



**HEALTH IMPACT ASSESSMENT (HIA) OF
TRANSPORTATION OPTIONS TO AND FROM
GEORGINA ISLAND**

FINAL REPORT

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Prepared for: Chippewas of Georgina Island First Nation
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and



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We would also like to thank the members of the HIA Steering Committee for their assistance and guidance through the HIA process, as well as everyone who provided input and feedback to the HIA via the Community Health Survey and Key Person Interviews.

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EXECUTIVE SUMMARY

Intrinsic Corp. (Intrinsic) has been retained by the Chippewas of Georgina Island First Nation (GIFN) to conduct a Health Impact Assessment (HIA) on available transportation options to and from Georgina Island (the Island).

The purpose of this HIA was to evaluate the potential positive and negative impacts on the health and well-being of Members of GIFN community that may result due to current transportation options available to them, based on current and future changes in environmental conditions. Transportation has positive health impacts and negative health impacts. Transportation impacts health by providing a means of access to healthcare services, healthy food, recreational facilities, education, and employment while also providing the opportunity for physical activity (e.g., walking, cycling, etc.) (Mackett & Thoreau, 2015). As such, it is important to consider how transportation planning decisions influence communities, health behaviours and ultimately health outcomes.

It is important to note that this HIA was not conducted for a proposed project, or as part of a provincial Environmental Assessment or federal Impact Assessment process. It was completed for Chief and Council for the purposes of understanding how the current transportation options available to GIFN impact the health of the community.

This HIA has developed recommendations to address potential health concerns voiced by community members. This HIA can also serve as a decision-making tool for Chief and Council as part of their long-term community planning process. Based on the objectives for the HIA, a standard HIA framework was utilized. The HIA framework includes the following phases: screening, scoping, assessment, recommendations, reporting and conclusions (Figure 2-1). An engagement strategy entailing a Community Health Survey and a meeting with the HIA Steering Committee and Key Person Interviews were completed to provide crucial input into the HIA.

The screening phase consists of a rapid review of available evidence to determine whether a health assessment is needed and whether sufficient data and time are available to conduct the assessment. However, as this HIA was approved based on specific funding received by GIFN, the screening step was considered already completed.

The scoping phase identified five determinants of health (i.e., climate change, safety and security, economic, mental well-being, and access to services) and all were assessed in the context of the current transportation options. To ensure the HIA considered issues important to GIFN, the determinants of health were discussed in the Steering Committee meeting and in the Community Health Survey.

The assessment phase consisted of:

- Developing a baseline community health profile of GIFN, depending on available data;
- Analyzing the assessment findings to determine whether or not the current transportation options could result in significant health effects; and,
- Collating and summarizing relevant findings for each of the determinants of health.

As part of the assessment phase of the HIA, a baseline community health profile of GIFN was developed. The baseline health assessment establishes the current health status of the community to evaluate vulnerabilities to various health outcomes, and also to provide a benchmark to characterize the extent of change from current health conditions. The following information focuses on GIFN community:

- **Demographics:** As of the 2016 Census data, the population of GIFN was appropriately 261 (which included Members and non-members); the majority of the population in 2016 was in the age range of 15-64. Based on 2021 data from the Aboriginal Affairs and Northern Development First Nation Profiles, GIFN have a total membership of approximately 936 Members of which approximately 209 reside on the Island and 726 live off the Island.
- **Education:** The Island has an elementary school that goes up until grade 5. Based on Statistics Canada (2017a), 6.98% of GIFN Members were aged 25 to 64 had a bachelor's degree or higher in 2016, while 27.91% had a college, CEGEP or other non-university certificate or diploma as their highest level of education. 13.95% of GIFN Members had an apprenticeship or trades certificate or diploma as their highest.
- **Employment:** From the 2016 Census data, the population of GIFN in the labour force included 130 individuals, out of which approximately 96% were employed in various industries.
- **Income:** Based on Statistics Canada (2017a), the median total income for GIFN was \$26,368 versus an Ontario-wide median of \$33,539, and a Canada-wide median of \$34,204.
- **Health Services:** There are a range of health and wellness programs and services available to GIFN community on the Island which include diabetes clinics, family support programs, women's health issues, and school programs. A health profile for GIFN community was not available.
- **Environmental Quality:** Climate change is having a profound impact on ice formation on the Lake. Increasing ambient air and lake temperatures have been shown to decrease the duration of ice over on Lake Simcoe.
- **Vulnerable populations:** Children and the elderly are considered to be vulnerable populations with respect to numerous different types of environmental exposure. Additionally, pregnant women and individuals with chronic conditions or pre-existing health issues are also considered to be vulnerable populations in this HIA.

The assessment of effects for the HIA combines information about current conditions with evidence from the literature to arrive at conclusions about the nature and extent of impacts due to available transportation options. In order to present these conclusions in a standardized way, a number of effect characterization parameters have been selected including magnitude (i.e., what is the potential severity of the effect on human health?), likelihood (i.e., what is the probability of the impact occurring?), and potential health outcomes (i.e., will the effect be helpful or harmful to human health?) (Table 2-2).

Table ES-1 summarizes the individual assessments and impact characterizations for each of the health determinants.

Table ES-1 GIFN Transportation Options Health Impact Assessment – Summary of Results

Health Determinant	Affected Populations	Magnitude	Likelihood	Potential Health Consequence
Climate change	Regional	High	High	Negative
Safety and Security	Regional/ Proximate	High	Medium	Negative
Economic	Proximate	Medium	High	Negative
Mental Well-Being	Regional/Proximate	Medium	High	Negative
Access to Services	Proximate	Medium - High	High	Negative

The following recommendations have been made based on assessment of health determinants in the HIA (Table ES- 2):

Table ES-2 Recommendations based on Results of HIA

No.	Recommended Action	Health determinant to be addressed
1	Review opportunities to further improve current transportation options by: <ul style="list-style-type: none"> • Considering changes to the Ferry and Scoot schedules; • Considering implementing a Members-only line; and, • Prioritizing lines for boarding of the Ferry and Scoot where priority goes to GIFN Members 	<ul style="list-style-type: none"> • Economic • Mental well-being • Access to services
2	Consider alternatives to the current options which provide permanent and reliable access to services and resources on the mainland, such as a bridge or a fixed link with the mainland.	<ul style="list-style-type: none"> • Climate change • Safety and security • Economic • Mental well-being • Access to services
3	Continue providing support for mental well-being on the Island with further communication to notify Members regarding services available on the Island.	<ul style="list-style-type: none"> • Mental well-being
4	Proposed safety workshops for individuals crossing in fall/winter/spring	<ul style="list-style-type: none"> • Climate change • Mental well-being • Safety and security
5	Implementing the results of GIFN Climate Change Adaptation Plan (GIFN, 2015) by Chief and Council. The Plan includes four themes: <ul style="list-style-type: none"> • Engage people <ul style="list-style-type: none"> ○ E.g., developing communication plans for the community on various environmental conditions including ice and wind conditions on a regular basis • Reduce threats <ul style="list-style-type: none"> ○ E.g., proposed amendments to the Transportation Manual for the sections related to ice roads maintenance and monitoring, including lands, high wind events, ice pile-up and maintenance of the Ferry and airboat • Enhance adaptive capacity <ul style="list-style-type: none"> ○ E.g., monitor weather forecasts/conditions to prepare for extreme weather events • Improve knowledge <ul style="list-style-type: none"> ○ E.g., develop programs to monitor wind conditions, ice during high wind events 	<ul style="list-style-type: none"> • Climate change • Mental well-being • Safety and security

As part of HIA process, the following data gaps, limitations and uncertainties were noted:

- Given the small population of GIFN, it was difficult to find data specific to the community. Data for this HIA was mainly supplied by a diverse range of references provided by GIFN Project Manager, GIFN website, input from GIFN Members on the HIA Steering Committee, input from the Key Person Interviews, discussions with Chief and Council as well as by primary and grey literature. While some information was available on the Chippewas of Georgina Island website, and some statistics were available through Statistics Canada, little additional information was publicly accessible.
- The demographic data retrieved from the Statistics Canada Census were from the 2016 Census reporting year. Since then, there have been changes to community demographics. It would be beneficial to have a Census focused for the community to better understand health status.
- This is not a comprehensive health assessment and, aside from the Community Health Survey, did not involve primary collection of data. As such, only the topics of most concern, as noted by Chief and Council and from the results of the online Community Health Survey were assessed. It is important to note that the scope of the HIA was discussed with the HIA Steering Committee.
- The HIA itself does not provide a quantitative assessment of the impacts to health, but rather uses the gathered data to qualitatively assess how the selected determinants of health are impacted due to the current transportation options and may continue to impact health outcomes.
- In some cases, evidence and data related to potential health impacts were collected from the primary and grey literature under scenarios that were not specific to First Nations. In these cases, inferences were made to extrapolate potential impacts to GIFN specifically, using local, regional and national data wherever possible. Where this was not possible, a discussion of the implications is provided in the relevant assessment sections.
- Generally, the response rate to the Community Health Survey was high, with a total of ninety-six (96) respondents. During the HIA Steering Committee, the importance of a diverse group of respondents was highlighted. There was a low response rate from Members under 25 years of age. Based on discussions with the Steering Committee, additional responses were sought out from individuals that were under 25 years of age.
- In some cases, in the absence of quantitative data, the current conditions and project impact were based, in part, on community knowledge communicated by Chief and Council, and GIFN community members in the Community Health Survey and those members who were a part of the Steering Committee.

Table ES-1 summarizes the individual assessments and impact characterizations for each of the health determinants and Table ES- 2 presents the recommendations made based on assessment of health determinants in the HIA. Overall, the HIA concluded that:

- The current transportation option is aging (i.e., the Ferry);
- The Ferry runs for a longer duration every year and there have been increased costs associated with its repair and maintenance;
- The Ferry is over capacity and community members face long wait times;

- The Scoot is uncomfortable to ride but it is the safest mode of transportation during the freeze-up and thaw seasons;
- The Scoot is routinely replaced due to its overuse as a shuttle (really intended to be a search and rescue vehicle);
- The community members try to use the Scoot as little as possible as it is built mainly for search and rescue, and emergency purposes;
- There are concerns about occupational health and safety for transportations workers due to weather and the pounding they take operating the Scoots, and it is becoming more difficult maintaining existing or hiring new staff to operate these vessels;
- The ice road is used during favourable ice conditions. However, the duration of the ice road season is reducing, which means there is more community reliance on the Scoot;
- The ice road has inherent risks that are exacerbated by the changing climate and the unreliable mode of transportation has led to loss of life and stress within the community; and,
- Improvements to the current transportation options can potentially be made by adding new infrastructure, replacing old infrastructure, or considering other options such as a bridge to connect the Island and the mainland.

The following figure presents an illustration on how the current transportation options impact health of GIFN community.

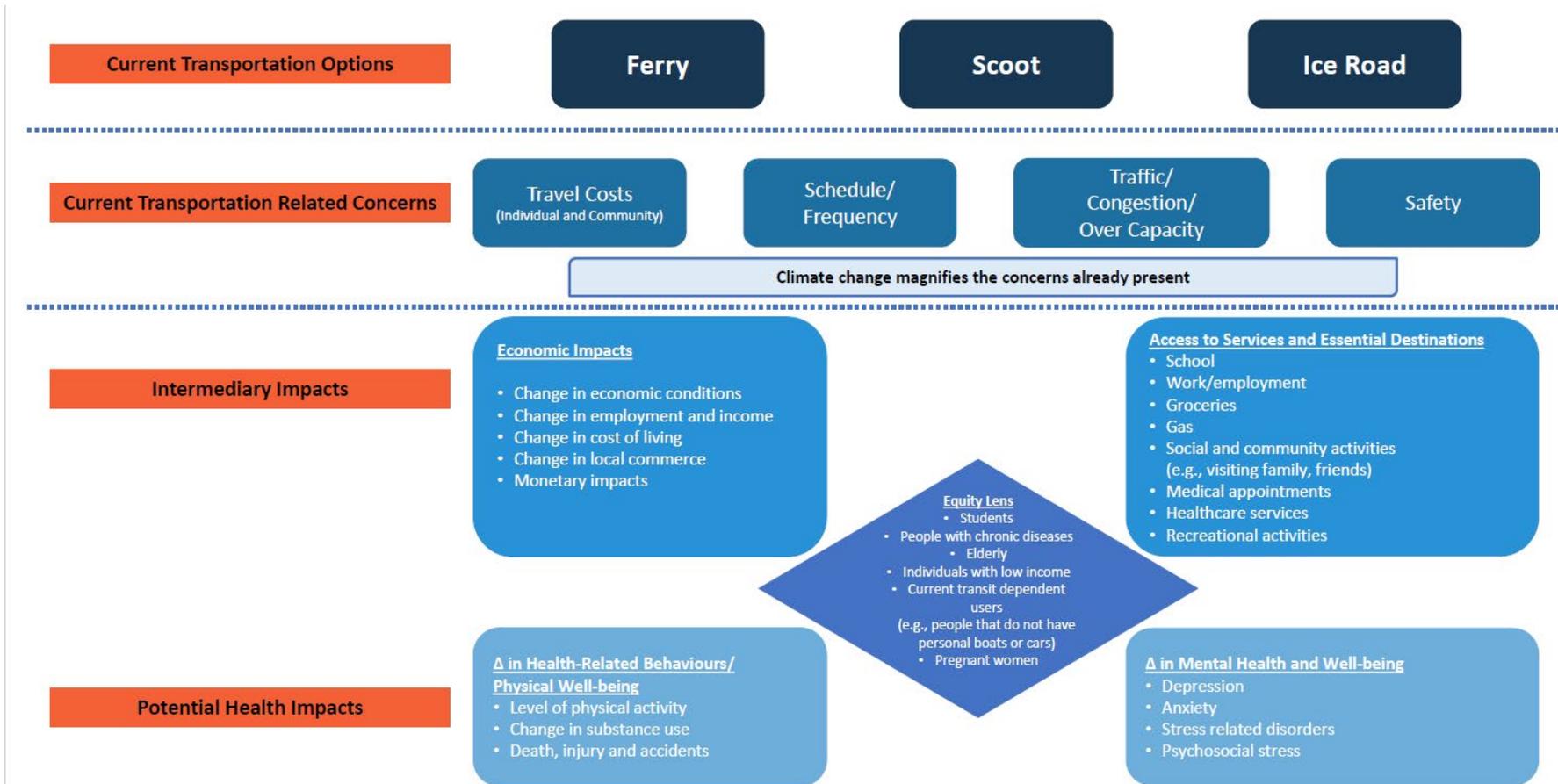


Figure ES-1 Project Summary – Illustration on Health Impacts due to Current Transportation Options