



December 16, 2016

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RE: EBR 912-8890 – Northern Ontario Multimodal Transportation Strategy Discussion Paper: Towards a Northern Ontario Multimodal Transportation Strategy

Dear Ms. Mayer

The Ontario Society of Professional Engineers (OSPE) is pleased to present the following submission concerning the Northern Ontario Multimodal Transportation Strategy Discussion Paper: Towards a Northern Ontario Multimodal Transportation Strategy (herein referred to as the Paper).

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 who work in the transportation sectors. OSPE is pleased to respond to this notice for public comments about the Paper.

In July 2016, OSPE submitted comments about the strategy's Phase 1 report. OSPE expressed support for the report and reviewed technical background papers that provided the foundations of the report. We stressed that many of the geographic characteristics in northern Ontario present engineering challenges to the development of transportation infrastructure. We emphasized the importance of inclusion and recognition of engineers in the planning and development of multimodal transportation networks.

Comments below refer specifically to the aforementioned Paper.

OSPE Comments on the Paper

Chapter 1: Introduction and Invitation to Participate

This section provides a clear, well-thought description of the strategy development process. OSPE is pleased to participate in the discussion.

Chapter 2: Vision and Objectives

OSPE's advocacy efforts supporting Ontario development recognize the importance of ensuring resilient infrastructure. Indeed 'resilient' is mentioned in the first paragraph and throughout the Paper. As creating resilient infrastructure is so important, is it possible to add the word resilient in the Draft Vision Statement? Perhaps stating 'healthy and resilient communities'. We think the planning objectives are fine as is.

Chapter 3: Supporting Northerners in Daily Living

This chapter provides a thorough and fulsome description of transportation systems in Northern Ontario. The use of maps is especially useful and pertinent. The chapter identifies the important issues northern residents face and reflects the ways transportation networks affect people personally. It is especially important to note the recognition that redundancy must be factored into planning and maintaining networks when sections of them are closed. Related to this is OSPE's reiteration that licensed and qualified engineers must be involved in all aspects of transportation infrastructure so that cases like the Nipigon River Bridge collapse never happen again.

Chapter 4: Supporting Industry

This chapter thoroughly captures the characteristics and importance of the transportation sector to the industries and economies in the north. It stresses the absolute reliance of transportation for the movement of goods and services, not just for Northern Ontario, but for Canada as a whole. As such, it is of utmost importance to maintain and sustain these networks. The Paper makes this clear.

Chapter 5: Remote Communities

The Far North of Ontario pose complex challenges and consists of a diversity of needs by its stakeholders. This is made clear in the chapter prior to discussion of its focus – winter roads and remote airports. Challenges include constructing all-season roads in the face of fluctuating winter temperatures and the fact that communities are not connected to the electricity transmission grid and still rely on diesel for their power. All challenges must respect the needs of the First Nations people residing there. Most importantly, the chapter effectively sets the stage for critical messages conveyed in the Paper – climate change and ecosystem health.

Chapter 6: Climate Change and Ecosystem Health

The seriousness of the effects of climate change is clear in the first paragraph of the chapter. The significant increases in temperature in the Near and Far North will have profound impacts on the ecosystems, residents, and economies of the region. Now is the time to prepare and plan for the mitigation of and adaptation to climate change. Engineers must be a part of the interdisciplinary team of experts needed for these initiatives.

The chapter effectively outlines elements of transportation adaptation, specifying a range of issues such as the effects of changing thaw dynamics, subsidence, and ecosystem modifications of wildlife migration routes. These examples demonstrate that expertise is needed in a range of professions including engineers, geomorphologists, wildlife

biologists, to name a few. While it may not be feasible for the Paper to mention a long list of professions, OSPE recommends that in this chapter, mention is specifically made of the importance to involve qualified experts in a range of disciplines to work with government and First Nations to design and develop sustainable and resilient transportation systems.

Another concern, although possibly beyond the scope of the Paper, is the significant costs involved to maintain and build a resilient transportation network. With the effects of climate change as well as development of major projects such as the Ring of Fire, considerable expenditures will be needed. As the chapter mentions, transportation networks will have to take into account an increase in flood-prone areas, surfaces facing melting permafrost, and erosion of embankments. Mitigating these effects will require investment and ways to pay for them over and above direct infrastructure financing and need to be considered as part of the overall transportation strategy.

Chapter 7: Emerging Strategic Directions to Consider

The directions specified in the chapter are appropriate. Taken together, they would result in a future transportation system that Northern Ontario requires. OSPE is concerned that, while the Paper is clear and realistic of the need for these directions, they are listed without reference into *how* they will be achieved. Developing and integrating each direction shall be an enormously complex undertaking to coordinate and incur significant expenditures to achieve. They are all appropriate, yet one is left questioning whether MTO and MNDM have a clear vision of what it will entail to fill in the gap of the process between knowing what is needed and actually implementing what is needed. The Paper needs to reassure the public that the NOMTS has realistic and feasible plans at the outset to achieve what is required.

OSPE would not modify or add to any of the specified directions. Related to the aforementioned comments about how to achieve the directions, OSPE would offer the following priority actions to consider, to progress effectively:

- Retain and expand open consultations with the public; concurrently convene invitation-only panels of experts for consultation on technical design and build aspects of transportation systems. The panels must include practicing and qualified professionals (e.g. engineers, geoscientists).
- Compile case studies and examples of implemented infrastructure for inclusion in the NOMTS that clearly outline for the public the costs and specifications of specific examples listed under strategic directions. For instance, one direction mentions reducing vehicle wildlife collisions and the impacts on wildlife. An example of how this is done is in Banff National Park where wildlife underpasses and overpasses were constructed to connect vital habitats and helped sustain healthy wildlife populations by allowing animals to cross under or over the Trans Canada highway. The public needs to know how strategic directions can be implemented.
- Based on input from technical experts, along with economists, provide clear and transparent cost estimates and return on investment implications. Generate a prosperity index that demonstrates not only economic benefits to the province and northern residents but also quality of life elements. Plan for procurement to include Qualifications Based Selection (QBS) for technical and professional services.

OSPE will be pleased to assist MTO and MNDM in the development of the design and planning of the NOMTS. We can arrange for professional engineers to confer with government planners in northern Ontario as well as Queen's Park.