



## **PLANNING REPORT**

TO: Phil Kern  
FROM: Alan Brixius  
DATE: November 4, 2009  
RE: Delano – Dynamic Signs  
FILE NO: 432.08 – 09.08

### **BACKGROUND**

At their October meeting, the Planning Commission held an informational meeting to discuss the regulation of electronic computerized message boards. At that meeting, City staff presented:

League of Cities: Regulating Dynamic Signs, 2007. The League of Cities memorandum indicated the following:

1. Courts recognize that cities have the ability to regulate signs including dynamic signs.
2. There is no uniform regulation that the cities must follow.
3. The League of Cities memo offered a variety of macro level approaches for regulating dynamic signs including:
  - a. Complete ban on dynamic signs.
  - b. Allow dynamic signs with restrictions such as minimum display time, sign size, location, brilliance.
  - c. Establish different sign regulations in different zoning districts.
4. The League of Cities memo identified the following aspects of dynamic signs that cities may regulate:
  - a. Duration of message/speed of changeover.
  - b. Motion animation, and video.

- c. Brightness.
- d. Sign placement and spacing.
- e. Sign size.
- f. Text sign and legibility.

Dynamic Sign: Research Related to Drive Distraction and Ordinance Recommendations, prepared by SRF Consulting Group Inc. for the City of Minnetonka, 2007. The City of Minnetonka and the League of Cities partnered to commission this study to examine the impact of dynamic signs on traffic safety. The findings of this study include:

Page 3, Greg Davis, Research FHWA Office of Safety Research and Development:

“Davis stated that while no research has established a direct cause and effect relationship between electronic outdoor signs and crash rates, the lack of such research finding does not preclude a causal relationship between electronic billboards and crashes.”

Pages 6-10, Dynamic Billboards: An Additional Distribution:

“Signage owners or lessors want to incorporate dynamic features into their signage for a number of reasons: to enhance the sign’s ability to attract attention, to facilitate display of larger amounts of information within the same sign area, to conveniently change message content, and to enhance profitability.”

The SRF report references a number of studies that suggest the following:

1. Dynamic signs attract more glances than passive signs.
2. Dynamic signs attract longer glances than passive signs.
3. Moving images (video) hold no motorist attention longer than static messages.
4. Electronic signs can present a distraction to motorists.

Pages 10-15, How Much Distraction is a Problem? This section of the SRF report presents the following findings:

1. Drive inattention is the largest cause of traffic accidents.
2. The greatest sources of driver distraction were events outside the vehicle.
3. No direct correlation between electronic signs and crash rates. This does not mean that a causal relationship does not exist.

## Page 16, How Does Brightness Affect Driver Safety Concerns?

1. Brightness of any sign raises concern with discomfort or disability glare for a driver.
2. Disability glare occurs when a driver is exposed to a light source so bright it temporarily blinds the driver.
3. Discomfort glare occurs when a light source is bright enough to distract or encourage the driver to look away from the light but is not blinding.

### **ADDITIONAL INFORMATION**

At the October meeting, the Planning Commission received additional information from John Tackaberry. This information included:

Traffic Safety and Digital Displays, DakTronics which stated:

1. “No causal connection exists between traffic accidents and electronic message content.”
2. “... no relationship exists between digital billboards or on-premise digital signage and traffic accidents.”
3. “... digital billboards have no statistically significant relationship with the traffic accident occurrence.”
4. Public reaction to digital signage is positive.

Electronic Message Centers: Safe and Legal

1. Electronic message centers are not a distraction to drivers.
2. Electronic message centers, if used properly, are traffic safety enhancement devices.
3. No direct statistical evidence that demonstrates a correlation between electronic message centers and traffic accidents.

Both sources of information suggest that these types of signs can be safe and an asset to the community if properly regulated. The Planning Commission indicated that these types of signs may be acceptable with reasonable regulation. In light of the traffic

volumes, traffic speeds, and variety of turn movements that have Highway 12 being described as “turn your head, you’re dead”, some reasonable regulation would seem appropriate.

Staff has gathered ordinances from other communities for the Planning Commission to review.

In consideration of a sign ordinance, staff suggests the following ordinance considerations:

**Districts.** Electronic message signs can be restricted by district. We would recommend allowing them in the B-2, Commercial Business and B-3, Highway Business Districts. The Planning Commission should discuss if this type of signage is appropriate within the B-1, Neighborhood Business District, B-W, Business Warehouse District, or industrial zoning districts.

The Planning Commission may wish to allow schools and churches, within residential districts, to have electronic message boards on a more limited basis.

**Number, Size, Location.** In view of the number of commercial properties along Highway 12 vying for customers’ attention, the Planning Commission should consider addressing the number, size and location of these types of signs.

Number. Staff would recommend limiting electronic messages to one sign per property. The electronic reader board would be allowed as part of the permitted freestanding sign allotment.

Size. Within the B-2 District through the industrial districts, properties are allowed 100 square feet of freestanding sign area. The Planning Commission should discuss as to whether the entire sign area or only a percentage of the sign area should be allocated to electronic message boards.

Location. Currently, freestanding signs are required to maintain a support structure setback of five feet from the property line and a sign face setback of one foot from the property line. Staff is suggesting maintaining this setback standard.

**Motion, Animation, Video.** The Planning Commission must decide whether to allow full motion, animation, or video signs. The SRF study indicates that dynamic signs attract twice as many glances and hold glances for a longer period of time.

Some cities have allowed full animation (Brainerd). Other communities have prohibited continuous motion and require static message changes to static messages with a rest period between messages (New Hope).

Some cities allow exception to the movement signs by allowing scrolling messages. Albertville allows scrolling messages as follows:

“The images and messages displayed on changeable copy signs must be static, and the transition from one static display to another must be instantaneous without any special effects with the exception of a scrolling monochromatic message on single color dark background.”

**Flashing Signs.** Daktronics offers the following definition of flashing signs:

“Flashing shall mean a pattern of changing light illumination where the sign illumination alternates suddenly between fully illuminated and fully non-illuminated for the purpose of drawing attention to the sign.”

Staff would contend that rapid changes from message to message without going to full non-illumination is also a flashing sign. The Planning Commission should discuss this issue and determine the acceptability. The following options for this issue include:

1. Adopt the Daktronics definition and permit changing sign messages.
2. Require a hold time between changes in messages. Daktronics suggests a one second hold time between static images in well traveled areas. Page 21 of the SRF report provides the following table that illustrates the number of messages seen at various driver speeds:

		<b>Number of Messages Seen</b>					
		Message Display Time (seconds)					
Speed (mph)	Time sign is clearly visible* (seconds)	6	8	10	60	1,800 (30 minutes)	3,600 (1 hour)
30	60	11	9	7	2	1	1
45	40	8	6	5	2	1	1
55	33	7	5	4	2	1	1

\* Assuming the sign is clearly visible from one-half mile away.

Communities address this issue differently. Brainerd has no regulation on message intervals. Other cities have adopted regulations that require hold times that range from five seconds (New Hope) to once a day (Woodbury).

The speed limit on Highway 12 through Delano is 40 mph. The Planning Commission will need to determine the acceptable pace of message changes. This consideration should consider traffic speed and the knowledge that there will be competing electronic signs in the future.

**Brightness.** The Planning Commission should discuss sign brightness to avoid disability or discomfort glare. Daktronics suggests the following:

1. Automatically adjusts display according to ambient light.
2. 0.3 foot candles above ambient light.

These standards may be acceptable provided they are easily programmable and easily measurable and simple to enforce.

## **CONCLUSION**

Based on last month's discussion, the electronic message board technology is signage that will be permitted in Delano. However, to alleviate safety, nuisance, and aesthetic concerns, the Planning Commission should consider reasonable regulations related to the following:

1. District application.
2. Number, size, location.
3. Motion, animation, video.
4. Scrolling signs.
5. Flashing signs, hold time between messages.
6. Brightness.

With further discussion and direction from the Planning Commission, staff will prepare actual language for the regulation of electronic message boards/dynamic signs.

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