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## Increasing Young People's Active Modes of Transport: An Urgent Review of the Child-friendliness of Multi-sector Policies Required

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Encouraging young people and children to engage in active transport (AT) daily is one way to increase physical activity levels.<sup>1-3</sup> Indeed, Trapp and colleagues<sup>4</sup> found that children age 9-13 years who were driven to and from school, undertook fewer pedometer steps, and concluded that walking to or from school (even part of the way for those who lived greater distances), could help to protect the health and well-being of insufficiently active children, particularly girls.

Despite the potential physical health benefits associated with using active forms of transport, the proportion of young people actively commuting to school has dramatically declined at alarming rates in most developed countries in recent decades.<sup>5-7</sup> Moreover, there are growing concerns that we are creating generation of “bubble wrap” children,<sup>8</sup> who are routinely chauffeured to and from school and local activities by an adult and thereby being denied the important right of passage of independence.<sup>9</sup> It is well-known that sedentary modes of transport are detrimental to physical health, but this lack of independence is also thought to be detrimental to healthy child development.<sup>9,10</sup>

A growing body of evidence suggests that the way we site schools is a major factor contributing to whether children and young people use active modes of transport to school. For example, the proximity of schools to children's homes, whether the streets surrounding local schools are connected (i.e., a grid pattern providing direct routes to school for more children) and, more importantly, whether they are designed to carry lower levels of traffic have all been shown to directly and indirectly correlate with children being permitted and/or able to walk to school. Traffic safety is a direct and indirect driver in parents' decision about whether to allow children to use active modes to travel to school.<sup>11-13</sup> For example, Trapp and colleagues<sup>14</sup> studied the likelihood of children cycling to school and found that a major correlate of both boys and girls cycling to school was the child's and their parents' confidence in the child's ability to do so. However, a major factor influencing parents' confidence in their child's ability was their perception about neighborhood safety, particularly towards traffic safety.

These results suggest that the choices we make as a society about the size of schools, their location in relation to heavily trafficked roads, and the urban design of street networks in neighborhoods surrounding schools have a profound effect on the ability of young people to use active modes to travel to school and on the actual and perceived safety of local neighborhoods. This in turn impacts parents' perceptions and, thus, their willingness to allow their children to experience that wonderful right of passage that so many adults enjoyed as children: the right to walk or cycle to school without a parent or adult. Children who do not have the opportunity to walk to school also

miss the opportunity to explore one's local neighborhood without being told by an adult to "hurry up;" to work out how long it *really* takes to walk to school to ensure you are there on time; to amble on the way home from school and to get to know people on your street, e.g., Mrs. Jones on the corner; to sniff flowers *en route*; to learn how to avoid that dog that barks on the street on the way home from school; to play in puddles; to avoid stepping on ants or cracks in the pavement; to talk to friends; and at the same time, to benefit from being physically active.

The siting of schools appears to be changing and, with these policy decisions, the potential for young people to walk or cycle to school diminishing. For example, a U.S. study found that the median distance between home and school for children age up to 15 years is now up to two miles (i.e., 3.2 km).<sup>15</sup> McDonald<sup>16</sup> estimates that only 20% of U.S. students now live within 1.6 km or 1 mile from their school. Similarly, an Australian study found a highly significant interaction between street network connectivity and traffic exposure, with children attending schools located in areas with both high street connectivity and high traffic volumes less likely to walk, while those attending schools in areas with high connectivity and low traffic were more likely to walk.<sup>17</sup> Together, these results suggest that, if we want children to get the benefit of using active modes of transport for their physical and mental health and to facilitate child development, we need to think carefully about the size of schools, their location and the urban design surrounding schools.

The paper by Richard Larouche, Guy Faulkner, and Mark S. Tremblay, draws attention to the many complexities associated with encouraging young people to use active modes to school, particularly when transitioning from primary to high school. This small pilot study ambitiously attempted to address major gaps in the literature that might explain contributory factors. While the size of this study precludes these objectives being fully realized, an important contribution of this paper is that it has sought to understand factors that contribute to use of active modes during the transition from primary to secondary school. This period is important because typically adolescents' physical activity levels tend to fall during this time.

Although very small, this pilot study confirmed those elsewhere that the most significant barrier to using active forms of transport was distance to school. As a result of the transition from primary to secondary school, distance to school increased and this appeared to be associated with a decrease in active modes of transport. In this study of older children, as might be expected, concerns of traffic safety appeared to be of less concern to parents than proximity.

Thus, this study highlights the need to think of young people not as one heterogeneous group. Increasingly, it is recognized that there is a need for separate models to explain the behavior of children and

young people of different ages. McMillan<sup>11</sup> has developed a very thoughtful and comprehensive model of active transport in primary school-age children. In this model, parents are rightly seen as the gatekeepers of children's behavior. As the authors of JARC's paper highlight, as children move into secondary school and gain more independence, the factors influencing their behavior are likely to differ. Given they have limited mobility options, these young people may be influenced more by the proximity and accessibility barriers presented by built environment rather than by concerns about safety, as was the case when they were younger.

Nevertheless, as this JARC paper highlights, the residential location choices made by parents have a profound effect on mobility-limited adolescents, perhaps even more so as they gain independence. For example, parents who choose housing located in low walkable neighborhoods with few nearby amenities, recreational opportunities or a local school will need to continue to chauffeur their children if they are to participate in sporting, recreational and social activities, particularly if those neighborhoods have limited public transport services or are not within cycle-able distances from local destinations. Indeed, a U.S. study found that parents' willingness to provide adolescents with transportation to physical activity opportunities was a major factor contributing to their participation in after-school activities.<sup>18</sup> Nevertheless, if parents could be actively encouraged to choose neighborhoods that have local amenities, it is likely to encourage both independence and increase physical activity in their adolescent children. For example, U.S. research suggests that young people who live within close proximity to recreational opportunities are more likely to achieve moderate to vigorous physical activity.<sup>19,20</sup> If physical activity participation undertaken at those venues is combined with active modes of transport to reach those destinations, then this will maximize levels of physical activity in young people, as well as enhancing their levels of independence. This draws attention to the need to think carefully about the design of local neighborhoods and the provision of social infrastructure that ensures that young people in suburban developments have age-appropriate amenities near their homes.

As highlighted in the paper by Richard Larouche, Guy Faulkner, and Mark S. Tremblay, encouraging active forms of transportation requires a comprehensive review of all relevant policies across multiple sectors to be undertaken to ensure that the needs (and rights) of young people are considered. These policies include those of education departments (related to the size of schools and their location in terms of proximity to where children live; avoiding siting on heavily trafficked roads; locating drop off zones further away from the school entrances to ensure all children do some walking to get to school and to optimize the number of children that can walk safely to school; the provision of

crossing guards); road departments (i.e., in terms of the reducing traffic exposure and calming any traffic near schools [e.g., traffic speeds, traffic calming devices]); and planning departments (i.e., in terms of the urban design of surrounding neighborhoods to ensure that the streets are connected, separated sidewalks and off-road cycle paths are provided, schools are located in areas with lower trafficked roads and that there are reasonable levels of density near schools to maximize the potential for more children to walk to school).

A mark of a civilized society is that we care for the most vulnerable. As responsible professionals we need to ask ourselves what legacy we are leaving for future generations. Globally we are grappling with issues of childhood obesity and low levels of physical activity in our young people that will harm their health and well-being into the future. It is imperative that we rethink our policies and the way we are designing and building communities and settings to ensure we are optimizing the health and well-being outcomes for our most vulnerable and our future community leaders.

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