Investigation of Supportive Policy for Active School Travel

Evidence-based recommendations for policies to promote active transportation for school journeys

Human Environments Analysis Laboratory, Western University Ontario Active School Travel Council Green Communities Canada







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EXECUTIVE SUMMARY

Introduction

Active School Travel (AST) is defined as any mode of human-powered transportation to and from school. Studies show that school-aged children's engagement in AST is correlated with higher daily levels of physical activity, improved fitness levels, improved academic performance, brain development, and connections with nature and peers. Additionally, studies also show has shown that increased use of AST can decrease children's exposure to air pollution and thus the risk of adverse health outcomes from pollutants. Engagement in AST is influenced by social and environmental factors of both students and parents, including demographics, neighbourhood characteristics and perceived safety. Environmental factors such as the way streets are laid out, the increased density of residences, and the mix of land uses in a neighbourhood encourage children's participation in AST. School travel is intricately tied to geography, student transportation policy, municipal planning, and other factors determined by environmental policies. This report aims to map policies and procedures that affect family and student choice of transportation modes when traveling to and from school, as well as identifying evidence-based recommendations for policies supporting AST in Ontario.

Methods

Since AST is influenced by several factors, this report addresses policy at the provincial and local governance levels, in both municipal planning and education sectors. The findings and policy recommendations arising from this report have been informed through a multi-method strategy which included a comprehensive literature review of 185 academic journal articles, environmental policy scans of 24 regions in Ontario, and 555 key informant surveys and interviews.

Results

The 57 policy recommendations resulting from this report are organized into five key themes: 1) Planning,

2) Infrastructure, 3) School Site, 4) Student Transportation, and 5) School Travel Planning. Each section of the report provides further detail about AST, along with benefits and policy implications. Full details of the recommendations are provided, along with background literature and policy information that help support the recommendations. All recommendations have been developed to support the promotion of AST initiatives and the implementation of AST-centred policies in Ontario.

Conclusion

This report highlights the critical role policies and procedures play in supporting and promoting the use of active travel modes. It also serves as a guidance document that will inform AST-related policies at provincial and local governance levels across Ontario.

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1 INTRODUCTION

Active School Travel (AST)-defined as any mode of human-powered transportation to/from school-provides multiple health, social, environmental, and economic benefits at the individual and population level¹. According to the Canadian 24-hour Movement Guidelines for Children and Youth, barely two-thirds of Canadian children aged 5-17 are meeting the daily physical activity (PA) recommendations of 60 minutes (1 hour) or more of moderate-to-vigorous intensity PA⁵. Previous research suggests that most children could reach half of their recommended 60 minutes of daily moderate-to-vigorous PA, if they walked to/from school². Children who actively travel to school also engage in more daily PA³, lead more active lifestyles in adulthood^{4,5}, and experience increased energy expenditure and cardiovascular fitness compared to their inactive commuting peers^{3,6}. AST is also linked to better academic performance⁷⁻⁹, healthy brain development, and the development of emotional connections between children and their natural environments ¹⁰. Additionally, children who engage in AST have lower exposure to air pollution than those who are driven¹¹, reducing their risk of suppressed lung function, asthma, altered immunity, cognitive deficits, and school absenteeism¹². Previous Canadian research has shown that a vast majority of children aged 9 to 14 years travel to/from school by car instead of engaging in AST¹³. Additionally, less than 50% of children who live within walking distance use active modes of travel to/from school^{14,15}. Decisions in land use planning, school siting, and transport system design have been identified as key determinants of children's use of active modes of travel.

1.1 Correlates of Active School Travel

The Socio-Ecological Model, as shown in Figure 1, proposes that behaviour is influenced by various factors at the individual or intrapersonal level and the broader interpersonal, physical, and policy environments^{16,17}. Engagement in AST is influenced by multiple socio-ecological factors working at different levels of influence: intrapersonal, interpersonal, environmental and policy levels^{18,19}. Intrapersonal factors include child and parent demographics (e.g., gender, age), perceptions, and attitudes^{20,21}. Interpersonal factors include socio-economic status (e.g., family income and parents' education level)^{15,22,23}, and peer behaviour²⁴. Perceptions of neighbourhood safety^{25,26}, fear of strangers²⁷, crime²⁸, and lack of travel companions²⁹ also play an important role in AST engagement. Additionally, children's unique external mobility restrictions (e.g., parental controls, inability to drive) mean that they are especially influenced by their neighbourhood environment³⁰. Policy-mediated environmental factors such as street connectivity, residential density, and land use mix also impact children's participation in AST²². As such, school travel is intricately tied to geography (e.g., urban, suburban, or rural environments), student transportation policy, municipal planning, and other factors which differ among and within districts ³¹.



Figure 1: Example of the socio-ecological model adapted from Bronfenbrenner (1992)¹⁷

1.2 Policy Impacts on Children

Policies supporting AST provide an environment for school-aged children to increase their daily physical activity levels²³. Municipal planning policies pertaining to school siting, land-use, and infrastructure can influence children's choice of mode to school. Planning of school sites and their distance from homes, as well as the land-use policies can be used as a tool to encourage AST, as research suggests a shorter travel distance to school increases AST engagement³²⁻³⁵. Additionally, higher densities of intersections and greater proportions of residential land use in a neighbourhood have been linked to higher rates of AST in previous research^{14,36}. Transportation policy also plays a role in how students engage in AST. Traffic calming measures, road design, and presence of crossing guards improve safety and encourage active travel³⁷.

Socioeconomic status has a negative correlation with AST engagement where an increase in neighbourhood income is related to a decrease in AST rates³⁸. Low-income neighbourhoods often have poorer quality infrastructure, and increased risk for pedestrian-vehicle collision³⁸. If equity is a priority, infrastructure policy related to AST has an opportunity to minimize environmental injustice experienced by students in low-income neighbourhoods^{38,39}.

1.3 Purpose

The purpose of this research is to identify the policies and procedures that affect families' and students' choice of transportation to and from school in order to identify evidence-based recommendations for policies to support

and promote the use of AST by Ontario students. Currently, there is a lack of research examining how existing policies relate to AST for schools, school boards, and municipalities (upper and lower tier). The Ontario Active School Travel (OAST) Council, an advisory committee composed of selected provincial leaders in AST, have identified that AST needs to be supported through relevant provincial and local policies addressing education, transportation, and land-use. Furthermore, planning policies between municipalities, school boards, and student transportation consortia need to be better aligned.

1.4 Methodology

This report has been informed by a mixed-methods approach to review current policies, identify best practices, and develop recommendations that can be used to inform future policies in the Province of Ontario to support children's AST behaviour. The methods included a policy scan, a literature review, and feedback from key informants from a diverse group of Ontario policy makers and practitioners. Policy documents from regions across Ontario were collected to contribute to the Ontario database of policies regarding AST. From the scans of 24 regions in Ontario, an environmental policy scan was conducted to collate policies across Ontario and identify current policy gaps. Policy documents from the five organizational levels of governance were included in each regional scan: school board, student transportation consortia, lower-tier municipality, single/upper-tier municipality, and provincial government. Policies were identified by the organizational authority, as well as its primary focus, secondary focus, type of policy, and type of adherence.

A comprehensive literature review was conducted to determine best practices in policy and procedures that support and promote AST. The literature review involved a targeted search of 4 key bibliographic databases – Ovid (Medline), Scopus, TRID, and ProQuest Thesis and Dissertation – for peer-reviewed research relevant to our objectives. The search generated a total of 185 research papers which were retained for inclusion in the review as they fit the following criteria: focus on AST, contain primary and secondary data analysis, contain a description of intervention design and implementation, focus on school aged children, published after January 2010, written in English, and based in North America.

A key informant survey supplemented the data collected from the policy scan and literature review to identify how current policy gaps can be addressed in areas of school siting, safety measures, snow removal, pedestrian infrastructure, cycling infrastructure, speed limits, school programs, road safety programs, environmental infrastructure, neighbourhood environment, environmental stewardship, school bussing, and school drop-off zones. We received survey responses from 471 participants across Ontario. Participants included students/ guardians and various staff from Ontario schools, as well as employees of school boards, municipalities, transportation consortia, public health, and emergency services.

Key informants were also consulted following the development of the policy recommendations through either an interview or survey to provide their expertise on the recommendations, suggest improvements, and identify any missing policy points. From our key informant interviews, we engaged with 35 individuals – 14 representing municipal authority, 7 representing schools and school boards, 6 representing student transportation consortia, 2 representing provincial authority, and 5 representing public health and emergency services. Interviewees represented 18 municipalities across Ontario from both rural and urban areas. We also received 49 survey responses, with roughly equal numbers of respondents representing the policy areas of planning, infrastructure, schools, and student transportation consortia.

1.5 Primary authority of policies in Ontario

The recommendations outlined in this report are intended to provide direction in the province of Ontario. The primary authority of each policy can be placed at the provincial, municipal, or school board level.

At the provincial level, different government Ministries have the authority to implement certain policies. The Education Act directs school boards to carry out the curriculum set by the Ontario Ministry of Education. The Ministry of Transportation oversees the Highway Traffic Act and provides direction to the municipalities' transportation plans. The Ministry of Municipal Affairs and Housing, under The Planning Act, directs land use planning through the Provincial Policy Statement. The Ministry of Health's Health Promotion and Protection Act oversees and funds public health units' involvement in AST interventions.

At the municipal level, municipalities use directives from provincial Acts to develop Master Plans and bylaws. Master Plans set goals for improving or developing community initiatives, recreation, and transportation, that could include active travel. Within the province of Ontario, there are 444 municipalities that fall into three categories: single tier, upper tier, and lower tier. Upper tier municipalities are composed of two or more at the lower tier level, and both levels of governance operate together. For example, the Region of Waterloo is an upper tier municipality that delivers some municipal services to the lower tier municipalities and townships of Cambridge, Kitchener, Waterloo, North Dumfries, Wellesley, Wilmot, and Woolwich. Toronto is an example of a single tier municipality.

At the school board level, policy regarding AST can come from three main sub-levels: school board level policies, school level policies, and student transportation consortia policies. There are 72 school boards in Ontario, with a total of 4,844 elementary and secondary schools. In the 2019-2020 school year, there were 2,056,058 students attending elementary or secondary school in the province. The scope of AST policy at the school board level can determine the level of AST interventions, and school site infrastructure and maintenance. Student transportation consortia serve as the transportation service for multiple school boards, based on geographic area to reduce operating costs and provide more efficient student transportation for school boards. There are 37 consortia in Ontario that are responsible for student bussing services through contracting bus vehicles and planning bus routes.

Public health has a unique and important position among the levels of policy described above, in that its knowledge base can inform planning/infrastructural policy for promoting AST, as well as education and programming efforts to increase physical activity of students and families. Public health can implement programming and directives to prevent chronic illness and injury in communities through behaviour-based programming, and the advocacy to develop healthy built environments. There are 34 health units in Ontario, each closely resembling the geographic regions of municipalities and school boards.

It is important to note that not all recommendations are relevant to all school boards or municipalities in the province due to the various geographies present across the province (i.e., Greater Toronto Area, Mid-Size Cities, Small Cities, Rural Towns, Rural Areas, Remote Rural Areas), but when they are not relevant, the proposed policies and practices can provide a framework to be adapted to the local context as appropriate.

1.6 Layout of Report

The main body of this report presents the information and evidence used to develop policy recommendations surrounding AST in Ontario (Sections 2 through 6). While there are many policy decisions that influence AST engagement, the evidence is presented according to the following priority topic areas by Section: 2) Planning, 3) Infrastructure, 4) School Sites, 5) Student Transportation Services, and 6) School Travel Planning. Each topic is considered by describing what it is and why it matters, a description of the relevant literature, and a summary of existing policies and best practices. Each section includes a list of recommendations of policy statements and practices that support and promote the use of AST by Ontario students. An overall conclusion for the report is presented in Section 7. Appendix A includes a compilation of the recommendations developed from this policy scan with the primary authority and the level of policy identified. A summary of all policies reviewed for this report can be found in Appendix B.

2 PLANNING

2.1 What is it and Why does it Matter?

The Ontario Planning Act (the Act) is provincial legislation that sets out the ground rules for planning (e.g., land use in the province of Ontario). The Act describes how land uses may be controlled and who may control them. The aim of the Act is to (1) ensure that planning processes are equitable, accessible, timely and efficient, (2) promote sustainable economic development and to (3) ensure that all municipal and provincial planning decisions are consistent with the Provincial Policy Statement. The Act also provides a basis for (1) the preparation of Official plans and planning policies that will guide future development and the (2) the establishment of streamlined planning processes that emphasizes local autonomy. Characteristics of the built environment are dependent on how municipalities apply legislation in the Act, for example, zoning bylaws. Additionally, single, lower and upper tier municipalities provide their own Master Plans outlining directives for sustainability, transportation and community services. Furthermore, school siting decisions and their proximity to neighbourhoods influence the proportion of students living within a walking distance to school.

2.2 Literature

Active transportation planning in a municipality can support AST efforts by supporting safe environments that provide accessibility to schools. To promote trips to and from school via active modes, the route to school must be planned and constructed to ensure the safety of pedestrians and cyclists. Land use characteristics surrounding a school can influence rates of AST in a neighbourhood by influencing the perceived safety of a school route^{21,37}. A land use pattern that is less mixed, and primarily residential, can improve the perceived safety of school routes and therefore increase engagement in AST⁴⁰. Locating schools along arterial roads can lead to increased concerns about safety due to high traffic volumes and higher frequency of motor vehicle collisions, which deter active travel^{32,41}. Proximity of a home to a child's school is the most powerful factor supporting participation in AST, as shorter distances and easier accessibility of a school promotes AST^{15,40}.

2.3 Existing Policies and Best Practices

2.3.1 Planning for Sustainability

Sustainability planning policies provide municipalities with a roadmap for striving toward the vision for clean, green and beautiful cities through the employment of various mitigation targets and climate adaptation measures. Municipal governments play a key role in the promotion of active transportation and transit-oriented communities, the enhancement of natural areas and the urban forest. They also have a responsibility to minimize adverse environmental and human health impacts that are caused by transportation, and to support transportation alternatives that reduce greenhouse gas emissions. Policies relating to sustainability aim to foster resilient cities that can anticipate and adapt to a rapidly changing climate by providing diverse mobility options and highly responsive infrastructure. Related goals and policies apply to all land uses, infrastructure and utilities, and form the basis for educational programs.

There are two examples of best practices that promote sustainable planning policies:

"The Climate Change Action Plan includes a target of 17% below 2006 community emission levels by 2021. The Action Plan includes proposed action related to: Transportation (e.g. TDM activities for residential commute); Green Development; Energy Efficiency; Schools (e.g. Ontario EcoSchools Promotion, Reduction of School Buses Idling); Agriculture; Community Awareness; Tree Planting; Waste; Local Food"

- Community Climate Change Action Plan, Town of Caledon

"Work with the Province, Metrolinx, the area municipalities, school boards, transit providers and non-profit organizations, to educate the public, through new initiatives, on the relationship between vehicles, air pollution and impacts on the natural environment."

- Official Plan 5.9.8.2.2, Region of Peel

2.3.2 Planning Active Transportation Connections

Policies related to Planning Active Transportation Connections aim to provide safe, attractive and accessible travel for pedestrians and cyclists within communities and new developments. They provide linkages between intensification areas, adjacent neighbourhoods and transit stations. This can be established through Transportation Master Plans, Active Transportation Master Plans or Sustainable Transportation Strategies. Regardless of the method, the plan should outline the roles of the municipalities and their responsibilities in developing a program to improve pedestrian and cycling infrastructure to improve the overall quality of active travel experience.

One example of such a strategy can be found in the Region of Peel:

"The Sustainable Transportation Strategy (STS) is an action plan that outlines the Region's roles and responsibilities to significantly increase the proportion of trips made by walking, cycling, transit, carpooling, and trips avoided through teleworking. A proposed 2041 target of 50% of trips made by a sustainable transportation mode in the Region is aligned with the Long-Range Transportation Plan update. More than 50 actions are recommended in the STS and the complementing Active Transportation 5-year plan and Transportation Demand Management 5-year Plan."

- Region of Peel Sustainable Transportation Strategy

An example of a Planning Active Transportation Connections policy developed by the Region of Peel is as follows:

"Encourage school boards to select school site locations, define catchment areas and design school campuses to maximize walking and bicycling as the primary means of travel to school."

- Region of Peel, Development Standards Manual

2.3.3 School Location Planning (i.e., School Closures, New Schools)

Policies around school accommodations are primarily designed to monitor, maintain, and alter the student populations of schools at the board level. School accommodation also refers to the opening and closing of schools as the demographics of a municipality changes. The pupil accommodation review considers closing a school when it operates under the provincial benchmark capacity^{42.} Education Development Charges help fund school renewal when all schools within a school board are over capacity, yet location is not considered within the capacity-counts (O. Reg 20/98). Currently, the approval of funding for new schools focuses on pupil accommodation capacity rather than local, community schools.

While AST is not the focus of these decisions, the closing of a community or neighbourhood school can have devastating effects on the community and lead to increased use of passive (motorized) transportation modes as students are required to be bussed to schools outside of their neighbourhood and community. Future policy needs to identify ways to encourage active travel to school and other community destinations by built environment planning and design, ensuring the consideration of pedestrian safety, convenience, and comfort.

2.4 Recommendations

The following recommendations for PLANNING policy have been developed using existing policy best practices, alongside consultation with planning policy experts.

PLANNING



A.1 PLANNING FOR SUSTAINABILITY

- A.1.1 Develop a Sustainable Transportation Strategy to establish an action plan to significantly increase the proportion of trips made by walking, cycling, transit, and carpooling to improve collaboration among the Province (i.e., Ministries of Transportation, Education, Municipal Affairs and Housing, Health & Long-Term Care), municipalities, school boards, transit providers, and non-profit organizations.
- A.1.2 The Province and municipalities will work together to update the Ontario Provincial Policy Statement and Regional Transportation Plans to include stronger language and directives for active transportation, active school travel, and healthy schools.

A.2 PLANNING ACTIVE TRANSPORTATION CONNECTIONS

- **A.2.1** Develop new funding streams to increase the amount of high-quality supportive infrastructure for active transportation across Ontario.
- **A.2.2** The Planning Act will mandate that each municipality has a Transportation Master Plan which focuses on walking, cycling, and other active modes, to outline how to support and promote active transportation in the community.
- **A.2.3** Incorporate the NACTO All Ages & Abilities design standards to build communities that are accessible to the entire population. Cycling routes and other active transportation networks should prioritise schools as key origin-destination nodes.
- **A.2.4** Establish a new designation of 'Active School Travel Zone' to create a framework for prioritising roads and paths that are important routes for children in a community to access their school by active modes. The Active School Travel Zone definition would tie-in with the creation of a provincial standard for the 'Active Travel Distance' (e.g., 400, 800, 1000 metres).

A designated 'Active School Travel Zone' shall:

- Utilise traffic calming measures
- Prioritise walking, cycling and transit over cars
- Be prioritised for snow clearance
- Be assessed for crossing guard support needs
- Be prioritised for enhanced pedestrian crossings and sidewalk improvements
- Be prioritised for cycling infrastructure improvements
- Be prioritised for safety enhancements funded by enforcement camera revenues
- Have wayfinding signage and 'Drive to 5' drop-off locations
- Be shown on published 'Routes to School Maps'

A designated 'Active School Travel Zone' shall also where possible:

- Have low vehicle speed limits (e.g., 30kph, 40kph)
- Not be a truck route

A.3	SCHOOL LOCATION PLANNING (I.E., SCHOOL CLOSURES, NEW SCHOOLS)
A.3.1	Prioritise keeping schools in locations with appropriate walking and biking infrastructure open, as they are important community hubs and foster increased active school travel.
A.3.2	Ensure school board decision-making around the planning for new schools and closing of existing schools has positive impacts on sustainable mobility.
A.3.3	Establish a collaborative process for planning new schools before subdivision approval that involves developers, municipal planners, and school board planners that prioritises sustainable mobility and active transportation as key factors in site selection criteria, and that sets minimum standards for connectivity and proximity of a new school to local active transportation networks.
A.3.4	Municipalities should make central properties financially accessible to school boards for new school development in the spirit of creating rich, desirable communities with the school as a walkable, central hub.
A.3.5	School siting decisions should be approved by the local municipality through a statutory process.
A.3.6	School boards shall review their policies for capacity planning and pupil accommodation reviews to formally recognize the importance of schools to rural and single-school communities.

3 INFRASTRUCTURE

3.1 What is it and Why does it Matter?

Infrastructure refers to the physical components of the built environment that are used to travel to and from school. Infrastructure related to AST include complete streets design, cycling infrastructure, bicycle and street parking, pedestrian infrastructure, traffic calming, and crossing guards. Policy related to infrastructure improvements in a municipality can increase the safety of a school travel zone, as well as improve the quality and accessibility of school travel routes.

The primary authority for most infrastructure policy falls under the municipality. Roads and sidewalks are planned, funded, and constructed by municipalities, except for highways, which fall under the provincial Highway Act. Any signage on municipal property or maintenance of the infrastructure is the responsibility of the municipality. Infrastructure directly on school property would then be the responsibility of the school board.

3.2. Literature

Adequate infrastructure can support AST by improving safety of school zones and the quality of the school travel routes. Both parents' and students' perceived safety influences participation in AST, and the perception that a route is unsafe is a barrier to AST engagement ^{21,40}. To improve the perceived safety of a school route, municipalities can increase the connectivity of sidewalks, paths, and cycling infrastructure throughout the

route to and from school. Connectivity can be increased by ensuring an entire school route has a sidewalk or path for pedestrians, as well as protected cycling infrastructure. The presence of sidewalks greatly influences students' independent mobility by reducing perceived safety concerns of parents⁴³. Even more, sidewalks that are well-designed appear to parents as a protective factor from traffic⁴³. Upkeep of sidewalks is also important, as poor-quality features such as uneven surfaces, vegetation and obstructions are perceived as unsafe and inaccessible⁴³.

Safety concerns are also higher when a school route has a higher number of intersections to cross⁴⁰. When school routes must cross an intersection, measures for safe crossing and traffic calming can improve pedestrian and cyclists' perceived safety⁴⁰. Complete Streets design standards "are designed to be safe for everyone: people who walk, bicycle, take transit, or drive, and people of all ages and abilities [...] and operate the entire street network for all road users, not only motorists"⁴⁴. Following Complete Streets design can ensure accessibility of infrastructure features and improve route connectivity and safety. Presence of school crossing guards has been linked to an increase in the number of children crossing at supervised sites and modelling safe crossing behaviour⁴⁵. Signalized intersections can improve traffic concerns and crossing safety⁴⁶. Perceived safety can also be improved by increasing lighting on pedestrian routes⁴⁰.

Overall, more traffic calming, and protected bicycle infrastructure are needed to improve perceived safety of students engaging in AST³⁹. Additionally, policies to add and improve AST infrastructure must also consider equitable distribution to address infrastructure and AST related disparities^{39,47}. Students in rural settings face infrastructure related disparities in comparison to students in urban contexts. Rural built environments often have poorer quality or absent active travel infrastructure⁴⁸. Traffic concerns are two-fold as rural schools and routes to school are located on roadways of greater speed, while also containing less traffic calming measures and protected AST pathways⁴⁸. Neighbourhoods with a primarily low-income or minority population also face disparities of active travel infrastructure, despite increased use of active travel modes⁴⁹.

3.3 Existing Policies and Best Practices

3.3.1 Complete Streets

Complete Street policies aim to: (1) provide safe accommodation for all road users, (2) provide inclusive mobility regardless of age, ability or mode of travel, (3) support healthy and vibrant communities promoting a 'Clean, Green and Beautiful' mandate, (4) encourage active transportation, and (5) support economic activity. Also, such policies ensure the delivery of Complete Streets in a manner which ensures the optimal use of existing public assets.

An example of a Complete Streets policy can be found in Hamilton, where the City developed a manual that aims to:

"(1) Enhance road safety; (2) Design streets that address transportation requirements; and (3) Encourage street designs that balance the considerations of different travel modes".

- City of Hamilton Complete, Liveable Better Streets Design Manual

3.3.2 Cycling Routes

Cycling route policies aim to provide continuous, safe and comfortable cycling networks that accommodate users of all ages and abilities to connect with major destinations including, schools, parks, trails, employment centres and neighbourhoods. Such policies also create a culture of shared-use mobility corridors for all streets and recognize that bicycling is a viable alternative to other modes of transportation that is environmentally sound and supports active, healthy lifestyles. Some municipalities have developed a Cycling Master Plan that sets out a network of on- and off-road cycling routes aimed at creating utilitarian connections to get to and from work and schools, as well as connections to key destinations within the community (e.g., libraries, shopping facilities, municipal offices, leisure facilities). Strengths of existing cycling routes policies are that they:

- Support and provide priority for cycling infrastructure, programs and initiatives;
- Identify potential bike lane corridors and shared use corridors through signage and street markings;
- Explore asphalt trails as an alternative to concrete sidewalks along major city arterial and collector routes; and
- Encourage the conversion of utility corridors and abandoned railway corridors for public purposes and the establishment of bike lanes within the road network wherever feasible and appropriate.

Cycling Master Plans and cycling considerations for planning AST should follow the design standards outlined in the Ontario Traffic Manual Book 18 to ensure safe and accessible bicycle routes. Children travelling to and from school by bicycle are typically considered 'Interested but Concerned' as they share roadways with motorized vehicles. 'Interested but Concerned' individuals are those that are "curious about cycling" but are hesitant to do so and thus do not ride on a regular basis⁵⁰. Cyclists can benefit from protected cycling lanes by separating bike routes from car traffic and reduce safety concerns. Defined by the manual, protected bike lanes are dedicated bike lanes with concrete medians and planters, bicycle parking corrals, or vehicle parking lanes that divide them from vehicle traffic⁵¹.

3.3.3 Parking for Cars and Bikes

Bicycle parking in public spaces is a support feature that encourages the uptake of cycling as a selected method of travel. There is a tangible need to promote the provision of secure and adequate bicycle parking facilities at all schools, if more students (and their parents) are expected to choose this form of active transportation to and from school. Bicycle parking offers security and adds convenience for cyclists. Municipal zoning bylaws include requirements relating to parking of vehicles and bicycles at specific building types, including schools. The Ontario Traffic Manual Book 18 outlines design standards for both short-term and long-term bike parking - including on street parking for bicycles⁵¹.

3.3.4 Pedestrian Infrastructure

Pedestrian infrastructure can be divided into three different types of policies: Sidewalks; Pathways; and Snow Clearing.

Sidewalk and sidewalk completion policies across Ontario are designed to do the following:

- Encourage sustainable transportation, ensure integrated pedestrian connections, adequate facilities, enhanced pedestrian experience, and the improvement of appropriate traffic calming and air quality tools;
- Encourage methods of providing pedestrian connectivity between various focal points in the town through an active transportation and pedestrian trail system;
- Encourage connectivity and walkability by: (a) maximizing street and neighbourhood connections; and (b) considering a variety of planning design tools.

Path accessibility policies aspire to ensure pedestrian use of trails is safe and comfortable for cyclists and other wheel-based users; and provide shelters (shade and wind protection), washrooms, benches, water stations, bike racks, dog waste stations, and trash cans at important intersections or frequency intervals along trails and streets.

Seasonal Sidewalk Maintenance policies aim to: (1) establish Winter Service Standards for snow removal and ice control and resources for winter control operations, (2) prioritize sidewalks for snow clearing based on criteria that takes school routes into consideration, (3) outline responsibilities of residents during months requiring snow removal in order to avoid obstruction of roadways and sidewalks, and (4) create a more pedestrian-friendly environment suitable for year-round walking. In accordance with the guidelines set out under the Minimum Maintenance Standard of Ontario, all sidewalks are to be cleared 48 hours after an event where the accumulation is eight centimetres (three inches) or greater. Every occupant of a building and every owner of a vacant lot shall clear any accumulation of snow and ice from the sidewalks on the roads in front of, alongside, or at the rear of said building or vacant lot. Steps, walks, driveways and parking spaces shall be maintained so as to afford safe passage under normal use and weather conditions.

A bylaw has been established in some municipalities to provide homeowners and businesses snow removal services for all sidewalks. However, it should be policy that the municipality provides snow removal services for sidewalks, bike lanes and roads rather than private property owners. Sidewalk clearing priorities during a typical winter event are:

- Sidewalks adjacent to high-volume roadways with high pedestrian volumes;
- Sidewalks in the downtown core, including City Hall, public transit terminals and other government-owned sites; and
- School routes/areas and places of worship.

3.3.5 Vehicle Speed & Traffic Calming

In Ontario, vehicle speed limits in residential areas are generally 50 km/h, and arterial roads can reach 70 km/h. Traffic calming initiatives aim to designate speed limits in school zones and community safety zones; to reduce travel speeds and traffic infiltration, thus discouraging non-local traffic and encouraging a reduction of traffic volumes. The Municipality's Traffic Calming Policy includes a set of guidelines for investigating, selecting, and implementing traffic calming measures, and a five-step process for determining whether a collector or local roadway warrants traffic calming measures. The guidelines were developed to ensure appropriate measures are implemented with maximum benefit and community support, and ensure that:

- Measures will be considered only when there is a demonstrated safety, speed or short-cutting concern and when education, enforcement and traffic engineering measures have not achieved the desired result;
- Impacts to the surrounding road network should be considered, and an area-wide plan carried out if measures are expected to impact adjacent streets;
- Measures should be restricted to two-lane roadways with posted speeds only up to 50 km/h;
- Pedestrians, cyclists, and emergency vehicles should not be impeded; and
- Implemented measures should be monitored with follow-up studies that assess their effectiveness.

This policy should be followed when submitting applications for proposed roads within new developments. A plan may be employed as a traffic calming initiative to support efforts to reduce vehicle congestion at existing school locations and to align new streets and new school locations to reduce congestion and traffic hazards in proximity to schools.

A multi-modal approach to reduce vehicle speeds is recommended. Based on key informant interview and survey responses, speed limit reductions are more effective when complimented by additional traffic calming measures and enforcement strategies. Traffic calming strategies are physical design features intended to reduce vehicle speeds. They include narrowing streets, curb extensions, driver feedback signs, on-street parking, speed bumps, and raised intersections. Some key informants noted enforcement of speed limits via monitoring and ticketing can be time and human resource dependent. Automated speed enforcement measures can be used to ensure ongoing monitoring of vehicle speeds.

An example of traffic calming using community safety zones is in North Grenville. The following criteria are incorporated into the North Grenville Community's Safety Zone Guidelines:

- Areas of Special Consideration Community Safety Zones may only be implemented at locations with schools, day cares, hospitals, retirement homes, community centres, and/or high pedestrian traffic (i.e., 75 pedestrians per hour for any 8-hour period);
- Safety Warrant Community Safety Zones must satisfy a safety warrant of either a Collision Component (collision ratio less than 1:900 (collisions per year: AADT) averaged over 36 con secutive months) or a Risk Component (a point-based system based on six risk factors: speeding, volume, truck volume, pedestrian volume, length of sidewalks, and intersections and entrances);

• Ability to enforce – Community Safety Zones require the commitment of local law enforcement, with confirmation that funds are available for proper enforcement

3.3.6 School Crossing and Guards

School crossing guards control traffic and monitor safe crossings at intersections for students during travel times before and after school. In Ontario, the primary authority of school crossing guards is at the municipal level. Responsibilities include funding of crossing guards, determining when crossing guards are present, and where crossing guards are located. Establishing a procedure for assigning crossing guards to an intersection can ensure crossing guards are placed in areas of highest need/safety concerns.

The Ontario Traffic Council's (OTC) School Crossing Guard Guide outlines School Crossing Guard policies that determine where crossing guards should be located around schools across the province. These policies encourage the municipality to evaluate elements in traffic crossing, such as safe gaps in traffic, road width, traffic volume, and the number of conflicts observed.

The School Crossing Guard Program (SCGP) of Vaughan promotes active and safer travel for school aged children to and from school. This policy establishes a "framework for the administration, evaluation, approval, implementation, and removal/reallocation of School Crossing Guards (SCG) in accordance with the Ontario Traffic Council (OTC) SCG Guide, and in accordance with the Highway Traffic Act".

3.4 Recommendations

The following recommendations for INFRASTRUCTURE policy have been developed using existing policy best practices, along with our consultation with planning policy experts.



B.1 COMPLETE STREETS

B.1.1 Design or modify all residential streets using a Complete Streets Design Standard (e.g., Complete Livable Better Streets Design Manual, AODA requirements) to prioritise pedestrians, cyclists, and other vulnerable road users.

B.2 CYCLING ROUTES

B.2.1 Develop a network of protected cycling lanes according to Ontario Traffic Manual Book 18 design guidelines to improve safety for vulnerable road users as they travel to and from schools, parks, and other destinations that families are likely to use.

B.3 BICYCLE PARKING

B.3.1 Develop a municipal bicycle parking program with dedicated funding to ensure that there is sufficient bike parking around the municipality, including at parks and other municipal facilities. Ensure any new bicycle parking is designed using the Association of Pedestrian & Bicycle Professionals Bike Parking Guidelines.

B.4	STREET PARKING
B.4.1	Implement standardized parking and stopping restrictions in front of schools to alleviate traffic congestion and improve safety.
B.4.2	Develop enforcement strategies to increase the compliance of no-parking / stopping by-laws.
B.4.3	Foster collaboration between schools and municipalities in the implementation of parking programs that encourage driving families to drop-off children farther from the school, such as 'Drive to 5', 'Park & Stride', & 'Walk a Block'.
B.4.4	Prohibit idling of motor vehicles on all streets beside school sites regardless of temperature.
B.5	USE OF SIDEWALKS
B.5.1	Allow children 13 years of age and under to bike, skateboard, scooter, & rollerblade on any sidewalk.
B.5.2	Allow parents accompanying children 10 years of age and under to bike, skateboard, scooter, and rollerblade on any sidewalk.
B.6	PEDESTRIAN INFRASTRUCTURE
B.6.1	Implement a sidewalk network completion program to infill sidewalks, especially (1) in Active School Travel Zones and (2) when streets are undergoing repair or replacement.
B.6.2	Ensure all new developments have sidewalks on both sides of the street to ensure safe school travel.
B.6.3	Pave paths with high pedestrian use to make them easier to use in the winter months.
B.6.4	Provide pedestrian lighting on paths that connect to schools to encourage walking to and from school when there is lower visibility due to darkness, fog, and shorter days.
B.6.5	Provide snow clearing on sidewalks, multiuse paths, bike lanes, and cut-throughs to ensure they are accessible year-round. Active School Travel Zones should be prioritised for snow clearing.
B.6.6	Encourage collaboration between municipalities and school boards to coordinate snow removal on shared paths for continuity of snow clearance.
B.7	VEHICLE SPEED & TRAFFIC CALMING
B.7.1	Reduce speed limits on residential streets to 40-km/h and 30-km/hr if they are within Active School Travel Zones. These lower limits should be applicable 24 hours per day and 12 months a year.
B.7.2	Implement traffic calming measures (e.g., narrowing streets, curb extensions, driver feedback signs) and enforcement measures (e.g. automated speed enforcement cameras, police speed monitoring and ticketing) together with ongoing speed monitoring to support adherence to the speed limit.
B.7.3	Utilise revenues from automated speed enforcement cameras and red-light cameras to fund road safety infrastructure and road safety education programs.

- **B.7.4** Restrict cars from entering streets immediately beside a school during the normal morning drop-off and afternoon pick-up times. Exceptions should be made for emergency responders, school buses, and caregivers of children with special needs or mobility limitations.
- **B.7.5** Develop a traffic calming strategy that prioritises neighbourhoods with greater safety risks to ensure there is a clear and consistent needs-based approach to how infrastructure improvements are implemented across a municipality. Assessment using surveys, interviews, and traffic measurement should be part of this approach.

B.8 SCHOOL CROSSINGS & GUARDS

B.8.1 Develop a School Crossing Safety strategy through collaboration between municipalities and School Boards to ensure safety improvements and Crossing Guards are provided where needed and are prioritised towards the locations of greatest need. Review 'School Crossing Strategy' every 5 years to account for changing infrastructure and needs.



4.1 What is it and Why does it Matter?

In Ontario, publicly funded education is divided into three stages—early childhood, elementary school, and secondary school⁵². Under the *Education Act*, the Ministry of Education is responsible for setting policies and guidelines for school boards, allocating school board funding, and setting the provincial curriculum. There are 72 school boards across the province that are responsible for setting their own policies and making decisions around school closures, the building of new schools, the allocation of provincial funding, and ensuring schools follow the rules outlined in the *Education Act*⁵².

Design Guidelines and Policies for School Sites and Adjacent Lands Planning are developed to encourage and support AST engagement, promote physical activity and healthy communities, increase personal safety, and decrease vehicular congestion around school sites⁵³. Additionally, these Guidelines ensure that schools are accessible and that they adhere to safety and design best practices⁵³. In 2011, The Halton Technical Stakeholders Sub-Committee developed School Site Design Guidelines that are intended to:

- "Ensure safe connectivity between the school site and adjacent lands
- Ensure school is central to the population it serves
- Ensure school site configuration is designed to maximize pedestrian and bicycle access
- Ensure that roadways can accommodate cyclists
- Ensure that school sites can accommodate cyclists"

School board policies are important, as they allow schools to create quality safety and learning standards and establish structured operating procedural needs⁵⁴. AST-related school policies include School Site Design, Kiss & Ride Facilities and School Traffic Management.

4.2 Literature

Inner-city school consolidation policies have significantly contributed to the progressive decline in AST across Canada⁵⁵. In fact, school consolidation—often affected by the siting of new schools—to more "central" locations has resulted in an increased reliance on vehicular travel, reducing opportunities for children to walk and cycle to school. Additionally, the distance between home and school—also influenced by school siting decisions — is the strongest predictor of children's mode used for school travel ⁵⁵⁻⁵⁷. When new communities are being planned, it is crucial for planners to ensure that sites are reserved to promote and facilitate active travel to school⁵⁸. Moreover, when determining the location of a new school, school boards consider a plethora of factors including property size, land affordability, access to amenities, the student population, and travel distance⁵⁹. In the past, small neighbourhood schools were considered as "anchor points" in urban neighbourhoods providing various recreational and social services, and afterschool programs⁵⁵. However, in recent years school site design policies have favoured the construction of larger schools to allow for the provision of specialized programs (e.g., French Immersion, International Baccalaureate) to serve entire communities^{60,61}.

As it pertains to school sites design, planners consider the inclusion of facilities required for pedestrian, cyclist and vehicular access⁵⁸. Adequate and secure bicycle parking on school sites promotes and encourages cycling to school. However, if there is an insufficient supply of bicycle parking, bicycles may be stored in undesirable places resulting in damage or theft. The storage of bicycles in undesirable locations may become an obstacle for pedestrians and cyclists, in turn impacting school site accessibility⁵⁸. This should be avoided to reduce conflicts between pedestrians, cyclists and vehicles. The Association of Pedestrian and Bicycle Professionals (APBP) has developed comprehensive bicycle parking guidelines that guide bicycle parking design and bicycle rack location decisions⁶².

There has been a significant increase in the volume of motorists dropping off and picking up students at schools, potentially leading to unsafe traffic conditions⁶³. This increase has led to the development and implementation of parking enforcement strategies around schools. The enforcement of parking regulations around schools encourages compliance and promotes a safer environment for pedestrians, cyclists and motorists⁶³. The Kiss and Ride Program is intended to be an efficient and safe procedure which allows parents or guardians to drop off and pick up children in vehicles before and after school⁶⁴; however, the significant increase in car travel to school, has resulted in traffic congestion on school sites, potentially increasing the risk of pedestrian motor-vehicle collisions (PMVCs)^{65,66}. In fact, Waygood et al.⁶⁷ found that during morning school travel times, there is a peak in child pedestrian fatalities across Canada, raising concerns around pedestrian safety. Pedestrian safety within and around schools is of major concern to local governments, residents and transportation authorities due to the large proportion of pedestrians around schools⁶⁸. School Traffic Management has been identified by parents as a key determinant in the mode of travel used for their children's commute to school. As a result, local authorities have developed and implemented programs and initiatives that enhance traffic safety around schools to encourage and promote active travel to school. One example is the Traffic Management Plan, which provides a mechanism to control and direct disruptions through collaboration between various services responsible for road and traffic management⁶⁹.

4.3 Existing Policies and Best Practices

4.3.1 School Site Design

School site design policies are a set of established regulations that ensure that all sites adhere to the best practices for safety and design. An example of School Site Design Guidelines developed by the Halton Technical Stakeholders Sub-Committee to ensure that school sites can accommodate cyclists is:

- Support bike rack placement outside of Principals office
- Provide bike lockers and other active transport equipment lockers on school sites (scooters, skateboards)
- Design Principal's office location: front of the school, corner office, large windows looking out onto the bike racks
- Support location of administrative office beside Principal's with large windows that look out onto bike racks
- Ensure the planting of low shrubbery outside administrative offices
- Ensure bike pathways are separated from vehicular Traffic"

- Halton Technical Stakeholders Sub-Committee, Design Guidelines for School Site and Adjacent Lands Planning Document

4.3.2 Kiss & Ride Facilities

School parking and drop-off policies ensure that speed and parking restrictions are consistent around all elementary and secondary schools. Additionally, such policies aim to reduce congestion around schools and increase safety for all road users. An example of a school parking policy can be found in Woodstock, where the City developed a School Zone Policy E012 that states:

"Each school zone will have reduced speed limits before and after school frontage, parking restrictions and no stopping zones, except for school buses where approved"

- City of Woodstock, School Zone Policy E012

4.3.3 School Site Traffic Management

Safe Site Traffic Management policies and plans aim to provide safety on school sites taking into consideration the student body, transportation used by students, school staff availability, and geographic conditions.

SCHOOL

4.4 Recommendations

The following recommendations for SCHOOL SITE policy have been developed using existing policy best practices, along with our consultation with policy experts.

	C.1	SCHOOL SITE DESIGN
	C.1.1	Design or modify school sites to prioritise pedestrians, cyclists, and school bus services and to minimize conflict between pedestrians and vehicles.
	C.1.2	Provide sufficient, accessible, and secure bike storage at all school sites in a safe, visible location using the Association of Pedestrian & Bicycle Professionals Bike Parking Guidelines.
-	C.1.3	Provide safe and secure storage within school site for rollerblades, scooters, and skateboards.

C.2 PARKING & DROP-OFF FACILITIES ON SCHOOL SITES

- **C.2.1** Consider removing Kiss & Ride facilities, when and where appropriate, to discourage driving children to and from school.
 - If this is not possible, a Kiss & Ride facility should operate as follows:
 - Do not open until school ends to prohibit cars from arriving early and disrupting traffic flow during pick up and drop off;
 - Are not located close to the school bus loading zones, so that they do not impede school bus operations; and
 - Are designed and located to minimize conflict between drivers, and children walking and cycling.
- **C.2.2** Avoid installation of new 'Kiss & Ride' facilities to discourage driving children to and from school.

C.3 SCHOOL TRAFFIC MANAGEMENT

- **C.3.1** Restrict vehicle access to parking lots and driveway facilities where vehicle traffic and congestion create unsafe conditions on a school site, allowing access only to: Staff, visitors (e.g., volunteer), delivery drivers; school buses; and Caregivers of children with special needs or mobility limitations.
- **C.3.2** Develop a 'Traffic Management Plan' for each school, working in collaboration with the municipality to create a safer arrival and dismissal experience for students and families accessing the school site.

5 STUDENT TRANSPORTATION

5.1 What is it and Why does it Matter?

Student Transportation as defined by Transport Canada is the transportation of children and teenagers to and from school⁷⁰. In Ontario, approximately 40 per cent of students currently receive student transportation services⁷⁹. Through the *Highway Traffic Act*, The Ministry of Transportation is responsible for setting standards that govern safe school bus operation across Ontario⁷¹. A vast majority of student transportation is provided through contracts between school boards and school bus operators⁷². School boards provide student transportation services to elementary students, and a vast majority provide such services to secondary students. Within school boards, the proportion of students that are transported ranges from 10 to 86 per cent⁷⁰. School boards are responsible for determining which students are to receive student transportation services based on eligibility criteria—such as the walking distance to school—based on their own eligibility policies⁷⁰. Additionally, transportation services may vary based on population density, geography, and bussing eligibility policies⁷⁰.

School boards are also responsible for overseeing and providing resources for student transportation consortia. However, it must be noted that each school board within the same consortium may have varying eligibility policies⁷⁰. Transportation consortia—two to five school boards in the same geographical area—are responsible for: (1) the administration of transportation policies; (2) student transportation service planning; and (3) the determination of student pick-up and drop-off locations and times. Currently, there are 33 transportation consortia that cover all but one of the 72 boards across Ontario⁷⁰. The Ministry of Education and student transportation consortia work together to improve the effectiveness and efficiency of student transportation⁷⁰, providing student transportation funding to all school boards through the Student Transportation Grant. All school boards are granted autonomy and authority over student transportation services across the province. This data is used to support policy development and decision-making around student transportation services, but section 21 (2)(c) of Act accommodates students who are unable to attend school in the event that student transportation services are not offered by a local transportation consortium⁷².

Policy areas influencing Student Transportation Services across the province include Redefining Student Transportation Services, School Bus Stop Location, Walking Distance Criteria and Vehicles.

5.2 Literature

Student transportation across Ontario faces many challenges relating to safety, equity, and accountability⁷⁰. The journey to school is an integral part of a student's day, especially for those living in rural communities who tend to experience longer bus ride times⁷³. For a variety of reasons, the average distance a student must travel between home and school has significantly increased over time⁷⁴. The results of several studies have shown

that travel distance is the most influential predictor of AST engagement⁵⁶. Study findings have indicated that as the distance between home and school increases, engagement in AST further decreases⁵⁶.

As it pertains to school bussing, there is currently a limited body of existing literature. However, previous research has identified various multi-faceted and complex implications of rural school bussing including: the impact of changing patterns of school networks, the impacts of longer ride and waiting times on children's overall health, and unaccounted economic costs associated with school consolidation practices⁵⁵. Additionally, journeys to school have implications on economic, environmental, and social sustainability⁷³. Decisions around school bus stop locations requires the balancing of conditions that would be ideal with the realities of a community's topography, road system and weather⁷⁵. In Ontario, school boards or transportation consortia are responsible for determining the ideal location of a bus stop along a school route⁷⁶. Regarding safety, all school bus stop locations are determined on a safety basis for students, taking into consideration the boarding and disembarking processes⁷⁷.

5.3 Existing Policies and Best Practices

5.3.1 School Bus Stop Location

School bus stop location policies aim to provide bus stop locations that are safe for boarding and embarking students. Such policies also ensure that bus stops are located in accordance with policies and procedures that consider road safety and traffic conditions for all road users. An example of a school bus stop location policy developed by the Tri-Board Student Transportation Services states:

"To ensure safe transportation to and from schools within the jurisdiction of Tri-Board Student Transportation Services, bus stop placements shall be approved by the Tri-Board. The following criteria will be assessed in the establishment of a school bus stop:

- Meets all of the requirements of the Highway Traffic Act;
- Meets all of the requirements of the policies and procedures set out by the board
- School bus stops are not placed on private or un-assumed municipal roads
- A site inspection may be arranged to determine whether the bus stop location meets all aspects of the safety criteria"

- Tri-Board Student Transportation Services

5.3.2 Walking Distance Criteria

Such policies aim to establish standards for the 'walking distance' beyond which a student qualifies for school bus transportation. The eligibility of student transportation is based on: (1) the student's address, (2) the walking distance, (3) and health and safety concerns. Local school boards set walking distance criteria policies, and most boards have three separate policies with only 10 out of 35 policies across all consortia having only two. An example of an existing policy to establish the walking distance criteria is as follows:

The board will establish walking zones for each school based on the following distances from the school property:

elementary students 1.6 km secondary students 3.2 km

Distance measuring will be done by the SCSTC using a digitized map, vehicle and/or a measuring wheel. Measurements are taken from the student's residential property line nearest to the closest entrance of the school property.

The boundary of each walking zone will reflect the most direct and practical walking route from the school to home.

Students, including those with special education needs, who reside within a designated walking zone for their home school, are not eligible for transportation, unless otherwise qualified by policy.

Where feasible, within urban areas, students may be provided with transit passes allowing them access to public transportation as an alternative to the provision of school bus transportation.

Responsibility for getting to and from school rests with the student and parents/guardians. The responsibility to confirm if the established walking zone is safe for their student lies with the individual student's parent/guardian.

- Simcoe County District School Board

5.3.3 Vehicles

Policies around school vehicles aim to: (1) promote the safe transport of students, (2) reduce greenhouse gas emissions from school buses, and (3) improve environmental sustainability⁷⁸. All school buses across the province must meet the safety standards as set out by the province and Transport Canada. Additionally, Ontario regulations ensure that bus drivers are specially trained and have good driving records⁷⁸. One example of such policy developed by Simcoe County District School Board (SCDSB) states:

"It is the policy of the Simcoe County District School Board (SCDSB) to provide transportation services to eligible students that are safe, equitable, efficient, cost effective, and within the allocated funding."

- Simcoe County District School Board

5.4 Recommendations

The following recommendations for STUDENT TRANSPORTATION policy have been developed using existing policy best practices, along with our feedback from policy experts.



D.1 REDEFINING STUDENT TRANSPORTATION SERVICES

- **D.1.1** Define the term "Student Transportation" to be inclusive of all students, whether or not they qualify for school bus service.
- **D.1.2** Move away from using the term 'bus eligibility' and establish new definitions for 'walk zone', 'school bus zone', and 'out of catchment zone' with all students falling into one of these three categories.

D.2 SCHOOL BUS STOP LOCATION

- **D.2.1** Establish provincial standards for location of school bus stops, to include maximum distance from home and measures to provide safety and comfort for children using stops.
- **D.2.2** Design bus stops to be community stops (e.g., common location where many children get on the bus) wherever possible to encourage walking within a maximum distance. Home stops should only be utilised in areas of high-speed multi-lane roadways where safety is an issue.

D.3 WALKING DISTANCE CRITERIA

- **D.3.1** Establish provincial standards for the 'walking distance' beyond which a student qualifies for school bus transportation.
- **D.3.2** Regularly review the criteria used to determine if bussing services are offered to students who do not live within the 'school bus zone', such as children with special needs, children attending special programs, hazards on walking routes, and courtesy bussing.

D.4	VEHICLES
D.4.1	Investigate the implementation of electric / hybrid school buses and vehicles to decrease carbon emissions created from school travel and to decrease pollution children are exposed to while traveling to school.



6.1 What is it and Why does it Matter?

In 2006, Active and Safe Routes to School (ASRTS)—a nationwide health initiative developed by Green Communities Canada—adapted a School Travel Plan model from international best practices⁷⁹. School Travel Planning is a multi-sectoral, multi-disciplinary and school-specific intervention involving key stakeholders who assess, document, and intervene on AST barriers by means of developing and implementing a documented School Travel Plan (STP) ^{80,81}. This collaborative and structured process between schools and local communities

facilitates: (1) building capacity for AST engagement, (2) the auditing of existing infrastructure and facilities and (3) the development and implementation of a tailored action plan⁸². The STP intervention involves the mobilization of key community stakeholders who play a pivotal role in promoting the program to the local community and identifying multiple strategies to alleviate school-specific barriers^{81,83,84}. These stakeholders compose an STP committee of members from various disciplines including education (principals, teachers, and student and parent representatives), transportation (e.g., traffic engineer), municipal planning (e.g., land use planner), safety (e.g., police officer), and health (e.g., public health nurse)^{81,83,85}. STP strategies are classified according to the "6E's" of the Safe Routes to School (SRTS) National Partnership framework: Education, Encouragement, Enforcement, Engineering, Equity, and Evaluation^{79,82}.

Led by a trained facilitator, the STP process is guided by an iterative and reflective 5-step process: (1) *Set-Up*: STP committee is established and the project timeline is determined; (2) *Baseline Data Collection*: surveys are distributed and analysed, and a neighbourhood needs assessment is conducted; (3) *Action Plan Development*: STP committee develops a written STP document; (4) *Action Plan Implementation*: action plan is implemented; and (5) *Evaluation*: post-plan/follow-up data collection to evaluate progress^{79,84,85}. Evidence revealed that the STP intervention has been proven to address perceived AST barriers in a positive manner⁸⁶. Additionally, the intervention has been shown to considerably change perceptions around social issues including neigbourhood safety and crime⁸⁷. Overall, School Travel Planning increases a school's capacity to address transportation challenges while enabling active/healthy transportation choices^{79,83,84,86,87}.

6.2 Literature

Given the myriad of factors—individual, social, environmental and policy—that influence AST engagement, policy makers, schools and public health professionals have collaborated over the years to develop comprehensive and school-specific interventions that aim to increase students' participation in AST^{79.82}. AST-related interventions aim to change commuting behaviours by implementing targeted programs and initiatives that encourage a shift from the use of passive (e.g., bus and car) to active (e.g., walking and cycling) modes of transportation^{79.82}. Additionally, such interventions tend to follow collaborative and multi-step methodologies. Active transportation promotion interventions can take on many forms including health promotion (e.g., walk to school days) and community enforcement initiatives (e.g., walking school bus)^{79,88}. Other examples include educational awareness campaigns that aim to improve safety, knowledge and enforcement strategies in the form of crossing guard programs ^{45,79,89}.

6.3 Existing Policies and Best Practices

6.3.1 School Travel Planning

School Travel Planning (STP) serves to guide a long-term commitment to providing support, resources, training and education towards active and sustainable school transportation. There are currently no existing STP policy best practices that aim to create a culture of walking, cycling and transit usage. However, there are many excellent examples of STPs that have been implemented across Ontario. These include the Ontario Active School Travel (OAST) School Travel Planning Manual and the ELMO-ASRTS School Travel Planning Manual. The OAST STP Toolkit serves as a guide for regional stakeholders and facilitators to take schools through the five-phase STP process⁷⁵. The ELMO-ASRTS School Travel Planning Manual was adapted from the national STP Toolkit specifically for the Elgin, Middlesex and Oxford communities⁹⁰.

6.3.2 Road Safety Education

Road safety education are programs that attempt to increase the safety of pedestrians, cyclists, and drivers by providing education and instruction on the skills needed to safely navigate the transportation network, the laws in the Ontario Highway Traffic Act, and the consequences of not following these laws. The education targets children, families, and community members of all modes of travel.

There are a range of education strategies that are implemented across the province. Some municipalities have included education and promotion of road safety in their Transportation Master Plan. The City of Brampton has created the Brampton School Traffic Safety Council to address safety concerns and promote pedestrian education. They assist schools in developing these education campaigns⁹¹.

Peel region's Sustainable Transportation Strategy includes a variety of road safety education pilot projects. The strategy notes collaboration between stakeholders within the region to deliver education. Booths and events are used to distribute educational material and communicate with road users in person⁹². Peel and other regions note the use of virtual education campaigns and digital materials to reach a larger audience.

Mississauga's Road Safety Committee also promotes active collaboration between road safety stakeholders to deliver educational materials to road users:

"The Road Safety Committee provides a community perspective on road safety issues, promotes public awareness and education for road safety initiatives and programs, with an aim to enhance community participation and cooperation. Road Safety Mississauga will consult with and promote partnerships with other committees and agencies, while supporting ongoing City programs and projects in an effort to raise the profile of road safety in Mississauga. The objective of the Road Safety Committee is to promote road safety for all methods of transportation, including pedestrian, cyclist and vehicular traffic."

- Mississauga Road Safety Committee, Terms of Reference

6.4 Recommendations

The following recommendations for SCHOOL TRAVEL PLANNING policy have been developed using existing policy best practices, along with feedback from policy experts.

E.1 FUNDING & PARTNERSHIPS

- **E.1.1** Support every school to develop and implement a School Travel Plan identifying actions to increase children's active travel to and from school. A bi-annual review of the plan by School Council, administration, and a student group (e.g., junior / intermediate class, eco-club, healthy schools) should be completed.
- **E.1.2** Foster interdisciplinary collaboration and funding (e.g., school board, school transportation consortia, municipality, public health, law enforcement, post-secondary education, non-profit organizations) to support school travel planning programming.
- **E.1.3** Encourage partnerships/collaborations between municipalities and School Boards in a community (e.g., Active School Travel Charter) to ensure they work together on common goals to support active school travel and school travel planning.
- **E.1.4** Encourage the Ministry of Education to work with the Ministry of Transportation and Ministry of Municipal Affairs & Housing to develop curriculum to educate students on road safety.

E.2 EDUCATION & ENCOURAGEMENT

- **E.2.1** Develop and / or implement pedestrian and cycling skills training so that all students gain a basic competency in these important life skills.
- **E.2.2** Require all schools to participate in the <u>Eco-Schools Program</u> so that students gain an understanding of environmental stewardship and the benefits of active school travel.
- **E.2.3** Develop school board-wide encouragement and education campaigns to promote active school travel.
- **E.2.4** Build capacity in each school to allow for a dedicated staff to lead promotion and education around active school travel.
- **E.2.5** Prioritise cycling programs and initiatives, including education for other road users about cycling policies and infrastructure.

Foster collaboration between municipalities and public health units (and provincial ministries) to develop a holistic strategy to educate drivers and other road users about road safety. Key elements of these strategies should:

- Provide funding for road safety education that includes experiential learning.
- E.2.6
- Utilise community events to educate young people, school age children and their parents about road safety.
- Instill social responsibility to minimize risk of harm to others by risk-takers' behaviours.
- Consider implementing student leadership programs (e.g., CAA 'School Safety Patrol' program, Trailblazer Program) that provide an opportunity for older students to model positive road safety behaviours.
- Leverage partners to share consistent educational messaging broadly throughout the community

7 CONCLUSIONS

This report underlines the critical role policies and procedures play in supporting and promoting the use of active travel modes by Ontario students. The research findings presented on the five key topics—Planning, Infrastructure, School Site, Student Transportation and School Travel Planning—signify the myriad of policy factors that influence AST engagement. This report will serve as a guidance document that will inform Ontario municipalities, school boards and student transportation consortia in the development of policies that support and promote active transportation for school journeys. Each policy recommendation and its primary authority—provincial, municipal, or school board—can be found in Appendix A: Identifying Supportive Policy for Active School Travel.



- 1. Giles-Corti B, Foster S, Shilton T, Falconer R. The co-benefits for health of investing in active transportation. *New South Wales Public Health Bulletin*. 2010;21(5-6):122-127. doi:10.1071/NB10027
- 2. Sirard JR, Slater ME. Walking and Bicycling to School: A Review. *American Journal of Lifestyle Medicine*. 2008;2(5):372-396. doi:10.1177/1559827608320127
- 3. Larouche R, Faulkner GEJ, Fortier M, Tremblay MS. Active transportation and adolescents' health: The canadian health measures survey. *American Journal of Preventive Medicine*. 2014;46(5):507-515. doi:10.1016/j. amepre.2013.12.009
- 4. Sleap M WP. Are primary school children gaining heart heath benefits from their journeys to school? *Child Care Health Dev.* 1993;19:99-108.
- 5. Tudor-Locke C, Ainsworth BE, Popkin BM. Active commuting to school: an overlooked source of childrens' physical activity? *Sports Medicine* (Auckland, NZ). 2001;31:309-313. doi:10.2165/00007256-200131050-00001
- 6. Timperio A, Ball K, Salmon J, et al. Personal, family, social, and environmental correlates of active commuting to school. American journal of preventive medicine. 2006;30(1):45-51. doi:10.1016/j.amepre.2005.08.047
- Hillman CH, Pontifex MB, Raine LB, Castelli DM, Hall EE, Kramer AF. The effect of acute treadmill walking on cognitive control and academic achievement in preadolescent children. *Neuroscience*. 2009;159(3):1044-1054. doi:10.1016/j.neuroscience.2009.01.057
- 8. Lambiase MJ, Barry HM, Roemmich JN. Effect of a simulated active commute to school on cardiovascular stress reactivity. *Medicine and Science in Sports and Exercise*. 2010;42(8):1609-1616. doi:10.1249/MSS.0b013e3181d0c77b
- 9. Martínez-Gómez D, Ruiz JR, Gómez-Martínez S, et al. Active commuting to school and cognitive performance in adolescents: The AVENA study. *Archives of Pediatrics and Adolescent Medicine*. 2011;165(4):300-305. doi:10.1001/archpediatrics.2010.244
- 10. Brown B, Mackett R, Gong Y, Kitazawa K, Paskins J. Gender differences in children's pathways to independent mobility. *Children's Geographies*. 2008;6(4):385-401. doi:10.1080/14733280802338080
- Gilliland J, Maltby M, Xu X, Luginaah I, Loebach J, Shah T. Is active travel a breath of fresh air? Examining children's exposure to air pollution during the school commute. *Spatial and Spatio-temporal Epidemiology*. 2019;29:51-57. doi:10.1016/j.sste.2019.02.004
- 12. Buka I, Koranteng S, Osornio-Vargas AR. The effects of air pollution on the health of children. *Paediatrics & child health*. 2006;11(8):513-516. http://www.ncbi.nlm.nih.gov/pubmed/19030320
- 13. Buliung RN, Mitra R, Faulkner G. Active school transportation in the Greater Toronto Area, Canada: An exploration of trends in space and time (1986-2006). *Preventive Medicine*. 2009;48(6):507-512. doi:10.1016/j. ypmed.2009.03.001
- Mitra R, Buliung RN, Roorda MJ. Built Environment and School Travel Mode Choice in Toronto, Canada. Transportation Research Record: Journal of the Transportation Research Board. 2010;2156(1):150-159. doi:10.3141/2156-17
- Rothman L, Macpherson AK, Ross T, Buliung RN. The decline in active school transportation (AST): A systematic review of the factors related to AST and changes in school transport over time in North America. *Preventive Medicine*. 2018;111:314-322. doi:10.1016/j.ypmed.2017.11.018
- 16. Lee Y, Park S. Understanding of Physical Activity in Social Ecological Perspective: Application of Multilevel Model.

Frontiers in Psychology. 2021;12. doi:10.3389/fpsyg.2021.622929

- 17. Bronfenbrenner U. Ecological systems theory. In: Vasta R, ed. Six Theories of Child Development: Revised Formulations and Current Issues. Jessica Kingsley Publishers; 1992:187-249.
- 18. Pang B, Kubacki K, Rundle-Thiele S. Promoting active travel to school: A systematic review (2010-2016). BMC Public Health. 2017;17(1). doi:10.1186/s12889-017-4648-2
- 19. Sallis JF, Glanz K. The role of built environments in physical activity, eating, and obesity in childhood. *Future of Children*. 2006;16(1):89-108. doi:10.1353/foc.2006.0009
- 20. Frank L, Kerr J, Chapman J, Sallis J. Urban Form Relationships with Walk Trip Frequency and Distance among Youth. *American Journal of Health Promotion*. 2007;21(4_suppl):305-311. doi:10.4278/0890-1171-21.4s.305
- 21. Wilson K, Clark AF, Gilliland JA. Understanding child and parent perceptions of barriers influencing children's active school travel. *BMC Public Health*. 2018;18(1):1053. doi:10.1186/s12889-018-5874-y
- 22. Ikeda E, Stewart T, Garrett N, et al. Built environment associates of active school travel in New Zealand children and youth: A systematic meta-analysis using individual participant data. *Journal of Transport & Health*. 2018;9:117-131. doi:10.1016/j.jth.2018.04.007
- 23. Pont K, Ziviani J, Wadley D, Bennett S, Abbott R. Environmental correlates of children's active transportation: A systematic literature review. *Health and Place*. 2009;15(3):849-862. doi:10.1016/j.healthplace.2009.02.002
- 24. Ziviani J, Scott J, Wadley D. Walking to school: Incidental physical activity in the daily occupations of Australian children. *Occupational Therapy International*. 2004;11(1):1-11. doi:10.1002/oti.193
- 25. Trapp GS, Giles-Corti B, Christian HE, et al. On your bike! a cross-sectional study of the individual, social and environmental correlates of cycling to school. International *Journal of Behavioral Nutrition and Physical Activity*. 2011;8(1):123. doi:10.1186/1479-5868-8-123
- 26. Lee C, Zhu X, Yoon J, Varni JW. Beyond distance: Children's school travel mode choice. *Annals of Behavioral Medicine*. 2013;45(SUPPL.1). doi:10.1007/s12160-012-9432-z
- 27. Zhu X, Arch B, Lee C. Personal, Social, and Environmental Correlates of Walking to School Behaviors: Case Study in Austin, Texas. *The Scientific World JOURNAL*. 2008;8:859-872. doi:10.1100/tsw.2008.63
- 28. Silva KS, Vasques DG, Martins C de O, Williams LA, Lopes AS. Active Commuting: Prevalence, Barriers, and Associated Variables. *Journal of Physical Activity and Health*. 2011;8(6):750-757. doi:10.1123/jpah.8.6.750
- 29. Salmon J, Salmon L, Crawford DA, Hume C, Timperio A. Associations Among Individual, Social, and Environmental Barriers and Children's Walking or Cycling to School. *The Science of Health Promotion*. 2007;22(2):107-113.
- 30. Vlaar J, Brussoni M, Janssen I, Mâsse LC. Roaming the neighbourhood: Influences of independent mobility parenting practices and parental perceived environment on children's territorial range. *International Journal of Environmental Research and Public Health*. 2019;16(17). doi:10.3390/ijerph16173129
- 31. Wilson EJ, Marshall J, Wilson R, Krizek KJ. By foot, bus or car: Children's school travel and school choice policy. Environment and Planning A. 2010;42(9):2168-2185. doi:10.1068/a435
- Larsen K, Gilliland J, Hess PM. Route-Based Analysis to Capture the Environmental Influences on a Child's Mode of Travel between Home and School. Annals of the Association of American Geographers. 2012;102(6):1348-1365. doi:1 0.1080/00045608.2011.627059
- 33. Panter J, Corder K, Griffin SJ, Jones AP, van Sluijs EM. Individual, socio-cultural and environmental predictors of uptake and maintenance of active commuting in children: longitudinal results from the SPEEDY study. *International Journal of Behavioral Nutrition and Physical Activity*. 2013;10(1):83. doi:10.1186/1479-5868-10-83
- 34. Rodríguez A, Vogt CA. Demographic, Environmental, Access, and Attitude Factors That Influence Walking to School by Elementary School-Aged Children. *Journal of School Health*. 2009;79(6):255-261. doi:10.1111/j.1746-1561.2009.00407.x

- 35. Trapp GSA, Giles-Corti B, Christian HE, et al. Increasing Children's Physical Activity. *Health Education & Behavior*. 2012;39(2):172-182. doi:10.1177/1090198111423272
- 36. Schlossberg M, Greene J, Phillips PP, Johnson B, Parker B. School Trips: Effects of Urban Form and Distance on Travel Mode. *Journal of the American Planning Association*. 2006;72(3):337-346. doi:10.1080/01944360608976755
- 37. Rothman L, To T, Buliung R, Macarthur C, Howard A. Influence of social and built environment features on children walking to school: An observational study. *Preventive Medicine*. 2014;60:10-15. doi:10.1016/j.ypmed.2013.12.005
- 38. Pabayo RA, Gauvin L, Barnett TA, Morency P, Nikiéma B, Séguin L. Understanding the determinants of active transportation to school among children: Evidence of environmental injustice from the Quebec longitudinal study of child development. *Health & Place.* 2012;18(2):163-171. doi:10.1016/j.healthplace.2011.08.017
- Pinkerton B, Rosu A, Janssen I, Pickett W. Active transportation safety features around schools in Canada. International Journal of Environmental Research and Public Health. 2013;10(11):5711-5725. doi:10.3390/ ijerph10115711
- 40. Carlson JA, Sallis JF, Kerr J, et al. Built environment characteristics and parent active transportation are associated with active travel to school in youth age 12-15. *British Journal of Sports Medicine*. 2014;48(22):1634-1639. doi:10.1136/bjsports-2013-093101
- 41. Rothman L, Macarthur C, To T, Buliung R, Howard A. Motor Vehicle-Pedestrian Collisions and Walking to School: The Role of the Built Environment. *Pediatrics*. 2014;133(5):1-9. doi:10.1542/peds.2013-2317
- 42. Ministry of Education. *Pupil Accommodation Review Guideline*. Government of Ontario; 2018. Accessed February 14, 2022. http://www.edu.gov.on.ca/eng/policyfunding/pupil-accommodation-review-guideline-en.pdf
- 43. Evers C, Boles S, Johnson-Shelton D, Schlossberg M, Richey D. Parent safety perceptions of child walking routes. *Journal of Transport and Health.* 2014;1(2):108-115. doi:10.1016/j.jth.2014.03.003
- 44. Complete Streets for Canada. Canada's Complete Streets Hub. The Centre for Active Transportation. Published 2022. Accessed February 14, 2022. https://www.completestreetsforcanada.ca/
- 45. Gutierrez CM, Slagle D, Figueras K, Anon A, Huggins AC, Hotz G. Crossing guard presence: Impact on active transportation and injury prevention. *Journal of Transport & Health*. 2014;1(2):116-123. doi:10.1016/j. jth.2014.01.005
- 46. Gorczynski RM, Wojcik D. Antigen presentation by murine splenic, but not hepatic, antigen-presenting cells to induce IL-2/IL-4 production from immune T cells is regulated by interactions between LFA-1/ICAM-1. *Immunology* letters. 1992;34(3):177-181. doi:10.1016/0165-2478(92)90210-f
- 47. Su JG, Jerrett M, McConnell R, et al. Factors influencing whether children walk to school. *Health and Place*. 2013;22:153-161. doi:10.1016/j.healthplace.2013.03.011
- 48. O'Loghlen S, Pickett W, Janssen I. Active Transportation Environments Surrounding Canadian Schools. *Canadian Journal of Public Health*. 2011;102(5):364-368. doi:10.1007/BF03404178
- 49. Cottrill CD, Thakuriah P (Vonu). Evaluating pedestrian crashes in areas with high low-income or minority populations. Accident Analysis & Prevention. 2010;42(6):1718-1728. doi:10.1016/j.aap.2010.04.012
- 50. Dill J, McNeil N. Four Types of Cyclists? Transportation Research Record: *Journal of the Transportation Research Board*. 2013;2387(1):129-138. doi:10.3141/2387-15
- 51. Ministry of Transportation Ontario. *Ontario Traffic Manual Book* 18. Queen's Printer for Ontario; 2021. Accessed February 14, 2022. https://ontario-traffic-council.s3.amazonaws.com/uploads/2021/11/cwug-OTM-Book-18-Oct-5-2021-Digital-final.pdf
- 52. People for Education. How the education system works in Ontario. Published 2022. https://peopleforeducation.ca/ public-education-in-ontario/
- 53. Halton Technical Stakeholders Sub-Committee. Design Guidelines for School Site and Adjacent Lands Planning. Halton

District School Board; 2011. Accessed February 14, 2022. http://ontarioactiveschooltravel.ca/wp-content/uploads/2017/08/Design-Guidelines-School-Site-Halton.pdf

- 54. Ulla S. Importance of Policies in School Education Ecosystem. Published 2018. https://www.linkedin.com/pulse/ importance-policies-school-education-ecosystem-sami-ulla-m/
- 55. Vitale M, Millward H, Spinney J. School siting and mode choices for school travel: Rural–urban contrasts in Halifax, Nova Scotia, Canada. *Case Studies on Transport Policy*. 2019;7(1):64-72. doi:10.1016/j.cstp.2018.11.008
- 56. Duncan S, White K, Mavoa S, Stewart T, Hinckson E, Schofield G. Active Transport, Physical Activity, and Distance Between Home and School in Children and Adolescents. *Journal of Physical Activity and Health*. 2016;13(4):447-453. doi:10.1123/jpah.2015-0054
- 57. Ermagun A, Samimi A. Mode choice and travel distance joint models in school trips. *Transportation*. 2018;45(6):1755-1781. doi:10.1007/s11116-017-9794-y
- 58. York Region. *Designing for Active Transportation: York Region School Sites Design Guidelines.*; 2017. Accessed February 14, 2022. https://www.york.ca/wps/wcm/connect/yorkpublic/a4922891-fbf0-464f-b6d5-4b1c69b692d9/York-Region-School-Sites-Design-Guidelines-2017-11-16.pdf
- 59. Tsai J, Miller M. Integrated Planning for School and Community. Transportation Research Record: *Journal of the Transportation Research Board*. 2005;1922(1):111-117. doi:10.1177/0361198105192200115
- 60. McDonald NC. School Siting. *Journal of the American Planning Association*. 2010;76(2):184-198. doi:10.1080/01944361003595991
- 61. Deka D, von Hagen LA. The Evolution of School Siting and Its Implications for Active Transportation in New Jersey. International Journal of Sustainable Transportation. 2015;9(8):602-611. doi:10.1080/15568318.2013.847130
- 62. Broom N, Anderson E, Caristo V, et al. *Essentials of Bike Parking*.; 2015. Accessed February 14, 2022. https://www.apbp.org/assets/docs/EssentialsofBikeParking_FINA.pdf
- 63. City of Hamilton. Parking Near Schools. Published 2020. https://www.hamilton.ca/streets-transportation/tickets-parking/parking-near-schools
- 64. ELMO Active & Safe Routes to School. Kiss and Ride. Published 2021. Accessed February 14, 2022. http://www.activesaferoutes.ca/kiss-and-ride/
- 65. Rothman L, Buliung R, Howard A, Macarthur C, Macpherson A. The school environment and student car drop-off at elementary schools. *Travel Behaviour and Society*. 2017;9:50-57. doi:10.1016/j.tbs.2017.03.001
- 66. ParticipACTION. Are We Driving Our Kids to Unhealthy Habits? Report Card on Physical Activity for Children and Youth. Published online 2013. Accessed February 14, 2022. https://participaction.cdn.prismic.io/ participaction%2F5f01dc16-de46-4fb3-ba1d-c340a8ef9e32_participaction-2013-report-card-unhealthy-habits-full. pdf
- 67. Waygood E, Taniguchi A, Craig-St-Louis C. International Origins of Walking School Buses and Child Fatalities in Japan and Canada. *Traffic Science Society of Osaka*. 2015;46(2):30-42. doi:http://hdl.handle.net/20.500.11794/1888
- 68. Heydari S, Miranda-Moreno L, Hickford AJ. On the causal effect of proximity to school on pedestrian safety at signalized intersections: A heterogeneous endogenous econometric model. *Analytic Methods in Accident Research*. 2020;26. doi:https://doi.org/10.1016/j.amar.2020.100115
- 69. Underwood RT. *Traffic Management: An Introduction*. Hargreen Publisher; 1990. https://definitions.uslegal.com/t/ traffic-management-plan-tmp/
- 70. Monteiro J, Atkinson B. School Bus Transportation in Canada. *Canadian Transportation Research Forum*. 2012;7(10):1-15.
- 71. Ministry of Education. Discussion paper on a new vision for student transportation in Ontario. Published online 2017. Accessed February 14, 2022. https://files.ontario.ca/student-transportation-en.pdf

- 72. Auditor General of Ontario. Section 3.13: Student Transportation. In: 2015 Annual Report of the Office of the Auditor General of Ontario. Government of Ontario; 2015:506-538.
- 73. Gristy C. Journeys to school in rural places: Engaging with the troubles through assemblages. *Journal of Rural Studies*. 2019;72:286-292. doi:10.1016/j.jrurstud.2019.10.016
- 74. Burnier C. Children's activities and school travel: A tour based analysis of the influence of children's out-of-home activities on the choice of school travel patterns. Published online 2014.
- 75. Green Communities Canada. The Canadian STP Toolkit: Guide for Facilitators. Published 2018. Accessed February 14, 2022. https://ontarioactiveschooltravel.ca/wp-content/uploads/2018/05/Guide-for-Facilitators-STP-Toolkit-May-2018-En-1.pdf
- 76. School Bus Ontario. Operational Policies and Procedures. School Bus Ontario. Published 2020. https:// schoolbusontario.ca/operational-policies-and-procedures/
- 77. Northwestern Ontario Student Services Consortium. Frequently Asked Questions. Published 2021. https://www.nwobus.ca/frequently-asked-questions/
- 78. Ministry of Transportation. School bus safety. Published 2020. https://www.ontario.ca/page/school-bus-safety
- 79. Buttazzoni AN, Kesteren ES van, Shah TI, Gilliland JA. Active School Travel Intervention Methodologies in North America: A Systematic Review. *American Journal of Preventive Medicine*. 2018;55(1):115-124. doi:10.1016/j. amepre.2018.04.007
- 80. Mammen G, Faulkner G, Buliung R, Lay J. Understanding the drive to escort: A cross-sectional analysis examining parental attitudes towards children's school travel and independent mobility. *BMC Public Health*. 2012;12(1). doi:10.1186/1471-2458-12-862
- 81. Hinckson E. Perceived challenges and facilitators of active travel following implementation of the School Travel-Plan programme in New Zealand children and adolescents. *Journal of Transport & Health*. 2016;3(3):321-325. doi:10.1016/J.JTH.2016.05.126
- 82. Buttazzoni AN, Coen SE, Gilliland JA. Supporting active school travel: A qualitative analysis of implementing a regional safe routes to school program. *Social Science & Medicine*. 2018;212:181-190. doi:10.1016/j. socscimed.2018.07.032
- 83. Mammen G, Stone MR, Buliung R, Faulkner G. School travel planning in Canada: Identifying child, family, and schoollevel characteristics associated with travel mode shift from driving to active school travel. *Journal of Transport & Health.* 2014;1(4):288-294. doi:10.1016/j.jth.2014.09.004
- 84. Buliung R, Faulkner G, Beesley T, Kennedy J. School travel planning: mobilizing school and community resources to encourage active school transportation. *Journal of School Health*. 2011;81(11):704-712.
- 85. Hinckson EA, Badland HM. School travel plans: Preliminary evidence for changing school-related travel patterns in elementary school children. *American Journal of Health Promotion*. 2011;25(6):368-371. doi:10.4278/ajhp.090706-ARB-217
- 86. Buttazzoni AN, Clark AF, Seabrook JA, Gilliland JA. Promoting active school travel in elementary schools: A regional case study of the school travel planning intervention. *Journal of Transport and Health*. 2019;12:206-219. doi:10.1016/j.jth.2019.01.007
- 87. Villa-González E, Barranco-Ruiz Y, Evenson KR, Chillón P. Systematic review of interventions for promoting active school transport. *Preventive Medicine*. 2018;111:115-134. doi:10.1016/j.ypmed.2018.02.010
- 88. Sayers SP, Lemaster JW, Thomas IM, Petroski GF, Ge B. Bike, walk, and wheel: A way of life in Columbia, Missouri, revisited. *American Journal of Preventive Medicine*. 2012;43(5 SUPPL.4). doi:10.1016/j.amepre.2012.07.006
- 89. Bovis SE, Harden T, Hotz G. Pilot Study: A Pediatric Pedestrian Safety Curriculum for Preschool Children. *Journal of Trauma Nursing*. 2016;23(5):247-256. doi:10.1097/JTN.00000000000228

- 90. ELMO Active & Safe Routes to School. School Travel Planning. Published 2020. Accessed February 14, 2022. http://activesaferoutes.ca/school-travel-plans/
- 91. City of Brampton. Brampton School Traffic Safety Council. Published 2013. https://www.brampton.ca/EN/City-Hall/ Council-Committees/Pages/Brampton-School-Traffic-Safety-Council.aspx
- 92. Region of Peel. Sustainable Transportation Strategy. Published 2018. Accessed February 14, 2022. https://www.peelregion.ca/pw/transportation/residents/sustainable-transportation-strategy.asp



Active School Travel (AST): Any form of human-powered transportation, including but not limited to walking, cycling, skateboarding, rollerblading, etc.

Built Environment: Human-made surroundings that provide the setting for human activity including land use patterns, transportation systems, and urban design.

Complete Streets: Streets designed for all ages, abilities, and modes of travel. Providing safe and comfortable access for pedestrians, bicycles, transit users and the mobility-impaired is an integral planning feature and not an afterthought.

Master Plan: A document that identifies specific facilities, services and policies that a municipality will implement to serve the current and future population. It sets direction for a municipality's day-to-day programs and provides a basis for budget planning that is consistent with the growth management policies of the municipalities' official plan. Examples of a Master Plan include Transportation Master Plan, Active Transportation Master Plan, Parks and Recreation Master Plan, among others.

Official Plan: A legal document prepared with input from members and organizations of the community, that helps to ensure future planning and development will meet the specific needs of the community. Planning Act: Provincial legislation and a legal document that sets out the ground rules for land use planning in Ontario, describes how land uses may be controlled, and who may control them.

Protected Cycling Lane: A bike lane with concrete medians and planters, bicycle parking corrals, or vehicle parking lanes that divide them from vehicle traffic.

Provincial Policy Statement: A key component of Ontario's land use planning system, as it provides direction on matters of provincial interest related to land use planning and development, and guides the provincial "policy-led" planning system.

Public Health: All organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole. Its activities aim to provide conditions in which people can be healthy and focus on entire populations, not on individual patients or diseases.

Road Safety: A set of methods and measures used to reduce the risk of a person being killed or injured using the road network, including pedestrians, cyclists, motorists, and their passengers.

ΔΡ					Level of Policy											
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Ref #	Recommendation	Province	Municipality	School Board	Provincial Policy Statement	The Planning Act	Highway Traffic Act	Ministry of Education	Official Plan	Secondary Plan	Bylaw	Board Policy	Transportation Consortia Policy	School Policy		
SECTIO	ECTION A. PLANNING															
A.1	Planning for Sustainability															
A.1.1	Develop a Sustainable Transportation Strategy to establish an action plan to significantly increase the proportion of trips made by walking, cycling, transit, and carpooling to improve collaboration among the Province (i.e., Ministries of Transportation, Education, Municipal Affairs and Housing, Health & Long-Term Care), municipalities, school boards, transit providers, and non-profit organizations.	Х				х		x								
A.1.2	The Province and municipalities will work together to update the Ontario Provincial Policy Statement and Regional Transportation Plans to include stronger language and directives for active transportation, active school travel, and healthy schools.	Х			х											
A.2	Planning Active Transportation Connections															
A2.1	Develop new funding streams to increase the amount of high-quality supportive infrastructure for active transportation across Ontario.		Х			Х										
A.2.2	The Planning Act will mandate that each municipality has a Transportation Master Plan which focuses on walking, cycling, and other active modes, to outline how to support and promote active transportation in the community.	Х				х										
A.2.3	Incorporate the NACTO All Ages & Abilities design standards to build communities that are accessible to the entire population. Cycling routes and other active transportation networks should prioritise schools as key origin-destination nodes.		Х						x							

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		Prir	nary Authorit	.у	Provincial				Municipal				School Board	
Ref #	Recommendation	Province	Municipality	School Board	Provincial Policy Statement	The Planning Act	Highway Traffic Act	Ministry of Education	Official Plan	Secondary Plan	Bylaw	Board Policy	Transportation Consortia Policy	School Policy
A.2.4	 Establish a new designation of 'Active School Travel Zone' to create a framework for prioritising roads and paths that are important routes for children in a community to access their school by active modes. The Active School Travel Zone definition would tie-in with the creation of a provincial standard for the 'Active Travel Distance' (e.g., 400, 800, 1000 metres). A designated 'Active School Travel Zone' shall: Utilise traffic calming measures Prioritise walking, cycling and transit over cars Be prioritised for snow clearance Be assessed for crossing guard support needs Be prioritised for safety enhancements funded by enforcement camera revenues Have wayfinding signage and 'Drive to 5' drop-off locations Be shown on published 'Routes to School Maps' A designated 'Active School Travel Zone' shall also where possible: Have low vehicle speed limits (e.g., 30kph, 40kph) Not be a truck route 	X	X				Х		X		X			
A.3	School Location Planning (i.e., School Closures, New Schools)													
A.3.1	Prioritise keeping schools in locations with appropriate walking and biking infrastructure open, as they are important community hubs and foster increased active school travel.	Х		Х				х				Х		
A.3.2	Ensure school board decision-making around the planning for new schools and closing of existing schools has positive impacts on sustainable mobility.	Х		Х				Х				Х		

		Dri	many Authorit	7.4	Leve								
		r III	inary Authorn	.у		Prov	incial						
Ref #	Recommendation	Province	Municipality	School Board	Provincial Policy Statement	The Planning Act	Highway Traffic Act	Ministry of Education	Official Plan				
A.3.3	Establish a collaborative process for planning new schools before subdivision approval that involves developers, municipal planners, and school board planners that prioritises sustainable mobility and active transportation as key factors in site selection criteria, and that sets minimum standards for connectivity and proximity of a new school to local active transportation networks.	X		X				X					
A.3.4.	Municipalities should make central properties financially accessible to school boards for new school development in the spirit of creating rich, desirable communities with the school as a walkable, central hub.		X						x				
A.3.5	School siting decisions should be approved by the local municipality through a statutory process.	Х	Х	Х		Х		x					
A.3.6	School boards shall review their policies for capacity planning and pupil accommodation reviews to formally recognize the importance of schools to rural and single-school communities.			Х									
SECTIC	IN B. INFRASTRUCTURE												
B.1	Complete Streets												
B.1.1	Design or modify all residential streets using a Complete Streets Design Standard (e.g., Complete Livable Better Streets Design Manual, AODA requirements) to prioritise pedestrians, cyclists, and other vulnerable road users.		Х						х				
B.2.	Cycling Routes												
B.2.1	Develop a network of protected cycling lanes according to Ontario Traffic Manual Book 18 design guidelines to improve safety for vulnerable road users as they travel to and from schools, parks, and other destinations that families are likely to use.		Х						x				
B.3	Bicycle Parking												
B.3.1	Develop a municipal bicycle parking program with dedicated funding to ensure that there is sufficient bike parking around the municipality, including at parks and other municipal facilities. Ensure any new bicycle parking is designed using the Association of Pedestrian & Bicycle Professionals Bike Parking Guidelines.		Х						х				

C	of Policy				
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			X		
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Ref #	Recommendation	Province	Municipality	School Board	Provincial Policy Statement	The Planning Act	Highway Traffic Act	Ministry of Education	Official Plan	Secondary Plan	Bylaw	Board Policy	Transportation Consortia Policy	School Policy		
B.4	Street Parking															
B.4.1	Implement standardized parking and stopping restrictions in front of schools to alleviate traffic congestion and improve safety.		X								×					
B.4.2	Develop enforcement strategies to increase the compliance of no- parking / stopping by-laws.		X								X					
B.4.3	Foster collaboration between schools and municipalities in the implementation of parking programs that encourage driving families to drop-off children farther from the school, such as 'Drive to 5', 'Park & Stride', & 'Walk a Block'.		Х	X								Х				
B.4.4	Prohibit idling of motor vehicles on all streets beside school sites regardless of temperature.		X								X					
B.5.	Use of Sidewalks															
B.5.1	Allow children 13 years of age and under to bike, skateboard, scooter, & rollerblade on any sidewalk.		x								x					
B.5.2	Allow parents accompanying children 10 years of age and under to bike, skateboard, scooter, and rollerblade on any sidewalk.		x								X					
B.6	Pedestrian Infrastructure															
B.6.	Implement a sidewalk network completion program to infill sidewalks, especially (1) in Active School Travel Zones and (2) when streets are undergoing repair or replacement.		X						Х							
B.6.2	Ensure all new developments have sidewalks on both sides of the street to ensure safe school travel.		x						Х							
B.6.3	Pave paths with high pedestrian use to make them easier to use in the winter months.		X						Х							
B.6.4	Provide pedestrian lighting on paths that connect to schools to encourage walking to and from school when there is lower visibility due to darkness, fog, and shorter days.		X						х							
B.6.5	Provide snow clearing on sidewalks, multiuse paths, bike lanes, and cut throughs to ensure they are accessible year-round. Active School Travel Zones should be prioritised for snow clearing.		Х						Х							

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B.6.6	Encourage collaboration between municipalities and school boards to coordinate snow removal on shared paths for continuity of snow clearance.		Х	Х					Х			Х			
B.7	Vehicle Speed & Traffic Calming														
B.7.1	Reduce speed limits on residential streets to 40-km/h and 30-km/hr if they are within Active School Travel Zones. These lower limits should be applicable 24 hours per day and 12 months a year.		Х								х				
B.7.2	Implement traffic calming measures (e.g., narrowing streets, curb extensions, driver feedback signs) and enforcement measures (e.g. automated speed enforcement cameras, police speed monitoring and ticketing) together with ongoing speed monitoring to support adherence to the speed limit.		Х						Х						
B.7.3	Utilise revenues from automated speed enforcement cameras and red- light cameras to fund road safety infrastructure and road safety education programs.		Х								Х				
B.7.4	Restrict cars from entering streets immediately beside a school during the normal morning drop-off and afternoon pick-up times. Exceptions should be made for emergency responders, school busses, and caregivers of children with special needs or mobility limitations.		Х							Х					
B.7.5	Develop a traffic calming strategy that prioritises neighbourhoods with greater safety risks to ensure there is a clear and consistent needs- based approach to how infrastructure improvements are implemented across a municipality. Assessment using surveys, interviews, and traffic measurement should be part of this approach.		Х							Х					
B.8	School Crossings & Guards														
B.8.1	Develop a School Crossing Safety strategy through collaboration between municipalities and School Boards to ensure safety improvements and Crossing Guards are provided where needed and are prioritised towards the locations of greatest need. Review 'School Crossing Strategy' every 5 years to account for changing infrastructure and needs.	Х	Х					Х	х						

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SECTIO	ON C. SCHOOL SITES														
C.1	School Site Design														
C.1.1	Design or modify school sites to prioritise pedestrians, cyclists, and school bus services and to minimize conflict between pedestrians and vehicles.			x								x	Х		
C.1.2	Provide sufficient, accessible, and secure bike storage at all school sites in a safe, visible location using the Association of Pedestrian & Bicycle Professionals Bike Parking Guidelines.	Х		Х				X				X		x	
C.1.3	Provide safe and secure storage within school site for rollerblades, scooters, and skateboards.	Х		x				X				Х		X	
C.2	Kiss & Ride Facilities														
C.2.1	 Consider removing Kiss & Ride facilities, when and where appropriate, to discourage driving children to and from school. If this is not possible, a Kiss & Ride facility should operate as follows: Do not open until school ends to prohibit cars from arriving early and disrupting traffic flow during pick up and drop off; Are not located close to the school bus loading zones, so that they do not impede school bus operations; and Are designed and located to minimize conflict between drivers, and children walking and cycling. 	·		X								X		X	
C.2.2	Avoid installation of new of 'Kiss & Ride' facilities to discourage driving children to and from school.			X										X	
C.3	School Traffic Management														
C.3.1	Restrict vehicle access to parking lots and driveway facilities where vehicle traffic and congestion create unsafe conditions on a school site, allowing access only to: Staff, visitors (e.g., volunteer), delivery drivers; school buses; and Caregivers of children with special needs or mobility limitations.			x										x	
C.3.2	Develop a 'Traffic Management Plan' for each school, working in collaboration with the municipality to create a safer arrival and dismissal experience for students and families accessing the school site.			X								X		X	

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D. STU	DENT TRANSPORTATION SERVICES													
D.1	D.1 Redefining Student Transportation Services													
D.1.1	Define the term "Student Transportation" to be inclusive of all students, whether or not they qualify for school bus service.	Х		X								Х	X	
D.1.2	Move away from using the term 'bus eligibility' and establish new definitions for 'walk zone', 'school bus zone', and 'out of catchment zone' with all students falling into one of these three categories.			Х									Х	
D.2	School Bus Stop Location													
D.2.1	Establish provincial standards for location of school bus stops, to include maximum distance from home and measures to provide safety and comfort for children using stops.	Х						Х						
D.2.2	Design bus stops to be community stops (e.g., common location where many children get on the bus) wherever possible to encourage walking within a maximum distance. Home stops should only be utilised in areas of high-speed multi-lane roadways where safety is an issue.			Х									Х	
D.3	Walking Distance Criteria						•						•	
D.3.1	Establish provincial standards for the 'walking distance' beyond which a student qualifies for school bus transportation.	Х						Х						
D.3.2	Regularly review the criteria used to determine if bussing services are offered to students who do not live within the 'school bus zone', such as children with special needs, children attending special programs, hazards on walking routes, and courtesy bussing.			Х									Х	
D.4	Vehicles													
D.4.1	Investigate the implementation of electric / hybrid school buses and vehicles to decrease carbon emissions created from school travel and to decrease pollution children are exposed to while traveling to school.	Х						Х						

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E. Scho	ol Travel Planning														
E.1	Funding & Partnerships														
E.1.1	Support every school to develop and implement a School Travel Plan identifying actions to increase children's active travel to and from school. A bi-annual review of the plan by School Council, administration, and a student group (e.g., junior / intermediate class, eco-club, healthy schools) should be completed.			X				X				Х		X	
E.1.2	Foster interdisciplinary collaboration and funding (e.g., school board, school transportation consortia, municipality, public health, law enforcement, post-secondary education, non-profit organizations) to support school travel planning programming.		Х	Х				X				Х	Х	x	
E.1.3	Encourage partnerships/collaborations between municipalities and School Boards in a community (e.g., Active School Travel Charter) to ensure they work together on common goals to support active school travel and school travel planning.		Х	x							X	Х			
E.1.4	Encourage the Ministry of Education to work with the Ministry of Transportation and Ministry of Municipal Affairs & Housing to develop curriculum to educate students on road safety.	Х						X							
E.2	Education & Encouragement				-		-								
E.2.1	Develop and / or implement pedestrian and cycling skills training so that all students gain a basic competency in these important life skills.		X	x											
E.2.2	Require all schools to participate in the Eco-Schools Program so that students gain an understanding of environmental stewardship and the benefits of active school travel.	Х		x				X				Х			
E.2.3	Develop school board-wide encouragement and education campaigns to promote active school travel.			X								Х			
E.2.4	Build capacity in each school to allow for a dedicated staff to lead promotion and education around active school travel.	Х		X								Х		Х	
E.2.5	Prioritise cycling programs and initiatives, including education for other road users about cycling policies and infrastructure.		Х	X										X	

			Primary Authority			Level of Policy									
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E.2.6	 Foster collaboration between municipalities and public health units (and provincial ministries) to develop a holistic strategy to educate drivers and other road users about road safety. Key elements of these strategies should: Provide funding for road safety education that includes experiential learning. Utilise community events to educate young people, school age children and their parents about road safety. Instill social responsibility to minimize risk of harm to others by risk-takers' behaviours. Consider implementing student leadership programs (e.g., CAA 'School Safety Patrol' program, Trailblazer Program) that provide an opportunity for older students to model positive road safety behaviours. Leverage partners to share consistent educational messaging broadly throughout the community 		X						X						