



LEGISLATIVE REFERENCE BUREAU

---

## MEMO

**To:** Ald. Michael J. Murphy  
**From:** Leslie Silletti, Legislative Fiscal Analyst  
**Date:** January 22, 2008  
**Re:** Automatic Changeable Message Signs – Digital Billboards

---

This memo provides discussion on Common Council File 070548, an ordinance amending regulations relating to automatic changeable message signs.

### BACKGROUND

**Note:**

*File 060300 refers to the first version of this file, introduced June, 2006, and passed December, 2006.*

*File 070548 refers to the file currently before Common Council, which contains provisions similar to File 060300.*

### **Summary of File Currently Before the Common Council - 070548**

Common Council File 070548 – Substitute 4, sponsored by Ald. D'Amato, revises regulations for off-premise automatic changeable message signs, or digital billboards. Upon passage, the proposed ordinance will amend the Code in 2 principal ways. It will:

1. Allow signs to change as frequently as once every 6 seconds; the current Code states 30 seconds. It should be noted that the Code was changed from 60 to 30 seconds with Council File 060300, passed 12/12/06.
2. Create regulations for brightness of signs, both during daylight hours and between dusk and dawn.

Passage of the proposed ordinance will also eliminate the special study sign that was created by Council File 060300. As discussed in the following section, the special sign was created to

assess only the impact of a 6-second regulation of signs on urban roads, and not those along freeways.

### **Discussion of Council File 060300 and the Special Study Sign**

Council File 060300 was introduced in June 2006 with the purpose of amending the Code to provide that all automatic changeable message signs (both on- and off-premise) could change as frequently as once every 6 seconds. The file was amended, and the version that passed – Substitute 3, sponsored by Ald. D’Amato, Zielinski and Witkowski – amended the Code such that only signs which primarily face the freeway can change as frequently as once every 30 seconds, and all other signs would remain at 60 seconds.

Passage of this file also created a special study sign at the corner of Oakland and North Avenues in the 3<sup>rd</sup> Aldermanic District. The purpose of this study was to assess the impacts that digital billboards changing every 6 seconds which do not primarily face the freeway have on public safety and welfare. This study was not directed to assess the frequency regulations of off-premise signs which face the freeway. The expiration date of the special study signs was extended numerous times to provide more time to study the impacts it has on public safety and welfare. Current Code provides for its expiration June 18, 2008 (or upon passage of the proposed 070548).

File 060300 was heard by the Zoning Code Technical Committee in August, 2006, and the ZCTC stated it met the criteria to move forward to the Council’s Z&ND Committee but that it had concerns relating to safety considerations. Enclosed as Attachment 1 is a summary of those ZCTC concerns, excerpted from an LRB memo to ZCTC members and sponsors of File 060300.

### **The Department of Public Works Report Relating to the Special Study Sign**

As directed by Common Council File 060300 the Department of Public works issued a report in July, 2007, entitled “*Changeable Message LED Billboards – Test Period Observations and Findings – January, 2007 through June, 2007,*” which provided an assessment of the concerns related to operation of digital billboards and included a number of recommendations. These related to visual impact of billboard placement, message duration, sign content, display brightness and regulation of billboards.

Subsequent to DPW’s report, an ad-hoc group of City staff met to discuss drafting new Code regulations according to DPW’s findings. The meeting minutes are attached as Attachment 2. The group agreed that with appropriate regulation, signs could be unobtrusive, and that at a minimum, the following points needed further discussion: placement of signs, message duration, and illumination/brightness. The group had not met again before File 070548 was introduced.

## **File 070548 – Zoning Code Technical Committee**

File 070548 was heard by the ZCTC on December 14, 2007. The Committee found that it was legal and enforceable, and stated concerns relating to administrative efficiency and consistency with the format of the Zoning Code. A summary is included as Attachment 3.

### **A Summary of the Law: State and Local**

**State/Local Authority:** In 2006, the State of Wisconsin amended the statute relating to off-premise outdoor advertising signs with multiple or variable messages along interstate and federal-aid primary highways, such that those signs may contain messages which may be changed not more than once every 6 seconds. State law does not apply to roads which are not part of the interstate or federal-aid primary system, which for convenience are termed *urban roads*. Attachment 4 is a map of the City which illustrates interstate and federal-aid primary roads (red and blue), which the statute would apply to.

There are currently no state or federal regulations which preclude the City from adopting stricter standards, which the City currently has in place, for interstate or federal-aid primary roads. The state does not speak for urban roads in this matter.

**Current Code:** The Code does not specifically address digital billboards, and thus the only pertinent code relates generally to “automatic changeable message signs.” With passage of this ordinance, operation of signs would only be regulated according to the provisions included in the proposed ordinance – brightness levels and message change frequency – and the Code which already exists and uniformly applies to on- and off-premise changeable signs. These uniform provisions relate only to calculation of display area and require that illumination be static, not traveling or scrolling. General regulations that pertain to all off-premise signs, static and automatic changeable, will also apply (refer to Attachment 5, s. 295-407-8 of the Code, general regulations).

Companies may transition static boards to LED billboards without permission from the City, and there is no mechanism for City input before signs are transitioned. New billboards would have to follow existing procedure for new billboards and go before the Board of Zoning Appeals.

## **DISCUSSION**

Clear Channel Outdoor and Lamar Advertising dominate the market for digital billboards. As of 12/31/07, Lamar had 639 digital billboards in 203 markets throughout the country (number of municipalities is unclear). As of 1/15/08 Clear Channel had 143 signs in 40 markets, which equates to about 100 municipalities. Note that “market area” refers to general geographic areas, often a city and its suburbs (data provided by industry representatives). The New York Times recently reported that it is estimated about 4,000 static billboards will be converted to digital billboards within 10 years (NYT 1/11/07 – *Digital Billboard Up Ahead: Mew-Wave Sign or*

*Hazard*). The cost associated with transitioning a billboard to digital and municipal regulations are most often cited as the factors controlling growth of the industry.

Most states have passed legislation that permits automatic changeable message signs, which by definition encompasses digital billboards. As municipal sign codes predate the advent of digital billboard technology, there are no commonly accepted standards, and without code amendments digital billboards are generally unregulated. Municipalities throughout the country are scrambling to provide comprehensive regulations, as the need to regulate often occurs *after* digital billboards have been installed. Since municipalities do not have the ability to regulate whether or not it wants digital billboards in the first place, they have been left with the question of how to regulate them to ensure traffic safety and to best reflect the municipalities' perspectives on sign aesthetics.

A predominant dialogue has emerged regarding whether these digital billboards present a risk to drivers. Those who assert signs do present a danger seek methods for measuring or assessing that risk, as the literature is sparse and often not relevant to any location's exact set of variables. These debates are consistent throughout the country, with largely consistent arguments on each side. Arguments often center on the frequency of sign change and brightness levels.

A survey of municipal personnel suggests there is a lack of consensus on how to address and regulate digital billboards, and that this is due to the lack of understanding regarding this technology, the fact that signs spring up unforeseen without enough time for municipalities to appropriately amend codes, and the lack of research and literature relating to the impact of these signs on traffic and neighborhoods. There is not a common standard which municipalities may employ in drafting new Code, and it appears that the same concerns and debates are emerging throughout the country. Much of the existing literature points toward the 2009 for clarification of this issue.

## REGULATIONS BY MUNICIPALITY

A survey of communities throughout the country was conducted to gather information relating to digital billboard regulations. Generally, when municipalities amend their codes, digital billboards receive separate treatment and a new section is created.

Following are observations:

- Comprehensive Regulation: Of municipalities surveyed that have amended their code, a comprehensive set of regulations has been adopted. Generally, new sections of code are created which define and specifically apply to digital billboards, and address all or some of the following variables:
  - the definition of digital billboards (termed differently by location)
  - brightness (per color and time of day)
  - frequency of change
  - sizing of letters

- provisions for the case of sign malfunction
- 'trade-down' provisions for the erection of new digital signs
- interference with traffic signals
- minimum distance apart
- distance from residential property

Ordinances from Eagan, MN, and San Antonio, TX, are included for reference, Attachment 6, as examples of recently adopted regulations.

- Moratoriums: Many municipalities have enacted moratoriums so that comprehensive regulations would be in place before more or any electronic billboards would be transitioned or erected. Cities include: Atlanta, Des Moines, Eagan, Grand Rapids, Gurnee, Janesville, Memphis, Oak Creek, Proctor (MN), Richfield (MN), St. Paul and Tuscaloosa.
- Research Studies / Sign Consultants: Many municipalities conducted extensive studies to create comprehensive regulations, others hired consultants to study the issue and make recommendations. The City of Minnetonka completed a study in June, 2007, and Tuscaloosa, AL, completed a study in June, 2007 (both available upon request).
- Frequency of Change: A review of all signs operated by Lamar Advertising indicates that of all signs currently operating as digital billboards, signs are either changing at frequencies permitted by state laws, or at frequencies slightly more restrictive than permitted by state laws. Generally, the differential is not more than 2 seconds. Further research would need to be conducted to determine whether municipalities have amended codes to provide regulations specifically addressing digital billboards, or if these frequencies are merely a 'default' until further legislation is introduced.
- Frequency of Change: The longest change frequencies studied were in Eagan and Minnetonka, MN – both at 20 minutes, which appear to be outliers.

## **FUTURE STUDIES**

- \$150,000 has been reserved for a Federal Highway Administration study relating to the traffic safety issues and digital billboards, expected to commence in 2009.
- The Institute for Environmental Conflict Resolution, a federal agency in Tucson, will release a study in a few weeks that was commissioned by the Federal Highway Administration which will recommend further research into whether the signs present risks to drivers.

## PUBLIC SERVICE ANNOUNCEMENTS / EMERGENCY MESSAGING

References are often made to public service announcements and emergency messaging; however, it does not appear that these are often legislated in municipal codes.

- Eagan, MN: The code provides “incentive” options for the voluntary and uncompensated removal of off-premise signs in certain settings, which the code states consolidate outdoor advertising services that would otherwise remain distributed throughout the community, and expands the function of off-premise signs to serve a public purpose by providing community and public service messages.

As “Incentive Option B” an applicant may obtain a permit for an “enhanced dynamic display sign” on one surface of an existing off-premise sign if the following requirements are met: sign replaces an existing surface; no permit for that sign previously issued; and, **the applicant shall enter into an agreement with the city to provide to the city no less than 5 hours (2250 eight-second spots) per month per sign in the city for community and public service messages at such times as shall be determined by the city.**

- San Antonio, TX: The code states the city may exercise its police powers to protect public health, safety and welfare by requiring emergency information be displayed via digital signs. Upon notification, the sign operators shall display in appropriate sign rotations: Amber Alert emergency information or emergency information regarding terrorist attacks, or natural disasters. Emergency information messages are to remain in rotation according to the designated issuing agencies protocols.
- Corona, CA: As part of a revenue-sharing agreement from a 2005 eminent domain action against Lamar to obtain land needed to expand freeway ramps, the city permitted Lamar to relocate several billboards and switch them to digital. In return, Corona receives 12% of ad revenue generated by digital billboards. The agreement allowed the city to place public service announcements on the billboards or, instead, receive \$40,000 per year per billboard side. Corona declined the option of putting announcements on the boards for the first 2 years and instead elected to receive \$480,000, the equivalent of \$40,000 per side for 3 billboards for 2 years. It is yet unclear if this agreement has an expiration date.

LRB08033  
LCS



# Attachment 1

## SAFETY CONCERNS

Among the topics that were discussed at the 7/13/06 ZCTC meeting was the concern that passage of the proposed ordinance would have substantial safety consequences in the City of Milwaukee. Bob Bryson, Traffic Control Engineer V, Department of Public Works, articulated these.

The main safety concern associated with passage of this ordinance is the increased prevalence of distracted driving, similar to distracted driving associated with using a cellular phone or eating food while driving. Distracted driving has become increasingly more dangerous in the City, as the prevalence of accidents attributed to distracted driving is ever increasing. While distracted driving is already a serious cause of concern in the City, passage of this ordinance may render it even more crucial. Following are ways that changeable message signs may contribute to greater distracted driving:

1. Changeable message signs are often red LED, which are the same color of traffic signals, and thus make traffic signals indistinguishable and oftentimes difficult to read. Drivers are unable to perceive traffic signals as such, which is of critical importance at signalized intersections.
2. More deviations from lane use as people attempt to read signs.
3. Higher density of traffic on city roadways while the traffic flow on FAPs and interstates is more regulated.
4. More pedestrians and driveways on city roadways.

Research indicates that changeable message signs attract twice the number of onlookers, and those who look at the signs look for twice as long at changeable signs than they would for a static sign. These are increased when changeable message signs are of the scrolling variety.

These, and other, safety concerns were considered in developing the 60-second provision in the current code, as well as sizes of and ability to recognize and read signs and speed of traffic on the roadways. The considerations for a 60-second ordinance on city roadways, especially urban roadways, are much different than considerations for such 6-second legislation on interstates.

## CITY/STATE AUTHORITY

A question was posed by Assistant City Attorney Stuart Mukamal to the WiDOT, asking for clarification as to whether s. 84.30 or any comparable federal statute, or any federal or state regulation precludes the city from adopting stricter requirements with respect to either FAP routes or non-FAP thoroughfares throughout the City, and if so, why. In other words, is City regulation allowed or pre-empted, and if so, to what extent? Also asked was which authority has

## Attachment 2

Below is a summary of the July 17, 2007, meeting to discuss automatic changeable message signs.

### Present

Bob Bryson; Marty Collins; Greg Patin; Ed Richardson

Each person identified a primary concern of his department relating to the current automatic changeable message sign Code, and any future changes:

- Illumination, impact on persons living near signs (non-drivers) – DCD
- Land use impact – DCD
- Traffic and Safety (drivers) – DPW
- Enforceability – DNS

The group agreed that its first recommendation is to issue a moratorium on automatic changeable signs (presumably only off-site, rather than those at drugstores, etc.?). The moratorium would be in place until after the Federal Highway Administration's related study is released in 2009, and after more data can be collected from the study sign on Oakland/North. If that is not the Council's desire, then the group recommends creating Code regulations, and similar to those included in Bob's report to the ZN&D Committee. The group suggested the following points, at a minimum, should be part of further discussions, and that signs can be safe and unobtrusive with proper regulation.

1. Placement of signs. There needs to be regulation of setback, so signs won't interfere with traffic signals and other traffic safety considerations (such as curves in the road and on/off ramps).
2. Message duration. Should be 30-seconds, at a minimum.
3. Change "primarily facing the freeway" to verbiage that is quantitative, so that it can be properly understood and enforced.
4. Sign content, as it relates to health and safety. For example, limiting the number of characters on a sign, so people aren't distracted trying to read lengthy messages, and prohibiting giving instructions to drivers 'too late', so that they may be directed to veer off the freeway, etc.
5. Illumination/Brightness. There needs to be a way to define and regulate specific colors, and to have uniform control. If a federal or state law is adopted, it should be specifically referenced in the Code. There needs to be a way to both quantify and measure brightness. More data needs to be collected about how sign operators control this function currently.

The group was unsure how long it would take to quantify these criteria and craft regulations.



# Attachment 3

December 14, 2007

The Honorable  
Members of the Zoning, Neighborhoods and Development Committee

Honorable Members:

Pursuant to s. 295-307-7-b of the Milwaukee Code of Ordinances, the Zoning Code Technical Committee, on December 13, 2007, reviewed Common Council File Number 070548, a substitute ordinance relating to revision of regulations for automatic changeable message signs.

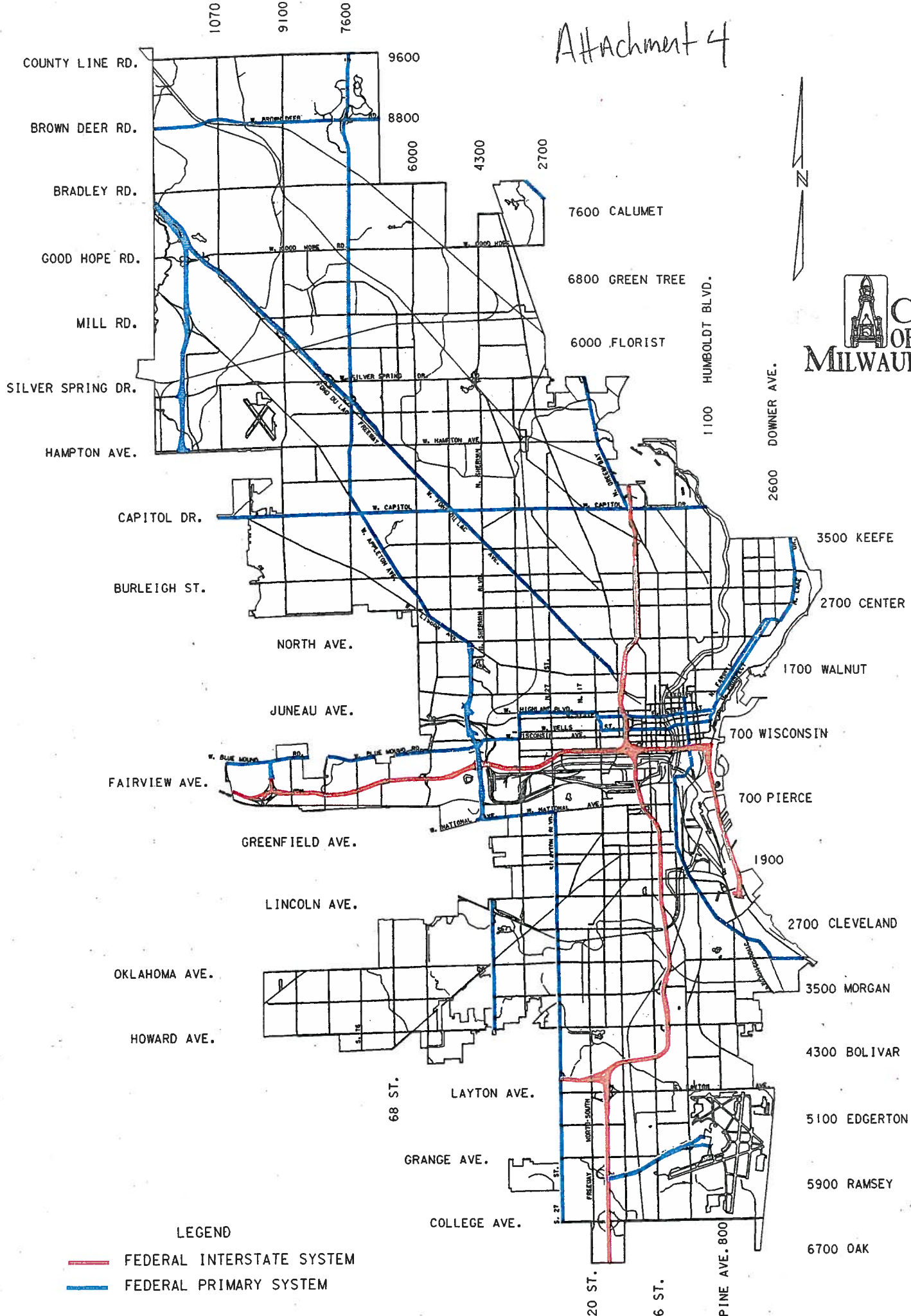
Based on this review, the Committee found as follows:

- With respect to legality and enforceability, the proposed ordinance meets this standard.
- With respect to administration efficiency, the Department of Neighborhood Services' representative on the Committee indicated that the different regulations for on-premises signs and off-premises signs will create enforcement problems.
- With respect to consistency with the format of the zoning code, the Department of City Development's representative on the Committee indicated that the proposed ordinance may not be consistent with certain provisions of the zoning code, particularly s. 295-409 of the Code of Ordinances, relating to on-site lighting/illumination as it relates to the brightness of the automatic changeable message signs. It was also indicated that the proposed ordinance also needs to include a way of measuring the amount of lighting.

Respectfully Submitted,

Teodros W. Medhin, Ph.D.  
Chair, Zoning Code Technical Committee

Attachment 4



LEGEND

- FEDERAL INTERSTATE SYSTEM
- FEDERAL PRIMARY SYSTEM

**295-407-6 Zoning**

6. **MAINTENANCE, ABANDONMENT AND REMOVAL.** See ss. 244-3, 275-32 and 275-34 for regulations relating to the maintenance, abandonment and removal of signs.

7. **PERMITS REQUIRED.** See s. 244-2 for information on sign permit requirements.

8. **OFF-PREMISE SIGNS.** a. **Applicability.** The standards and regulations of this subsection shall apply to all off-premise signs. Where the standards in this section conflict with those found elsewhere in this code, the most restrictive standards shall apply.

b. **Standards.** b-1. **General.** See the regulations for the applicable zoning district for standards relating to the number, location and size of off-premise signs.

b-2. **Combustible Signs.** No portion of a combustible off-premise wall sign may be located above the sill of a 2<sup>nd</sup> story window or more than 30 feet above grade, whichever is lower.

b-3. **Minimum Distance Between Signs.** The minimum distance between any 2 off-premise freestanding or roof signs shall be 500 feet. The minimum distance between an off-premise freestanding or roof sign and an off-premise wall sign shall be 200 feet. The minimum distance between any 2 off-premise wall signs shall be 200 feet. The minimum distance requirement does not apply in the following situations:

b-3-a. Where off-premise signs are wall or roof signs located on opposite sides of a street from which they are intended to be viewed.

b-3-b. Where off-premise signs are separated by buildings or other permanent structures in such a way that the display area of only one off-premise sign is visible from a street at one time.

b-4. **Distance Measurement.** The distance between signs shall be measured in a straight line, without regard to intervening structures, between the nearest components of the 2 signs in question.

b-5. **Maximum Height.** b-5-a. The maximum height of off-premise freestanding signs shall be 40 feet above grade, except in a local business, commercial service, residential and specialty use or neighborhood retail district, where the maximum height shall be 35 feet unless a sign is located within 50 feet of a building having a height of 35 feet or more.

b-5-b. An off-premise freestanding sign may be located and maintained along a public viaduct or bridge to a height of not more than 50 feet above the roadway of such viaduct or bridge, provided that the sign is set back from the viaduct, bridge or adjoining building a distance equal to or greater than the height of the sign above the roadway.

b-6. **Height Measurement.** The height of any off-premise freestanding sign is the vertical dimension of the sign measured from the grade of the roadway to which the sign is oriented to the highest point of the sign. However, where a structure bridges the roadway to which an off-premise freestanding sign is oriented and where the structure is within 100 feet of the sign, the height of the sign may be measured from the grade of the bridge structure at the point closest to the sign.

b-7. **Minimum Required Setbacks.** b-7-a. **Wall Signs.** Off-premise wall signs located on front walls of buildings shall be set back a minimum of 5 feet from building corners. Off-premise wall signs located on side or rear walls of buildings shall be set back from building corners a minimum distance equal to 10% of the sign's width or 3 feet, whichever is less, but not less than one foot.

b-7-b. **Freestanding Signs.** For off-premise freestanding signs, the minimum required setback from any street lot line shall be 30 feet or a distance equal to the height of the sign, whichever is greater. No portion of any off-premise freestanding sign may extend into the public right-of-way or project over any public or private access drive.

b-7-c. **Roof Signs.** Off-premise roof signs shall be set back 5 feet from any exterior wall facing a public street and 2.5 feet from any other exterior wall.

b-8. **Required Residential Buffers.** No portion of any off-premise sign may extend into any of the following required residential buffers:

b-8-a. 60 lineal feet from a rear lot line abutting any residential district.

b-8-b. 50 lineal feet from a side lot line abutting any residential district for an off-premise sign having a display area up to 300 square feet.

b-8-c. 75 lineal feet from a side lot line abutting any residential district for an off-premise sign having a display area in excess of 300 square feet.

b-9. Signs Near Public Right-of-Way. Any component of an off-premise sign located within 3 feet of the public right-of-way shall be at least 10 feet above grade.

b-10. Lighting Reflectors. Lighting reflectors may extend 12 feet beyond the face of an off-premise sign but may not extend into any required setback or buffer areas.

c. Signs Adjacent to Freeways and Parkways. Off-premise signs adjacent to freeways or the Lake Parkway shall conform to the following standards:

c-1. Setbacks. c-1-a. The minimum setback from the freeway or Lake Parkway right-of-way for a sign located in an industrial district shall be 75 feet plus 10 feet for each 100 square feet of sign area over 750 square feet.

c-1-b. The minimum setback from the freeway or Lake Parkway right-of-way for a sign located in a commercial district shall be 500 feet.

c-2. Minimum Spacing. The minimum distance between any 2 off-premise signs located on the same side of a freeway or the Lake Parkway shall be 1,000 feet.

c-3. Prohibited Locations. Off-premise signs are prohibited within 1,000 feet of the High Rise Bridge or the Hoan Memorial Bridge/Lake Parkway. In this paragraph, "High Rise Bridge" means that portion of Interstates 94 and 43 located between the center line of West St. Paul Avenue and the center line of West National Avenue, and "Hoan Memorial Bridge/Lake Parkway" means those portions of Interstate 794 and State Trunk Highway 794 located between East St. Paul Avenue extended and the south city limits.

**295-409. Lighting.** In all zoning districts, all on-site lighting shall have cut-off fixtures that ensure that lighting levels and glare are controlled as follows:

1. No light source shall be visible from an adjoining property or public right-of-way.
2. Where adjoining properties are zoned residential, the maximum illumination at a property line shall be one foot-candle. In all other circumstances, the maximum illumination at a property line shall be 5 foot-candles.

**295-411. Encroachments into the Public Right-of-way.** See ch. 245.

**295-413. Transmission Towers. 1. LIMITED USE STANDARDS.** Whenever a transmission tower is a limited use, the permit applicant shall submit, to the department, plans and other permit application materials which demonstrate that the facility will comply with the following standards. If the department finds that the tower will not meet these standards, the tower may only be permitted upon the granting of a special use permit by the board.

a. All ground-level equipment, storage buildings and structural support elements shall be screened by a landscaped buffer which completely surrounds such equipment or structures, except for necessary openings for sidewalks or driveways that provide access to the equipment or structures. The buffer shall be located no farther than 5 feet from the equipment or structures, measured at the nearest point of the buffer to the equipment or structures. The buffer shall be at least 5 feet wide and meet the standards for type "G" landscaping set forth in s. 295-405-1.

b. All access drives shall be paved.

c. The tower shall not be illuminated except as required by the federal aviation administration or other applicable government regulations.

d. If the tower is freestanding and any abutting property contains one or more dwelling units or a structure for which an occupancy certificate is required, the base of the tower shall be set back from the property lines of such abutting property a distance equal to at least 25% of the tower's height.

e. No structure other than related accessory structures may be located in an area 20 feet on each side of the radial line between the center of the transmission tower and each guy anchorage.

A Hutchinson Co  
Eagan, MN

foundation inspection by the protective inspections division and all building code requirements shall be met.

4. *Return of the fees.* In the event said application shall be denied, the city shall return the applicant's permit fee, less a reasonable amount determined by the council which shall be retained as an administrative cost.

J. *Removal.* All signs which have not been removed within the designated time period may after due notice be removed by the city, and any expense incurred thereof may be charged to the sign owner or assessed against the property on which they are located.

#### K. Dynamic Display Signs.

1. **Findings.** Studies show that there is a correlation between dynamic displays on signs and the distraction of highway drivers. Distraction can lead to traffic accidents. Drivers can be distracted not only by a changing message, but also by knowing that the sign has a changing message. Drivers may watch a sign waiting for the next change to occur. Drivers are also distracted by messages that do not tell the full story in one look. People have a natural desire to see the end of the story and will continue to look at the sign in order to wait for the end. Additionally, drivers are more distracted by special effects used to change the message, such as fade-ins and fade-outs. Finally, drivers are generally more distracted by messages that are too small to be clearly seen or that contain more than a simple message. Time and temperature signs appear to be an exception to these concerns because the messages are short, easily absorbed, and become inaccurate without frequent changes.

Despite these public safety concerns, there is merit to allowing new technologies to easily update messages. Except as prohibited by state or federal law, sign owners should have the opportunity to use these technologies with certain restrictions. The restrictions are intended to minimize potential driver distraction and to minimize proliferation in residential districts where signs can adversely impact residential character.

Local spacing requirements could interfere with the equal opportunity to use such technologies and are not included. Without those requirements, however, there is the potential for numerous dynamic displays to exist along any roadway. If more than one dynamic display can be seen from a given location on a road, the minimum display time becomes critical. If the display time is too short, a driver could be subjected to a view that appears to have constant movement. This impact would obviously be compounded in a corridor with multiple signs. If dynamic displays become pervasive and there are no meaningful limitations on each sign's ability to change frequently, drivers may be subjected to an unsafe degree of distraction and sensory overload. Therefore, a longer display time is appropriate.

A constant message is typically needed on a sign so that the public can use it to identify and find an intended destination. Changing messages detract from this way-finding purpose and could adversely affect driving conduct through last-second lane changes, stops, or turns, which could result in traffic accidents. Accordingly, dynamic displays generally should not be allowed to occupy the entire copy and graphic area of a sign.



In conclusion, the city finds that dynamic displays should be allowed on signs but with significant controls to minimize their proliferation and their potential threats to public safety.

2. *Dynamic display sign* means any sign, except governmental signs, with dynamic display characteristics that appear to have movement or that appear to change, caused by any method other than physically removing and replacing the sign or its components, whether the apparent movement or change is in the display, the sign structure itself, or any other component of the sign. This includes a display that incorporates a technology or method allowing the sign surface to change the image without having to physically or mechanically replace the sign surface or its components. This also includes any rotating, revolving, moving, flashing, blinking, or animated display and any display that incorporates rotating panels, LED lights manipulated through digital input, "digital ink" or any other method or technology that allows the sign surface to present a series of images or displays.

3. Dynamic display signs are allowed subject to the following conditions:

(a) Dynamic display signs are subordinate to off-premises signs, monument and pylon signs, and business signs. Dynamic displays must not be the predominant feature of the sign surface. The remainder of the sign must not have the capability to have dynamic displays even if not used. Dynamic display signs are allowed only on monument and pylon signs for conditionally permitted uses in residential districts and for all uses in other districts, subject to the requirements of this Section 11.70. Only one, contiguous dynamic display area is allowed on a sign surface;

(b) A dynamic display may not change or move more often than once every 20 minutes, except one for which changes are necessary to correct hour-and-minute, date, or temperature information. Time, date, or temperature information is considered one dynamic display and may not be included as a component of any other dynamic display. A display of time, date, or temperature must remain for at least 20 minutes before changing to a different display, but the time, date, or temperature information itself may change no more often than once every three seconds;

(c) The images and messages displayed must be static, and the transition from one static display to another must be instantaneous without any special effects;

(d) The images and messages displayed must be complete in themselves, without continuation in content to the next image or message or to any other sign;

(e) Every line of copy and graphics in a dynamic display must be at least seven inches in height on a road with a speed limit of 25 to 34 miles per hour, nine inches on a road with a speed limit of 35 to 44 miles per hour, 12 inches on a road with a speed limit of 45 to 54 miles per hour, and 15 inches on a road with a speed limit of 55 miles per hour or more. If there is insufficient room for copy and graphics of this size in the area allowed under clause (a) above, then no dynamic display is allowed;

(f) Dynamic display signs must be designed and equipped to freeze the device in one position if a malfunction occurs. The displays must also be equipped with a means to



immediately discontinue the display if it malfunctions, and the sign owner must immediately stop the dynamic display when notified by the city that it is not complying with the standards of this ordinance;

(g) Dynamic display signs must comply with the brightness standards contained in subdivision L below;

(h) Dynamic display signs existing on (insert the effective date of this ordinance) must comply with the operational standards listed above. An existing dynamic display that does not meet the structural requirements in clause (b) may continue as a non-conforming development subject to section (insert ordinance section number). An existing dynamic display that cannot meet the minimum size requirement in clause (e) must use the largest size possible for one line of copy to fit in the available space.

(i) Exceptions. Recognizing that some dynamic displays, such as those used in point of sale dispensers, interactive vending machines and ATMs, often need to change images more frequently than defined by this ordinance in order to perform their intended function and that such image changes can occur in a manner in which they do not create distractions for drivers, dynamic displays with a total area of less than 160 square inches at any point of sale dispenser, interactive vending machines or ATM may be fully animated, provided they do not flash or blink in a manner clearly visible from the roadway and provided they either meet or exceed the building setbacks for the zoning district in which they are located or are at least 30' from the public right of way, whichever is greater.

4. Incentives. Off-premises signs do not need to serve the same way-finding function as do on-premises signs; they are restricted in number by the city; and they are in themselves distracting and their removal serves public safety. This clause is intended to provide an incentive option for the voluntary and uncompensated removal of off-premises signs in certain settings. This removal results in an overall advancement of one or more of the goals set forth in this section that should more than offset any additional burden caused by the incentives. These provisions are also based on the recognition that the incentives create an opportunity to consolidate outdoor advertising services that would otherwise remain distributed throughout the community and expand the function of off-premises signs to serve a public purpose by providing community and public service messages.

#### A. Incentive Option A – Reduction of Sign Surfaces

(a) A person may obtain a permit for an enhanced dynamic display sign on one surface of an existing off-premises sign if the following requirements are met:

(i) The applicant agrees in writing to reduce its off-premises sign surfaces by one by permanently removing, within 15 days after issuance of the permit, one surface of an off-premises sign in the city that is owned or leased by the applicant and is depicted in table A (which follows this section), which sign surface must satisfy the criteria of parts (ii) and (iii) of this subsection. This removal must include the complete removal of the structure and foundation supporting each

removed sign surface. The applicant must agree that the city may remove the sign surface if the applicant does not timely do so, and the application must identify the sign surface to be removed and be accompanied by a cash deposit or letter of credit acceptable to the city attorney sufficient to pay the city's costs for that removal. The applicant must also agree that it is removing the sign surface voluntarily and that it has no right to compensation for the removed sign surface under any law. Replacement of an existing sign surface of an off-premises sign with an enhanced dynamic display sign does not constitute a removal of a sign surface.

(ii) The city has not previously issued a dynamic display sign permit based on the removal of the particular sign surface relied upon in this permit application.

(iii) If the removed sign surface is one for which a state permit is required by state law, the applicant must surrender its permit to the state upon removal of the sign surface. The sign that is the subject of the dynamic display sign permit cannot begin to operate until proof is provided to the city that the state permit has been surrendered.

(b) If the applicant complies with the permit requirements noted above, the city will issue an enhanced dynamic display sign permit for the designated off-premises sign. This permit will allow a dynamic display to occupy 100 percent of the potential copy and graphic area and to change no more frequently than once every eight seconds. The designated sign must meet all other requirements of this ordinance.

#### **B. Incentive Option B – Provision of Community and Public Service Messaging**

(a) A person may obtain a permit for an enhanced dynamic display sign on one surface of an existing off-premises sign if the following requirements are met:

(i) The enhanced dynamic display sign replaces an existing surface of an existing off-premises sign;

(ii) The city has not previously issued a dynamic display sign permit based on the replacement of the particular sign surface relied upon in this permit application.

(iii) The applicant shall enter into an agreement with the city to provide to the city no less than 5 hours (2250 eight-second spots) per month per enhanced dynamic display sign in the city for community and public service messages at such times as shall be determined by the city.

(b) If the applicant complies with the permit requirements noted above, the city will issue an enhanced dynamic display sign permit for the designated off-premises sign. This permit will allow a dynamic display to occupy 100 percent of the potential copy and

graphic area and to change no more frequently than once every eight seconds. The designated sign must meet all other requirements of this ordinance.

**L. Brightness Standards.**

1. All signs must meet the following brightness standards:

(a) No sign may be brighter than is necessary for clear and adequate visibility.

(b) No sign may be of such intensity or brilliance as to impair the vision of a motor vehicle driver with average eyesight or to otherwise interfere with the driver's operation of a motor vehicle.

(c) No sign may be of such intensity or brilliance that it interferes with the effectiveness of an official traffic sign, device or signal.

2. The person owning or controlling the sign must adjust the sign to meet the brightness standards in accordance with the city's instructions. The adjustment must be made immediately upon notice of non-compliance from the city. The person owning or controlling the sign may appeal the city's determination through the following appeal procedure:

(a) After making the adjustment required by the city, the person owning or controlling the sign may appeal the city's determination by delivering a written appeal to the city clerk within 10 days after the city's non-compliance notice. The written appeal must include the name of a person unrelated to the person and business making the appeal, who will serve on the appeal panel.

(b) Within five business days after receiving the appeal, the city must name a person who is not an official or employee of the city to serve on the appeal panel. Within five business days after the city names its representative, the city's representative must contact the sign owner's representative, and the two of them must appoint a third member to the panel, who has no relationship to either party.

(c) The appeal panel may develop its own rules of procedure, but it must hold a hearing within five business days after the third member is appointed. The city and the sign owner must be given the opportunity to present testimony, and the panel may hold the hearing, or a portion of it, at the sign location. The panel must issue its decision on what level of brightness is needed to meet the brightness standards within five business days after the hearing commences. The decision will be binding on both parties.

3. All signs installed after (insert the effective date of this ordinance) that will have illumination by a means other than natural light must be equipped with a mechanism that automatically adjusts the brightness in response to ambient conditions. These signs must also be equipped with a means to immediately turn off the display or lighting if it malfunctions, and the sign owner or operator must immediately turn off the sign or lighting when notified by the city that it is not complying with the standards in this section.

TABLE A

TABLE INSET:

Ref #	Address (PID #)	Location	Surfaces	SF/ Surface	SF Total
1	2750 Sibley Mem. Hwy. (103288501001)	I-494 between Hwy. 13 & Pilot Knob Rd.	2	624	1,248
2	2750 Sibley Mem. Hwy. (103288501001)	I-494 between Hwy. 13 & Pilot Knob Rd.	2	672	1,344
3	2950 Hwy. 55 (100010001055)	Hwy. 55, junction with Hwy. 149	2	250	500
4	3875 Sibley Mem. Hwy. (100190001102)	Hwy. 13, between Cedar Ave. & Rahn Rd.	2	250	500
5	4151 Sibley Mem. Hwy. (100190001356)	Hwy. 13, between Cedar Ave. & Diffley Rd.	1	250	250
6	3700 Cedar Ave. (100180001156)	Hwy. 77, north of Hwy. 13 (on railroad)	2	378	756
7	2196 Cedar Ridge Court (101682102001)	Hwy. 77, between Diffley Rd. and Cliff Rd.	2	378	756
8	3801 Sibley Mem. Hwy. (107550001000)	Hwy. 77, north of Hwy. 13	2	378	756
9	1181 Trapp Rd. (beyond NE Corner) (102250005108)	Soo Line right-of-way, south of I-494 and west of Hwy. 55 (added 9/5/99)	1 {1}	480 {20}	480 {20}
10	1255 Trapp Rd. (1022250014001)	I-494, junction of I-35E	2	378	756
11	2750 Eagandale Blvd. (beyond NW Corner) (102250014307)	Soo Line right-of-way, Hwy. 55, west of I-35E	2	360	720

Section 2. Ordinance No. 412 as adopted June 19, 2007 is hereby rescinded in its entirety.

Section 3. Effective Date. This ordinance shall take effect upon its adoption and publication according to law.

ATTEST:

CITY OF EAGAN  
City Council

By: \_\_\_\_\_  
Maria Petersen  
Its: City Clerk

By: \_\_\_\_\_  
Mike Maguire  
Its: Mayor

Date Ordinance Adopted: October 2, 2007

Date Ordinance Published in the Legal Newspaper: October 6, 2007

Date of Advisory Planning Commission Hearing: September 25, 2007

Attachment 6  
San Antonio, TX

CODE OF ORDINANCES  
City of  
SAN ANTONIO, TEXAS

Codified through  
Ord. No. 2007-12-13-1328, adopted Dec. 13, 2007.  
(Supplement No. 75, Update 2)

Preliminaries

**CODE  
CITY OF  
SAN ANTONIO, TEXAS  
VOLUME I**

Adopted February 20, 1986  
Effective March 3, 1986

Published by Order of the City Council

Published by Municipal Code Corporation  
Tallahassee, Florida 1986

**OFFICIALS  
of the  
CITY OF SAN ANTONIO, TEXAS  
AT THE TIME OF THIS CODIFICATION**

Henry G. Cisneros  
*Mayor*

n  
Maria Antonietta Berriozabal Robert Thompson  
Joe Webb Joe Alderete, Jr.  
Helen Dutmer G. E. "Ed" Harrington  
Frank Wing Van Henry Archer, Jr.  
Bernardo Eureste James Hasslocher

*City Council*

Louis J. Fox  
*City Manager*

Lowell Denton  
*City Attorney*

Norma S. Rodriguez  
*City Clerk*



ARTICLE IV. ERECTION AND MAINTENANCE REGULATIONS

DIVISION 1. GENERALLY

Sec. 28-125. Off-premise digital signs.

(a) Off-premise digital signs are prohibited within the jurisdiction of the city, provided however, that the director may issue fifteen (15) off-premise digital sign permits as authorized by this ordinance. All such off-premise digital signs shall be subject to this section and all other relevant provisions of this chapter.

(b) Sign operators installing, testing, or maintaining off-premise digital signs shall comply with the following requirements:

(1) The dwell time, defined as the interval of change between each individual message, shall be at least ten (10) seconds, and a change of message must be accomplished within one (1) second or less. The dwell time shall not include the one (1) second or less required to change a message.

(2) The digital sign shall contain a default mechanism that will freeze the sign in one position if a malfunction occurs.

(3) The digital sign may not display light of such intensity or brilliance to cause glare or otherwise impair the vision of the driver, or results in a nuisance to the driver.

a. Digital sign light intensity exceeding the following intensity levels (nits) constitutes "excessive intensity or brilliance":

TABLE INSET:

Intensity Levels (NITS)		
Color	Daytime	Nighttime
Red Only	3,150	1,125
Green Only	6,300	2,250
Amber Only	4,690	1,675
Full Color	7,000	2,500

b. Prior to the issuance of a sign permit, the applicant shall provide written certification from the sign manufacturer that the light intensity has been factory pre-set not to exceed seven thousand (7,000) NITS and that the intensity level is protected from end-user manipulation by password-protected software or other method as deemed appropriate by the director.

(4) The digital sign shall not be configured to resemble a warning or danger signal or to cause a driver to mistake the digital sign for a warning or danger signal.

(5) Off-premise digital sign faces may have dimensions of up to three hundred (300) square feet or up to six hundred seventy-two (672) square feet in accordance with conversion table 1 and table 2.

(6) A digital sign is subject to all existing restrictions on light intensity or brilliance contained in Chapter 35 of the Unified Development Code, including but not limited to subsection 35-612(p)(6).

- (7) A digital sign must not resemble or simulate any lights or official signage used to control traffic in accordance with the 2003 Manual on Uniform Traffic Control Devices, with Revision No. 1 published by the Federal Highway Administration (FHWA).
- (8) A digital sign must be equipped with both a dimmer control and a photocell, which automatically adjusts the display's intensity according to natural ambient light conditions.
- (9) Except for a sign that qualifies as nonconforming under section 28-139, a digital sign must comply with sign face size restrictions set forth in section 28-142. A nonconforming sign may not be enlarged beyond its present size without forfeiting its nonconforming status.
- (10) A digital sign may not be within two thousand (2,000) feet of another off-premise digital sign facing the same traveled way. In no case shall an off-premise digital sign be in a line of sight with another off-premise digital sign. Spacing requirements for off-premise digital signs in relation to other classifications of signs shall comply with section 28-136.
- (11) The height of a digital sign must comply with section 28-137. On existing structures that qualify as nonconforming under section 28-139, digital sign displays may replace the existing static display.
- (c) Digital sign classifications.
- (1) *Existing sign* means a currently erected sign whose components need only minimal modification to display digital signs. Sign operators may replace the sign faces of existing signs with digital sign faces subject to the conversion ratios of table 1 or table 2.
- (2) *New sign* means a digital sign erected on a site devoid of a sign or a digital sign placed on a currently erected sign structure supporting a sign that requires significant modification to support a digital sign. Sign operators may replace the sign faces of new signs with digital sign faces subject to the conversion ratios of table 1 or table 2 and the relocation provisions of section 28-97. In no event shall a new digital sign be constructed in an area prohibited by current zoning district boundaries.
- (3) *Corridor sign* means an existing sign that qualifies as nonconforming sign under section 28-139 and whose components need only minimal modification to display digital signs. Sign operators may replace the sign faces of existing nonconforming signs with digital sign faces subject to the conversion ratios of table 1 or table 2.
- (d) An off-premise digital sign permit shall be issued for existing signs, new signs, and corridor signs subject to the conversion ratios of table 1 or table 2 and section 28-93. All applications for an off-premise digital sign permit must identify the number of demolition permit numbers for billboards set out in table 1 or table 2. The off-premise digital sign permit may be issued only after removal of the existing registered billboards in accordance with the conversion ratios in table 1 or table 2. Demolitions occurring prior to the effective date of this section shall not be allowed to be counted for removal purposes under this subsection.
- (e) The city, through appropriate personnel, may exercise its police powers to protect public health, safety, and welfare by requiring emergency information to be displayed via digital signs. Upon notification, the sign operators shall display in appropriate sign rotations: Amber Alert emergency information or emergency information regarding terrorist attacks, or natural disasters. Emergency information messages are to remain in rotation according to the designated issuing agencies protocols.

TABLE 1  
CONVERSION REQUIREMENTS  
FOR DIGITAL BULLETIN DISPLAYS (Up to 672 sq. ft. per structure)

TABLE INSET:

Square Feet	# of structures	Structure Description	Requires Faces to be Removed	Removals Sq. Ft. Removed	New Digital Sign Bulletin Faces To Gain (Up to 672 sq. ft. per structure)	Sq. Ft. Permitted
(72 sq. ft) 8-Sheet.	19 9 5	19 single face structures 9 double face structures 5 quad structures	19 18 20	1,368 1,296 1,440	1 1 1	672 672 672
(288 sq. ft.) 30-Sheet	3 5	2 double face structures/ 1 single face structure 5 double face structures	5 10	1,440 2,880	1 2	672 1,344
(300 sq. ft.) 10 x 30	3 6	2 double face structures/ 1 single face structure 4 double face structures/ 2 single faced structures	5 10	1,500 3,000	1 2	672 1,344
(378 sq. ft.) 10.6 x 36	4 4	4 single face structures 4 double face structures	4 8	1,512 3,024	1 2	672 1,344
(400 sq. ft.) 10 x 40	4 4	4 single face structures 4 double face structures	4 8	1,600 3,200	1 2	672 1,344
(672 sq. ft.) 14 x 48	3 3	3 single face structures 3 double face structures	3 6	2,016 4,032	1 2	672 1,344
(1,200 sq. ft.) 20 x 60	1 1	1 single face structure 1 double face	1 2	1,200 2,400	1 2	672 1,344

		structure				
--	--	-----------	--	--	--	--

TABLE 2  
CONVERSION REQUIREMENTS  
FOR DIGITAL POSTING DISPLAYS (Up to 300 Sq. Ft. per structure)

TABLE INSET:

Square Feet	# of structures	Structure Description	Requires Faces to be Removed	Removals Sq. Ft. Removed	New Digital Sign Bulletin Faces To Gain (1 digital sign face per structure)	Sq. Ft. Permitted
(72 sq. ft) 8-Sheet.	8	8 single face structures	8	576	1	300
	12	8 single face structures/ 4 double face structures	16	1,152	2	600
(288 sq. ft.) 30-Sheet	2	2 single face structures	2	576	1	300
	2	2 double face structures	4	1,152	2	600
(300 sq. ft.) 10 × 30	2	2 single face structures	2	600	1	300
	2	2 double face structures	4	1,200	2	600
(378 sq. ft.) 10.6 × 36	2	2 single face structures	2	756	1	300
	3	3 double face structures	6	2,268	3	900
(400 sq. ft.) 10 × 40	2	2 single face structures	2	800	1	300
	2	2 double face structures	4	1,600	2	600

Notes for Table 1 and Table 2:

1. Structures larger than 10 × 40 are not permitted to be used for digital sign posting sized units (three hundred (300) sq. ft.).
2. Any other sign display size will be permitted at the lower designated classification as noted above.
3. All signs permitted to be used to meet the conversion ratios must be physically completed sign structures with a complete sign face. No partially erected/completed signs may be use to meet the conversion ratios.
4. Only one digital sign face shall be allowed per structure.

---

(Ord. No. 2007-12-06-1247, § 5, 12-6-07)  
Secs. 28-126--28-135. Reserved.