



# First Nations Education Transportation Assessment

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Prepared for Assembly of First Nations

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# Executive Summary

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## Introduction

Access to reliable, adequate and safe education transportation is crucial for First Nations communities. Not only does it contribute to classroom learning, but it also facilitates access to language and culture programming and provides enrichment opportunities that are critical for student success. The historical funding for transportation provided by Indigenous Services Canada, as well as the current provincial funding models, fall short of addressing the unique cost contributors experienced by First Nations. As a result, First Nations have no choice but to access other funding sources, such as Jordan's Principle, or use instructional funding to support their transportation services.

In order to examine the unique transportation challenges experienced by First Nations communities, the Assembly of First Nations retained MNP LLP to conduct a First Nations Education Transportation Assessment. This research and mandate to improve education transportation is supported through AFN Resolution 2019-34, First Nations Education Infrastructure Review, which is focused on policy or program changes to First Nations education infrastructure. The Resolution indicates that this review will be led by the Assembly of First Nations, Chiefs Committee on Education and National Indian Education Council. The Resolution also indicates that "safe, adequate and sustainable education infrastructure provides a fundamental opportunity for building relationships and advancing reconciliation between the Crown and First Nations."

The following First Nations Education Transportation Assessment report explains the costs involved in providing student transportation services, highlights key operational differences between First Nations and provincial school jurisdictions, and proposes a cost model reflective of the needs and circumstances of First Nations across Canada. The assessment is based on data collected from 18 First Nations participants (13 First Nations school jurisdictions and five First Nations education organizations), as well as primary and secondary research from provincial school jurisdictions, student transportation organizations, provincial governments, and other stakeholders. Ultimately, the assessment is meant to serve as a tool and a resource to identify First Nations education transportation needs as one of the steps to achieving reconciliation in education.

## Cost Structure and Cost Drivers

Student transportation expenditures in both First Nations and provincial school jurisdictions represented the third-largest expense category after instruction and operations and maintenance. In provincial school jurisdictions, the total cost of running a typical 72-passenger school bus ranged between \$40,000 and \$60,000 per year. Bus driver wages account for the largest share of the transportation budget, followed by bus replacement costs, maintenance and fuel.

The difference in transportation costs is primarily driven by travel distances and population density, the number of transported students, the geography of school jurisdictions, quality of roads, and size of transportation operations (i.e. school jurisdiction's ability to take advantage of economies of scale).



The cost drivers commonly experienced by First Nations school jurisdictions are summarized in the table below:

Cost Driver	Description and Impact on Transportation Expenditures
Lack of Economies of Scale	<p>With 70 percent of First Nations communities having less than 500 inhabitants, First Nations school jurisdictions have much lower enrolments and smaller transportation operations. As a result, they do not benefit from economies of scale the way their provincial counterparts do.</p> <p>Lack of economies of scale significantly increases maintenance, fuel, bus replacement, administration and training costs incurred on a per-bus basis.</p>
Increased Scope of Transportation Services	<p>Compared to provincial school jurisdictions, First Nations communities have higher transportation needs driven by:</p> <ul style="list-style-type: none"> <li>• Lower socio-economic status and unavailability of parent-provided transportation to school and extracurricular activities.</li> <li>• Safety issues stemming from wildlife, free-ranging dogs, extreme weather, and absence of sidewalks.</li> <li>• Language and culture curriculum requirements (e.g. travel to land-based learning and cultural sites); and</li> <li>• The need to provide transportation services to students attending provincial schools off-reserve.</li> </ul> <p>Due to the higher number of students requiring transportation and increased transportation needs, First Nations require a higher number of bus routes, increasing all direct costs involved in student transportation (e.g. bus driver salaries, bus replacement costs, maintenance and fuel costs).</p>
Remoteness	<p>Based on the Remoteness Index, First Nations are more remote than all other communities in Canada, with population-weighted averages of remoteness indices of 0.142 and 0.427 respectively (0 being the least remote and 1 being the most remote). [1]</p> <p>Due to their remoteness, First Nations tend to experience higher bus maintenance, fuel and training costs. They also tend to provide higher salaries for bus drivers because of the limited labour supply and higher cost of living.</p>
Poor Road Conditions	<p>Even compared to rural and northern school boards, First Nations appear to have lower-quality roads and infrastructure. Poor road quality not only shortens the lifespan of their buses, but also increases regular maintenance costs and the occurrence of major and emergency repairs.</p>
Higher Student Needs	<p>The transportation costs in the participating First Nations communities are also driven by higher student needs, including behavioural challenges and special needs. Specifically, First Nations reported the need to hire bus monitors to ensure student safety on buses, as well as the increased need for paratransit services to support students with disabilities (e.g. purchasing buses with wheelchair-accessible features).</p>

The above cost drivers increase transportation expenses beyond provincial cost benchmarks of \$40,000 to \$60,000 per bus and result in provincially comparable funding being insufficient in the First Nations context. The reported shortfall among the First Nations participants ranged from six percent to 127 percent, with a median shortfall of 45 percent.



## **Cost Model**

To inform the development of the new funding formula and assist First Nations with estimating the costs of providing transportation services, MNP developed an Excel-based transportation cost model. The cost model is built using the province-specific cost benchmarks, as well as other information collected through First Nations engagement and a jurisdictional scan. The model includes the following cost components:

- Bus driver wages
- Bus monitor wages
- Fuel
- Maintenance
- Bus replacement
- Administrative costs;
- Insurance
- Training; and
- Extracurricular travel

The average estimates generated by the cost model range between \$95,000 and \$115,000 per bus per year, not including the extracurricular travel which significantly varies from First Nation to First Nation.



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# Introduction

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On April 1, 2019, the Government of Canada implemented a new approach to funding First Nations education. The new approach is meant to provide access to predictable core funding comparable to provincial school systems [2]. Due to structural, cultural, geographic, and operational differences between First Nations and provincial school jurisdictions, many aspects of the provincial comparability funding model are not applicable to First Nations communities. One of the areas of ongoing concern for First Nations across the country is the funding for student transportation. Specifically, the existing transportation funding models do not account for the unique circumstances experienced by First Nations, resulting in a funding shortfall.

In July 2019, Chiefs-in-Assembly supported Resolution 2019-34, First Nations Education Infrastructure Review, aimed at policy or program changes to First Nations education infrastructure. Further, the Government of Canada has recognized the need for greater transportation support through Budget 2021. Specifically, the Budget 2021 includes a commitment to invest \$726 million over five years, starting in 2021-22, and \$181.8 million ongoing, to “enhance funding formulas in critical areas such as student transportation, ensure funding for First Nations schools remains predictable from year to year, and increase First Nations control over First Nations education by concluding more Regional Education Agreements”. [3]

To conduct the National First Nations Education Transportation Assessment, the Assembly of First Nations (‘AFN’) retained MNP LLP (‘MNP’). The objectives of the assessment were:

- To collect provincial and First Nations-specific data and identify key differences between provincial and First Nations school jurisdictions when it comes to student transportation;
- To develop a cost model that accurately reflects First Nations transportation needs across the country; and
- To inform the development of a new transportation funding formula for First Nations.

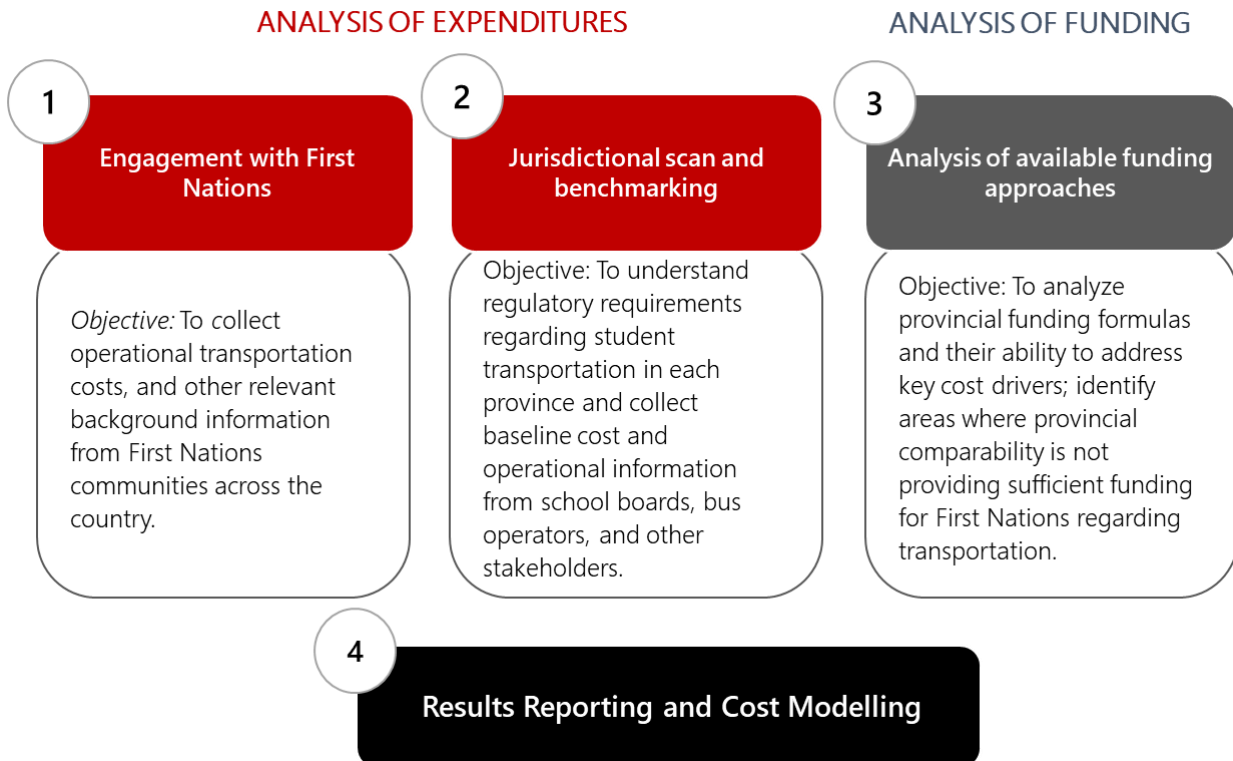
The key findings of the assessment, transportation costs, and recommendations regarding a cost-based model for First Nations student transportation are presented within this report.



# Methodology

The methodology used for the First Nations Education Transportation Assessment is outlined in Figure 1 below and a description of each component follows.

FIGURE 1: FIRST NATION EDUCATION TRANSPORTATION ASSESSMENT METHODOLOGY



## Components of the Study

### Engagement with First Nations

The goal of community engagement was to explore the entire spectrum of cost drivers and unique circumstances faced by First Nations communities when it comes to student transportation. Therefore, MNP in conjunction with AFN identified a sample of First Nation school jurisdictions based on their location, degree of remoteness, and student population served. A total of 13 First Nation school jurisdictions and five First Nations education service organizations from eight provinces volunteered to participate in the assessment. Table 1 summarizes First Nations participation in the assessment, by province.



TABLE 1: FIRST NATIONS PARTICIPATION SUMMARY

Participant	Region	ISC Geographic Zone	Enrolment (Band-Operated Schools)	Aggregate Jurisdiction or Single First Nation	Number of Schools	Provide Transportation for Provincial Schools	Number of Active Bus Routes
1	Alberta	2	1,129	Aggregate	6	No	20
2	Alberta	1	963	Single First Nation	4	Yes	35
3	Alberta	2	142	Single First Nation	1	Yes	6
4	Atlantic	4	700	Aggregate	1	No	2
5	Atlantic	1	47	Single First Nation	1	Yes	2
6	British Columbia	2	50	Single First Nation	1	Yes	2
7	British Columbia	1	130	Single First Nation	2	Yes	4
8	Manitoba	2	913	Single First Nation	1	No	21
9	Manitoba	2	864	Single First Nation	2	No	12
10	Ontario	4	184	Single First Nation	1	Yes	3
11	Ontario	4	360	Single First Nation	1	No	8
12	Saskatchewan	4	1,272	Aggregate	1	No	7
13	Saskatchewan	4	1,842	Single First Nation	4	Yes	12

In addition to First Nations school jurisdictions, MNP contacted First Nations Education Organizations, including the Manitoba First Nation Education Resource Centre (Manitoba), First Nation Education Steering Committee (British Columbia), First Nation Education Council (Quebec), Meadow Lake Tribal Council (Saskatchewan), and Mushkegowuk Tribal Council (Ontario).

The First Nations data from the above participants was collected through a combination of interviews and email correspondence. Specifically, First Nations and First Nations Education Organizations were asked to describe transportation needs and factors that influence needs (e.g. the ability of parents to provide transportation, safety hazards, level of remoteness, transportation services provided, number of students served, conditions of transportation fleet, and other infrastructure). Further, MNP collected transportation cost and operational data, including, but not limited to:

- Bus replacement costs;
- Bus driver compensation;
- Maintenance costs;
- Fuel costs;
- Number of bus routes served and route lengths;
- Fleet statistics (e.g. age, size, and fuel type of buses);
- Transportation budgets and funding; and
- Costs related to extracurricular and cocurricular activities.





## Jurisdictional Scan and Provincial Benchmarking

To understand the baseline transportation requirements, costs, and factors affecting the costs, MNP conducted a jurisdictional scan which included:

- **A review of publicly available transportation data**, such as:
  - Provincial and federal laws and regulations pertaining to school bus transportation;
  - Collective bargaining agreements covering school bus driver compensation;
  - Financial statements and annual reports of provincial school jurisdictions;
  - Transportation reports published by provincial governments, transportation associations, third-party auditors, and third-party consultants;
  - Relevant academic publications; and
  - Other pertinent documentation (insurance rate sheets, training cost information, transportation fee schedules etc.)
- **Primary research to fill data gaps.** To understand student transportation delivery models across the provinces, MNP interviewed school jurisdictions, provincial transportation associations, provincial Ministries of Education, private school bus operators, insurers, and dealerships. The summary of stakeholders interviewed is provided in Table 2.

TABLE 2: JURISDICTIONAL SCAN PARTICIPATION SUMMARY

Province	Completed Interviews
BC	<ul style="list-style-type: none"><li>• 2 provincial school jurisdictions</li><li>• Ministry of Education</li><li>• School bus dealership</li></ul>
Alberta	<ul style="list-style-type: none"><li>• 2 provincial school jurisdictions</li><li>• Provincial transportation association</li><li>• School bus dealership</li></ul>
Saskatchewan	<ul style="list-style-type: none"><li>• 3 provincial school jurisdictions</li><li>• School bus dealership</li><li>• Provincial transportation association</li></ul>
Manitoba	<ul style="list-style-type: none"><li>• 2 provincial school jurisdictions</li><li>• Manitoba Education</li></ul>
Ontario	<ul style="list-style-type: none"><li>• 2 education consortia</li><li>• 1 large third-party bus operator</li><li>• Ministry of Education</li><li>• Provincial transportation association</li></ul>
Quebec	<ul style="list-style-type: none"><li>• 1 provincial school jurisdiction</li></ul>
Nova Scotia	<ul style="list-style-type: none"><li>• 1 provincial school jurisdiction</li><li>• 1 third party-bus operator</li></ul>



The majority of school jurisdictions interviewed were located in rural and remote areas of their respective provinces, with two school jurisdictions serving both urban and rural communities. The number of students transported by the school jurisdictions varied significantly. There were two jurisdictions with fewer than 100 students transported and fewer than five bus routes, and one with over 5,000 students receiving transportation services and over 100 routes. Table 3 shows the distribution of interviewed provincial school jurisdictions by the number of bus routes served.

TABLE 3: INTERVIEWED PROVINCIAL SCHOOL JURISDICTIONS BY NUMBER OF BUS ROUTES

Number of Active Bus Routes	Interviewed School Jurisdictions
Under 5	2
5 to 40	4
41 to 100	4
Over 100	1

## Analysis of Funding Approaches

To understand how transportation funding is being provided to provincial and First Nations school jurisdictions, MNP reviewed both provincial education funding manuals published on government websites and 2020/21 ISC Regional Funding Model Narrative Overviews for all 10 provinces. Specifically, MNP:

- Summarized and assessed the provincial transportation formulas identifying whether each province's model uses the key cost drivers of student transportation;
- Summarized and assessed the differences between each province's model for provincial schools and First Nations schools; and
- Evaluated each of the model's benefits and drawbacks, as well as their suitability for First Nations communities.

## Cost Modelling

The final stage of the project involved the development of this report, as well as an Excel-based transportation cost model. The cost model was built using the province-specific cost benchmarks, as well as other information collected through First Nations engagement and the jurisdictional scan. In addition to province-specific differences, the model also provides adjustments based on remoteness, distances traveled, and the number of bus routes. The cost model will allow individual First Nations school jurisdictions to calculate their total transportation costs by inputting the following elements:

- The total number of students transported to on-reserve schools as per Nominal Roll;
- The total number of on- and off-reserve bus routes; and
- The number of kilometers traveled to and from school, and for extracurricular activities.



## Data Limitations

### First Nations Data

The sample size of First Nations was relatively small and community data varied widely due to individual First Nations' population, size, remoteness, jurisdiction, infrastructure, and geographic region. The variability of individual First Nations in terms of size, jurisdiction, and geographic location prevented this assessment from reflecting all situations that could impact education transportation costs. For example, due to their location, some First Nations in British Columbia must access water-taxi or ferry transportation for students to attend provincial schools, which dramatically increases their transportation costs relative to other First Nations. Further, due to the availability of participants and the short timeline over which the Assessment was conducted, there were no First Nations participants in Nova Scotia, New Brunswick, and Quebec.

Other data limitations are related to the granularity and completeness of the transportation cost data. Transportation costs were self-reported and depended on the current administrative capacity of First Nation school jurisdictions. Larger First Nations or aggregate school jurisdictions with designated transportation and finance departments could provide more detailed cost data compared with smaller First Nations that did not have a robust budgeting and cost tracking system in place.

### Jurisdictional Scan Data

Provincial governments typically do not collect aggregate data on transportation costs from the provincial school jurisdictions. As a result, there were several limitations with the data provided through stakeholder engagement, including:

- The sample size was relatively small. Many provincial school jurisdictions contract out transportation and were unable to provide detailed cost data.
- There was difficulty in comparison across school jurisdictions, as certain cost components were not included in some school jurisdictions' student transportation budget but were included in others. As a result, the per-bus costs or percentage rates were significantly different across school jurisdictions.
  - For example, two provincial school jurisdictions do not include bus replacement costs in their budgets as it is paid for by the province.
  - Some provincial school jurisdictions include extracurricular transport in their student transportation budgets, while other jurisdictions do not.
- Many jurisdictions did not track all of the cost categories included in the analysis, and as a result, the dataset from provincial jurisdictions was incomplete.



# Overview of Student Transportation

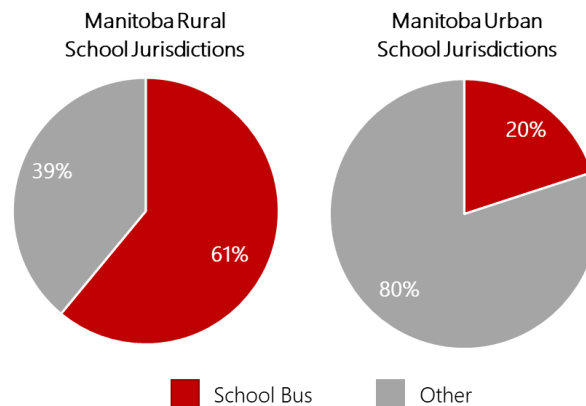
## Role of Student Transportation in First Nations Education

Every school day throughout the country, over 50,000 school buses transport approximately 2.2 million of the roughly 5.4 million (40 percent) elementary and secondary students to and from school and activities, resulting in an estimated 792 million student trips annually across Canada. [4] [5]. Transportation service levels vary because of differences in local geography, population density, and eligibility policies established by the provincial government or the local school jurisdiction. While most transportation services to and from school are provided through yellow buses, some students are transported to and from school using aircraft, ferries, smaller passenger vehicles, and other modes of transportation.

Access to reliable, adequate, and safe education transportation is particularly important in rural and remote communities and in First Nations, as there are generally fewer alternative options for transportation (e.g. walking, public transit, and parent-provided transportation). [6]

For example, in Manitoba, 37 percent of students at provincial schools receive transportation services, but the proportion of transported students varies depending on the location of the school jurisdiction. In urban provincial school jurisdictions in Manitoba, only 20 percent of students receive transportation services, while in rural jurisdictions 61 percent of students receive transportation services. [7]

FIGURE 2: PERCENTAGE OF STUDENTS RECEIVING TRANSPORTATION SERVICES IN MANITOBA<sup>1</sup>



*Note: 'Other' refers to all other modes of transportation aside from publicly funded school bus transportation.*

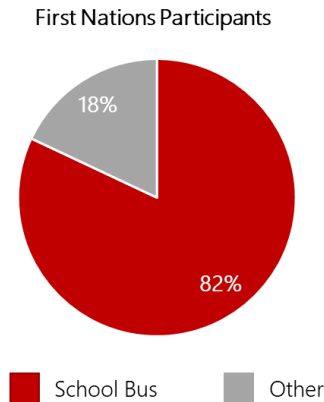
Among interviewed provincial school jurisdictions across Canada, the proportion of students receiving transportation services ranged from approximately 30 percent to 60 percent, with the exception of school jurisdictions in very small and remote communities with no other transportation options, that transported close

<sup>1</sup> Manitoba is the only province that reports the number of students receiving transportation services for all of its public school jurisdictions.



to 100 percent of their students. For First Nations participating in this study, the percentage of students using school-provided bus services ranged between 50 percent and 99 percent with an overall proportion of 82 percent.

FIGURE 3: PERCENTAGE OF STUDENTS RECEIVING TRANSPORTATION SERVICES



*Note: 'Other' refers to all other modes of transportation aside from publicly funded school bus transportation.*

Key themes regarding the role of student transportation that emerged through the interviews with First Nations participants were:

- 1) Transportation as a contributor to classroom learning. First Nations participants, as well as participants from provincial school jurisdictions, brought forward the notion that the bus is an extension of the classroom since it ensures that all students are transported to and from school in a safe and timely manner and arrive ready to learn. It was noted that the experience that students have on the bus sets the tone for their learning for the rest of the day. Further, providing convenient and flexible transportation, to and from school, plays an important role in increasing school attendance, which is a big challenge for many First Nation jurisdictions and a key barrier to academic success [5].
- 2) Transportation as a mean to deliver language and culture programming. First Nations participants noted that student transportation is also a critical piece in the delivery of language and culture curriculum. The school buses were routinely used to support land-based and cultural programs and to access learning sites off-campus, with several participants noting daily visits to on-the-land classrooms located beyond walking distance from their school.
- 3) Transportation as a contributor to the enrichment and well-being of students. First Nations participants felt that the scope of student transportation should go beyond solely taking children to and from school in order to bridge the gap in both educational and extracurricular opportunities.

It was also highlighted throughout the interviews that for most First Nations students, school-run/sanctioned extracurricular activities represent the only available sources for enrichment. This is particularly true in remote and isolated areas, where students rarely have the opportunity to travel outside of their community.



## Delivery of Student Transportation Services

The delivery of student transportation services significantly differs across the provinces. For example, in Ontario student transportation is delivered by third-party bus operators contracted by transportation consortia. These service providers are responsible for quality assurance for vehicles, drivers, and driver safety training. In other provinces, there is typically a mix of transportation services managed in-house by the school jurisdictions and contracted bus operations. Contracted bus operations are typically located in urban areas, while the majority of the school jurisdiction-owned systems are located in rural areas.

First Nations predominantly provide transportation services on their own, without engaging third-party bus operators. Two First Nations participants noted that they hire bus owner-operators or small contractors from their First Nations to provide transportation services but were in the process of building the capacity within their education authorities to take over the transportation functions. Other First Nations noted that their Public Works Department operated all transportation services for the schools and community at large.

First Nations deliver transportation services for either band-operated schools, First Nation students attending provincial schools, or a combination of both. All but one First Nations participant provided transportation to their jurisdiction's band-operated schools (which only provided transportation to neighbouring provincial schools), while 46 percent of participants were responsible for transporting First Nation students to provincial jurisdictions.

## Regulatory Framework

Regardless of whether the transportation services are delivered by provincial school jurisdictions, a First Nation, or a third-party bus operator, there are several federal and provincial regulatory requirements that must be followed.

Transport Canada is responsible for establishing regulations and setting safety equipment requirements in the Canada Motor Vehicle Safety Standards, including specific safety requirements for buses; such as brake systems, electronic stability control, window retention, lighting, tires, wheels, and other safety equipment. Transport Canada works with all orders of government to keep these standards up to date and performs tests to ensure compliance. Provinces' jurisdiction includes safety enforcement on roads and highways and standards around driver and vehicle licensing (e.g. speed limits, insurance requirements, bus driver training requirements, safety inspections, walking distance to school).

The school jurisdictions or third-party bus operators, on the other hand, are responsible for governance and oversight for student transportation services to eligible students, including establishing transportation policies and service standards, hiring staff to implement these policies, and monitoring service delivery.

The jurisdictional comparison of key standards related to student transportation is summarized in Table 4. For simplicity, only those standards that may have a direct impact on transportation costs were selected.



TABLE 4: STUDENT TRANSPORTATION REGULATIONS AND STANDARDS, BY PROVINCE

Requirement/Standard	BC [8]	AB [9]	SK [10]	MB [11]	ON [12]	QC [13]	NS [14] [15]
Bus Driver Training	<ul style="list-style-type: none"> <li>• Class 2 driver's licence</li> <li>• Between 30-40 hour training course</li> </ul>	<ul style="list-style-type: none"> <li>• Class 2 driver's licence</li> <li>• 53.5 hours of Mandatory Entry-Level Training</li> </ul>	<ul style="list-style-type: none"> <li>• Class 1-5 driver's licence and school bus S endorsement</li> <li>• Driver's must re-take the S endorsement test every 5 years</li> </ul>	<ul style="list-style-type: none"> <li>• Class 2F driver's licence (for all types of buses)</li> </ul>	<ul style="list-style-type: none"> <li>• Class B driver's licence</li> <li>• Must complete School Bus Driver Improvement Course</li> <li>• Subject to regular re-examinations</li> </ul>	<ul style="list-style-type: none"> <li>• Class 2 driver's licence</li> <li>• Certificate of competence (15 hours initial training, 6 hours per year)</li> </ul>	<ul style="list-style-type: none"> <li>• Class 5 driver's licence with endorsement B for school buses</li> </ul>
Maximum Age of Buses	10 years	No mandatory standards; common practice – 10 years	No mandatory standards; common practice – 10 years	No mandatory standards: 12-15 year maximum on average	Determined by jurisdiction – 10-12 year maximum on average	12-year maximum	Determined by jurisdiction – 12-year maximum on average
Frequency of Vehicle Inspections [16]	Every 6 months	Every 6 months	Every 12 months	Every 6 months	Every 6 months	Every 6 months	Every 6 months
Walk Limits (to determine eligibility) [17]	Determined by school jurisdictions	2.4 km	Determined by school jurisdictions	Typically 1.6km for rural students	Determined by school jurisdictions – approximately 500m for kindergarten and up to 3km for high school	Determined by school jurisdictions	1.6 km for elementary school, 2.4 km for middle and high school



Requirement/Standard	BC [8]	AB [9]	SK [10]	MB [11]	ON [12]	QC [13]	NS [14] [15]
Maximum Distance to a Bus Stop	Determined by school jurisdictions	Determined by school jurisdictions – approximately 300m to 400m	Determined by school jurisdictions	Determined by school jurisdictions	Determined by school jurisdiction – approximately 200m	No information available	Determined by school jurisdictions
Maximum Ride Times	No mandatory standard	No mandatory standards;	No mandatory standard	No mandatory standard – Manitoba Government attempts to keep ride times under one hour	No mandatory standard	No information available	Ride time must be less than one hour
Special Needs Transportation	Determined by school jurisdictions	School jurisdictions are mandated to transport special education students to the school to which they have been directed.	Determined by school jurisdictions	Determined by school jurisdictions	Determined by school jurisdictions	No information available	Transportation is made available to all students with special needs, regardless of the distance to the school





## First Nations' Compliance with Transportation Regulations

Similar to provincial school jurisdictions, First Nations must comply with both federal and provincial legislation pertaining to education transportation. Therefore, even though First Nations and their lands are primarily under federal jurisdiction, they are also subject to provincial traffic laws, driver licensing requirements, and safety requirements, which change from province to province [18].

Below is a summary on First Nations' compliance with transportation regulations, based on findings from interviews with First Nations:

- Walk limits and eligibility standards. Walk limits are typically imposed by provincial school jurisdictions to limit the number of students eligible for transportation and improve route efficiency. Of the 13 participating First Nations, 12 considered walk limits standards and other transportation service level standards applied by provincial school jurisdictions inappropriate and did not impose them.

For example, in Alberta, both the School Act and the Transportation Regulation reference the walk limit or service standard of 2.4 km [17], which mandates that transportation services are provided only to students that reside over 2.4 km away from school. No interviewed First Nations in Alberta were following this standard due to safety issues stemming from wildlife, dogs, walking on a highway/road, and extremely cold weather. Further, due to safety issues, most First Nations participants reported picking up their students in front of their homes.

- Training and inspection requirements. Due to a lack of financial resources and systematic barriers to adequately adhere to provincial transportation regulations on reserve lands, it is not uncommon for First Nations to be non-compliant with provincial requirements around bus driver training, safety inspections, and licensing:
  - One fly-in First Nation participant noted that none of their bus drivers met the provincial licensing standards, except for the Transportation Coordinator. The non-compliance was due to a combination of factors, including COVID-19 quarantine requirements, the high cost of travel to obtain the necessary training, and the unavailability of spare bus drivers to cover absences. This community also reported experiencing several bus incidents over the past three years and as a result, bus drivers are unable to drive students outside of the community.
  - Another remote and isolated participant reported being unable to conduct bi-annual safety inspections due to lack of year-round road access and provincial requirement to have inspections completed in a licensed inspection facility.



# Assessment of Student Transportation Costs

## Transportation Expenditures Overview

Student transportation expenditures are typically the third-highest expenditure category in a school jurisdictions' budget, after instruction and operations and maintenance. Comparable data on transportation expenditure by province were only available for Western Canada. As shown in Figure 4, in Western Canada in the 2019/20 school year student transportation accounted for between 4.4 3.9 percent and 5.7 percent of education expenses, on a province-wide basis. [7] [19] [20] [21]

FIGURE 4: PERCENTAGE OF TOTAL EDUCATION EXPENDITURES ON STUDENT TRANSPORTATION, 2019/20

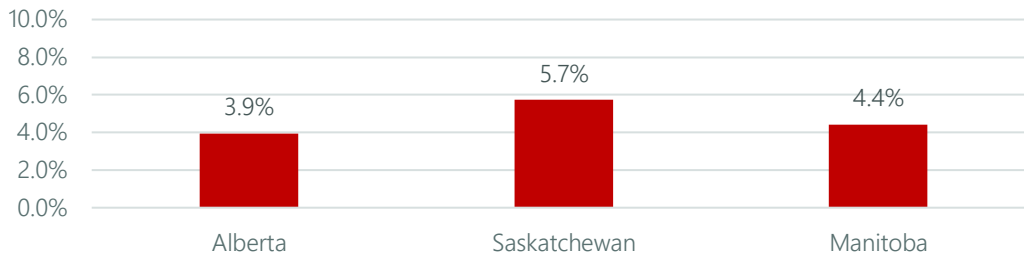
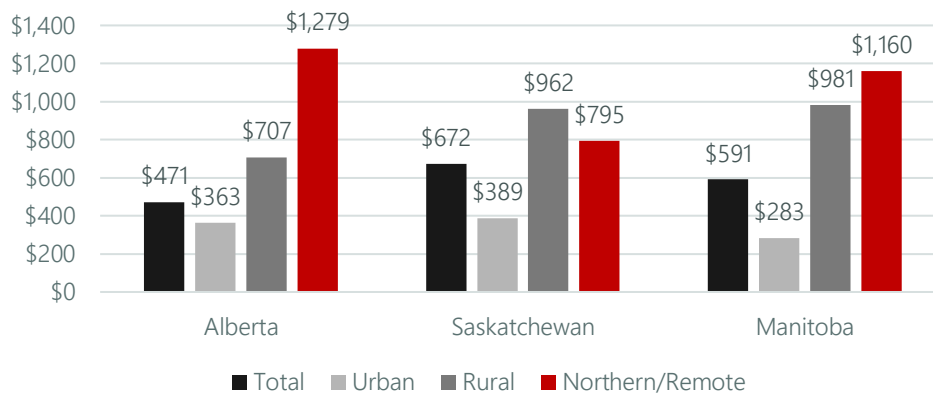


Figure 5 displays student transportation expenditures per student Full-Time Equivalent (FTE) for Saskatchewan, Alberta, and Manitoba, broken down by jurisdiction type. [22] [23] [24] Average province-wide student transportation expenditures per FTE student ranged from \$450 to \$700. However, there were significant differences between urban and rural and remote/northern jurisdictions. In urban jurisdictions, expenditures were below \$400 per student FTE, while for rural school jurisdictions transportation expenditures per student FTE were between \$700 and \$1,000 and in northern/remote school jurisdictions expenditures per student FTE were between \$795 and \$1,300 per student FTE.

FIGURE 5: STUDENT TRANSPORTATION EXPENDITURES PER FTE, 2019/20





## Typical Cost Structure

The typical categories of costs for providing student transportation are generally similar across jurisdictions and can be divided into capital costs, direct operating costs, and indirect operating costs.

The direct operating costs are those directly related to performing school transportation functions, like bus driver salaries, fuel and maintenance costs, licensing, insurance, and training. Indirect costs are those not directly involved with the operations of the school buses, like administration staff salaries and route planning software. Figure 6 summarizes the cost types by category.

FIGURE 6: STUDENT TRANSPORTATION COST TYPES BY CATEGORY

Capital Costs	Direct Operating Costs	Indirect Operating Costs
<ol style="list-style-type: none"><li><b>1. Bus replacement</b><ul style="list-style-type: none"><li>• School bus purchase costs</li><li>• Costs of bus equipment/peripherals (GPS, camera, winter tires etc.)</li></ul></li><li><b>2. Other capital costs</b><ul style="list-style-type: none"><li>• Bus garage, bus shop</li></ul></li></ol>	<ol style="list-style-type: none"><li><b>1. Bus driver wages</b></li><li><b>2. Maintenance</b><ul style="list-style-type: none"><li>• Inspections</li><li>• Other routine and emergency maintenance</li></ul></li><li><b>3. Fuel</b></li><li><b>4. Insurance and registration</b></li><li><b>5. Bus driver training</b></li></ol>	<ol style="list-style-type: none"><li><b>1. Administration</b><ul style="list-style-type: none"><li>• Salaries of admin. staff</li><li>• Software (route planning)</li></ul></li></ol>

It is also important to make a distinction between fixed and variable transportation costs. Fixed costs are incurred regardless of whether the bus is in use or not and do not depend on the number of kilometres of travel (e.g. purchase of insurance, mandatory inspection), while the variable costs change based on the use of the bus (e.g. fuel and maintenance). Figure 7 summarizes the types of costs that are fixed vs. variable.

FIGURE 7: FIXED VS. VARIABLE COSTS FOR STUDENT TRANSPORTATION

Fixed Costs	Variable Costs
<ol style="list-style-type: none"><li><b>1. Bus replacement</b><ul style="list-style-type: none"><li>• School bus purchase costs</li><li>• Costs of bus equipment/peripherals (GPS, camera, winter tires etc...)</li></ul></li><li><b>2. Administration</b><ul style="list-style-type: none"><li>• Salaries of admin. staff</li><li>• Software (route planning)</li></ul></li><li><b>3. Insurance and licensing</b></li><li><b>4. Maintenance – Inspections</b></li><li><b>5. Other capital costs</b><ul style="list-style-type: none"><li>• Bus garage, bus shop</li></ul></li><li><b>6. Bus driver training</b></li></ol>	<ol style="list-style-type: none"><li><b>1. Bus driver wages</b></li><li><b>2. Maintenance</b><ul style="list-style-type: none"><li>• Routine and emergency maintenance excluding inspections</li></ul></li><li><b>3. Fuel</b></li><li><b>4. Extra-curricular travel</b></li></ol>

Distinctions between fixed and variable costs are important in developing a cost-based transportation formula. Communities can have significantly different costs for providing transportation to a similar number of students depending on factors that drive variable costs (e.g. the number of kilometres, road quality, climate).



For provincial school jurisdictions interviewed, the total cost of running a typical 72-passenger school bus is between \$40,000 and \$60,000 per year. Overall, bus driver salaries account for the largest share of the transportation budget (35 percent to 55 percent), followed by bus replacement costs (15 percent to 25 percent), maintenance (15 percent to 25 percent), and fuel (10 percent to 15 percent).

## Transportation Cost Elements

This section provides an overview and analysis of each of the key elements of the student transportation costs, including bus driver wages, school bus replacement costs, maintenance costs, fuel costs, insurance and registration costs, training costs, and costs associated with extracurricular activities. This section summarizes:

- Common transportation operations practices among provincial and First Nations school jurisdictions;
- Provincial cost benchmarks, as well as costs incurred by First Nations; and
- Key factors that cause a variation in each cost element (also referred to as cost drivers).

### Bus Driver Wages

Wages and benefits for school bus drivers typically account for the largest percentage of student transportation costs. For some bus drivers, compensation is determined through collective bargaining agreements, while for others it is set by private bus operators and school jurisdictions. For drivers that work for school jurisdictions under collective agreements, wages typically increase based on the number of years of service, with set increases defined by salary bands.

#### Regular Bus Drivers

The compensation structures for regular bus drivers vary significantly from province to province, and among school jurisdictions and school bus operators. It is common for bus drivers to be paid in one of three ways:

- A combination of a daily wage and a per-kilometre rate;
- A flat hourly wage; and
- An annual salary.

Some interviewed provincial school jurisdictions also reported paying extra for serving students with special needs, supporting extracurricular travel, participating in safety meetings and training, etc.

Across Canada, hourly wages for school bus drivers generally fall between \$20 and \$25 per hour, regardless of the salary structure.<sup>2</sup> This equates to an annual salary of between approximately \$20,000 and \$25,000, before benefits, assuming a five-hour workday and 195 school days per year. However, there are important wage differences between provinces, which are highlighted in Figure 8. British Columbia and Quebec are on average, above \$25 per hour, while wage rates in PEI and New Brunswick are on average, at or below \$20 per hour.

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<sup>2</sup> This estimate does not include benefits.



FIGURE 8: SCHOOL BUS DRIVER, AVERAGE HOURLY WAGES, BY PROVINCE<sup>3</sup>



In addition to differences across provinces, there are also important regional differences within provinces. Wages can vary by region due to differences in cost of living, labour supply and demand, and availability of other sources of employment. For example, the cost of living tends to be much higher in remote communities, which typically increases the wages. Also, the wages tend to be higher in areas with higher demand for drivers. For example, one interviewee from a provincial school jurisdiction noted that bus driver wages were particularly high in their region due to competition from several nearby mines, which offer high wages.

First Nation participants noted that they typically set their bus driver hourly wages at or above nearby provincial authorities, and like provincial jurisdictions, drivers' wages increase based on the number of years of service. While the hourly rates were comparable to provincial school jurisdictions, First Nations were more likely to employ bus drivers on a full-time basis due to a requirement for a greater number of hours of work per day. The higher number of hours worked was driven by the following:

- Double Runs: Five of the thirteen First Nation participants noted that their bus drivers completed double runs<sup>4</sup>, at least once per day;
- Off-Campus Requirements: The majority of First Nation participants noted that buses were used to transport students to land or culture-based programs off-campus at least once a week;
- Additional Extracurricular Support: 10 of the 13 First Nation participants noted that they ran additional bus runs after school to support extracurricular programs;
- Longer Routes: A few First Nation participants also reported having longer bus routes and bus runs approaching three hours return for drivers, including daily inspections.

First Nations also mentioned that they must pay full-time wages to their bus drivers to retain them, since bus drivers residing on-reserve have little to no opportunities to supplement their wages with other work, and government-provided social assistance can be comparable with the part-time driver earnings. The annual salaries for First Nation participants school bus drivers ranged from \$33,000 to \$55,000.

<sup>3</sup> The average hourly wages displayed are for a sample of select school jurisdictions in each province, collected through school jurisdictions' collective agreements and interviews with school jurisdictions. This does not include benefits.

<sup>4</sup> A double run is where a bus driver either completes one bus route twice or serves two different bus routes in the morning and/or in the afternoon.



## **Spare Bus Drivers**

In addition to regular school bus drivers, school jurisdictions and bus operators also retain a pool of casual bus drivers (commonly referred to as “spare bus drivers”). These drivers usually work on-call to replace bus drivers that have called in sick, are running late due to inclement weather, or are unable to perform their duties for other reasons. Typically, the provincial school jurisdictions try to hire one casual driver for every seven to ten full-time drivers. [25]

Casual drivers are typically paid on an hourly basis for only the days they are called in. The wage rates for casual drivers are generally around \$20 per hour. Many provincial school jurisdictions also use their casual drivers for extracurricular transportation during the school day, for field trips, as well as after school, for sports trips. When casual bus drivers are asked to support extracurricular activities in the evenings or on the weekends, they are typically provided with a meal allowance.

First Nation participants noted that casual drivers are typically paid hourly or on a daily flat rate. A participant in a remote location noted that the daily rate for casual drivers had recently been increased to \$300 per day because they were unable to attract qualified drivers.

## **Bus Driver Benefits**

School bus drivers also receive benefits, as part of their compensation. Through interviews with provincial school jurisdictions, it was determined that benefits packages are approximately an additional 20 percent of drivers’ salaries. Benefit packages include pension or retirement contributions, as well as health and dental packages. First Nation participants indicated that benefits provided for school bus drivers were on par with the rest of First Nation band administration employees, which is typically lower than in provincial school jurisdictions (5 percent to 15 percent).

## **Compensation and Bus Driver Retention Issues**

While the compensation models are quite diverse, there was a consensus among provincial school jurisdictions and First Nations that the current wages are not sufficient to retain drivers. Drivers often work part-time and 180 to 195 days per year, as such, a bus driver’s annual earning potential is significantly less than that of a typical full-time worker who works 8 hours per day and 250 days per year [25]. Further, school bus driver salaries are notably lower than the salaries of commercial bus operators employed by other industries.

## **School Bus Replacement Costs**

School bus replacement costs typically account for the second-largest percentage of student transportation costs, after school bus driver salaries. Given the large up-front cost of purchasing school buses, they are typically amortized over five to ten years and the standard range for amortized school bus replacement costs is between \$6,000 and \$15,000 per bus per year. The annual bus replacement costs are driven by the number of bus routes and the need for spares, access to quality maintenance services, bus prices, road conditions etc.

It is important to note that, depending on the province, the responsibility for bus replacement may rest with the provincial government. For example, in Nova Scotia, the provincial government is responsible for replacing all school buses, which means that individual school jurisdictions do not incorporate the bus replacement costs in their respective budgets. In BC, the provincial government organizes a province-wide School Bus Purchase Program, which allows both provincial and First Nations school jurisdictions to use the standing offer prices [26].

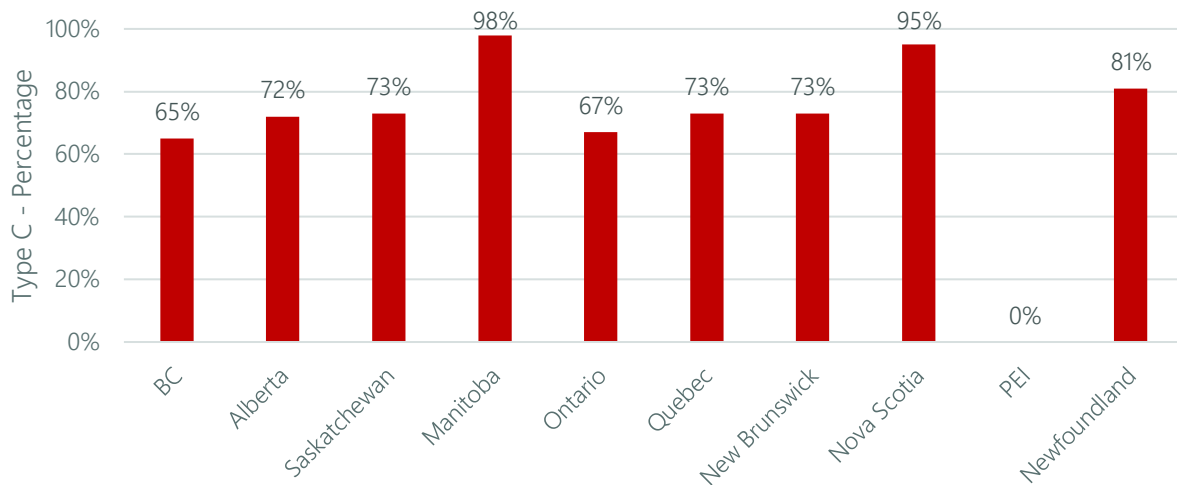


## Typical Fleet Composition

According to the 2020 Report of Task Force on School Bus Safety, the most common type of bus is the Type C bus, often called a “conventional” bus, with a gross vehicle weight rating of more than 10,000 pounds. [27] The type C buses are typically able to accommodate up to 72 elementary school students or between 40 and 55 secondary school students.

While Type C buses are most common across Canada, their prevalence varies by province. Manitoba and Nova Scotia’s fleets are almost entirely comprised of Type C buses, while PEI does not have any Type C buses. Figure 9 displays the percentage of each province’s fleet comprised of Type C buses.<sup>5</sup> [4]

FIGURE 9: PERCENTAGE OF BUSES IN EACH PROVINCE THAT ARE TYPE C



In rural and remote school jurisdictions, Type C buses tend to be less common. This is because there are fewer passengers per route and smaller buses provide sufficient passenger capacity and are easier to maneuver. A similar trend was observed in First Nations, as the First Nation participants with the largest service areas had fleets that were composed primarily of 50 to 54 seat buses. Conversely, First Nations with very few routes, smaller service areas, and more dense populations reported using only 70 to 72 seat buses.

In terms of manufacturers, school jurisdictions typically own a mix of Thomas, Bluebird and International buses and preferences towards certain manufacturers are based on proximity to dealerships, historical fleet composition, and driver preferences. Regardless of make and model, all school buses operated in Canada are expected to follow a set of federal technical standards, including stipulations on items such as construction processes, required materials, safety features, and other requirements.

## Number of Active Buses

The number of active buses operated by the school jurisdiction typically equals the number of bus routes. To determine the number of routes, most provincial school jurisdictions use a school bus routing software. This software is aimed at configuring routes in a way that is efficient yet maintains acceptable ride times. Among the interviewed provincial school jurisdictions, average ride times were between 30 and 40 minutes, with

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<sup>5</sup> PEI does not have any Type C buses, while BC has both Type C and Type D buses, which both carry the same number of passengers.



maximum ride times of up to 90 minutes. Most school jurisdictions' primary goal with routing was to limit ride times to under one hour.

Unlike the provincial school jurisdictions, First Nations were unlikely to use the software to plan their bus routes. Rather, the number of on-reserve bus routes was driven by historical practices. The number of off-reserve bus routes is driven by the location of schools attended by the students, ride times, and First Nation policies regarding school of choice<sup>6</sup>.

A few participants noted that over time, they "learned to do more with less", even though the practices did not align with the provincial school jurisdictions. Often, the number of bus routes was adjusted based on the number of buses in good working order and the number of qualified bus drivers. One participating rural First Nation noted that they have an internal policy to keep ride times under one hour, but due to a shortage of drivers, they found it challenging to implement the policy. Two First Nation participants, who operated both provincial and band-operated school routes, noted that ride times could regularly exceed 90 minutes, sometimes reaching 120 minutes in inclement weather. Two other First Nation participants noted that within the last three years that there had been occurrences where buses were so overcrowded that students were asked to stand during their rides to and from school.

It was also common for First Nations to operate double runs, with about 38 percent of participants reporting the need to perform double runs daily. For example, in one participating First Nation, where the entire population lives in a small area, buses complete their routes multiple times in the morning picking up students.

Transported Students per Active Bus Ratio  
First Nation participants ratio of transported students to active buses ranged from 24 to 130 with a median of 43, while provincial school jurisdictions typically range from 25 to 45, with a median of 32.

## Spare Buses

In addition to active buses, school jurisdictions and bus operators also maintain spare buses for periods when their active buses are being repaired and, in many cases, for extracurricular activities. The majority of school jurisdictions interviewed did not indicate that there is a standard ratio or percentage of spare buses they require. Many school jurisdictions decide to keep their older buses when they purchase new ones. As a result, the number of available spare buses can be as high as 30 percent of an active bus fleet (i.e. three spare buses per ten active buses). The lowest ratio of active to spare buses among provincial school jurisdictions interviewed was one to ten.

First Nation participants reported having fewer spare buses:

- Close to 40 percent of First Nations participants did not have any spare buses in good working order (e.g. meeting safety standards and having up-to-date inspections).
- Several First Nation participants noted that some of their spare buses were only considered spare because they did not have enough qualified bus drivers to operate additional routes.

A lack of spare buses limited the First Nations' ability to provide extracurricular opportunities, led to frequent service interruptions, and double runs. The double runs have a significant negative impact on both student

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<sup>6</sup> School of choice is program or policy in which students are given the choice to attend a school other than their on-reserve schools. It is up to First Nation jurisdiction to determine whether the students attending schools of choice (i.e. provincial schools) are eligible for transportation. Some First Nations have established official catchment areas, while others have not.





learning experience and staff morale, as both students and staff must either wait for over 30 minutes for buses before and after school or allow students to leave early/arrive late, thereby interrupting the instruction time.

## Bus Replacement Practices

The average age of a school bus in Canada is six years, with Ontario, Quebec, and Nova Scotia school jurisdictions having the youngest fleets and PEI and Manitoba having the oldest. Figures 9 and 10 display the percentage of school buses by age. [27]

FIGURE 10: PERCENTAGE OF BUSES IN EACH PROVINCE BY AGE

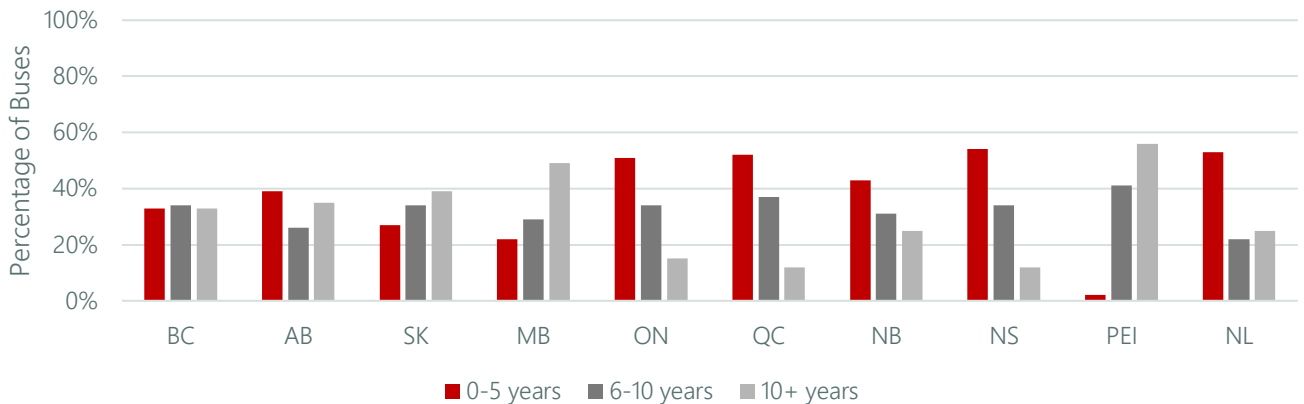
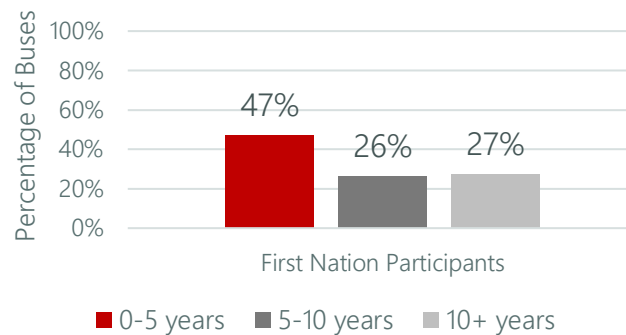


FIGURE 11: PERCENTAGE OF BUSES BY AGE, AMONG FIRST NATIONS PARTICIPANTS



While school jurisdictions and bus operators typically retire their buses from active routes after between 10 or 12 years, the bus replacement practices depend on several factors, including:

- Regulatory requirements: While most provinces do not mandate school bus replacement timing, British Columbia replaces school buses after 10 years.
- Distance travelled: School buses with significantly more kilometres of travel may have a reduced active life. Regardless of the age, buses are typically retired at approximately 300,000 kilometres or more.
- Road conditions: School buses that travel on dirt, gravel, or muddy roads with potholes can also have a reduced active life due to wear and tear.
- Weather conditions: School buses in harsh climates may also have a reduced active life, due to salt damage or other mitigation techniques.



- Access to regular maintenance: Regular and/or preventative maintenance programs are among the most significant factors affecting the lifespan of a school bus. Buses that receive quality, regular maintenance can have significantly longer lifespans.
- Bus storage: Indoor bus storage can reduce the wear and tear on buses and lengthen the active lifespan.

## Bus Replacement Cost Benchmarks

The cost of a single school bus (70 to 72 passengers) can range from \$100,000 to \$180,000, depending on the fuel type, number of modifications required and location of the school jurisdiction. The standard base cost for a diesel or gasoline bus is typically between \$115,000 and \$120,000, while propane buses typically cost an additional \$10,000 to \$20,000. There is relatively minimal variation in the baseline school bus costs across provinces, as any differences are primarily caused by sales taxes, as well as the availability of bulk purchasing agreements. The latter were not common in First Nations, which purchased individual buses outright on an ad-hoc basis. One of the few exceptions is British Columbia, where First Nations have access to provincially negotiated bus purchasing rates through the British Columbia Tripartite Education Agreement and can apply for bus replacement support through the First Nation Education Steering Committee's Bus Capital Program.

Aside from bulk purchasing arrangements, the variation in school bus costs arose from bus modifications and peripheral equipment added to the purchase. These items are typically added at the discretion of the purchasing school jurisdiction due to geography, climate, and the needs of the student population. Costs for peripherals and modifications typically range from \$1,000 to \$20,000 and include, but are not limited to: [26]

- Wheelchair lifts (\$8,000 to \$15,000);
- Digital cameras (\$500 to \$2,000);
- GPS (\$500);
- Heaters (\$1,000 to \$2,000); and
- Mounted spare tires (\$500 to \$1,000).

First Nation participants indicated that the majority of new buses are purchased with added security systems and cameras to protect drivers, students, and jurisdiction property.

## Maintenance Costs

Maintenance costs constitute between 15 percent and 25 percent of the overall costs per bus and vary depending on:

- Age of the bus: Both participants and secondary sources confirmed that operations and maintenance costs increase as school buses age. This is particularly the case for buses that have been used actively for over 10 years.
- Fuel type: Based on information from a car dealer in British Columbia, day-to-day maintenance for a diesel engine costs more than maintenance for a gas engine. Gas engines often have longer service intervals for engine coolant, spark plugs, and engine oil.
- Access to maintenance services: Frequency and quality of maintenance and proximity to service shops can significantly increase the useful life of a school bus.



- Road conditions: According to a report by Canadian Automotive Association (CAA), as the International Roughness Index (IRI)<sup>7</sup> becomes very high, repairs and maintenance costs can increase by as much as 70 percent compared to a baseline scenario (i.e. well-maintained paved roads). [28]

## Provision of Maintenance Services

Nine out of 11 provincial school jurisdictions have their own school bus maintenance shops and employ full-time maintenance staff; however, two interviewed school jurisdictions rely on external service shops for school bus maintenance.

All interviewed provincial school jurisdictions, which deliver their transportation services in-house, reported employing qualified mechanics and having access to at least one shop facility. The ratio of mechanics to buses (including active and spares) was generally between 1:10 and 1:20 (i.e., one mechanic per 10 to 20 buses); however, some of the small school jurisdictions had lower ratios, as they employed only one mechanic and had very few buses. There was one school jurisdiction with a ratio close to 1:30. In Manitoba, the provincial government recommends a ratio of 1:15.

The situation was the opposite in First Nations. Out of the 13 First Nation school jurisdiction participants, only two employ qualified mechanics while another shares mechanics and shop facilities with their respective First Nation's Public Works Department. All other First Nations participants relied on external service shops to provide school bus maintenance services.

Participants from provincial school jurisdictions and First Nations noted that having in-house maintenance with access to a service shop provided significant benefits, including:

- Cost savings: For school jurisdictions with fleets of over 30 buses, in-house maintenance services were less expensive compared with using external service shops, and the savings become even more significant for large fleets (over 100 buses). As maintenance staff are salaried employees, minor repairs and safety inspections do not add to the overall cost of maintenance.
- Timeliness of repairs: In-house maintenance staff are available to handle problems as they occur and can provide a significant response time advantage. Many school jurisdictions, particularly those in cold climates, indicated that their maintenance staff are needed to replace bus batteries and assist with starting broken-down buses throughout the winter months, which is something an external service provider would not be able to provide.
- Increased frequency of maintenance: Access to qualified mechanics allows school jurisdictions to create their own robust preventative maintenance program, rather than deal with issues as they arise, as many First Nations communities do. Some interviewed school jurisdictions indicated they have maintenance plans where buses receive mandatory service every 6,000 kilometres or eight times per year. This increased the lifespan of their buses by up to 20 years. On the other hand, the majority of First Nations participants do not have access to qualified mechanics within their community. As a result, they reported taking their buses for maintenance only twice a year – during mandatory bi-annual inspections.

Provincial school jurisdictions with in-house maintenance shops service their fleet at least fleet twice as often as their First Nations counterparts.

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<sup>7</sup> International Roughness Index (IRI) is the most commonly used worldwide index characterising longitudinal road roughness for managing road systems. IRI serves as a measure of pavement performance and ride quality. [65]



- Bulk purchases of supplies: School jurisdictions with large fleets and multiple service shops require large orders of replacement parts, oil, and fluids. As a result, these jurisdictions can receive volume discounts and further benefit from scale economies.

## Maintenance Cost Benchmarks

In general, maintenance costs across interviewed provincial school jurisdictions ranged from \$5,000 to \$10,000 per bus annually, including the following:

- Maintenance staff salaries: Maintenance staff (mechanics) salaries typically account for most of the maintenance costs for provincial school jurisdictions. Maintenance staff typically earn between \$55,000 and \$85,000 annually, excluding benefits. The two First Nation participants that reported employing certified mechanics paid similar wages (\$64,000 and \$87,000 per year) and had an apprentice at \$33,000 per year.
- Safety inspections: Safety inspections are thorough examinations of school buses engines, interiors, and exteriors. In all provinces, inspections are mandatory once every six months, except for Saskatchewan where they are mandatory once per year. Certain school jurisdictions inspect their buses more frequently or have a set number of kilometres for which they inspect their buses. For school jurisdictions with in-house maintenance staff, the costs are included in the staff salaries, while external service shops typically charge between \$200 and \$500 per inspection. Fly-in First Nations noted that they are required to cover travel, accommodation, and shop rental costs to conduct safety inspections on their buses, in the community, which ranged between \$5,500 and \$9,000 before labour and parts.
- Routine maintenance: Routine maintenance typically includes the following:
  - Oil changes: Oil changes are generally done after a set number of kilometres (e.g. every 5,000 to 10,000 kilometres) and typically cost between \$200 and \$500 per bus annually, excluding labour costs.
  - Tire changes: Tire changes are also typically done after a set number of kilometres; however, the frequency can vary significantly by school jurisdiction due to road quality and climate. As a result, the typical costs can vary significantly depending on the region and the most appropriate tires.
  - Fuel filter replacements: Fuel filters are typically replaced during a safety inspection if it is deemed necessary. They are a relatively minor cost (less than \$100).
  - Routine maintenance costs for First Nations vary greatly depending on their specific context. Remote and fly-in communities noted an additional 20 percent to 30 percent markup for all parts and supplies.
- Additional maintenance (major repairs and emergency repairs): Major repairs to buses can range widely in price and scope, depending on the type of repairs needed. Major engine repairs or bodywork due to accidents can add over \$10,000 per year to the maintenance budget.

First Nation participants noted that regular maintenance, safety inspections, and additional maintenance are conducted simultaneously to reduce travel and save costs. A rural First Nation interviewee in Alberta reported approximately \$5,000 per bus for combined inspection and associated major and emergency repairs, per visit. First Nation participants with older fleets reported more frequent requirements for emergency repairs with one participant noting 3 to 4 major repairs per year with a fleet of two buses.



Overall, participating First Nations' total maintenance costs ranged from \$3,500 to \$11,800 per bus per year with a median of \$7,847. The lowest costs in this range were incurred by a newly established First Nation school jurisdiction with seven brand new buses and a limited amount of operational activity during COVID-19.

## Fuel Costs

Fuel costs account for between 10 percent and 15 percent of the overall costs of student transportation. Fuel costs per kilometre ranged from \$0.30 to \$0.60, while fuel costs per day per bus ranged from \$40 to \$65.

Overall, the fuel costs are impacted by the following factors:

- Distances travelled: In geographically dispersed rural school boards, buses tend to travel longer distances, which increases fuel costs on a per-bus basis.
- Fuel type of school buses: According to the leading school bus dealer in Canada, diesel engines provide from 30 percent to 35 percent better fuel economy than comparable gas engines. This is because diesel engines work with a combustion process that is leaner, burning less fuel than a conventional spark gas engine [29].
- Age and condition of school buses: Older or poorly maintained buses tend to be less fuel-efficient compared to the new models.
- Quality of roads: Higher surface roughness reduces fuel efficiency and leads to increased fuel consumption [9]. For example, according to a report by the CAA, poor quality roads increase the fuel consumption in passenger vehicles by as much as 12 percent.
- Fuel prices per litre: Fuel prices vary depending on the province, proximity to urban centers and school boards' ability to purchase fuel in bulk, and the overall global market conditions.

## Fuel Types

The majority of provincial school jurisdictions interviewed were operating buses that run on diesel; however, two participants indicated they are transitioning to propane fuel and six reported using a mix of gasoline and diesel buses.

The observations were similar in First Nations, where the overwhelming majority of the fleet is fueled by diesel, but the intention is to move towards gasoline in the short term. Both participants from First Nations and provincial school jurisdictions indicated that the transition to gasoline is due to downsides to traditional diesel school buses, including their propensity to break down in cold weather, increased maintenance costs, increased emissions, and poor performance on gravel and dirt roads. Another advantage of using gasoline buses was better access to gas compared to diesel at First Nation operated on-reserve gas stations.

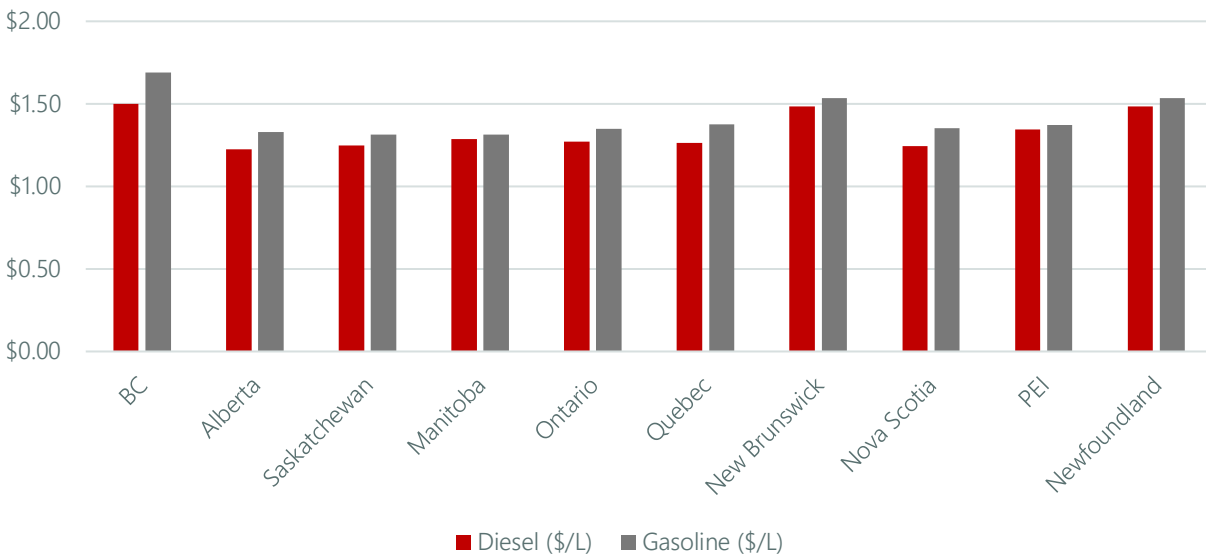
While not yet a common practice across Canada, an increasing number of school jurisdictions are also contemplating the transition to cleaner fuel alternatives, such as propane and electric buses. One interviewed school jurisdiction estimated lifetime cost savings of 30 percent per bus due to switching from diesel to propane, mostly due to reduced maintenance costs. Propane and electric buses are not an option for most First Nations and rural and remote communities due to the lack of availability of propane fueling and charging stations.



## Fuel Prices

Across Canada, British Columbia has the highest fuel costs while Alberta and Saskatchewan have the lowest. Fuel costs are generally most expensive in urban centres like Vancouver, as well as remote communities. Figure 12 displays the cost per litre of diesel and gasoline in major urban centres in each province, as of July 2021.

FIGURE 12: DIESEL AND GASOLINE COST PER LITRE, BY PROVINCE, JULY 2021



Retail fuel costs reported by participating First Nations ranged from \$1.41 to \$2.00 per litre for diesel and from \$1.21 to \$2.75 per litre for gas with median costs at \$1.60 and \$1.55 for diesel and gas, respectively. The majority of participating First Nations noted that they can purchase gas without some taxes which vary by jurisdiction and the location of their retailer. First Nation participants noted that fuel they purchase can be exempt from some combination of excise and duty taxes, fuel taxes, carbon taxes, and/or GST/HST. These tax exemptions provided a discount between 8 percent and 25 percent with a median savings of 16 percent. Even considering tax exemptions, remotely located First Nations incurred substantially higher fuel costs compared to urban centres.

Table 5 provides comparisons of gasoline prices in some northern/remote First Nations participants versus major urban centers:

TABLE 5: GASOLINE PRICE COMPARISON, NORTHERN AND REMOTE COMMUNITIES VS. URBAN COMMUNITIES

Case Study participant	Gasoline price reported by FN (with tax exemptions)	Gasoline prices in the province's major urban center (at the time of interview) [30]
1. Northern Fly-in Aggregate First Nation Jurisdiction in Saskatchewan	\$2.54	\$1.41
2. Northern Fly-in First Nation in Ontario	\$2.18	\$1.42
3. Northern Aggregate School Board in Manitoba	\$1.62	\$1.42



It is important to note that market-driven fluctuations in fuel prices are beyond control of school jurisdictions and bus operators and can significantly escalate the overall cost of providing student transportation services. For example, in September 2021, the average retail price of gasoline in Canada had increased by 35 percent relative to September 2020, and 24 percent relative to the onset of the COVID-19 pandemic (February 2020).[28]

## Bulk Purchasing

Apart from geographic differences, fuel cost is dependent on school jurisdictions' ability to purchase fuel in bulk. The interviews indicate that urban provincial school jurisdictions and southern rural school jurisdictions are typically the ones benefitting from buying fuel in bulk (e.g. bulk fuel tanks), while the rural operators typically use retail gas stations. Additionally, school jurisdictions that can participate in bulk purchasing programs can lock in favourable fuel prices for long periods, insulating themselves from regular energy price swings. The cost savings relative to retail fuel prices range significantly, as the following examples show:

- One school jurisdiction in Alberta purchases fuel through a bulk agreement with the agriculture industry association, which provides them with a discount of between 30 percent and 40 percent off diesel prices at regular gas stations.
- One school jurisdiction in Manitoba has a bulk purchasing agreement for propane that provides them with a 40 percent discount from retail prices.
- School jurisdictions with small fleets of buses generally received a \$0.01 to \$0.02 discount on fuel, while jurisdictions with extremely small fleets (under 5 buses) did not receive any discount.

First Nations are rarely able to purchase fuel in bulk, only 15 percent of participating First Nations noted that they purchased fuel in bulk. Another remote fly-in First Nation interviewee noted that they purchased fuel in bulk for their maintenance and transportation for the first time during the last winter. The jurisdiction which operates two diesel and four gas buses commonly had to purchase retail fuel at \$2.50 per litre. The bulk purchase price was under \$1 per litre before shipping costs. This First Nation has not been able to fully realize the cost savings from bulk purchasing because one of the two fuel trucks was stranded in a different community part-way up the ice road on the way to the First Nation.

## Administrative Costs

### Salaries of Administrative Staff

School jurisdictions and school bus operators require administrative staff to support their operations. The types of administrative staff can include the following positions:

- Transportation Manager: Oversees all aspects of student transportation, including negotiating fuel and bus purchasing agreements, hiring drivers and maintenance staff, and managing issues related to bus breakdowns.
- Transportation Assistant: Assists the Transportation Manager with all aspects of their role. This position only exists for the largest school districts.
- Routing Manager: Manages the planning of bus routes and analysis of route efficiency (costs, ride times etc.).
- Maintenance Shop Supervisor: Manages the scheduling and prioritization of school bus maintenance, as well as oversees service parts inventory and purchases of service parts and equipment.



- Administrative Assistant: Assists all other members of the administration team, manage correspondence with suppliers, parents, service providers etc.

The number of staff varies by the size of the school jurisdiction and the number of students requiring transportation. Among the provincial jurisdictions interviewed, there was one administrative FTE for approximately every 750 to 850 transported students. For larger school jurisdictions, it was common to have at least one FTE in all of the above roles. For smaller school jurisdictions, it was common to have an Operations Director or Associate Superintendent overseeing transportation, along with other areas of operations, such as facilities maintenance, or finance. Among the interviewed provincial school jurisdictions, the number of administrative employees ranged from 0.33 to 6 Full-Time Equivalents (FTEs).

TABLE 6: ADMINISTRATIVE STAFF COMPARED TO TRANSPORTED STUDENTS IN PROVINCIAL

Number of Transported Students	Administrative Staff
Under 800 students	Up to 1 FTE
800 to 2,000 students	1 to 2 FTEs
2,000 to 4,000 students	3 or 4 FTEs
Over 4,000 students	5 FTEs or more

Administration costs among interviewed school jurisdictions ranged between \$2,000 and \$6,000 per bus annually, though jurisdictions with larger school bus fleets were able to capitalize on economies of scale and generally had lower administration costs per bus.

Similar to provincial school jurisdictions, First Nations administration staffing and costs varied based on the number of students requiring transportation and the number of bus routes. Just under one-half of First Nations participants had designated Transportation or Fleet Coordinator positions. These positions were often hired on a part-time basis and performed other transportation duties (e.g. acting as bus drivers or training instructors). Smaller First Nations school jurisdictions with limited administrative capacity placed the management of their transportation services with maintenance or facility managers, education directors, and/or principals. As many First Nations do not have dedicated transportation education staff and responsibilities were shared among several positions, it was difficult to identify and allocate the administrative costs on a consistent per-bus basis, First Nation participants noted that administrative costs could reach 10 percent of total transportation costs.

### Other Administrative Costs

Other administrative costs incurred by provincial school jurisdictions included IT costs related to purchase and ongoing licensing of routing and bus maintenance software, finance and accounting, legal fees, and other general costs. Since these "other administrative costs" were not typically incurred by First Nations and/or the expenditure amounts on a per-bus basis were immaterial, they were not researched in detail.





## Insurance and Registration Costs

School jurisdictions and bus operators must purchase insurance to provide coverage for their fleet. These costs fluctuate across provinces due to varying provincial regulations around insurance. School bus operators in British Columbia, Saskatchewan, and Manitoba must purchase their insurance coverage from public insurers and generally have the option to buy additional coverage from their public insurer or a private insurer of their choice. For example, Manitoba Public Insurance (MPI) will only publicly underwrite a commercial vehicle policy for up to \$500,000 liability, above that requires a third-party insurer. The additional insurance can be provided through a private stream of MPI or an approved third-party insurer. In Quebec, only bodily injuries are covered by public insurance, and other coverages must be purchased from private insurance companies. In all other provinces, insurance is purchased from private insurance companies.

Insurance is typically provided on a per bus basis and is paid annually. School bus insurance typically costs between \$170 [31] and \$3,000. Provinces providing public insurance typically have lower rates and do not experience significant fluctuations year-over-year<sup>8</sup>.

The insurance costs depend on the following factors, including:

- Driver history;
- Carrying of passengers and number of passengers (passenger hazard);
- Size, make, model, and age of bus;
- Number of buses (fleet policies are cheaper than non-fleet policies);
- The area where the bus is used (territory) and road safety record of that area. Urban population centres have higher premiums;
- Distance operated;
- Where the bus is stored and propensity for bus theft and/or vandalism;
- Accident history of the bus;
- Liability limits;
- Bus usage, outside of carrying students to and from school (e.g. use for field and charter trips typically increases the premiums); and
- Discounts – based on driver experience, driver history, safety, low distances travelled, and whether the bus is part of a fleet or not.

## Training Costs

All school bus drivers in Canada undergo specialized training and certification before employment with a school jurisdiction. All provinces and territories require that school bus drivers have a particular class of commercial licence that qualifies them to drive a vehicle of that size and type. Further, some provinces require school bus-specific training that covers such topics as legal frameworks and responsibilities, driver condition (fatigue, impairment), defensive driving, passenger behaviour, vehicle safety features, and emergency procedures [4]. For example, the province of Alberta (effective March 1, 2019) requires that all school bus drivers

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<sup>8</sup> Alberta saw insurance costs rise dramatically in November 2021 with insurance rate renewals, and small school bus operators have been hit particularly hard. Rates have increased up to 358 percent for small-medium bus operators resulting in an approximate change from \$1,200 a bus up to \$6,523 a bus, with rural and remote areas hit the hardest.



participate in a provincial Mandatory Entry-Level Training program for commercial drivers, where school bus drivers must undergo 53.5 hours of training [4].

The total cost of training includes new driver training as well as the expenditure for ongoing driver training.

- New driver training costs – incorporates all costs related to the training of a bus driver (e.g. courses, materials, tests, training, classroom materials and manuals, first-aid and CPR training, and road tests).
- Ongoing driver training costs – these costs are associated with maintaining a safe level of driver performance.

Bus driver training costs vary significantly by province. Courses range from \$200 in Ontario to over \$4,000 in Alberta. Driver licensing costs between \$50 and \$400 with renewal fees typically costing \$100 or less. A detailed summary of bus driver training costs is provided in Appendix A.

Considering the country-wide driver shortage, it is common for school jurisdictions, school bus operators, and/or the provincial government to cover training and licence renewal costs. The larger school jurisdictions (with over 50 bus routes) typically employ a qualified training instructor to manage and deliver all necessary training for the bus drivers. The smaller school jurisdictions and bus operators are either outsourcing third-party service providers or partnering with neighbouring school jurisdictions, which have access to in-house training instructors. Having access to in-house training instructors significantly reduced the overall expenses associated with travel (incl. course fees and travel expenses) and increased flexibility of training options.

Unlike the provincial school jurisdictions, 12 of 13 interviewed First Nations accessed external training services or relied on drivers covering their own new driver training costs. First Nations with in-house training staff noted that their only additional driver training costs were related to testing which was between \$100 and \$150. First Nations without an in-house trainer noted that new driver training programs ranged from \$5,000 to \$15,000. Northern and Remote First Nation participants also emphasized the need to cover travel costs, which were a minimum of \$2,500 per driver.

None of the First Nations participating in the assessment partnered with provincial jurisdictions to receive a discount on training services, however, one participant noted that a southern provincial school jurisdiction allowed some fly-in communities to use their buses for testing purposes.

## Extracurricular Transportation Costs

All the school jurisdictions interviewed provide extracurricular transportation, which typically involves both field trips for students as well as transportation to sports events. Many of the school jurisdictions interviewed noted that provincial funding formulas focus only on busing students to and from school and do not cover extracurricular transportation. As a result, for these jurisdictions, extracurricular transportation costs are charged back to schools and not included in transportation budgets.

Extracurricular expenses are dealt with in three primary ways:

- Per hour rate for the driver: This amount is typically between \$18 per hour and \$22 per hour and is charged back to the school, as jurisdictions that use hourly rates typically don't have set extracurricular funding.
- Per kilometre rate: This amount is typically between \$0.40 and \$2.00 per kilometre and is also charged back to the school, as jurisdictions that use per kilometre rate typically don't have set extracurricular funding.
- Total budget for extracurricular transportation: Schools are given a set total budget for extracurricular transportation and are then expected to organize either third-party contractors or spare buses/drivers



to provide transportation. The school jurisdictions interviewed that managed extracurricular transportation this way budgeted between \$50 and \$100 per student.

In addition to the typical extracurricular transportation provided by both First Nation and provincial jurisdictions, First Nation school jurisdictions' extracurricular transportation often provides support for after-school extracurricular programs and land-based learning.

The additional bus runs supporting land-based/cultural and additional after-school programs for First Nations are primarily budgeted as part of specific projects or programs and/or were part of individual schools' overall budgets. Participants noted that the bus driver salary costs for the programs were either included in the full-time hours of bus drivers, were counted as overtime hours, or were flat rates paid to the drivers ranging from \$80 to \$110 per trip.



# Cost Drivers Specific to First Nations

The section below provides a summary of key cost drivers, unique to First Nations school jurisdictions. These cost drivers increase the transportation costs elements outlined in Section 2 beyond provincial benchmarks and result in provincially comparable funding being insufficient in the First Nations context.

## Lack of Economies of Scale

Provincial transportation formulas are designed for school jurisdictions with over 2,000 students. According to the 2020 ISC Annual Report to Parliament, 70 percent of First Nations reserve communities have less than 500 inhabitants, while only four percent have more than 2,000 inhabitants [32]. With on-reserve populations being small, First Nations school jurisdictions do not benefit from economies of scale the way their provincial counterparts do.

Lack of economies of scale increases maintenance, fuel, bus replacement, administration, and training costs as described in Table 7.

TABLE 7: IMPACTS OF THE LACK OF ECONOMIES OF SCALE FOR FIRST NATIONS

Cost Element	Negative Impact of Lack of Economies of Scale
Maintenance	<p>Unlike provincial school jurisdictions, First Nations tend to outsource maintenance services to third-party providers. Lack of access to qualified on-site mechanics leads to:</p> <ul style="list-style-type: none"><li>• Increased per-unit costs for all basic service jobs and parts (oil changes, fuel filter replacement etc.).</li><li>• Increased the likelihood of breakdowns and costly emergency repairs since the preventative maintenance is not performed as regularly as in provincial school jurisdictions.</li></ul>
Bus Replacement	<p>Since most First Nations purchase only one or two buses at a time, they do not benefit from volume discounts and pay full retail prices.</p>
Fuel	<p>The small size of operations prevents First Nations from purchasing fuel in bulk (e.g. buying fuel tanks). As a result, they purchase fuel from local retailers at a higher price.</p>
Administration	<p>Most First Nations do not have a large enough size of operations to hire dedicated transportation staff. As a result, First Nations more often administer their transportation services as part of maintenance or facility portfolios and/or rely on their education directors and/or principals to manage their transportation services. This represents an additional administrative burden for education professionals with scarce time, limiting their ability to focus on educational improvement or other issues.</p>
Training	<p>The vast majority of First Nations do not have a certified bus driver trainer on staff due to the lower number of bus drivers. As a result, they must hire external contractors to conduct all new-driver and ongoing bus driver training, which, on a per-driver basis, tends to be much more expensive.</p>



## Increased Scope of Transportation Services

As highlighted in Section 1 of this report, the scope of transportation services is much wider for First Nations relative to provincial school jurisdictions. The increased scope of transportation services is driven by:

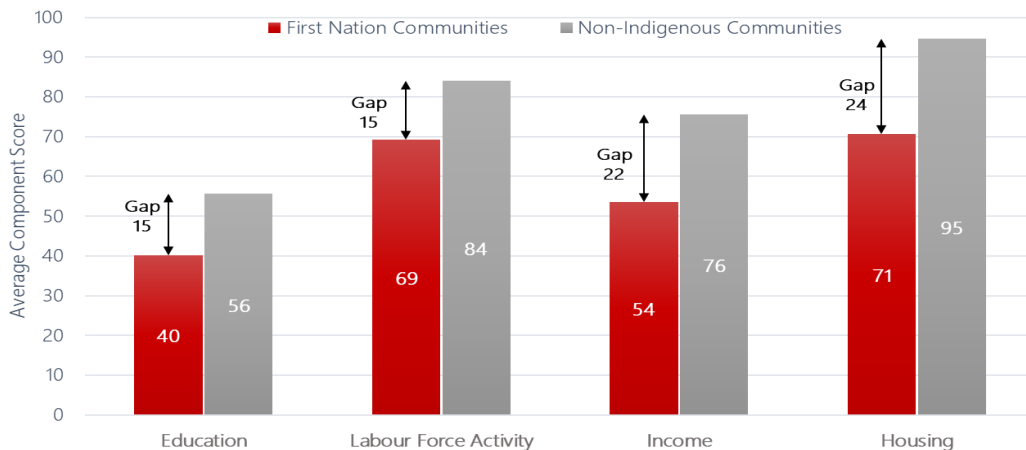
- Lower socioeconomic status of First Nations students;
- Safety hazards and climatic conditions in the communities that make walking to school unsafe;
- The need to support off-site language and culture activities; and
- The need to provide off-reserve transportation for students attending provincial school jurisdictions.

The increased scope of transportation services results in the need for additional bus routes and increases all direct transportation costs; such as bus driver salaries and benefits, fuel costs, maintenance costs, bus replacement costs, training, and other costs.

## Lower Socio-Economic Status

The 2016 gap in the average Community Wellbeing (CWB) Index scores between First Nations and non-Indigenous communities was substantial. In 2016, the average CWB score for First Nations communities was 19.1 points lower than the average score for non-Indigenous communities. Between 1981 and 2016, the income gap remained virtually unchanged and represents 22.1 points. The average income score was 53.5 for First Nations communities and 75.6 for non-Indigenous communities for a gap of 22.1. [33] Figure 13 displays the CWB score comparison for First Nations vs Non-Indigenous communities.

FIGURE 13: CWB SCORE COMPARISON, FIRST NATIONS VS NON-INDIGENOUS COMMUNITIES





According to the participants, the lower socio-economic status of student families and communities has several implications on the provision of transportation services:

- A much higher percentage of First Nations students are eligible for and require bus transportation. Participants noted that due to the low socio-economic status of many families, a relatively low number of families have access to vehicles and can drive their children to school. It has been estimated that 75 percent of First Nation peoples do not have a valid driver's licence [58] stemming from barriers such as cost, a lack of accessibility to licensing facilities and training facilities/services, and a lack of identification or other bureaucratic challenges.
- First Nations are unable to rely on parents to provide extracurricular transportation and cannot charge fees for extracurricular transportation. Therefore, to ensure substantive equality<sup>9</sup> for students, First Nations school jurisdictions require transportation funding for a provincially comparable range of extracurricular activities, including
  - Sports practices and tournaments;
  - Field trips to museums, recreation centres, libraries, universities, etc.
  - Arts, music, clubs, and other activities;
  - Mentorship and tutoring programs; and
  - Other extracurricular activities are necessary for exploring new opportunities, developing social skills, and improving emotional wellbeing.

## Safety Issues

First Nations participants consistently brought up the following safety concerns:

- Absence of sidewalks. With many First Nations having no designated pathways or sidewalks, students must share roads with vehicle traffic to walk to school.
- Harsh climate. First Nations participants from northern communities and those with higher humidity noted that harsh climatic conditions make it unsafe for students to walk even short distances to school.
- Wildlife and dogs. The majority of First Nation participants noted that packs of free-ranging dogs and wildlife, such as bears, in their community can make it unsafe for students to walk to school or wait at bus stops.

The above safety concerns were noted by First Nation participants as major reasons why their communities do not implement a provincial eligibility standard around walking limits or introduce their own. Without those eligibility standards in place, First Nations have to transport a much greater number of students relative to provincial school jurisdictions. Further, students are picked up closer to their homes, which increases the distance travelled by buses and reduces the efficiency of the bus routes.

## Language and Culture Curriculum Requirements

Most First Nation school jurisdictions have developed, or are in the process of developing, their language and culture curriculum. A vital component of this curriculum is land-based learning, which typically involves a combination of outdoor classrooms, outdoor learning camps, and on-the-land excursions referred to as land-

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<sup>9</sup> Substantive equality entails equal access, equal opportunity, and the provision of services and benefits using the principle of distinctions-based recognition [7].



based learning sites.

To support these programs, which are typically located away from schools (participants noted distances between 5 km and 50 km), transportation services are usually required. Of the First Nation participants, 18 percent reported that their jurisdiction provided transportation to land-based learning sites once a day, while 45 percent brought students to the sites multiple days per week. The remaining participants either brought their students to culture camps or other land-based opportunities once per week or sporadically.

## Off-Reserve Transportation

Over half of the interviewed First Nations provided transportation services to off-reserve schools. Off-reserve bus routes tend to be longer than on-reserve routes, and in some cases, 2.5 times longer. One rural First Nation interviewee with a relatively large service area operated nine routes to off-reserve schools, transporting students to 10 different provincial schools located in six communities. These off-reserve routes are the First Nation's longest making up 26% of the total routes and account for 79% of the kilometres driven, with some routes with student ride times exceeding 1.5 hours. The longest routes had ride times exceeding 1.5 hours.

As most First Nations allow their students to choose a provincial school they wish to attend, some routes tend to have very few students on them. For example, one First Nation in the Atlantic region reported transporting fewer than eight students on a route.

## Poor Road Conditions

According to data collected from Core Public Infrastructure Survey, 15 percent of Canadian roads are in poor or very poor condition. These roads are responsible for most of the incremental vehicle operating costs and Canadians who rely on these roads for their daily travel can be faced with costs well above the national average.

[28] Even compared to rural and northern school jurisdictions, First Nations appear to have lower-quality roads and infrastructure. Of the 13 First Nation respondents, 11 described the quality of their roads as poor, noting that road quality not only shortened the lifespan of their buses but also increased regular maintenance costs and the occurrence of major and emergency repairs.

A First Nation in Alberta noted that due to constantly driving through mud and over potholes, vibrations have cracked headlights, knocked windows loose, added repair costs related to cleaning caked-on mud, damaged leaf springs, worn-out clamps, and knocked off exhaust systems. The same First Nation often declares states of emergencies in the spring and fall during inclement weather as road conditions deteriorate to the point where emergency vehicles are physically unable to reach individual homes. Other participating First Nations noted that these challenges are not uncommon and that roads deteriorate significantly in inclement weather.

### Impact of Poor Roads on Bus Replacement Costs

One First Nation participant, which rated their roads as a "zero on a scale of one to ten", purchased buses designed to operate with lower air in the tires and altered suspensions to increase the lifespan of buses. The off-road and winterized packages for these buses were estimated to be \$200,000.



FIGURE 14: ROAD CONDITIONS IN PAUL FIRST NATION, ALBERTA



The impacts of poor road conditions on specific cost categories are summarized in Table 8.

TABLE 8: IMPACTS OF POOR ROAD CONDITIONS ON TRANSPORTATION COSTS

Cost Element	Negative Impact of Poor Road Conditions
Maintenance	<p>Poor road conditions result in more wear and tear on buses and higher routine and emergency/corrective maintenance costs. For example, potholes and poor drainage of roads result in premature tire wear, bouncing and shaking on rough roads reduce the working lifespan of shocks, and moisture and mud building on vehicles can damage lines, brakes, and all moving parts of vehicles. The roughest roads can increase maintenance and repair costs by up to 70 percent. [34]</p>
Bus Replacement	<p>The lifespan of buses that drive on poorly maintained gravel and mud roads daily, tends to be much lower. First Nations noted that due to poor road conditions, buses need to be replaced every 5-6 years instead of the 10 years which is a common practice among provincial school jurisdictions.</p> <p>To avoid service interruptions caused by frequent breakdowns or buses being stuck in mud or deep snow, First Nations need to have access to a substantial number of spare buses, which further increases the annual bus replacement costs. Damage to buses caused by poor roads also reduces the value of buses when they are decommissioned and potentially sold.</p>
Fuel	<p>Higher surface roughness reduces fuel efficiency and leads to increased fuel consumption [28]. Driving with mud or off-road tires to improve traction on muddy roads can decrease fuel economy by up to 15 percent. [35]</p>

In addition to the above direct impacts on costs, First Nations noted that due to poor road conditions buses are required to travel at a slower speed with one participant noting that deteriorating road conditions can





increase bus ride times for students by up to 30 minutes. To maintain reasonable ride times, First Nations have no choice but to add more bus routes at a reduced passenger capacity. Added routes mean a higher salary, maintenance, fuel, insurance, and licensing and training costs.

## Remoteness

First Nations are often more remotely located compared with their provincial counterparts. Remoteness is generally defined by a community's distance from services measured by network distance, travel time, or costs. Canada's Remoteness Index, which assigns a value between 0 and 1 (0 being the least remote and 1 being the most remote), is based primarily on proximity to multiple points of service. Based on the Remoteness Index, First Nations communities are more remote compared to the rest of Canada. The population-weighted average Remoteness Index equals 0.427 for First Nations communities vs. 0.142 for all communities in Canada combined. [37] ISC's Model for Cost Adjustment Factors Based on Remoteness estimates cost adjustments for funding based on location using a combination of the Remoteness Index and whether the community is isolated (Fly-in) or not. First Nation's Adjustment Factors range from 5 percent to 133.6 percent with a median of 33.4 percent. According to the ISC Cost Model Report, 13.4 percent of First Nations are considered fly-in communities and have a minimum cost increase of 80.1 percent. [1]

For example, a First Nation in Northern Ontario noted that to conduct regular bus inspections, maintenance, and repairs, they are required to charter a flight to their community to carry the mechanic and any required parts and tools which costs between \$8,000 to \$9,000 per trip. This First Nation noted that if specific parts aren't brought up during safety inspections, buses may have to remain unused until the next visit of a mechanic (typically every three months). A First Nation interviewee in Newfoundland and Labrador noted that, historically, they had to ship buses on a barge to bring them to a licensed facility several hundred kilometres away.

### Example of A Northern Saskatchewan First Nation

A fly-in First Nation education jurisdiction in Northern Saskatchewan has fuel costs that range from \$2.57 to \$2.75 per litre.

There is no maintenance shop, so the First Nation must pay to fly mechanics up for repairs and inspections:

- Travel and accommodation costs start at \$2,294 per trip;
- Shop rental and labour are typically \$3,200 before parts;
- Additional costs stem from high shipping costs for parts.

Distance from service centres increases costs for many First Nation school jurisdictions. Bringing in buses to maintenance shops means that school buses are required to be taken in on days when bus drivers would not otherwise be working, or a bus needs to be taken out of service, which increases the time on buses for students or the number of bus runs and means spare drivers must be called in.

The impacts of remote locations on specific cost categories are summarized in Table 9.



TABLE 9: IMPACTS OF REMOTENESS ON TRANSPORTATION COSTS

Cost Element	Impact of Remote Locations
Wages	The cost of living in remote and isolated communities can be substantially higher than in urban areas (e.g. housing, food, fuel, utilities, and services). To attract bus drivers, many First Nations in northern and remote communities must pay higher wages.
Bus Replacement	The long travel distance between First Nations and maintenance facilities tends to reduce the lifespan of buses and increase bus replacement costs. One First Nation interviewee noted that they need to travel up to 1,000 km per year per bus for routine maintenance, oil changes, and minor repairs. To avoid service interruptions, remote First Nations must maintain a higher number of spare buses as any malfunction or safety issues can leave a bus out of service for weeks or months at a time. Further, shipping new buses up to communities can be expensive, especially for communities without any seasonal road access.
Maintenance	Remote and isolated First Nations participants noted substantial maintenance costs related to the transportation of parts, certified mechanics, and shop access.
Fuel	Fuel costs can be substantially higher in northern and remote communities. Fuel costs were 197 percent higher for an isolated First Nation participant in Northern Saskatchewan compared with a road-connected First Nation in the same region.
Training	The expenses related to new bus driver training are significantly higher for remote First Nations as they are typically required to cover training fees and travel expenses for new hires to take private training programs at distant locations. On-going training costs can also be significantly higher as First-aid, CPR, and other regular training facilitators must be brought up to provide the training opportunities.

## Higher Student Needs

The transportation costs in the participating First Nations communities were also driven by higher student needs, including behavioural challenges and special needs.

### Behavioural Challenges

Bus drivers are responsible for not only safely transporting students to and from school but creating a safe environment for students. First Nations respondents noted that difficult and disruptive student behaviour on buses was an important safety concern for their school system that could negatively impact student learning and attendance if not properly managed. Behaviour management is particularly stressful for new drivers, who often lack training and tools to deal with misconduct on the bus.

Behavioural management and COVID-19 social distancing requirements often dictate the need for school bus monitors and bus security systems in addition to bus drivers. School bus monitor positions existed in 80 percent of participating First Nations and were either filled by existing educational assistants, or part-time hires from the community.



## **Special Needs**

First Nations typically have a higher number of special needs students who require paratransit services. Larger provincial school jurisdictions have designated special needs schools, programs and/or routes that can reduce the number of additional routes for paratransit services and reduce costs. 54 percent of First Nation participants noted that they had a passenger vehicle or a bus that has been modified to accommodate First Nation students. Several of the participants noted that their paratransit services served only one or two students. Participants that did not offer paratransit did not do so because they currently did not require the service, were in the process of acquiring a suitable vehicle, and/or cited a lack of available funding.



# Funding for Student Transportation

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## Current Transportation Funding Allocations for First Nations

ISC Regional Funding Models for First Nation education attempt to apply provincial funding models to First Nation education jurisdictions to provide provincial comparability. Due to the lack of First Nations-specific transportation data (e.g. number of transported students, number and length of bus routes), provincial transportation formulas have not been applied directly. Instead, transportation funding in most provinces is based on historical funding approaches in each specific region. These approaches vary quite dramatically:

- In the Alberta Region, the current ISC Transportation funding approach has been in place since the late 1980s and has not seen any major increases, apart from fuel subsidies and increments of two percent in some fiscal years.
- The ISC Saskatchewan Region funds transportation using a historical funding approach unrelated to the provincial model and includes a bus replacement rate, a per-kilometre rate, and a remoteness factor for some First Nations.
- The ISC Manitoba Region's formula for transportation is ISC's most comprehensive cost-based model, which includes bus driver salaries, per-kilometre maintenance costs, typical replacement cost of a school bus (10-year lifespan), bus driver training, extracurricular transportation, and a remoteness adjustment.
- Ontario is currently reviewing its transportation formulas and current ISC applications bases funding on the 2017/18 transportation dollar amount for Indigenous Services' Ontario Region, with an annual adjustment of four percent for 2020/21 and 2021/22, which is consistent with the Student Transportation Grant's growth of the past three years. The calculations behind the historic funding amounts are not explained or included in the Regional Funding Model.

## Funding Gap

All First Nation participants reported that their current transportation costs exceeded the transportation funding allocation provided as part of the Regional Funding model. The funding gap ranged from 6 percent to 127 percent, with a median shortfall of 45 percent. To make up for funding shortfalls, First Nations accessed other funding sources, such as Jordan's Principle, or used instructional funding.

Based on ISC's Analysis of 2020-21 Jordan's Principal Administrative Data Tables, there were 420 individual requests and 31 group requests<sup>10</sup> related to education transportation, with the total requested funding amounts of \$874,552 and \$2,400,631 respectively. [37].

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<sup>10</sup> Individual requests are typically made by parents and guardians, while group requests are made by First Nations communities and organizations.



The summary of approved and denied funding requests is provided below:

TABLE 10: SUMMARY OF TRANSPORTATION FUNDING REQUESTS SUBMITTED THROUGH JORDAN'S PRINCIPLE 2020-21

Education Transportation Request Type	Total Number of Requests	Number of Denied Requests	Requested Funding Amount	Approved Funding Amount
Individual Requests	420	48	\$874,552	\$705,126
Group Requests	31	10	\$2,400,631	\$455,471

Further, several First Nation participants noted that using instructional funding to cover transportation deficits negatively impacted the scope and quality of education services provided to students.

Through the interviews, it also became evident that the actual costs incurred by First Nations are often not representative of true needs. First Nations tend to spend the funds they are provided, and in some cases, their transportation systems fall short of meeting safety and quality and service level standards that provincial school jurisdictions do.

The Funding Gap Exceeds Current Deficits  
Looking at the current level of transportation spending, as one participant noted that *“Transportation expenditures were limited by a lack of bus capital funding, a lack of safe and suitable buses, an inability to attract certified bus drivers, and a lack of overall educational funding”*.

## Analysis of Provincial Funding Approaches

To further examine current funding practices, standard components included, and the extent to which ISC Regional Funding Models address the cost drivers unique to First Nations, MNP reviewed provincial funding formulas for student transportation across Canada. Specifically, the following funding models were examined:

- British Columbia – Operating Grants Manual – Student Transportation Fund;
- Alberta – Funding Manual for School Authorities – Transportation Grant;
- Saskatchewan – Funding Manual. Prekindergarten to Grade 12 Funding Distribution Model – Transportation;
- Manitoba – Funding of Schools – Transportation;
- Ontario – Education Funding, Technical Paper – Student Transportation Grant;
- Québec - Règles Budgétaires Pour Les Années Scolaires - Transport Scolaire; and
- ISC Provincial Funding Model Overviews for the corresponding regions.

It is important to note that the funding for student transportation is generally used to cover bus service to schools in the morning and bus service back home in the afternoon. Extracurricular transportation, including, for example, trips to museums during school hours or trips to sports tournaments after/outside of school, are generally included in the school's internal budget and not funded through the transportation grants.



Primary cost drivers are elements in the formula that contribute to determining the majority of funding needs. The four primary cost drivers that were compared between models were a per FTE rate and per kilometre rate as well as whether the model accounts for the number of routes/buses and remoteness.

Secondary cost drivers are elements in the formula that factor into the overall allocation but are applied after the primary calculation for primary cost drivers has been completed. The four secondary cost drivers that were compared were whether the model accounts for population density, special needs students, parent-provided transportation, or bus replacement costs.

The components of the provincial funding formulas for transportation are summarized in Figure 14.



TABLE 11: PROVINCIAL TRANSPORTATION FUNDING FORMULAS SUMMARY

Province	Primary Drivers of Funding				Secondary Drivers of Funding				Other	
	Number of transported students	Distance traveled	Number of buses or routes	Remoteness	Population density	Special needs adjustment	Parent provided transport adjustment	Bus replacement costs	Considers previous years costs	Other costs and adjustments
Alberta	✓	✓			✓	✓	✓	✓		Adjustment for non-resident transport
British Columbia	No unique formula for transportation									
Saskatchewan	✓	✓			✓	✓	✓	✓		
Manitoba	✓	✓	✓		✓	✓				Safety grant and francophone district adjustment
Ontario									✓	Adjustments for underfunding, enrollment changes, inflation, and safety training
Quebec	✓	✓	✓	✓		✓			✓	Adjustments based on an Economic Vitality Factor



Table 12 provides an overview of each province’s transportation funding formulas, as well as their current application to First Nations by ISC. It also describes the benefits and drawbacks of each of the respective formulas, as well as their appropriateness in the First Nations context.

TABLE 12: OVERVIEW OF PROVINCIAL TRANSPORTATION FUNDING FORMULAS.

Province	Provincial/ First Nations	Transportation Formula Overview and Analysis
Alberta	Provincial Formula [38] [39]	<p>The Alberta formula is fairly comprehensive, and funding is based on the key cost drivers of transportation. The formula provides funding primarily based on a per-student and per-kilometre rate that varies for urban vs. rural/remote school divisions. These rates are additionally multiplied by a weighting factor for a school divisions’ density. The formula also includes funding for students with special needs and the transportation of First Nations from reserve to provincial schools.</p> <p>Additionally, rural and northern school divisions receive significantly higher funding levels per student FTE than urban and metro divisions, indicating divisions with higher expected costs receive more funding.</p> <p>There are several issues with using the Alberta formula for First Nations communities:</p> <ul style="list-style-type: none"> <li>• Without specialized geographical mapping software, it would be difficult to collect and maintain the required data in the short term. The formula requires the calculation of the distance from every child’s home to the school they attend.</li> <li>• It is unclear as to whether it would provide sufficient funding as looking at financial statements, many school jurisdictions in Alberta report transportation deficits.             <ul style="list-style-type: none"> <li>○ For example, The Northland School Division’s Transportation department had a nearly \$400,000 deficit in 2019/20. [40]</li> </ul> </li> <li>• Based on interviews, it became evident that even school jurisdictions classified as “Rural” or “Rural Distant” transport a small percentage of students.</li> </ul> <p>Note: The Alberta Transportation funding model is currently under review and may be revised. 2020/21 funding levels were held constant based on each divisions’ 2019/20 funding, plus approximately five percent of supplemental funding.</p>
	ISC Regional Funding Model [41]	<p>Due to data constraints, ISC provides funding based on historical transportation funding levels for the percentage of First Nations students attending First Nations schools, plus an adjustment of two percent per year for inflation.</p> <p>For block funding recipients, funding is based on the 2010/11 school year. For non-block funding recipients, funding is based on the 2017/18 school year. The calculations behind the historic funding amounts are not explained or included in the Regional Funding Model.</p>





Province	Provincial/ First Nations	Transportation Formula Overview and Analysis
BC	Provincial formula [42] [43]	<p>BC does not have a unique student transportation formula.</p> <p>Student transportation funding comes out of the overall education budget for each school district. Education budgets are primarily determined by the number of student FTEs, with adjustments for a host of factors including:</p> <ul style="list-style-type: none"> <li>• Remoteness</li> <li>• Climate</li> <li>• Special needs students</li> <li>• Declining enrolment</li> <li>• Small schools</li> </ul> <p>BC additionally provides a top-up for student transportation through the Student Transportation Fund, which began in 2016, to provide school districts with the means to improve student transportation. It is based on the rural makeup of each school district and is meant to allow the district to eliminate bus fees, add routes, make safety improvements, and improve extracurricular transportation.</p> <p>Given that BC does not have a unique student transportation formula, it cannot be leveraged as a national funding approach for First Nations.</p>
	BCTEA Funding Model [44]	<p>Funding for First Nations education in British Columbia is provided through the BC Tripartite Education Agreement (BCTEA). The funding formula is based on the BC Ministry of Education’s formula, with adjustments to reflect the unique needs of First Nations schools.</p> <p>For student transportation, funding is provided by a weighted eligible enrolment, where First Nations with smaller student populations receive a higher per student amount.</p> <p>There is also approximately \$1 million of annual funding to replace “below standard” school buses in First Nations. Funding allocations are determined based on the ages and kilometres on each First Nations’ school bus. Additionally, the First Nations can work together with the provincial school jurisdictions to determine First Nation Student transportation needs and co-develop Joint First Nations Student Transportation Plans. The Plans are to include strategies to address various modes of transportation, such as walking, driving, bussing, ferry, or water taxi, depending on local needs, as well as transportation to extracurricular activities. [45]</p> <p>Bus capital replacement funding, as well as support for extracurricular activities negotiated through the BCTEA, are important and impactful best practices that need to be leveraged to develop a national funding approach for transportation.</p>



Province	Provincial/ First Nations	Transportation Formula Overview and Analysis
Saskatchewan	Provincial Funding Formula [46]	<p>The Saskatchewan provincial transportation formula provides funding primarily based on a per-student and per-kilometre rate that varies between urban and rural school divisions. Additional funding is also provided for students with special needs.</p> <p>The Saskatchewan model has some advantages including:</p> <ul style="list-style-type: none"> <li>• The formula uses distance travelled and the number of students as the two primary funding components, which reflects the main cost drivers of student transportation.</li> <li>• It is easy to apply and collect the required data.</li> <li>• The formula includes a northern adjustment to increase funding for jurisdictions in remote, northern regions.</li> </ul> <p>However, there are also drawbacks, including:</p> <ul style="list-style-type: none"> <li>• It is unclear how the rates (per student and per km) are being determined.</li> <li>• The formula does not include any calculations related to the number of buses or routes required, and these are key cost drivers for student transportation.</li> </ul>
	ISC Regional Funding Model [47]	<p>The ISC formula used in Saskatchewan differs from the formula used in provincial schools. The ISC formula includes a bus replacement rate and a per-kilometre rate, which is increased for daily travel above 50kms, and adjusted for remoteness with a 'northern factor' for certain First Nations.</p> <p>The rates used in the formula, in many cases, are significantly lower than the actual costs. For example:</p> <ul style="list-style-type: none"> <li>• The bus purchase costs are estimated at \$77,500, which is between 30 percent and 40 percent lower than the typical cost of purchasing a school bus (\$115,000 to \$125,000).</li> <li>• Bus drivers' salaries are calculated at \$12 per hour as opposed to \$20 to \$25 per hour, which is typical at provincial school jurisdictions.</li> <li>• Repairs are budgeted at \$2,000 per year, which is significantly less than the typical \$5,000 to \$10,000 per bus per year paid by provincial school jurisdictions.</li> </ul>



Province	Provincial/ First Nations	Transportation Formula Overview and Analysis
Manitoba	Provincial formula [48] [49]	<p>The Manitoba formula provides funding based on a combination of a per student rate as well as a rate per loaded kilometre rate that varies by the size and density of each school division. The rates vary for rural/urban divisions, and there is additional funding for students with special needs.</p> <p>The Manitoba formula is not recommended for use by First Nations due to data collection issues, as the formula includes a requirement to calculate the number of loaded kilometres and a dispersion factor based on the area of the school jurisdiction. Also, providing a funding rate only for loaded kilometres, or when students are on the bus, does not capture the total costs involved in operating the school bus, as most cost elements are incurred regardless of whether the bus has children on it.</p> <p>Additionally, in Manitoba, approximately 60 percent of education funding is from the province, as determined by the provincial formulas, while approximately 34 percent of funding is from municipal sources, including property taxes. As a result, the funding formula for Manitoba provincial schools is not directly comparable as it is not intended to fund the entirety of the student transportation budget.</p>
	ISC Regional Funding Model [50]	<p>The Manitoba Regional Funding Model provides funding primarily based on the number of buses required and bus driver salaries. These are calculated based on the number of kilometres of travel, for routes, the typical replacement cost of a school bus (10-year lifespan) and driver salaries for a remote school division in Manitoba. A remoteness factor is applied as well as additional funding for special needs, bus modification, and bus driver training.</p> <p>The formula also has a component to determine the number of buses required, which is done by taking the total student enrollment divided by 48 (school bus capacity).</p> <p>The Manitoba funding formula is the most comprehensive cost-based model available across the country and provides a template for both on-reserve transportation and transportation to provincial schools.</p> <p>The drawbacks of this formula are as follows:</p> <ul style="list-style-type: none"> <li>• It does not distinguish between fixed and variable costs and all costs are calculated on a per-kilometre basis.</li> <li>• It does not account for administrative costs associated with student transportation (e.g. Transportation Coordinator salary).</li> <li>• It does not include supports for special needs transportation (e.g. paratransit services).</li> <li>• The calculation of the number of buses does not align with provincial benchmarks and First Nations practices. For example, based on benchmarking results, the buses in the rural area operate only at about 50 percent capacity. Further, the 72-passenger can carry no more than 56 secondary school students. Further, the formula does not recognize the need for spare buses.</li> <li>• The extracurricular amount is a set amount that doesn't reflect geographic differences between communities or differences in the number of students enrolled in each school.</li> </ul>



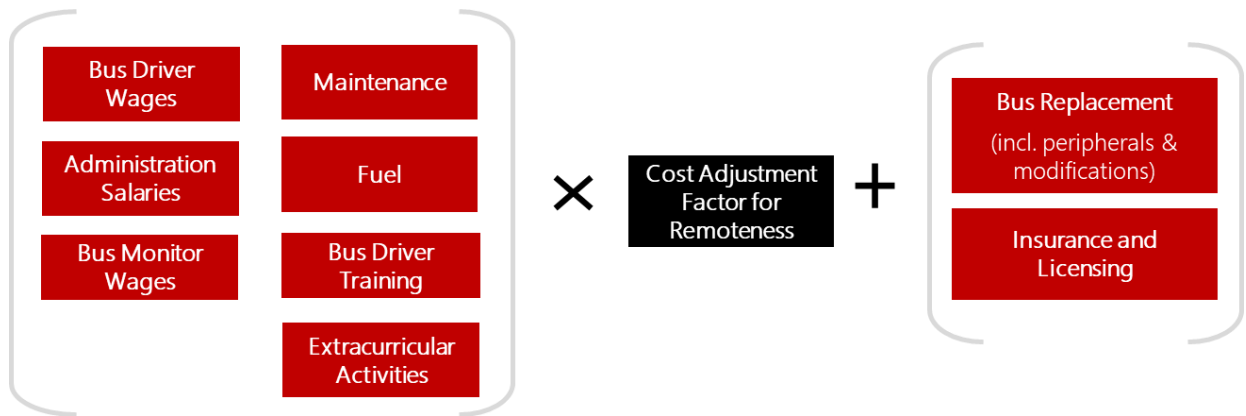
Province	Provincial/ First Nations	Transportation Formula Overview and Analysis
Ontario	Provincial Formula [51]	<p>The Ontario formula (Student Transportation Grant) provides funding based on the previous year's allocation, with adjustments for enrollment changes, cost changes, safety training, fuel price changes, and stabilization of funding.</p> <p>The Ontario formula is not advisable for First Nations, as it does not include funding that varies by the key cost drivers like the number of routes/buses, kilometres, and students.</p> <p>The Ontario student transportation funding formula is currently being reviewed by the Ontario Ministry of Education. To support this review, the Ontario Ministry of Education commissioned an independent cost benchmarking study. The results of this study are not yet publicly available.</p>
	ISC Regional Funding Model [52]	<p>While the Ontario funding formula is being reviewed, ISC bases funding on the 2017/18 transportation dollar amount for Indigenous Services' Ontario Region, with an annual adjustment of four percent for 2020/21 and 2021/22, which is consistent with the Student Transportation Grant's growth of the past three years.</p> <p>The calculations behind the historic funding amounts are not explained or included in the Regional Funding Model.</p>
Quebec	Provincial formula [53]	<p>The Quebec funding formula is based on the number of students transported as well as a series of adjustments for variations in student population levels, retained funding from previous years, and corrections to historical base funding. The correction calculation includes the number of students, the number of vehicles, and the number of kilometres travelled.</p> <p>While the Quebec formula covers several of the primary cost drivers, there is no direct adjustment for remoteness. Additionally, the Quebec formula is complicated to calculate and would require significant administrative work to gather the required data. As a result, it is not advisable for First Nations.</p>
	ISC Regional Funding Model [54]	<p>ISC does not apply the provincial formula to First Nations due to a lack of available data. The annual amount is based on historical amounts, with an adjustment of 1.95 percent to reflect inflation. This method creates the potential for underfunding, particularly if the base historical amount is not adequate. Additionally, a 1.95 percent annual adjustment may not be enough to keep up with increasing enrollments and the increased number of students requiring transportation. As a result, this method is not advisable for First Nations.</p>



# Recommended Cost Model

Based on information collected through the jurisdictional scan and engagement with First Nations communities, MNP developed a cost model. The model is meant to reflect provincial cost differences, remoteness, and other cost drivers, as well as unique considerations for providing student transportation in First Nations communities across Canada. The general structure of the model is provided below:

FIGURE 15: COST MODEL STRUCTURE



## First Nations Inputs

The model requires the following data elements to be entered by First Nations:

- The number of transported students.
- The number of on and off-reserve bus routes<sup>11</sup>.
  - The model will have some high-level checks on whether the number of buses meets the minimum requirements for transportation of students.
- The number of kilometres driven on a daily or an annual basis.
  - If the number of kilometres is unknown, the calculations will be based on the total number of kilometres of roads on reserve, the same as in the current Transportation Model for the Manitoba Region.
- The number of kilometres travelled for extracurricular activities.

<sup>11</sup> Calculation of the optimal number of bus routes is a complex undertaking that requires an understanding of school jurisdictions' geography (population density, travel distances, and location of student residences). Therefore, the calculation of the optimal number of routes is outside the scope of this project.



## Cost Modelling Assumptions

TABLE 13: COST MODELLING ASSUMPTIONS

Key Elements of the Cost Model	Assumptions										
1. Bus Driver Wages	<ul style="list-style-type: none"> <li>The number of regular bus drivers equals the number of active bus routes.</li> <li>All regular bus drivers are employed 7.5 hours per day for 180 to 190 days per year (depending on the province) plus 5 maintenance and training days, which equals between 1,388 and 1,463 hours per year.</li> <li>Bus drivers are paid the average wages of school bus drivers in their province.</li> <li>Bus drivers receive provincially comparable benefits packages, which equal 20 percent of their base salary.</li> <li>Spare bus driver salaries are 10 percent of full-time bus driver salary costs.</li> <li>To reflect the higher cost of living and shortage of labour in remote First Nations, base salaries of regular and spare bus drivers will be multiplied by the ISC Cost Adjustment Factor Based on Remoteness.</li> </ul>										
2. Administrative Salaries	<ul style="list-style-type: none"> <li>Administration costs consist of salaries and benefits provided to staff involved in managing transportation services.</li> <li>The number of required administrative staff is based on the number of transported students. The suggested staffing allocations are as follows: <table border="1" data-bbox="565 1150 1414 1520"> <tbody> <tr> <td>Fewer than 100 transported students</td> <td>0.25 Transportation Manager FTE</td> </tr> <tr> <td>100 to 300 transported students</td> <td>0.5 Transportation Manager FTE</td> </tr> <tr> <td>300 to 1000 transported students</td> <td>1 Transportation Manager FTE</td> </tr> <tr> <td>1000 to 1500 transported students</td> <td>1 Transportation Manager FTE and 0.5 Administrative Assistant FTE</td> </tr> <tr> <td>Over 1500 transported students</td> <td>1 Transportation Manager FTE and 1 Administrative Assistant FTE</td> </tr> </tbody> </table> </li> <li>The salaries will be determined based on average provincial salaries for Transportation Coordinator/Manager positions in a particular province.</li> <li>To reflect the higher salaries in remote areas, total administrative costs will be multiplied by the Cost Adjustment Factor Based on Remoteness.</li> </ul>	Fewer than 100 transported students	0.25 Transportation Manager FTE	100 to 300 transported students	0.5 Transportation Manager FTE	300 to 1000 transported students	1 Transportation Manager FTE	1000 to 1500 transported students	1 Transportation Manager FTE and 0.5 Administrative Assistant FTE	Over 1500 transported students	1 Transportation Manager FTE and 1 Administrative Assistant FTE
Fewer than 100 transported students	0.25 Transportation Manager FTE										
100 to 300 transported students	0.5 Transportation Manager FTE										
300 to 1000 transported students	1 Transportation Manager FTE										
1000 to 1500 transported students	1 Transportation Manager FTE and 0.5 Administrative Assistant FTE										
Over 1500 transported students	1 Transportation Manager FTE and 1 Administrative Assistant FTE										



Key Elements of the Cost Model	Assumptions
3. Bus Monitor Wages	<ul style="list-style-type: none"> <li>• Each bus route requires a Bus Monitor, compensated on an hourly basis.</li> <li>• Bus Monitor positions are part-time (working 5 hours per day for 180 to 190 school days per year).</li> <li>• Bus monitors are paid a relevant minimum wage in their province, multiplied by the Cost Adjustment Factor Based on Remoteness.</li> </ul>
4. Fuel Costs	<ul style="list-style-type: none"> <li>• Fuel costs are calculated on a per-km basis based on the number of kilometres entered by the user and average diesel/gas prices per kilometre for each province on a certain date (e.g. September 1<sup>st</sup>).</li> <li>• To reflect higher fuel costs in remote communities, total fuel costs are multiplied by the ISC Cost Adjustment Factor Based on Remoteness.</li> </ul>
5. Maintenance	<ul style="list-style-type: none"> <li>• All maintenance services are outsourced to external service shops.</li> <li>• Buses are taken to the maintenance shop four times per year to meet the minimum maintenance standard across provincial school jurisdictions.</li> <li>• Inspections are conducted as per provincial legislation.</li> <li>• To reflect the higher costs of maintenance and travel to maintenance shops, total maintenance costs will be multiplied by the Cost Adjustment Factor Based on Remoteness.</li> </ul>
6. Bus Replacement Costs	<ul style="list-style-type: none"> <li>• The bus replacement cost is calculated based on the number of active and spare buses. The number of active buses equals the number of bus routes as determined by the user, while the number of spare buses is determined by an average ratio of active to spare buses (five to one).</li> <li>• The buses are to be replaced every six years, and costs will be amortized over a six-year period.</li> <li>• Bus purchase costs equal the average retail costs of a 72-passenger bus.</li> <li>• 20 percent of buses are wheelchair accessible.</li> <li>• The cost of peripherals (e.g. cameras, GPS, heaters), commonly required by First Nations, will be added to the purchase costs, based on the average prices of these items.</li> </ul>
7. Insurance Costs	<ul style="list-style-type: none"> <li>• Insurance costs per bus equal average estimates obtained from insurance providers (government or third party) in each province.</li> <li>• Insurance costs are incurred regardless of bus usage (e.g. both active and spare buses require insurance).</li> </ul>



Key Elements of the Cost Model	Assumptions
8. Training	<ul style="list-style-type: none"> <li>• All training is delivered by third-party providers, as opposed to in-house.</li> <li>• Costs associated with entry-level training, licensing, and medical examinations, as well as travel, are fully covered by First Nations school jurisdictions.</li> <li>• All fees are based on information and quotes collected from training and licensing providers in each province.</li> <li>• For introductory level training, it is assumed that the annual bus driver turnover is 20 percent (i.e. 20 percent of all bus drivers are new and require training).</li> <li>• To reflect the higher costs of providing training in remote communities, training costs will be multiplied by the Cost Adjustment Factor Based on Remoteness.</li> </ul>
9. Extracurricular Travel	<ul style="list-style-type: none"> <li>• Extracurricular travel costs depend on the number of kilometres of travel per year. This will be input by the user.</li> <li>• A typical rate per kilometre will be used to calculate costs.</li> <li>• To reflect the higher costs of providing extracurricular travel in remote communities, extracurricular costs will be multiplied by the Cost Adjustment Factor Based on Remoteness.</li> </ul>
10. Cost Adjustment Factor Based on Remoteness [55]	<p>Cost Adjustments for Remoteness are from ISC’s model for Cost Adjustment Factors Based on Remoteness. A remoteness index score and corresponding cost adjustment factor are calculated for each First Nation in Canada.</p> <p>The measured remoteness of each community is based on labour cost differentials in each community and shipping costs to each community. Fly-in communities receive additional weighting to account for significantly higher costs.</p>





## Cost Model Calculations

The cost model was applied to a number of First Nations for which data was collected through interviews. The average cost per bus generated by the model was between \$95,000 and \$115,000 for communities with road access. The per-bus cost for isolated/fly-in communities was as high as \$170,000.

These estimates are significantly higher than the typical cost of \$40,000 and \$60,000 for provincial school jurisdictions due to the following key differences:

- Buses are assumed to be replaced every six years in the cost model, while they are typically replaced every 12 years in provincial school jurisdictions. This increases the replacement costs compared to provincial school jurisdictions (\$6,000 to \$15,000 per bus annually).
- Bus drivers are assumed to work full-time hours (7.5 hours per day) rather than five hours per day, which is typical for provincial school jurisdictions. This increases the costs by approximately \$10,000 on a per bus basis (50 percent increase);
- All buses require a bus monitor, which is not typical of provincial school jurisdictions and adds between \$20,000 and \$30,000 annually per bus.
- The cost adjustment factor for remoteness typically increases costs by between 5 percent and 40 percent, depending on the First Nation. For fly-in only communities, costs are increased by upwards of 120 percent. The following categories are adjusted for remoteness:
  - Bus driver and bus monitor wages;
  - Administrative salaries;
  - Fuel and maintenance costs;
  - Training and extracurricular travel.

The following table provides an example of the inputs and results from the cost model, for an Alberta First Nation school jurisdiction.

TABLE 14: COST MODELLING RESULTS, EXAMPLE

Inputs	
Category	Parameters
Bus Routes/Types	<ul style="list-style-type: none"> <li>• 15 routes serviced by 72-passenger Type C buses</li> <li>• 1 route serviced by a bus with a wheelchair lift</li> <li>• 100% diesel fuel</li> </ul>
Kilometres	<ul style="list-style-type: none"> <li>• 500 km of one-way routes (i.e: morning only, total kms travelled across all routes)</li> <li>• 150,000 km of extracurricular travel annually</li> </ul>
Transported Students	<ul style="list-style-type: none"> <li>• 800 non-special needs students</li> <li>• 10 students with severe disabilities</li> </ul>
Cost Adjustment Factor Based on Remoteness	<ul style="list-style-type: none"> <li>• A community-specific cost adjustment factor based 40.3% added to calculations</li> </ul>



Results		
Category	Cost per Bus	Total Costs
Bus Driver Wages	\$44,470	\$844,939
Bus Monitor Wages	\$24,153	\$458,902
Bus Replacement Costs	\$16,632	\$316,000
Maintenance Costs	\$7,737	\$147,000
Fuel	\$6,009	\$114,180
Administration	\$8,207	\$155,936
Licensing/Insurance	\$1,606	\$30,520
Training	\$1,170	\$22,224
Sub Total	\$109,984	\$2,089,701
Extra Curriculars	N/A	\$210,450
Total	\$109,984	\$2,300,151

The majority of the expenditures for student transportation are for bus driver and bus monitor wages, followed by bus replacement costs. For the above school jurisdiction, extracurricular transportation accounts for a relatively large amount, however, this can be highly variable depending on the location of the First Nation community and regularity of extracurricular travel.

The table below compares the costs for an Alberta First Nation school jurisdiction generated by the model with costs collected through interviews with provincial school jurisdiction and a third-party bus operator in Alberta.

TABLE 15: COMPARISON OF COSTS GENERATED BY THE MODEL WITH COSTS INCURRED BY A PROVINCIAL SCHOOL JURISDICTION AND A BUS OPERATOR IN ALBERTA

Cost Category	Costs per School Bus, Alberta		
	Remote First Nation School Jurisdiction with 15 routes <i>(generated by the model)</i>	Northern Provincial School Jurisdiction with 45 routes	Third-Party Bus Operator with 285 routes across Alberta
Bus Driver Wages	\$44,470	\$25,000	\$21,500
Bus Replacement Costs	\$16,632	\$7,500 - \$11,500	\$6,800
Maintenance Costs	\$7,737	\$5,500	\$6,500
Fuel	\$6,009	\$7,000	\$ 4,700
Administration	\$8,207	\$3,000	\$ 3,000
Licensing/Insurance	\$1,606	\$2,150	\$ 1,340



Cost Category	Costs per School Bus, Alberta		
	Remote First Nation School Jurisdiction with 15 routes <i>(generated by the model)</i>	Northern Provincial School Jurisdiction with 45 routes	Third-Party Bus Operator with 285 routes across Alberta
Training	\$1,170	Not provided	\$ 1,440 <sup>12</sup>
SUBTOTAL	\$85,831	\$50,150 - \$54,150	\$45,280
Bus Monitor Wages	\$24,153	N/A	N/A
TOTAL	\$109,984	\$50,150 - \$54,150	\$45,280

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<sup>12</sup> This estimate includes training and other costs not captured in other cost categories (e.g. marketing of transportation services, IT-related expenses etc.).



# Conclusions

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First Nations are facing issues with provincial comparability due to lack of economies of scale, lower socio-economic status of First Nations students, remoteness, higher student needs, and poor conditions of roads and infrastructure. As a result, their transportation costs on a per-bus basis are much higher than the benchmark transportation costs incurred by the provincial counterparts. The average cost estimate for student transportation derived from the model is between \$95,000 and \$115,000 per bus annually, compared to \$40,000 – \$60,000 in the provincial system.

The model developed as part of this First Nations Transportation Needs Assessment serves as a starting point for estimating the true costs of transportation. It can be utilized by First Nations as a tool to support their funding negotiations as part of the Regional Education Agreement (REA) process. Ultimately, it may also be used by ISC to inform the development of the new cost-based transportation funding model for all First Nations across Canada.

## Additional Considerations

Presented below are some additional operational and funding considerations that need to be taken into account in order to improve the delivery of transportation services and reduce costs.

### Bulk Purchasing Programs

#### School Buses and Parts

In an effort to reduce costs, it may be beneficial to implement a bus purchasing program at a national or regional level, similar to the one that exists in BC. This would enable First Nations to benefit from standing offers with major bus dealers across Canada for a specified period of time (e.g. fiscal year). The benefits of the standing offers are as follows:

- The prearranged pricing is established through competition and helps avoid fluctuations in prices due to exchange rates and other factors.
- First Nations may opt to participate in the purchasing program, but participation is not mandatory.
- With a standing offer in place, First Nations can place orders quickly and do not need to arrange the procurement on their own.

This program could also be expanded to include school bus parts that regularly need to be replaced, like tires, oil, and fuel filters. Replacing these types of regular parts can be significantly more expensive if it's done on an ad hoc basis through local repair shops.

#### Fuel

For some First Nations school jurisdictions, it may be advantageous to consider buying fuel in bulk. Such undertaking requires a detailed cost-benefit analysis, which takes into account the geography of transportation operations, fuel needs, upfront installation, and maintenance costs for fuel tanks etc.



## Bus Driver Training

To reduce the expenses and administrative burden associated with bus driver training, it may be worthwhile to consider one of the two options:

- First Nations could consider collaborating on organizing bus driver training in multiple locations in each province in the summer. This would allow to save on instructor fees and reduce costs for participants.
- Alternatively, First Nations and ISC could potentially work together with the provinces (through tripartite tables) to allow First Nations to participate in the training provided by their neighbouring provincial school jurisdictions.

## Route Planning

For larger First Nations school jurisdictions, it would be beneficial to implement bus routing software, which helps configure the routes in an efficient and flexible way to reduce ride times and better meet the needs of the student population.

This would ensure that the number of routes entered into the cost model is an optimal number given First Nation's geography, catchment area, and student population.

## Extracurricular Transportation

While extracurricular and co-curricular travel plays a central role in improving student experiences and ensuring substantive equality, it is very difficult to provide an accurate estimate for these expenses due to the wide variation of First Nations' needs, geography, program, and curriculum offerings etc.

As a result, it may be beneficial to establish a separate funding program to support the extracurricular and co-curricular travel, outside of the core transportation funding model. In doing so, it would be worthwhile to leverage leading practices in BC with regards to implementing a First Nations Student Transportation Fund for students attending both First Nations operated and provincial schools.

## School Transportation Infrastructure

The cost model does not address capital needs, with the exception of school bus replacement. However, most First Nations participants believe that having access to necessary infrastructures, such as indoor bus garages and maintenance shops, would help reduce maintenance costs and increase the lifespan of school buses.

- While having an in-house maintenance shop is not feasible in smaller First Nations school jurisdictions, they would be warranted in larger school jurisdictions with a fleet of over 15 buses, as well as some isolated communities.
- Indoor garages, on the other hand, would be beneficial for all First Nations, regardless of their size. These bus garages will help reduce weather damage and prevent potential security issues.

Therefore, it is recommended that moving forward ISC provides funding for First Nations transportation infrastructure that aligns with best practices related to fleet storage and Maintenance.



## On-reserve Students Transported by Provincial School Jurisdictions

While the scope of this assessment did not include First Nations students transported by provincial school jurisdictions, it has been recognized that both appropriate policies and funding are required in order to meet their needs. The common issues that must be addressed by First Nations in conjunction with federal and provincial governments include:

- Access to extracurricular transportation;
- Transportation to cultural events, community events, and land-based learning opportunities;
- Parameters around pick-up locations (e.g. elimination of highway pick-ups or minimum walking distances for First Nations students).
- Facilitation of safe arrival for children (e.g. supervision during bus travel for special needs students, or supervision while waiting for the bus);
- Funding for First Nation students who are required to leave home to attend a public school and are boarded and billeted; and
- Funding for bus stop shelters.

Some of the leading practices in this area could be found in *First Nations Student Transportation Planning and Procedures* adopted through the BC Tripartite Education Agreement.



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# Appendices

## Appendix A: Detailed Training Cost Data

Province	<sup>13</sup> Training costs for new bus drivers	Costs associated with licensing and licence renewal
British Columbia	Optional training is a flat fee of \$350 per day for the instructor's time, plus any travel expenses.	Licence - Fees set by the province: <ul style="list-style-type: none"> <li>• Combined cost<sup>14</sup> of \$275</li> </ul> Licence renewal - \$75 every five years.
Alberta	Mandatory Entry-Level Training delivered by independent third-party training providers costs approximately \$4,500.	Licence - Fees are set by independent providers, with median prices as follows: <ul style="list-style-type: none"> <li>• Combined cost of \$387</li> </ul> Licence renewal - Drivers are required to retake their medical exams every 1-5 years depending on their age.
Saskatchewan	Introductory training for bus drivers is not mandatory and varies between providers: Immanuel Driver Safety Education: \$1,695 average per participant (based on 10 participants) <sup>15</sup> + trainer travel expenses.	Licence (S endorsement) - Fees set by province: <ul style="list-style-type: none"> <li>• Combined cost of \$305</li> </ul> Licence renewal - Drivers are required to submit a \$25 annual licence renewal, retesting is done every five years.
Manitoba	Historical average \$1,000 per person, currently under review.	Licence - Fees set by province: <ul style="list-style-type: none"> <li>• Combined cost of \$175</li> </ul> Licence renewal - Renewal price based on driver safety rating (\$35-\$3020), if the driver has a negative rating it may mean the driver is subject to additional conditions and costs to maintain their licence (such as driver fitness courses).

<sup>13</sup> The information in this table was retrieved through primary research. Sources include ICBC, Alberta Transportation Driver's Fitness and Monitoring, SGI, Pupil Transportation Unit Government of Manitoba and MPI, School Bus Ontario, SAAQ and Montreal Heavy Weight Training Centre, New Brunswick Department of Education, Newfoundland and Labrador Department of Education and Digital Government Service NL, and Immanuel Driver Safety Education

<sup>14</sup> Combined licence costs can include the following components: driver's medical/physical exam, written exam (knowledge test), road test (including pre-test inspections), criminal record check and/or vulnerable sector query, sign exam, driver's abstract, air brake endorsement, and emergency first aid/ epi-pen training. When a range was provided for a cost component, the median amount was included in the combined cost figure.

<sup>15</sup> Number of participants affect cost greatly due to economies of scale.



Province	<sup>13</sup> Training costs for new bus drivers	Costs associated with licensing and licence renewal
Ontario	Mandatory one-day, eight-hour School Bus Driver improvement course on average costs \$200.	Licence - Fees set by training centres: <ul style="list-style-type: none"> <li>• Combined costs of \$381</li> </ul> Licence renewal – 1-5-year medical renewal based on age, licence renewal fee (anyone under 80-years of age- every five years) - \$90.
Quebec	Certificate of Competence (15 hours initial training and six hours of retraining every three years thereafter)	Licence - Fees set by province: <ul style="list-style-type: none"> <li>• Combined cost of \$67</li> </ul> Licence renewal - Renewal every four or eight years ranging from \$87.28-\$427.33, based on driver's demerit points
New Brunswick	Training costs are approximately \$500 per applicant and include licence training, first aid, coursebook, course trainer, medical exam, and written exam fees.	Licence – Fees set by province: <ul style="list-style-type: none"> <li>• Combined cost of \$240</li> </ul> Licence Renewal- Renewals may be 1-4 years depending on the age of the driver - \$90.
Newfoundland and Labrador	Mandatory online certification is available at no cost to drivers or service providers.	Licence – Fees set by province: <ul style="list-style-type: none"> <li>• Combined cost of \$204</li> </ul> Licence Renewal- 5-year renewal with medical - \$125.



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