



October 1st, 2020

Re: Recommended Changes to Guelph Sign By-law – Specific to Billboards

Please accept the following letter on behalf of Pattison Outdoor Advertising LP, to be considered along with the recommended changes to the Sign By-law proposed by staff at the City of Guelph, for consideration by Council at the October 5th, 2020, meeting.

We are supportive of the recommended change which would allow existing billboards to be converted to electronic displays, and are confident in Pattison’s ability to responsibly operate electronic billboards in Guelph in accordance with the illumination provisions proposed by staff. We have built an expanding inventory of electronic signs in Oshawa, Pickering, Toronto, Barrie, Simcoe, Vaughan, Mississauga, Milton, Hamilton, Cambridge, Niagara Falls, Thorold, Windsor, and Chatham, without any complaints from the public about how they operate. We operate more than 450 digital billboards across Canada.

However, a minimum dwell time (the amount of time a message is displayed on the sign) of 180 seconds poses a significant challenge within the Canadian advertising industry because the established standards for dwell time are much less.

Based on the data below and best practices established within the sign industry, we respectfully request that Council consider allowing electronic billboards to operate with a dwell time of 20.0 seconds, and include a requirement for an instantaneous change between messages, while also restricting any visual effects from being displayed during the transition between messages, such as scrolling, blinking, flashing or animation.

As Canada’s largest Out-of-Home Advertising Company, with more than 50 years of local experience in Ontario, we have performed extensive research on the topic over the last several years, and have provided a summary of the data below, along with links to the full documents for reference.

Analysis by Transportation Association of Canada (TAC) reports

The Transportation Association of Canada (TAC) has published a substantial report, *“TAC Report Digital and Projected Advertising Displays: Regulatory and Road Safety Assessment Guidelines”*, which speaks to several studies meant to analyze the impact of electronic signs on driver distraction.

Full-motion Copy vs. Static Copy

Transport Research Lab (TRL) in the United Kingdom conducted a study to seek out information on driver behavior using a simulator and eye-movement tracker, including 2 simulated driving routes and 46 drivers of varying age and gender.



Electronic moving copy (or full-motion video) was found to cause significantly greater impairment to driver performance, compared to electronic static advertisements (where the message remains still and changes at regular intervals instantaneously, with no visual effects such as fading, flashing, blinking or scrolling between messages – in line with the staff recommendations). On average, drivers spent 12 per cent longer looking at full-motion copy, and glanced 34 per cent more frequently at video advertisements than at static advertisements.

In addition, drivers tended to demonstrate poorer tracking ability, slower reaction time and drove at slower speeds when approaching a sign with full-motion copy versus static copy.

Beijer, Smiley and Eizenman conducted a study on a six-lane highway in downtown Toronto (the Gardiner Expressway) in 2004, with a posted speed limit of 80 km/h, and average driving speeds of 90 to 95 km/h. The study included 25 drivers between the ages of 25 and 50 with a minimum of 5 years driving experience. The study was undertaken between 10 am and 2 pm, where traffic conditions were deemed “medium to light”. Drivers were exposed to a total of 37 advertising signs on both sides of the road, split almost evenly between static signs (18) and moving-copy signs (19).

The range for the total number of glances by all drivers, at any of the 37 signs, was between 3 and 87. Signs with full-motion copy received longer glance durations and a disproportionately high number of glances compared to static billboards. Beijer noted that, in summary, drivers make twice as many glances at signs with moving copy than at those with static copy.

In 2012, the City of Ottawa conducted a pilot study with 4 existing digital billboards, for the purpose of amending the by-law to allow digital billboards under set regulations. This project included the analysis of collisions in the vicinity of the four pilot digital billboards at three intersections, before (for the 10 years between 2001 and 2010) and after (2011).

At all three locations, the number of collisions were found to be within the historical range. In addition, the number of collisions in 2011 was found to be very similar to the number of collisions in 2010, with fewer collisions at two of the three locations. The main conclusions of these studies was they were unable to identify any statistically significant effect on collisions where electronic signs had been installed.

Message duration (dwell time)

A report by Dukic et al (2012) points to a study by the Swedish Road Authority, which stated that a 7.0-second message duration was set out based on a trial-and-error method, and to represent a compromise between traffic safety demands and the requests of billboard owners. As can be expected, shorter message duration / dwell time results in drivers being more likely to observe a change in the message being displayed, which can result in that driver glancing for a longer duration.



Watchel (2009) suggests that the optimal message duration (or dwell time) can be represented by using the following formula: minimum display duration (in seconds) = sight distance to the digital billboard (in feet) / speed limit (in feet per second). The 2007 U.S. Federal Highway Administration guidelines found that the minimum message duration ranges between 4.0 and 10.0 seconds, with a recommended duration of 8.0 seconds.

Watchel also recommends that the interval between messages be as short as possible, with instantaneous being the optimal transition speed. Any visual effects between one message and the next should be prohibited, in line with the recommendations of staff.

Setback from roads

Several studies determine that 2.0 seconds is the maximum amount of time that a driver could take their gaze off the road and still maintain lateral control of the vehicle, which may be extended to 3.0 or 4.0 seconds if the sign is close enough to the road so the driver can see it with their peripheral vision.

Link to full TAC report

<https://www.tac-atc.ca/en/digital-and-projected-advertising-displays-publication-now-available>

Comparative Analysis (Dwell Time in other Municipalities in Ontario)

It is understandable that it has taken time for municipal and provincial by-laws and regulations to catch up with the changes in technology seen across the sign industry over the last decade. Increasingly, municipal staff have been tasked with reviewing and amending their Sign By-laws to reflect these changes – a process the City of Guelph is currently undertaking.

While there is no set formula for establishing regulations to regulate electronic signs that fits every municipality, looking at what works in nearby cities and towns can help serve as a guideline. In most municipalities, the range for dwell time is 8.0 to 10.0 seconds, as shown in the examples below:

- City of Barrie – 8.0 second dwell time; transition between messages 1.0 seconds maximum
- City of Windsor – 10.0 second dwell time; instantaneous transition between messages
- City of Hamilton – 6.0 second dwell time; transition of 1.0 seconds maximum
- City of Vaughan – 10.0 second dwell time; transition of 1.0 seconds maximum
- City of Toronto – 10.0 second dwell time; transition of 1.0 seconds maximum
- Town of Bradford-West Gwillimbury – 5.0 second dwell time; transition of 1.0 seconds

Recent Changes to MTO Guidelines for Electronic Signs

For the last several decades, the Ministry of Transportation (MTO) has permitted electronic signs with static copy near their highway corridors to have a minimum dwell time of 180 seconds. However, after a lengthy internal review and assessment, they have recently reduced the minimum dwell time to 20.0



seconds between messages, in an effort to allow the sign industry to utilize this advancing technology, while maintaining a high level of traffic safety and preventative measures.

As well, the MTO has approved a pilot project for large-format electronic billboards with minimal setbacks from 400-series highways, with a 10.0-second dwell time between static messages and an instantaneous transition from one message to the next. Several of these signs have been in place for over a year, and have not had any adverse impacts on traffic safety.

Conclusion

Based on the extensive traffic safety data accumulated over the last two decades, the permissions outlined within the Sign By-laws of other municipalities in Southern Ontario, and the recent changes to policy undertaken by the MTO to reduce dwell time to 10.0 seconds for electronic billboards located in close proximity to high-speed, multi-lane highways, we urge Council to consider revising the dwell time for electronic billboards in Guelph to 20.0 seconds.

Allowing existing advertising signs to be converted to electronic displays with 20.0 second dwell times will provide an opportunity for local and national businesses to connect with their customers, which helps support current and future economic growth. This is vital during the current pandemic related to COVID-19, as data shows customers want to be informed of the measures that businesses are taking to keep them safe at this time.

Billboards with electronic copy also help support a healthier environment by eliminating “traditional” static copy, which requires considerable maintenance and materials, the recycling or disposal of paste-and-paper sign copy, and the regular travel associated with frequent site visits. Most of our electronic signs run off renewable energy, and contribute to a healthier environment.

We thank you for your time and consideration of our comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Nicholas Campney".

Nicholas Campney
Director, Leasing & Legislation, Central Region
Pattison Outdoor Advertising LP