

**Actions to move  
Northern Ontario forward**

**RESPONSE TO THE DRAFT 2041 NORTHERN ONTARIO  
MULTIMODAL TRANSPORTATION STRATEGY**

**Passenger Rail**

By Lucille Frith, Dr. Linda Savory Gordon & Howie Wilcox | No. 4 | September 2018

In July 2017, The Ministry of Transportation (MTO) and the Ministry of Northern Development and Mines (MNDM) released a Draft 2041 Northern Ontario Multimodal Transportation Strategy to align with the 2011 Growth Plan for Northern Ontario.

Northern Policy Institute (NPI) recognizes the importance of an innovative, diverse transportation strategy that takes all communities into account. As part of our role to propose evidence-based, practical solutions that support the sustainable development of Ontario's northern regions, we've put forward this series of action items that outline concrete next steps that the public and private sectors can use to inform the implementation and management of transportation policies.

*These action items relate to directions outlined in the draft strategy.*

## **DIRECTION 1.3:**

Reinvigorate passenger rail service where appropriate.

### **Summary of Proposed Action Items:**

MNDM and MTO should:

1. Conduct a concept development study of restored, reinvigorated passenger rail service.
2. Conduct a socioeconomic impact study of restored, reinvigorated passenger rail service.
3. Develop an operational plan for a restored, reinvigorated passenger rail service.
4. Consider, based on the aforementioned studies and plan, a proposal to provide passenger rail service between Toronto and Cochrane, and between Sault Ste. Marie and Hearst, while preparing for resumption of service from Sault Ste. Marie to North Bay and from Cochrane to Hearst on railbeds that require improvements to enable passenger service.

## BACKGROUND

This commentary explores how a modern, innovative, comprehensive and integrated passenger rail service could dramatically enhance Northern Ontario's regional intercommunity connectivity and do so using existing rail infrastructure. The result would be a visionary transportation network (Fig. 1) that takes Ontario's northern regions beyond 2018. In keeping with both the Ontario and the Federal governments' foci on innovation and climate change mitigation, and following European leadership in transportation design, passenger train service using new rail technology would generate energy savings of up to 50 per cent for Northern Ontario compared to the most recently used equipment. It could also reduce emissions, costs, highway wear and tear, and contribute to economic growth and regional resiliency. The potential benefits of such an investment are best exemplified by investments made by Scandinavian countries, which have a population density and geography similar to that of Northern Ontario, in new Bombardier rail technology (Bombardier 2018). The result is a template for the kind of modern, innovative passenger rail service that could be developed in Northern Ontario.

Northern Ontario is facing substantial challenges as it attempts to transition to a more technology-based, people-driven economy. Making this transition as the region's population dips below one million requires unique solutions such as (Futuresm.com 2018):

1. Retaining seniors and youth by improving access to services, educational facilities and connectivity;
2. Growing the labour force by attracting newcomers;
3. Diversifying and strengthening local and regional economies, and increasing employment opportunities;
4. Mitigating and adapting to climate change; and
5. Building regional connections over vast geography to help mitigate various issues.

Efficient, environmentally sustainable transportation is a key component to a strategic intervention in the decline of Northern Ontario's population and economy (Dowell 2017). Increasingly, passenger rail advocacy groups contend that transportation methods such as cars and planes do not adequately address the needs of the three population groups that are of particular concern to the region – seniors, youth and newcomers. All of whom are better served by public transit, especially transit that is

safe, affordable and sufficiently fast (Transport Action Canada 2018; Transport Action Ontario 2018; Northeastern Ontario Rail Network 2018, Coalition for Algoma Passenger Trains 2018; Committee Promoting Muskoka Rail Travel 2018). In Northern Ontario, passenger rail service may be the answer. Indeed, with rail infrastructure already in place and only requiring some upgrading, this 'old' transportation system should undergo a serious review to determine its viability within today's context. On this note, it is important to acknowledge that railbed maintenance is much less costly than highway maintenance.<sup>1</sup>

Given all of the above considerations, it comes as no surprise that official resolutions calling for passenger train service have been passed by 96 per cent of the municipalities and First Nations, Métis and Inuit communities all along the rail line from Washago to Cochrane to Hearst, as well as 100 per cent of the municipalities and First Nations, Métis and Inuit communities along the Algoma Central Railway (Northern & Eastern Ontario Rail Network 2018).

Figure 1: Map of Northeastern Ontario Passenger Train Service on Existing Railbeds



Source: Northeastern & Eastern Ontario Rail Network, Accessed July 25, 2018, <http://neom.ca/neom-media-release-and-latest-media-coverage-2/>.

<sup>1</sup> In a report to KWG entitled RAIL V/S ROAD TRADEOFF STUDY Feb. 11, 2013 KWG Resources Inc, Sarath Vala estimates:

- capital costs to build a roadway: \$1.052 billion and for a railroad: \$1.561 billion.
- operating costs per tonne are \$6.33 for rail while for trucking it is \$59.28 (based on a transportation load of 5 million tonnes).

In short, while the initial costs are smaller for road, the operating costs are significantly higher. As well, though this report is specifically for rail to the Ring of Fire, it nevertheless offers insight into the potential of rail.

## RETAIN AND INCREASE POPULATION: SAFETY, AFFORDABILITY, ACCESSIBILITY AND COMFORT OF RAIL

Train is a preferred transportation mode among millennials (Davis and Dutzik 2014; Dutzik and Inglis 2014; Walljasper 2015). One of the challenges facing students who choose to attend post-secondary education institutions in the North is the lack of affordable, fast transportation.<sup>2</sup> This was clearly articulated by Ian McRae, government relations and policy coordinator with the Canadian Federation of Students, in his presentation "Improving Access to Post-Secondary Education in Northern Ontario: The Case for Passenger Rail Service at the 2018 Northeastern Ontario Passenger Rail Summit" (McRae 2018). For seniors, accessing medical appointments, connecting with children and grandchildren who live in other parts of the province, and having less onerous travel options than driving for more than eight hours, all make rail transportation a preferred, if not the only, option for remaining in their lifelong homes and region (Theriault 2018). Also, newcomers accustomed to the rail services available in most other parts of the world find the lack of service an inhibitor to moving to the North (Kae 2018). Safe, affordable and swift transit to the larger ethnic communities in the South would make living and working in the North a more attractive option and encourage the innovation that comes with cultural diversity. "Furthermore," says Dorothy Macnaughton, the chair of both CNIB's Ontario Board and the Northern Regional Board, "passenger rail is a much more accessible mode of transportation than bus, car and plane for people with disabilities of all sorts, as well as those on limited incomes. Many people with disabilities either are not able to drive or cannot afford to lease or own a vehicle; and, buses and their washrooms are often not wheelchair accessible (Macnaughton 2018).

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Our region's current reliance on road and air travel can leave travellers stranded during highway closures and cancelled flights, or subject to travelling during unsafe conditions. Indeed, regional politicians have identified that the safety of Northern roads is already severely

compromised by changing weather conditions and lack of appropriate mitigation strategies. In fact, "people in Northeastern Ontario are four times more likely to die in highway accidents than [in] other parts of the province" (Turl 2018; OPP Statistics and Predictive Analytics Unit 2017).

To illustrate this last point further, analysis of statistics from the MTO's Road Safety Annual Reports reveals that Northern Ontario highways are more dangerous than those in the rest of the province. From 2010 to 2014, 36.5 per cent of all collisions in Northern Ontario occurred on highways, compared to 17.4 per cent in the rest of the province.<sup>3</sup> The numbers are even more startling for fatal collisions. In Northern Ontario, 67.8 per cent of fatal crashes took place on highways, more than triple that (21.7 per cent) of the rest of the province.<sup>4</sup> Although the reasons for this difference are not immediately clear, geography and two-way roads may be factors (De Angelis 2018). It could also be that Northern Ontario has a greater proportion of highways compared to local roads, or different highway traffic patterns that create more opportunities for collisions. Furthermore, emergency response times and capacities may be worse in the North, which could escalate collision related injuries into fatalities. Regardless, crashes occur at a higher rate on Northern Ontario highways than they do in the rest of the province. Restoring and reinvigorating passenger rail service could mitigate that.

The 2012 cancellation of the Northlander passenger train, which connected the districts of Cochrane, Timiskaming and Nipissing, provides a useful test case for determining the impact of passenger rail service on collision rates. The Northlander ran full-time in 2010 and 2011, for six months in 2012, and was then replaced by bus service. The three districts experienced 1,156 more collisions in 2013 and 2014 combined than they did in 2010 and 2011, including 239 more collisions on highways.<sup>5</sup> That meant an average of 578 additional collisions per year, with 120 taking place on the highway. This alone does not prove causality, but it is worth noting that, during 2013 and 2014, Northern Ontario had 2,411 more collisions, including 417 on its highways. This means that 48 per cent of the region's increase in collisions occurred in the three districts that lost passenger rail service. Even worse, Cochrane, Timiskaming and Nipissing accounted for a staggering 57 per cent of the region's increase in highway collisions from 2010 and 2011

<sup>2</sup> The Canadian Federation of Students Northern Ontario Caucus has passed resolutions of support for the reinstatement of passenger train service in Northeastern Ontario.

<sup>3</sup> Calculated from the MTO's Road Safety Annual Reports, 2010-2014; Other collisions occurred on municipal roads.

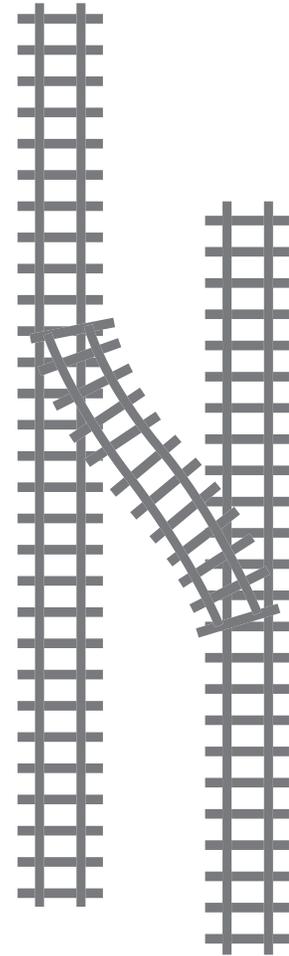
<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

to 2013 and 2014.<sup>6</sup> While some of these data are no doubt due to random variation, these cases warrant further study as more data become available.

It should also be noted that, according to Transportation Safety Board of Canada data, rail travel is becoming increasingly safe for Canadians. All accidents – including collisions, derailments, fatalities and serious injuries – on federally regulated railways declined across the country from 2007 to 2016.<sup>7</sup> A total of three railway passengers suffered fatalities nationwide during that time, never more than one in a year (Transportation Safety Board of Canada 2017). There were 56 total fatalities and 53 serious injuries reported in the Canadian rail sector in 2014 (Ibid), compared to 65 deaths and 3,589 injuries from vehicle collisions in Northern Ontario alone (MTO Road Safety Annual Reports 2010-2014). In 2014, 53 railway-related deaths and 50 injuries were attributed to crossing or trespassing accidents (Transportation Safety Board of Canada 2017). These data strongly suggest that restoring and reinvigorating passenger rail service in Northern Ontario could lead to fewer vehicle collisions, injuries and deaths. The human cost of elevated crash totals cannot be ignored, but it is also worth considering the financial toll for the province to dispatch emergency responders more frequently. Additionally, increased strain on police, fire and medical services may impact the economic feasibility of subsidizing passenger rail service as a safe alternative to road travel.

Overall, a well-developed passenger rail network could provide a safer and more reliable alternative to road travel during the increasingly extreme weather events that climate change is producing. With an expected increase in the frequency and severity of extreme weather events and an aging demographic, reducing dependence on road travel will be urgent not only for mitigating anticipated impacts of these changes but also to help the local economy adapt to them.



## STRENGTHEN OUR ECONOMIES AND INCREASE EMPLOYMENT OPPORTUNITIES

Transportation of goods and people is essential for economic growth and sustainability. Northern Ontario, which accounts for approximately 90 per cent of Ontario's geographic landmass, could benefit economically from a well-functioning passenger rail system with employment growth expected in transportation itself, and tourism in particular. To illustrate, new and refurbished passenger train equipment can be built and repaired in Northern facilities such as North Bay and Thunder Bay, thereby stimulating economic growth and job creation.

Upscaling transportation options through modern passenger trains would attract more out-of-region tourists to Northeastern Ontario, such as retirees or individuals

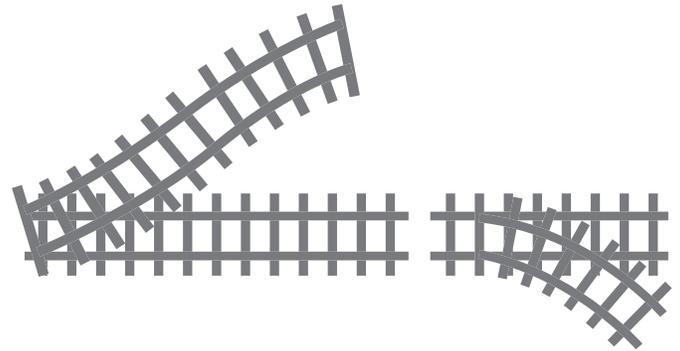
with disabilities. As stated in Tourism Review of Draft 2041 Northern Ontario Multimodal Transportation Strategy (CBRE September 14, 2017), "(f)rom an accessibility point of view, it is more convenient for people with mobility issues to travel by train than by bus, because the passenger areas are larger and washrooms are more accessible... Northern Ontario has a network of approximately 6,000 km of rail infrastructure." In other words, upscaling transportation will open tourism opportunities for the region, which in turn can provide positive economic benefits.

The importance of passenger rail service to tourism in Northeastern Ontario has been demonstrated in two studies. In Ontario Northland Transportation Commission:

<sup>6</sup> Ibid.

<sup>7</sup> 2013 was anomalously high for railway-related fatalities, likely due to the Lac-Mégantic rail disaster on July 6, 2013, in which at least 42 people were killed.

Economic and Social Impact of Ontario Northland (2009), HDR Corporation, in association with Dr. Bakhtiar Moazzami, states that “[a]s revealed in the surveys, services provided by Ontario Northland, including the Polar Bear Express, the Dream Catcher Express, and the Northlander, are important for local tourism by bringing in tourists that would not come to the region in the absence of these services.” As well, the Algoma Central Railway Passenger Rail Service Economic Impact Assessment completed by BDO Canada LLP (2014) concluded that the Algoma passenger train resulted in an annual economic impact of \$38-\$48 million primarily in the tourism sector.



One example of a community that recognizes these impacts is the Missanabie Cree First Nation. It is taking the lead in the movement to restore the Sault Ste. Marie-to-Hearst service as this will support the community's planned tourism and mining initiatives for the ACR corridor that passes through its traditional territories (Armstrong 2016). Passenger train service, for example, will make it easy for employees to travel from their home communities to mines and other industrial development locations (Ibid).

## MITIGATE AND ADAPT TO CLIMATE CHANGE

According to the Environmental Commissioner of Ontario's 2016 report, “transportation is responsible for the largest and fastest growing share of Ontario's greenhouse gas emissions. These emissions have grown by 28 per cent since 1990... Over 80 per cent of these emissions come from on-road passenger and freight vehicles such as cars and trucks.” Indeed, the greenhouse gas (GHG) emissions of passenger rail service on several Ontario-Quebec VIA rail routes were, on average, half of the kg/seat emissions produced by motor vehicles (Via Rail n.d.).

Given the extremely long travel distances for people in Northern Ontario, passenger rail could play an immediate and significant role in achieving climate change targets cost efficiently and lead to other socioeconomic benefits. Ontario's Climate Change Strategy is targeting a 20 per cent reduction in carbon emissions by 2020 and an 80 per cent reduction by 2050 as compared with a 1990 base. Using Northeastern Ontario's existing rail beds to run innovative passenger trains across its vast land mass is one way to mitigate climate change, and the potential reduction of emissions could be an important avenue for the provincial government to explore.<sup>8</sup>

One train that exemplifies the potential to address climate change is Bombardier's ECO4, which is built with

technologies that optimize energy use, decrease energy waste and minimize CO2 emissions (Bombardier 2018; Gervais 2018). Sweden has deployed 13 ECO4 passenger trains since 2009 (Railway Gazette 2009). Available data show that GHG emissions from rail transport, which have been declining since 1990, plummeted in Sweden from 2009 onward (Swedish Environmental Protection Agency 2017, 86), despite substantial increases in the number of rail passengers and total passenger kilometres (Trafik Analys 2018). It is not completely clear how much of this GHG decrease is due to Bombardier's ECO4 trains. Increased use of electric rail, more efficient freight train engines and stringent EU guidelines on emissions enacted in 2012 are all possible contributors (Bombardier n.d.; Swedish Environmental Protection Agency 2017, 85, 166; Railway Technology 2008). Nevertheless, the reduction coincides with the adoption of the ECO4 trains, making it a topic worth investigating in the Northern Ontario context, especially since Sweden offers fairly extensive passenger rail service in its sparsely populated Northern regions (SJ 2012). It is also important to note that emissions from motor vehicles in Sweden also declined during this time, although this appears more likely the result of more energy-efficient vehicles and increased use of renewable fuels rather than to passenger rail use reducing the number of cars on the road (Swedish Environmental Protection Agency 2017, 84).

<sup>8</sup>Interview with J.H. Kunstler, author of *The Long Emergency* and climate change expert, by ON Nature Magazine: “If you could convince governments that action is needed right now to avoid the worst of the coming emergency you predict, what course of action would you advise? [Kunstler]: I would advise immediately repairing and restoring comprehensive passenger railroad service in North America. No other project would have so great an impact on our oil use. It would put scores of thousands of people to work at good jobs at every level. It requires no new technology. The infrastructure is out there rusting in the rain, waiting to be fixed. And it would build our confidence to go forward with the other great tasks of necessary reform in our systems of food production, commerce and manufacturing, and urbanism that are desperately required.”

Bringing passenger rail to Northern Ontario would likely have a greater impact on the number of cars on the road than occurred as a result of Sweden's investment in ECO4 passenger trains.<sup>9</sup> For example, the aforementioned Northlander, which served Cochrane, Timiskaming and Nipissing, carried 39,911 passengers in its final year of service (Ontario Northland Transportation Commission 2013, 6). If one-quarter of those passengers chose to drive after service was discontinued, that would result in nearly 10,000 additional motor vehicle car trips per year. Restoring and reinvigorating rail service to the North would provide residents with an environmentally friendly alternative to commuting that could significantly reduce the number of cars on the road.

## CONNECT OVER VAST DISTANCES TO SOLVE PROBLEMS

Partnerships and collaborative ventures are the foundation for economic and social innovation in the 21st century. To strengthen Northeastern Ontario's resilience, all of the 180 plus communities located along the existing rail beds in Figure 1 must work together to overcome their isolation from one another. Being connected by passenger rail would enable our communities to interact more easily, comfortably and efficiently regardless of residents' age, ability and income. The isolation many Northern communities experience, reinforced by the time and money required for face-to-face meetings, can create artificial silos between Anglophone, Francophone, First Nations, Métis and Inuit communities, to name a few.

More than comfortable, reliable and safe, train travel can also be very productive, as laptops and phones transform the commute into opportunities to work or extend meeting time. For example, passengers travelling with Via Rail between Toronto and London had more than two hours of potential productive time compared to 42 minutes travelling by plane (Via Rail, n.d.).

Furthermore, trains, unlike planes, can stop in communities along their travel routes. This creates opportunities to enhance the economic sustainability and cultural vitality of First Nations, Métis and Inuit communities and municipalities that would otherwise be, if not already have been, bypassed by four-lane highways and air travel.

Considering the benefits that would result from restored passenger train service, it is easy to envision a significant return on investment in relation to related government spending. Prior to the cancellation of the Northlander, the cost of subsidizing rail service in Northeastern Ontario was much less than train service in Southern Ontario. In 2011, for example, the Northlander received \$11 million in Ontario government funding, whereas GO Transit received \$2 billion. This cost \$0.86 per Ontarian for the Northlander and \$155.62 per Ontarian for GO Transit (Northeastern Ontario Rail Network 2018).

<sup>9</sup> Vehicle KMs on Swedish roads increased from 62,946 million in 2009 to 68,251 million in 2017, an 8.4 per cent increase (Trafik Analys 2018a). Total passenger cars in use went from 4.3 million in 2009 to 4.8 million in 2017, a 12.7 per cent increase (Trafik Analys 2018b).

## CONCLUSION: MAKING THE NORTH MORE RESILIENT – AND ATTRACTIVE

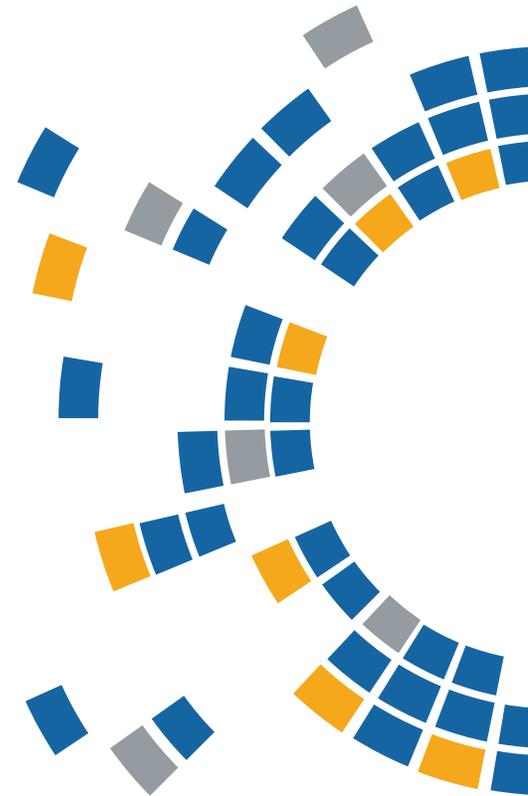
As we look beyond 2018, Northern Ontario communities must develop greater resilience if they are to adapt to the many complex challenges they face. A reinvigorated passenger rail network strategy using existing infrastructure could help build resilience, enabling the region to develop innovative solutions to key challenges. The four pillars of community resilience – economic growth and diversity, environmental sustainability, cultural vitality and social equity – can all be supported by implementing this much-needed transportation strategy. The result will be a significantly improved quality of life for current residents and an opportunity to entice new residents, visitors and businesses. This could be a phased-in project with the final goal of interconnectivity for Northeastern Ontario.

## ABOUT THE AUTHORS

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## REFERENCES

- Armstrong, Kenneth. "First Nation to take lead on passenger rail." *Soo Today*, published March 16, 2016, accessed July 31, 2018, <https://www.sootoday.com/local-news/first-nation-to-take-lead-on-passenger-rail-264426>.
- BDO Canada LLP. 2014. "Algoma Central Railway Passenger Rail Service Economic Impact Assessment." [http://captrains.ca/wp-content/uploads/2010/01/Algoma-Central-railway-Passenger-Rail-Service-Economic-Impact-Assessment\\_08-13-2014.pdf](http://captrains.ca/wp-content/uploads/2010/01/Algoma-Central-railway-Passenger-Rail-Service-Economic-Impact-Assessment_08-13-2014.pdf).
- Bombardier. C.L.E.A.N. Diesel Power Pack. Accessed August 28, 2018. <https://www.bombardier.com/en/media/insight/economy-and-rail/eco4-technologies/c-l-e-a-n--diesel-power-pack.html>.
- Bombardier. 2018. "Economy and Rail/ eco4-technologies." Accessed March 13. <https://www.bombardier.com/en/media/insight/economy-and-rail/eco4-technologies.html>.
- CBRE, 2017. "Tourism Review of Draft 2041 Northern Ontario Multimodal Transportation Strategy (CBRE File No.: 17-APPRJOTELS-0176)." prepared for Tourism Northern Ontario.
- Coalition for Algoma Passenger Trains. [www.captrains.ca](http://www.captrains.ca).
- Committee Promoting Muskoka Rail Travel. [www.gorailnorth.ca](http://www.gorailnorth.ca).
- Community Adjustment Committee Report. Nov. 15, 2017. "A Common Cause and New Direction for Sault Ste. Marie." Accessed March 13, 2018. <http://www.futuressm.com/wp-content/uploads/2017/11/FutureSSM-Final-Full-Report-RP1.pdf>.
- Davis, Benjamin, Tony Dutzik, and Phineas Baxandall. 2012. "Transportation and the New Generation: Why Young People Are Driving Less and What It Means for Transportation Policy." Frontier Group. <https://frontiergroup.org/sites/default/files/reports/Transportation%20%26%20the%20New%20Generation%20vUS.pdf>.
- De Angelis, Robert. "Northern Ontario highways pose distinct safety concerns traffic expert says." *CBC*. Accessed August 27, 2018. <https://www.cbc.ca/news/canada/sudbury/northern-ontario-highways-pose-distinct-safety-concerns-traffic-expert-says-1.4475716>.
- Dowell, Paula. 2017. "The Top Five Ways Transportation Impacts Economic Development." *civil + structural ENGINEER*. Accessed August 1, 2018. <https://cengineermag.com/article/top-five-ways-transportation-impacts-economic-development/>.
- Dutzik, Tony, Jeff Inglis, and Phineas Baxandall. 2014. "Millennials in Motion: Changing Travel Habits of Young Americans and the Implications for Public Policy." U.S. PIRG Education Fund. <https://uspig.org/sites/pirg/files/reports/Millennials%20in%20Motion%20USPIRG.pdf>.
- Gervais, Sylvain. 2018. "Introduction to Bombardier Transportation." Presentation at the 2018 Northeastern Ontario Passenger Rail Summit. <https://www.youtube.com/watch?v=C6j0WBVmYME&t=13s>.
- HDR Corporation and Dr. Moazzami, Bakhtiar. 2009. "Ontario Northland Transportation Commission: Economic and Social Impact of Ontario Northland—Final Report." [http://neom.ca/wp-content/uploads/2017/05/ON-Economic-Impact\\_Final-Report-October-13-2009.pdf](http://neom.ca/wp-content/uploads/2017/05/ON-Economic-Impact_Final-Report-October-13-2009.pdf).
- Kae, Hsar Wah. "Passenger Trains, Newcomers and Social and Economic Well-being." Unpublished thesis for BA in Community Economic and Social Development, Algoma University, Sault Ste. Marie, ON.
- Keller, Lisa. 2010. "Profile: The Kunstler Imperative." *ON Nature*. <http://onnaturemagazine.com/profile-the-kunstler-imperative.html>.
- Macnaughton, Dorothy. 2018. "Transportation's Social & Environmental Impact on People with Disabilities." <https://www.youtube.com/watch?v=9547CkA7AT8&index=8&list=UU8KdMUHgNOYzaiw1Nz3hDNQ>. Presented by Dorothy Macnaughton of the Canadian National Institute for the Blind at Northeastern Ontario Passenger Rail Summit, April 19, 2018.
- McRae, Ian. 2018. "Improving Access to Post-Secondary Education in Northern Ontario: The Case for Passenger Rail Service." <https://www.youtube.com/watch?v=uTzoMlj1LBs>. Presented by Ian McRae of the Canadian Federation of Students at Northeastern Ontario Passenger Rail Summit, April 19, 2018.
- Ministry of Transportation Ontario. ND. "Ontario Road Safety Annual Report – 2014." <http://www.mto.gov.on.ca/english/publications/pdfs/ontario-road-safety-annual-report-2014.pdf>.

- ND. "Ontario Road Safety Annual Report – 2013." <http://www.mto.gov.on.ca/english/publications/pdfs/ontario-road-safety-annual-report-2013.pdf>.
- ND. "Ontario Road Safety Annual Report – 2012." <http://www.mto.gov.on.ca/english/publications/pdfs/ontario-road-safety-annual-report-2012.pdf>.
- ND. "Ontario Road Safety Annual Report – 2011." <http://www.mto.gov.on.ca/english/publications/pdfs/ontario-road-safety-annual-report-2011.pdf>.
- ND. "Ontario Road Safety Annual Report – 2010." <http://www.mto.gov.on.ca/english/publications/pdfs/ontario-road-safety-annual-report-2010.pdf>.

Northern & Eastern Ontario Rail Network. [www.neorn.ca](http://www.neorn.ca).

Northeastern & Eastern Ontario Rail Network. Accessed July 25, 2018. <http://neorn.ca/neorn-media-release-and-latest-media-coverage-2/>.

Ontario Northland Transportation Commission. 2013. "2012-2013 Annual Report." [http://ontarionorthland.ca/sites/default/files/corporate-document-files/12-13\\_ar\\_english.pdf](http://ontarionorthland.ca/sites/default/files/corporate-document-files/12-13_ar_english.pdf).

Ontario Provincial Police. 2018. Statistics and Predictive Analytics Unit statistics released to media March 27, 2018.

Railway Gazette. 2009. Itino clean diesel unveiled. Oct. 7, 2009. <http://www.railwaygazette.com/news/single-view/view/itino-clean-diesel-unveiled.html>.

Railway Technology. Going Green in Sweden. Published June 18 2008, accessed August 28, 2018. <https://www.railway-technology.com/features/feature2042/>

SJ. 2012. Railway Map of the Nordic Countries. [https://www.sj.se/content/dam/SJ/bti/Kartor/ScanRail\\_Map\\_2012\\_A4%20-%20webb.pdf](https://www.sj.se/content/dam/SJ/bti/Kartor/ScanRail_Map_2012_A4%20-%20webb.pdf).

Swedish Environmental Protection Agency. 2017. "National Inventory Report Sweden 2017." <https://www.naturvardsverket.se/upload/sa-mar-miljon/statistik-a-fill-o/vaxthusgaser/2016/data-metoder/nir-se-submission-2017.pdf>

Therault, Evelyn. 2018. "Transportation's Social Impact on Seniors." <https://www.youtube.com/watch?v=0AnwesCQUXs>. Presented by Evelyn Therault, Chair of the Ontario Society of Senior Citizens Organizations and Chair of the Seniors Health Advisory Board, at 2018 Northeastern Ontario Passenger Rail Summit, April 19, 2018.

Trafik Analys. 2018. "Railway Transport 2017 Quarter 4." <https://www.trafa.se/globalassets/statistik/bantrafik/jarnvagstransporter/2017/jarnvagstransporter-2017-kvartal-4.pdf>.

- Trafik Analys. 2018a. "Vehicle Kilometres on Swedish Roads." [https://www.trafa.se/en/road-traffic/Vehicles\\_kilometres\\_on\\_Swedish\\_roads/](https://www.trafa.se/en/road-traffic/Vehicles_kilometres_on_Swedish_roads/)

- Trafik Analys. 2018b. "Vehicles 2017." <https://www.trafa.se/en/road-traffic/vehicle-statistics/>

Transport Action Canada. [www.transportaction.ca](http://www.transportaction.ca).

Transport Action Ontario. [www.ontario.transportaction.ca](http://www.ontario.transportaction.ca).

Turl, Jeff. 2018. "Angus calls for province, feds to improve northern highways after recent fatalities." [Sudbury.com](http://www.sudbury.com/around-the-north/angus-calls-for-province-feds-to-improve-northern-highways-after-recent-fatalities-805409). Accessed August 7, 2018. <https://www.sudbury.com/around-the-north/angus-calls-for-province-feds-to-improve-northern-highways-after-recent-fatalities-805409>.

Vala, Sarath. 2013. "Canada Chrome Corporation Rail vs Road Trade Off Study." Report to: KWG Resources Ltd. Document No. 1298820100-REP-C0000-00. [http://www.kwgresources.com/\\_resources/Rail\\_vs\\_Road\\_Tradeoff\\_Study\\_Report\\_FINAL\\_11Feb2013.pdf](http://www.kwgresources.com/_resources/Rail_vs_Road_Tradeoff_Study_Report_FINAL_11Feb2013.pdf).

VIA Rail Canada. 2013. "2012 Annual Report." <https://www.viarail.ca/2012annualreport/docs/via-annual-report-2012.pdf>.

Via Rail Canada. <https://www.viarail.ca/en/plan-your-trip/book-travel/compare-train-and-car>.

Walljasper, Jay. 2015. "11 REASONS WHY TRAINS, BUSES, BIKES, AND WALKING MOVE US TOWARD A BRIGHTER FUTURE" <https://www.pps.org/article/11-reasons-why-trains-buses-bikes-and-walking-move-us-toward-a-brighter-future>.



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### **About Northern Policy Institute**

Northern Policy Institute is Northern Ontario's independent think tank. We perform research, collect and disseminate evidence, and identify policy opportunities to support the growth of sustainable Northern Ontario communities. Our operations are located in Thunder Bay, Sault Ste. Marie and Sudbury to enhance Northern Ontario's capacity to take the lead position on socio-economic policy that impacts Northern Ontario and Canada as a whole.

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