TORONTO

STAFF REPORT
ACTION REQUIRED

Electronic and Illuminated Sign Study and Recommendations for Amendments to Chapter 694 of the Municipal Code

Date:	November 19, 2013
To:	Planning and Growth Management Committee
From:	Chief Building Official and Executive Director, Toronto Building
Ward:	All
Reference Number:	PG13018

SUMMARY

This purpose of this report is to provide the Planning and Growth Management Committee and City Council with the results of, and recommendations resulting from, the recent inter-divisional review of electronic signs, as well as signs using projected images and illuminated signs within residential districts. The impetus for this study was a series of requests from City Council and the Planning and Growth Management Committee in considering requests for amendments to the Sign Bylaw ("Chapter 694") with respect to the regulation of illuminated and electronic signs.

Toronto Building and Transportation Services, in collaboration with staff from City Planning and external consultants, recently concluded research into the impact of electronic and illuminated signs including:

- A Planning and Design Review;
- A Traffic Safety Study;
- A Public Opinion Poll; and,
- A Series of Public and Stakeholder Consultations.

The amendments proposed in this report would permit signs displaying electronic static sign copy in Employment, Commercial and Utility Sign Districts, as well as smaller, street-level electronic signs in Commercial-Residential Sign Districts. Sign Districts generally relate to zoning designations. These signs would be subject to stricter controls than would apply to traditional (non-electronic) signage with respect to location, separation distance(s) and, in the case of Commercial Residential Sign Districts, size.

This report also recommends that signs for institutional uses located in or adjacent to Residential Sign Districts have reduced hours of illumination (7:00 a.m. to 9:00 p.m.) and a limited ability to display readograph sign copy (no electronic). This report recommends a reduction of 40% in the maximum level of night time illumination for all signs, regardless of their display technology.

Staff have identified the need to bring consistency to the process for applications where a third party electronic sign is not permitted in a Sign District. Currently, the applicant may tailor an application so that it will be considered by either the Sign Variance Committee or the Planning and Growth Management Committee. This report proposes to create new sign types for electronic signs. This would have the result that third party electronic signs not permitted in a Sign District could only be considered as an amendment to the Bylaw through the Planning and Growth Management Committee.

Currently, applications for amendments are considered individually by the Planning and Growth Management Committee throughout the year. As a result, it is difficult for staff and Councillors to consider the broader implications of amendment proposals. This report proposes that all amendment applications be considered together by the Planning and Growth Management Committee on an annual basis. This would allow Council to consider the impact of these applications in a comprehensive manner.

RECOMMENDATIONS

The Chief Building Official and Executive Director, Toronto Building recommends that:

1. City Council amend the City of Toronto Municipal Code Chapter 694, Signs, General, to modify provisions concerning illuminated signs and signs displaying readograph and electronic static sign copy, substantially in accordance with the draft by-law attached as Appendix 1 to this report; and

2. The City Solicitor be authorized to prepare the necessary Bills for introduction in Council to implement the above recommendations, subject to such stylistic and technical changes to the draft bills as may be required.

FINANCIAL IMPACT

The recommendations in this report have no financial impact.

DECISION BACKGROUND

New Sign Regulation and Revenue Strategy
(http://www.toronto.ca/legdocs/mmis/2009/pg/bgrd/backgroundfile-24387.pdf)

New Sign Regulation and Revenue Strategy: Additional Considerations
(http://www.toronto.ca/legdocs/mmis/2009/cc/bgrd/backgroundfile-25449.pdf)

Amendments to Chapter 694 of the City of Toronto Municipal Code with respect to 123 and 145 Queen Street West

- *Planning and Growth Management Committee requested staff to review the issue of projected image signs and report back to the Committee on possible bylaw changes for regulations.*

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2011.PG2.3

Supplemental Report - Area Specific Amendments to Chapter 694, Concerning Third Party Ground Signs Located on Certain Rail Lands

- *City Council directed staff to undertake a study and report on the impact of signs containing electronic sign copy and report back to City Council.*

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.PG15.4

Illuminated Signage at Churches and Schools in Residential Areas

- *The Planning and Growth Management Committee requested staff to report on the impact of illuminated signs on the quality of life in residential areas and to make recommendations for illuminated signs in residential areas.*

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PG22.10

ISSUE BACKGROUND

When Chapter 694 was adopted in 2009, electronic signs raised a number of concerns with respect to their potential impact(s) on surrounding neighbourhoods and their compatibility with existing and future land uses. Concerns primarily centered on the impact of the light emitted by large electronic signs and the impact on adjacent residential buildings plus the risk of driver distraction. In order to address these concerns, Chapter 694 included the following restrictions on illuminated and electronic signs:

- Electronic static and electronic moving copy signs are prohibited in all sign districts except:
    - Signs that display electronic moving and electronic static copy are permitted in the Dundas Square Special Sign District (DS-SSD) provided that they comply with the requirements in Chapter 694.
    - Signs that display electronic static sign copy are permitted in the Gardiner Gateway Special Sign District (GG-SSD) provided that they comply with the requirements in Chapter 694.
- With the exception of signs in Residential (R) Districts, ground signs and wall signs can include an electronic display, but that component is restricted to 50% of the sign face area and to readograph copy only (alphanumeric text).
- Signs which are projected onto buildings from a source outside of the sign structure, although not expressly prohibited by Chapter 694, are not permitted as-of-right in any sign district.

- All third party sign permits are limited to a five-year duration, at which time the sign must be reviewed against the requirements of Chapter 694 to take into account development and land use changes in the city.

Since Chapter 694 was adopted in 2009, a number of applications for sign variances and Sign Bylaw amendments have been considered by the City to allow the display of electronic sign copy. A number of these applications were approved so that signs utilizing electronic displays have been permitted in areas outside the Special Sign Districts. As the number of electronic signs have increased, concerns continue to be expressed about the proximity of electronic, projected image and illuminated signs to residential buildings, highways and public spaces.

In 2011, the Planning and Growth Management Committee and City Council requested that staff report on possible bylaw changes to regulate signs projected onto buildings. A separate request was made by Council in 2012 to study the impact of signs containing electronic copy. A further direction was received in 2012 to study illuminated signs and their impact on quality of life in residential areas.

Earlier this year, Toronto Building, in cooperation with City Planning and Transportation Services, initiated a comprehensive research project to respond to the Council directives and determine whether bylaw amendments are appropriate.

The research has provided current information that has been used to develop the bylaw amendments recommended in this report.

COMMENTS

The potential magnitude of the impact that a sign has on adjacent neighbourhoods will differ depending upon display type (electronic display vs. non-electronic display), size, illumination method and the ability to change messages.

The study undertaken by staff examined the impact of signs and considered appropriate locations and illumination criteria for the various sign categories.

The study was made up of three components:

- A planning and design review of the impact of electronic and illuminated signs on surrounding land uses and methods used in other municipalities to address that impact (See Appendix 3 to this report);
- A traffic safety study which examined the potential safety implications of electronic signs (See Appendix 5, 6, and 7 to this report); and,
- A public opinion poll on electronic and illuminated signs (See Appendix 4 to this report).

The sign categories that were included in the study are as follows (see Appendix 2 for detailed descriptions and examples of these sign categories):

- Illuminated signs – this applies to any sign which is illuminated and covers all of the common types of signs in the city, used for identification, direction or advertising.
- Signs displaying readograph copy – these are signs that display alphanumeric text which can be changed manually or electronically. Permanent signs which display readograph copy usually do not display that copy as the majority or entirety of the sign faces.
- Signs displaying electronic copy that does not move or "Electronic Static Signs" – these are signs that display sign copy using LED (or similar) displays that change at regular intervals.
- Signs displaying full motion or moving electronic copy or "Electronic Moving Signs" – these are signs that display sign copy using LED (or similar) displays.
- Signs projected onto buildings or "Projected Image Signs" – these are signs displayed by projecting an image onto a building wall or similar surface from a projector which is usually located on an adjacent property or vehicle. These are frequently used during special events like Nuit Blanche.

PLANNING AND DESIGN REVIEW

One element of the study was a review of the planning and urban design considerations for illuminated and electronic signs. This included a workshop detailed below in which urban designers, architects and city staff with expertise in sign regulations and design of public spaces considered electronic and illuminated signs.

The City of Toronto retained Martin Rendl and Associates to prepare a report on the workshop as well as to provide information on the experiences of other jurisdictions with electronic and illuminated signs (see Appendix 3 for a full copy of this report).

Urban Design Workshop

On June 24 and 25, 2013, the City of Toronto hosted a workshop with six external architects and urban designers with expertise in public space, supported by city staff, to review and analyze the potential impact and methods which could be utilized to manage the impact of illuminated and electronic signs.

The workshop included an evening tour of several illuminated and electronic sign locations throughout the city. This tour familiarized workshop participants with the types of signs in Toronto and provided an opportunity to observe various illuminated and electronic signs in the context of their surroundings.

Subsequently, the group participated in a roundtable discussion where participants identified and reviewed the constraints and opportunities associated with the various types of electronic signs and their impact on the public realm.

The potential impacts of illuminated and electronic signs were generally identified as:

- Concerns around the amount of illumination from signs;
- The transition effects used on electronic signs;
- The compatibility of signs with their surroundings; and,
- Public safety concerns, such as driver and pedestrian interference and distraction.

After considering the various types of signs, workshop participants suggested several methods which could be utilized to manage the impact. These included: controlling the level of illumination; protecting sensitive land uses from the light from signs; and minimizing transition effects of electronic signs.

Review of other Jurisdictions

The Planning and Design Review completed by Martin Rendl and Associates includes a review of other North American jurisdictions and the various methods used to regulate electronic and illuminated signs.

The review found that electronic and illuminated signs are commonly regulated in the following ways:

- The maximum brightness of signs is often limited between sunset and sunrise.
- Locations of electronic signs are often limited to only Commercial and Industrial (Employment) areas.
- The message duration on electronic signs (the length of time between image changes) ranges between six seconds and 60 seconds.
- The transition between images on electronic signs is often limited to a maximum of one second and transition effects are generally not permitted.
- Most jurisdictions also require separation distance between:
    - Electronic signs and sensitive land uses (e.g. residential uses or parks);
    - Roads, traffic signals and/or intersections; and,
    - Separation distance requirements between electronic signs (which can vary between 100 and 500 metres).

PUBLIC OPINION POLL

Ipsos Reid was commissioned by the City of Toronto to determine the views of residents across the City with respect to illuminated and electronic signs.

The poll was intended to gain a better understanding of the public attitudes and opinions on:

- Different types of electronic and illuminated signs;
- The hours of operation for operating electronic and illuminated signs;

- Perceptions of driver, cyclist and pedestrian distraction with respect to illuminated and electronic signs; and,
- The acceptability of different types of electronic and illuminated signs in residential, commercial, and other areas of the city.

The Public Opinion Poll can be found as Appendix 4 to this report.

Overall, the poll found that Toronto residents are accepting of illuminated and electronic signs and perceive them to be a natural accessory in large cities like Toronto with 70% agreeing that illuminated and electronic signs are a normal part of the public landscape in large cities.

The public opinion poll suggested that the majority (60%-81%) of those surveyed accept all types of signs in commercial or industrial areas as well as near community centres and other public spaces; however, not in residential areas where fewer than 45% of those surveyed find it acceptable to locate any type of electronic or illuminated sign in their neighborhood, on their street, or in residential areas. This was found to be particularly true for electronic static and electronic moving signs as well as projected image signs with fewer than 20% of residents feeling that these types of signs are acceptable in residential areas or on their street.

TRAFFIC SAFETY STUDY

As part of the study, a review was completed by Transportation Services comprised of two elements: the first element was a literature review on any studies that had been completed on the topic; the second element was a statistical analysis of locations in Toronto where electronic signs have been installed to determine whether there has been an increase in traffic accidents on roads where electronic signs have been located.
In addition to these two study elements, the public opinion poll conducted by Ipsos Reid contained a number of questions with respect to driver distraction.

The main conclusion of this research was that while electronic signs have been shown to contribute to driver distraction more than other types of signs (traditional, non-electronic signs), no statistically significant effect on collisions has been identified.

Literature Review (see Appendix 5)

A literature review was completed by CIMA+ on behalf of Transportation Services in order to review the safety impact of Electronic Static Signs. The 2009 study: “Safety Impacts of the Emerging Digital Display Technology for Outdoor Advertising Signs” commissioned and published by the National Cooperative Highway Research Program ("the NCHRP Report") was used as the baseline for this review as this document is considered a landmark report due to the comprehensive and critical review of all recent literature on the subject matter up to the time of its publishing, including 45 studies completed between 1983 and 2009.

To update this literature review, CIMA+ reviewed seven comprehensive studies that have been completed since 2009. Most of the conclusions found in the literature published after the publication of the NCHRP Report have come to conclusions consistent with the NCHRP Report: that electronic signs may contribute to driver distraction more than other types of signs; however, no statistically significant effect on collisions has been identified.

The NCHRP Report also identified certain aspects of signs displaying electronic copy that could be managed to minimize their overall impact on traffic safety.

As Table 1 indicates ten of 12 aspects of electronic signs that are commonly regulated to mitigate the impact of electronic signs, are explicitly integrated into Chapter 694 regulations.

Table 1 – Electronic Signs: Factors Influencing Traffic Safety

Electronic Sign Attribute	Description of Attribute	Currently Regulated by Chapter 694
Image dwell time	The length of time that an image is displayed on an electronic sign.	Yes
Image transition time	The length of time it takes the image on a sign to change to another image.	Yes
Transition effects	Changes or effects displayed during the transition of one message to another.	Yes
Message sequencing	Displaying two or more images in sequence to form a continuous message or advertisement.	Yes
Quantity of information displayed	The amount of information that is displayed as part of an image or advertisement.	No
Presentation of information	The design of information and advertisements presented on a sign.	Yes/No
Sign face area	The size of the sign face displaying the electronic image.	Yes
Luminance levels	The brightness of a sign in daytime and/or night time conditions.	Yes
Failure setting	Should an electronic sign malfunction, a default setting for the sign.	Yes
Minimum spacing requirements	The distance between two signs displaying electronic copy.	Yes, for third party signs
Proximity to traffic control points	The location of a sign relative to intersections or other driver decision points.	Yes
Time limited permit	The length of time that a sign permit for an electronic sign remains valid for.	Yes

Two aspects of electronic signs (quantity of information displayed and presentation of information) are not explicitly integrated into Chapter 694's regulations. Regulations which specifically regulate the quantity of information included on a sign, and the

specific design in which the information is presented, were not explicitly included in the regulations contained in Chapter 694, for a variety of reasons.

City of Toronto Research and Experience with Traffic Safety Implications

On behalf of Transportation Services, a statistical analysis of collisions before and after electronic signs were installed was performed utilizing the methodology outlined in the American Association of State Highway Traffic Officials (AASHTO) Highway Safety Manual. Six to seven years of collision data was analyzed for 12 locations throughout the city.

Results are considered statistically significant when the results are common among all studied sites. Conversely, results are deemed statistically insignificant when there is variability among individual site results. The following locations were analyzed:

1. Signalized Intersection Installation (See Appendix 7)

A total of 426 collisions at the intersection of Victoria Park Avenue and Sheppard Avenue were analyzed as part of this review. The results indicated that there was a 3.3% increase in the number of collisions after installing the sign; however, the increase was found to be statistically insignificant, meaning that there is no evidence to suggest that this sign has had any impact on collision frequency.

2. Expressway and Highway Installations (See Appendix 6)

A total of 1,727 collisions at 11 sign locations along the FG Gardiner Expressway and Highway 27 were analyzed for this review. The results indicated that there was a 4% decrease in the number of collisions after the electronic signs were installed and the decrease was found to be statistically insignificant, meaning that there is no evidence to suggest that these signs had any impact on collision frequency

Findings from Public Opinion Poll (See Appendix 4)

As part of the public opinion poll conducted by Ipsos Reid, respondents were asked to consider a number of distractions typically faced by a driver and asked to rate their level of distraction. The question asked as part of the poll was: *Thinking about when you are driving in the city, how distracting do you find the following?* The results of those questions are listed below in Table 2.

As can be seen from Table 2, approximately half of those polled find electronic signs distracting when they are driving (52%), on par with GPS and road maps (50%), while traditional non-electric signs were found to be the least distracting (18%).

Table 2 - Poll Results on Distraction While Driving (*n=1504*)

Item	Very Distracting (%)	Somewhat Distracting (%)	Not Very Distracting (%)	Not at all Distracting (%)	% Distracting
Cell Phones	44%	30%	16%	10%	**74%**
Pedestrians	15%	41%	32%	12%	**56%**
Electronic Signs	13%	39%	37%	12%	**52%**
GPS/Road Maps	12%	38%	35%	16%	**50%**
Adjusting Vehicle Controls	5%	35%	42%	18%	**40%**
Passengers	4%	34%	47%	15%	**38%**
Scenery	3%	24%	48%	25%	**27%**
Traditional (non-electronic signs)	3%	15%	57%	25%	**18%**

Based on the above findings, it would seem that the research and experience in the City of Toronto with respect to electronic signs, driver distraction and automobile collisions is consistent with the findings of the traffic safety literature review in that while electronic signs appear to contribute to driver distraction more than other types of signs, there is no statistically significant evidence that this distraction has led to an increase in collisions.

PUBLIC AND INDUSTRY CONSULTATION

From August to October 2013, an extensive consultation program took place in order to gather information and input on the impact and regulation of illuminated and electronic signs in Toronto, as well as to gather feedback on initial study findings and proposed regulations.

Prior to the presentation of the initial report at the September 12th meeting of the Planning and Growth Management Committee, representatives from the Outdoor Advertising Industry, the Sign Association of Canada, and from Ratepayer and Public Space groups were consulted. During these consultations, all of these groups requested additional time to review the initial study results and requested further opportunities for consultation.

At the September 12th meeting of the Planning and Growth Management Committee, members supported the recommendation to receive the preliminary report which indicated that staff were consulting further prior to reporting on any changes to Chapter 694 with respect to electronic and illuminated signs.

Throughout August and September, a total of four public consultation sessions, four industry consultations, and two ratepayer and public interest group consultations took place.

The main issues identified in the public consultation process were concerns around traffic safety, driver distraction and the impact that illuminated and electronic signs could have on neighbourhoods and the city as a whole, particularly with respect to brightness and the flashing effect that can occur with electronic signs.

An overview of the particulars of the consultation sessions and a summary of the feedback and comments received is provided in Appendix 8 to this report.

PROPOSED SIGN BYLAW AMENDMENTS FOR ELECTRONIC AND ILLUMINATED SIGNS

As a result of the findings of the study, it is recommended that the regulations in Chapter 694 be amended to reflect the study's findings and to reflect the recommendations found in the Planning and Design Review:

ADMINISTRATIVE CHANGES:

Throughout the study and consultation process, a number of procedural and administrative changes were suggested. These included suggestions to restrict consideration of amendments to the Sign Bylaw to an annual process to allow more comprehensive decision making and, expanding the public consultation process on proposed Sign Bylaw amendments, particularly where the applications involve electronic signs.

Annual Reporting for Bylaw Amendments:

Currently, applications are received by staff who then review and make recommendations on each proposal individually. These reports and recommendations then go to City Council through the Planning and Growth Management Committee for a final decision.

In the future, this practice will be changed so that future reports on all amendments to Chapter 694 will be considered on an annual basis. Sign Bylaw Unit staff will receive applications for area-specific bylaw amendment applications made throughout the year, and then review the various applications, at the same time, rather than on a site-by-site basis.

Once applications have been collected and subject to an initial review, public consultation sessions will be held to gather input and feedback on the various applications. Staff will notify residents and property owners within 120 metres of each of the affected premises, as well as Members of Council of the public consultations. After the public consultations, staff will then develop final recommendations and report to Council, through the Planning and Growth Management Committee. Amendments initiated by the City will also be the subject of reports presented to Planning and Growth Management Committee at the same time as the annual report on area-specific bylaw amendments. This will allow for the impacts of all of the various proposed amendments to be considered collectively rather than on an isolated or "site-by-site" basis.

It is proposed that the first of these reports be brought to the Planning and Growth Management Committee in the spring of 2015 and then once a year thereafter.

Applications to vary the requirements of Chapter 694 within the mandate of the Chief Building Official or the Sign Variance Committee would continue to be heard regularly throughout the year and the ability of the local councillor to have approvals granted by the Sign Variance Committee reviewed would continue through the current process as amended by City Council in July 2013.

GENERAL AMENDMENTS:

Amend the list of "Sign Types" to include Signs Displaying Electronic Sign Copy:

Chapter 694 includes regulations based on "sign type". Sign types are currently defined based on their physical characteristics (e.g., ground, wall, roof). Regulating signs by the defined "sign types" ensures that specific aspects of signs which have the potential to impact the public realm, such as location on a lot or a building, may be adequately managed. Currently, changes to the method of sign copy, including electronic static or electronic moving copy, can be considered through the sign variance process.

Due to the potential impact that electronic sign copy can have on the surrounding community, it is recommended that the list of sign types provided in Chapter 694, be amended to include new sign types for all signs displaying electronic static and/or electronic moving sign copy. Classifying electronic signs as a new "sign type" would require that applications for third party signs displaying electronic sign copy in a Sign District where it is not expressly permitted, be considered as an area-specific bylaw amendment.

Including signs displaying Electronic Sign Copy as a listed "sign type" will allow for a more comprehensive review of the potential impacts of these signs.

Illumination Requirements for all Sign Categories:

The amount of light from illuminated and electronic signs has consistently been identified as having a significant impact on the surrounding community, particularly between sunset and sunrise. With an increasing amount of the city being redeveloped to contain a mix of commercial and residential land uses, the level of illumination that applies to signs should be considered in this context.

The illumination controls currently contained in Chapter 694 address both of the following aspects of the illumination of an electronic sign:

- Maximum luminance (the amount of light leaving the source i.e., emitted by the light source) measured in candelas per square metre (cd/m2) or nits (1 nit = 1 candela per square metre). The light emitted by a typical desktop computer monitor is between 50 to 300 nits.

- Maximum illuminance (the amount of light falling on a surface such as the ground surrounding a sign) measured in foot-candles or lux (1 foot-candle =10.7 lux, 1 lux = 0.09 foot-candles). The outdoor light level on a clear day is approximately 10,000 lux while night under a full moon is approximately 0.1 lux. Indoor light levels can range from 500 to 1,000 lux or more depending on the activity.

It is proposed that the maximum illumination levels be reduced for all signs from 500 nits to 300 nits between sunset and sunrise and be maintained at 5000 nits between sunrise and sunset.

These proposed levels are consistent with the brightness levels for signs in other jurisdictions where the maximum illumination levels between sunset and sunrise range between 220 nits and 500 nits between sunset and sunrise and between 5000 nits and 7500 nits between sunrise and sunset (see Appendix 3 for details).

It also proposed that the maximum amount of light trespass for all signs be reduced from 6.5 lux above ambient light when measured at a distance of ten metres to a maximum of 3.0 lux above ambient light when measured at a distance of ten metres. Light trespass or spill refers to light emitted from a sign and which falls onto adjacent properties. These proposed regulations are consistent with regulations for light trespass in other Canadian jurisdictions where it is regulated.

CHANGES TO REGULATIONS IN SIGN CATEGORIES:

Table 3 below provides a summary of the study findings with respect to the various sign types reviewed.

Based on the study findings, recommendations for amendments to Chapter 694 for illuminated and readograph signs in Residential (R) Sign Districts, signs displaying electronic sign copy, and signs projected onto buildings or structures are detailed below.

Table 3: Summary of Study Findings for each Sign Category

Sign Category		Planning and Design Review	Traffic Safety Study	Public Opinion Poll
Signs in Residential Districts	Illuminated Signs	• Consider the need for illuminated signs and the impacts that they have on surrounding residences • Consider reduced hours of illumination	• Not specifically identified in the traffic safety review or public opinion poll as a concern for traffic safety	• Only 22% of those polled find these signs to be too bright • Just over half of those polled find it unacceptable to place these signs in residential neighbourhoods
	Readograph Signs	• Concerns identified over variable light levels and overall brightness of sign copy • Maximum brightness levels and message transition rules should be applied to these signs	• Not specifically identified in the as being a concern in traffic safety studies • Half of those polled (50%) find readograph signs distracting while driving	• Roughly half of residents oppose these signs in residential areas • However, residents do not find them particularly bright (54%) or feel that they operate too late at night (49%)
Electronic Static Signs		• Concerns identified over variable light levels and overall brightness of readograph sign copy • Attempts should be made better integrate these signs into surrounding context and architecture	• No statistical relationship found between signs displaying electronic static sign copy and increases in traffic collisions • Signs displaying electronic static sign copy have been identified as being more distracting than signs displaying other types of sign copy	• 77% of those polled find it acceptable to locate these signs in commercial or industrial areas • Strong opposition (67% opposed) to these signs being located in residential areas
Electronic Moving Signs		• Appropriate as 'place making' signs around major attractions such as Ripley's Aquarium, Dundas Square, or the Air Canada Centre	• These signs have been identified as a greater risk for driver distraction due to longer periods required to convey the complete message	• Similar to other types of signs, there is strong support for electronic moving signs in commercial or industrial areas (77%) and around community centres (65%)
Projected Image Signs		• Concerns about the potential size and variable light levels and light spill that can occur with these signs • More appropriate for special events or for short term use only	• Not specifically identified in the traffic safety review; however, changing or animated sign copy being displayed by these signs is likely to have the same impacts as other electronic signs	• Strong support for projected image signs in commercial and/or industrial areas (77%) and around community centers (62%) • Little acceptability for these signs in residential areas (65% unacceptable)

Illuminated Signs in Residential Sign Districts:

Currently, signs associated with institutional uses (schools, churches, community centres) are permitted to be illuminated in accordance with the requirements of Chapter 694. This would allow signs associated with these uses to be illuminated until 11pm or until any events taking place on the property have finished for the evening.

Based on the findings of the study, it is proposed that illuminated signs in Residential (R) Sign Districts or within 30 metres of Residential Sign Districts be subject to the following:

- That signs not be illuminated between the hours of 9:00 pm and 7:00 am.
    - This requirement would not apply to signs associated with emergency services where signs are permitted to be illuminated 24 hours a day.
- That illumination levels be consistent with the proposed changes to the illumination requirements of Chapter 694 described above.

Figure 1: Illuminated Sign with an Electronic Readograph

Currently, Chapter 694 allows a sign to be illuminated beyond the normal hours of operation where the sign is associated with a lawful business that is in operation at those times. This exception would not apply to signs in (or within 30 metres of) Residential Sign Districts.

The requirement for all other signs in Residential Sign Districts, such as those permitted for a home occupation business, will be unchanged from the current requirement that they be non-illuminated.

Readograph Sign Copy in Residential Sign Districts:

Based on the findings of the study, it is proposed that readograph signs be permitted in Residential Sign Districts where they are associated with schools, churches, hospitals, nursing homes and community centres subject to the following:

- Only non-electronic readograph copy be permitted (see Figure 2 for an example of non-electronic readograph sign copy).
- That signs displaying readograph copy not be illuminated between the hours of 9:00pm and 7:00 am.
- That illumination levels be consistent with the proposed changes to the illumination requirements of Chapter 694 described earlier in this report.

- That the maximum permitted sign face area displaying readograph copy does not exceed 30% of a wall sign to a maximum of 3.0 square metres or 50% of a ground sign to a maximum of 4.0 square metres.

Figure 2: Illuminated Sign with a Non- Electronic Readograph

Institutional uses located in Residential Sign Districts often have special events or important dates that need to be communicated with local residents, and allowing readograph sign copy is an appropriate way to do this.

Limiting the readograph copy to non-electronic copy only in residential areas will eliminate the variable light levels that electronic sign copy can cast on the surrounding community.

First Party Signs Displaying Electronic Static Copy:

It is proposed that first party signs displaying electronic static sign copy be permitted in Commercial (C) and Employment (E) Sign Districts subject to the following:

- The maximum sign face area(s) is 30% of the sign face area to a maximum of 3.0 square metres on a wall sign and 5.0 square metres on a ground sign;
- These signs only be permitted on premises with exclusively commercial developments that contain ten or more tenants;
- That the lot frontage on which the sign is located is 100 metres or greater;
- That there be no more than one sign containing electronic static copy per premise;
- That the sign not be located within 60 metres of a Residential (R), Residential Apartment (RA), Commercial Residential (CR), Institutional (I), or Open Space (OS) Sign District;
- That the portion of the sign displaying electronic static copy be located in the bottom 50% of the sign face area;
- That the minimum message duration be one minute;
- That the maximum message transition be one second with no visible effects used during the message transition;
- That illumination levels be consistent with the proposed changes to the illumination requirements of Chapter 694 described above.

During the consultation process, staff were informed that signs displaying electronic static sign copy could be of benefit to commercial properties, such as plazas and shopping centres. Permitting multi-tenant commercial developments to have signs with electronic

static copy will allow for increased flexibility for multiple tenants to advertise promotions or products at the same time.

Figure 3: First Party Sign Displaying Electronic Static Copy

The sign face area that is proposed to be displayed as electronic static sign copy is limited to the same total area that is currently permitted to display (electronic or non-electronic) readograph sign copy on a first party sign. The ability to display electronic static sign copy should allow the sign owner more options for the type of sign copy which can be displayed.

The longer proposed dwell time of one minute and the requirement for the electronic portion of the sign to be in the bottom 50% of the sign face area will reduce the potential impact of changing copy and variable light levels that can be associated with electronic static sign copy.

The current restrictions on message transition time and effects for signs displaying electronic static sign copy, as well as the proposed changes to sign brightness and dwell time, should also reduce the potential impact that these signs have on driver or pedestrian distraction.

Third Party Signs Displaying Electronic Static Sign Copy:

It is recommended that third party signs displaying electronic static copy be permitted in Employment (E), Commercial (C) and Utility (U) sign districts subject to the following:

- That the sign be located a minimum of 30 metres from an intersection;
- That the sign not be physically located within 60m of an Residential (R), Residential Apartment (RA), Commercial Residential (CR), Institutional (I), or Open Space (OS) Sign District;
- Where a sign is located within 250m of an Residential (R), Residential Apartment (RA), Commercial Residential (CR), Institutional (I), or Open Space (OS) Sign District the sign cannot face any premise in the R, RA, CR, I or OS Sign District;
    - ‘Facing’ shall mean a 180 degree semi-circle in front and to the sides of the sign face
- That the sign be located a minimum of 500 metres from any other third party sign that displays electronic copy on the same street or street intersecting the street on which the sign is located;
- The sign shall be located a minimum of 150 metres from any other sign displaying third party sign copy;

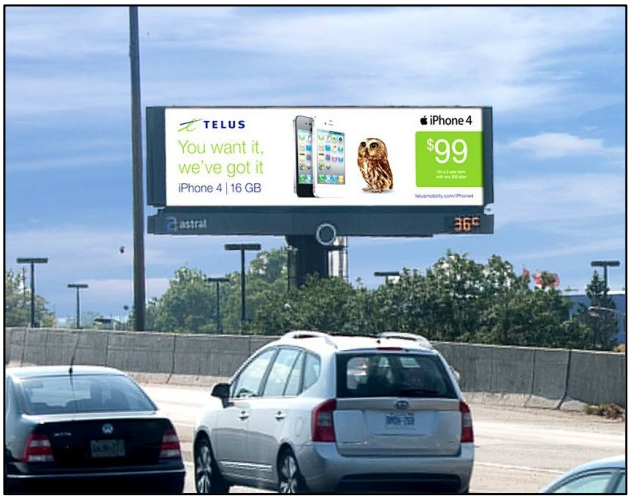
- That illumination levels be consistent with the proposed changes to the illumination requirements of Chapter 694 described above.

It is also recommended that the permission for third party signs in CR sign districts be modified to permit small third party wall signs displaying static, mechanical or electronic static copy subject to the following:

- The maximum sign face area not exceed 3.0 square metres;
- The sign be located a minimum of 30 metres from an intersection;
- The sign be located a minimum of 30 metres from an R, RA, OS or I Sign District;
- The maximum sign height shall be 3.0 metres above grade;
- Where a sign displays electronic static sign copy and is located within a 100m radius of an R, RA, OS or I Sign District, the sign shall not be permitted to be facing any premise in the R, RA, OS or I Sign District;
    - 'Facing' shall mean a 180 degree semi-circle in front and to the sides of the sign face
- The sign shall be located a minimum of 100 metres from any other third party sign that displays electronic copy on the same street or street intersecting the street on which the sign is located; and
- That illumination levels be consistent with the proposed changes to the illumination requirements of Chapter 694 described above.

All other requirements for third party signs with respect to: message duration and transition; sign face area; sign height; separation from highways; and, area-specific restrictions currently in Chapter 694 would apply.

Figure 4: Third Party Sign Displaying Electronic Static Copy



The proposed size of third party wall signs in CR sign districts, in conjunction with the new illumination levels and separation distances proposed in this report should result in signs that have a minimal impact on residential dwelling units on upper storeys of mixed use buildings. In many cases, these proposed changes will result in third party signs that are smaller than first party signs which are permitted to have a maximum sign face area of 20% of the first storey of a building and 10% of the second storey of a building.

CR Sign districts also tend to be in areas of the city that are more pedestrian oriented and where smaller scale signs are more appropriate due to the close proximity of residential land uses and to reduce the impact on the pedestrian environment.

The proposed restrictions on signs facing properties in R, RA, I, OS and, in some cases, CR Sign Districts, are not currently contained in Chapter 694 and should mitigate the additional impacts of signs displaying electronic static sign copy on sensitive uses.

The proposed separation distance requirement of 500 metres between large third party signs on the same street or street intersecting the street on which the sign is located is intended to reduce the impression of flashing or animation that can occur when the copy on two or more signs are changing at different times.

Signs Displaying Electronic Moving Sign Copy

It is recommended that the current provisions of Chapter 694 for signs displaying electronic moving copy be maintained so that the location where these signs are permitted is restricted to the Dundas Square Special Sign District.
The Dundas Square Special Sign District has been identified as an area of the city where signs displaying electronic moving sign copy are a defining characteristic of the area. While these signs can contribute to a sense of place and may be appropriate in other locations in the city, they have a more significant impact on adjacent properties.

Figure 5: Sign Displaying Electronic Moving Copy

As a result, the level of review that takes place as part of a sign variance application, or in the case of a third party sign, a Sign Bylaw amendment application should be applied where these signs are contemplated.

Projected Image Signs

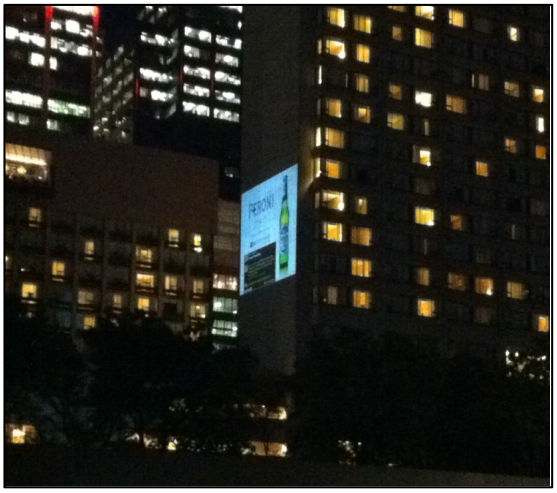
Based on the study findings it is recommended that the current provisions of Chapter 694 for projected image signs be revised to include a specific definition for "Projected Image Signs" and to permit them only as part of a Signage Master Plan.

While Projected Image Signs can contribute to a sense of place and may be appropriate in some locations in the city or when associated with special events, due to the potential size of these signs (some can occupy an entire building wall) as well as the possibility of changing images and variable light levels, the additional level of review that takes place as part of the Signage Master Plan process should be applied where these signs are contemplated.

It is also recommended that the illumination levels and requirements applicable to all other illuminated or electronic signs be applied to projected image signs where they are approved.

Projected image signs may require additional levels of review because the display of these signs can often involve two or more properties. The image is often projected onto a building wall on a property from a projector located on another property. It is also possible that the projected image may pass over other properties that are between the projector and the sign location.

Figure 7 and 8: Projected Image Sign during the Day and Night



Where these signs are part of a special event (such as Nuit Blanche), a review and exemption from the regulations of Chapter 694 is possible from the General Manager of Economic Development, Culture and Tourism.

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SIGNATURE

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Ann Borooah, MSc. Pl., MCIP, RPP
Chief Building Official and Executive Director
Toronto Building

ATTACHMENTS:

1) Draft Bylaw, Proposed Amendments to Chapter 694
2) Descriptions Of The Signs Reviewed as Part of this Study
3) Planning And Design Review, Martin Rendl And Associates
4) Public Opinion Poll, June 2013, Ipsos Reid
5) Literature Review, Electronic Signs and Traffic Safety, CIMA +
6) Collision Analysis, Electronic signs on Expressways and Arterial Roads, CIMA+
7) Collision Analysis, Electronic Signs at Intersections, CIMA+
8) Summary of Comments received from Public Consultation Process