

August 28, 2021

Attn: Katerina Downard  
System Planning Office, System Planning Branch,  
Integrated Policy and Planning Division  
Ministry of Transportation  
777 Bay Street, 7th Floor, Suite 700  
Toronto, ON M7A 2J8

Submitted online and by email: [Katerina.Downard@ontario.ca](mailto:Katerina.Downard@ontario.ca)

**RE: Greater Golden Horseshoe Transportation Plan – Discussion Paper, (ERO number 019-3839)**

Dear Katerina,

McMaster Institute for Transportation & Logistics (“MITL”) is pleased to provide comments to the Ministry of Transportation (MTO) in response to the **Greater Golden Horseshoe Transportation Plan – Discussion Paper (“GGHTP” or “the Plan”)**.

We appreciate the extensive effort required to develop such a forward-looking plan and would like to congratulate MTO on this achievement. We understand the challenges in developing a long-term plan that requires forecasting population and employment growth over thirty (30) years and its implications for growth planning, investment and adaptation to climate change economics, social and environmental impacts.

We have several comments and recommendations regarding the Plan, but first wanted to provide some background on MITL and its role to provide perspective to our comments.

MITL (<https://mitl.mcmaster.ca/>) is supported by an advisory board representing a wide range of partners and stakeholders from all levels of government and industry. For the past 12 years MITL has worked with industry, academia and policymakers to help enable the safe, smart and clean mobility of goods and people. MITL conducts world-class, multidisciplinary, cross-sectoral, collaborative research in transportation and logistics to:

- Accelerate the identification, mobilization and adoption of knowledge and innovation;
- Identify and address pressing regional and national challenges in transportation and logistics including those of vulnerable populations;
- Educate the next generation of thought leaders in transportation and logistics;
- Foster long-term strategic partnerships between the academic, public and private sectors, and;
- Contribute to the international transportation and logistics research agenda.

MITL is also host to an AI-enhanced Mobility Lab (AeML). This high-performance computing and AI infrastructure supports innovative and interdisciplinary mobility research.

MITL has been a trusted partner to Transport Canada in the evaluation of multimodal goods transportation in the GGH, and its members have been involved in the evaluation of public transit and electrification analysis for several years. With the support of Transport Canada, MITL has conducted workshops in transportation and logistics in the Hamilton-Niagara Region, MITL is represented on the Toronto Region Board of Trade's Movement of Goods Council, as well as the Smart Freight Centre with the Region of Peel, University of Toronto, York University and Ryerson University.

MITL recently formed a strategic alliance, *Fluid Intelligence*, with the Hamilton-Oshawa Ports Authority (HOPA Ports) to provide analytical insights into transportation and logistics trends in multimodal transportation and the adoption of future transportation technologies. This alliance, focusing on multimodal transportation and supply chains, which are a sub-regional strength, is one of three stewards of Transport Canada data in the GGH (which also include Smart Freight Centre, of which MITL-affiliated researchers are also members, focusing on last mile, as well as the Toronto Region Board of Trade, which focuses on regional competitiveness.) Together, these organizations have been working to bring greater visibility and insights into transportation opportunities and challenges across all modes for both people and the movement of goods/cargo in the GGH.

Through these initiatives, we are well-informed about transportation & logistics, supply chain and transit trends throughout the region and have built strong relationships with participants in the transportation and planning sectors throughout the Hamilton-Niagara corridor. Our Advisory Board represents all modes of transportation in the GGH, as well as experts in public policy, economic development and transit.

Several Institutes and affiliated organizations of McMaster are involved in electric vehicle and technologies and autonomous vehicles, supported in part by the Ontario Vehicle Innovation Network's (OVIN) predecessor, AVIN. The most directly relevant to the GGH long-term transportation plan is the McMaster Institute for Transportation & Logistics (MITL).

MITL has reviewed the Discussion Paper and consulted with members of its advisory board, economic development, planning, business associations and key transportation players in relation to the current and anticipated needs of the QEW – 403 corridor and surrounding regions in relation to the rest of the GGH, informed by the region's economic development aspirations, and have the following general comments on its approach. We are also aware of many of the specific recommendations of our partners and advisors. We do not propose to

advocate for any of these recommendations, but instead offer some opinions on the long-term implications of the Plan, which we believe are consistent with these recommendations.

### **Comments on the Discussion Paper:**

Our comments with respect to sections of the GGHTP are included in Appendix A. In addition, comments regarding the overall Plan follow.

Over the next thirty years, we expect transportation trends to build on significant changes underway in transportation technology adoption, combined with changes in demographic needs over the forecast period, the Plan's relationship to the **Made in Ontario Environmental Plan**, Ontario's **Growth Plan for the Greater Golden Horseshoe** and Canada's plans to address climate change and economic development, which include the pursuit of electrification and other alternative sources of energy in transportation and concern over resilience.

Looking back over the past thirty years the GTA has grown significantly. Population growth in the GTA has impacted the communities surrounding the GTA in different ways. To the east, resultant traffic congestion has negatively impacted business investment, while to the west and south investment in transportation and logistics has increased. If population growth in the GTA continues, these trends will threaten the competitiveness of the entire region.

*The discussion paper suggests more consultation will be needed for census areas peripheral to the core GTHA, which we strongly encourage.* In our opinion the GGHTP and its consultation process have an inherent bias toward the interests of highest population and growth centres in the region, resulting in underweighting of concerns in the Niagara-Hamilton-Brant corridor to the south. While the concerns of the large population anchored by Toronto must obviously play a major role in the Plan, transportation corridors encircling the GTA and connecting the GGH to other regions are important to the competitiveness of the entire GGH economy and the livability of the region.

*The discussion paper places a high emphasis on roads and existing transportation pathways. This emphasis leads to a continuation of growth policies and patterns of investment that have led to increased congestion in recent years. We assume that limitations on data and uncertainty with respect to the evolution of transportation technology and related options contribute to this emphasis.*

The movement of people in relation to employment involves many local movements by road and public transit, as well as air and train connections to external population hubs, which can only be accommodated through more efficient movement through existing corridors. Goods movement on the other hand serves two purposes, neither of which can be made significantly more efficient on existing infrastructure. Goods delivery to serve populations in the GTA can be

made more efficient through many small steps and time shifts that will allow goods movement to continue, even as volumes grow. Movement of goods and cargo via road, rail, air and marine, as well as emerging technologies involving these modes of transport, to external destinations and within supply chains operating in the GGH, will require additional infrastructure in order to maintain the competitiveness of Ontario's economy. *We are concerned that because this issue can only be raised by comparatively few respondents, it may be considered less important than it is to MTO.*

*Past performance is a less reliable predictor of future trends.* We believe that transportation and digital technology will change more significantly than is assumed in the Plan, through the combination of government response to climate change and advances in the transportation and digital technologies that enable that change. We believe that new means of transportation will emerge as viable alternatives over all modes of transportation and that more emphasis should be paid to intermodal hubs. MTO has primary responsibility for roads and public transit; however, we believe that marine and air cargo will take on more prominent roles over the course of the 30 years covered in the Plan.

We also note that a combination of demographic shifts, population growth, remote work options and housing affordability will drive changes in both personal commutes and in goods distribution throughout the GGH, as well as land use pressures in rural parts of the GGH transportation plan. We therefore strongly suggest that the transportation plan be reviewed together with the Growth Plan, economic priorities for the region and the GGH's relationship with other regions and markets.

*Interrelationships between the GGHTP and regional growth.* Investments resulting from the recommendation of the GGHTP are both a result of current needs and an influencer of future investment patterns by industry and the development community. The Plan assumes employment growth will follow similar patterns to population growth. In the Plan's forecast period, the transportation corridors leading into and out of the GTA are expected to become gridlocked for the majority of each day. For this reason, we believe that this assumption is not true. Employment concentration will move away from the core of the GGH's major population centres to smaller cities under the Plan.

*Connections beyond the GTHA: the unique role of Hamilton-Niagara Region in goods movement.* The Plan has significant implications for businesses and governments throughout the Hamilton-Niagara-Brantford/403 regions, which represent a major goods movement corridor, connecting the GTHA via road, rail, air and marine transportation to other regions of North America and the world. Concerns of stakeholders throughout the region are likely to be understated by the Plan due to the relative size of the City of Toronto and population growth along the 401 west to Waterloo. We note that the vast majority of truck traffic crossing border points in Niagara does not originate in Niagara Region. At present, most of this traffic moves through the QEW to the

GTA and other destinations because there is no viable alternative to the QEW. This corridor is already experiencing unacceptable congestion and will get much worse over the next 30 years.

*Trade and business competitiveness.* In general, the plan focuses on movement of goods and people within the GGH, but does not fully consider its relation to other regions, especially with respect to trade in bulk goods and lower value products produced in rural areas of the GGH and neighboring regions. As a result, economic growth along the Niagara-Hamilton-Brantford transportation corridor is constrained in favour of densification along the 401, where capacity for further expansion is limited. In our opinion, greater emphasis on these implications of the plan will lead to recognition of the greater role that can be played by marine and air cargo in the Hamilton-Niagara region.

*Data limitations and constraints.* Finally, we note the need for timely and comprehensive data to support local planning and investment decision making. MTO and Transport Canada have complementary data sets related to the movement of goods, the utilization of different modes of transport and the constraints on those modes, while there is also a growing real-time data collection capability in the private sector that favours large multinational transportation and logistics companies over small local competitors. We would welcome an opportunity to work with MTO to address these issues.

### **About McMaster University**

At McMaster, our research strength is one of our most prized assets. We are home to some of the best experts and research institutes in the country, with research income and output rivaling those of universities more than twice our size.

Our core research community comprises individuals from around the globe: over 1,000 full-time faculty, more than 4,000 graduate students, almost 300 post-doctoral fellows and hundreds of skilled technicians and research associates. Many of our 30,000+ undergraduate students work with researchers on leading-edge projects and have the opportunity to experience “hands on” research through a number of creative programs across our six faculties – business, engineering, health sciences, humanities, science and social sciences.

McMaster has earned a reputation as a hotbed of discovery and innovation. We garnered \$371.6 million of sponsored research in 2019 alone. For the last four consecutive years (2017/18/19/20), Research InfoSource has ranked McMaster as Canada’s most research-intensive university, a testament to our track record of proficiency and delivering results.

McMaster is home to one of Canada’s top engineering schools, housing leading researchers in hybrid powertrains and electrification. Moreover, McMaster Innovation Park (MIP) – an integral part of Hamilton’s innovation ecosystem – supports knowledge and technology transfers,

industrial partnerships, including the Federal Government's CanmetMATERIALS research labs, and spin-off companies. MIP provides a range of office, lab, and specialized facilities to more than 65 companies and over 800 people working onsite.

Additional information about McMaster can be found at [www.mcmaster.ca](http://www.mcmaster.ca).

## Conclusion

We appreciate the opportunity to provide comments on the Discussion Paper and we are committed to ongoing collaboration with the Ontario Government, Federal and Municipal Governments, and industry stakeholders to achieve the government's transportation, planning, economic development and environmental goals.

MITL would welcome the opportunity to convene a meeting of the key players involved in a Niagara region-GTA transportation corridor (NGTATC) and to provide a more meaningful discussion and understanding how this plan impacts the economy and pattern of investment in the region.

We look forward to future opportunities to discuss the contents of this submission, participate in ongoing consultations, and to provide support in implementing the plan successfully.

Sincerely,



Saiedeh Razavi, Ph.D.  
Chair in Heavy Construction  
Associate Professor & Associate Chair, Department of Civil Engineering  
Director, McMaster Institute for Transportation and Logistics  
Associate Member, School of Earth, Environment, and Society  
McMaster University  
Tel: (905) 525-9140 Ext. 27155  
[razavi@mcmaster.ca](mailto:razavi@mcmaster.ca)

## Appendix A

### 1. Vision

- a. We welcome the recognition of efficient goods movement as one of the three main pillars of the Vision for 2051, but we noted that the word “multimodal” was only mentioned once in the document. We suggest that as population grows and technology changes, goods transport will increasingly utilize different modes of transportation than roads, and that additional consideration should be shown for alternative modes of transportation and the transfers between these nodes.
- b. Some issues were mentioned in the Vision section of the document, but not reflected in the shorter-term goals (e.g. pricing solutions, leveraging telecommuting and work flexibility). These short-term actions set the stage for later actions by providing market incentives, signaling direction, proving out new technologies, etc. Should there not be evidence of at least some short-term planned action on all elements of vision?

### 2. Cambridge-Brantford-AEGD-Niagara Corridor

- a. Based on Map 2 (page 12) – Prospective Cambridge-Brantford Hwy Corridor is given precedence over the “Mid-pen” identified in previous plans in terms of being captured/depicted as a conceptual corridor
  - i. Suggests preparation for a future corridor (not yet conceptualized) that runs from 403 near Brantford, north of the Grand River and south of the AEGD and the green belt towards the Niagara peninsula
  - ii. Current growth patterns suggest continued pressure on the QEW near Lake Ontario through Niagara Region, which is a critical area of the Greenbelt. There is currently no viable alternative road corridor for transport trucks through Niagara Region.
- b. Figure 2 forecasts for jobs don't seem to account for the employment development of the AEGD; forecasts suggest more promise for Brantford in terms of new jobs than the AEGD.
- c. Regional truck flows between Woodstock/Brantford region and Niagara rely on municipal expressways (Lincoln Alexander Parkway and Red Hill Valley Parkway) that were not built with that purpose in mind -- the alternative is a lengthy detour via the Burlington Skyway if relying on 400 series highways.

### 3. Other regions and the border

- a. The Document is largely inward looking to the GGHR. Trade is only mentioned once, but the GGHR is a global trading hub in both goods and services.
- b. Goal 4 on goods movement seems to underweight the strategic importance of freight movements in relation to other regions, not to mention the border
- c. The GGHR is not apparently conceptualized in the document as a border region (but it is) – air, road, rail and marine – affecting transportation to and from other goods-producing regions of Southern Ontario.
- d. The only mention of border crossings falls under the Muskoka-Haliburton goal section and stresses the GGHR as a gateway for visitors from outside.
- e. The Plan identified “lack of road capacity on key goods movement corridor along Highway 403” as one of the transportation gaps in the Southwest shed. As Niagara Region and the City of Hamilton are recognized as economic gateway centres and zones, we believe that there is a strong need for a major highway infrastructure investment to compensate for the lack of capacity along the major goods movement corridors in this region. This was recognized in previous MTO investment plans, in the form of a mid-pen highway, but does not appear in the current plan.

### 4. Future Ready Goal

- a. Dealing with climate change is addressed primarily under the "Future Ready" goal but is not explicitly mentioned as part of the overall vision. Climate change and related transportation technology in development and commercialization affects infrastructure design, road maintenance and operation, transportation choices, refueling/recharging infrastructure, etc. Technology advances also allow for improvements in road condition monitoring and in the cost-effective deployment of advanced communications technologies necessary to enable future transportation modes and to connect people.
- b. Consumer incentive in support of electric vehicles – having zero incentive is a negative statement in relation to being future ready on electric vehicles (at the same time there are statements about Ontario becoming a manufacturing hub for electric vehicles). Suggest further development of this section on consumer choices, the pace, and implications of electrification.

### 5. Other points

- a. The virtue of system redundancy is only mentioned in relation to the GTA west corridor, but redundancy is also important to the Niagara Region and



Hamilton-Brantford to the south of the GTA core, and it has affected communities to the east and north of Toronto for two decades. In fact, 401 corridor redundancy was one of the main reasons for the creation of Highway 407. It is the lack of cost- and time-efficient transportation alternatives that have driven logistics investment to the west of Toronto along the 401. Suggest this is important to ensure competitiveness over the long term.

- b. The report suggests that the effects of the pandemic are temporary (i.e. things will return to their prior trajectories - although telecommuting and flexible work are briefly mentioned in the Vision but not elsewhere). We suggest that some experiences resulting from the pandemic will become permanent and others, such as reluctance to utilize public transit, may be long-lived.
- c. We wholeheartedly agree with the paper about the need to transform to a regional (point-to-point) rather than radial commuter network. The existing network has helped to make it self-fulfilling that the core of Toronto hosts so many of the jobs as indicated by Figure 2. It's not clear though if there is a desire or perceived need for some leveling out of the jobs distribution and more growth in other nodes.
- d. Access and accessibility, which are fundamental transportation concepts, are transit-focused in the discussion paper. We have heard from stakeholders, for example, that highway congestion that reduces access between Niagara and the GTA, and increases the effective distance between the two, is a big issue for residents and businesses in the Niagara region.
- e. Interplay of the transportation plan with land uses, which drives municipal planning decisions, is not really mentioned. It is especially difficult to separate transportation related to goods movement from economic development and land use planning for employment and commercial zones.
- f. **Implications of the Plan for other government policies**
  - i. **Training:** Planning, development, operation, and maintenance of the future transportation systems and services will require different skill sets from those that we currently have. Plans for reskilling and educating the regional transportation workforce with the right skillsets will be the key for future readiness and for our competitiveness.
  - ii. **Digital Infrastructure:** long-term plans should include transportation digital infrastructure to reflect changing needs. Note that transportation corridors will both require new data and communications infrastructure, but also parallel communications infrastructure (5G enables significantly more data transfer for IoT and V2X, but has more limited range than previous technology standards).

- iii. **Data Visibility:** The same as digital infrastructure, data is the fuel for transportation planning and design of efficient systems of today, and tomorrow. Data visibility and security will be integral parts of the future of transportation.
- iv. **Next Generation CVS:** We note the critical role of CVS data in forecasting future transportation needs, but also note the challenges of data collection using current methods. We firmly believe that further investment in forecasting tools and the data collection supporting transportation planning would better inform the direction of plans at all levels of government and the private sector in making investment decisions in the tens of billion.