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## More than just a bus trip: School busing, disability and access to education in Toronto, Canada

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### ABSTRACT

Children with disabilities in Ontario, Canada have their right to equal access to education protected by the 1990 Ontario Human Rights Code and the 1990 Education Act. These legislated rights require the delivery of stigma- and barrier-free education services to children with disabilities. However, the extent to which compliance is achieved by school boards and individual schools is questionable and warrants attention as a matter of both scholarship and public policy. In this paper, we take up and apply the concept of excess travel (i.e., the travel beyond what would be required given a more optimal distribution of housing and schools) to examine the extent to which students with disability and their families are required to undertake longer, more time-consuming school trips. Our analysis includes students who were bused to TDSB elementary (grade school) and secondary (high school) schools. We use TDSB student busing records for the 2016–17 school year obtained in collaboration with the TDSB between December 2017 and March 2018. Our findings indicate substantial excess travel, particularly for students who are labelled as deaf, physically disabled, or having a behavioural exceptionality. Excess travel time experienced by students with disability is concerning given that it can lead to missed classroom time and may limit opportunities for peer interaction. The availability of busing services for students with disability confers access to education, yet it may paradoxically produce disabling experiences.

### 1. Introduction

Equality rights in Canada are codified at the federal (national) level of government within the Canadian Charter of Rights and Freedoms. Responsibility for protecting equal access to education lies with the provinces. In the Province of Ontario, the 1990 Ontario Human Rights Code and the 1990 *Education Act* provide the legislative framework underlying equal access to education and a positive school atmosphere for all students, including those with disabilities. Unfortunately, equal access to a stigma- and barrier-free education under the law does not always translate to actual school spaces and services. For example, according to the [Ontario Human](#)

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Rights Commission (2018), disability is the most commonly cited grounds for human rights complaints against Ontario school boards made to the Human Rights Tribunal of Ontario. Scholars have also identified accessibility issues that make access to education challenging in Ontario for students with disabilities and their families (Ross & Buliung, 2019; Stephens et al., 2015; Yantzi et al., 2010). Education access issues likely contribute to troubling education outcomes for students with disabilities. Turning our gaze outward, beyond Ontario and Canada, the codification of access to education for disabled children, and the presence of the infrastructure necessary to operationalize access rights, is by no means universal (Bines and Lei, 2011; Beyene et al., 2020). For example, while carefully navigating the pitfalls of making totalizing statements about access to education and place, scholars such as Bines and Lei (2011) indicate that while some progress has been made, children with disabilities are among the hardest to reach in campaigns centred on universal school enrolment in some places within the Global South. Then there is the case of Noah Buffalo-Jackson, whose mother, Carolyn Buffalo, had to file a human rights complaint against Canada's federal government in 2012, and then wait 11 years for dispute resolution to occur, so that her son, an Indigenous child with cerebral palsy, could access specialized transport services for the school trip to an off-reserve school (Morin, 2017). In other words, in some places, North or South, conversations about experiences of disability in relation to everyday access to education have not moved toward a critique of transport services or accessing the school site, because the infrastructure is simply not there in the first place.

The Canadian Human Rights Commission (CHRC), in its 2017 report titled, "Left Out: Challenges Faced by Persons with Disabilities in Canada's Schools," reports that students with disabilities are less likely to achieve their desired level of education attainment, and more likely to be bullied for their disability. Moreover, the CHRC (2017) reported that 10% of students with disability stop their education because of "their" disability. Considering this latter finding using a social model lens (Oliver, 1990) (i.e., where disability is produced by environments and institutions that fail to account for the presence and diversity of disability), one must ask, "do these students stop their education because of their disability, or do they stop because of the disabling qualities of their education environments, programs, and services?" If a student stops their education because their school or school board fails to accommodate (or the attempted accommodation is a failure), this represents an institutional failure to meet legal obligations to be inclusive and to not discriminate. Education falling short in this manner represents a troubling – but not entirely surprising – aspect of our current education system and its services.

This paper considers the relationship between school transport, childhood disability, and equal access to education. Broadly speaking, our work fits within the canon of research focused on urban childhoods, work that dates back to Colin Ward's ground-breaking 1978 book, "The Child in the City", and Mayer Hillman's work on children's independent mobility in the early 1990s (Hillman et al., 1990). Much later, by the 2000s, motivated by concerns about childhood health and the environmental impact(s) of driving for everything, the focus on urban childhoods seemed to galvanize around the theme of children's school travel and independent mobility in the age of automobility (McMillan, 2007; Faulkner et al., 2009; Buliung et al., 2017; Rothman et al., 2018; Nikitas et al., 2019; Sener et al., 2019). Much of that work has focused on measuring and modeling the relationship between built environments and school travel mode outcomes. We have learned that distance matters (Rothman et al., 2018) and that road design can have an impact on school travel (McMillan, 2007). Further, as McMillan (2007) reported in one of the earliest school travel studies, other things such as who people are, who they live with, where and how they work, and what they fear matter as much, if not more, than where they live and how it is designed (Buliung et al., 2015; Murray, 2009). Arguably, there is also consensus emerging in regard to the importance of questioning and unpacking local contexts when doing intervention work, with comparative urban research indicating that built environment effects vary within and across cities (Rothman et al., 2021).

Despite laudable and exhaustive efforts to look into student pedestrian injury (Rothman et al., 2014, 2017, 2018) and the barriers to active school travel faced by so-called "able-bodied" children (Buliung et al., 2011; Fusco et al., 2012; Rothman et al., 2018), little work has been directed at the school transport experiences and outcomes of children with disabilities. This inattention has contributed to what Ross and Buliung (2018) describe as a clear ableist bias (intentional or otherwise) in school transport research. In an earlier ethnographic study of the hidden labour involved in accessing schools for families who have a student with disability, Ross and Buliung (2019) found that transport was a barrier causing remarkably inequitable education access experiences. They found that students with disabilities had their access to peers and curriculum limited, as some were required to arrive late to school and/or depart early to overcome design and policy limitations associated with school site access and egress. For example, some families could not gain access to (or, had to revise their pick-up and drop-off schedules to use) schools' technically accessible, but functionally inaccessible parking spaces because parked buses blocked the spaces (Ross & Buliung, 2019). They also found that a student was leaving class 15 min early each day to overcome school departure difficulties. This lost classroom time adds up (i.e., 75 min per week, 47.5 h per 190-day school year) and serves as a clear example of how school transport and education policy can act as barriers to education access.

Here we explore the extent to which the stories about barriers, such as the one described above, may indicate some form of systemic transport-related exclusion or barrier to equal access to education across an entire school board. While we could not access the school travel stories of the thousands of families who are part of the Toronto District School Board (TDSB), Canada's largest and most populated public school board, we were able to work in partnership with the TDSB to access and analyze data about busing services for all of its students. With access to these data, this paper presents research focused on the research question, "are elementary (grade school) and secondary (high school) school students with disabilities spending substantially more time on school travel than their so-called 'able-bodied' peers?" This question emerged from the student transport policy context described below.

In the next section we unpack the specific policy context of our study. In doing so we introduce relevant school board policy and disability legislation. This policy and legislation shapes education access and underpins the labeling of students as "exceptional," and therefore potentially requiring specialized services including transport. We then move on by weaving together contemporary and critical thinking about how we use language to describe disability, how disability is conceptualized in disability studies, and how all of these conceptual and theoretical concerns enable us to re-imagine transport as being both enabling and potentially disabling. We then

provide details concerning our study area, data acquisition and methods. The remainder of the paper consists of our presentation of results, a discussion, and concluding remarks.

## 2. Policy and student transport

During the 2016–17 school year, over 17,600 students used TDSB student transport services to get to school and roughly one-third of them were students with disabilities (SWDs) (TDSB, 2017). Some of these children with disabilities require the use of accessible school bus services. Students will often use these services to attend schools that are far away from their homes because a TDSB committee has assigned them to a non-local school that can accommodate, given the presence of inaccessible physical designs and/or limited availability of special education programs and staffing at their nearest neighbourhood school. Schools in the TDSB providing integrated curricula for SWDs are typically tailored to accommodate specific needs. Students are not directly labelled as “disabled” per se; rather, the board, through its ‘Identification, Placement, and Review Committee’ (IPRC) process, makes use of the Provincial Ministry of Education’s *exceptionality* (i.e., exception to “normal”) typology as defined by the *Education Act* (Province of Ontario, 2017). The five exceptionality categories are: behavioural, communicational, intellectual, physical, and multiple. Sub-category labels also exist, i.e., students identified as having a physical exceptionality might be in one or two sub-categories: “physical disability” or “blind and low vision”.

While equal access to education is a legal right, there is less clarity on the matter of school transport supports, unless a student is dependent on a wheelchair for mobility or has some other “medical condition or disability that limits walking” (TDSB, 2020a). Within this context, accessible student transport services are intended to facilitate equal access to education, rather than produce the sort of barriers to access described earlier in this paper and elsewhere (Ross et al., 2020a; Ross and Buliung, 2019; Stephens et al., 2015). To understand how a student ends up using board-provided accessible transport services, one must first understand how a student comes to be identified as having an exceptionality in the first place. To remain in compliance with the Canadian Charter of Rights and Freedoms, the Ontario Human Rights Code, and the *Education Act*, each school board must have an annually reviewed Special Education Plan (SEP) outlining special education programs, needs, and services. To access special education programs and services a student must enter into an IPRC process and be identified as exceptional. The IPRC process is a critical step in establishing the placement of a student in a special education program (with an accompanying Individual Education Plan) either at their home/neighbourhood school, or at a school better equipped on paper to meet the needs of the identified exceptionality. It is at this point in the process where a student may be placed in a program outside their home neighbourhood, producing a potentially longer school trip and/or a requirement for additional transport services. The limited number of accessibly designed schools with adequate special education programs and services across the City of Toronto means that school options are limited for families of SWDs. Schools may not be easily accessed from a child’s home neighbourhood, and a guarantee of transport support is not automatically attached to the placement. Students must meet the board’s distance criteria to receive transport support (i.e., 1.6 km or more from home for grades kindergarten to 5, and 3.2 km or more for grades 6–8), which may involve board-provided (but not necessarily board-operated) busing, taxi service (when busing fails), or public transit in the case of higher grades. Exceptions are made for students who use a wheelchair, or for students who have a medical condition that limits walking. Spending an extensive amount of time busing to and from school can cause children to experience isolation, restraint, and stress (Dubé, 2017), and may lead to issues concerning children’s sitting postures and behaviours (O’Neil & Hoffman, 2018).

## 3. A brief but necessary departure into disability language and theory

Thus far, we have used terms like disability, impairment, exceptionality, and students or children with disabilities without explicitly engaging with disability theory. We argue that writing about disability should first require some thinking about the meaning of the term/concept (and related terms) and its ties to theory. In the literature and in everyday life we may encounter the use of people-first (i.e., person with a disability) and identity-first (disabled person) language, along with questions about what language is preferred or best (see Ross, 2013; Titchkosky, 2001). Responding to such questions requires attention to who is using what language, and in what context. In this paper, we primarily use people-first language that informs and is derived from rights-based disability discourse and policy. We acknowledge the ongoing debate concerning disability-related language, how it is and can be interpreted, and how it might be used to inform and advance new ways of thinking about disability (Ross, 2013). The logic underlying people-first language is that you are putting the person ahead of any challenges or clinical labels. In contrast, we may observe the labels of “the clinic” appropriated in a move to organize and empower community through the use of identity-first language that challenges normative ideas about capabilities, impairment(s), and diagnoses (Shalk, 2013). We also acknowledge that referencing disability as an adjective (e.g., as ‘disabled person’) rather than as a noun that comes with a person (e.g., person with a disability) can create opportunities for thinking about disability as something that happens in the social realm rather than solely as bodily impairment (Ross, 2013).

We also conceptualize disability using the social model (Oliver, 1990, 1996), which is used frequently in disability studies scholarship. This model views experiences of disability as resulting from society’s failures to account for the needs, desires, and rights of people with disabilities, which in turn leads to the production of spaces, services, systems, and processes that do not work for all bodies. Disabling barriers include everything from everyday material conditions to attitudes to discriminatory actions. Disability, then, is not located in the body, as a biomedical or individual model would suggest. Rather, we consider it as related to, but not the same as a person’s specific medical situation or impairment.

How does disability theory map onto student transport? The design and deployment of specific technologies and services arguably more readily responds to the impairment portion of the social model – i.e., a school bus with a lift is needed because a child uses a

wheelchair to mobilize (or, walk or wheel). The failure of transport systems (everything from rolling stock to in-vehicle designs and configurations to the people who staff these systems) to work with and for different bodies is indeed disabling, and even when a service is specifically designed to be accessible, it may still fall short and, consequently, produce disabling rather than enabling experiences. If we recast the education policy described earlier through a social model lens, it becomes apparent that the so-called “exceptionalities” – exceptions to “the” or “a” normative conceptualization of how a body works (i.e., how a body walks, or how a person sees and hears) – really map onto impairment, and education systems and services are being conceptualized and operated to address impairments. In fact, the *Education Act* engages the idea of disability largely through a biomedical model approach, which locates disability within the body and treats it as an individualized problem. Paradoxically, then, when a service designed to facilitate inclusion and access fails to do so, or does not go quite far enough, it can actually end up producing the very thing it was intended to address in the first place; namely, disability. We might go as far as to call this a disability services paradox. In the context of this paper, we question the extent to which education policy and transport services developed to accommodate for “exceptionality” (impairment) may be producing unanticipated disabling experiences for elementary and high school students (grades junior kindergarten to 12).

#### 4. Study area

The study area for this research is the City of Toronto – Canada’s largest and most diverse city. The City of Toronto has a land area of 630 km<sup>2</sup> and a population of over 2.9 million people (City of Toronto, 2017). Education services are provided by two public boards (the Toronto District School Board (TDSB) and Toronto Catholic District School Board (TCDSB)) and a mix of private schools. Most children attend schools managed by the public boards. Toronto does not have school choice policies or charter schools. The TDSB comprises 584 schools, hosts over 246,000 students, and employs roughly 40,000 staff (TDSB, 2020b). For the 2016–2017 school year, the TDSB had a budget of \$3.2 billion, with 15% allocated to student accommodation, 2% to transportation (Malloy, 2017), with \$10 million more made available to the board through a Special Education Accessibility Grant (provided by the province to support barrier-free capital projects). At the time of writing, the special education grant has been exhausted and was not renewed. In 2006, Ontario’s Ministry of Education combined all transport services into a transport consortium organized in accordance with school boards’ geographic locations. Toronto Student Transportation Group (TSTG), which handles transport services for the TDSB and TCDSB, is one of the largest student transport consortia in Canada. During the 2016–17 school year, the TSTG (2017) transported 56,617 students from kindergarten to high school grade levels, to 685 schools using 1,758 buses and 10 private operators.

#### 5. Data acquisition and processing

We use TDSB student busing records for the 2016–17 school year obtained in collaboration with the TDSB between December 2017 and March 2018. Ethics approvals for the use of these data were obtained through the TDSB. We were required to work at the TDSB on their computers and we stripped all identifying information from the data, which meant we were required to work at a more aggregate geographical scale (i.e., postal code rather than address level). This latter point was non-negotiable. While we would have enjoyed working at a finer scale, the relatively smaller number of students with disability presents a particularly strong case for enabling greater anonymity in the data using larger spatial units. Secondary data pertaining to the City of Toronto’s road networks was sourced from DMTI Spatial Inc. and is used in the route analysis conducted in ArcGIS through its Network Analysis extension. The TDSB busing data is organized by grade level. A mix of public and private operators provide busing services, data showing the actual travel costs for each child were estimated using ArcGIS, it was not possible to access proprietary travel data from the private operators. It is, however, reasonable to assume that, when possible, all operators will aim to minimize travel costs – although as we discuss later, there are circumstances where cost minimization is not possible. Our travel cost estimates, then, represent a best-case scenario where students are traveling along optimal routes to their actual or “nearest” school. We have limited our study only to those students who both live and attend a TDSB school within the City of Toronto. Some TDSB students live outside of Toronto, and so the discrepancy between distance to their local school and their assigned school (based on IPRC), could be particularly large. Any change in spatial configuration of the student’s school environment would involve another school board.

**Table 1**

Group label criteria used to aggregate education programs of TDSB students who bus to school to compare differences in excess school travel.

Group	Group Criteria <sup>1</sup>
A	<ul style="list-style-type: none"> <li>• Mainstream programs in elementary/middle/secondary schools</li> <li>• Students without special education needs</li> </ul>
B	<ul style="list-style-type: none"> <li>• Live 1.6 km/3.2 km/4.8 km or more from school (junior kindergarten-grade 5/ grade 6–8/ grade 9–12)</li> <li>• French immersion, French extended and gifted program(s) in elementary/middle/secondary schools</li> <li>• Students with gifted exceptionalities</li> </ul>
C	<ul style="list-style-type: none"> <li>• Live 1.6 km/3.2 km/4.8 km or more from school (junior kindergarten-grade 5/ grade 6–8/ grade 9–12)</li> <li>• Special education programs in elementary/middle/secondary schools</li> <li>• Students with special education needs, including non-identified students</li> <li>• No distance threshold for students in wheelchairs or disabilities that affect walking; all other students’ applications are reviewed individually and some must still live 1.6 km/3.2 km/4.8 km or more from school to qualify (junior kindergarten-grade 5/grade 6–8/ grade 9–12)</li> </ul>

In terms of the student records we considered, the TDSB allocates each student to three education program label categories (EPLCs): (1) special education program type (SEPT), (2) special education needs status (SENS), and (3) busing program (BP). These EPLCs include several additional program labels and each student has a label within each of the EPLC categories. For example, a student can have Extended French as their SEPT, Gifted Exceptionality as their SENS, and Special Education as their BP. It is the SEPT grouping that is the most highly disaggregate, allowing us to closely examine travel costs related to specific types of impairment. Nevertheless, we have carried out our analysis for each broad EPLC category. While convoluted, this is what we had to work with in terms of analysis. We present our findings by broad EPLC grouping. Then, for each EPLC, we have grouped students into Groups A-C to enable comparison between students with (Group C) and without (Groups A and B) disability. Table 1 presents criteria for being placed in Group A, B, or C. The TDSB's 2016–17 school year data initially contained 245,418 students. The final dataset, which included resident students and bus users only, was reduced by 17,685 students.

## 6. Methods

To engage our research question (i.e., “Are children with disabilities spending substantially more time on school travel than their

**Table 2**

Descriptive statistics of travel distribution and excess travel within the TDSB education program categories. Distances are in metres, time reported as minutes.

	Count	Mean Actual (Distance)	Mean Minimum (Distance)	Mean Actual (Time)	Mean Minimum (Time)	Excess Distance (%)	Excess Time (%)
<b>Special Education Program Type<sup>1</sup></b>							
Extended French	1017	3352.26	729.11	6.62	1.67	78.25	74.70
French Immersion	4205	3242.38	789.12	6.46	1.80	75.66	72.06
Regular Elementary School	5253	2409.20	1268.13	4.86	2.71	47.36	44.33
Regular Middle School	199	2634.18	1501.24	5.11	3.12	43.01	39.00
Regular Secondary School	355	5856.19	2879.17	10.17	5.38	50.84	47.16
Autism	494	6227.93	978.17	11.35	2.16	84.29	80.99
Behaviour	378	5595.61	788.30	10.06	1.77	85.91	82.41
Developmental Disability	1739	5723.97	1165.12	10.41	2.46	79.64	76.40
Deaf-Hearing	118	11138.96	896.44	19.38	2.01	91.95	89.61
Diagnostic Kindergarten	278	4401.38	754.61	8.17	1.71	82.86	79.12
Gifted	1063	4403.75	817.40	8.55	1.93	81.44	77.46
Home School Program	224	2777.88	1134.83	5.36	2.34	59.15	56.32
Learning Disability	562	5773.33	1070.16	10.58	2.32	81.46	78.10
Mild Intellectual Disability	1130	6118.93	1262.42	11.06	2.64	79.37	76.17
Physical Disability	157	8790.69	1119.05	15.62	2.45	87.27	84.30
<b>Group A</b>	<b>5807</b>	<b>3633.19</b>	<b>1882.85</b>	<b>6.71</b>	<b>3.73</b>	<b>47.07</b>	<b>43.50</b>
<b>Group B</b>	<b>6285</b>	<b>3666.13</b>	<b>778.55</b>	<b>7.21</b>	<b>1.80</b>	<b>78.45</b>	<b>74.74</b>
<b>Group C</b>	<b>5080</b>	<b>6283.19</b>	<b>1018.79</b>	<b>11.33</b>	<b>2.21</b>	<b>81.32</b>	<b>78.16</b>
<b>SEN Status of Students in TDSB<sup>2</sup></b>							
Gifted Exceptionality	1075	4352.36	813.54	8.47	1.92	81.31	77.38
Extended French	1017	3763.20	1857.76	6.92	3.69	50.63	46.67
French Immersion	4205	2374.46	1271.69	4.80	2.71	46.44	43.57
Students without SEN	4904	3183.90	817.38	6.35	1.86	74.33	70.77
Exceptionalities Excluding Gifted	4395	5971.13	1132.32	10.83	2.41	81.04	77.74
Non-Identified	1576	3615.12	973.49	6.91	2.12	73.07	69.34
<b>Group A</b>	<b>4904</b>	<b>3183.90</b>	<b>817.38</b>	<b>6.35</b>	<b>1.86</b>	<b>74.33</b>	<b>70.77</b>
<b>Group B</b>	<b>6302</b>	<b>2939.87</b>	<b>1287.89</b>	<b>5.78</b>	<b>2.73</b>	<b>56.19</b>	<b>52.68</b>
<b>Group C</b>	<b>5966</b>	<b>5478.96</b>	<b>1067.23</b>	<b>10.02</b>	<b>2.29</b>	<b>80.52</b>	<b>77.14</b>
<b>Busing Program<sup>3</sup></b>							
Extended French	1017	3763.20	1857.76	6.92	3.69	50.63	46.68
French Immersion	4205	2374.46	1271.69	4.80	2.71	46.44	43.54
Special Education	6141	5618.91	1049.80	10.30	2.27	81.32	77.96
Other	5809	3186.58	827.70	6.34	1.87	74.03	70.50
<b>Group A</b>	<b>5809</b>	<b>3186.58</b>	<b>827.70</b>	<b>6.34</b>	<b>1.87</b>	<b>74.03</b>	<b>70.50</b>
<b>Group B</b>	<b>5222</b>	<b>2644.92</b>	<b>1385.83</b>	<b>5.22</b>	<b>2.90</b>	<b>47.60</b>	<b>44.44</b>
<b>Group C</b>	<b>6141</b>	<b>5618.91</b>	<b>1049.80</b>	<b>10.30</b>	<b>2.27</b>	<b>81.32</b>	<b>77.96</b>

<sup>1</sup> Group A consists of Regular Elementary School, Regular Middle School, and Regular Secondary School. Group B consists of Extended French, French Immersion, and Gifted. Group C consists of Autism, Behaviour, Developmental Disability, Deaf-Hearing, Diagnostic Kindergarten, Home School Program, Learning Disability, Mild Intellectual Disability, and Physical Disability.

<sup>2</sup> Group A consists of Students without SEN. Group B consists of Extended French, French Immersion, and Gifted Exceptionality. Group C consists of Exceptionalities Excluding Gifted and Non-Identified.

<sup>3</sup> Group A consists of Other. Group B consists of Extended French and French Immersion. Group C consists of Special Education.

so-called ‘able-bodied’ peers?’”), we ended up conducting analyses that consider two related, but more specific questions: (1) What is the additional travel required of students labelled as exceptional, who qualify for access to a special education program, when compared against the school trip they would have if they were able to attend their local neighbourhood school? And, (2) How does the school travel of SWDs compare against the data for students who do not require special education programming? These questions target the issue of the extra time and work required of SWDs and their families to access education, and the possibility that excessive travel is present and possibly acting as a barrier. We make use of the excess travel concept from urban economic and transport geography that has received attention in the literature on and off for nearly four decades (Zhou & Murphy, 2019; Ferrari & Green, 2013; Horner & O’Kelly, 2007; Buliung & Kanaroglou, 2002; White, 1988; Hamilton, 1982). At an individual level, excess travel can be understood as the distance and/or time of an actual journey that is considered in excess or even wasteful in comparison to an optimized (i.e., shortest possible) trip to a similar destination (Ma & Banister, 2006; Hamilton, 1982).

We look at the difference between children’s actual school travel (i.e., in average distance and average time) from their home postal code to school, and their hypothetical shortest possible school trip if they were to attend the school (according to appropriate grade level) closest to their home postal code. We include all children who are bused to school. This experiment represents a hypothetical, and ideal case that would be much better for SWDs and their families, where a school board is able to provide special education programs and services to all schools so that the spatial accessibility of access to education is equal to the privilege enjoyed by so-called non-disabled students and their families. We compare the results produced for students in Group C with students in Groups A and B (see Table 1 for Group criteria). We do not look at the trip home from school, as it is not necessarily the case that the same children or operator or driver are the same in the afternoon as they are in the morning. This method offers insight into the amount of wasteful travel that could be reduced if SEP availability, services, and supports were included in every school. The formula used to measure the amount of excess travel (*E*) is as follows:

$$E_i = \left( \frac{\bar{i}_i - \bar{\tau}_i}{\bar{i}_i} \right) 100,$$

where  $\bar{i}$  is the average actual estimated travel cost (distance or time),  $\bar{\tau}$  is the average minimum estimated travel cost (distance or time), and *i* refers to a specific student group (Ma & Banister, 2006; Scott et al., 1997; White, 1988). We also made sure that when matching a student to a “closest” school, the school was in the correct public board, and had the range of grade levels that included a student’s

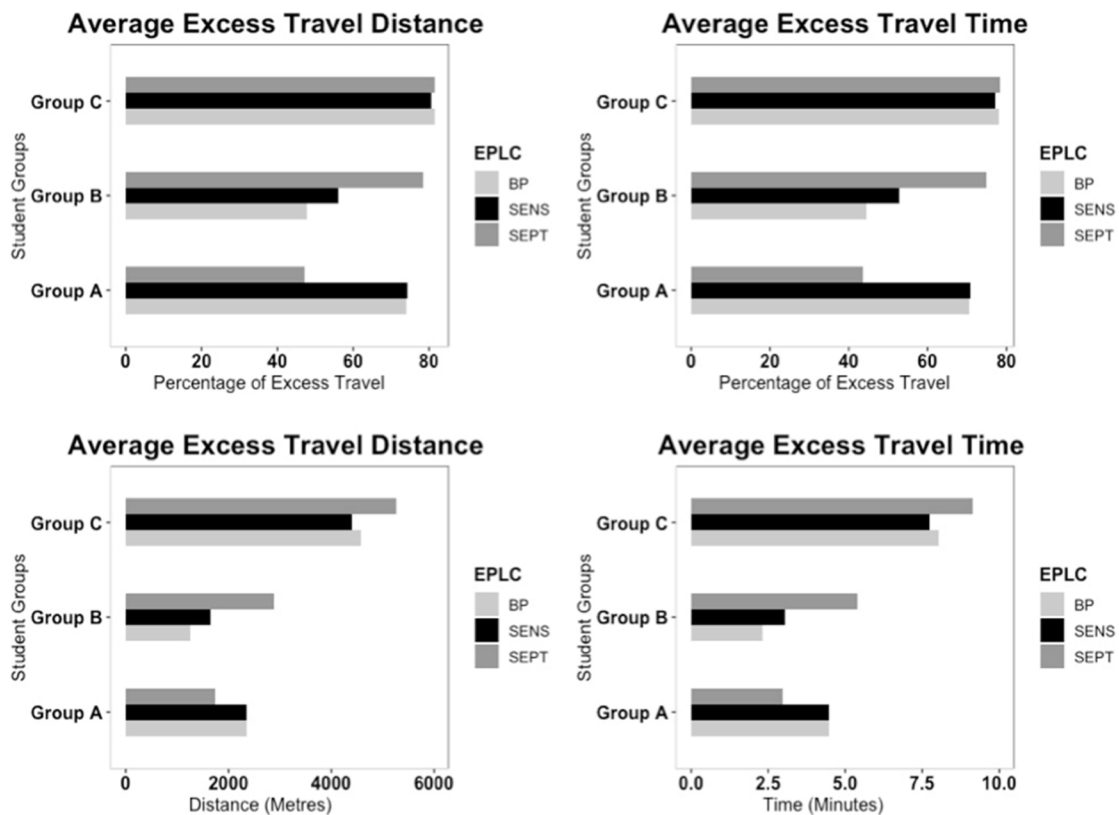


Fig. 1. Average excess travel distance and time percentages and actual mean values across the student groups for each education program label category (EPLC) (i.e., ‘Busing Program (BP), Special Education Needs Status (SENS), and Special Education Program Type (SEPT)).

actual grade (i.e., some schools in the board are grades junior kindergarten to 6, and some are middle school grades 6–8). We also test hypotheses regarding the presence of no difference in the mean actual and minimum travel distances and times (log-transformed for normality) across student groups using one-way ANOVA, and Tukey's Honestly Significant Difference (HSD) tests. All statistical tests and graphical exploration were conducted using R.

## 7. Results

Our findings are presented by EPLC category and, for each EPLC category, we consider groupings that reflect the board's use of the Province's exceptionality typology (see Table 2). The ANOVA results ( $p < .01$ ) indicated rejection of the null hypothesis of no difference in bus transport times and distances across groups A through C. The Tukey's HSD results indicate the presence of difference in actual and minimum travel times or distances between Groups A, B, and C, within each EPLC category. In other words, any notion that the generalized travel cost of SWDs is the same as it is for students without disability can be rejected.

In terms of excess travel, as anticipated, children in Group C experience the largest amount of excess travel (time or distance). Looking across EPLCs, approximately 81% of the distance and 78% of the time of Group C's school travel is in excess of that which would be required if they were able to attend the closest grade matched school. Fig. 1 indicates that the average amount of excess travel distance of Group C children is roughly double that of Group A children. Additionally, Group C's average excess travel time is approximately double that of Group A and translates into about 8.3 min of more wasteful travel on average per trip (see Fig. 1). Using the special education program type (SEPT) category, Group C children experienced roughly 34% more wasteful distance and 35% more time spent traveling to school than Group A children. The most aggregate busing program (BP) category presents Group C children experiencing about 7% greater excess travel distance and 7% more excess time compared to Group A. The special education needs status (SENS) category shows the least difference in excess travel between Group C and A children with Group C children undergoing only 6% more excess travel distance and 6% greater excess travel time.

Under the SEPT category, Group B children experienced 31% more excess travel distance and 31% additional excess travel time than Group A (Table 2). The SENS and BP categories indicate a reverse trend, as Group A experiences more excess travel than those in Group B. Under the SENS category, Group A children experienced roughly 18% greater excess travel distance and 18% more excess travel time than Group B children. Under the BP category, Group A experienced 26% greater excess travel distance and 26% more excess travel time than Group B. Lastly, the BP category indicates that Group C undergoes 33% more excess travel distance and 33% greater excess travel time than Group B. Under the SENS category, Group C experienced approximately 24% more excess travel distance and 24% greater excess travel time than Group B. However, under the SEPT category, the difference between Groups C and B was less; Group C's excess distance was about 3% greater and excess travel time was also about 3% more than Group B.

The EPLC reporting indicates just how troublesome student groupings can be in terms of getting at the magnitude of the inequity that may exist in the student travel experiences of students with and without disability. The SEPT EPLC group enables a closer inspection of how excess travel maps onto students differentiated according to "exceptionality", i.e., impairment/clinical diagnosis (Table 2). Looking at the SEPT section of Table 2, children in Group C have the largest discrepancy in actual and minimum bus travel, particularly children labelled as: deaf-hearing (91.95% excess distance, 89.61% excess time), physical disability (87.27% excess distance, 84.30% excess time), behaviour (85.91% excess distance, 82.41% excess time), exceptionalities excluding gifted (81.04% excess distance, 77.74% excess time), and special education (81.32% excess distance, 77.96% excess time). Students in "regular" programs (i.e., here again, the "able" body is the regular/normal body) had excess times and distances ranging from 39 to 51%.

## 8. Discussion

Our work engages the childhood disability gap in school travel research by studying the excess school travel of children labelled by a school board as "exceptional" and those who are not labelled as such within a large public school board in Toronto, Canada. When applying the Province's exceptionality labeling, the TDSB applies it (as required) to children with specific impairments (or comorbidity) and students who are identified as academically gifted, thus giving rise to their placements in different programs. We focused our analysis on a comparison of the excess bus travel of students who were identified as requiring special education programming due to disability, and those who do not. The results suggest that children labelled as exceptional due to impairment engage in longer trips, both in terms of time and distance, than other bused children. The extent to which this excess travel interferes with access to peers and education cannot be ascertained here, but it remains clear that there is a larger travel burden placed on SWDs and their families than is the case for students who are able to attend their local neighbourhood school. Indeed, the magnitude of excess travel among SWDs suggests that while services are provided and do facilitate access, eventually, the limitations of the spatial configuration of special education sites and services (i.e., their allocation to a subset of schools) and transport to them is paradoxically disabling.

The disabling effects of excessive travel are not limited to time spent in vehicles and the related loss of time for learning, family, and play. While we have focused primarily on in-vehicle time in this paper, future research should also consider the work and additional time associated with vehicle boarding and egress, as well as the communication work undertaken to ensure transport safety (e.g., with bus drivers, schools, and student transport service providers). The out-of-vehicle periods (e.g., waiting for buses that sometimes do not show up) and transitional periods (e.g., boarding, having a wheelchair safely positioned and tied down, deployment of lifts and ramps) will add to excess school travel time (Dubé, 2017; Ross et al., 2020b).

The TDSB works with numerous private operators that have their own fleets of buses and proprietary data which may point to the dedication, or not, of specific vehicles to certain children only. There are no data available about the vehicle types that make up their

fleets. Some vehicles may have shorter access/egress times (e.g., using a mini-van's ramp versus a larger bus' lift system). Nevertheless, the excessive time on board a bus is a problem that contributes to inequitable access to education for SWDs and their families. For example, SWDs who are bused experience an excess amount of travel time, on average, of 8.30 min, adding up to 25 h per 190-day school year, and this is only for the trip from home to school. We also suspect that we have underestimated excess travel. Personal experience indicates that operators are instructed by board planners to take circuitous routes to pick up SWDs dispersed across the city who might not even attend the same school. This situation can arise in the presence of driver shortages, or it can be a more permanent "solution". Some of the troublesome things that can occur during the in-vehicle period can reasonably be described as unjust, if not inhumane. Children might not be able to independently adjust their seating position or safety restraints, and might struggle to control their bladder and bowel movements over long travel periods (Dubé, 2017; Falkmer et al., 2004). Additionally, a child's school mobility experience can impact their daily behaviour, participation, sense of belonging, and their ability to benefit from a SEP at school (George & George, 1987).

Two areas of concern that could be the focus of some policy and planning work are the driver experience and the related issue of scheduling and communication about services among the board, operators, drivers and families. As Dubé (2017) notes, drivers are, "the face of student transportation", but the driver job is typically part-time, split shift, and low-paying. There is a high rate of turnover, the job is demanding, and there is little evidence that specialized training is being offered to enable drivers to work with students who may be in distress (Ross et al., 2020a). Conversations between the first author and drivers of his child's bus revealed that drivers are told they are only permitted to adjust the position of equipment, and not physically engage with the children. This is particularly troubling, as some children may find themselves in uncomfortable and even dangerous positions during lengthy bus trips. In some cases, if the positioning of a child's body is not adequately addressed, it can give rise to injury. Drivers have also indicated that they are not to have direct lines of communication with families. Communication regarding daily scheduling, or the failure of the service on a particular day, is remarkably circuitous. It may involve a parent contacting a call centre, the centre communicating with the operator, and the operator with the driver, and then back again, to deliver an update to a waiting family. Dubé (2017) reports that communication and service failures have even resulted in job loss for parents who have the primary caregiving responsibility for SWDs, producing even greater precarity for struggling families. The policy and planning response might seem fairly clear. That is, improve employment experiences for drivers, create space for more driver training focused on the needs of SWDs, and streamline communication by making it a "policy" that drivers and families can communicate directly. We can only speculate that cash-strapped governments and boards cannot locate the political will and resources necessary to address these issues. What we do know is that they are aware that these problems persist.

The risks and effects of excessive school travel for disabled children suggest that, as a matter of policy, school boards should aim to prioritize decreasing their travel times and distances. This is a large ask in an age of fiscal restraint, shrinking school and board budgets, decaying centuries-old school buildings in some cases, and a pandemic response. Moreover, there are of course the shifting politics of funding priorities at whatever level of government happens to be responsible for education – in this case the province. Unsurprisingly, the Ontario Human Rights Commission has indicated that it is indeed inadequate funding that is the primary barrier to increasing the coverage and intensity of special education programming. Returning to our earlier disability rights discussion, we must move towards achieving circumstances where we frequently question (and value) the extent to which a school board is compliant with human rights commitments and requirements, such as the United Nations Convention on the Rights of Persons with Disabilities (Canada is a signatory), the Ontario Human Rights Code, The Canadian Charter of Rights and Freedoms, and the Province of Ontario's Education Act. This could contribute to achieving a spatial configuration of accessible school buildings with special education services that allows for more equitable education access in terms of student transport. Our intent is not to suggest that families are not appreciative of the level of education access afforded to them by student transport services. Indeed, many families are. Instead, we are suggesting that given the legislative and material context within which this study occurs, it is reasonable to ask, "Can we do better?" The answer, in our opinion, is a resounding yes.

A neoliberal solution might be to suggest that families of SWDs simply relocate closer to the school assigned during the IPRC process. Of course, residential mobility is complex, and the privileged classes will have an easier time of it. If we think about this intersectionally (Collins, 2015; Crenshaw, 1991), students with disability living in poverty or within low-income households will be more likely to have greater spatial fixity (i.e., they cannot move because they do not have financial flexibility) (Hurder, 2014). Black and South Asian students are also over-represented in special education programs in general, and Toronto is no exception (Brown and Parekh, 2010; Rushowy, 2013; White, 2020). Students attending schools with lower family incomes (25%) are more likely to be identified as having special education needs compared to schools with higher family incomes (13%). In Toronto, students in higher income schools are more likely to be identified as gifted, learning disabled, or Autistic. Students identified as having developmental, behavioural, or language impairments are more likely to be associated with low-income schools (People for Education, 2013). Students labelled with these latter types of impairments are more likely to require busing services. Lower incomes, greater need, ableism, and systemic racism produce dependence on accessible transport services. Applying an anti-ableist, anti-racist perspective to student transport demands asking why that inequity exists, and how does the burden of excess travel fall unevenly across the student population? Of course, we could not dig into such questions with the data we had access to, as all personal information was stripped from the student records. One can argue that the entire education enterprise is a neoliberal exercise designed to nurture "able" bodies into productive active workers (Bourdieu & Passeron, 1977; Broadfoot, 1978). So-called "disabled" and racialized bodies are included, in this particular case, because they are required to be, under law, but they are not being included in the same way as the so-called "abled" students.



## 9. Conclusion

Our concern in this paper has primarily been the experience of school transport in childhood, but this work has raised larger questions. How does this kind of disabling transport experience interact with other disabling experiences in childhood? And, how does the accumulation of such experiences give rise to the normalization of the array of precarities experienced in adulthood (e.g., educational attainment, housing, under-employment, disability wage gap). What if rights-based supports did not exist? Or, what if the entire system was flipped to address the education needs and requirements of students with disabilities first, and privileged bodies second? There is a tendency to hold up disabling ideas about the need to accommodate and solve disability as a problem, rather than to consider the possibilities that could arise from making education work better for all bodies. Getting disabled children to and from school is not simply a transportation problem faced by a school board. There must be consideration of how these children experience and view this excess travel time and distance on a daily basis, compared to other children. To address disablist attitudes in school settings, disabled children must be viewed as belonging and not as intruding, or not being held up as an example of the school board's good works (Goodley, 2014, p.101). Viewing disabled children in this way, and correspondingly acknowledging and appreciating the invaluable perspectives and diversity contributions they bring to educational settings, could be useful for unsettling (and reducing) the normalized excess school travel of disabled children. To reduce the excess school travel of disabled children, it could also be beneficial to recognize their presence and bodily diversity in school boards' initial school site designs, transport plans, and student travel initiatives rather than trying to account for them later on, which may be less effective and more costly (Imrie, 2000).

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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