TO: Planning Commission

FROM: Shirley Schultz, Principal Planner, Current Planning Division

SUBJECT: Billboard regulations

DATE: April 28, 2011

At the next meeting on May 4, 2011, the Planning Commission will continue its review of the proposed amendments to the Tacoma Municipal Code pertaining to billboard regulations, public testimony and possible modifications.

Attached are four documents for discussion at the meeting:

1. Additional information on Special Receiving Areas to supplement the materials from the January 5, 2011, Commission meeting
2. Special Receiving Areas – Potential options to revise draft code
3. Additional information on lighting and image standards
4. Some proposed revisions to the public review draft code based on previous Commission and staff discussions

Staff will review the attached materials and is seeking direction from the Commission concerning additional revisions to the draft regulations pertaining to the receiving areas, lighting, image time and other issues.

The Commission is scheduled to complete its review and make recommendations to the City Council at your meeting on May 18, 2011.

If you have any questions or requests please contact Shirley Schultz at 591-5121 or shirley.schultz@cityoftacoma.org.

Attachments

Peter Huffman, Assistant Director
### Additional Details on Special Receiving Areas

**April 28, 2011**

<table>
<thead>
<tr>
<th>Special Receiving Area Description</th>
<th>Mixed Use District?</th>
<th>Pedestrian Street?</th>
<th>Residentially-Zoned?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Portland Avenue and Puyallup Avenue. 600 feet to the north, south, east and west of the center point of the intersection of Portland and Puyallup Avenues.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>2 Puyallup Avenue. Along Puyallup Avenue from the midpoint of the intersection of Puyallup Avenue and D Street to the midpoint of the intersection of Puyallup Avenue and L Street.</td>
<td>Partial UCX-TD</td>
<td>Designated Puyallup Ave</td>
<td>No</td>
</tr>
<tr>
<td>3 Pacific Avenue. Pacific Avenue from the midpoint of the intersection of Pacific Avenue and S. 23rd Street to the midpoint of Pacific Avenue and S. 30th Street.</td>
<td>Yes Downtown</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>4 6th Avenue and Division Avenue. From the midpoint of the intersection of 6th Avenue and Division, 600 feet northeast on Division Avenue, 525 feet to the west on 6th Avenue, east on 6th Avenue to N. Grant Street and 300 feet north and south on S. Sprague Avenue.</td>
<td>Partial NCX 6th Ave</td>
<td>Core 6th Ave</td>
<td>Partial R-2SRD HMR-SRD</td>
</tr>
<tr>
<td>5 6th Avenue and Junett Street. 150 feet to the east and west of the midpoint of the intersection of 6th Avenue and Junett Street.</td>
<td>Yes NCX 6th Ave</td>
<td>Core 6th Ave</td>
<td>No</td>
</tr>
<tr>
<td>6 6th Avenue and Union Avenue. 150 feet in all directions from the midpoint of the intersection of 6th Avenue and Union Avenue.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7 6th Avenue between S. Pearl Street to the east and S. Mildred Street to the west. From the midpoint of the intersection of 6th Avenue and S. Pearl Street to the midpoint of 6th Avenue and S. Mildred Street.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>8 S. Union Avenue and S. 23rd Street. S. Union Avenue 150 feet north and 900 feet to the south of the midpoint of the intersection of S. Union and S. 23rd Street.</td>
<td>Partial CCX Allenmore</td>
<td>Core Union Ave</td>
<td>Partial R4-L</td>
</tr>
<tr>
<td>9 S. Union Avenue and Center Street. 150 feet to the north, east and west of the midpoint of the intersection of S. Union and Center Street and 300 feet south of said intersection on S. Union Avenue.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>10 S. Union Avenue. 300 feet in all directions from the midpoint of the intersection of S. Pine Street and Center Street.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>11 S. 38th Street and S. Pine Street. 450 feet east and west from the midpoint of the intersection of S. 38th Street and S. Pine Street and 300 feet north and south from the midpoint of said intersection.</td>
<td>Yes UCX Tacoma Mall</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Special Receiving Area Description</td>
<td>Mixed Use District?</td>
<td>Pedestrian Street?</td>
<td>Residually-Zoned?</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------------</td>
<td>---------------------</td>
<td>--------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>12 S. Tacoma Way and S. Pine Street. 450 feet in all directions from the midpoint of the intersection of S. Tacoma Way and S. Pine Street.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>13 Steele Street and S. 38&lt;sup&gt;th&lt;/sup&gt; Street. 150 feet from the midpoint of the intersection of Steele Street and N. 38&lt;sup&gt;th&lt;/sup&gt;, to the north on S. Idaho Street, 450 feet from said midpoint to the east and west on S. 38&lt;sup&gt;th&lt;/sup&gt; Street, all of S. Steele Street and the north portion of Tacoma Mall Boulevard from Steele Street on the west and 375 feet east of S. State Street.</td>
<td>Yes UCX Tacoma Mall</td>
<td>Primary Steele St</td>
<td>No</td>
</tr>
<tr>
<td>14 West End of S. 56&lt;sup&gt;th&lt;/sup&gt; Street. South 56&lt;sup&gt;th&lt;/sup&gt; Street between the midpoint of the intersection of S. 56&lt;sup&gt;th&lt;/sup&gt; and S. Tyler to the midpoint of the intersection of S. 56&lt;sup&gt;th&lt;/sup&gt; and Burlington Way to the East.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>15 S. 56&lt;sup&gt;th&lt;/sup&gt; Street and S. Tacoma Way. 300 feet in all directions from the midpoint of the intersection of S. 56&lt;sup&gt;th&lt;/sup&gt; Street and S. Tacoma Way.</td>
<td>Yes NCX/CIX South 56&lt;sup&gt;th&lt;/sup&gt; Designated 56&lt;sup&gt;th&lt;/sup&gt;/Core South Tacoma Way</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>16 S. 74&lt;sup&gt;th&lt;/sup&gt; Street and S. Tacoma Way. 450 feet in all directions from the midpoint of the intersection of S. 74&lt;sup&gt;th&lt;/sup&gt; Street and S. Tacoma Way.</td>
<td>No</td>
<td>No</td>
<td>Partial R-2 and R-3</td>
</tr>
<tr>
<td>17 S. 74&lt;sup&gt;th&lt;/sup&gt; Street and S. Tacoma Mall Boulevard. S. 74&lt;sup&gt;th&lt;/sup&gt; Street between the midpoint of the intersection of S. 74&lt;sup&gt;th&lt;/sup&gt; and S. Wapato Street, and the midpoint of the intersection of S. 74&lt;sup&gt;th&lt;/sup&gt; and S. Tacoma Mall Boulevard.</td>
<td>No</td>
<td>No</td>
<td>Partial R-4L and R-2</td>
</tr>
<tr>
<td>18 S. 72&lt;sup&gt;nd&lt;/sup&gt; Street and S. Hosmer Street. That portion of S. 72&lt;sup&gt;nd&lt;/sup&gt; Street between I-5 and the midpoint of the intersection of S. 72&lt;sup&gt;nd&lt;/sup&gt; and S. Alaska Street and S. Hosmer Street 300 feet south of S. 72&lt;sup&gt;nd&lt;/sup&gt; Street and the midpoint of the intersection of S. Hosmer and S. 72&lt;sup&gt;nd&lt;/sup&gt;.</td>
<td>No</td>
<td>No</td>
<td>Partial R-2</td>
</tr>
</tbody>
</table>
These options are meant as examples only and the Planning Commission may choose a combination of the three, or none of them. These options were developed to address the comments and concerns about receiving areas.

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Special Receiving Areas remain</td>
<td>No Special Receiving Areas within or adjacent to mixed-use districts*</td>
<td>No Special Receiving Areas, but digital boards would be allowed in C-2, M-1, M-2, and PMI, subject to standards.</td>
</tr>
<tr>
<td>Limit of one digital billboard structure (maximum of 2 faces) within a Special Receiving Area</td>
<td>Limit of one digital billboard structure (maximum of 2 faces) within a Special Receiving Area</td>
<td>Billboards would need to meet dispersal and buffering requirements within the allowed zones.</td>
</tr>
<tr>
<td>Size is limited to 300 square feet</td>
<td>Size is limited to 300 square feet</td>
<td>Size is limited to 300 square feet</td>
</tr>
<tr>
<td>Digital billboard must be a replacement of a standard billboard, or must meet dispersal if there is no billboard there currently</td>
<td>Digital billboard must meet dispersal requirements</td>
<td>Digital billboard must be a replacement billboard and must meet dispersal and buffering requirements</td>
</tr>
<tr>
<td>Exchange ratio would remain the same - the replaced billboard could be credited toward other digital billboards</td>
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</tr>
<tr>
<td>Special Receiving Areas expire 5 years from date of passage of the ordinance</td>
<td>Special Receiving Areas expire 5 years from date of passage of the ordinance</td>
<td>The first 54 removals and the 25 additional would no longer be required since these are tied to the special receiving areas in the Settlement Agreement</td>
</tr>
</tbody>
</table>

*In this case 8 of the 18 special receiving areas would be removed from the list of potential locations for digital billboards. In the alternative, Special Receiving Areas in or partially in the NCX zoning district could be eliminated; those in CCX (3), UCX (2) and Downtown (1) (and not a pedestrian street) could remain, as uses in these districts are community-sized and scaled, and are similar to the types of development found C-2 zoning district.*
Additional Information on Lighting and Image Standards
April 28, 2011

Following is additional information regarding lighting standards for digital billboards, including brightness levels and static image time. Staff has primarily relied upon two documents which were supplied to the Planning Commission in Volume II of the public testimony. The first is “Illuminating the Issues: Digital Signage and Philadelphia’s Green Future” (the “Philadelphia Report”) beginning on page 156. This report discusses digital billboards in lay terms as it pertains to their placement in one jurisdiction.

The second document is “Safety Impacts of the Emerging Digital Display Technology for Outdoor Advertising Signs” prepared by Jerry Wachtel (the “Wachtel study”). This study contains a literature review, a discussion of human factors and driver distraction, a summary of some jurisdictions’ regulations, recommendations for regulation, and emerging technologies.

Lighting Levels and Brightness
Attached is page 162 of Volume II of the public testimony, a portion of the Philadelphia Report which provides a summary of different brightness standards. The current draft billboard code specifies lighting levels in two ways. First, the code proposes the Outdoor Advertising Association of America’s (OAAA) standard of a limit of 0.3 footcandles over ambient light at specified distances for specified signs. Both the Philadelphia Report and the Wachtel study point out the weaknesses of this measurement in that it measures light cast from the sign onto the surrounding area, rather than measuring the actual perceived brightness of the sign, which is a key factor in both readability of the sign and distraction. However, the footcandle measurement is a good way to measure light trespass (since it measures the light cast upon an object) and it is an inexpensive and easily-understood measurement (since it can be taken at ground level with inexpensive equipment).

In addition, the current draft code specifies limits on the luminance of a digital billboard, that is, the brightness of the sign itself. This measurement is taken close to the face of a sign. The sign can be set in the factory to a maximum brightness, which adjusts up or down depending on the surrounding conditions (i.e., daytime versus nighttime). The current code draft sets a daytime limit of 5,000 nits (or candelas per square meter) and a nighttime limit of 500 nits. These numbers were based upon other jurisdictions’ adopted standards for digital signs.

Differing bodies have differing recommendations for maximum brightness levels, especially at night. Neither the Wachtel study nor the Philadelphia Report lay out recommendations for sign brightness, though they do recommend measurement in nits. Standard illuminated billboards are around 124 nits at nighttime. The Illuminating Engineering Society of North America recommends maximum levels of 125 nits at nighttime. The Planning Commission may wish to discuss a lower nighttime brightness level, perhaps a measurement between that currently in the draft and that of a standard billboard. According to the Philadelphia Report, a level of approximately 350 nits should be roughly equivalent in measure to the 0.3 footcandle limitation on illuminance.

Should the City receive a complaint about brightness, code enforcement staff would respond. Additional training will be required for code enforcement staff regarding appropriate measurement technologies and techniques for both footcandle and nits measurement. Measurement tools would also be needed. Currently the draft code specifies the distances from which the footcandle measurement would be taken; measurement would be taken at any point
at that radius and at any time of day. Luminance (nits) would be measured at or near the face of
the sign, depending on the particular equipment and specifications. This might require access to
the sign structure and would be conducted on a less frequent basis than the other
measurement.

However, there are some mechanisms that could be put in place to better ensure that billboards
are operated consistent with the City’s adopted standards and to reduce the potential for
significant impacts on code enforcement staff. The public review draft code included a
requirement that luminance (brightness) be factory set and the owner of a digital billboard be
required to show that the sign had been set to meet the luminance standards, as well as certify
through an independent inspection that the sign did not exceed that level upon installation.
Additionally, staff will be discussing with the Commission a potential additional standard to
require yearly reports certifying that digital billboards remain within acceptable brightness levels.

**Static Image Time**

As pointed out in the Wachtel study (page 380 of Volume II of the public testimony), there is no
standard for static image time. The jurisdictions that were researched ranged from 4 seconds to
over a minute per message displayed. The Federal Highway Administration recommends a
minimum of 8 seconds per message displayed. The current draft code also requires a minimum
display time of 8 seconds.

Suggestions have been made to increase the static image time, or to base the static image time
upon the speed of the adjacent roadway. It should be noted that the special receiving areas are
primarily near intersections, meaning that a large number of passersby will be slowing or
stopped at the intersection. Also, because of the traffic counts that merit placement of a digital
billboard, it’s likely that the signs would be located on arterial streets. For the most part, the
speed limit on these streets is 30 or 35 miles per hour.

Using the equation in the Wachtel study (page 381 of Volume II of the public testimony), some
example calculations can be made.

<table>
<thead>
<tr>
<th>Viewing Distance (feet)</th>
<th>Speed Limit (mph)</th>
<th>Visibility Time (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>30</td>
<td>11.4</td>
</tr>
<tr>
<td>500</td>
<td>35</td>
<td>9.7</td>
</tr>
<tr>
<td>800</td>
<td>30</td>
<td>18.2</td>
</tr>
<tr>
<td>800</td>
<td>35</td>
<td>15.6</td>
</tr>
</tbody>
</table>

This calculation is meant to minimize the possibility that a driver going a certain speed would
actually see a message change. This assumes a billboard will have changed immediately
before the driver can see the billboard, and that it does not change again until after the car has
passed. This also assumes constant speed and no stop at an intersection – which might not be
likely within the City’s receiving areas – but the calculation nevertheless provides some
interesting comparisons.

While changing the static image time to relate to the adjacent roadway is technologically
feasible, it may prove difficult to monitor and enforce. Therefore, the Planning Commission may
deeem it appropriate to choose one standard time for any digital billboard in the City using
average cases.
Limiting Sign Brightness

Proposed limits on sign brightness have caused much debate. Research provided by the Illuminating Engineering Society of North America (IESNA) states that drivers should be subjected to points of brightness no greater than 40 times the average brightness level of their general surroundings; this proportion is known as the contrast ratio. “As roadway lighting and automobile headlights provide ambient nighttime lighting levels of about one nit, this implies signage should appear no brighter than about 40 nits” (Luginbuhl, 2010, p.1). Surprisingly, the IESNA’s own recommendations for signage luminance suggest limits between 250-1400 nits---greatly exceeding their stated maximum contrast ratio of 40:1.

The OAAA, has deemed 300-350 nits an acceptable level of night brightness. However, their guidance is based on the use of the IEEE standard for light trespass (IESNA-TM-11-00), when, for reasons of traffic safety and glare in drivers’ eyes, it should have been based on IEEE’s standard for roadway sign lighting (IESNA RP-19-01).

Traditionally floodlit static billboards rarely exceed 100 nits; experts on both driver distraction and light pollution recommended that, as a means of compromise, the new technologies should not exceed this value. In many areas, including Philadelphia, brightness levels are currently unregulated, and many manufacturers publicize their signs’ capabilities to reach up to 11,000 nits.
Proposed Code Clarifications
April 28, 2011

Based on the discussion at the April 20 meeting about Commission and staff-recommended clarifications and modifications, the following list provides additional details and specific language regarding many of those proposed changes.

Timing of Billboard Removals and Permit Issuance (for standard billboards)

Provision as included in the public review draft:

Exchange of standard billboard faces. Upon removal, to be confirmed by a site inspection, of an existing standard billboard face, a building permit shall be issued authorizing construction of a billboard face at a new site. Building permits shall not be extended beyond their normal expiration date.

Proposed clarification of permit issuance and removal timing:

- Modifies timing to provide that existing billboards are not required to be removed until a permit is issued for a new billboard, but also that the new billboard cannot be installed until the billboard being exchanged is fully removed.
- This is similar to the proposed language for digital billboards

Exchange of standard billboard faces. A permit for a standard billboard may be issued with the condition that construction may begin upon removal, to be confirmed by a site inspection, of an existing standard billboard face or relinquishment of an existing relocation permit. Building permits shall not be extended beyond their normal expiration date.

Historic District Buffering

Proposed clarification that, in addition to historic districts, buffering applies to conservation districts:

- Proposed changes to original draft language are highlighted

Buffering – sensitive uses. No billboard shall be located on, in, or within 250 feet of:
  a. A residential district;
  b. Any publicly-owned open space, playground, park, or recreational property, as recognized in the adopted “Open Space Habitat and Recreation Element” of the Comprehensive Plan, as amended;
  c. Any church or school; or
  d. Any designated historic or conservation district whether on the federal, state, or local register of historic places.
Priorities for Removal

Provision as included in the public review draft:

Removal priorities. The removed billboards shall be those which are nonconforming to the buffering standards in subsections 9 and 10, below. If no billboards remain nonconforming to buffering standards, the billboards to be removed shall be those which are nonconforming to the dispersal standards from the new billboard as set forth in subsection 7, below. If the new billboard meets dispersal standards, the billboards to be removed shall be at the discretion of the owner and may be located anywhere in the City.

Proposed clarification of draft removal priorities:

• In response to Commission concerns about first ensuring a geographic relationship between billboards being installed and those being removed
• The revised language provides that billboards located within close proximity to the proposed digital billboard (within 500 feet) are required to be removed first, followed by the Commission’s expressed prioritization of buffered areas/uses

After removing any billboards necessary to meet the applicable dispersion standards, any additional billboards required to be removed in exchange for a new billboard should be in the following order of prioritization:

1. Those within the specified buffer of residential districts
2. Those within the specified buffer of publicly-owned open spaces, playgrounds, parks or recreational property
3. Those within the specified buffer of a church or school
4. Those within the specified buffer of a designated historic district
5. Those within the specified buffer of a shoreline district

Emergency Communication/Amber Alerts

Proposed additional requirement for emergency communication agreement:

Prior to final approval of any digital billboard, the billboard’s owner shall have in place an agreement with the City of Tacoma regarding the reasonable use of such digital billboard for the purposes of public service announcements and emergency communications, such as “Amber Alerts” or alerts concerning natural disasters and other significant public safety concerns. The agreement shall specify partner agencies to which such access shall be allowed, protocols for agencies’ use of the digital billboards, and parameters for incorporating the public service and emergency messages within the standard advertising rotation. Such an agreement shall remain in effect until such time as the digital billboard is removed.

Potential lighting interference

Proposed additional provision to ensure light from digital billboards isn’t directed upward:

• Concern expressed by Joint Base Lewis-McChord and some members of public

Lighting from digital billboards shall not be directed skyward such that it would create any hazard for aircraft.
**Brightness/Confirmation/Enforcement**

**Provision already included in the public review draft:**

Prior to final inspection approval, the applicant shall provide proof that all lighting levels and specifications in this section have been field-verified by a special inspector.

**Proposed additional provision regarding annual certification:**

All owners and operators of digital billboards within the City of Tacoma shall be responsible to ensure continued regulatory compliance. They shall provide annual reports to Building and Land Use Services verifying that each digital billboard remains within the brightness limitations established in this Chapter. These annual reports shall be due on June 1 of each year following installation. These verification reports shall be conducted by a private, third-party special inspector, based on and including field measurements at each billboard location, and conducted at the cost of the billboard owner or operator.

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**Measuring Height**

**Language already included in the public review draft:**

Height. The maximum height of all billboard signs shall be 30 feet, except in the PMI District, where the maximum height shall be 45 feet. For the purpose of this section, height shall be the distance to the top of the normal display face from the main traveled way of the road from which the sign is to be viewed.

**Proposed new graphic to clarify how billboard height is measured:**

![Diagram of billboard height measurement](image)
Landscaping

Proposed modification of billboard base landscaping requirement:

- In response to Safety-Oriented Design concerns and recognition that other screening is possible (fences, structures, etc.)
- Proposed changes to original draft language are highlighted

When the base of the billboard support is visible from the adjacent sidewalk and/or street, the support shall be surrounded with a 5-foot-wide landscaping buffer composed of shrubs and groundcover not to exceed 36-inches in mature height.

Wireless Facilities

Proposed additional language regarding co-location of wireless facilities:

- Ensuring that any proposal to collocate a wireless facility on a billboard structure would be subject to any and all standards and review processes applicable to collocation requests on any other structure

Wireless Collocation. For the purposes of collocation of wireless facilities, billboards shall be considered a structure and shall be subject to the provisions set forth in Section 13.06.545.

Maximum Billboard Angle

Language already included in the public review draft:

Billboard faces located on the same structures shall be back-to-back with the two faces at no greater than a 30-degree angle from each other.

Proposed new graphic to clarify the maximum allowed separation of “back-to-back” billboards: