

Item# 12B

**City of Carson City
Agenda Report**

Date Submitted: May 6, 2008

Agenda Date Requested: May 15, 2008

Time Requested: 5 minutes

To: Mayor and Board of Supervisors

From: Development Services - Planning Division

Subject Title: Action to introduce, on first reading, Bill No. _____, an ordinance amending Carson City Municipal Code Title 18, Zoning, Chapter 18.16, Development Standards, Division 4, Signs, by modifying Section 4.3, Definitions, and adding Section 4.9, Freeway-Oriented Sign Standards, to add specific standards and criteria for freestanding, on-premise commercial signs designed to be viewed from the Carson City freeway. (File ZCA-07-208)

Staff Summary: Presently, all signs that exceed the permitted sign height or sign area may be approved with a Special Use Permit and there are no specific standards for signs intended to be viewed from the freeway. The purpose of the ordinance is to establish specific requirements for "freeway-oriented" signs.

Type of Action Requested:

Resolution

Ordinance - First Reading

Formal Action/Motion

Other (Specify)

Does This Action Require A Business Impact Statement: Yes No

Planning Commission Action: Recommended approval April 23, 2008, by a vote of 7:0.

Recommended Board Action: I move to introduce, on first reading, Bill No. _____, an ordinance amending Carson City Municipal Code Title 18, Zoning, Chapter 18.16, Development Standards, Division 4, Signs, by modifying Section 4.3, Definitions, and adding Section 4.9, Freeway-Oriented Sign Standards, to add specific standards and criteria for freestanding, on-premise commercial signs designed to be viewed from the Carson City freeway, based on the findings contained in the staff report.

Explanation for Recommended Board Action: The Board of Supervisors, pursuant to Carson City Municipal Code, is required to take final action on all code amendments. See the attached memo and Planning Commission staff report for more explanation.

Applicable Statute, Code, Policy, Rule or Regulation: CCMC 18 Zoning, Chapter 18.06, Development Standards, Division 4, Signs

Fiscal Impact: N/A

Explanation of Impact: N/A

Funding Source: N/A

Alternatives: 1) Refer the matter back to Planning Commission for further review.
2) Deny the amendment

Supporting Material: 1) Ordinance
2) Case Record
3) Staff Report

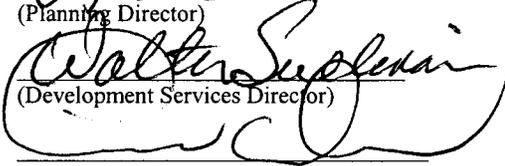
Prepared By: Rose Mary Johnson, Management Assistant III

Reviewed By:



(Planning Director)

Date: 5-6-08



(Development Services Director)

Date: 5-6-08



(City Manager)

Date: 5-6-08



(District Attorney's Office)

Date: 5-6-08

Board Action Taken:

Motion: _____

1) _____
2) _____

Aye/Nay

(Vote Recorded By)

MEMORANDUM

TO: Mayor and Board of Supervisors
FROM: Planning Division 
DATE: May 15, 2008
SUBJECT: Freeway-Oriented Sign Ordinance

BACKGROUND:

The Action Plan of the adopted Carson City Master Plan identifies the establishment of specific sign regulations for the freeway corridor as a top priority implementation action. In 2006, staff had discussions with the Planning Commission and various stakeholder groups regarding possible sign regulations but it was determined that it was premature to implement specific standards at that time. Two Special Use Permits for signs along the freeway were submitted in 2007, prompting renewed interest in freeway-oriented sign regulations.

Beginning in January 2008, staff began discussions with the Planning Commission to create freeway-oriented sign standards. A moratorium on freeway-oriented signs was adopted in January, as well, to allow time for standards to be adopted. Public meetings have been conducted each month since January to gather comments from the public and stakeholders and refine proposed standards. Additionally, staff posted information on the Planning Division website and sent email updates to any interested parties on the latest available information. Planning Commissioners, property owners, business owners and city residents all provided input on possible regulations. The proposed ordinance for consideration by the Board of Supervisors is the result of these numerous meetings and workshops.

ORDINANCE OVERVIEW

The proposed ordinance includes comprehensive provisions for all aspects of freeway-oriented signs from application submittal requirements to sign design and placement. Following are some "highlights" of the ordinance.

- Establishes minimum parcel sizes and other criteria for allowing a freeway-oriented sign to minimize the number of potential signs that could be erected.
- Establishes minimum setbacks from residential properties based on sign height to minimize potential impacts to adjacent residential properties.
- Regulates permitted sign area by parcel size, building size and/or parcel frontage to keep signs proportional to the size of the commercial development.
- Requires line-of-sight analyses to ensure the sign is only as tall as necessary for visibility from the freeway and to evaluate visual impacts to adjacent residential properties.

- Allows “electronic message displays” on up to 50 percent of the sign area. Prohibits animation and moving video, regulates message transitions and requires nighttime dimming to minimize visual impacts.

PLANNING COMMISSION DISCUSSION AND RECOMMENDATION:

Throughout the various public meetings and discussions, there were a wide range of opinions on certain aspects of regulation as well as general consensus on certain points. Staff provided various alternatives that were discussed in order for the Planning Commission to make recommendations on specific aspects of the regulations.

At the last Planning Commission meeting, Commissioners made individual comments on their preferences for the various alternatives. On most points, there was unanimity or only one alternative recommendation. The Planning Commission ultimately voted unanimously in favor of the alternatives that the majority of the Commission favored.

One point to note, however, was the discussion regarding the required sign setback from residential property. Some of the Commissioners would have preferred the alternative for the baseline sign height to be 30 feet, from which additional setback would be required for additional height, rather than a baseline of 0 feet at the residential property line. However, the majority of the Commission believed that the best alternative was to require the setback based upon relative elevation of the sign from the property line of the nearest adjacent residential property in order to adequately address residential concerns. It was noted that proposed Section 4.9.8 provides for certain circumstances where this setback would not be necessary. As noted above, the Commission ultimately voted unanimously for this alternative as included in the draft ordinance.

Attached are the complete ordinance and the last staff report to the Planning Commission for reference and more information on the specific regulations. More background information from past meetings and workshops can be downloaded from the Planning Division website at: <http://www.carson-city.nv.us/Index.aspx?page=1933>.

Please contact Lee Plemel, Planning Director, at 887-2180 (lplemel@ci-carson-city.nv.us) with questions regarding the proposed ordinance.

BILL NO. ____

ORDINANCE NO. 2008-__

AN ORDINANCE AMENDING CARSON CITY MUNICIPAL CODE TITLE 18, ZONING, CHAPTER 18.16, DEVELOPMENT STANDARDS, DIVISION 4, SIGNS, BY MODIFYING SECTION 4.3, DEFINITIONS, AND ADDING SECTION 4.9, FREEWAY ORIENTED SIGN STANDARDS, TO ADD SPECIFIC STANDARDS AND CRITERIA FOR FREESTANDING ON-PREMISE COMMERCIAL SIGNS DESIGNED TO BE VIEWED FROM THE CARSON CITY FREEWAY, AND OTHER MATTERS PROPERLY RELATED THERETO.

Fiscal effect: None

The Board of Supervisors of Carson City does ordain:

SECTION I:

That Chapter 18.16 (Development Standards), Division 4 (Signs), Section 4.3 (Definitions) of the Carson City Municipal Code is hereby amended, in part, by adding the following definitions related to signs, to be inserted alphabetically (underlined text is added):

4.3 Definitions

“Dissolve” is a mode of message transition on an Electronic Message Display accomplished by varying the light intensity or pattern, where the first message gradually appears to dissipate and lose legibility simultaneously with the gradual appearance and legibility of the subsequent message.

“Electronic Message Display” is any sign capable of displaying words, symbols, figures or images that can be electronically or mechanically changed by remote or automatic means.

“Fade” is a mode of message transition on an Electronic Message Display accomplished by varying the light intensity, where the first message gradually reduces intensity to the point of not being legible and the subsequent message gradually increases intensity to the point of legibility.

“Frame” is a complete, static display screen on an Electronic Message Display.

“Freeway intersection” is a point at the intersection of the centerlines of the freeway and a street at which there is a freeway off-ramp.

“Freeway-oriented sign” is any freestanding on-premise sign that exceeds the maximum permitted sign height or sign area for a commercial use or shopping center and is designed to be visible from at least one direction of the Carson City Freeway.

“Transition” is a visual effect used on an Electronic Message Display to change one message to another.

SECTION II:

That Section 4.9 (Freeway-Oriented Sign Standards) of Chapter 18.16 (Development Standards), Division 4 (Signs), of the Carson City Municipal Code is hereby added as follows (underlined text is added):

4.9 Freeway-Oriented Sign Standards

4.9.1 Purpose. Carson City finds that the limited use of on-premise signs for certain existing and proposed commercial land uses is an appropriate means to help achieve economic sustainability. Carson City also recognizes that there must be a balance between the needs of the business community and the desire of citizens to preserve view corridors along the freeway. To achieve this balance, these guidelines are a means to allow freeway signage that is well designed, appropriately sited, and to the extent possible, esthetically pleasing. These standards are to be utilized in evaluating requests for freeway-oriented signs.

The purpose of these guidelines is to:

- a. Encourage development of property in harmony with the desired character of the City while providing due regard for the public and private interests involved.
- b. Promote the effectiveness of freeway-oriented signs by preventing the over concentration, improper placement, deterioration, and excessive size and number.
- c. Enhance the flow of traffic and the convenience, ease and enjoyment of travel along the freeway.
- d. Protect travelers on Carson City's freeway from injury or damage as a result of distraction or obstruction of vision attributable to large signs.
- e. Assure that public benefits derived from expenditures of public funds for the improvement and beautification of the freeway and other public structures and spaces shall be protected by exercising reasonable control over the character and design of large sign structures.
- f. Require that signs be properly maintained for safety and visual appearance.

4.9.2 Applicability. The standards contained in this section (4.9) shall apply to all freeway-oriented signs as defined in this chapter.

4.9.3 General Provisions.

- a. A maximum of one freeway-oriented sign may be permitted per parcel or shopping center in addition to other permitted on-premise signs and sign area.
- b. Signs with more than four tenant spaces shall include the shopping center or project name on the sign, which shall be located on the uppermost portion of the sign and shall occupy a minimum of 20 percent of the permitted sign area.

4.9.4 Location and Siting. A freeway-oriented sign may only be located:

- a. On a parcel or shopping center site which has frontage on the freeway right-of-way, and only between the freeway intersection at North Carson Street and 1,500 feet west of the freeway intersection at South Carson Street; and
- b. On a parcel or shopping center site that is either:
 - (1) At least 15 contiguous acres in area; or
 - (2) At least three contiguous acres within 500 feet of a freeway intersection;
or
 - (3) At least three contiguous acres located on the corner with frontage on both the freeway and the cross-street; and
- c. On property zoned General Commercial, Retail Commercial or Limited Industrial; and
- d. No more than 200 feet from the right-of-way line of the adjacent freeway; and
- e. A distance of no less than 10 times the proposed height of the sign in relation to the ground elevation at the property line of the nearest residentially zoned property, except as otherwise provided in Section 4.9.8.

4.9.5 Design and Construction. A freeway-oriented sign shall be designed and built:

- a. No higher than reasonably necessary in order for the sign copy to be visible from a vehicle approaching on the same side of the freeway as determined by a line-of-site analysis and in no case more than 30 feet above the highest freeway improvement immediately adjacent to the proposed sign, including freeway barriers and soundwalls but excluding light fixtures and sign structures; and
- b. Having a form, texture, color, and finish that incorporates representations complimentary to the primary architectural or natural features of the associated development or feature; and
- c. Having low maintenance, architectural-grade surfacing materials such as metal, masonry, ceramic tile, glass or stucco; and
- d. Having a sign area determined by the lesser of:
 - (1) One square foot of sign area for each two lineal feet of freeway right-of-way frontage or one square foot of sign area for each lineal foot of building frontage facing the freeway right-of-way, whichever is greater; or
 - (2) 50 square feet per acre of parcel; or
 - (3) 600 square feet; and
- e. Limiting nighttime illumination to just the sign copy or sign message. Internally illuminated signs shall have opaque backgrounds so that only the sign copy is illuminated. Where a background is integral to the design of a corporate image

or registered trademark, the background is to be colored to mute the amount of illumination. Vacant or blank tenant sign panels shall be blocked out.

- f. To be located appropriately on the site for visibility from the freeway while minimizing the sign height in accordance with this section.

4.9.6 Exterior Illumination. A freeway-oriented sign composed of exposed neon, argon or krypton tubing, exposed incandescent lighting, or other exposed artificial lighting to outline such sign or portion thereof, is permitted provided such illumination:

- a. Constitutes a design component of the overall sign architecture; and
- b. Is integrated into the primary physical elements of sign and is harmonious with the architectural style of the structure; and
- c. Serves only for the purpose of embellishing the nighttime architecture of the sign and does not portray an advertising message or move, blink or change in intensity; and
- d. Is compatible with the land use and architecture of adjacent developments; and
- e. Is fully functional. If any component of the lighting becomes nonfunctional, none of the lighting system may be illuminated until the entire lighting system is repaired and is functioning as intended.

4.9.7 Electronic Message Display. A freeway-oriented sign using an electronic message display is permitted provided:

- a. The electronic message display portion of the sign is no more than 50 percent of the total sign area.
- b. The display contains static messages only with no animation, moving video or change in intensity of lighting; and
- c. The message change sequence is accomplished immediately or by means of fade or dissolve modes with each frame displayed for a minimum period of four seconds, and shall have no continuous, traveling or scrolling displays or movement, nor shall it have the appearance or illusion of movement of any part of the sign structure, design, pictorial segment of the sign, including the movement of any illumination or the flashing, scintillating or varying of light intensity; and
- d. The electronic message display has automatic photocell dimming capabilities based on ambient outside light and is set at 75 percent of full capacity for daytime (full sun) and 40 percent for nighttime, or equivalent for other lighting technologies.
- e. The applicant provides written certification from the sign contractor that the sign's light intensity has been factory pre-set not to exceed the limits specified above, and the intensity level is protected from end-user manipulation by password-protected software or other method as deemed appropriate by the Director.

f. Notwithstanding other provisions of Title 18, electronic message displays may be required to comply with any future amendments to the limitations on the brightness of the display or reduce the brightness permitted through the Special Use Permit process based upon review of the actual sign in the field for compatibility with the surrounding properties. The Director shall schedule freeway-oriented signs with electronic message displays for review by the Commission within six months of the completion of the sign.

4.9.8 Modifications and Alternatives. The Commission may approve modifications or alternatives to these freeway-oriented sign standards when:

- a. The proposed sign incorporates special design features or unique architectural elements that represent superior quality; and
- b. Such modifications or alternatives are consistent with the intent of these standards and will result in conditions that are commensurate with or superior to these standards; and
- c. One of the following is present:
 - (1) An individualized assessment reveals the existence of extraordinary conditions involving topography, land ownership, adjacent development, parcel configuration, or other factors related to the development site; or
 - (2) The proposed or existing development exhibits unique characteristics of land use, architectural style, site location, physical scale, historical interest or other distinguishing feature that represents a clear variation from conventional development; or
 - (3) Where a reduction in the required setback from residential property is proposed, evidence that the residents within the setback area will be screened from view of the sign by other means such as freeway soundwalls, buildings, or other features.

4.9.9 Permit Requirement. A freeway-oriented sign may only be approved by Special Use Permit.

- a. Exception. A freeway-oriented sign that is no more than 30 feet in overall height and meets all other requirements for freeway-oriented signs may be reviewed and approved administratively through the Sign Permit process.

4.9.10 Required Submittals with Special Use Permit Application. In addition to site plan(s), elevation(s) and other standard submittals typically required for Special Use Permit applications, the applicant shall submit additional support materials, as follows:

- a. Photographs documenting observation (e.g. field test with crane and balloon). The observation shall document at minimum four possible sign heights (the proposed height plus two lower and one higher than proposed).
 - (1) Each documented option shall differ a minimum of ten feet from the next option.

- (2) Written notice of the test shall be made to the Planning Director ten working days in advance of the test date.
 - (3) The test shall be observed or verified by the Planning Director or his/her designee.
 - (4) Heights shown in the observation shall be confirmed by an independent source: the Planning Director, his/her designee, or by professional survey.
 - (5) The device used to confirm the proposed heights shall have sufficient size and substance so as to provide a comparable sense of scale for the proposed sign. Examples of sufficient size and substance include four foot wide banners strung between two balloons, or four foot by eight foot sheets of plywood suspended in place by a crane.
 - (6) If balloons are used, methods to limit wind drift should be utilized, such as tethering.
- b. Computer photo simulations or other professionally rendered (to scale) perspectives in which the proposed sign is depicted on site, as if the sign were already in place.
- (1) Simulations or renderings shall depict several vantage points.
 - (2) At minimum, at least one of the photo simulations or renderings shall depict the view or potential view of the sign from the same side of the freeway as the sign placement approximately 1,000 feet from the sign.
 - (3) Photo simulations shall include at least one view from the residential subdivision closest to the overall project site related to the sign.
- c. A section drawing depicting the line-of-sight available to the occupants of a vehicle approaching the sign from 1,000 feet away.
- d. If the proposed sign is located with the Airport Review Area as identified by the Planning Division, the applicant shall submit written comments from the Airport Authority regarding FAA and/or Airport Authority requirements for construction of the sign. Freeway-oriented signs shall comply with all applicable FAA requirements.

SECTION III:

That no other provisions of Title 18 of the Carson City Municipal Code are affected by this ordinance.

____ PROPOSED on _____, 2008.

PROPOSED BY Supervisor

PASSED _____, 2008.

VOTE: AYES: _____

NAYS: _____

ABSENT: _____

MARV TEIXEIRA, Mayor

ATTEST:

 ALAN GLOVER, Clerk-Recorder

This ordinance shall be in force and effect from and after the _____ day of the month of _____ of the year 2008.

CARSON CITY PLANNING COMMISSION

CASE RECORD

MEETING DATE: April 23, 2008

AGENDA ITEM NO.: H-6

APPLICANT(s) NAME: N/A
PROPERTY OWNER(s): N/A

FILE NO. ZCA-07-208

ASSESSOR PARCEL NO(s): N/A
ADDRESS: N/A

APPLICANT'S REQUEST: Action to consider an ordinance to amend the Carson City Municipal Code Title 18, Zoning, Chapter 18.16, Development Standards, Division 4, Signs, to establish standards and requirements for commercial signs designed to be viewed from the freeway.

COMMISSIONERS PRESENT: PEERY KIMBROUGH BISBEE
 MULLET REYNOLDS VANCE WENDELL

STAFF REPORT PRESENTED BY: Lee Plemel

DISCUSSION, NOTES, COMMENTS FOR THE RECORD:

PUBLIC COMMENTS:

Marc Lipkowitz - In favor of alternative 2B. Comments re: electronic message displays.

Lynn Keller (Gold Dust West) – 85/45 current setting of sign. Will test sign brightness tomorrow morning.

Dan Edgington (Gold Dust West) – New technology will lead to better signs.

COMMISSION COMMENTS:

	Parcel	Res	Size	EMD
Wendell: Agrees with staff recommendations	1B	2B(2C)	3A	4A, 5A
Reynolds: Agrees.....	1B	2B	3B	4B, 5B 4.9.4 (f) siting
Kimbrough: Agrees.....	1B	2C	3B	4B, 5A
Mullet: Agrees.....	1B	2C	3B	4B, 5A 40% too high? 4.9.4 (f) siting
Vance: Agrees.....	1B	2B	3B	4B, 5A 40% too high?
Bisbee: Agrees.....	1B	2C	3B	4B, 5A
Peery: Agrees.....	1B	2C	3B	4B, 5A

Kimbrough – Setback more important if EMD sign
Vance: 30' ? Reno doesn't have many big freeway signs
Mullet: Add 4.9.5(f) – Best location on site for visibility

APPEAL PROCESS MENTIONED AS PART OF THE RECORD

MOTION WAS MADE TO APPROVE 1B, 2C, 3B, 4B, 5A with further conversation on brightness of message boards and adding language for optimum location of signage.

MOVED: Bisbee **SECOND:** Mullet **PASSED:** 7 /AYE 0 /NO 0 /ABSTAIN 0 /ABSENT

STAFF REPORT FOR PLANNING COMMISSION WORKSHOP OF APRIL 23, 2008

FILE NO: ZCA-07-208

AGENDA ITEM: H-6

STAFF AUTHOR: Lee Plemel, AICP, Principal Planner *LP*

SUBJECT: A Zoning Code Amendment to add standards for freeway-oriented commercial signs to the Carson City Municipal Code, Title 18 (Zoning), Chapter 18.16 (Development Standards)

RECOMMENDED MOTION: "I move to approve ZCA-07-208, a Zoning Code Amendment modifying the Carson City Municipal Code Title 18, Zoning, Chapter 18.16, Development Standards, Division 4, Signs, by modifying Section 4.3, Definitions, and adding Section 4.9, Freeway Oriented Sign Standards, to add specific standards and criteria for freestanding on-premise commercial signs designed to be viewed from the Carson City Freeway as recommended by staff, including staff recommendations **1B, 2__, 3__, 4A and 5A** [excluding any specific recommendations made by separate action and including any additional recommended modifications,] based on the findings contained in the staff report."

ALTERNATIVE MOTION FOR CONTINUANCE: "I move to continue ZCA-07-208, a Zoning Code Amendment for freeway-oriented signs in order for staff to consider additional comments and make necessary revisions to the proposed ordinance."

BACKGROUND:

This item is a continuation of the discussion that began in January 2008 towards adopting standards for freeway-oriented signs. This staff report includes discussion regarding modifications made based on the most recent public workshop and suggestions and comments from Commissioners and the public. For a complete history of past discussions and background information regarding freeway-oriented signs, please contact the Planning Division or you may download past reports from the Planning Division website at: <http://www.carson-city.nv.us/Index.aspx?page=1933>.

Staff has provided alternative motions above either to take action to make a recommendation on the ordinance to the Board of Supervisors or continue the item. If the Commission feels that various alternatives for potential sign standards have been adequately addressed, staff recommends that the Commission take action to make specific recommendations on the ordinance to Board of Supervisors for final consideration. This does not necessarily mean that there will be 100 percent consensus on all aspects of the ordinance, only that alternatives have been explored and are available to take a vote on. If the Commission believes additional information should be further explored for inclusion in the ordinance, the Commission may elect to continue the matter to a future meeting.

The Commission may wish to take action separately on specific aspects of the proposed ordinance to forward recommendations to the Board of Supervisors. For example, the Commission may recommend approval of the ordinance as recommended by staff in general but then have separate discussion and action on a specific standard such as maximum sign area or sign height. This will allow the ordinance to move forward to the Board of Supervisors for final discussion and consideration while giving them a feel for where consensus on the ordinance has been reached and where various opinions differ.

DISCUSSION:

Attached is a draft ordinance for consideration and discussion. The ordinance incorporates draft recommendations as were included and discussed at the prior Planning Commission workshop on the issue. Additionally, the draft ordinance includes alternatives for consideration based upon prior comments and discussion. These alternatives are highlighted with the ordinance text. As noted above, the Commission may wish to take separate action on these alternatives, as well as any other aspect of the draft ordinance where a consensus may not be reached. Other recommended modifications from the last draft are indicated in **bold** letters in the draft ordinance.

Following is discussion regarding the proposed changes and alternatives in the draft ordinance, referenced by the application code section. Note that the discussion below is regarding added language or specific sections where various or divergent opinions have been expressed. These standards must still be considered in the context of the other standards within the draft ordinance.

4.3 Definitions

Staff discussion: Definitions for “electronic message display,” “dissolve,” “fade,” “frame” and “transition” have been added to define specific terms used in Section 4.9.7 regarding electronic message display or LED signs.

4.9.4 Location and Siting. A freeway-oriented sign may only be located:

[ALTERNATIVE 1A:]

b. On a parcel or shopping center site that is either:

- (1) At least 10 contiguous acres in area; or
- (2) At least three contiguous acres within 1,000 feet of a freeway intersection; or

[ALTERNATIVE 1B:]

b. On a parcel or shopping center site that is either:

- (1) At least 15 contiguous acres in area; or
- (2) At least three contiguous acres within 500 feet of a freeway intersection; or
- (3) **At least three contiguous acres located on the corner of a freeway intersection with frontage on both the freeway and the cross-street; and**

Staff discussion: The issue was raised at the workshop that perhaps there was the possibility of too many signs on smaller parcels with the recommended regulations (Alternative 1A). In order to address this, staff recommends increasing the minimum acreage from 10 to 15 acres for parcels not close to a freeway off-ramp intersection and decrease the distance from the intersection for which a parcel of three acres or more could have a freeway-oriented sign (refer to the attached maps to see both the 1,000-foot and 500-foot radii from the intersections). An additional recommendation is to include three-acre-plus parcels on the corner of the intersection to address circumstances where the 500-foot radius may not reach the nearest parcel at the intersection, i.e. at South Carson Street.

4.9.4 Location and Siting. A freeway-oriented sign may only be located:

[Alternative 2A]

e. A distance of no less than 10 times the proposed height of the sign from a residentially zoned property.

[Alternative 2B]

- e. **A distance of no less than 30 feet plus 10 feet for each foot of sign height above 30 feet in height.**

Staff discussion: Comments have been made that a setback of 10 times the sign structure height from residential areas may be excessive. There have also been comments that it may not be enough in some instances.

Structures on commercially-zoned property must be located at least 30 feet from a residential property boundary. It has been noted that freestanding signs that do not exceed the permitted sign height—20 feet for a commercial use or 30 feet for a shopping center—may also be as close as 30 feet from a residential property. An alternative to using a baseline of zero for sign height would be to allow the height permitted by right—20 feet or 30 feet—at the required 30-foot setback and require an additional setback for any sign height over that. This maintains the current requirement while adding a standard for additional sign height. There is also the concern by commercial property owners that the zero-based 10 to one setback may prohibit a sign from being tall enough to be visible.

Staff believes that illuminated signs can have more impacts on adjacent residential properties than a building and should require additional setback. A setback based on the sign height ensures that a sign is not too imposing and out of scale with an adjacent residential property. The Commission may consider these alternatives and/or modify the baseline sign height or height to setback ratio based upon further discussion at the meeting. Also note that Section 4.9.8.c(3) of the draft ordinance provides for instances where other characteristics of the property or sign would allow a reduction in this setback.

4.9.5 Design and Construction. A freeway-oriented sign shall be designed and built:

- a. **No higher than reasonably necessary in order for the sign copy to be visible from a vehicle approaching on the same side of the freeway as determined by a line-of-site analysis and in no case more than 30 feet above the highest freeway improvement immediately adjacent to the proposed sign, including freeway barriers and soundwalls but excluding light fixtures and traffic sign structures; and**

Staff discussion: Based upon previous comments, staff recommends including a maximum sign height relative to adjacent freeway improvements. The added language above (in bold) clarifies that the height that is “reasonably necessary” to be visible is based on the line-of-sight analysis required with the application, as well as establishing a maximum height. Establishing a maximum height prevents signs from being designed to necessitate extra height in order to be visible; i.e. relatively narrow but tall sign copy area.

The height of 30 feet is suggested because that is approximately the height that billboards are permitted to be above the road on Carson Street and Highway 50 East, and it is the height that the City of Sparks and Washoe County allow signs to be above the highest adjacent freeway improvement. Note, however, that the first criteria for height is the minimum height necessary to be visible based upon the required sight-line analysis, and the established maximum is not the height at which all signs will need to be placed.

4.9.5 Design and Construction. A freeway-oriented sign shall be designed and built:

- d. Having a sign area determined by the lesser of:
1. One square foot of sign area for each two lineal feet of freeway right-of-way frontage or one square foot of sign area for each lineal foot of building frontage facing the freeway right-of-way, whichever is greater; or
 2. 50 square feet per acre of parcel; or
 3. **[Alternative 3A] 800 square feet; and**
 4. **[Alternative 3B] 600 square feet; and**
 5. **[Alternative 3C] 400 square feet; and**

Staff discussion: Some concern has been expressed about the maximum sign area. It has been noted that typical billboards along freeways (in other jurisdictions outside Carson City) are approximately 670 square feet in area (14 feet by 48 feet). Signs of 800 square feet may not generally be appropriate for Carson City. While it is noted that under the proposed sign size regulations of this section there would be very few possible signs of more than 600 square feet, the Commission may consider further limiting the maximum permitted sign area. (Note on the attached maps that the permitted sign area in various instances assumes a maximum sign area of 800 square feet.) Limiting maximum sign area would address concerns about visibility of signs from farther away throughout Carson City as well as impacts to properties in the vicinity of the signs. However, it should also be noted that a reduction in total permitted sign areas favors and encourages smaller parcels having signs and discouraged consolidation of parcels for signage. For example, once the maximum sign area is reached by parcel or shopping center size, there is no incentive to consolidate signage with adjacent parcels because no additional sign area would be permitted. This could lead to more total signs (though each being smaller in size).

4.9.7 Electronic Message Display. A freeway-oriented sign using an electronic message display is permitted provided:

Staff discussion: The use of LED or “electronic message display” (EMD) signs is perhaps one of the more controversial aspects of the discussion regarding freeway-oriented signs. On one hand, EMD’s can provide information regarding businesses that cannot otherwise be displayed on a “fixed-message” sign. The signs are programmable and have a wide range of capabilities for displaying commercial and non-commercial messages (including the ability to limit motion and brightness). However, concerns about the additional impacts from the light and motion of such signs could have negative visual impacts to surrounding properties and the community in general.

Staff has provided recommendations that are intended to regulate the use of EMD signs in a manner that mitigates the perceived negative impacts. In discussing regulations for EMD signs, the complete regulations of Section 4.9.7 should be considered together. For example, regulations on brightness and limitations on motion should be considered in determining the appropriate size of an EMD sign. A publication titled “Signs of Success” has been provided by YESCO sign company personnel to provide additional information on EMD sign capabilities and various regulation scenarios and is attached to this staff report.

For the purposes of this discussion, staff will address various aspects of potential regulation separately.

4.9.7 Electronic Message Display. A freeway-oriented sign using an electronic message display is permitted provided:

[Alternative 4A]

- a. The electronic message display portion of the sign is no larger than 300 square feet.

[Alternative 4B]

- a. The electronic message display portion of the sign is no more than 50 percent of the total sign area.

[Alternative 4C: Prohibit electronic message displays. No further regulations within this section would be necessary under this alternative.]

Staff discussion: The draft ordinance provides three options for consideration of EMD sign area: A) limit the permitted EMD sign area to 300 square feet regardless of sign size; B) limit the EMD sign area to no more than 50 percent of the total sign area; or C) prohibit EMD signs altogether. A fourth option to consider would be to have no limitation on the amount of permitted sign area devoted to EMD signage.

Following is a list of existing EMD sign sizes in Carson City for comparison:

Bodine's (South Carson Street): 157 square feet. (Erected but no activated yet.)
Harley Davidson (freeway sign): 115 square feet.
Slot World (Highway 50 East): 128 square feet.
Gold Dust West (Highway 50 East): 156 square feet.
Fandango (South Carson Street): 200 square feet (existing); 432 square feet (new approved).

The advantage of Alternative 4A is that a maximum is set while allowing relatively smaller overall signs to use the EMD technology with adequate size for visibility from the freeway. For example, a business that is permitted 150 square feet of sign area could use all of the permitted sign area for EMD sign display.

Alternative 4B takes an approach of limiting EMD sign area as a percentage of the overall sign size. This has the advantage of keeping the proportion of EMD sign display consistent between signs of different sizes.

Alternatively, the Commission may recommend a prohibition of EMD signs altogether for freeway-oriented signs. As noted above, this recommendation would eliminate the need for further EMD requirements within this section.

4.9.7 Electronic Message Display. A freeway-oriented sign using an electronic message display is permitted provided:

[Alternative 5A]

- b. The display contains static messages only with no animation, moving video or change in intensity of lighting; and
- c. The message change sequence is accomplished immediately or by means of fade or dissolve modes with each frame displayed for a minimum period of four seconds, and shall have no continuous, traveling or scrolling displays or movement, nor shall it have the appearance or illusion of movement of any part of the sign structure, design, pictorial segment of the sign, including the movement of any illumination or the flashing, scintillating or varying of light intensity; and

[Alternative 5B: No limitations on display graphics]

Staff discussion: One of the concerns expressed regarding EMD signs is the distraction caused by motion or animation of the display. While such signs are often used for this type of graphic display, it is not unusual for such signs to be limited to static displays that can change (without “animation”) to different messages through “fade” or “dissolve” transitions. With the limitation of motion, the visual impact of such a sign is virtually the same as any other type of internally illuminated sign.

4.9.7 Electronic Message Display. A freeway-oriented sign using an electronic message display is permitted provided:

~~d. The intensity of the Light Emitting Diode (LED) display shall not exceed the levels specified in the chart below:~~

LED COLOR INTENSITY LEVEL (nits)

<u>COLOR</u>	<u>DAY TIME</u>	<u>NIGHT TIME</u>
<u>Red only</u>	<u>3,150</u>	<u>1,125</u>
<u>Green only</u>	<u>6,300</u>	<u>2,250</u>
<u>Amber only</u>	<u>4,600</u>	<u>1,675</u>
<u>Full Color</u>	<u>7,000</u>	<u>2,500</u>

d. The electronic message display has automatic photocell dimming capabilities based on ambient outside light and is set at 75 percent of full LED capacity for daytime (full light) and 40 percent for nighttime, or equivalent for other lighting technologies.

~~e. The applicant provides written certification from the sign contractor that the sign's light intensity has been factory pre-set not to exceed the limits specified above, and the intensity level is protected from end-user manipulation by password-protected software or other method as deemed appropriate by the Director.~~

f. Notwithstanding other provisions of Title 18, electronic message displays may be required to comply with any future amendments to the limitations on the brightness of the display or reduce the brightness permitted through the Special Use Permit process based upon review of the actual sign in the field for compatibility with the surrounding properties and based upon new sign technologies that may otherwise increase sign brightness.

Staff discussion: Arguably, the most important aspect of EMD sign regulation relates to the brightness of the sign. As Carson City and many surrounding communities currently have no specific limitations on the brightness of EMD signs, many existing signs are excessively bright, especially at night.

It was originally suggested by staff to limit EMD brightness by limiting the “NITs” of an LED sign, a measure similar to lumens for incandescent light sources, as other communities have. However, in further research on the capabilities and limitations of EMD signs, this measure can result in varying levels of perceived brightness based on different sign construction. For example, at any given NIT level, a lower-resolution sign (based on spacing of individual LED's) will appear brighter than a higher-resolution sign. Measuring and enforcing a “NIT” standard is also technically difficult and the measuring devices are costly.

An important part of the proposed regulation is that all EMD signs must have automatic dimming capabilities. This reduced the sign brightness as sunlight fades. LED message centers are typically programmed for brightness as a percentage of 100 percent of the LED capacity, typically at approximately 80 percent for the daytime and much lower at night. A recent approval for Bodine's EMD sign on South Carson Street included a condition to limit the brightness to 80 percent during daylight and 30-50 percent during the night. Local sign companies have indicated that the existing sign at Gold Dust West is set to 85 percent during the day and 45 percent at night. It was also indicated that other signs are set at 75 percent for day and 40 percent at night. A regional manager and expert on LED sign capabilities from Young Electrical Sign Company indicated that signs are set as low as 5-20 percent at night. (However, without regulations, customers can modify the setting to increase the brightness.) These settings can be verified by untrained staff at the sign control panel.

Staff recommends establishing a maximum setting of 75 percent for the day and 40 percent at night for freeway-oriented signs. Furthermore, staff recommends additional language (subsection f) to ensure that any sign approved under the proposed standards with current technology can be modified in the future to limit brightness, as necessary, to keep up with new technologies (i.e. brighter light sources). This issue would be addressed with individual signs as a condition of approval.

ADDITIONAL CONSIDERATIONS:

Public notification requirements: A suggestion was made that public notices should be sent out to more surrounding residents for freeway-oriented signs than is otherwise required by State law (NRS) and the Carson City Municipal Code for other Special Use Permits (300 feet from the property and at least 30 property owners). As this issue has come up over the years for various types of applications, the Carson City District Attorney's office has consistently recommended that the notification requirements of NRS be followed exactly, notifying no more or less than is required. This ensures equal protection and due process under the 14th Amendment to the U.S. Constitution, a clause that is often cited in court cases related to processing of zoning and land use applications.

If you have any questions regarding this staff report, please contact Lee Plemel at 887-2180.

Attachments:

- A. Draft Freeway-Oriented Sign Standards
- B. Freeway Maps
- C. Residential Setback Examples
- D. *Signs of Success* – Information regarding electronic message displays provided by Young Electric Sign Company

BILL NO. ____

ORDINANCE NO. 2008-__

AN ORDINANCE AMENDING CARSON CITY MUNICIPAL CODE TITLE 18, ZONING, CHAPTER 18.16, DEVELOPMENT STANDARDS, DIVISION 4, SIGNS, BY MODIFYING SECTION 4.3, DEFINITIONS, AND ADDING SECTION 4.9, FREEWAY ORIENTED SIGN STANDARDS, TO ADD SPECIFIC STANDARDS AND CRITERIA FOR FREESTANDING ON-PREMISE COMMERCIAL SIGNS DESIGNED TO BE VIEWED FROM THE CARSON CITY FREEWAY, AND OTHER MATTERS PROPERLY RELATED THERETO.

Fiscal effect: None

The Board of Supervisors of Carson City does ordain:

SECTION I:

That Chapter 18.16 (Development Standards), Division 4 (Signs), Section 4.3 (Definitions) of the Carson City Municipal Code is hereby amended, in part, by adding definitions related to signs as follows (underlined text is added):

4.3 Definitions

"Dissolve" is a mode of message transition on an Electronic Message Display accomplished by varying the light intensity or pattern, where the first message gradually appears to dissipate and lose legibility simultaneously with the gradual appearance and legibility of the subsequent message.

"Electronic Message Display" is any sign capable of displaying words, symbols, figures or images that can be electronically or mechanically changed by remote or automatic means.

"Fade" is a mode of message transition on an Electronic Message Display accomplished by varying the light intensity, where the first message gradually reduces intensity to the point of not being legible and the subsequent message gradually increases intensity to the point of legibility.

"Frame" is a complete, static display screen on an Electronic Message Display.

"Freeway intersection" is a point at the intersection of the centerlines of the freeway and a street at which there is a freeway off-ramp.

"Freeway-oriented sign" is any freestanding on-premise sign that exceeds the maximum permitted sign height or sign area for a commercial use or shopping center and is designed to be visible from at least one direction of the Carson City Freeway.

"Transition" is a visual effect used on an Electronic Message Display to change one message to another.

SECTION II:

That Section 4.9 (Freeway-Oriented Sign Standards) of Chapter 18.16 (Development Standards), Division 4 (Signs), of the Carson City Municipal Code is hereby added as follows (underlined text is added):

4.9 Freeway-Oriented Sign Standards

4.9.1 Purpose. Carson City finds that the limited use of on-premise signs for certain existing and proposed commercial land uses is an appropriate means to help achieve economic sustainability. Carson City also recognizes that there must be a balance between the needs of the business community and the desire of citizens to preserve view corridors along the freeway. To achieve this balance, these guidelines are a means to allow freeway signage that is well designed, appropriately sited, and to the extent possible, esthetically pleasing. These standards are to be utilized in evaluating requests for freeway-oriented signs.

The purpose of these guidelines is to:

- a. Encourage development of property in harmony with the desired character of the City while providing due regard for the public and private interests involved.
- b. Promote the effectiveness of freeway-oriented signs by preventing the over concentration, improper placement, deterioration, and excessive size and number.
- c. Enhance the flow of traffic and the convenience, ease and enjoyment of travel along the freeway.
- d. Protect travelers on Carson City's freeway from injury or damage as a result of distraction or obstruction of vision attributable to large signs.
- e. Assure that public benefits derived from expenditures of public funds for the improvement and beautification of the freeway and other public structures and spaces shall be protected by exercising reasonable control over the character and design of large sign structures.
- f. Require that signs be properly maintained for safety and visual appearance.

4.9.2 Applicability. The standards contained in this section (4.9) shall apply to all freeway-oriented signs as defined in this chapter.

4.9.3 General Provisions.

- a. A maximum of one freeway-oriented sign may be permitted per parcel or shopping center in addition to other permitted on-premise signs and sign area.
- b. Signs with more than four tenant spaces shall include the shopping center or project name on the sign, which shall be located on the uppermost portion of the sign and shall occupy a minimum of 20 percent of the permitted sign area.

4.9.4 Location and Siting. A freeway-oriented sign may only be located:

- a. On a parcel or shopping center site which has frontage on the freeway right-of-way, and only between the freeway intersection at North Carson Street and 1,500 feet west of the freeway intersection at South Carson Street; and

[ALTERNATIVE 1A:]

- b. On a parcel or shopping center site that is either:
 - (1) At least 10 contiguous acres in area; or
 - (2) At least three contiguous acres within 1,000 feet of a freeway intersection; or

[ALTERNATIVE 1B:]

- b. On a parcel or shopping center site that is either:
 - (1) At least 15 contiguous acres in area; or
 - (2) At least three contiguous acres within 500 feet of a freeway intersection; or
 - (3) At least three contiguous acres located on the corner with frontage on both the freeway and the cross street; and
- c. On property zoned General Commercial, Retail Commercial or Limited Industrial; and
- d. No more than 200 feet from the right-of-way line of the adjacent freeway; and

[Alternative 2A]

- e. A distance of no less than 10 times the proposed height of the sign from a residentially zoned property.

[Alternative 2B]

- e. A distance of no less than 30 feet plus 10 feet for each foot of sign height above 30 feet in height.

4.9.5 Design and Construction. A freeway-oriented sign shall be designed and built:

- a. No higher than reasonably necessary in order for the sign copy to be visible from a vehicle approaching on the same side of the freeway as determined by a line-of-site analysis and in no case more than 30 feet above the highest freeway improvement immediately adjacent to the proposed sign, including freeway barriers and soundwalls but excluding light fixtures and sign structures; and
- b. Having a form, texture, color, and finish that incorporates representations complimentary to the primary architectural or natural features of the associated development or feature; and
- c. Having low maintenance, architectural-grade surfacing materials such as metal, masonry, ceramic tile, glass or stucco; and
- d. Having a sign area determined by the lesser of:

1. One square foot of sign area for each two lineal feet of freeway right-of-way frontage or one square foot of sign area for each lineal foot of building frontage facing the freeway right-of-way, whichever is greater; or
 2. 50 square feet per acre of parcel; or
 3. [Alternative 3A] 800 square feet; and
 4. [Alternative 3B] 600 square feet; and
 5. [Alternative 3C] 400 square feet; and
- e. Limiting nighttime illumination to just the sign copy or sign message. Internally illuminated signs shall have opaque backgrounds so that only the sign copy is illuminated. Where a background is integral to the design of a corporate image or registered trademark, the background is to be colored to mute the amount of illumination. Vacant or blank tenant sign panels shall be blocked out.

4.9.6 Exterior Illumination. A freeway-oriented sign composed of exposed neon, argon or krypton tubing, exposed incandescent lighting, or other exposed artificial lighting to outline such sign or portion thereof, is permitted provided such illumination:

- a. Constitutes a design component of the overall sign architecture; and
- b. Is integrated into the primary physical elements of sign and is harmonious with the architectural style of the structure; and
- c. Serves only for the purpose of embellishing the nighttime architecture of the sign and does not portray an advertising message or move, blink or change in intensity; and
- d. Is compatible with the land use and architecture of adjacent developments; and
- e. Is fully functional. If any component of the lighting becomes nonfunctional, none of the lighting system may be illuminated until the entire lighting system is repaired and is functioning as intended.

4.9.7 Electronic Message Display. A freeway-oriented sign using an electronic message display is permitted provided:

[Alternative 4A]

- a. The electronic message display portion of the sign is no larger than 300 square feet.

[Alternative 4B]

- a. The electronic message display portion of the sign is no more than 50 percent of the total sign area.

[Alternative 4C: Prohibit electronic message displays. No further regulations within this section would be necessary under this alternative.]

[Alternative 5A]

- b. The display contains static messages only with no animation, moving video or change in intensity of lighting; and

c. The message change sequence is accomplished immediately or by means of fade or dissolve modes with each frame displayed for a minimum period of four seconds, and shall have no continuous, traveling or scrolling displays or movement, nor shall it have the appearance or illusion of movement of any part of the sign structure, design, pictorial segment of the sign, including the movement of any illumination or the flashing, scintillating or varying of light intensity; and

[Alternative 5B: No limitations on display graphics]

d. The intensity of the Light Emitting Diode (LED) display shall not exceed the levels specified in the chart below:

LED COLOR INTENSITY LEVEL (nits)

<u>COLOR</u>	<u>DAY TIME</u>	<u>NIGHT TIME</u>
<u>Red only</u>	<u>3,150</u>	<u>1,125</u>
<u>Green only</u>	<u>6,300</u>	<u>2,250</u>
<u>Amber only</u>	<u>4,690</u>	<u>1,675</u>
<u>Full Color</u>	<u>7,000</u>	<u>2,500</u>

d. The electronic message display has automatic photocell dimming capabilities based on ambient outside light and is set at 75 percent of full capacity for daytime (full light) and 40 percent for nighttime, or equivalent for other lighting technologies.

e. The applicant provides written certification from the sign contractor that the sign's light intensity has been factory pre-set not to exceed the limits specified above, and the intensity level is protected from end-user manipulation by password-protected software or other method as deemed appropriate by the Director.

f. Notwithstanding other provisions of Title 18, electronic message displays may be required to comply with any future amendments to the limitations on the brightness of the display or reduce the brightness permitted through the Special Use Permit process based upon review of the actual sign in the field for compatibility with the surrounding properties.

4.9.8 Modifications and Alternatives. The Commission may approve modifications or alternatives to these freeway-oriented sign standards when:

a. The proposed sign incorporates special design features or unique architectural elements that represent superior quality; and

b. Such modifications or alternatives are consistent with the intent of these standards and will result in conditions that are commensurate with or superior to these standards; and

c. One of the following is present:

(1) An individualized assessment reveals the existence of extraordinary conditions involving topography, land ownership, adjacent development, parcel configuration, or other factors related to the development site; or

- (2) The proposed or existing development exhibits unique characteristics of land use, architectural style, site location, physical scale, historical interest or other distinguishing feature that represents a clear variation from conventional development; or
- (3) Where a reduction in the required setback from residential property is proposed, evidence that the residents within the setback area will be screened from view of the sign by other means such as freeway soundwalls, buildings, or other features.

4.9.9 Permit Requirement. A freeway-oriented sign may only be approved by Special Use Permit.

- a. Exception. A freeway-oriented sign that is no more than 20 feet in overall height for a commercial use or no more than 30 feet in overall height for shopping center and meets all other requirements for freeway-oriented signs may be reviewed and approved administratively through the Sign Permit process.

4.9.10 Required Submittals with Special Use Permit Application. In addition to site plan(s), elevation(s) and other standard submittals typically required for Special Use Permit applications, the applicant shall submit additional support materials, as follows:

- a. Photographs documenting observation (e.g. field test with crane and balloon). The observation shall document at minimum four possible sign heights (the proposed height plus two lower and one higher than proposed).
 - 1. Each documented option shall differ a minimum of ten feet from the next option.
 - 2. Written notice of the test shall be made to the Planning Director ten working days in advance of the test date.
 - 3. The test shall be observed or verified by the Planning Director or his/her designee.
 - 4. Heights shown in the observation shall be confirmed by an independent source: the Planning Director, his/her designee, or by professional survey.
 - 5. The device used to confirm the proposed heights shall have sufficient size and substance so as to provide a comparable sense of scale for the proposed sign. Examples of sufficient size and substance include four foot wide banners strung between two balloons, or four foot by eight foot sheets of plywood suspended in place by a crane.
 - 6. If balloons are used, methods to limit wind drift should be utilized, such as tethering.
- b. Computer photo simulations or other professionally rendered (to scale) perspectives in which the proposed sign is depicted on site, as if the sign were already in place.
 - 1. Simulations or renderings shall depict several vantage points.
 - 2. At minimum, at least one of the photo simulations or renderings shall depict the view or potential view of the sign from the same side of the freeway as the sign placement approximately 1,000 feet from the sign.
 - 3. Photo simulations shall include at least one view from the residential subdivision closest to the overall project site related to the sign.

- c. A section drawing depicting the line-of-sight available to the occupants of a vehicle approaching the sign from 1,000 feet away.
- d. If the proposed sign is located with the Airport Review Area as identified by the Planning Division, the applicant shall submit written comments from the Airport Authority regarding FAA and/or Airport Authority requirements for construction of the sign. Freeway-oriented signs shall comply with all applicable FAA requirements.

SECTION III:

That no other provisions of Title 18 of the Carson City Municipal Code are affected by this ordinance.

_____ PROPOSED on _____, 2008.

PROPOSED BY Supervisor

PASSED _____, 2008.

VOTE: AYES: _____

NAYS: _____

ABSENT: _____

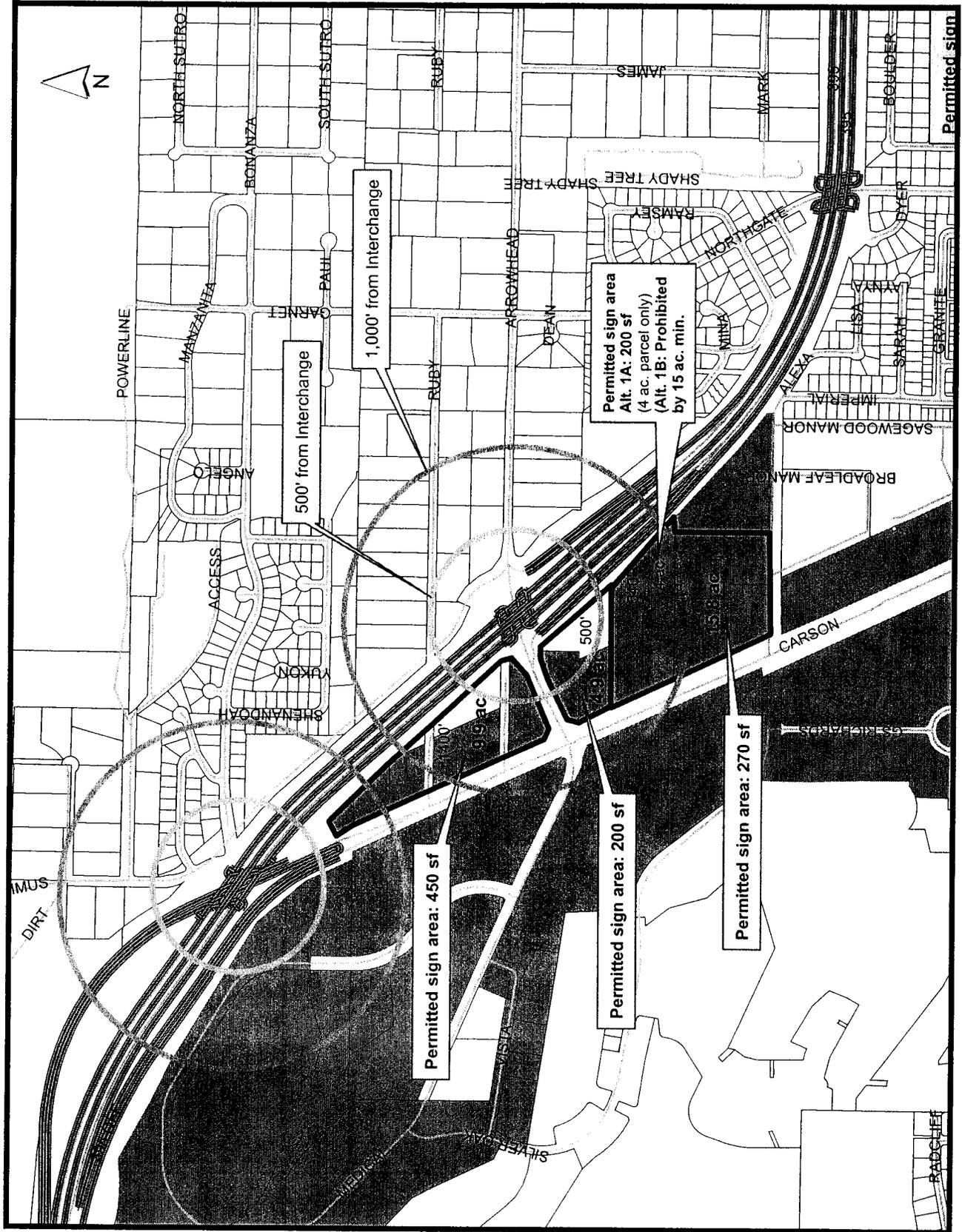
MARV TEIXEIRA, Mayor

ATTEST:

 ALAN GLOVER, Clerk-Recorder

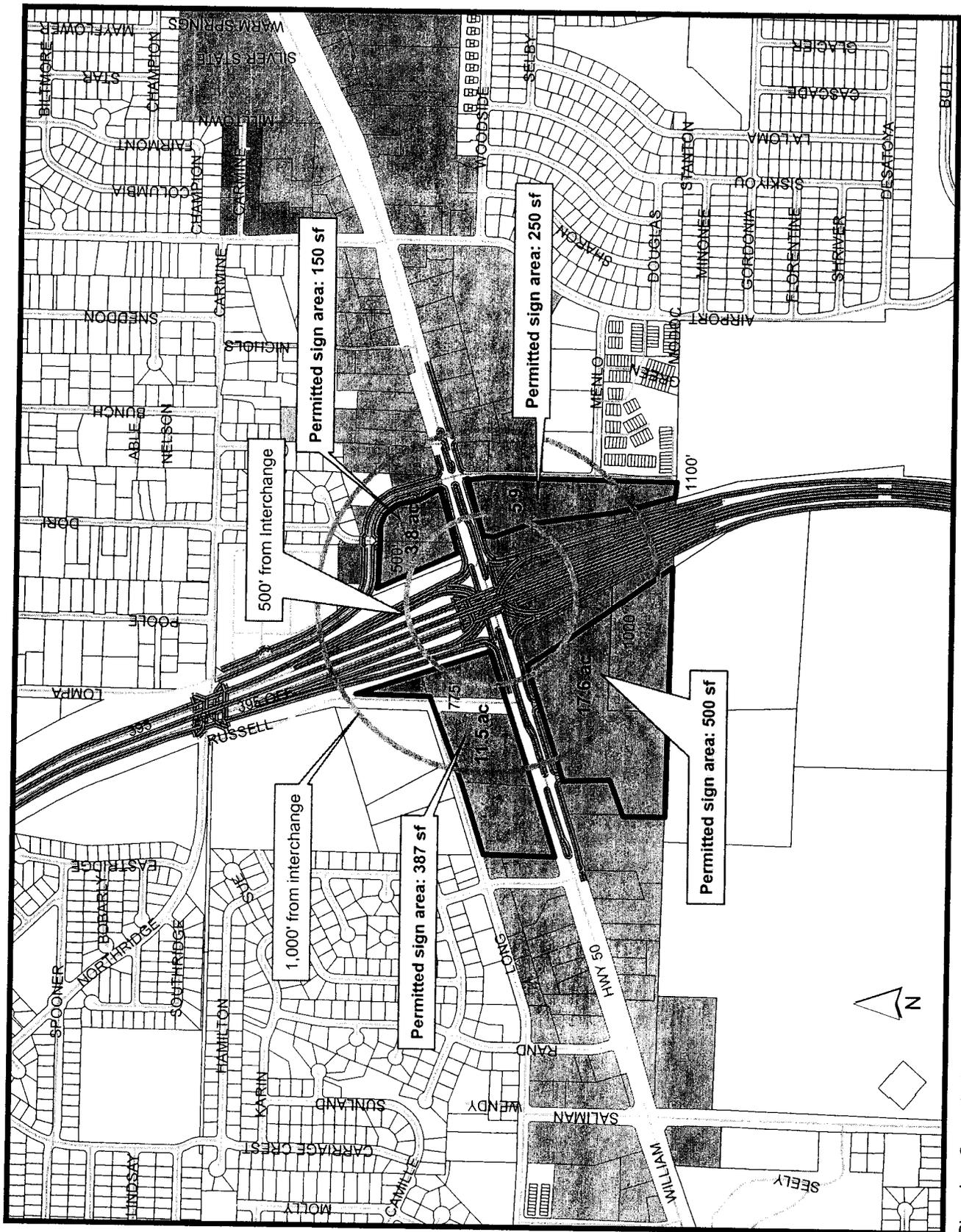
This ordinance shall be in force and effect from and after the _____ day of the month of _____ of the year 2008.

Permitted Sign Area by Frontage and Acreage

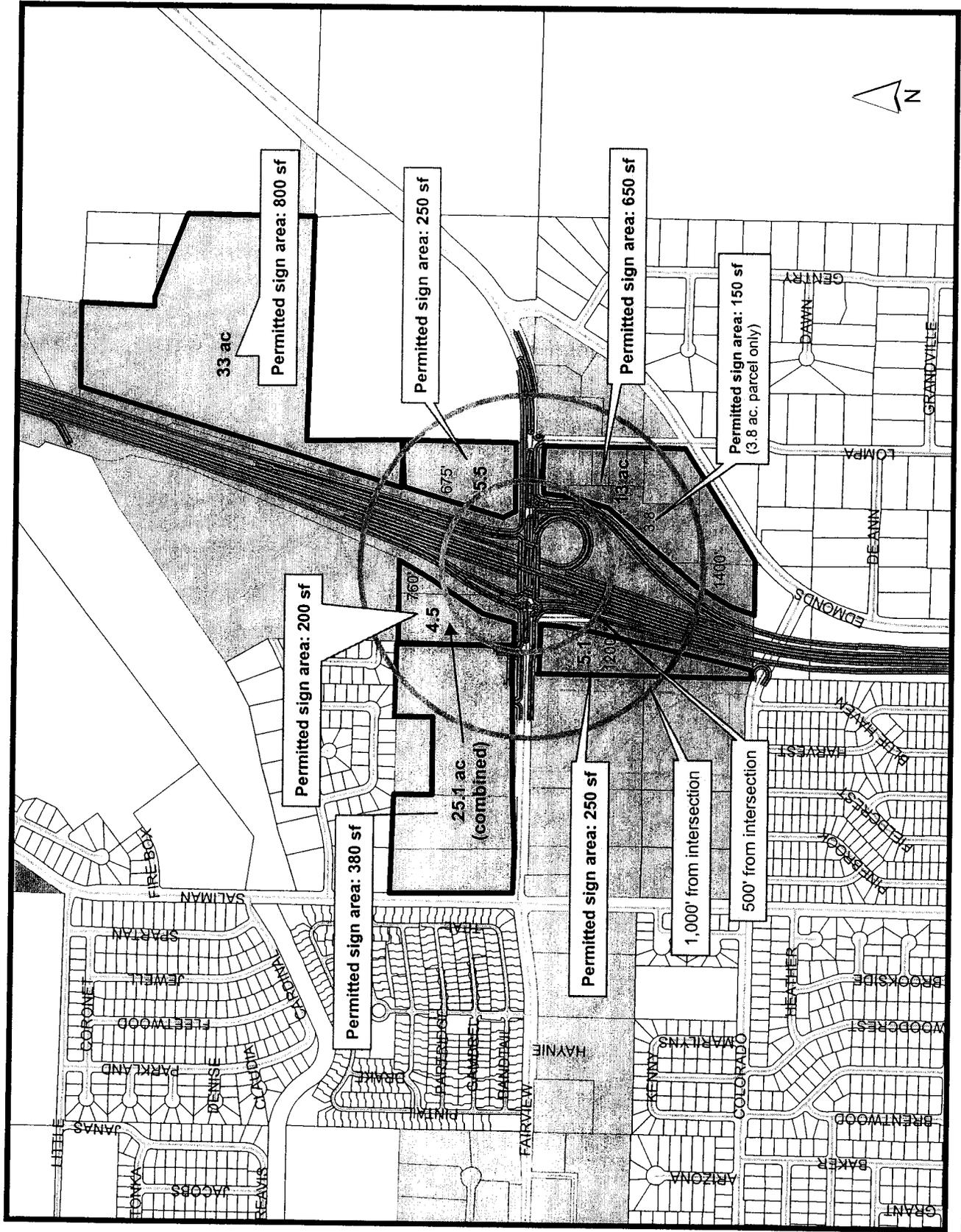


Planning Commission 4/23/08

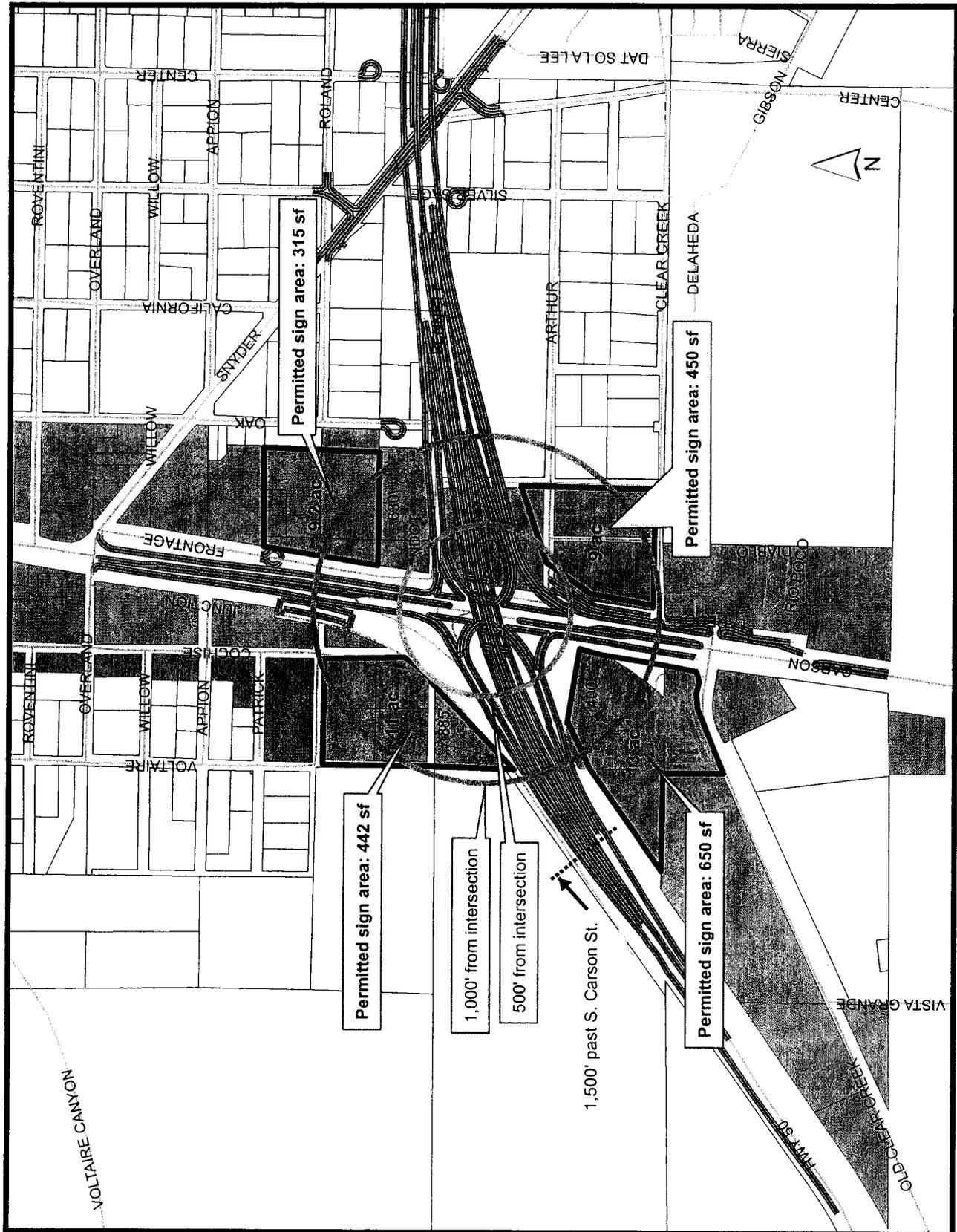
Permitted Sign Area by Frontage and Acreage



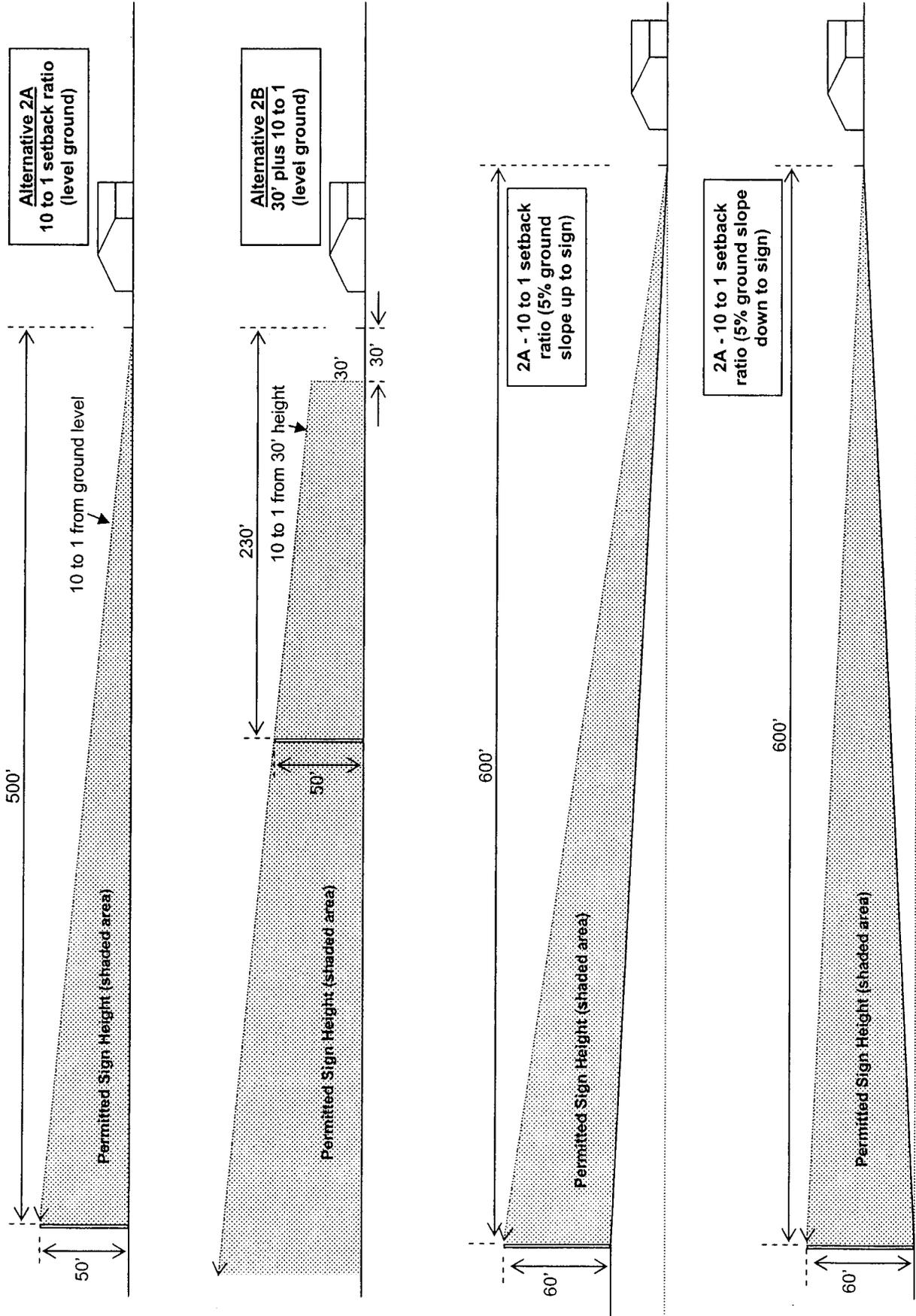
Permitted Sign Area by Frontage and Acreage



Permitted Sign Area by Frontage and Acreage

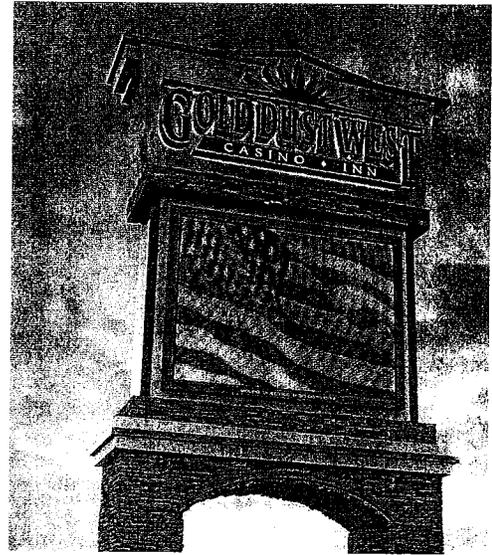
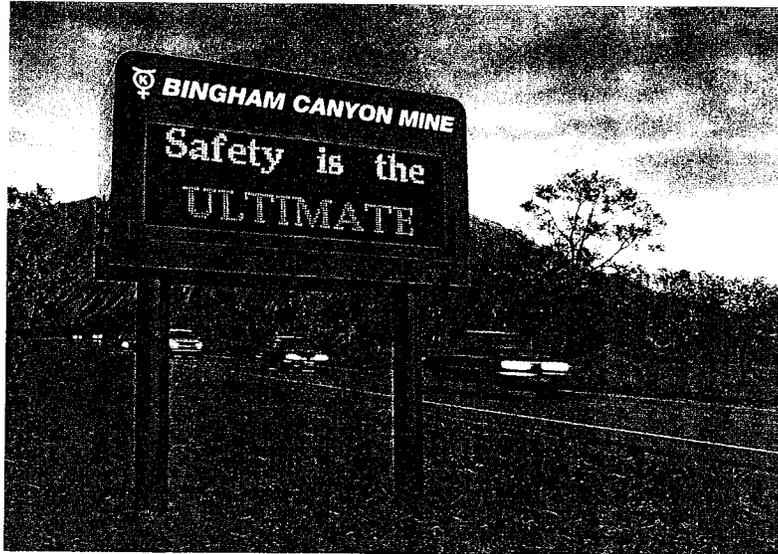
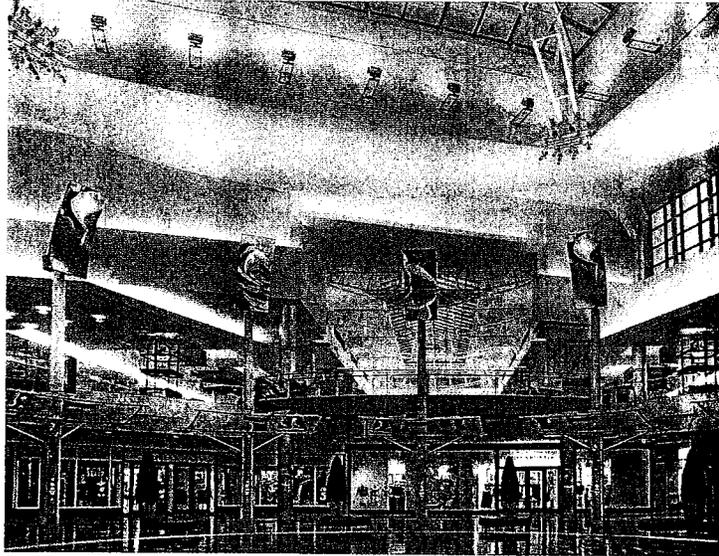
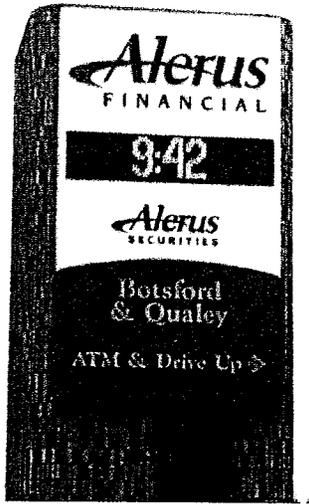


Required Setback to Sign Height Ratio Examples



Scale: 1 inch = 80 feet; 1/8-inch = 10 feet

Signs of Success



REGULATION OF ELECTRONIC MESSAGE DISPLAY SIGNS

Overview

We are all very fortunate to live in a society that places a premium value on freedoms, and limits governmental intrusion upon those freedoms. Freedom of speech is one of those essential freedoms, and one that is embodied within the Constitution that molds the rule of law governing this great nation. Many reputable organizations, like the U.S. Small Business Administration and the International Sign Association caution against sign regulations that interfere with the freedom of exercising commercial speech.

The following information has been assembled by a coalition of manufacturers of electronic message display signs. We recognize the uncertainty surrounding the legality of certain sign regulations. We also respect the desire by communities to regulate signs, including electronic message display signs, and the need for responsible sign codes. Without engaging in debate over the legality of regulations affecting electronic message displays, the following materials are intended to develop a more sophisticated understanding of the current state of the technology, and to promote regulations that reflect the broad variations in the use of electronic message displays.

The History of Changeable Message Signs

In the day when signs were primarily painted, changing messages on a sign merely required painting over the existing message. More recently, signs with removable lettering made it possible to manually change the lettering on a sign to display a new message. Electrical changeable message signs followed the invention of the light bulb, and included light bulbs arranged in a pattern where, by lighting some light bulbs and not the others, letters and numerals could be spelled out.

With the advent of solid-state circuitry in the early 1970s, electronic changeable message signs became possible. The first of these products were time and temperature displays and simple text message displays using incandescent lamps. These lamps were very inefficient. They used a great deal of power and had short life expectancies.

During the energy crunch of the 1980s, it became necessary to find ways to reduce the power consumption of these displays. This need initially spawned a reflective technology. This technology typically consisted of a light-reflective material applied to a mechanical device, sometimes referred to as "flip disk"

displays. Electrical impulses were applied to a grid of disks with reflective material on one side of the disk, and a contrasting finish on the other side. The electrical impulses would position each disk within the grid to either reveal or conceal the reflective portion of the device as required, to produce an image or spell out a message. These technologies were energy efficient, but due to the mechanical nature of the product, failures were an issue.

Shortly after the introduction of the reflective products, new incandescent lamps emerged. The new "wedge base" Xenon gas-filled lamps featured many positive qualities. Compared to the larger incandescent lamps that had been used for several years, the wedge base lamps were very bright, required less power to operate and had much longer lifetimes. These smaller lamps allowed electronic display manufacturers to build displays that featured tighter resolutions, allowing users to create more ornate graphic images.

Next in the evolution of the changeable message sign was the LED. LED (light emitting diode) technology had been used for changeable message displays since the mid 1970s. Originally, LEDs were available in three colors: red, green and amber, but were typically used for indoor systems because the light intensity was insufficient for outdoor applications and the durability of the diodes suffered in the changing temperatures and weather conditions. As technology improved, manufacturers were able to produce displays that had the intensity and long life required for outdoor use, but were limited in the viewing angle from which they could be effectively seen.

Recently, breakthroughs in this field have made available high intensity LEDs in red, green, blue and amber. These LEDs have made it possible to produce displays bright enough for outdoor use with viewing angles that are equal to, or better than, other technologies currently available. They are energy-efficient, can be programmed and operated remotely, and require little maintenance. In addition, the computer software has evolved such that a broad range of visual effects can be used to display messages and images. The spacing of the LEDs can be manipulated to achieve near-television resolution. Earlier "flip disk" and incandescent technologies have become nearly obsolete as a result.

Types of Changeable Message Signs

Changeable message signs can be placed into two basic categories: manually-changed and electronically-changed. The most common form of manually-changed sign involves a background surface with horizontal channels. Letters and numerals are printed on individual plastic cards that are manually fitted into the channels on the sign face. A broad range of letter styles and colors are available. The manually-changed sign is relatively inexpensive and is somewhat versatile. Some discoloration has been experienced in the background surface materials

with exposure to weather and the sun. Changing the message on such a sign is accomplished by having an employee or technician remove the existing plastic letter cards and replacing them with cards displaying the new message. Occasionally, such signs have been the subjects of vandals who steal the letters or, as a prank, re-arrange them to spell out undesirable messages. Over time, as letters are replaced with lettering styles that deviate in color or type style from the original set, such signs have had a tendency to take on a mix-and-match appearance.

Electronic changeable message signs are generally of two types: light emitting and light reflective. Current light emitting display technologies include LED and incandescent lamp. Light reflective displays typically consist of either a reflective material affixed to a mechanical device (like a "flip disk") or a substance commonly referred to as electronic ink.

Many of the above mentioned technologies have the capabilities to display monochromatic (single color) or multiple color images. Monochrome changeable message signs are typically used to display text messages. Multiple color displays are more common in applications where color logos or video is displayed.

Operational Capabilities of Electronic Signs

Electronic signs have evolved to the point of being capable of a broad range of operational capabilities. They are controlled via electronic communication. Text and graphic information is created on a computer using a software program. This software is typically a proprietary component that is supplied by the display manufacturer. These software programs determine the capabilities of the displays. The software is then loaded onto a computer that operates the sign. The computer may be installed within the sign itself, operated remotely from a nearby building, or even more remotely by a computer located miles away and connected to the sign with a telephone line modem or other remote communication technology.

Since most of the software programs are proprietary, one can assume that each software program is slightly different. However, the capabilities that the programs offer are all very similar. Changeable message sign manufacturers provide software that allows the end user to be as creative or as reserved as they like. The sign can be used to display static messages only, static messages changed by a computer-generated transition from one message to the next, moving text, animated graphics and, in some applications, television-quality video.

Text messages or graphic images can simply appear and disappear from the display or they can be displayed using creative entry and exit effects and transitions.

Example:

Often times a display operator will choose to have a text message scroll onto the display and then "wipe-off" as if the frame has been turned like the page of a book.

If a display has the capabilities to display graphics, logos or even video, it is common for the display operator to add motion to these images.

Example:

A display operator at a school may wish to create an animation where their school's mascot charges across a football field and runs over the competing school's mascot.

Video-capable displays can operate much like a television. These displays can show live video, recorded video, graphics, logos, animations and text.

All display capabilities are securely in the hands of the display operators. They are ultimately responsible for what type of, and how, information is displayed on their changeable message sign.

Traffic Safety Considerations

Electronic message displays (EMDs) are capable of a broad variation of operations, from fully-static to fully-animated. In exterior sign use, they are often placed where they are visible to oncoming traffic. Concerns are often raised as communities change their sign codes to expressly permit such signage about the traffic safety implications for signage with moving messages. These concerns are largely unfounded.

EMDs have been in operation for many years. As is typical with many technological advances, the regulatory environment has been slow to respond to advances in the technology itself. In 1978, after many years of the use of electronic signs, Congress first passed legislation dealing with the use of illuminated variable message signs along the interstate and federal aid primary highway system. The Surface Transportation Assistance Act permitted electronic message display signs, subject to state law, provided each message remained fixed on the display surface but "which may be changed at reasonable intervals by electronic process or remote control," and did not include "any flashing, intermittent or moving light or lights." 23 U.S.C. § 131.

In 1980, and in response to safety concerns over EMDs along highways, the Federal Highway Administration published a report titled "Safety and Environmental Design Considerations in the Use of Commercial Electronic Variable-

Message Signs." This report was an exhaustive analysis of the safety implications of EMDs used along highways. The report highlights the inconclusive nature of safety studies that had occurred to that time, some concluding that roadside signs posed a traffic distraction, and others concluding that roadside signs do not cause traffic accidents. In view of the inevitable use of the technology in signage, the report made some sensible observations about traffic safety considerations for such signs:

1. *Longitudinal location.* The report recommended that spacing standards be adopted to avoid overloading the driver's information processing capability. Unlike the standard for sign regulations in 1980, most communities today have spacing standards already integrated into their sign codes.
2. *Lateral location.* Often referred to as "setback," the report initially recommended the common sense requirement that such signs be placed where the risk of colliding into the sign is eliminated. This was a legitimate concern, as such signs were being contemplated for use by highway departments themselves in the right-of-way. Private use of roadside signs is generally limited to locations outside the right-of-way, so this should not be a significant concern. The next issue addressed by the report was visibility. The report advocated the minimum setback feasible, stating that "standards for lateral location should reduce the time that drivers' attention is diverted from road and traffic conditions. Generally this suggests that signs should be located and angled so as to reduce the need for a driver to turn his head to read them as he approaches and passes them." This can best be handled by permitting such signs to be located at the property line, with no setback, and angled for view by oncoming traffic.
3. *Operations: Duration of message on-time.* The report states that the duration of the message on-time should be related to the length of the message, or in the case of messages displayed sequentially, the message element. For instance, based on state highway agency experience, "comprehension of a message displayed on a panel of three lines having a maximum of 20 characters per line is best when the on-time is 15 seconds. In contrast, the customary practice of signing which merely displays time and temperature is to have shorter on-times of 3 to 4 seconds." Since this 1980 report, state highway agencies have adopted, for use on their own signs, informal standards of considerably shorter "on" time duration, with no apparent adverse effects on traffic safety. Federal legislation affecting billboard use of electronic signs

requires only that messages be changed at "reasonable intervals."¹ Moreover, the U.S. Small Business Administration, in a report on its website reviewing safety information compiled since the 1980 report, has concluded that there is no adverse safety impact from the use of EMD signs. See <http://www.sba.gov/startup/signage/safelegal.html>. The most recent study was performed in 2003 by Tantala Consulting Engineers, available through the U.S. Sign Council at <http://www.ussc.org/publications.html>, also concluding based on field studies that EMD signs do not adversely affect traffic safety. Many small businesses using one-line EMD displays are only capable of displaying a few characters at one time on the display, changing frequently, which takes virtually no time for a driver to absorb in short glances. These signs have likewise not proven to be a safety concern, despite many years of use.

4. *Operations: Total information cycle.* EMD signs can be used to display stand-alone messages, or messages that are broken into segments displayed sequentially to form a complete message. As to the sequential messages, the report recommended a minimum on-time for each message "calculated such that a motorist traveling the affected road at the 85th percentile speed would be able to read not more than one complete nor two partial messages in the time required to approach and pass the sign."
5. *Operations: Duration of message change interval and off-time.* The report defines the message change interval as the portion of the complete information cycle commencing when message "one" falls below the threshold of legibility and ending when message "two" in a sequence first reaches the threshold of legibility. This is relevant when operations such as "fade off-fade on" are used, when the first message dissolves into the second message, or when the two messages move horizontally (traveling) or vertically (scrolling) to replace the first message with the second. Off-time, on the other hand, is a message change operation that involves the straightforward turning off of the first message, with a period of blank screen, before the second message is instantly turned on.

¹ The appropriate interval of message change may be affected by a variety of factors, and one standard does not fit all situations. Imagine, for instance, a bridge that serves two roadways, one with a speed limit of 30 mph and the other a highway with a speed limit of 60 mph. In a situation where the bridge is socked in by fog, an electronic sign on the approach to the bridge may be used to convey the message, "Fog ahead...on bridge...reduce speed...to 15 mph." The driver on each roadway needs to see all the segments to the full message. The rate of changing each segment of the message needs to be different for each roadway. If the change rate were based only on the 60 mph speed, the sign on the slower roadway may appear too active. If the change rate were based only on the 30 mph speed, the result could be fatal to drivers on the highway.

The report takes an extremely conservative approach as to message change interval, advising against the use of operations other than nearly instantaneous message changes. If such operations are permitted, the report suggests "that the figure commonly used as a measure of average glance duration, 0.3 second, be used here as a maximum permissible message change time limit." The report further advocates minimizing off-time between messages, where static message changes are used, stating that "[a]s this interval of off-time is lengthened, the difficulty of maintaining the continuity of attention and comprehension is increased."

The conservative nature of the authors' position is reflected both in the report, and in over twenty years of practice since the report was issued. The report cites studies indicating that, in some situations, the use of electronic operations had a beneficial effect on traffic safety, by creating a more visually-stimulating environment along an otherwise mind-numbing segment of highway, helping to re-focus and sharpen the driver's attention to his or her surroundings.

In over twenty years of experience, with numerous electronic signs nationwide utilizing the various operational capabilities for message change, there has been no significant degradation to highway safety reported. Many electronic signs used by highway departments now use a mode of transition between messages or message segments, such as traveling or scrolling. Drivers are apparently capable of attaching primacy to the visual information most critical to the driving task, with sign messages taking a secondary role.

The report further expresses its limited focus upon interstate and federal aid primary highways. Noting the stimulating visual environment created by full-animation signage in places like Times Square, Las Vegas and Toronto's Eaton Centre, the authors of the report agreed that such signs added vitality and dimension to the urban core, but discouraged the use of animation alongside the highway. The report did not deal with the use of such signs, or their operational characteristics, on roadways between the extremes of the interstate highway and the urban core. In addition, animation has now been used on highway-oriented signs in many locations for years, with no reported adverse effect of traffic safety.

In sum, the report acknowledged the appropriateness of full-animation electronic signs within the urban core, but recommended that full-animation not be used along interstate and primary highways. It took a conservative position on operations of such signs along highways, advocating static message change sequences only, with no more than 0.3 seconds of message change interval or "off-time" between messages. The message changes on sequential segmented messages should be displayed such that a motorist can see and read the entire chain of message segments in a single pass. Messages should be permitted to change at "reasonable intervals." Such signs

change interval or "off-time" between messages. The message changes on sequential segmented messages should be displayed such that a motorist can see and read the entire chain of message segments in a single pass. Messages should be permitted to change at "reasonable intervals." Such signs should have adequate spacing between signs, but be set back from the right-of-way as little as feasible.

Since 1980, no new information has become available supporting a traffic safety concern about EMDs. They have been installed in highway locations, along city streets and in urban core settings, using all forms of operations: static, sequential messaging and full animation. Despite such widespread use, and the presence of environmental organizations generally adverse to sign displays, no credible studies have established a correlation between EMDs and a degradation in traffic safety.

An article in the *Journal of Public Policy and Marketing* in Spring, 1997, arrived at the same conclusion. Professor Taylor, of Villanova University, analyzing this lack of data to support such a correlation, concluded that "there appears to be no reason to believe that changeable message signs represent a safety hazard."

From a safety standpoint, and based on the studies and practical experience that has been accumulated since the widespread use of EMDs, some conclusions can be reached:

- In an urban core setting, where a sense of visual vitality and excitement is desirable, full-animation EMDs have been shown to be viable without degrading traffic safety.
- In an urban setting, such as along arterial streets, EMDs have been used with static messages changed by use of transitions such as traveling, scrolling, fading and dissolving, without any apparent impact on traffic safety. Quite likely, this can be attributed to the primacy of the navigation task, and the secondary nature of roadside signage.
- Along interstate and other limited access highways, the only significant traffic safety analysis recommends the use of static messages only, and the federal government permits message changes at "reasonable intervals." Many highway departments change messages on their own signs every 1-2 seconds. The report further recommends that sequential messages be timed to ensure that the entire sequence of messages be displayed in the time it takes a car to travel from initial legibility to beyond the sign. In practice, and in the 20+ years since publication of this report, the operational characteristics of such signs have been expanded to include

fading, dissolving, scrolling and traveling, without any apparent adverse effect on traffic safety.

Regulation of Electronic Signs

The history of the regulation of electronic signs has been largely marked by polar extremes in regulation. A number of zoning and sign codes have treated such signs as any other sign, with no special regulations. Others have attempted to prohibit their use in the entirety, largely out of concerns for traffic safety, and in some cases in the stated interest of aesthetics.

For the reasons stated above, the traffic safety concerns have been largely unfounded. In decades of use and intense scrutiny, no definitive relationship between electronic signs and traffic accidents has been established. In fact, some studies have suggested that animated electronic signs may help keep the driver whose mind has begun to wander re-focused on the visual environment in and around the roadway. No studies support the notion that an electronic sign with a static display has a visual impact, from either a traffic safety or aesthetic impact, different from that of any other illuminated sign.

Despite this, the fear of negative impact from potentially distracting signs has in the past motivated some communities to attempt to prohibit electronic signs altogether. Two common approaches have been to prohibit sign "animation" and the "intermittent illumination" of electronic signs. Both approaches have had their limitations.

Electronic signs that are computer-controlled often have the capability to be displayed with a multitude of operational characteristics, many of which fall within the typical definition of "animation." However, static display techniques are quite commonplace with electronic signs, and the cost of using electronics in relatively typical sign applications has become more affordable. The programming of an electronic sign to utilize static displays only is simple and straightforward, yet probably overkill in the legal and practical sense.

Nonetheless, out of fear that the programming may be changed to animation after a sign is permitted and operational, some local regulators have attempted to take the position that LED and other electronic signs are prohibited altogether. This position is unsound. There is no legal basis to deny a static-display electronic sign, as it is legally indistinguishable from any other illuminated sign. We don't prohibit car usage merely because the cars are designed so that they can exceed the speed limit; we issue a ticket to the driver if they do exceed the speed limit. Likewise, if a sign owner *actually* violates the zoning or sign code, the remedy is to cite them for the violation, not to presume that they will do so and refuse to issue

permits at the outset. Moreover, most communities permit changing messages on signs displaying time and temperature, with no restrictions on timing. To apply a different standard to signs displaying commercial or noncommercial messages would be to regulate on the basis of the content of the sign, in violation of the First Amendment to the U.S. Constitution.

The code technique of prohibiting "intermittent illumination" has its own limitations as it relates to electronic signs. The term "intermittent" suggests that the sign is illuminated at some times, and not illuminated at others. This is no basis to distinguish between an electronic sign and any other illuminated sign. Virtually all illuminated signs go through a cycle of illumination and non-illumination, as the sign is turned off during the day when illumination is not needed, or during the evening after business hours. If this were the standard, most sign owners would be guilty of a code violation on a daily basis.

Other terminology may be used in sign codes, but the fact is that a regulation must be tailored to the evil it is designed to prevent. Community attitudes toward viewing digital images have changed nationwide, with personal computer use and exposure to electronic signs becoming widespread. People are simply accustomed to the exposure to such displays, more so than in years past. In some communities, there remains a concern about the potential that such signs may appear distracting, from a safety or aesthetic standpoint. Yet, static displays do not have this character, and even EMDs with moving text have not proven to have any negative impact. The real focus should be on the operations used for the change in message, and frame effects that accompany the message display. Many of these transition operations and frame effects are quite subtle, or otherwise acceptable from a community standpoint. It is now possible to define these operations, in the code itself, with sufficient specificity to be able to enforce the differences between what is acceptable and what is not.

The critical regulatory factors in the display of electronic changeable message signs are: 1) Duration of message display, 2) Message transition, and 3) Frame effects. With the exception of those locations where full animation is acceptable, the safety studies indicate that messages should be permitted to change at "reasonable intervals." Government users of signs have utilized 1-2 seconds on their own signs as a reasonable interval for message changes, and other communities permit very short display times or continuous scrolling on business signs without adverse effect. As a policy matter, some communities have elected to adopt longer duration periods, although to do so limits the potential benefits of using an electronic sign, particularly where messages are broken down into segments displayed sequentially on the sign.

The message transitions and frame effects are probably the greater focus, from a sign code standpoint. It is during the message transition or frame effect that the eye is most likely drawn to the sign. What is acceptable is a matter of community

attitude. Flashing is a frame effect that is prohibited in many communities, but other more subtle transitions can be accepted. It is relatively easy to define four basic levels of operational modes for message transitions that can be incorporated into a sign code:

- Level 1 *Static Display Only (messages changed with no transition)*
- Level 2 *Static Display with "Fade" or "Dissolve" transitions, or similar subtle transitions and frame effects that do not have the appearance of moving text or images*
- Level 3 *Static Display with "Travel" or "Scrolling" transitions, or similar transitions and frame effects that have text or animated images that appear to move or change in size, or be revealed sequentially rather than all at once*
- Level 4 *Full Animation, Flashing and Video*

There are, in fact, other operations recognized within the industry. However, in practice they can be equated in visual impact with "fade," "dissolve," "travel" or "scrolling," based on their visual effect, or otherwise be considered full animation.

Different transition operations may be acceptable in different locations. For example, communities like Las Vegas accept full animation as a community standard, whereas others accept full animation only in urban core locations where a sense of visual vitality and excitement is desirable. Some communities may desire not to have an area with such visual stimuli, and elect to prohibit animation everywhere. However, in such a community, fade or scrolling may be acceptable forms of message transitions for static displays. In the most conservative communities, static displays with no observable transition between messages may be the only acceptable course.

The next decision point for a community seeking to regulate electronic signs is procedural. Some signs may be acceptable always, while the community may determine that others are acceptable only in certain given circumstances. Alternatives to be considered for a sign code are as follows:

- Permit electronic signs "as a matter of right"
- Permit electronic signs with certain transitions "as a matter of right"
- Permit electronic signs, subject to a review procedure

- Permit electronic signs, with certain transitions, subject to a review procedure
- A hybrid of the above

For instance, one community may find it acceptable to permit electronic signs, with full animation, as a matter of right. Other than a straightforward sign permit, no other review is required. In another community, the sign code structure may permit: 1) Static displays with no transitions as a matter of right, 2) static displays using fade or dissolve transitions as a matter of right in certain commercial zoning districts, 3) static displays using travel and scrolling transitions and animations in certain commercial districts, subject to approval of a special use permit, where the approving board can consider compatibility with surrounding land uses and attach conditions on the rate of message changes, and 4) Fully-animated/video displays in the downtown commercial district only, subject to approval of a special use permit. The level of procedure involved should be tailored to the acceptance level of the community, and the resources available should public review be desired.

In the following section, we have provided model code language that can be used, for reference, to incorporate into a community's sign code. The model language suggests code scenarios based on each of the four levels of display transitions. It also provides alternative language, for some scenarios, to either incorporate a special review procedure or not. Of course, the model language must be tailored to a particular community's sign code. Variation may be necessary, where, for instance, the special review procedure would be by the local planning commission, city council or design review board. With ease, the model code language can be modified to meet local conditions.

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Model Sign Code Provisions for Electronic Signs

Level 1-Static Display (*Message Changed with no Transition*)

Definitions

ELECTRONIC MESSAGE DISPLAY – A sign capable of displaying words, symbols, figures or images that can be electronically or mechanically changed by remote or automatic means.

Electronic Message Displays may be permitted [with the approval of a use permit] [in the _____ zoning districts] subject to the following requirements:

- a. *Operational Limitations.* Such displays shall contain static messages only, and shall not have movement, or the appearance or optical illusion of movement, of any part of the sign structure, design, or pictorial segment of the sign, including the movement or appearance of movement of any illumination or the flashing, scintillating or varying of light intensity.
- b. *Minimum Display Time.* Each message on the sign must be displayed for a minimum of (insert reasonable interval) seconds.
- c. *Message Change Sequence.* [Alternative 1: The change of messages must be accomplished immediately.] [Alternative 2: A minimum of 0.3 seconds of time with no message displayed shall be provided between each message displayed on the sign.]

Model Electronic Sign Code Provisions
Level 2-Static Display (*Fade/Dissolve Transitions*)

Definitions

ELECTRONIC MESSAGE DISPLAY – A sign capable of displaying words, symbols, figures or images that can be electronically or mechanically changed by remote or automatic means.

DISSOLVE – a mode of message transition on an Electronic Message Display accomplished by varying the light intensity or pattern, where the first message gradually appears to dissipate and lose legibility simultaneously with the gradual appearance and legibility of the second message.

FADE – a mode of message transition on an Electronic Message Display accomplished by varying the light intensity, where the first message gradually reduces intensity to the point of not being legible and the subsequent message gradually increases intensity to the point of legibility.

FRAME – a complete, static display screen on an Electronic Message Display.

FRAME EFFECT – a visual effect on an Electronic Message Display applied to a single frame to attract the attention of viewers.

TRANSITION – a visual effect used on an Electronic Message Display to change from one message to another.

Electronic Message Displays may be permitted [with the approval of a use permit] [in the _____ zoning districts] subject to the following requirements:

- a. *Operational Limitations.* Such displays shall contain static messages only, changed only through dissolve or fade transitions, or with the use of other subtle transitions and frame effects that do not have the appearance of moving text or images, but which may otherwise not have movement, or the appearance or optical illusion of movement, of any part of the sign structure, design, or pictorial segment of the sign, including the movement of any illumination or the flashing, scintillating or varying of light intensity.
- b. *Minimum Display Time.* Each message on the sign must be displayed for a minimum of (insert reasonable interval) seconds.

Model Electronic Sign Code Provisions
Level 3-Static Display (*Travel/Scroll Transitions and Animations*)

Definitions

ELECTRONIC MESSAGE DISPLAY – A sign capable of displaying words, symbols, figures or images that can be electronically or mechanically changed by remote or automatic means.

DISSOLVE – a mode of message transition on an Electronic Message Display accomplished by varying the light intensity or pattern, where the first message gradually appears to dissipate and lose legibility simultaneously with the gradual appearance and legibility of the second message.

FADE – a mode of message transition on an Electronic Message Display accomplished by varying the light intensity, where the first message gradually reduces intensity to the point of not being legible and the subsequent message gradually increases intensity to the point of legibility.

FRAME – a complete, static display screen on an Electronic Message Display.

FRAME EFFECT – a visual effect on an Electronic Message Display applied to a single frame to attract the attention of viewers.

SCROLL – a mode of message transition on an Electronic Message Display where the message appears to move vertically across the display surface.

TRANSITION – a visual effect used on an Electronic Message Display to change from one message to another.

TRAVEL – a mode of message transition on an Electronic Message Display where the message appears to move horizontally across the display surface.

Electronic Message Displays may be permitted [with the approval of a use permit] [in the _____ zoning districts] subject to the following requirements:

- a. *Operational Limitations.* Such displays shall be limited to static displays, messages that appear or disappear from the display through dissolve, fade, travel or scroll modes, or similar transitions and frame effects that have text, animated graphics or images that appear to move or change in size, or be revealed sequentially rather than all at once.
- b. *Minimum Display Time.* Each message on the sign must be displayed for a minimum of (insert reasonable interval) seconds.

Model Electronic Sign Code Provisions
Level 4-Video/Animation

Definitions

ELECTRONIC MESSAGE DISPLAY – A sign capable of displaying words, symbols, figures or images that can be electronically or mechanically changed by remote or automatic means, including animated graphics and video.

Electronic Message Displays may be permitted [with the approval of a use permit] [in the _____ zoning districts]