

Report on the Active and Safe Routes to School Pilot Project Between the Region of Halton and The Halton District School Board

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<http://www.halton.ca/cms/one.aspx?portalId=8310&pageId=10756>



Abstract:

The Twentieth Century saw a cultural shift. Lifestyles became more sedentary and driving replaced walking as the cultural norm. In a report released in 2008 by the Public Health Agency of Canada, only 37% of boys and 34% of girls in grade six were physically active five days or more over a typical week, for a total of at least 60 minutes a day. When reviewing the 7-day figures, the increases are minimal (42% boys and 37% girls). These same grade six students were reported to spend their time by watching TV (26% both boys and girls), doing homework (56% for boys and 61% for girls), and spending one or more hours a day playing on the computer (56% of boys and 51% of girls). (Boyce 2004: 78-82) These are sobering statistics; our children are not meeting the daily levels of physical activity recommended by Health Canada (90 minutes a day). (Public Health Agency of Canada 2002: <http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/pag-gap/cy-ej/pdf/guide-k-eng.pdf>)

At the same time, reports on the need to improve air quality in Southern Ontario have been prevalent in the media. Links to negative health effects from poor air quality are well substantiated. Air modelling and air monitoring studies have revealed that cars and trucks are one of the main contributors. Due to the increase in car ownership, increasing reliance on cars, and increasing distances travelled, vehicle-related emissions continue to be a serious concern for human health, especially for children. (Nosal 2007: 3,10,18)

During the year of 2008 (January-December), in Halton Region, Ontario, Canada (42km outside of Toronto) eight schools from across the Region implemented the Active and Safe Routes to School Program. Active and Safe Routes to School (ASRTS) is a national initiative that strives to create an environment that is conducive to, and supportive of, safe, walkable communities

The pilot project plan contained six deliverables and drew on the expertise and collaboration of a number of sectors.

After only four months of implementation, the following happened:

- 4 of the 8 schools (50%) increased their walking behaviour beyond baseline rates
- 5 of the 8 schools (63%) maintained their rates of walking behaviour over a two-month period
- in 7 of the 8 schools, 49%-64% of students continued to walk in December despite the change in weather
- in one school, 100% of its "eligible-to-walk" population maintained walking behaviour over the four-month period
- in one school, some of the students designated for the school bus opted to walk to school instead

The project produced, 19 lessons learned and 23 recommendations and evaluation results (student and parent surveys) on parental barriers and enablers toward active transportation.

In September 2009, the School Board adopted an active transport philosophy, expanding the program to 20 schools and seconding the Health Promoter as a Project Manager to oversee the work. In January 2010, the Halton Catholic District School Board joined the project adding five schools.

For the first time in Canada, a school board has taken the lead in addressing student active transportation (walking and biking) by creating this in-house position.

Author Biographies

Jennifer Jenkins RN BSc.N has been nursing for 26 years in acute, chronic care and public health settings. For last five years she has worked as a Health Promoter in the areas of substance abuse prevention and physical activity promotion. She obtained her Certificate in Project Management from Humber College in 2008.

Joanna Oliver obtained her M.Sc. in Community Health and Epidemiology from Queen's University Canada. Joanna has worked at the provincial and regional levels as a project coordinator; special projects consultant and later an Epidemiologist/Health Planner with a regional Health Council. Since 2006, Joanna has been employed by the Halton Region Health Department.

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“Active & Safe Routes to School promotes the use of active and efficient transportation for the daily trip to school, addressing health and traffic safety issues while taking action on air pollution and climate change.” Green Communities (ASRTS promoter and champion)

This nationally implemented, evidence based program has been around since 1997. It is comprised of eight initiatives (description of the initiatives can be found in project definitions):

- Walking School Bus
- Walking Wednesdays
- International Walk to School Day/Week
- Classroom Mapping
- Walk a Block
- Neighbourhood Walkabout
- Walking Buddies
- No Idling at school

The goals of the Active and Safe Routes to School Program are:

- Mitigate parent vehicular traffic at the school site (less parents driving)
- Improve air quality at the school site (less car emissions)
- Create safe walking routes to school (proper infrastructure in place)
- Increase the physical activity levels of youth by having them walk, bike or wheel (roller-blades, skateboards, scooters) to school instead of arriving in their parent’s cars

In January 2008, Halton Region and the Halton District School Board began a one-year pilot project to assess the effectiveness of the Active and Safe Routes to School program in getting children to walk to school. Overseeing the program was the ASRTS Steering Committee.

Eight schools were selected by the ASRTS Steering Committee to participate in the pilot project. Four of the schools were elementary (JK–5), two were middle schools (Grades 6, 7 and 8), and two were JK–8. All were in different parts of Halton Region (Burlington, Georgetown, Halton Hills, and Milton areas), six being in more suburban communities and two in rural.

In the fall of 2008, the schools began implementation of the program. From September to December they ran Walking School Buses, promoted Walking Wednesdays and implemented other ASRTS initiatives. A parent survey and monthly student surveys took place culminating in December. The data was collected and data analysis started in January of 2009.

Project Execution:

The main deliverables of the project were

1. Identification of eight pilot schools
2. Kick-off Forum for involved pilot schools
3. Walkabouts at each school to assess their chosen walking route
4. Evaluation of the pilot
5. Communication about the project in the media

Once the pilot schools were selected, a Kick-off Forum was held. Following the Kick-off Forum, walkabout dates were identified for each school. Each school chose their own walking route(s). Two types of maps were used to choose the walking routes. The first was an aerial map of the neighbourhood streets surrounding the school and the other was a student density map, which plotted the location of the students living 1.6 km from the school.

Relevant stakeholders came together to develop school specific action plans for their identified walking route(s). Activities in these action plans included such things as; improvements in infrastructure, additions to snow clearing operations, crossing guard warrants, education programs, supports in the schools, purchasing and movement of bicycle racks, development of paved walking pathways into the schoolyard, and ward/school newsletter submissions.

An evaluation scope was developed along with a communication plan.

Project Evaluation

In this pilot project, the following methods were used to collect data:

- Student survey to assess the attainment of pilot goals and objectives
- Parent survey to identify parental enablers and barriers to student active transport

Purpose of the Evaluation: To evaluate the effectiveness of the ASRTS program in getting children who live within 1.6 km walking distance (i.e., 'eligible to walk' boundary) to walk to school.

Objectives of the Evaluation:

- To assess change in walking behaviour among students in "the eligible to walk" boundary of the eight pilot schools, during the implementation phase of the project September to December 2008
- To assess the relationship between student walking behaviour and the school' implemented ASRTS program initiatives
- To assess parent's perceptions of barriers to allowing their children to walk to school

Student Survey

Method

The eight ASRTS pilot schools participated in a 'Student Survey' to record the number of students arriving to school by active transport. The survey was conducted for one week each month, during the same week in each of the eight schools (first in June, then between September and December). The number of students in the class arriving by active transport was compared with the number of students who lived within the 'eligible to walk' boundary.

Teachers recorded the number of students who arrived to school by the following modes of transportation: walking, biking, walking part-way, other ways of 'active transport' (e.g., skateboards), or non-active transport modes such as by car, by carpool or by school bus. This was done by a show of hands. For the numbers arriving by active transport, teachers were not able to distinguish between students who were eligible to walk to school and those who were not. We therefore made the assumption that all those students who arrived by active transport were in fact eligible to walk. The weather conditions ('sunny', 'cloudy', or 'rainy') were also recorded each day.

The timing of various school-specific ASRTS programs was recorded so that any changes in active transport of the students could be understood in relation to the programming. Comparisons were made within the school and between the pilot schools, but no comparisons were possible with schools not involved in the ASRTS pilot.

Results and Discussion

Figure 1 shows the proportion of students arriving to school by active transport, by school and by month. Each school was assigned an identification number to ensure its anonymity. Instances where proportions are above 100% indicate that all students identified as eligible to walk, plus some others (i.e., those not identified as eligible to walk) arrived to school by active transport. Some schools lack data for some months.

The student survey data collected in June was collected as baseline data before the main programming for ASRTS began. However, the grade levels and students for whom June data were collected are different from those students who participated in the student surveys conducted from September to December. Moreover, some schools chose to begin implementing ASRTS activities in spring, particularly school #1. For this school, the June data can no longer be considered as baseline data. This school had the highest active participation rates for June, possibly because of the programming.

School #5 had the highest percent of students arriving by active transport in September. Interestingly school #1, with the spring ASRTS programming, was a 'feeder school' for school #5. Specifically, about a third of the students who arrived in school #5 from three junior elementary schools arrived from school #1. It may be that the spring programming impacted positively on their active transport behaviours and that this impact was carried over in the fall when they transferred schools.

Weather is an important factor influencing active transport and it is not surprising that there was a general gradual decline in active transport from September to December. However school #8

was able to maintain an active transport level close to 100% even in December. This school may have very motivated students, or the physical environment around the school may be particularly conducive to active transport, or the success may be attributable to the extensive ASRTS programming in this school. During the month of September school #8 had weekly theme-based walking days, promotional items were distributed, and various incentives and prize initiatives were organized. October continued with the weekly theme-based days, implementation of 'International Walk to School Week' and prize draws. November and December continued with the weekly theme-based walking days and prize draws. School #8 had a teacher champion, which likely contributed to the success of this initiative. In addition, signs were posted around the surrounding neighbourhoods to mark the walking routes. Also, representatives of the school (students, staff and parents) were interviewed by a local TV station about the ASRTS program, further raising awareness among parents and the community.

School #5, already noted for the particularly high rate of active transport in September, also managed to maintain high rates throughout November, although active transport declined in December, along with programming terminating the first week of December (please note survey week in December was the 15th to the 19th). This school held weekly walking days and had weekly announcements, participated in a couple of theme-based walking activities and promoted the ASRTS program through the school newsletter.

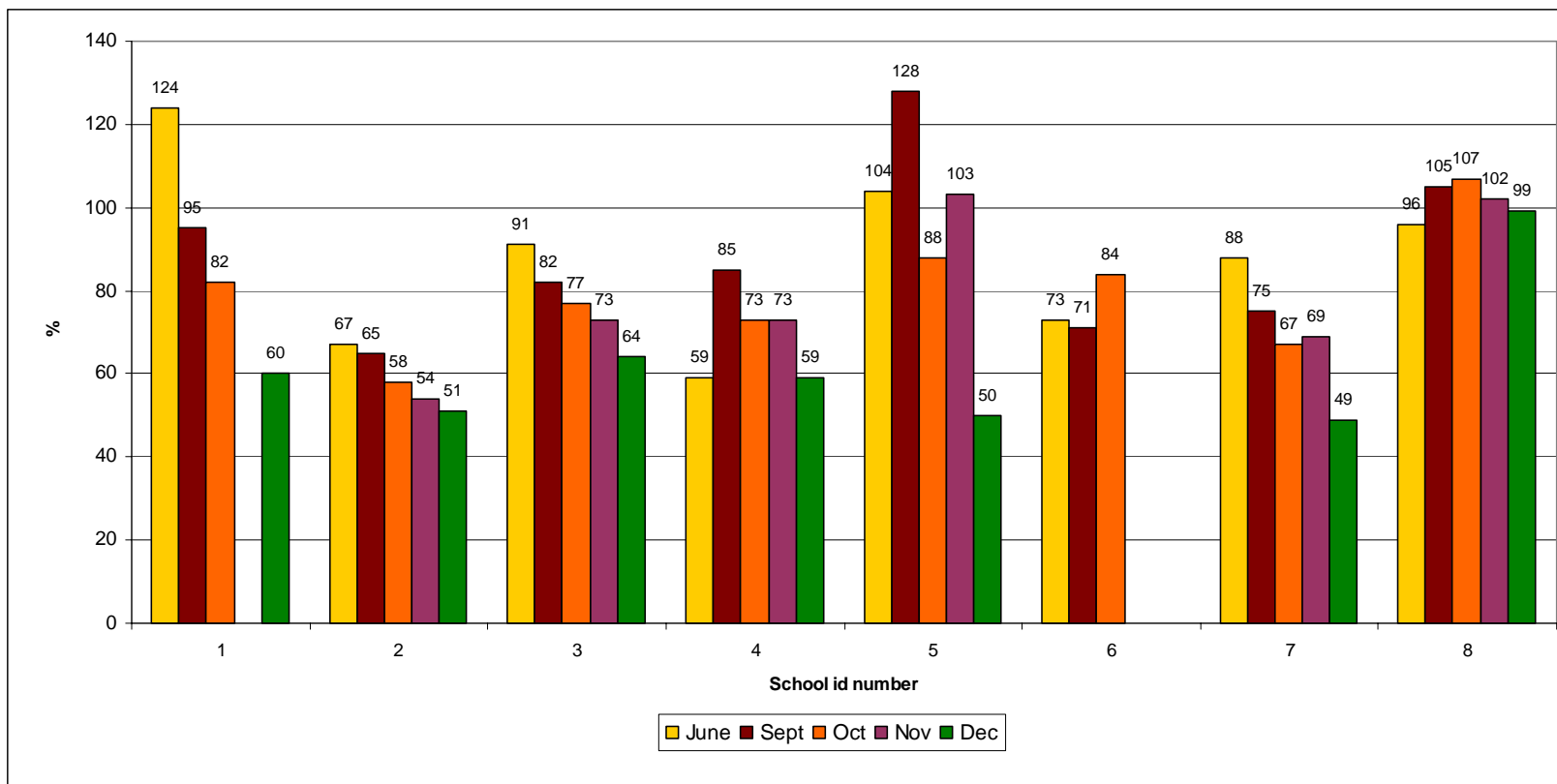


Figure 1: The percent of students identified as 'eligible to walk' arriving to school by active transport, June baseline and autumn survey months, all participating schools, 2008.

Note: proportions above 100% indicate that all those students identified as 'eligible to walk', plus some others (i.e., those not identified as eligible to walk) arrived to school by active transport.

November data were missing for two schools (schools #1 and #6). Of the remaining six schools, five maintained rates of active transport above 60% (3, 4, 5, 7, 8) including the two schools already mentioned where November rates exceeded 100% (5, 8). In December, despite the declining weather, approximately half the eligible students were still using active transport in each of the schools. Since there were no control schools we do not know to what extent this result can be attributed to the programming.

Unlike other schools, school #6 had higher rates in October than September (not statistically significant). Interestingly, a policy change was made before the October Survey to allow students to skateboard to school. No further data was submitted.

The results show that weather has an important influence on active transport, but active transport does not necessarily have to dramatically decline with the weather during the fall if there are sufficient supports (e.g., ASRTS champion, walking school buses, promotion and events) and motivation for active transport, as seen in school #8 and to a lesser degree in some of the other schools that participated.

Detailed results, by grade, for each school have been provided back to the participating schools along with a detailed summary of the ASRTS activities.

The results support that the Active and Safe Routes to School program may have had a positive impact on active transport behaviours in students 'eligible to walk' by influencing those who did not previously use active transport to do so and by encouraging those who did walk or bike to school to continue to use various modes of active transport throughout the term.

Key Findings:

- Older students more likely to walk
- Schools with intense programming were more successful
- A school champion was a key element for success

Parent Survey

Parents of children in the eight ASRTS pilot schools, in grades 3, 5 and 6, were selected for the Parent Survey if their child was identified as 'eligible to walk'. Students took the surveys home to their parents and were asked to return the completed surveys back to their teacher within one week. Of the 934 surveys distributed, 432 surveys were returned, resulting in a 46% response rate.

One hundred and thirty-nine (32%) of the parents had children in Grade 3, 122 (28%) in Grade 5, and 171 (40%) had children in Grade 6. Boys represented 53% of these students and girls 47%.

We were also interested in how close to the school the child lived within the 1.6 km walking boundary. Overall, 205 (48%) of the parents indicated that their children lived less than 0.5 km from the school. One hundred and forty-six (34%) indicated that their children lived 0.5 to less than 1 km from the school and 71 (17%) indicated that their children lived between 1 and 1.6

km from the school. There was an equal distribution of distance to school for all three grade levels.

Parents were divided into three groups, those whose: 1) children used active transport on a daily basis (to and from school), 2) children used active transport on some days of the week, and 3) children never used active transport. Of all parents who responded, 208 (48%) had children who used active transport on a daily basis, 168 (39%) had children who used active transport on some days of the week and 52 (12%) had children who never used active transport.

Results and Discussion

Fifty-four percent of all parents indicated that their children walked or biked to school five mornings a week and 62% of parents indicated that their children used active transport five afternoons a week. Only 18% did not use active transport any morning and 14% any afternoon.

The number of active transport trips a week is related to student age. These findings were similar for those students who used active transport on a daily basis and those who walked/biked on some days of the week. Specifically, the older the student, the more frequently he/she walked/biked to/from school. Distance also seems to play a role. Students who used active transport ten times per week were more likely to live closer to school. The further the distance from the school, the less likely the students were to use active transport on a daily basis. This was noted for all three grade levels. Very few students who lived close to school (less than 0.5 km) never used active transport during the week. Interestingly, 61% of the parents whose children never used active transport indicated that their children had at one point told them that they wanted to walk or bike to/from school.

Parents of children who used active transport on a daily basis were asked to indicate who the usual companion was along the route to school. Some differences were noted by age of the student. For the Grade 3 students, an adult was the most likely companion. For Grade 5 students, both an adult and a sibling were listed. For the Grade 6 students, siblings and other children were the most often cited companions. The same results were found for parents whose children used active transport on some days of the week.

The top five factors affecting parents' decisions to allow their children to use active transport on a daily basis were as follows: distance between home and school, presence of sidewalks, the perceived benefits to the student from active transport, the fact that the child wanted to/liked to use active transport, and the perception that the neighbourhood is safe. Around 40% of the parents indicated factors such as the safety of intersections and crossings, the fact that their child had a companion along the route to school/home, and the desire to lower air pollution. In addition, 31% or less indicated factors such as volume of traffic in the neighbourhood, the volume of traffic at/around the school, and the speed of traffic as a factor. Finally, 13% or less indicated the presence of bike paths. Similar reasons were noted by those parents whose children used active transport on some days of the week.

Parents of children who used active transport on some days of the week were asked to indicate factors which affected their decisions to not allow their children to use active transport on the

alternate days. Three-quarters of the parents indicated weather as being a factor and close to half of the parents indicated their own or their child's routines (e.g., before and after school activities). Only 15% of the parents indicated that their children did not want to/like to use active transport to/from school.

Parents of children who never used active transport were asked to indicate factors which affected their decisions to not allow their children to use active transport at all. The number one factor identified by the majority of these parents was the worry over strangers approaching their children along the route to/from school, followed by weather conditions and the speed of traffic along the route to school.

Parents of children who never use active transport also worried their children might be bullied and were concerned that their children would be walking alone. Traffic-type concerns, such as too much traffic around the school, intersections and crossing on the route to school not being safe, too much traffic in the neighbourhood, and lack of crossing guards along the route were also identified as concerns.

Close to three-quarters of those parents whose children used active transport on a daily or some-day basis had themselves walked/biked to school as children, while 58% of those parents whose children never used active transport had themselves used active transport as children. This difference was not statistically significant.

Key Findings:

- Parents are an important determinant of whether their children uses active transport or not
- More students walk home than to school
- Student age affects active transport—older children more likely to walk
- The closer students live to their schools, the more likely they are to walk
- Walking companions vary, grade 3—adults, grade 5—adult or sibling, grade 6—sibling or other children
- Children are telling their parents they want to walk

What affects parents' decisions to allow their children to walk?

- Distance between home and school
- Presence of sidewalks
- Perceived benefits to children's health
- Children telling them they want to walk
- Feeling their neighbourhood is safe

What affects parents' decisions to not allow their children to walk at all?

- Concern about strangers
- Weather conditions
- Speed of Traffic
- No adult to walk/bike with

Limitations

A number of limitations need to be considered in assessing the results of this pilot project. These include:

- Control schools were not used. Therefore, it is difficult to truly assess the impact of the program activities on active transport.
- Results were evaluated at the school level. The impact of students' ages needs to be considered as younger students may be less likely to use active transport than older, more independent students. The proportion of younger to older students may therefore skew the overall results.
- Data quality. Some discrepancies were noted in the Student Survey data that were collected each month.
- The June baseline data were collected on different students and in some cases different grade levels than in the autumn months.
- Each school offered a different set of activities. These varied by school and also by month within some of the schools.

Project Closing

Lessons Learned

The following list was developed during the pilot. These lessons learned helped to shape the recommendations found in the next section of this report.

1. Program needs to be endorsed and supported by the Halton District School Board's upper management with a formal announcement.
2. Upper management needs to be visible (in person and by email) throughout the life of the project.
3. Schools chosen to engage in the pilot should have principals who will not be leaving the school for at least two years.
4. Program needs to be led by Halton District School Board staff.
5. At the time that schools are chosen to implement the program, they should be free of any political issues in their areas.
6. Having the schools attend the Kick-off Forum was a good way to start the pilot.
7. Evaluation needs to be set up in a manageable way.
8. Data required for evaluation should be established for the user ahead of time.
9. Each school needs to identify an in-house champion for the program.
10. Reliance in parent volunteers as Walking School Bus Drivers (WSB) is not sustainable.
11. Schools need time to prepare and plan before implementing any ASRTS programming.
12. Walking school buses are best implemented with grades JK–5.
13. Walking Wednesdays is a great way to start the program.
14. When a route is chosen it should be assessed via a walkabout.
15. School Route signs were well received by the community.
16. Money to implement the program at the school level is not really needed.
17. Media should remain a component of the program.
18. Student participation in the program lessened as the weather changed.

19. Lessons learned from the ASRTS programming implemented by the schools:
- Parents need to be encouraged to not drive their children to school and instead support their children to use active transport to school (e.g., walking, walking part-way, cycling, skateboarding, etc.)
 - The more intense the program delivery, the better the results
 - Sustained program activity results in sustained behaviour. Removal of the program is associated with a decrease in the number of students arriving by active transport
 - School champion is a key ingredient for success
 - Programming needs to address a variety of weather conditions
 - Residual effects can be anticipated as students exposed to this program in their earlier years went on to be active in middle school

Recommendations to the Halton District School Board

The following recommendations are for consideration by the Halton District School Board (HDSB) staff and Trustees if they are to expand the ASRTS program into all elementary and middle schools.

At the Board Level

1. Develop an active transport strategy. This strategy should be incorporated into an already existing corporate plan, and managed through the HDSB Transportation Department
2. Approve a budget that supports the project (\$200,000-\$250,000)
3. Assign a key HDSB staff person or hire a Project Manager for the strategy (1.0 FTE). This person should have authority and full responsibility for the strategy and its components.
4. Secure senior management buy in. One methodology for achieving this is to develop a project charter which would announce the project champions and sponsor
5. Establish an internal working group of HDSB staff, containing key players who will be responsible for participating in the strategy
6. Form a steering committee to support and inform the project.
7. Develop a multi-component, multi year, and multi-sector project plan.
8. Consider the Walking School Bus (WSB) driver as a paid position.

At the Project Level

9. Secure evaluation as a component of the work breakdown structure. This must be headed by an evaluation specialist, who is either already internal to the board or will be hired for the project.
10. Secure communication as a component of the work breakdown structure. A communication specialist must head this.
11. Design an approach to address the decrease in winter active transport. The goal here is to help promote and maintain active transport despite the change in seasons.
12. Design an approach to address parental barriers to active transport.

13. Develop tactics to mitigate parental car use. These tactics can include policies such as closing school parking lots to non-board staff, increasing police/by-law presence (actual ticketing), removal of Kiss'n'Ride systems, supportive infrastructure development for future schools, awareness raising, and system supports. Each idea needs to be researched for feasibility and impact before implementing.
14. Attend to sustainability factors and incorporate these into the framework of the school environment. Considerations need to be made around supportive policies and structure to maintain the desired behaviours.
15. Promote increased use of the yellow school bus to the population eligible for bus use. This needs to be incorporated into the project plan.
16. Implement the ASRTS program uniformly in all schools, taking into consideration unique community needs and traits.
17. Review the strategy yearly for progress and revise as needed to keep on top of current trends.

At the School Level

18. Identify at each an ASRTS Champion to help coordinate the program at the school level.
19. Develop initiatives specific to the middle school age-group, independently of the elementary age-group.
20. Involve students in planning, promoting and supporting the active transport strategy.
21. Ensure each school has at least one walking school bus, expanding routes as needed.
22. Adopt at each school at school level policy that promotes and supports all modes of active transport (skateboards, roller blades, scooters etc)

Conclusion

A comprehensive approach needs to be taken when trying to change physical activity behaviour. According to behaviour change theory, the best approach is a socio-ecological approach. In the past, much emphasis was put on the individual to change. Now theories promote a broader emphasis. These approaches place the creation of supportive environments (making healthy choices the easy choices) on par with the development of personal skills.

To create active transport as the preferred choice by parents and students, an ecological approach paired with sustainability factors (policy, fiscal supports, and internal organizational structure) will bring about the best results.

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