application.

[Emphasis added]

[Source: <http://www.fhwa.dot.gov/REALSTATE/oacprog.htm#TERMS>]

In other words, according to FHWA, electronic signs are not permitted because they clearly fall within the definition of “flashing, intermittent, or moving light or lights.” Although tri-vision signs may be permitted if they meet the definition of “customary use” under state law, digital signs are considered another class of sign and are prohibited. The rules on tri-vision signs **do not carry over** to digital billboards, and so any attempt to use the 1996 memorandum as justification for permitting them under the HBA is completely inappropriate.

Although states have the right to go through the process of amending their agreement, any attempt to remove the ban on “flashing or intermittent lights,” or attempts to interpret that language as not applying to digital signs, should be rejected by FHWA as an improper attempt to avoid federal regulations and a violation of the requirement that states maintain “effective control” over outdoor advertising on federal-aid highways. FHWA can do this by merely restating existing policies and need not break any new ground to deal with this issue.

In fact, FHWA's position was clearly stated in a letter dated March 15, 2006, from Robert M. Callan, Acting Division Administrator for the FHWA Texas Division, to Timothy C. Anderson, of the Right of Way Division of the Texas Department of Transportation. The letter was in response to a query by the Texas DOT asking for guidance on whether LED billboards were allowed under their federal-state agreement. They were told they were not.

Clearly, the Texas principles should apply to any state whose federal-state agreement is similarly worded, which is to say almost all of them. After quoting the relevant standard language in Texas' agreement about “flashing, intermittent, or moving light or lights,” the letter concludes that “While the technology for LED displays did not exist at the time of the agreement, the wording in the agreement clearly prohibits such signs.” In other words, the part of the federal-state agreement that applies to digital signs is the one about flashing and intermittent lights, and none other. FHWA seems to maintain that digital signs are, by definition, a form of “flashing, intermittent, or moving lights,” otherwise that provision presumably wouldn't have been used as justification for rejecting electronic billboards in Texas.

* * *

The Process for Amending Federal-State Agreements

According to the FHWA letter to the Texas DOT, the process of amending the agreement requires the following steps:

1. A State must first submit its proposed change, along with the reasons for the change and the effects of such change, to the FHWA Division Office.
2. The Division and FHWA headquarters offices review and comment on the proposal.
3. If the concept is approved by the FHWA, the State must hold statewide public hearings on the proposed change in order to receive comments from the public.
4. If the State then wishes to amend the agreement, it must submit to the FHWA: (a) The justification for the change; (b) The record of hearings and; (c) An assessment of the impact.
5. Then, these are summarized and published in the Federal Register for comments.
6. Comments on the proposed amended agreement will then be evaluated by the FHWA.
7. The FHWA will then decide if the agreement should be amended as proposed and will publish its decision in the Federal Register.

This process is extensive and requires major public participation precisely because changes to the agreements have significant ramifications both for communities and the federal interest in the beautification of the highways. The transformation of the very nature of billboards from static or mechanical devices to electronic signs is of great importance and cannot be undertaken without the kind of full public examination of the issue that is embodied in the process outlined above.

* * *

Why Digital Signs are Banned

It is important to understand what it is about signs with “flashing and intermittent lights” that puts them in a prohibited class. The distinguishing trait of intermittent light is that it can vary while a driver watches it, in a setting in which that variation is likely to attract the drivers’ attention away from the roadway. Because that is the mischief at which the prohibition is directed, it makes no sense to conclude that the existing rule is inapplicable to new technology simply because it is new, or to have the meaning of the federal prohibition vary depending on whether other terms are present in the state-federal agreement. Thus, the industry’s position violates both the purpose (as well as the intent) of existing federal law.

The underlying principle is simple: These signs, particularly those using modern display technologies, are prohibited because they pose potential hazards to the motoring public.*

* * *

The Law, Rules, Legislative History, And Administrative Record Are Quite Clear And The Conclusions Unequivocal

- Digital signs along Interstate and federal-aid highways are explicitly governed by the regulations prohibiting “flashing, intermittent, or moving light”;
- Digital signs are not in the same class of changeable message sign as tri-vision signs and rules governing tri-vision signs do not apply;

- The clear intent of Congress was to continue the prohibition on off-premise electronic signs, even after the alterations in the law made in 1978;
- The 1996 memorandum regarding tri-vision and changeable message signs is not an implicit or explicit justification for permitting digital signs and in fact is an unequivocal restatement of policies prohibiting them;
- Even though the regulations currently prohibit digital signs, states seeking to permit them would need to attempt to formally amend their federal-state agreements with the Federal Highway Administration and follow the procedures outlined in the Texas letter;
- The FHWA should unequivocally reject any effort to amend federal-state agreements to permit digital signs due to their violation of the long-standing ban on flashing and intermittent lights, which is rooted in fundamental and unalterable principles of highway safety and beautification;
- States that have passed legislation permitting digital signs on Interstate and federal-aid highways are in violation of their federal-state agreements and are subject to a penalty of ten percent of their federal highway funds; and,
- The federal government should act quickly and unambiguously in this matter and should not surrender its regulatory authority to the states and permit individual states to interpret federal statutes and rules without constraint. States that have passed digital sign legislation should be notified that they are in violation of their agreement before large numbers of digital signs are erected on federal-aid highways, all of which would need to be deemed nonconforming.

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* For a fuller explanation of the safety issues inherent in these signs, see Scenic America's 2007 publication, *Billboards in the Digital Age: Unsafe and Unsightly at Any Speed*, available at www.scenic.org.

Exhibits:

Memorandum, July 17, 1996, from the Director, Office of Real Estate Services, Federal Highway Administration, to Regional Administrators re: Off-Premise Changeable Message Signs

Letter, March 15, 2006, from Robert M. Callan, Acting Division Administrator, Federal Highway Administration, to Timothy C. Anderson, Right of Way Division, Texas Department of Transportation

07/05/07



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

Memorandum

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

Date: **JUL 17 1996**

Director, Office of Real Estate Services

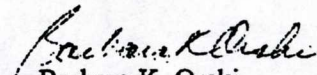
Reply to
Attn. of: **HRE-20**

To:
Regional Administrators

A number of States are taking the position that certain off-premise changeable message signs are consistent with State law and do not violate the lighting provisions of their State/Federal agreement. The State of Georgia recently amended its State law to allow off-premise signs having panels or slats that rotate provided they meet State criteria for frequency of message change and spacing. The State of Oklahoma recently considered amending its State law to also allow these signs. Because of the increased use of changeable message signs, we believe it is timely to restate our position concerning these signs.

The Federal Highway Administration (FHWA) has always applied the Federal law 23 U.S.C. 131 as it is interpreted and implemented under the Federal regulations and individual State/Federal agreements. Because there is considerable variation among the States, the importance of these agreements cannot be overstated. 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. Changeable message signs are acceptable for off-premise signs, regardless of the type of technology used, if the interpretation of the State/Federal agreement allows such signs. In nearly all States, these signs may still not contain flashing, intermittent, or moving lights.

The FHWA will concur with a State that can reasonably interpret the State/Federal agreement to allow changeable message signs if such interpretation is consistent with State law. The frequency of message change and limitation in spacing for these signs should be determined by the State. This interpretation is limited to conforming signs, as applying updated technology to nonconforming signs would be considered a substantial change and inconsistent with 23 CFR 750.707(d)(5).


Barbara K. Orski

FHWA:HRE-20:RPHarter:gs:62026:June 24, 1996
cc: Reader Chron HRE-20
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Texas Department of Transportation

P.O. BOX 5075 • AUSTIN, TEXAS 78763-5075 • (512) 416-2901

March 10, 2006

Robert M. Callan
Acting Division Director
Federal Highway Administration - Texas Division
300 East Eighth Street, Room 826
Austin, Texas 78701

RECEIVED
MAR 14 2006
TEXAS DOT
FHWA

Dear Mr. Callan:

Recently, outdoor advertising providers have approached the Texas Department of Transportation ("TxDOT") regarding the use of light-emitting diode ("LED") displays on Interstate and Federal-Aid highways. The 1972 Federal-State Agreement ("Agreement") executed by the Federal Highway Administration ("FHWA") and TxDOT states in pertinent part:

F. Lighting: Signs may be illuminated, subject to the following restrictions:

1. Signs which contain, include or are illuminated by any flashing, intermittent or moving light or lights are prohibited...

Since the technology necessary for LED displays did not exist at the time of the Agreement, TxDOT requests guidance from the FHWA regarding whether the use of such displays violate the Agreement. Should you be unfamiliar with this technology, an outdoor advertising company has provided a DVD on such displays which I will be glad to forward to you.

Should the FHWA determine that such displays currently violate the Agreement, TxDOT is considering applying to the FHWA to amend the Agreement. In your response to the above, could you provide an outline of the steps necessary for such an amendment?

Thank you for your assistance. If you have any questions, please do not hesitate to contact me at (512) 416-2926.

Sincerely,

Timothy C. Anderson, Esq.
Right Of Way Division
Texas Department of Transportation



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

J.J. Pickle Federal Building
300 E. 8th Street, Room 826
Austin, Texas 78701

March 15, 2006

In Reply Refer To: HPP-TX

LED Displays
Texas Federal/State Agreement

Mr. Timothy C. Anderson, Esq.
Right of Way Division
Texas Department of Transportation.
P.O. Box 5075
Austin, Texas 78701

Dear Mr. Anderson:

This letter is in response to your letter dated March 10, 2006 requesting guidance from FHWA regarding the use of light-emitting diode (LED) displays on Interstate and Federal-Aid highways in Texas. In particular your letter requested FHWA's determination whether the use of this type of display is in violation of the 1972 Federal-State Agreement executed by the Federal Highway Administration and TxDOT.

The Highway Beautification Act (HBA) directs the US Secretary of Transportation to enter into agreements with each State to determine the limits or specifications for size, spacing and lighting of outdoor advertising signs in commercial and industrial areas (see 23 U.S.C. § 131(d)). These agreed-upon limits were supposed to be "consistent with customary use" within the State.

The Texas/ Federal Agreement executed pursuant to §131(d) on May 2, 1972, prohibits signs which contain, include or are "illuminated by any flashing, intermittent or moving light or lights.... except those giving public service information such as time, date, temperature, weather or similar information." The State has always abided by the terms of the agreement. As you are aware, the Texas Administrative Code, Rule 21.154, addresses lighting and movement of signs. Section 21.154 (a) (1) states; Signs may be illuminated except for signs that contain, include, or are illuminated by any flashing, intermittent, or moving light or lights, including any type of screen using animated or scrolling displays, such as LED (light emitting diode) screen or any other type of video display, even if the message is stationary, except those giving only public service information such as time, date, temperature, weather, or similar information.

While the technology for LED displays did not exist at the time of the agreement, the wording in the agreement clearly prohibits such signs. After careful consideration and review of your request for guidance, the FHWA Texas Division has determined that such displays do not conform to the existing Texas/ Federal Agreement.



Timothy C. Anderson, Esq.

March 15, 2005

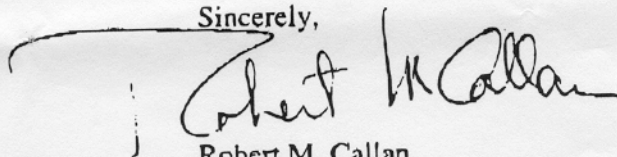
As you requested, outlined below is the process to amend a Federal-State Agreement:

1. A State must first submit its proposed change, along with the reasons for the change and the effects of such change, to the FHWA Division Office.
2. The Division and FHWA headquarters offices review and comment on the proposal.
3. If the concept is approved by the FHWA, the State must hold statewide public hearings on the proposed change in order to receive comments from the public.
4. If the State then, wishes to amend the agreement, it must submit to the FHWA:
 - a. The justification for the change
 - b. The record of hearings and
 - c. An assessment of the impact.
5. Then, these are summarized and published in the Federal Register for comments
6. Comments on the proposed amended agreement will then be evaluated by the FHWA.
7. The FHWA will then decide if the agreement should be amended as proposed and will publish its decision in the Federal Register.

The FHWA would certainly entertain a request by a State to amend the State/Federal agreement pertaining to §131(d) signs, but the FHWA would have to determine if a proposed change was consistent with the HBA and its implementing regulations found at 23 CFR Part 750. In the past fifteen years, there have been amended agreements with two States, Nevada and Oregon. As you can see, it is not a common practice.

I hope that this letter clearly sets forth the FHWA's position on the matter.

Sincerely,



Robert M. Callan
Acting Division Administrator