

July 15, 2016

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Transportation Planning Branch
777 Bay Street, Suite 3000
Toronto, ON M7A 2J8

**RE: EBR 012 – 7763 Northern Ontario Multimodal Transportation Strategy Phase 1 Report:
The Northern Ontario Context: Implications and Considerations for Strategy**

Dear Ms. Evers,

The Ontario Society of Professional Engineers (OSPE) is pleased to present the following submission concerning the *Northern Ontario Multimodal Transportation Strategy Phase 1 Report: The Northern Ontario Context: Implications and Considerations for Strategy* (herein referred to as the Report) published in May 2016.

OSPE is the voice of the engineering profession in Ontario. As an organization, we advance the professional and economic interests of our members, many of whom work in the transportation sectors. OSPE is pleased to respond to this notice for public comments about the Report.

In May 2012, OSPE submitted comments about the proposed Northern Ontario Multimodal Transportation Strategy, that led to the current Report. The key message OSPE presented at the time was for the strategy to “emphasize the importance of an ‘integrated planning’ effort which would include public works engineers from pertinent municipalities in the north”. OSPE is pleased the current Report mentions an integrated approach throughout the document. While not mentioning public works engineers per se, key characteristics and challenges for multimodal transportation in the north will clearly require the input and involvement of engineers, both from municipalities and also from other public and private sectors. OSPE is pleased to highlight several of these key characteristics and challenges in this submission.

OSPE Comments on the Report

1. Introduction:

The Report is a precursor to the development of a Northern Ontario Multimodal Transportation Strategy (NOMTS) as a means to implement the 2011 Growth Plan for Northern Ontario. Again, OSPE commends the Report in specifically referring to an integrated multimodal approach leading to recommendations for improvements for the movement of people and goods with an ultimate planning horizon of 2041. This forward thinking viewpoint is pertinent and appropriate.

Furthermore, OSPE has reviewed technical background papers that provided the foundations for the Report, specifically the Geographic and Planning Context, Socio-

Economic Context and Climate Change Context. The Report integrates findings from these papers into an overall Northern Ontario Context. This provides the evidence based data to ensure the Report is founded on scientific, objective research. OSPE espouses this line of thinking in its advocacy efforts with governments.

2. The Northern Ontario Context:

Although the Report provides more detail in its part 3 discussion on objectives, challenges and opportunities, a key takeaway from an engineering perspective from the geographic and planning context is the description on the Hudson Bay Lowlands (page 7). Mention is made about the landscape's conditions of numerous water bodies, poorly drained wetlands, inconsistent soil structure and extensive tundra. These will present engineering challenges for construction, maintenance, and operation of roads, railways and airports. Engineers must and will play a critical role in any transportation development in these areas. Similarly, development in the Clay Belt (page 8) will also require extensive consultation for the design of systemic tile drainage due to its soil structure. Characteristics of all geographic contexts in Northern Ontario will require extensive geotechnical and engineering planning and OSPE advises the government to utilize geoscientists and engineers at the outset of all planning and designing associated with transportation construction and maintenance in the region.

As outlined in this section of the Report, there already exists an extensive network of roads, rail, airports and marine facilities in the region. Their overall improvement will require careful planning and, again, OSPE recommends that engineers be involved from the outset.

As an aside and as a minor comment, mention is made in the Report that Via Rail's passenger service only makes several stops in northern Ontario at night. This is misleading as the province is so vast, that the passenger train requires two nights and one day to traverse the region. Therefore, several stops are indeed made in daylight hours.

3. Objectives, Challenges and Opportunities

The seven planning objectives outlined in the Report are well-thought-out, pertinent and useful in the development of a subsequent strategy for multimodal transportation in Northern Ontario. OSPE is particularly pleased with the statement that it is "important to note that safety and sustainability are overarching objectives...in long-term transportation planning". Engineers view public safety as paramount and the *Professional Engineers Act* ensures this by law. Engineers also value quality and sustainability as objectives when designing and developing infrastructure. It is important to note that the seven planning objectives are for transportation and all must be carefully integrated into non-transportation strategies and plans for the north. The Report indicates this will be the case.

There are several detailed descriptions of objectives, challenges or opportunities that are pertinent to mention from an engineering perspective. One issue (page 44) that OSPE commends the government for recognizing is that climate change may create more frequent extreme weather events that will impact transportation (and many other infrastructure). It is vital that adaptation strategies be developed to mitigate potential catastrophic weather events. The Report acknowledges this.

Northern Ontario's geography (page 44) offers unique opportunities for science and technology professionals to work together to offer solutions. Both geoscientists and engineers, for example, are qualified and necessary to plan for the safe and sustainable construction of highways on blasted rock outcrops of the Canadian Shield. When environmental assessments are required in all transportation projects, it is essential that Qualified Persons (QPs) be involved and furthermore that the QPs are indeed qualified.

Concerning improving access for remote communities (page 47), it is important, as mentioned, to formulate plans now for the eventualities of climate change effects on winter roads. Engineers, with GIS technicians, can start planning now for possible realignment of winter roads to higher ground as warmer temperatures make some winter roads impassible due to not freezing solidly enough to support traffic. Planning now can save millions of dollars in future so that goods do not have to be transported by air.

Energy issues are a top advocacy priority at OSPE. The OSPE Energy Task Force has issued several reports on the topic, as well as OSPE's Ring of Fire Working Group concerning getting the area on the grid. The Draft Remote Community Connection Plan (page 48) corroborates many of the suggestions OSPE has compiled concerning eliminating reliance on diesel in the north. Engineers can bring innovative ways of getting northern communities on the grid. OSPE experts agree that one solution is for installation of small or mini hydro projects. These may be feasible in addition to other transmission plans, all of which are mentioned in the Draft Remote Community Connection Plan.

OSPE supports and advocates for innovation and re-designing existing technologies to become more productive and commercially viable. OSPE is pleased to learn (page 50) that the government acknowledges the importance of advances in transportation technologies. OSPE recommends incentives, tax advantages, grants, etc. be made available to advance innovative technologies to move heavy loads to remote locations such as by air ships or hovercraft. Engineers are necessary to take these ground-breaking prototypes to functioning and commercially viable transport.

The aforementioned OSPE Ring of Fire Working Group is deeply involved in providing engineering ideas in order to facilitate approval and development of the Ring of Fire. It is an obvious part of the north and the Report recognizes its importance (page 55). OSPE urges both provincial and federal governments to work with First Nations to negotiate a mutually acceptable development plan to get the project underway.

Transportation infrastructure will require engineers for planning and development and OSPE stresses that they should be included at every step.

The Ring of Fire clearly will be fraught with challenges as its infrastructure is developed. The Report firmly recognizes these. Concerning considerations related to physical geography and environment (page 55), ground transportation route planning will involve both geoscientists and engineers. Specialized expertise will also be needed for planning for climate change effects on permafrost. These processes, especially environmental assessments, will require strong guidelines to ensure QPs are qualified for these specialized functions. As OSPE represents individual QPs, we welcome consultation with government to provide guidance in determining what qualifications are required to ensure QPs are qualified in addition to those put forth by O. Reg. 153/04 and the engineering regulatory body, Professional Engineers Ontario (PEO).

The Report ends with considerations about enabling the movement of products to market (page 60). Acknowledgement is made of mining, forestry, agriculture and manufacturing in the north contributing to sources of employment that is fundamental to the region's prosperity. OSPE urges government to provide incentives for industry to not just be maintained, but to innovate, re-design, and renew so that productivity increases, new markets are secured and growth becomes steady and sustainable. This is where engineers are especially important – they can see how re-designing technology can lead to long-term impacts that will benefit future generations and lasting economic gains.

4. Next Steps

OSPE is pleased to continue its contribution to the development of a strategy for Northern Ontario Multimodal Transportation. OSPE will monitor the EBR and government web sites for announcements about Phase 2 and then Phase 3. OSPE also welcomes the Ministry of Transport and Ministry of Northern Development and Mines to meet with OSPE and its engineering experts to discuss strategies and plans for Northern Ontario.