

Reasoning - ACCIDENT DATA

PHED Committee #2  
October 15, 2009

**MEMORANDUM**

October 11, 2009

TO: Planning, Housing, and Economic Development Committee  
FROM: Jeff Zyontz, Legislative Attorney *JZ*  
SUBJECT: Discussion – Electronic signs

Mr. Doug Noble, a representative of the Damascus Volunteer Fire Department, wanted to replace an old manual variable message sign (which is falling apart) with an electronic version. Such a sign would allow the Fire Department to display safety messages and notify travelers of community events. Mr. Noble discovered that there is a Montgomery County law restricting all signs to one static message per day. Mr. Noble noted that schools had LED signs that displayed many messages each day. He requested a legislative exemption for local volunteer fire departments. Councilmember Knapp determined that this request for legislation was an appropriate topic for discussion by the Committee.

The following material reviews:

- 1) Current sign restrictions
- 2) Current exemptions from restrictions
- 3) Research on vehicle safety
- 4) Problems with an exemption
- 5) Staff recommendation

**What are the current restrictions on variable message signs?**

Signs are regulated by Chapter F of the Zoning Ordinance. The purpose of regulating signs is found in §59-F-11:

The purpose of this Article is to regulate the size, location, height and construction of all signs placed for public view. The regulations are intended to protect the public **safety**, health, morals, comfort and welfare; to preserve the value of property; to **preserve and strengthen the ambiance and character of the various communities**; and, where applicable, to implement the recommendations of an urban renewal plan adopted under Chapter 56. [Emphases added]

Two of the purposes enumerated are relevant to illuminated signs:

- 1) safety; and
- 2) preserving and strengthening the ambiance and character of the various communities.

The Council has seen fit to limit all illuminated signs since 1955. By 1975, the ordinance recognized illuminated variable message signs but only allowed them as date, time, and temperature signs through a variance process. In 1997, the Council comprehensively amended the chapter of the Zoning Ordinance concerning signs. The following provisions were adopted and are currently in effect:

**Illumination.** When illumination of a sign is permitted it must comply with the following restrictions:

**Flashing.** A sign must not contain or be illuminated by flashing, revolving, or intermittent lights, or lights of changing intensity...<sup>1</sup>

**Structural Limitations.** A sign must comply with the following structural requirements....:

**Message Replacement.** **Signs that have characters which are changed manually or electronically must not be changed more than once each day.** This includes a sign that gives the appearance or illusion of movement for a written or printed message.<sup>2</sup> [Emphases added]

The law does not prohibit the construction of electronic variable message signs.<sup>3</sup> It does regulate how such signs can function.

#### **What signs are exempt from the sign provisions?**

- 1) Federal, State, and County owned land is exempt from zoning. This exemption includes limitations on signs. Although it is not a zoning issue, the State and County use variable message signs for traffic control purposes. Private signs in County rights-of-way are regulated by the road code.

Land owned by the Montgomery County Board of Education is state owned land. Recently, the Board of Education has seen fit to allow variable message signs in front of some schools. The Department of Permitting Services does not have the authority to require permits for these signs.

- 2) There is a specific exemption from limits on variable message signs for properties in urban renewal areas. The applicant must get approval from the Sign Review Board after a public hearing.<sup>4</sup> The American Film Institute has used this exemption in the Silver Spring Central Business District.
- 3) Signs constructed before the limit on variable message signs was enacted are exempt. The variable message sign in front of White Flint Mall is an example of a grandfathered sign.

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<sup>1</sup> Division 59-F-4. Permanent Sign - Design Elements and Limitations, §59-F-4.1 (e)(4).

<sup>2</sup> §59-F-4.1 (f)(5).

<sup>3</sup> The Bethesda-Chevy Chase Rescue Squad has a variable message sign. Staff is not aware of complaints that the message is changing more than once a day.

<sup>4</sup> §59-F-4.3.

## Do variable message signs increase vehicle crashes?

The purpose of a variable message sign is to attract attention to its message. Any attraction to a changing message is a distraction to the driver of a vehicle. Does this distraction increase vehicle crashes? This question is the subject of both research and speculation. The Durham City-County Planning Department compiled the following data.<sup>5</sup>

- 1) Driver inattention causes 22.7 percent of accidents. Inattention causes more accidents than another single factor including vehicle speed, alcohol impairment, perceptual errors, decision errors, and incapacitation.<sup>6</sup>
- 2) Anything that distracts the driver from the forward roadway for more than 2 seconds significantly increases the chances of crashes and near crashes.<sup>7</sup>
  - 23 percent of crashes and near-crashes in metropolitan environments are attributable to eyes off the forward roadway greater than 2 seconds.
  - Nearly 80 percent of the crashes and 65 percent of near crashes were caused by distractions that made the driver look away for up to 3 seconds.
- 3) A person, object, or event outside of a vehicle (an external distraction, including a sign) was found to cause 29.4 percent of distraction-related crashes.<sup>8</sup>
- 4) External distractions are likely under-reported because they are unconscious or because drivers are reluctant to admit that distraction contributed to the accident.<sup>9</sup>
- 5) With traditional signs, distraction decreases with familiarity. Digital signs, however, are *always new*.<sup>10</sup>

Digital billboards have been the subject of much debate and research. In 2007, the advertising industry released 2 studies that found no safety problems caused by such signs.<sup>11</sup> The Maryland State Highway Administration commissioned an independent review of that research and found that its conclusions were not supported by the evidence.<sup>12</sup> The review included a cautionary note that changes to ordinances based on the conclusions of those 2 studies would be ill-advised.

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<sup>5</sup> Presentation by Julia Mullen, February 4, 2009.

<sup>6</sup> *Driver Inattention is a Major Factor in Serious Traffic Crashes*, National Highway Traffic Safety Administration/Virginia Tech Transportation Institute (2001); *External-to-Vehicle Driver Distraction*, Wallace, Scottish Executive Social Research (2003).

<sup>7</sup> Scenic America, citing *100-Car Naturalistic Driving Study*, USDOT National Highway Traffic Safety Administration.

<sup>8</sup> *The Role of Driver Distraction in Traffic Crashes*, Stutts et al., North Carolina Highway Safety Research Center (2001).

<sup>9</sup> *External-to-Vehicle Driver Distraction*, Wallace, Scottish Executive Social Research (2003).

<sup>10</sup> SRF Consulting Group, Inc. for City of Minnetonka (2007).

<sup>11</sup> *A Study of the Relationship Between Digital Billboards and Traffic Safety*, Tantala Associates, for the Foundation for Outdoor Advertising Research and Education (FOARE) (2007); *Driving Performance and Digital Billboards*, Lee, McElheny and Gibbons, Virginia Tech Transportation Institute, for FOARE (2007).

<sup>12</sup> *A Critical, Comprehensive Review of Two Studies Recently Released by the Outdoor Advertising Association of America*, The Veridian Group, Inc., for Maryland State Highway Administration (2007).

In February 2009 a Federal Highway Administration Study came to the following conclusion:

The conclusion of the literature review is that the current body of knowledge represents an inconclusive scientific result with regard to demonstrating detrimental driver safety effects due to commercial electronic variable message signs exposure. This outcome points toward the importance of conducting carefully controlled and methodologically sound future research on the issue.<sup>13</sup>

The Division of Traffic Engineering and Operations believes that increasing the number of variable message signs will not enhance traffic safety and could increase crashes. If the Council wants to proceed with increasing the number of electronic variable message signs, staff recommends consulting with the Police Department. The Police may have more to offer on this subject than academic research.

**Are there any problems that would be created by adding another exemption for volunteer fire departments?**

Currently, the sign provisions are indifferent to the owner of the sign. The only content prohibition is on off-site advertising. Signs are regulated by the:

- 1) use of the site;
- 2) use of neighboring properties;
- 3) characteristics of the sign:
  - a) size;
  - b) height;
  - c) location; and
  - d) type.

If the Council creates an exemption for volunteer fire departments, there needs to be a rational basis to do so. The following table tests the possibility of using different ways to distinguish a volunteer fire department from other landowners, and problems with that distinction.

Possible Rational Basis	Problem
Fire departments are engaged in acts promoting public safety.	Fire extinguisher sales companies, private building inspectors, doctors' offices, and other non-profit organizations are also engaged in acts promoting public safety.
Volunteer fire departments are not for profit operators and landowners.	Churches and charitable institution are not for profit operators and landowners.
The messages would promote public safety and community events.	Allowing or restricting signs because of the message's content would be constitutionally impermissible.

The logic of these ideas would require an exemption for a set of landowners larger than just volunteer fire departments. Even if the Council made an exemption just for volunteer fire departments, other

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<sup>13</sup> *The Effects of Commercial Electronic Variable Message Signs (CEVMS) on Driver Attention and Distraction: An Update*, Federal Highway Administration, February 2009.

landowners would want similar exemptions.<sup>14</sup> Nothing makes a landowner want to upgrade a sign more than the installation of a better sign down the street.<sup>15</sup>

### **Staff recommendation**

Staff does not recommend revising the current limitations on variable message signs for the display of messages by volunteer fire departments. The Council could consider allowing more than one message per day for any variable message sign; however, this would result in the construction of many more variable message signs. Such a change would not enhance public safety, contribute to the ambiance and character of neighborhoods, or reduce the County's carbon footprint. Static signs become part of the urban landscape over time. Electronic variable message signs command attention with each new message. If such signs failed at attracting attention, no one would want to construct them.

The most compelling reason to allow volunteer fire departments to expand their use of variable messages is to have a means to provide public safety messages. Staff recognizes that volunteer fire departments make significant contributions to public safety; however, sign regulations based on the content of the sign are constitutionally impermissible.

Staff recommends a conversation with the officials allowing electronic variable message signs on school property.

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<sup>14</sup> A landowner in Bethesda and the operator of Strathmore Hall both expressed interest in a variable message sign.

<sup>15</sup> If Freud were alive, he might diagnose the phenomenon as "sign envy".