

Waterloo, ON, N2L 6N3

June 17, 2025

ERO No. 025-0462 – “Proposed Regulations– Complete Application”

RE: BILL 17, THE PROTECT ONTARIO BY BUILDING FASTER AND SMARTER ACT, 2025 – THE CONTINUED NEED FOR WIND STUDIES TO PROTECT THE PUBLIC REALM

Bill 17, the *Protect Ontario by Building Faster and Smarter Act*, aims to streamline municipal planning applications made under the Planning Act and the City of Toronto Act, by establishing consistent engineering and planning study requirements. The Bill also aims to reduce the number of studies required when proponents submit development proposal applications to municipalities for Official Plan Amendment (OPA), Zoning By-law Amendment (ZBA), and Site Plan Control (SPC).

From the Environmental Registry of Ontario (ERO) website:

Specifically, it is proposed that the following topics could not be required as part of a complete planning application:

- *Sun/Shadow: information and material related to the impact of shadows cast by a proposed development on the subject land and on surrounding lands including streets.*
- *Wind: information and material related to the potential impacts of a proposed development on wind conditions in surrounding areas.*
- *Urban Design: information and material concerning the urban design of a proposed development, including how a proposed development aligns with municipal urban design guidelines or policies.*
- *Lighting: information and material related to lighting and lighting levels on the site, including the location and type of lighting fixtures proposed on the exterior of the building and on the site.¹*

It is our opinion that removing the ability of municipalities to request wind studies as part of complete applications will have a negative effect on the public realm. By not considering wind studies within the context of an application, the province and municipalities would be allowing unsafe and uncomfortable wind conditions to occur in the public realm. We urge the government to reconsider eliminating the need for these studies.

¹ [Proposed Regulations– Complete Application | Environmental Registry of Ontario](#)

The Wind Safety and Wind Comfort Problem

As mid-rise and high-rise developments began to become commonplace in urban areas during the 1960's and 1970's, a new issue arose. Taller buildings were intercepting the stronger wind flows that occur at high elevations and redirecting these in wind flows down to grade. This created high velocity winds at the pedestrian (street) level, resulting in uncomfortable and even unsafe wind conditions. The National Research Council of Canada (NRC) brought up their concerns as early as 1976 in an article², citing pedestrian injuries due to wind gusting in the United Kingdom. In 1975, the recently constructed Commerce Court installed rope lines to aid pedestrians on windy days³. Ropes (in blue in image) were also installed on Front Street in Toronto⁴ in the 1980s.



Woman Walking Along Front Street
in Strong winds (1986)

Reports of pedestrian injuries are not limited to the 1970s and 1980s. There have been many reported incidents of citizens being blown over by winds due to nearby high-rise buildings. For instance, in 2011 in Leeds, a pedestrian was killed when a transport truck was blown over by high winds near a recently constructed high-rise development⁵. In this case, a wind tunnel study had been completed, but the area of analysis was not comprehensive enough. This illustrates why competent professionals, preferably professional engineers, should complete these studies for the benefit of the public, not just for the information of the developer.

In addition to high wind speeds being a risk to public safety, relentless strong winds, what is considered uncomfortable in the trade, can affect safe access and egress from buildings, and can interfere with the intended operations of outdoor cafes, patios, amenity spaces, playgrounds, and parks.

Wind Studies Today

Since the inception of the field in the 1960s and 1970s, two state of the art analysis techniques have been developed. The quantitative Boundary Layer Wind Tunnels, which are also utilized for determining cladding loads and structural loads in building design, provide discrete data for specific locations around a scale model of the building. More recently, the qualitative Computational Fluid Dynamics (CFD) approach has been utilized to provide a more visual illustration of the wind impacts due to both gusty wind flows and everyday relentless wind concerns. By conducting a "science experiment" with and without the proposed development, specific areas of concern are highlighted (if necessary) and mitigation measures are incorporated into the building design at the early stages. The intent of these analyses is to limit the potential risk to the public, due to wind once the building is constructed.

² <https://nrc-publications.canada.ca/fra/voir/td/?id=8ecc4b1f-12aa-4f47-8056-976c2bb494aa>

³ <https://www.sciencedirect.com/science/article/abs/pii/S221067071630748X>

⁴ <https://www.cbc.ca/news/canada/toronto/wind-toronto-buildings-skyscrapers-construction-1.5079986>

⁵ [Bridgewater Place 'wind tunnel caused Leeds injuries' - BBC News](https://www.bbc.com/news/uk-england-leeds-36403400)

Closing

In our opinion, municipalities should still be able to require wind studies as part of planning applications in order to assess and reduce the impact of wind on pedestrian safety and comfort within the public realm.

Within urban areas of Ontario, significant wind safety and wind comfort issues occur in limited areas. This is primarily due to the evolving requirements of municipalities over the last 30 years, wherein it was realized that these problematic wind conditions are detrimental to the public and yet can be easily addressed early in the design phase of a building. Addressing such issues once a building is constructed can be extremely costly. Municipalities, through their Terms of Reference, require these unsafe and uncomfortable conditions be resolved prior to Building Permits. And as professional engineers, whose duty is to the public, this is our desire for any application we are involved in. No building should create unsafe or uncomfortable wind conditions.

In our experience, buildings taller than 20 storeys have the potential to create uncomfortable or unsafe wind conditions. Municipalities take height into account through their Terms of Reference, by requiring the quantitative approach, a Boundary Layer Wind Tunnel Study, only for developments of a certain height. These studies are not asked for to be an inconvenience to owners, they are intended to protect the public.

Thank you for your time, and should you have any questions, we would be happy to provide additional information.

Regards,



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