

# An Active School Transportation Plan for Alberta

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In recent decades, childhood overweight and obesity has emerged as a significant challenge for public health in Canada (1, 2). Unhealthy weights put children at an increased risk for premature onset of chronic conditions, such as high blood pressure, musculoskeletal disorders, type 2 diabetes, heart disease, stroke, and cancer, as well as weight gain into adulthood (1-3). The economic impact of obesity on healthcare spending and loss of workforce productivity is also substantial, with estimated direct and indirect costs totaling between \$4.6 and \$7.1 billion annually (1).

Inactive, sedentary lifestyles are a risk factor for unhealthy weights. Within Canada, only 9% of 5-17 year olds meet recommended daily physical activity levels (4). This can be attributed, in part, to physical and social environments that fail to support active living (5). Given the large amount of time children spend at school, school communities have an important role to play in addressing physical inactivity (6). Exposing students to active and healthy school environments can help to foster health-enhancing behaviors, which have the potential to carry on into adulthood (7).

Comprehensive school health is an internationally recognized model that recommends taking a holistic approach to student wellbeing, where positive health behaviours are encouraged both in and beyond the classroom setting (8). One component of a comprehensive approach is promoting physical activity through active school transportation (AST) (8). Research suggests that when children participate in AST, such as walking or riding a bicycle to school, they incorporate physical activity into their daily routine and achieve higher activity levels than those who travel by vehicle (9-12). Despite the benefits, relatively few children consistently engage in active travel modes. In fact, self-report data demonstrates that only 25% of Canadian students aged 5-17 actively commute, while 58% rely on inactive transportation (13).

An array of determinants influence decisions to be physically active (14). In the context of AST, common barriers to physical activity can be viewed through a social-ecological lens (15-17). Individual level factors, including the age, gender, and socioeconomic status of a child, parent schedules, and perceptions of AST, all play a role in influencing behaviours (17-25). At the school level, school location and openness of staff to get on board with AST initiatives can further impact transportation mode (17, 26). Finally, the built environment, including distance from school and other aesthetic/design factors, alongside wider community policies that impact school siting decisions and catchment areas, may affect AST decision-making (16-22, 24, 25). Evidently, to overcome challenges and ensure success, an AST strategy must target multiple levels. Although programs and initiatives currently exist in Alberta, they are often voluntary or adhoc in nature, impacting the effectiveness and reach of such programs.

## Promoting Active School Transport (AST):

A comprehensive approach is required to improve AST rates in Alberta. At the individual and school level, it is necessary to shift attitudes, beliefs and culture around transportation. Currently, we live in a “car-centered” society that emphasizes the convenience of motorized vehicle use (25). Decisions around whether to drive to school or take AST are influenced by parental values around the benefits of AST (18), as well as scheduling and trip chaining factors (e.g. planning school drop-offs alongside work schedules or dropping children off at more than one school) (23-25). Parental decision-making is further influenced by safety concerns, such as traffic and child maturity and ability to travel safely (24). Notably, parents who regularly drive to school have reported that they would permit walking if their child was not alone or if traffic danger was reduced (23). To promote AST, it is therefore worthwhile to address environmental safety concerns and knowledge gaps (27), while developing travel skills. At the wider environmental level, AST should be supported by the development and cultivation of physical surroundings that are conducive to active living choices. In this regard, factors characteristic of a walkable neighbourhood are positively associated with children walking to school (20).

## The School Travel Planning Model:

Active and Safe Routes to School Canada has developed a School Travel Planning (STP) model, based off of international best practice (28). The approach emphasizes community engagement and inter-sectoral collaboration among school-based champions and community-level professionals, for the purpose of identifying and overcoming active transportation barriers in elementary schools (23, 29).

Although the STP model encourages context-specific action plans, efforts can be categorized into common themes. Within schools, initiatives often span educational initiatives and promotional activities (e.g. Walking Wednesdays) (21, 23, 29). Moreover, to address environmental and safety concerns, infrastructure improvements are often made within school vicinities (e.g. installing four-way stops, removing physical barriers, repairing walkways, increasing school zone signage), alongside the enactment of enforcement measures to ensure adherence to traffic and parking laws (23, 29).

Research has demonstrated STP's potential for altering school transportation habits (21, 23). However, studies have identified challenges related to this approach, such as lack of resources and time constraints (15, 17, 23). With this in mind, top-down support is required to assist school communities in STP's implementation, recognizing that schools have different assets and needs regarding AST.

## Benefits to Action:

- Active transportation is a mechanism for increasing physical activity. Alongside improved fitness, health, and reduced likelihood of disease onset, physical activity has been positively associated with enhanced academic performance and psychological well-being in children (30).
- Active transportation promotes a cleaner and more sustainable society through decreasing vehicle use and emissions (31-33). Importantly, AST can help improve air quality around school zones, where vehicle accumulation and idling during peak hours leads to increased air pollution (34). In addition, establishing active transportation networks can reduce traffic speed and congestion, plus improve walkability of streets, thus helping to mitigate public safety concerns (31).
- Using the STP model to promote community action and collaboration around transportation barriers has the potential to yield many benefits. For starters, establishing a multidisciplinary STP committee can generate an increased ability to problem solve and lead to increased project coordination to avoid duplication (15). Involving practitioners outside the school may also generate movement support and credibility across the community (15). Finally, it alleviates school staff from having to shoulder full responsibility for school AST (15).

## Considerations:

In the realm of school physical activity, Alberta is considered a policy innovator (35). In 2005, the Daily Physical Activity (DPA) policy was adopted to ensure that students receive a minimum of 30 minutes of physical activity per day (36). Although it sets out very important objectives, implementation of the policy has been met with challenges (36). For example, in a culture that prioritizes academic achievement, DPA can be difficult to attain when it is not scheduled beyond PE class (35). In that regard, AST may better enable school communities to achieve DPA goals by encouraging physical activity during student commute time.

Cost-benefit analyses (CBA) show that implementation of the STP model is cost-effective in Canada (37, 38). A CBA provides an overall ratio, which represents the amount of benefits returned for each dollar invested (38). A recent CBA study from Canada yielded a ratio of 2.4, with hypothetical 3 and 5-year implementation periods receiving ratios of 4.5 and 6.3, respectively (38). This highlights the fact that benefits of AST are likely to accrue over time.

Certain populations may experience greater barriers to AST. For example, students attending rural schools experience barriers, such as distance, lack of adequate sidewalks or bicycle lanes, and schools located by high-speed roads (21, 26,

39). Despite this, the STP model has shown an ability to alter AST behaviours in areas that contain rural environments (38). More specifically, the STP approach allows for adaptations to common AST strategies to best suit the school context at hand. For instance, rural solutions may entail variations of a walking school bus, such as remote drop-offs and walk to school bus stops (40). In addition, high school students may be at a disadvantage when it comes to AST, as they are more likely to live farther from their school site than elementary school students (20). Encouragingly, the STP model has been recently adapted to high school settings, with a greater focus on student engagement and leadership (41).

Further of note, a recent survey of the Alberta public and policy influencers demonstrates support for action surrounding the provision of AST programs (42). Of survey respondents, 94% of policy influencers and 96% of the general public indicated that they would “somewhat” or “strongly” support programs that encourage walking or biking to school (42). The majority of respondents also support broader policies that promote active transportation in the wider community (42).

Finally, in 2016, a private member’s bill was introduced that called for all schools to implement and maintain a policy that promotes active transportation (43). Although the bill died in the legislature, it helped generate important discussion and bring the issue of AST onto the public agenda. Future advocacy should highlight the need for a more comprehensive policy that sets out specific objectives and action required by schools, communities and other relevant stakeholders.

### **APCCP Priorities for Action:**

- Advocate for a comprehensive, provincial Active School Transportation plan in Alberta, which includes uptake of the School Travel Planning model.

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