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School Streets Feasibility Study

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CITY OF HAMILTON | PUBLIC HEALTH SERVICES AND SUSTAINABLE MOBILITY

NOVEMBER 2024

Acknowledgements

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Executive Summary

Giving space back to children and their families is a key step to increasing the health, well-being, and safety of our community. One such strategy is School Streets which opens a stretch of roadway to people, while closing it to vehicles at a school site for drop-off and pick-up times. The purpose of this study was to examine the impact of a School Street on traffic and safety around the participating school as well as travel behaviours of the students and families. Additionally, this study explored how School Streets may be implemented in a sustainable and scaled up version at other schools in Hamilton.

For three months (April – June 2024), the City of Hamilton, in collaboration with the Hamilton Wentworth District School Board and the Strathcona Elementary School community, implemented a School Street feasibility study. Through online surveys, traffic counts, student voting boards, discussions, and media artefacts, data was collected at four timepoints (March – June). Data was collected from students, families, school staff, and residents.

There was an overwhelming positive perception and acceptance of the School Street among the Strathcona school community (i.e., staff, students, families, and residents) once they had the opportunity to experience it. Through discussions and written feedback, individuals described the increased enjoyment they had meeting with other families, watching their children playing with one another, and the joy students had in going to school. Additionally, families acknowledged the positive impact the School Street had on feeling safer and improving the air quality at the school entrance.

Moreover, through the survey and traffic counts, there was a decrease in vehicles travelling to the immediate school site with an increase in active travel modes, especially walking, being used to commute to school during the School Street implementation. Families perceived less traffic in the morning, were more likely to walk in the morning, and felt safer during their morning commute.

The report concludes with the development of a School Street assessment tool, proposed models for future school streets (e.g., staffing, design, and implementation schedule), and necessary data to support the assessment tool, implementation, and ongoing school travel evaluation. School Streets has the potential to be implemented in Hamilton schools in a sustainable and safe manner.

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What are School Streets?

A school street is a vehicle-free street alongside a school that is open to pedestrians, cyclists, and other active travel mode users during school drop-off and pick-up. Vehicles can remain parked but are not permitted to enter or exit the block when the school street is in effect – emergencies excepted. A School Street "facilitates safe, healthy, and active travel for children and caregivers" (8 80 Cities, 2019, p. 7).

There is a growing body of evidence demonstrating the benefits of School Streets based on three decades of School Streets. Specifically, the evidence from Europe, UK, and USA indicates improvements to (a) roadway safety (e.g., 25% reduction in congestion near school site, 8 80 Cities, 2019; Transport for London, 2022), (b) air quality and the environment (e.g., 23% reduction in nitrogen dioxide levels, Bloomberg Philanthropies, 2021), and (c) physical and mental wellbeing (e.g., increased opportunity to meet the 24-hour movement guidelines, 8 80 Cities, 2019).

Closer to home, Canadian communities have piloted and begun to permanently incorporate School Streets into their Active and Sustainable School Travel plans (8 80 Cities, 2019) including, Vancouver, Victoria, Winnipeg, Toronto, Mississauga, Markham, Kingston, Montreal, and Hamilton.

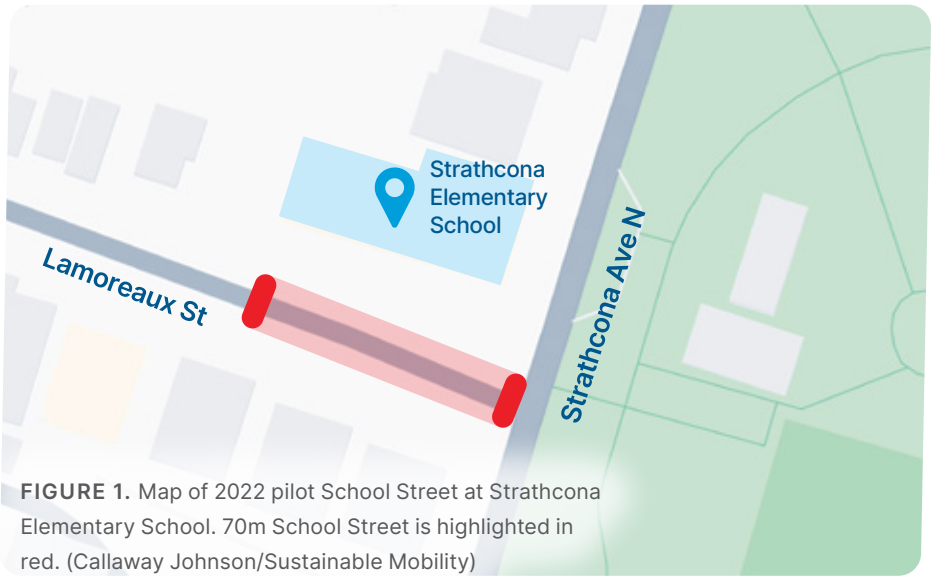


FIGURE 1. Map of 2022 pilot School Street at Strathcona Elementary School. 70m School Street is highlighted in red. (Callaway Johnson/Sustainable Mobility)

Feasibility Study

STRATHCONA ELEMENTARY SCHOOL

Strathcona Elementary School is a Kindergarten to Grade 5 elementary school in Hamilton's Ward 1 (10 Lamoreaux Street, Hamilton ON, L8R 1V1). Additionally, Strathcona hosts before and after school programs as well as the Scholastics, Arts, and Global Education (SAGE) program. The SAGE program takes students from out-of-catchment into the program. The morning bell is at 08:50. According to Student Transportation Services, 77.4% of students (168) are in the active travel zone and 22.6% of students (49) are out-of-catchment. There are no school buses at Strathcona.

Strathcona is on a neighbourhood street (Lamoreaux Street) with a connector street (Strathcona Avenue) on the east side of the school. The School Street operated on Lamoreaux Street where two low-rise apartment buildings are located. However, no driveway entrances are on Lamoreaux Street (Figure 1) across from the school.

In June 2022, Strathcona participated in a School Streets pilot project which evaluated the possibility and perceptions of School Streets as a program in Hamilton. The Strathcona pilot ran during morning drop-offs on Tuesdays in June 2022 (4 pop-ups). The data collected from the pilot showed a decrease in vehicle traffic and an increase in active transportation at the school. The project was well received by the school community with support from the Ward 1 Councillor. Due to the success of this pilot and requests for its return to Strathcona from members of the school community, this school was an ideal location for a long-term feasibility study. The 2022 pilot project was funded through a provincial grant, managed by Green Communities Canada, and supported by 8 80 Cities. The pilot project outcomes are documented in a report by 8 80 Cities (8 80 Cities, 2022).

SCHOOL STREET IMPLEMENTATION

The School Street was implemented on Lamoreaux Street from 08:30 – 09:00 every school day from April 2nd to June 27th. Barrel pylons and "road closure" signs were placed on both ends of the 70m stretch of roadway by City of Hamilton staff. Once the barriers were in place, students, families, and neighbours were able to use the roadway. All City of Hamilton staff on the feasibility study team were trained and certified under the Ontario Traffic Manual – Book 7. This certification allowed the staff to plan and close the street.

City staff did not activate the street, except for providing chalk for use during the 30-minute period. The Strathcona Home and School Association (SHASA) organized three pop-up events in June: free coffee and apples (June 3), obstacle course (June 13), and photo booths (June 25) with support from the Ward 1 Councillor. Additionally, a family member hosted a bike repair day during Bike to School Week (May 27 – 31), sponsored by Downtown Bike Hounds.

METHODS AND METHODOLOGY

Community Engagement

Community engagement was essential to the success of the School Street by building support and connections with the Strathcona Home and School Association, and the Strathcona Elementary school principal, families, students, staff, and residents. Engagement with the school began in September 2023 and became more frequent in January 2024 as implementation approached. Discussions with the school and neighbourhood community helped to build rapport and included implementation details, concerns from the school community, and led to the School Council organizing street activations.

Community engagement materials for the school included branded, consistent messaging. Electronic information flyers were delivered to the families and school staff via email. Posters for students were displayed inside the school and there were daily announcements during the week prior to School Street implementation. Another email was sent to families on Friday, March 28th as a reminder that School Streets was starting on Tuesday, April 2nd.

Community engagement for neighbours began on March 19th. Flyers were delivered to all homes on Lamoreaux Street. For people who were home, the feasibility study was explained

and the impact on the neighbours was clarified. For those not home, a flyer was left in the mailbox. The flyer explained the study and who to contact with questions or concerns. Ongoing communication with residents occurred during implementation as neighbours passed through the School Street.

Additionally, an email was sent to the management of the neighbouring apartment buildings to explain the study, impacts on the residents, and contact information was provided. The property owner was supportive and helped to communicate the School Street information to the tenants.

Flyers were also placed on the cars parked on Lamoreaux Street between Strathcona Avenue and Dundurn Street to explain the timing of the street closure.

Residents, families, students, and neighbours were informed about the upcoming School Street as they arrived or passed the school in the morning before implementation, while City staff were on-site.

Data Collection

Daily field notes were taken by the City of Hamilton staff operating the School Street to document the implementation process, feedback from the community, and ideas for improving the immediate and long-term quality of School Streets. Comments collected in March were included as pre-implementation of the School Streets.

Formal evaluation of the School Street occurred at the end of March (pre-implementation), April, May, and June using multiple data collection techniques. First, traffic counts were taken noting the vehicle type (i.e., car, SUV/truck, industrial vehicle) and behaviour (i.e., driving, idling, or parking) during the 30 minutes of the School Street. Traffic counts were taken by City staff on Strathcona Avenue and Lamoreaux Street, representing the ends of the School Street.

Second, an online survey (approximately 10 minutes in duration) was circulated through the school's principal to families and staff. The survey was made available for one week at a time in each month from March to June. The survey assessed perceptions and behaviours associated with the school commute in the morning (i.e., with the School Street) and the afternoon (i.e., without the School Street). Survey questions were modified from the template survey provided by 8 80 Cities (2019, p. 25) and all questions were optional.

Third, following a similar process to that of the City of Vancouver (2023), large poster boards with stickers were used to engage students in the evaluation process on the same days as the traffic counts. Students voted with their stickers for (a) how they commuted to school that day, (b) how safe they felt getting to school, and (c) how safe they felt going home from school. A City of Hamilton staff member was at the poster board to assist with obtaining stickers and clarifying the questions for the students, as needed.

Fourth, this feasibility study received media attention over the duration of its' implementation. Artefacts include an Instagram reel posted to Hamilton Public Health Services' account (@HamiltonPublicHealthServices; video available here; Figure 2), a blog post on the Hamilton Wentworth District School Board's (HWDSB) website, a Reddit post within a Strathcona neighbourhood page, and an article in The Hamilton Spectator. Publicly available comments associated with these media artefacts were included.

FIGURE 2. Still shot of the Instagram Reel posted by Hamilton Public Health Services.

Data Analysis

Field notes, qualitative responses, and comments from media artefacts were included in the thematic analysis (e.g., Braun & Clarke, 2023). Themes were integrated with the quantitative analysis within the final stages of data analysis.

Online survey, student poster boards, and traffic count data were input into Microsoft Excel©. Descriptive statistics and correlations were conducted in Microsoft Excel© to evaluate changes over time (March – pre-implementation; April to June – implementation).

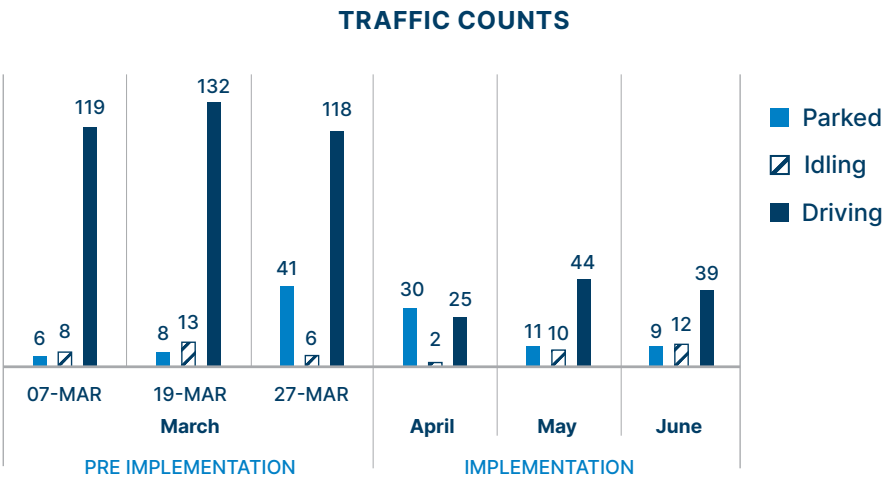
Impact of the School Street

TRAVEL BEHAVIOURS

In March, prior to the School Street being implemented, there was broad support from most families and neighbours for School Streets. However, there was trepidation on the part of the families who drove their children to school because they were out of the catchment area for Strathcona. Moreover, Strathcona, like many schools had safety concerns for students navigating parked, idling, and driving vehicles at the school site.

> As a neighbour, we see very heavy traffic around drop off and pick up. When vehicles are parked on both sides of the streets – illegally on the north side – it is difficult for families crossing the street to see oncoming traffic. It is only a matter of time before someone gets seriously injured. It would be nice to have speed bumps to slow/calm traffic as well.
>
> NEIGHBOUR PRE IMPLEMENTATION

> During drop off time multiple cars are pulling up to the curb in front of the school. There is no shoulder to separate the sidewalk crowded with kids starting school from the road. My daughter was almost hit by a car that mounted up onto the sidewalk while parking in front of the school one morning [prior to the School Street].
>
> PARENT/CAREGIVER - PRE-IMPLEMENTATION



KEY FINDING

70%

reduction in traffic on neighbouring streets during the School Street implementation.

FIGURE 3. Traffic counts from March - June 2024 presented by parked, idling, and driving vehicular behaviours. Traffic counts were taken on the school facing roadways: Strathcona Avenue and Lamoreaux Street. Traffic was reduced by 70% during the School Street implementation.

Traffic counts taken in March before the School Street implementation showed an average of 123 vehicles driving. Traffic counts were consistently lower when the School Street was operating (April – Jun 2024; Figure 3) with an average of 36 vehicles driving.

Despite seeing changes in vehicles driving on the streets beside the school, students reported no significant changes in how they got to school before the School Street was implemented compared to during the School Street implementation (Figure 4: March, n = 53; April, n = 55; May, n = 50; June, n = 57).

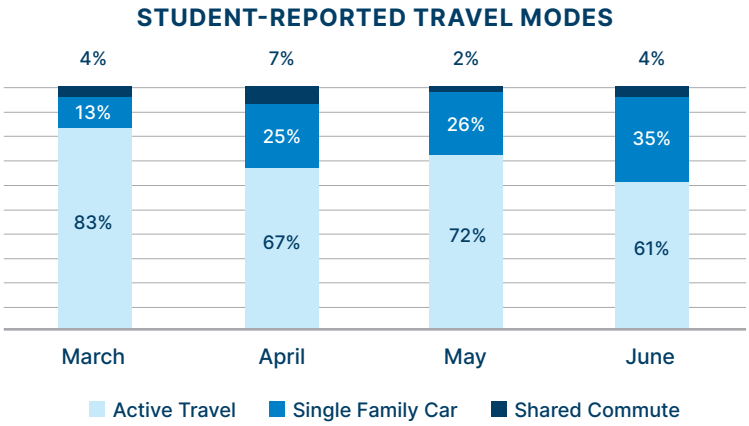


FIGURE 4. Student-report travel modes from March to June 2024. Active travel includes walking, wheeling, and rolling.

However, families did report an increase over time in active travel behaviours such as walking, biking, and wheeling (Figure 5: March, n = 19; April, n = 43; May, n = 39; June, n = 46). The family reporting should be interpreted with caution given the smaller sample size in March (n = 19) compared to April through June when the School Street was implemented. There are many reasons why there is a difference between student and family reported travel mode. For example, the difference could be due to the people who answered the questions, the understanding of the question, or students voting in the same boxes as their friends.

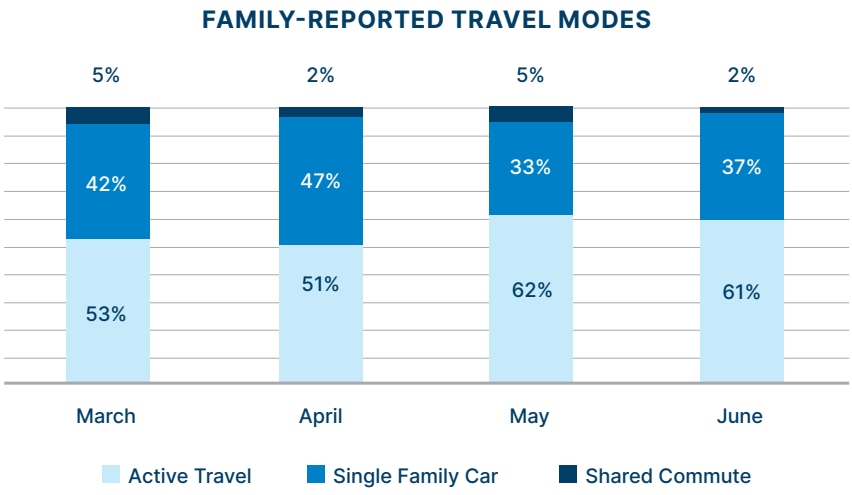


FIGURE 5. Family-reported travel modes from March to June 2024. A trend towards increased active travel was noted over time. An almost 10% increase in families reporting active travel modes during the School Street implementation.

Over the three months while the School Street was implemented, families, caregivers, students, and neighbours became more comfortable with the new routine. The inconvenience of parking a small distance from the school for those who needed to drive to school decreased. Both families and neighbours expressed support for the program.

PERCEPTIONS OF THE SCHOOL COMMUTE

Families identified safety around the school as a concern prior to the School Street feasibility study due to the congestion at the school site and dangerous driving behaviours (e.g., speeding, illegal parking).

KEY FINDING

10%

more families chose **active travel modes** during the School Street implementation.

My concern is simply the parking and how long it takes to drop the kids now. But I am adjusting.

PARENT/CAREGIVER - DURING IMPLEMENTATION

I love this program. All my children went to school here and I wish the street had been closed back then.

NEIGHBOUR - DURING IMPLEMENTATION

When asked to rate their perceived safety on their commute to school, families reported feeling safer when the School Street was implemented compared to before implementation in March (Figure 6).

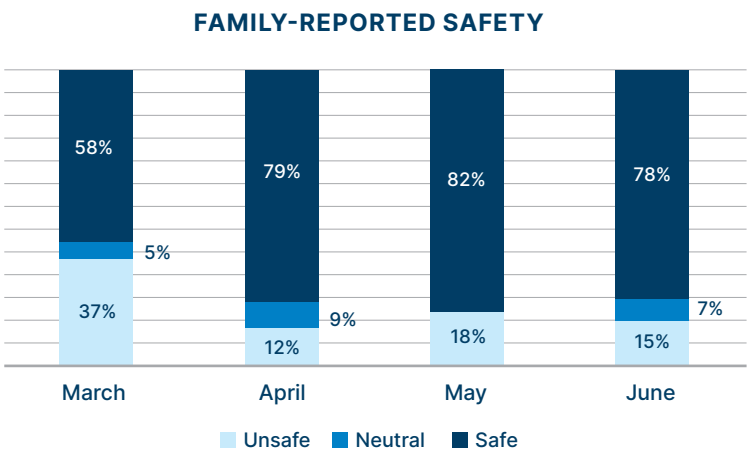


FIGURE 6. Family-reported perceived safety of the school commute increased with the School Street and remained consistent. A 20% increase in perceived safety on the school commute when the School Street was implemented.

Similarly, students generally felt safe on their commute to school prior to School Streets (March, 85%; Figure 7). However, there was still an increased perception of safety by June (100%).

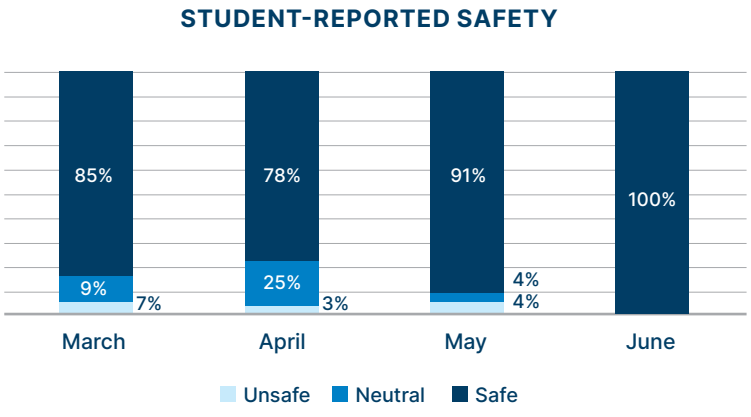


FIGURE 7. Student-reported perceived safety of their commute to school.

KEY FINDING

20%

increase in **perceived safety** on the school commute when the School Street was implemented.

Our only issue with walking to school is all the cars that pull-up on Lamoreaux St. to drop off kids. The fumes from their cars and car doors opening and blocking the sidewalk makes it very congested.

PARENT/CAREGIVER - PRE-IMPLEMENTATION

What's now happy commotion used to be 'traffic chaos,' with cars lining either side of the narrow street — neither enjoyable nor safe for students and their families.

PARENT/CAREGIVER DURING IMPLEMENTATION

During the School Street implementation, families, neighbours, and staff commented that School Streets was better for the students' mental well-being, safety, air quality around the school, and fostered a sense of community at the school. Each morning of the School Street, staff noted groupings of families greeting one another and chatting, with some families staying well past the bell. Most families expressed a desire for School Streets to become permanent at Strathcona.

> I drive my kids from out of catchment, and it adds a couple minutes to the drop off (park at Victoria Park and walk over) - but it seems nicer for families that walk/bike to school, so I'm supportive. Plus, it's lovely to see my kids meet their friends and have a chance to play before the bell.
>
> PARENT/CAREGIVER - DURING IMPLEMENTATION

> This is an amazing program! It makes school mornings easier and safer and moves us towards our climate goals.
>
> PARENT/CAREGIVER - DURING IMPLEMENTATION

Next Steps & Future Considerations

School Streets are one option, in a suite of options, to create a safer school commute and support active travel to school. This feasibility study demonstrates that a School Street, offered consistently over a long period, does result in decreased traffic, increased perceived safety, and potentially increased active travel. There are several factors to consider when determining if a School Street is an appropriate intervention for a particular school site. Below outlines some of these considerations.

SCHOOL SCREENING TOOL

The Active and Sustainable School Travel team is developing a screening tool. The tool will be used to screen elementary schools for potential locations of School Streets. Criteria will include roadway typology – as defined in the Complete Streets guidelines (City of Hamilton, 2022), HSR routes, existing built environment, collision data, health equity, modal splits, and support from the school community.

POTENTIAL SCHOOL STREET MODELS

Temporary

This model uses the same temporary infrastructure (i.e., barrel pylons and road closure sign) as this feasibility study. One staff member, who is Book 7 certified, and at least five volunteers are recommended to operate the School Street in this design. In this design, the staff member could be a City of Hamilton or school board employee. This model requires consistent and on-going staff and volunteer support, which could present longer term challenges.

Permanent

This model includes permanent infrastructure improvements to the street adjacent to the school. Two options are (1) metal swing arm to temporarily open the street to active travel users, only for the morning and afternoon bell, and (2) planters, or installed barriers, to permanently open the street to active travel users. Option two is only feasible at limited locations but has been used previously in Hamilton at Queen Mary Elementary School to close a portion of Roxborough Avenue. With permanent infrastructure in place, only one staff member or designated individual is needed to operate the School Street. However, this model comes with additional initial costs and may not be suitable at all schools. Before a permanent model is implemented, a temporary model is suggested for a minimum of three to six months to assess for any operational issues.

STAFFING

At least one staff member or volunteer is required to be Book 7 certified through the Ontario Traffic Council to close the street. City of Hamilton Active and Sustainable School Travel team (a partnership between Transportation Planning, Sustainable Mobility and Public Health Services, Chronic Disease Prevention teams) can provide support with planning, evaluation, and community engagement.

ENGAGEMENT

Community and school engagement are key to the success of a School Street. It is recommended that in the three to six months leading up to the School Street implementation, that the school and neighbouring community be engaged with to address any potential issues, increase understanding and buy-in, and improve outcomes.

References

8 80 Cities. (2019). School Streets Guidebook. Victoria, BC: 8 80 Cities. Retrieved from https://880cities.org/wp-content/uploads/2019/11/school-streets-guidebook-2019.pdf

8 80 Cities. (2022). Ontario school streets pilot summary. 8 80 Cities. Retrieved from https://www.880cities.org/wp-content/uploads/2022/12/OSSP-Summary-Report_Updated_.pdf

Bloomberg Philanthropies. (2021, 3 9). New studies show School Streets improve air quality. Retrieved from Bloomberg Philanthropies: https://www.bloomberg.org/press/new-studies-show-school-streets-improve-air-quality/

City of Hamiltlon. (2022). Hamilton complete streets design guidelines. Hamilton: WSP. Retrieved from https://www.hamilton.ca/build-invest-grow/planning-development/planning-policies-guidelines/complete-streets-design-manual

City of Vancouver. (2023). School Streets. Vancouver: City of Vancouver. Retrieved from https://vancouver.ca/people-programs/school-streets.aspx

Transport for London. (2022). School Streets Qualitative Research. Retrieved from https://content.tfl.gov.uk/school-streets-qualitative-research-2022.pdf