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ERO 019-3839 Greater Golden Horseshoe Transportation Plan

The Ontario Society of Professional Engineers (OSPE) is the advocacy body and voice of the engineering profession. Ontario currently has over 85,000 professional engineers, 250,000 engineering graduates, 6,600 engineering post-graduate students and 37,000 engineering undergraduate students.

OSPE is pleased to present the following submission concerning Ontario's **Greater Golden Horseshoe Transportation Plan**.

OSPE has the following comments on the proposed changes:

On the Long-term priorities:

Enhancing capacity and performance on congested roads, Support innovation and leveraging new technologies (automated, connected and EVs)

OSPE supports the need for adopting EV into the public transit system. OSPE agrees with the need to address greenhouse gas emissions from the transportation sector. Transportation upgrades must consider the infrastructure needed to support the transition towards a net-zero economy, from clean and renewable energy sources through the entire energy system and its end-use.

OSPE is also glad that the plan focuses on accelerating the electrification of the transportation system, including EV adoption. Ontario should work towards a safe, green, innovative, and integrated transportation system that is able to support a clean environment, while boosting trade, economic growth, and public safety. Policies should seek to develop and foster a transportation system that works for current and future generations.

Electric motors are about 3 times more energy efficient than the internal combustion engine under ideal operating conditions. Electric vehicles (EVs) also reduce greenhouse gas emissions and take advantage of the province's largely low carbon electricity grid. Investing in EVs provides the opportunity of achieving short-term results, while allowing clean sectors to grow sustainably over time.

By increasing the uptake of EVs in Ontario and encouraging recharging during evenings, EVs will, in effect, store Ontario's surplus energy supply—which will significantly reduce the amount of surplus energy that is sold for a loss to external jurisdictions and/or curtailed; this is currently [costing Ontario energy ratepayers approximately \\$1 billion per year.](#)

According to the Windfall Centre, if EVs were to reach a 10% share of the total vehicle population by 2025, Ontario would experience a GDP increase of over \$3.6 billion. Ontario would benefit from a growing industry that would be modern, efficient, and create new employment opportunities across the province.

The government also has the opportunity of electrifying its public bus fleet. Investments in electric public transport have an amplified positive impact since the vehicles run several hours per day. For individual consumers, EVs cost a quarter of the price to drive than gas vehicles. This means, the average Canadian driver, who travels 20,000km per year, would save as much as \$2,000 per year on fuel alone.

To ensure Ontario accelerate the electrification of its transportation system, the Ministry of Transportation should:

- Work with the federal and municipal governments to allocate specific resources to the electrification of the public transportation system.
- Develop and implement an incentive program for electric vehicles, until mass adoption “tipping point” is achieved.
- Permit free or discounted access for EVs to all tolled highways in Ontario.
- Establish a robust network of electric vehicle charging stations across Ontario.

OSPE also believes that it is important to make use of a Qualifications-Based Selection (QBS) framework for procurement of engineering services, especially on new transportation-related projects.

All public infrastructure investments must be transparent and return the greatest possible value for money. By adopting Qualifications-Based Selection (QBS) as its best practice for the selection of engineering consultants, the government can realize the greatest possible value for investment in its infrastructure projects.

Benefits to Ontarians include:

a. Better value to taxpayers

QBS encourages innovation, which in turn drives better value on infrastructure investments. It provides accountability by ensuring that fees will directly correspond to the level of service and the value of deliverables to be provided. QBS also results in more realistic and predictable budgets and schedules for project expenditures.

b. Significant life-cycle savings

QBS maximizes the value of the consultant’s contribution to a project while reducing the project’s life cycle costs. Engineering typically accounts for only about 2% of the life cycle cost of a project, but dramatically impacts the cost and quality of the remaining 98%. Likewise, a recent American Public Works Association study shows that using QBS for professional services reduces

construction cost overruns from an average of 10% to less than 3% – equivalent to a savings of up to \$700K on a \$10M capital project.

c. *Benefits for small firms*

QBS enables small firms to compete by providing them a process to demonstrate their competitive advantages over larger firms, including a greater degree of niche market expertise, knowledge of the local market and involvement of senior level management in the execution of the project.

d. *Promotes communication and technical innovation*

Using QBS provides owners the opportunity to fully define the scope of work of the project during the selection process. This results in a project that is thoroughly thought out and fosters innovative, creative, cost and time-saving approaches to problems. It also fosters better communication and business relationships between owners and proponents as the process makes them partners in the job.

On the near-term goals:

Goal 2: Relieve congestion, Provide Alternative Ways to Travel.

Ontario should **attract and partner with SMEs (small to medium-sized enterprises) to develop Transit-Oriented Communities (TOC) at transit stations in strategic locations.** It is important to bring diverse amenities close to the transit stations based on human-centred designing and planning principles, increase jobs, and stimulate economic growth through projects and services created. In such a process, SMEs play a significant role by providing innovative products and services based on immediate and long-term demand. According to a recent report by the Ontario Chamber of Commerce titled *Small Business, Big Impact*, Ontario is home to 426,490 million SMEs, who are responsible for employing 90% of Canada’s private sector workforce.

Highway 413

OSPE welcomes needed investment in infrastructure that is “shovel-worthy”, and able to provide long term benefits to Ontarians. Unfortunately, Highway 413 is not the answer. As the expert panel recommended, the government should assess other alternative actions that are capable of providing benefits equivalent to or greater than the recommended new corridor. These include congestion pricing, priority truck lanes on Highway 407 and growth management, as well as increased investment in public transit systems throughout the GTA.

Highway 413 was under an Environmental Assessment (EA) study by Ontario since 2007. The highway portion of the EA was cancelled by the previous provincial government in spring 2018, based on a [report by an expert Advisory Panel](#) that found that the highway would deliver few benefits, and could not be justified. The report concluded that “on its own, the proposed new GTAW highway corridor would deliver approximately savings of about 30 seconds per vehicle trip”. In addition, the panel was

concerned that adding highway capacity could induce more vehicular travel, and potentially further undermine complete community policy goals and provincial commitments to reduce greenhouse gas emissions.

Experts also found that Highway 413 could negatively impact natural areas such as rivers, valley lands, wetlands, conservation areas and forested areas, including approximately 53 river and stream crossings. Its construction would lead to loss of thousands of hectares of prime agricultural lands, including about 1000 hectares in the Greenbelt in Vaughan. The cost of the transportation corridor was estimated in 2012 to be \$4.8 Billion. This cost will undoubtedly be more now due to inflation, as well as increased construction and land acquisition costs.

Nearly every municipality along the route of Ontario's proposed Highway 413 has withdrawn their support or joined calls for Ottawa to intervene. Peel Region has now recently turned its back against the project, joining the municipalities of Mississauga, Vaughan, Halton Hills, Halton Region and Orangeville.

Bradford Bypass

The idea of a new highway connecting the 404 and the 400 dates back to at least 1979. The [initial Environmental Assessment](#) (EA) for this highway was conducted in 1997 and approved in 2002, during the Harris administration. However, the McGuinty government decided not to move forward with this project in the mid-2000s. The Premier back then promised to tackle gridlock with a transit-oriented approach, pledging only "the removal of highway bottlenecks", and that meant not moving forward with the Bradford Bypass.

The project was dormant until 2017, when Kathleen Wynne's Liberals put it back on the table. However, this project didn't move forward until 2020, when the Progressive Conservatives started pursuing plans to forgo the new environmental assessment. In April and May 2021, a virtual public consultation regarding design alternatives for refinements to the route identified in the EA took place. Proposed changes included realigning the Holland River crossing to the south to reduce the impact on the river, new designs for interchanges to meet contemporary Ministry of Transportation standards, and other minor realignments and changes. Following analysis of this consultation, a subsequent public consultation in Fall 2022 will present the preferred design for the route. The finalised design of the route and EA is currently anticipated to be completed in early 2023.

Concerns with this project

Outdated Environmental Assessment

This project is still being considered using [an environmental](#) assessment that was conducted by the province 24 years ago (1997).

These studies are out of date. The EA process and requirements have changed drastically throughout this time frame, and so has the environment. The province should

ensure a new robust EA is conducted. Construction should not start without a proper EA in place.

At the same time, the old assessment did not consider whether the province could help congestion issues by increasing public transit or improving existing roads. Engineers believe the government must study other options, so as to ensure Ontarian's tax dollars are used wisely.

Environmental Concerns with the previous EA

The previous assessment predicted severe pollution issues, which could impact fish habitat, Lake Simcoe, and private wells in the area. It also indicated that levels of benzene, a carcinogen emitted by car exhaust, could be higher than what is currently allowed, but did not include an assessment of possible health impacts.

That assessment also did not account for the climate crisis or research showing that building new roads does not reduce congestion, arguably it increases the amount of cars on the road, a concept called [induced demand](#). The government has also failed to release any studies or evidence showing that the bypass would save driver time.

There is also a lack of data and evidence regarding the benefits and disadvantages of this highway compared to other infrastructure projects. Why not invest in more public transit instead?

An estimated cost of this highway has also not been released.

OSPE welcomes needed investment in infrastructure that is “shovel-worthy”, and able to provide long term benefits to Ontarians. It is imperative that new funding allocations provide a sustainable benefit for diverse, future generations by ensuring a targeted focus on building sustainability. OSPE believes that prioritized investment in sustainable infrastructure will help alleviate the economic burden the province is facing, while decreasing unemployment rates in several critical sectors of the economy.

To build long-term sustainable infrastructure, it is important that the government consult appropriately with stakeholders and the communities affected. These consultations must be transparent and information should be shared throughout the entire process. To ensure that the province is investing in proper infrastructure projects, the government needs to answer all questions and concerns regarding each project. The Bradford Bypass is no exception.

OSPE also wants to stress the need for all levels of government to retain expert engineering input on transportation infrastructure to guarantee short and long-term planning that best serves the needs of the Greater Toronto Area for the upcoming years.

Goal 5: Safe and inclusive, Equality of Opportunity

OSPE strongly supports those actions and believes that ensuring equity and inclusion in workplaces and transportation services is critical. Some further actions may include:

- Develop a supply chain that is diverse and inclusive by establishing social procurement programs that ensure companies led by women and equity-seeking groups are provided with access to public procurement opportunities.
- Ensure Indigenous peoples are full partners in the development of transportation projects, where consultations with Indigenous communities begin at the planning stage and continue throughout the construction stages.
- Support consultation and partnership opportunities with Indigenous Peoples and Indigenous businesses.
- Overcome the barriers, including undervalued and disrespected in the workplace, lack of mentorship and sponsorship, and the existence of a gender wage gap.

Goal 6: Future ready, Resiliency,

The primary duty of engineers is to hold paramount the safety, health, and welfare of the public, which includes environmental stewardship. Changing climate and weather patterns that lead to more severe environmental conditions such as flooding can adversely affect the design, operation, and management of engineered systems such as those for wastewater and flooding management.

Engineers know that accurate floodplain mapping and data is crucial to understand the impact of flooding and help municipalities and individuals reduce potential risks and better respond to flooding events.

A robust and updated floodplain mapping program ensures that individuals and homeowners are aware of the natural hazards in their communities. It will also guide future development, inform flood mitigation efforts, and improve planning and design of infrastructure.

The Ontario Government should update the province's flooding mapping program and ensure it recognizes new technology and approaches for flood hazards. New infrastructure projects should be planned using updated mapping which identify and analyze the following flooding risk factors:

- History of Flooding
- Proximity to floodplain
- Stormwater runoff potential
- Groundwater potential
- Potential for combined sewers
- Future extreme rainfall

The Ontario Government should also develop and use standard, evidence-based project evaluation tools. It is important that the standards and mapping data are consistent throughout Ontario to ensure all regions use the same parameters. The data should also be shared with other agencies, Conservation Authorities, municipalities and the general public to ensure public safety and raise public awareness. Therefore, those data and information can facilitate strategic planning, including incorporating findings from Ontario's first-ever multi-sector Climate Change Impact Assessment, to help the province, municipalities, Indigenous communities and local partners make informed decisions on planning and infrastructure investments.

New infrastructure projects should also be evaluated based on up-to-date climate data, followed by new areas of research and innovation in the development of new low-carbon technology, and a cross-ministry approach to ensure that all policy initiatives are synergistic in nature from an economical viewpoint. The implementation process should be reported to the public and stakeholders transparently. The quality of project evaluation reports for each major infrastructure project should be independently reviewed for merit. This should be accompanied by providing transparent reports available to the public outlining all project approvals and rejections, along with detailed summaries of decisions. To ensure that the province is investing in proper infrastructure projects, the government needs to be transparent and answer all questions and concerns regarding each project.

Emerging Technologies

OSPE supports the local manufacturing of battery electric vehicles. On top of that, OSPE believes it is critical to use locally produced and manufactured critical minerals in EV battery production, as a way of leveraging Ontario's manufacturing capacity, by investing in Ontario's mining sector, and maintaining strong supply chains.

Mining is one of the economic backbones of the Canadian economy and is especially important to Northern Ontario. The materials and products delivered help Canadians stay safe, meet basic needs, and sustain northern communities. This industry produces around \$10 billion in revenues for Ontario and Canada per year and employs over 75,000 Ontarians. Mining is also the largest private sector employer of Indigenous Ontarians.

Ontario is responsible for one-third of Canada's total mined metal production. It is the largest producer of gold, platinum group metals and nickel, and the second largest producer of copper in the country. The province is also a major producer of salt and structural materials. Mining produces key metals for the development of high-tech products and batteries, as well as medical devices, including ventilators and diagnostic COVID-19 test kits.

OSPE suggests that:

- There should be a minimum level of domestic solutions to refocus investment in “Made in Ontario”.
- It is critical that engineering expertise deploy and ensure the safety and optimization of innovative solutions within the industrial space.
- Government support businesses in improving current manufacturing processes and methods, developing, and implementing digital technologies and focus on developing sustainable and energy-efficient products.

We look forward to working with you to further develop these recommendations. If you have any additional questions, please contact Stuart Atkinson, OSPE Policy and Government Relations Lead, at satkinson@ospe.on.ca or 416-223-9961 ext. 225.

Sincerely,



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