



Transportation Innovation Zone Partnership with Exhibition Place

Date: June 24, 2020
To: Infrastructure and Environment Committee
From: General Manager, Transportation Services
Wards: 10

SUMMARY

Urban transportation is undergoing rapid change from the arrival of new, innovative mobility technologies such as micromobility, private transportation companies, as well as electric, connected, and automated vehicles. Other, less visible shifts are also underway, such as the development of smarter traffic control systems, new paving materials, and new ways of monitoring and evaluating the transportation system.

Leading up to and amidst the COVID-19 pandemic, many advanced technologies and approaches are being proposed to support the movement of people and goods. City staff need a way to transparently trial and evaluate innovations in order to understand their potential value in Toronto's unique context and plan for wider integration. New technologies need to be demonstrated and measured in a controlled, real-world environment to understand potential benefits and impacts to key variables like safety, accessibility and privacy.

Real-world test environments can also support local economic development by providing access to innovators, especially small- and medium-sized enterprises, who are developing custom solutions in the Toronto area. Further, public test environments provide an opportunity for participants to engage the public and demonstrate the potential value of their technologies. To meet these needs, the Transportation Innovation Zones program will facilitate trials of transportation approaches and technologies in the public right of way.

With this report, Transportation Services staff are proposing to partner with Exhibition Place, an agency of the City of Toronto, to establish and implement the flagship Transportation Innovation Zone at Exhibition Place. The Exhibition Place Board of Directors supports this proposal. These grounds offer a unique environment near downtown that can be customized for a wide array of trials, making it attractive to innovators. The City of Toronto and Exhibition Place share a mutual interest in

supporting the advancement of urban transportation, building on a strong history of innovation at this landmark site.

RECOMMENDATIONS

The General Manager, Transportation Services recommends that:

1. City Council direct the General Manager, Transportation Services to work with the Board of Governors of Exhibition Place as may be required to establish and implement a Transportation Innovation Zone at Exhibition Place.
2. City Council authorize the use of the property of Exhibition Place for a transportation innovation zone for up to five years.
3. City Council request the General Manager, Transportation Services to report back on the establishment and implementation of a Transportation Innovation Zone at Exhibition Place in the pending report to Infrastructure and Environment Committee on the framework for, and designation of, innovation zones, as directed for no later than the fourth quarter of 2020.

FINANCIAL IMPACT

Transportation Services confirms that there are no financial implications in the current budget year resulting from the recommendations included in this report.

Future financial implications will be included in the staff report on the framework to Infrastructure and Environment Committee later in 2020. Funding requirements identified in that report will be included for consideration as part of future budget submissions.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

The Exhibition Place Board of Governors, at its meeting on June 24, 2020, moved to support the Exhibition Place Master Plan – Phase 1 Proposal. This Phase 1 Proposal outlines a vision for Exhibition Place to embrace its role as a centre for innovation, and as a "quick start" intervention, the Report proposes the implementation of a Transportation Innovation Zone at Exhibition Place.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.EP11.23>

The Exhibition Place Board of Governors, at its meeting on June 24, 2020, considered a report from the Chief Executive Officer, Exhibition Place and directed Exhibition Place

staff to continue working with Transportation Services staff on the development of a Flagship Transportation Innovation Zone at Exhibition Place.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.EP11.24>

City Council, at its meeting on October 29 and 30, 2019, directed the General Manager, Transportation Services and others to implement the Automated Vehicle Readiness 2022 Schedule, which included the establishment of a framework for transportation innovation zones. City Council further directed the General Manager, Transportation Services to report back to the Infrastructure and Environment Committee on this proposed framework for, and designation of, innovation zones in the City of Toronto by the fourth quarter of 2020.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.IE8.7>

COMMENTS

The Transportation Innovation Zones (TIZ) program is being developed to help the City of Toronto learn about, and facilitate the local development of, emerging transportation technologies. The program will respond to an opportunity highlighted by industry and academic researchers to collaborate on trial solutions in the real-world environment of Toronto's streets. With careful design, this program can support research and development, tap into Toronto's burgeoning talent in the technology and transportation sectors, and drive local economic development. In parallel, it can advance the City's mobility-related goals such as Vision Zero, accessibility, and TransformTO.

The TIZ program is an opportunity for the City of Toronto to expand its role as a leader in innovation. In initial conversations with industry members, City staff have heard that real-world test environments can fill a current gap in the local economic infrastructure, particularly for small and medium-sized enterprises who cannot build their own testing facilities. Establishing and implementing the TIZ program will address this need by identifying areas for trials, engaging stakeholders, facilitating trials by third parties of transportation and public realm approaches and technologies, and developing transparent processes for trial selection and evaluation. The program will also help the City adapt its systems to a changing world, focus efforts, and work with other governments and stakeholders on pandemic-related rebuild and recovery initiatives.

Transportation Innovation Zones

Also referred to as "testbeds" and "living labs," the concept of providing space in a city to trial new innovations is being explored in several jurisdictions around the world. Models range from purpose-built test tracks (Singapore), city-wide test zones (Torino, Italy), challenge-based partnerships with participation funding (TransLink in Vancouver), and testing on City-owned assets (Calgary).

The Transportation Innovation Zone (TIZ) concept is based on delineating areas, either temporarily or permanently, within the City of Toronto where the trialing of transportation and public realm approaches and technologies can occur. A TIZ can accommodate testing of a wide range of technologies and approaches that use streets and sidewalks

for the movement of people and goods, improve transportation operations, or improve the streets and sidewalks themselves.

Some innovations that could be tested in a Zone include automated vehicles for moving people, goods, or for City operations; smart lights and traffic sensors; new roadway signage solutions; transit-supportive infrastructure and signals; smart electric vehicle charging; materials to support stormwater management and street tree health; and solutions for accessibility and protecting vulnerable road users such as cyclists and pedestrians. As airspace is regulated by the federal government, technologies such as aerial drones are not in scope.

While the final details of the TIZ program are still being formulated, it is anticipated that private companies, not-for-profit organizations and academic institutions will be invited to apply to conduct temporary trials in the TIZ areas via regular calls for applications issued by the City. Further details on the final mechanics of the program will follow in a report to the Infrastructure and Environment Committee in the last quarter of 2020, following the establishment and implementation of the flagship location at Exhibition Place, including the launch of one initial TIZ trial project at Exhibition Place in 2020 designed to test the TIZ concept.

A Flagship Transportation Innovation Zone at Exhibition Place

A History of Innovation at Exhibition Place

Exhibition Place is a landmark entertainment, tradeshow and business destination and urban parkland on Toronto's waterfront that has been a hallmark of innovation to Torontonians and Ontarians for over a century. In a typical year, Exhibition Place hosts over 350 events and attracts over 5.3 million visitors.

Over its history, Exhibition Place has been an important site for peoples living in what is now Toronto. For thousands of years, the lands that form Exhibition Place were used and occupied by Indigenous peoples. In the late 1700s as colonization by settlers expanded, the French established a defensive and commercial fort at this location.

Beginning in the 19th century, the City and the Province created a hub at Exhibition Place to promote agricultural education and excellence. The innovative complexes and features established in the 20th century signaled that Ontario's capital had become a world class and cosmopolitan city.

Today, Exhibition Place continues to reinvent itself and its programming, while driving and showcasing innovation. For example, it has pioneered innovations in green energy, with the first permanent wind turbine in Toronto, LED streetlights, and an early geothermal system. Furthermore, Exhibition Place's tenant, the Canadian National Exhibition (CNE), has a long history of showcasing new transportation technologies, ranging from Toronto's first electric streetcar, to a preview of Toronto's Bloor-Yonge subway station, and more recently to Metrolinx light rail vehicles.

The Phase 1 Report for the Exhibition Place Master Plan recognizes this history and outlines a vision for Exhibition Place as a place of innovation, inspiration and economic

development, alongside other pillars including history, green open space, recreation and entertainment. Furthermore, the Report proposes a focus on enhancing sustainability, mobility and connectivity to Exhibition Place through transit and by leveraging emerging mobility solutions. As one of the recommended "quick start" interventions, the Report proposes the implementation of a Transportation Innovation Zone.

Future Innovation Opportunities

As a testing site, the Exhibition Place grounds, buildings and infrastructure offer a range of opportunities and assets. When major events are not taking place, the grounds represent a semi-closed environment; the site is open to public vehicular, bike and pedestrian traffic, but volumes are generally low compared to the surrounding network and other areas in downtown Toronto. When Exhibition Place and its tenants host a variety of trade and public exhibitions, international conferences and conventions, professional sports, entertainment, green technology fairs and public celebrations, Exhibition Place transforms. As such, it is an ideal place to trial dynamic, modular, adaptable technologies that can support a constantly changing environment, last-mile passenger transport, and delivery of diverse goods.

In addition, the Exhibition Place site offers the following assets that can potentially be used for facilitating temporary trial projects:

- Approximately 8 km of roads
- Approximately 12 km of sidewalks
- Approximately 3 km of cycling lanes
- Thirty (30) intersections, including four (4) intersections with traffic lights
- Large outdoor and below-ground parking facilities
- Five (5) electric vehicle chargers, located in the below-ground parking facilities
- Loading bays at certain buildings
- Access to indoor space and rooftops
- Three (3) connections to the TTC system at Dufferin Street, Manitoba Drive and Strachan Avenue
- One (1) connection to the GO Train system at Exhibition Place GO Station.
- Access to Lakeshore Boulevard, Gardiner Expressway, and several local streets
- A detailed plan of the site has been included as Attachment 1.

Partnership between Exhibition Place and the City of Toronto

The purpose of this report to the Infrastructure and Environment Committee is to seek authority for Transportation Services to work with Exhibition Place to establish and implement a Transportation Innovation Zone in Toronto – the first, and flagship, area to be created.

Exhibition Place is interested in working with the City to establish and implement a Transportation Innovation Zone. An agreement between the City and Exhibition Place will be developed in order to establish a partnership to deliver the flagship TIZ in Toronto. The agreement will identify the respective roles of each party, building on each party's strengths and interests. The City would manage and oversee the TIZ program, including the calls for participants and the associated temporary trials conducted by third parties in the TIZ areas. Exhibition Place would provide access to the site at

specific locations and times of the year to be agreed upon in advance, and would provide input on the selection of temporary trials. Exhibition Place would also have the opportunity to undertake an expanded range of activities, such as technology showcasing, in association with the TIZ program.

Legislative Authority for the Use of Exhibition Place

The City of Toronto Act, 2006 in Section 406 (2) sets out the purposes for which Exhibition Place shall be used:

- (a) for parks and exhibition purposes;
- (b) for the purposes of trade centres and trade and agricultural fairs such as, but not limited to, the annual Canadian National Exhibition and Royal Agricultural Winter Fair;
- (c) for displays, agricultural activities, sporting events, athletic contests, public entertainments and meetings;
- (d) for highway, electrical transmission or public utility purposes;
- (e) for any other purpose that the City may approve.

This report is seeking City Council approval under paragraph (e) above to proceed with the use of certain sections of Exhibition Place as a transportation innovation zone in the Transportation Innovation Zone Program.

Next Steps to Develop the Transportation Innovation Zone Program

To build collaboration and co-production of knowledge into the TIZ program, stakeholders will be engaged in the development, deployment and monitoring of the TIZ. The engagement plan to be implemented includes the following:

- Virtual stakeholder workshops, public information and online survey to support the design of the TIZ program in Summer 2020,
- Industry outreach in collaboration with partners such as the Ontario Centres of Excellence and Exhibition Place in Fall 2020,
- Launch of a multi-stakeholder Program Advisory Committee that provides ongoing input and oversight to the TIZ program, beginning in Fall 2020,
- Development of partnerships with academic institutions and other research organizations to support evaluation.

The TIZ program is being developed in consultation with Exhibition Place, Economic Development and Culture, City Planning, the Toronto Office of Partnerships, Technology Services, Exhibition Place, and the Toronto Office of Recovery and Rebuild.

Transportation Services staff will report to the Infrastructure and Environment Committee by December 2020 with a proposed detailed framework for the Transportation Innovation Zone program, including the details for establishing a flagship Transportation Innovation Zone at Exhibition Place in 2020.

CONTACT

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SIGNATURE

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ATTACHMENTS

Attachment 1 – Exhibition Place Site Plan

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