Markham School Streets Program Final Report

the centre for active transportation

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About The Centre for Active Transportation

The Centre for Active Transportation (TCAT) at Clean Air Partnership (CAP) has a vision of vibrant cities with clean air, a healthy population, and a transportation system that prioritizes walking and cycling. Our mission is to advance knowledge and evidence to build support for safe and inclusive streets for walking and cycling. We believe that active transportation plays a critical role in creating environmentally and economically sustainable cities.

markham
CYCLES

About Markham Cycles

Markham Cycles is a project of The Centre for Active Transportation. We work in close cooperation with the City of Markham, the Markham's Cycling and Pedestrian Advisory Committee, and the other partners and funders listed below to deliver our cycling programming in Markham. Markham Cycles's goal is to build cycling culture in Markham by removing barriers, providing education and make it easier for people to start cycling. Due to the generous support of our funders and partners, we offer free programs and workshops to anyone who is interested in cycling. These programs include access to bikes and tools at drop-in bike repair sessions, workshops on cycling topics, cycling mentorship and loans, community bike rides, bike rescue and youth-focused programs.

In Partnership With:

MARKHAM

York Region

York Region
DISTRICT SCHOOL BOARD

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Executive Summary

The first ever Markham School Streets program was initiated by York Region District School Board (YRDSB) in partnership with the City of Markham to test out an innovative approach to encouraging active travel to school called School Streets. School Streets are programs that have been popular in many cities across the world. They temporarily close streets directly in front of schools at peak drop off and pick up periods to cars, thereby creating safer spaces that encourage families to walk anduse more active forms of transportation, such as biking, to school.

Markham's inaugural School Streets program was launched on May 4th, 2022 at John McCrae P.S. It ran four times in total on each subsequent Wednesday in the month of May. The closures were in place from 8:15 - 9:15 a.m. in the morning and from 3:00 - 4:00 p.m. in the afternoon. The goals of the program were to spur greater interest in active travel amongst the John McCrae P.S. community, monitor the impacts on student travel habits and local neighbourhood congestion, increase perceptions of road safety, and evaluate whether School Streets programs are suitable for Markham's low density neighborhoods.

This evaluation of the program was conducted by The Centre for Active Transportation (TCAT), the City of Markham, and the YRDSB. Students, parents/guardians, school staff, residents impacted by the road closure, and Markham residents in general were surveyed both before and during the School Streets program. Results were analyzed to find trends in feedback across the respondents.

Key Findings:

1. **School Streets improved perceptions of safety in front of John McCrae P.S.**
   In total, 66.4% of students felt safe on the street during School Streets, compared to only 2.3% who felt unsafe. Parents and guardians similarly felt much safer having kids walk and ride bikes in front of the school during School Streets than they did before the program.

2. **School Streets got kids out of cars**
   The percentage of students at John McCrae P.S. who got to school by car before the program (12.3%) was cut almost in half during School Streets (6.4%).

3. **School Streets had minimal impact on local vehicular traffic and congestion**
   In total, 55.2% of all survey respondents indicated the School Streets closure had no impact on their commute, with a larger percentage indicating it made their commute easier (25.3%) rather than harder (19.4%). City of Markham traffic counts found minimal impacts to traffic and congestion on surrounding streets.

4. **Community liked and would support more School Streets programs**
   62.2% of parents, guardians, residents impacted by the road closure, and residents from across Markham liked the program compared to just 24.3% who disliked it. 64.2% would support future School Streets programs.

5. Students were more uncertain about School Streets, but would still support more programs

45.5% of students liked School Streets, while 44.5% were unsure or neutral about the program. 43.6% supported future School Streets programs and 47.3% were unsure or had no opinion.

1 Introduction

On May 4th, 2022 the City of Markham's first ever School Streets program was launched. Tested over four Wednesdays in May on Stricker Avenue in front of John McCrae P.S., the program was a partnership between the City of Markham and the York Region District School Board (YRDSB). School Streets temporarily open streets directly in front of schools to kids walking, cycling, rollerblading, skateboarding, or using a mobility device by closing them to cars during school drop-off and pick-up times. The program sought to evaluate the effectiveness in closing Stricker Avenue between Hammersley Boulevard and Fred McLaren Boulevard between 8:15 - 9:15 a.m. and 3:00 p.m. - 4:00 p.m. to create safer conditions in front of John McCrae P.S. and encourage more kids to engage in active travel to school.

This report will document the process undertaken by project partners to plan, execute, and evaluate Markham's inaugural School Streets program and highlight key findings arising from the pilot program. Markham's School Streets was implemented by the YRDSB in partnership with John McCrae P.S. and the City of Markham with support from the Cycling & Pedestrian Advisory Committee. Program evaluation was conducted by The Centre for Active Transportation (TCAT).

What are School Streets?

School Streets is a program model that has been used in cities around the world to create safer streets near schools through temporary programming rather than wholesale road reconstruction. They are programs that create a car-free environment in front of schools at the start and end of the school day to prioritize safe walking conditions for children, their caregivers, and teachers. By prioritizing road safety, they promote and encourage kids and caregivers alike to incorporate more active travel into their daily routines[1]. Places like the Borough of Hackney in London, England have implemented permanent School Streets programs after a period of pilot projects and evaluation. There are many benefits of School Streets programs, which include improved safety and air quality[2], increased active travel and independent mobility for children and youth[3], stronger community connections, and a reduction in traffic congestion.

Importance of Active Travel to School

Active school travel (AST) is the use of any form of human powered travel, such as walking or wheeling (cycling, scootering, rollerblading, skateboarding, and mobility devices) to get to and from school. Active school travel has many proven benefits:

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1. Sustrans. School Streets research finds road closures benefit health, air quality and congestion (https://www.sustrans.org.uk/our-blog/opinion/2020/august/school-streets-provide-solution-to-inactivity-congestion-and-air-pollution, 2020)

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

3. Child Health Inititative. School Streets: Putting Children and the Planet First (https://www.childhealthinitiative.org/media/792262/school-streets-globally.pd. 2022)

» **Improves physical and mental health**
Active school travel contributes to children meeting the daily 60-minute goal of physical activity, as well as contributes to healthy and strong bones, muscular systems and cardiovascular health. In addition, active school travel helps reduce stress and can prevent depression which leads to happier students and stronger mental health overall.

» **Reduces air pollution**
Active school travel helps to reduce the burning of fossil fuels and automobile usage in general, which creates pollution such as fine particulate matter and nitrogen oxides in the air we breathe. Air pollution from vehicles can impact brain development. A large portion of Ontario's greenhouse gas pollution comes from transportation and vehicle emissions. Children are particularly vulnerable to the impacts of air pollution. Lower levels of exposure have greater negative effects compared to adults.

» **Reduces traffic congestion and improves safety**
Active school travel contributes to improved walking and cycling conditions, greater connectivity around the neighbourhood and overall better living conditions within the neighbourhood. The more people out and about increases eyes and ears on the street.

» **Promotes social development**
Active school travel encourages more group walking and provides greater opportunity for social gathering of both students and families in the school catchment area.

» **Increases academic performance by preparing students to learn**
Active school travel helps support brain development and makes kids more alert, making them more prepared to learn, which can contribute to higher academic performance.

» **Builds lifelong habits of active and independent mobility**
Children who engage in active school travel at a young age learn necessary road safety skills which allows them to navigate streets more safely. When these habits are developed at a young age it is more likely that they will continue to adopt active modes of transportation as they transition through the many phases of life including high school.

Markham School Streets Banner

❷ Planning for Markham's First School Streets Program

Origins of Markham's School Streets Program

The Markham School Streets program was part of an initiative that tested the implementation of School Streets programs in three Ontario communities, Markham, Hamilton, and Mississauga, during the 2021-22 school year. The program was funded by the Ontario Ministry of Education through Green Communities Canada (GCC), as well as supported by contributions from various local partners in Markham. GCC is a non-profit association of more than 20 community-based environmental organizations.

The goals of the Ontario School Streets Pilot project were to:

1. Facilitate and encourage safe, active, and sustainable mobility to and from school for students, caregivers, parents, teachers and the broader community.

2. Develop School Streets 'How to' Toolkit for implementing School Streets programs in Ontario settings.

3. Test and measure the implementation of pilot School Streets programs in three pioneering Ontario communities (Markham, Hamilton, Mississauga).

4. Share knowledge and best practices to build a broader movement for School Streets implementation in Canada and beyond.

School Streets Volunteers with Lightweight Barricades and Road Closure Signs

Project Partners and Roles

Green Communities Canada	**Green Communities Canada** Funder Provide link to broader Active School Travel Initiatives Share Findings Convene Broader OAST Network and community Report to Ministry of Education about program
8 80 cities	**8 80 Cities** School Street Pilot training and technical support Provide tools and resources to City Teams Ongoing project monitoring with check-ins Analyze data, summarize, and share findings of pilot
Hamilton Mississauga Markham	**Hamilton, Mississauga and Markham** On the ground implementation of School Streets pilots Coordinate engagement, implementation, and data collection Provide final progress report to GCC
KCAT	**Kingston Coalition for Active Transportation** Share knowledge and findings from Kingston School Street Pilot

Review of School Streets Best Practices

Prior to preparing a detailed School Streets program plan for Markham, School Streets programs from numerous other cities were reviewed. The Markham School Streets team interviewed many of the people responsible for overseeing and evaluating these School Streets programs. All programs had common features, such as supportive school staff, supportive local elected officials and city staff, extensive communications before, during and after the program, traffic monitoring, and the use of low-cost barricades/cones to delineate the road closure. Each city approached their School Streets a little differently and each provided ideas and learnings that were considered for Markham that were either adopted, altered or rejected. The School Streets programs for each reviewed city are summarized below:

London (Hackney), England

The Borough of Hackney, a suburb of London, conducted their first School Streets pilot tests in 2017. Five pilot schools were selected based on high motorized vehicle count and poor air quality. The parameters for the test were:

- 45-minute car-free window during the morning and afternoon drop off periods
- No hard barriers – residents and emergency vehicles can enter/exit
- Large fold-up signs used
- Not a street party or play street
- Camera enforcement (CCTV)

The results were very encouraging. Active transportation mode share increased, some traffic relocated to adjacent streets but overall vehicular traffic counts were down and air quality improved. The positive results at Hackney have led to 400+ school streets in London under the guidance of Transport for London and helped spur momentum to test School Streets in Canada and other nations.

Keele Street P.S., Toronto, ON

Canada's first School Street test was conducted by 8 80 Cities at Keele Streets P.S. in Toronto, where Mountview Avenue was closed at morning and afternoon bell times for four days in October, 2019. As an advisor to the Markham School Streets team, 8 80 Cities provided valuable lessons from Keele Street, including:

- There were no residential driveways or staff parking accessed from Mountview. One apartment building had a driveway, but also had an alternate exit.
- Volunteers were stationed at each end of the closure and at the apartment building to explain the initiative and redirect drivers.
- The street was used for free play.
- Obtaining a "street event" permit from the City was a lengthy process.
- Displaced traffic was not an issue.
- Involvement by the school Eco Team was helpful with publicity and data collection.

Isaac Brock Elementary School, Winnipeg, MB

This pilot was conducted by Green Action Centre (GAC), a local NGO, between Fall, 2020 and June 2021. The closed street, Barratt Avenue, had six homes on it, all of which could be accessed by car via laneways. Staff parking or student drop off/pick up access was not affected.

Closure times were initially from 8:30 to 4:30 p.m. The pilot used volunteers during bell times to place and remove some barricades for school buses and explain the program to the public. A subset of barricades were left out for the entire day. These were unmonitored. Compliance with the road closure during non-bell times was not monitored but appeared to be good. During the last three months of the test, the barricades were only deployed at bell times. Although feedback was positive, the pilot was not renewed due to a lack of volunteers.

Sir James Douglas School, Victoria, BC

A one-week test was conducted at Sir James Douglas School in 2019 and a one-month test in May 2021. Future tests were planned for October, 2021 and May, 2022. They were able to draw upon about 150 volunteers, teachers and staff. A volunteer was stationed at each end of the street and an educational assistant was paid to put out the barricades and cones. The closed street was used as a play street, with each class getting a recess to play in the street, take bike skills courses, and enjoy other various activities. Students were engaged in data collection and analysis. The reported challenges were volunteer coordination and finding funding for planned activities.

Winston Churchill P.S., Kingston, ON

This School Streets test was led by the Kingston Coalition for Active Transportation (KCAT) and Kingston Gets Active (KGA), both NGOs. The impetus for this School Streets pilot was the death of a pedestrian in front of the school as a result of road violence.

In order to implement the test, they were required to secure $5M liability insurance. The plan was to run the test during bell times every day for the entire school year of September, 2021 to June, 2022. Exempted vehicles were allowed to enter the closed zone from one end of closure. Exemptions included residents, school staff, service providers, clients of home businesses and emergency vehicles. An official street closure permit was needed, which required preparing a traffic control plan and full City Council approval.

Over 50 volunteers signed up, all of whom required a police check and traffic control training. Volunteers were equipped with whistles, vests and mirror tags. Volunteers were stationed at each end of the closure and a "chaperone" volunteer was used to escort exempted vehicles in/out at walking speed.

Hastings, Lord Roberts, and Van Horne Elementary Schools, Vancouver, BC

The City of Vancouver ran pilots in front of three elementary schools in April-May, 2021 (4 weeks) during morning and afternoon bell times. Streets were chosen based on ensuring residents had alternate vehicular access through laneways. Other streets flanking the schools remained open. Accessible entrances for parents or students with disabilities were not affected (2 schools) or relocated (1 school). The website indicated that no motorized vehicles were permitted to enter/exit the block, but parked vehicles could remain. Two volunteers were used per closure (one at each end). Volunteers were trained by the City and given a $200 stipend.

Following the one-month test in 2021, plans were made to significantly expand the program for a longer duration and include more schools for the 2021-2022 school year. However, it proved difficult to find volunteers, especially for long-duration tests. The City website indicates that the program was expanded to 5 schools for one month in May to early June 2022. A "Play Street" was offered for one hour per week (2:50 p.m. - 3:50 p.m.) at each school.

Streets As Public Space

Streets comprise 25%-35% of all land in a city, making them the single largest public asset a municipality controls. As a publicly owned asset, streets belong to all of us. However, for much of the last 100 years, cities have designed, built, maintained, and programmed streets for the sole purpose of moving as many cars as possible as quickly as possible. As cities grapple with the simultaneous challenges of climate change, rising levels of inequality, public health woes stemming from inactive lifestyles, and rising levels of people killed as a result of road violence in Ontario over the last decade, many cities are starting to question the basic assumption of whether streets designed solely for cars is the best and highest use of their largest asset.

Cities have begun to experiment with policies and initiatives that rebalance road priorities towards supporting the movement and well-being of people, not just the movement of cars. The underlying principle to these new approaches is the recognition that streets can best serve communities when they function as public spaces, rather than travel corridors for motorists. Treating streets as public space means creating streets that are safe and welcoming for all users, regardless of age, ability, income, race, ethnicity, or mode of travel. It means planning and designing infrastructure that supports the safety of pedestrians, cyclists and public transit users, as well as motorists. It also means incorporating human-scale design treatments such as street furniture, greenery, pedestrian scale lighting, and other elements that encourage people to treat streets as destinations in and of themselves. Cities that have embraced this approach to their largest public asset have reaped major rewards, with improvements to economic development, environmental sustainably, and public health.

School Streets programs embody the ethos of streets as public spaces. They democratize streets and give control of local assets to local communities. By temporarily closing streets to cars (and opening them to people), School Streets challenge the notion that the car must always be prioritized, even when they are limiting the health and well-being of children and youth. School Streets allow schools and communities to utilize streets as places for play, learning, and socialization. School Streets embraces the notion that streets hold much potential for supporting public good. Treating streets as public spaces is an essential approach for any city that is serious about combatting climate change, shifting mode share towards sustainable transportation, and supporting active travel to school.

Selecting a Host School

Three Markham public elementary schools were initially selected as potential host candidates for the School Streets program: Legacy P.S., Stonebridge P.S., and John McCrae P.S. All three were part of the larger (nine schools) Markham Active School Travel Pilot program that had been underway since 2019, so the staff and school communities were familiar with the benefits of active school travel and with the various engineering and programming initiatives that were being tested.

School selection started with a review of physical parameters:

"Must Have" Physical Parameters

- Not on arterial or major collector road
- Not on transit line
- Alternate roads available for through traffic
- No major traffic issues (although, in the long run, a school street might be a good remedy for a street with major issues, it was felt that, for the first pilot, a relatively quiet street was preferable)
- High percentage of students within walking distance

Other considerations taken into account at each school was the impacts School Streets would have on:

- Kiss and Ride
- Staff parking
- School bus drop off
- Number of residences with driveways within potential road closure area

Based on these parameters, one street at each school appeared to be suitable:

- Rouge Bank Drive at Legacy P.S.
- Stonebridge Drive at Stonebridge P.S.
- Stricker Avenue at John McCrae P.S.

Consideration was then given to the readiness, leadership and capacity of each school. Although each school had some supportive stakeholders, John McCrae P.S. had supportive administration, parents, and local community members. John McCrae P.S. had already initiated a closure of its Kiss and Ride every Wednesday to improve safety and encourage active travel, with largely positive feedback from parents and students. Extending the geography of the closure to include Stricker Avenue was seen as a logical and relatively minor extension. In addition, Stricker Avenue is a very quiet street with very good alternative roads, resulting in less traffic disruption for a first-time pilot. Providing access for the 15 blocked residences, the blocked Kiss and Ride, staff parking and school buses was felt to be manageable. Therefore John McCrae P.S. was selected for the first pilot program.

Traffic and Operational Plan

School Streets programs involve closing roads to vehicular traffic. In order to secure permits and permissions from the City of Markham Transportation Department, a traffic control plan was developed to effectively secure the streets and manage traffic approaching and surrounding the closure. In the province of Ontario, all road closures must be in accordance with guidelines outlined by the Ministry of Transportation of Ontario (MTO). The MTO has developed these guidelines through Ontario Traffic Manual Book 7 (Temporary Conditions) and were applied when developing the traffic control plan.

The traffic control plan consisted of the following elements:

- Advance road closure notification signs (installed two weeks prior to the closure).
- "Road Closed" and Local Traffic Only" signage at either end of the closure.
- Implementation of barriers at either end of the closure to restrict vehicular entry.
- The southern end of the closure at Fred McLaren Boulevard was intended to act as the access point for residents of Stricker Avenue and school staff. As such, the barriers could be moved by volunteers to allow for resident or school staff entry.
- The northern end of the closure at Hammersley Boulevard was intended to act as a 'hard' closure. No vehicular access was permitted.
- Although not required, the City implemented traffic cones along the centre of Stricker Avenue to provide guidance and a speed control measure for local residents and school staff that required access.
- Ongoing notification through the City's social media platforms about the School Streets closure prior to, and throughout the month of May.
- Notification of the road closure was mailed to local residents within the vicinity of the school.

Following development of the traffic control plan, City staff prepared a report to Council, seeking approval to proceed with the School Streets program at John McCrae P.S. Following Council's approval, the traffic control plan was circulated to the City's Operations Department for review and approval, and issuance of a Road Occupancy Permit was granted, allowing the program to proceed.

The traffic control plan called for four volunteers to be present at each morning and afternoon closure. Two of the volunteers were situated at each end of the closure and two were situated along the middle of the street. The volunteer at Fred McLaren Boulevard and Stricker Avenue assisted by facilitating access and egress of school staff members and redirecting caregivers who tried to enter the closure. The volunteer at Hammersly Boulevard and Stricker Avenue redirected any traffic that tried to enter the closure and was available to open the barricades if emergency vehicles required access. The two volunteers in the middle of the closure guided any residential and staff vehicles who entered or exited the closure and were responsible for escorting vehicles at a walking pace.

Figure 1: School Streets closure layout

Communication and Public Notification

A comprehensive communication plan was developed two and half months prior to the launch of the Markham School Streets program to educate and inform the school community along with local residents of the initiative. The school board worked closely with the City of Markham's corporate communication team to discuss and develop a plan for implementation. The plan included:

1. Physical mail out to over 200 local residents including an additional letter that was hand delivered to all 15 residences residing on Stricker Avenue within the road closure area prior to launch.
2. Two letters to the school community (guardians, students, and school staff) sent out digitally by the school.
3. Memorandum to Markham City Council including a report to Development Services Committee.
4. Creation and launch of a special page on the City's website hosting information about the initiative, including a copy of the residential letter that was mailed out. The website hosted access to the pre and post-installation feedback survey.
5. Presentation to School Council for buy in and input.
6. Installation of mobile signage at three locations around the neighbourhood.
7. Social media plan including paid Facebook ad, Twitter posts, Instagram posts and post on Nextdoor App specifically targeted to the school's neighbourhood.

8. Weekly Twitter posts by John McCrae P.S.'s twitter account.
9. Posting on John McCrae P.S's outdoor message board for one month prior to and during the month of the program.

Lightweight Barricades and School Streets Sign

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What We Learned

Implementation of Markham's School Streets Program

The Markham School Streets program was implemented from 8:15 - 9:15 a.m. and 3:00 - 4:00 p.m. on May 4th, 11th, 18th, & 25th, 2022. The weather for the days of the program was primarily mild, though at times in early May was overcast and in late May was quite hot (30 degrees Celsius).

The City of Markham retained a contractor to conduct the set-up and take-down of the road closure on each of the four Wednesdays in May. Moveable barriers were installed on Stricker Avenue at Hammersley Boulevard to the north and at Fred McLaren Boulevard to the south. On the inaugural day of the School Street Program (Wednesday, May 4th), the contractor arrived approximately 30 minutes prior to the scheduled school streets closure to initiate unloading of the equipment and set-up in preparation of the closure. The contractor implemented the closure approximately 15 minutes earlier than scheduled, which did generate some complaints from school staff and parents; however, this was corrected for the afternoon closure on May 4th and all subsequent Wednesdays during the pilot initiative.

Volunteers

To conduct the School Streets program, four volunteers were engaged per morning and afternoon shift; one at either end of the road closure and two on the street to assist with traffic entering and exiting the street. The four volunteers included a parent champion, the school's administration, including principal and vice-principal, and a YRDSB staff member. Volunteers were trained through an online virtual presentation. The virtual presentation covered topics related to the role of the volunteers, traffic control plan rules, key contact information, COVID-19 precautions and key frequently asked questions.

Media Launch Event

A kickoff and media event was held on the morning of May 4th to mark the official launch of Markham's first ever School Streets program. The event was attended by YRDSB Chair Allan Tam, YRDSB School Trustee Ron Lynn and Council members from the City of Markham including Mayor Frank Scarpitti, Deputy Mayor Don Hamilton and local Ward Councilors Reid McAlpine, Isa Lee and Amanda Collucci. YRDSB and City staff assisted with setting up the media event.

Data Collection Methodology

Impacts of the School Streets program on air quality, traffic congestion, driver behaviour, and student travel patterns were evaluated in several ways.

Pre and Post Survey

Surveys of John McCrae P.S. staff, students, parents/guardians of students, residents of Stricker Avenue affected by the road closure, and residents of Markham in general were conducted prior to and during the School Streets program. The survey tracked travel habits, the effects of the road closure, and perceptions of safety. Hosted by TCAT, the surveys were made of the road closure, and

perceptions of safety. Hosted by TCAT, the surveys were made available online and promoted by project partners via social media, e-blasts, and mailouts to residents and the school community. TCAT staff were also present at each School Streets closure to survey parents/guardians and students as they left school for the day. YRDSB staff and local volunteers knocked on the door and surveyed residents of Stricker Avenue affected by the closure. Students in grades 5 through 8 at John McCrae P.S. were surveyed by teachers and YRDSB staff.

The pre-installation survey was launched on March 22nd, 2022 and was closed on May 3rd. Students were surveyed the week of April 25th - 29th. The post-installation survey opened on May 4th and closed on June 6th. Students were surveyed the third week of May (after three School Streets program dates).

The findings from the survey are summarized from page 19 onwards.

Air Quality Monitoring

One major reason for the growing popularity of School Streets initiatives is the evidence from cities around the world that School Streets improve air quality around schools by reducing vehicular emissions. Air pollution has significant negative impacts on children's health and development.

The Markham School Streets program partnered with the University of Toronto to attempt to measure the program's impact on air quality around John McCrae P.S. Preliminary findings indicate that 42% of air pollution was eliminated, while 58% was moved away from the front of the school and the playground areas. A detailed report exploring these findings will be released by the University of Toronto in 2023.

Traffic Impacts

The impacts to local traffic congestion caused by the School Streets program was monitored by the City of Markham Engineering Department. Traffic data was collected through the deployment of automated traffic counters on boundary streets surrounding the school site. The counters collected hourly traffic data 24 hours/day, 7 days/week for the entire month of May.

The community surrounding the school is comprised of a grid-like road network, thereby providing many alternate routes for through traffic to take, during the School Streets road closure. Current traffic volumes on these streets are well below capacity and the streets are capable of accommodating additional traffic, should it be required. It was hypothesized that there would be modest increases in traffic volume on streets surrounding the school property.

Based on the attached graphs in Appendix A, this hypothesis was accurate. On the Wednesdays when the School Streets was in effect, traffic volumes on Hammersly Boulevard and Fred McLaren Boulevard saw only a modest increase in traffic. This is expected, given that these are unofficial "detour" routes around the School Street closure. It is also where student drop off and pick up activity occurs but is consistent with increases in traffic as a result of the school's Walking Wednesdays program, which involve closing the school's Kiss and Ride facility. Of note, Stricker Avenue saw a reduction in traffic volume, north of the School Streets closure. This can be directly tied to the School Streets Closure, as the inability to continue south of Hammersly Boulevard likely resulted in drivers avoiding the

entirety of Stricker Avenue and taking alternates (i.e., Roy Rainey Drive).

Prior to the implementation of the School Streets closure, there were concerns expressed by stakeholders about potential resident complaints being received by City staff about significant disruptions to traffic and travel. This did not transpire, and no documented complaints were received by the City.

Driver Behaviour Observations

On each School Streets program date, volunteers overseeing the road closure noted vehicles entering and exiting the closure. On the first day (May 4th) of the School Streets program, volunteers witnessed approximately 6-8 residents who needed to access the School Streets closure. As each week went by fewer residents attempted to leave or enter the street at the designated school street period with more residents adjusting their schedules to work around the School Streets closure period.

A few school staff members attempted to enter the street from the hard closure at Hammersley Boulevard in the morning during the school streets time frame. Some altered their route without hesitation while a few seemed upset and felt it was an inconvenience. During closure days, no emergency vehicles required access to the road closure.

Survey Findings

Overview of Survey Respondents

A total of 624 Survey responses were collected across the study, with 299 collected prior to the School Streets program and 325 collected during and afterwards. For the sake of simplicity, responses collected prior to the program will be referred to as 'pre-installation' and responses collected during and after will be referred to as 'post-installation' survey responses.

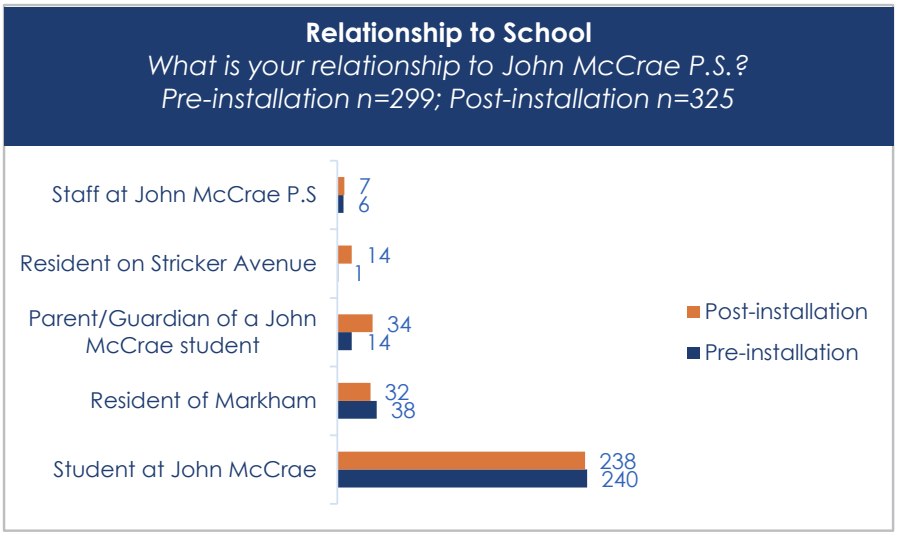


Figure 2: Relationship to school survey responses

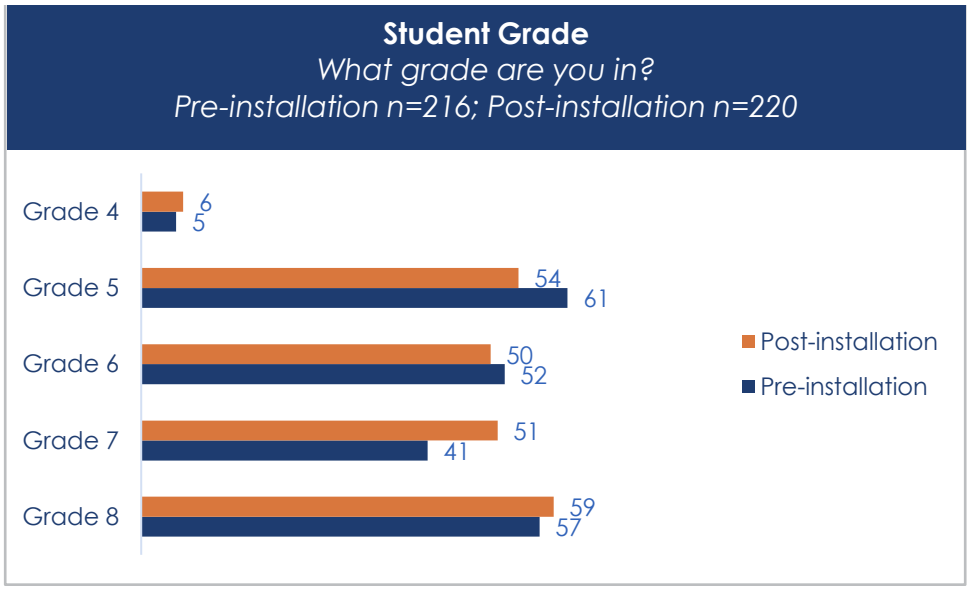


Figure 3: Survey reponses on school grades

The majority of survey respondents were students at John McCrae P.S. Students were fairly evenly distributed across grades 4 through 8. A total of 59 pre-installation responses and 87 post-installation responses were gathered from the school community, residents of Stricker Avenue affected by the closure, and residents of Markham in general. The majority of survey respondents live within the school catchment area, with a significant number living in communities surrounding but just outside the immediate school area. Of the 15 residences on Stricker Avenue that were directly within the road closure, 14 responded to the post-installation survey.

Street Closure for School Streets

Survey Respondents by Postal Code

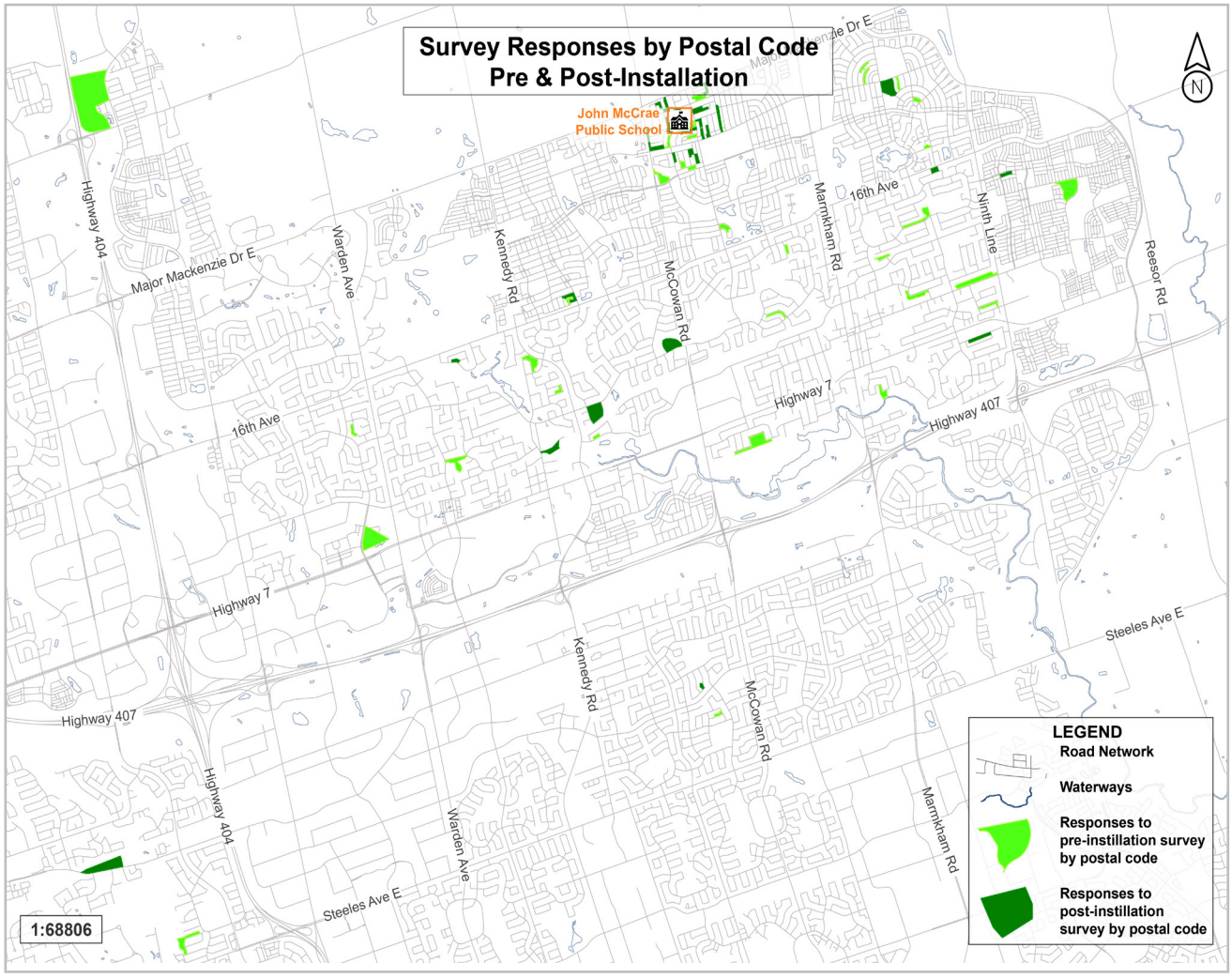


Figure 4: Survey responses by postal code

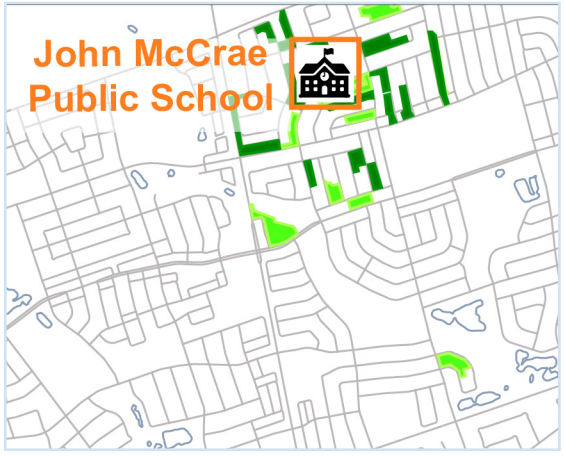


Figure 5: Area with the most survey respondents

Survey Respondent Demographics

The importance of disaggregating data and incorporating optional demographic questions in public surveys has been established in numerous studies and reports, including when working with children and youth, students, during a pandemic, and on active transportation initiatives. Statistics Canada has committed to disaggregating their data when collecting information and the Ontario Human Rights Commission has issued a call for all public sector organizations in the province of Ontario to collect disaggregated data as a necessary tool in implementing anti-racist policies and programs.

Age was the only demographic question included in the final version of the survey. The project team made the determination that for the purposes of this study, inquiring about additional demographic details would be potentially invasive without providing greater insight into survey results. The project team will continue to refine their methodology should future School Streets programs be implemented.

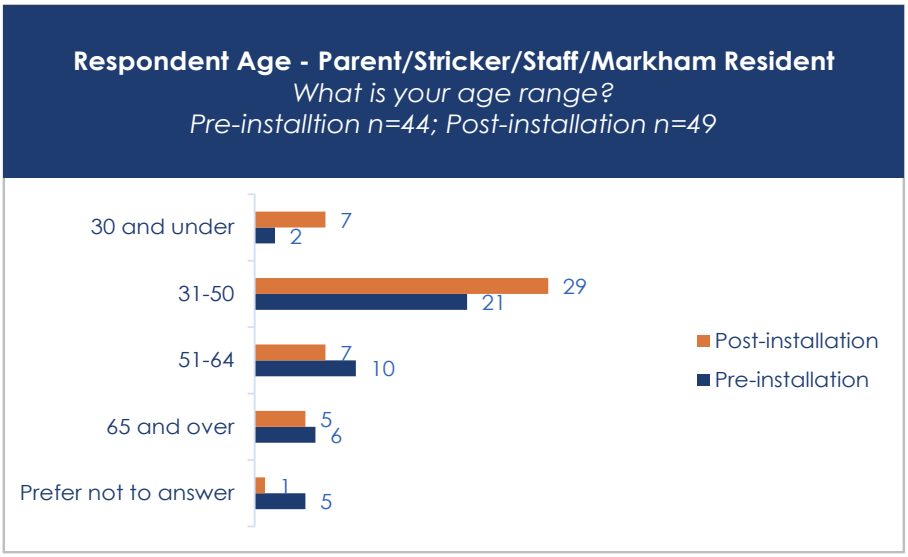


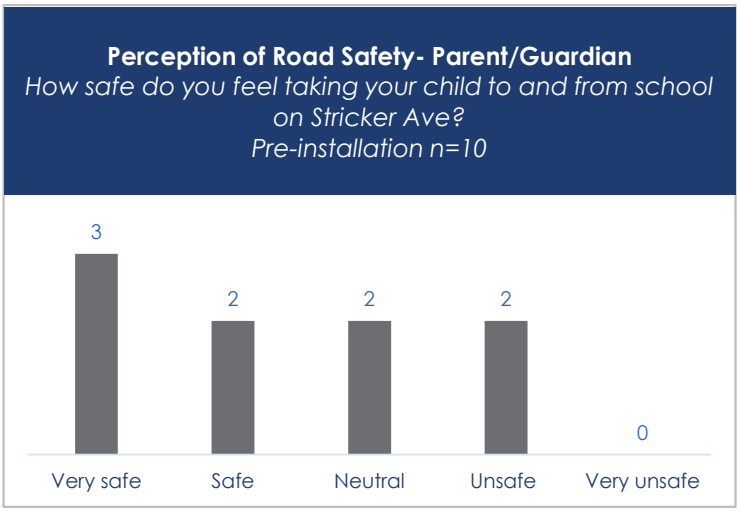
Figure 6: Age range of respondents

Program Effectiveness

The intent of the School Streets program was to enhance road safety around John McCrae P.S. and encourage active travel to school.

Enhance Road Safety

A notably higher number of parents and guardians indicated they felt safe or very safe during the program compared to prior to the program. While they felt relatively safe taking their child to school on Stricker Avenue prior to the program, during School Streets respondents felt even safer.



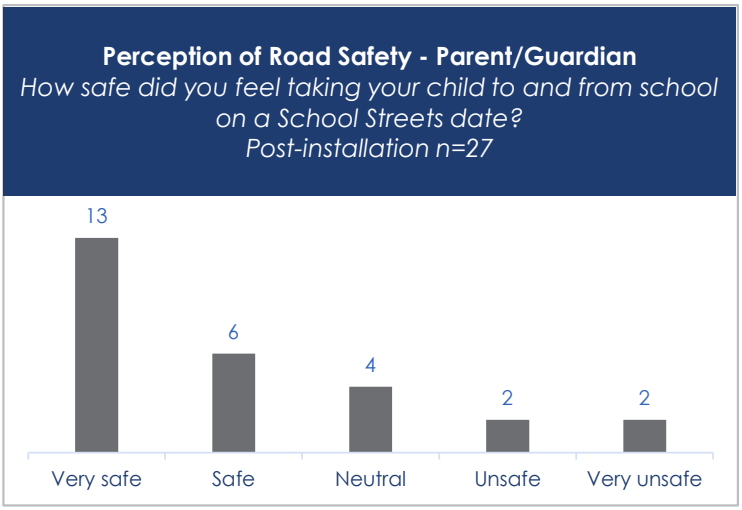


Figure 7 & 8: Pre- and Post- installation road safety perception of parents and guardians

What Parents and Guardians Said About Their Perceptions of Safety During School Streets:

"My child can now cross the street safely due to very less cars on the street."

"I like it because it keeps kids safe."

"It promoted health by walking to school while keeping kids safe on the street."

"Caused a traffic disaster in the area. It was a horrible idea and made things unsafe with frustrated drivers going faster and making u-turns."

Students also felt safe during the School Streets program, with 66.4% responding that they felt safe or very safe on Stricker Avenue during the program. Only 2.3% of students reported feeling unsafe or very unsafe.

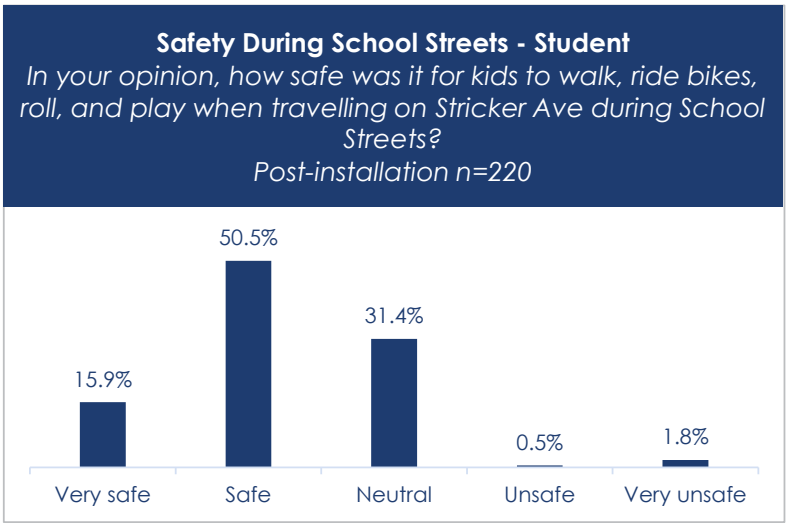


Figure 9: Post-installation student safety perception

It is interesting to note that while parents and guardians were most likely to indicate they felt the street was very safe during the program, a majority of students indicated they felt safe but not very safe. This could indicate that what makes children feel unsafe is different from what parents feel would make children unsafe. When asked for reasons why students did not like their journey to school prior to the School Streets program, responses included factors such as bullying, fear of animals, and worries about large crowds of people in narrow sidewalks. These are safety concerns that may not be considered by adult caregivers.

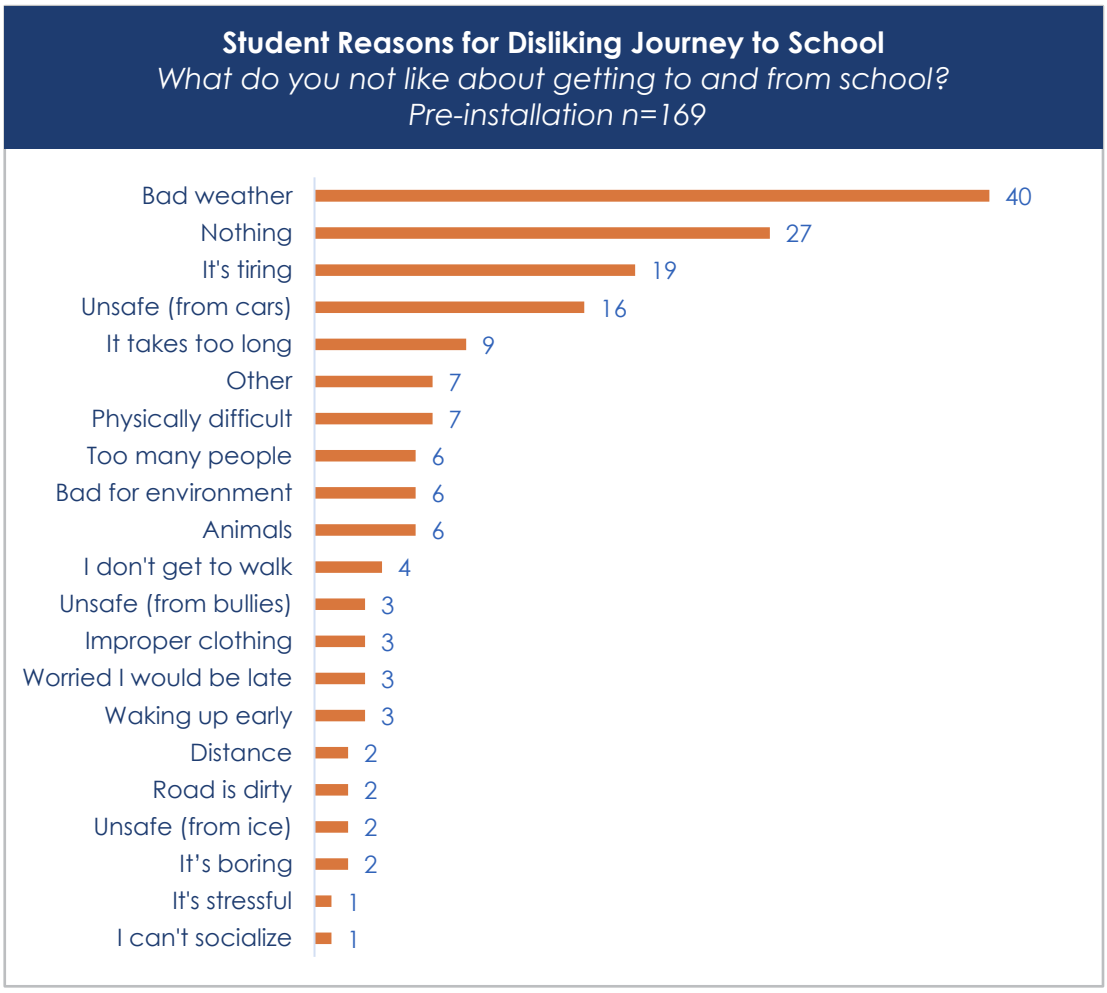


Figure 10: Student reasons for disliking journey to school pre-installation

The most common reason given by students for why they enjoyed their trip to school during School Streets was that it felt safer, suggesting the program was successful in enhancing perceptions of road safety around John McCrae P.S. during school pick up and drop off times. Exercise, opportunities for social connection, and access to fresh air were also common reasons for students enjoying the program.

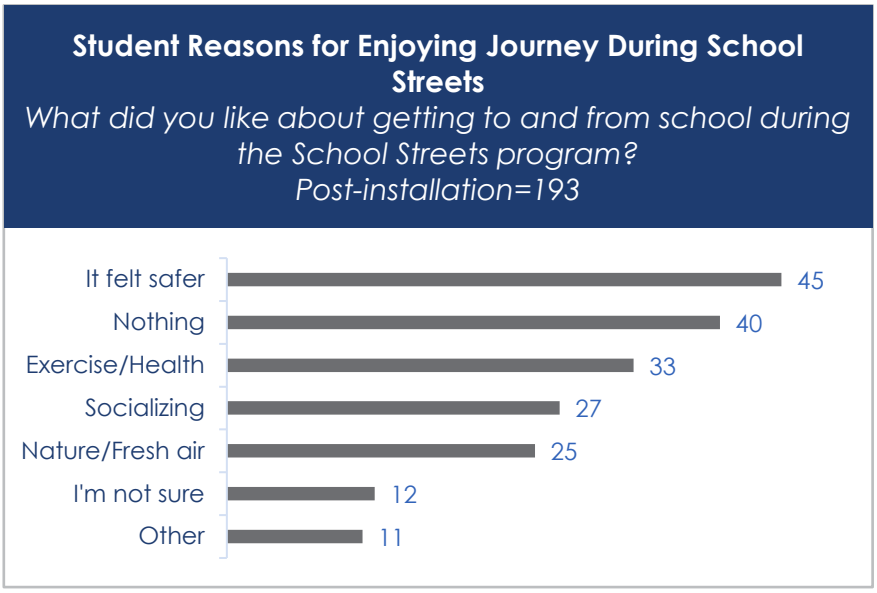
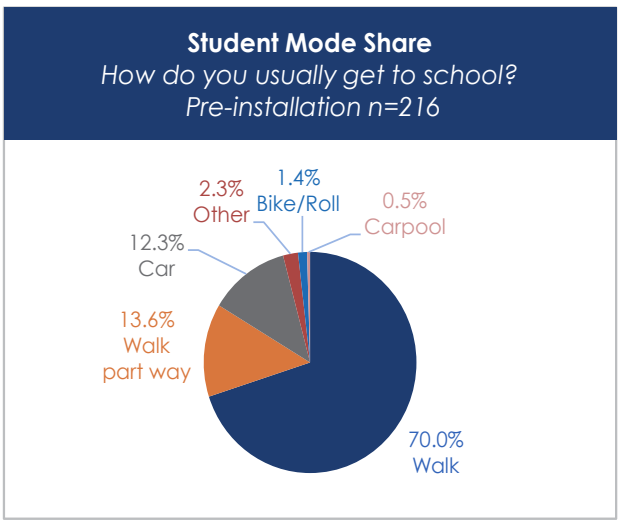


Figure 11: Student reasons for enjoying journey during School Streets

Encouraging Active Travel to School

Prior to the School Streets program, John McCrae P.S. already had a very high proportion of students who walk to school, with 70% of student respondents walking prior to the program. On School Streets program days, the number of students walking to school saw a very small increase (1.4%). The largest shift during School Streets was in the number of students being driven to school. Prior to the program 12.3% of students were driven to school, but that number reduced to 6.4% on School Streets dates. The majority of students who previously were driven to school shifted towards biking and rolling on School Streets dates.



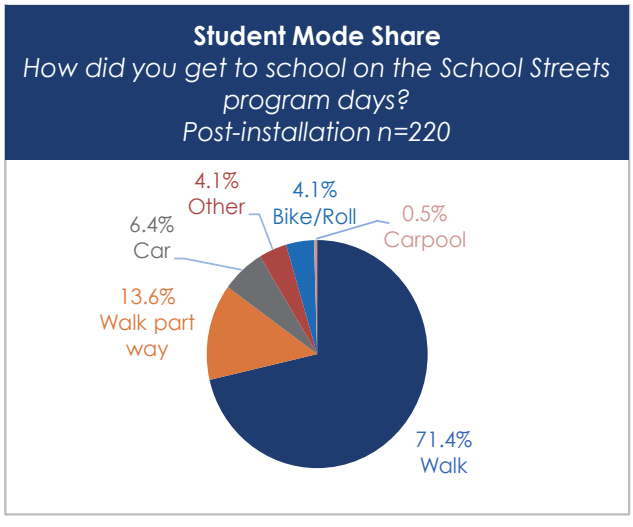


Figure 12 & 13: Student more share pre- and post-installation

By far the most common student response when asked what they disliked about their journey to school during School Streets was 'nothing'. This could indicate that the program was successful in removing many of the most negative aspects of students' commutes.

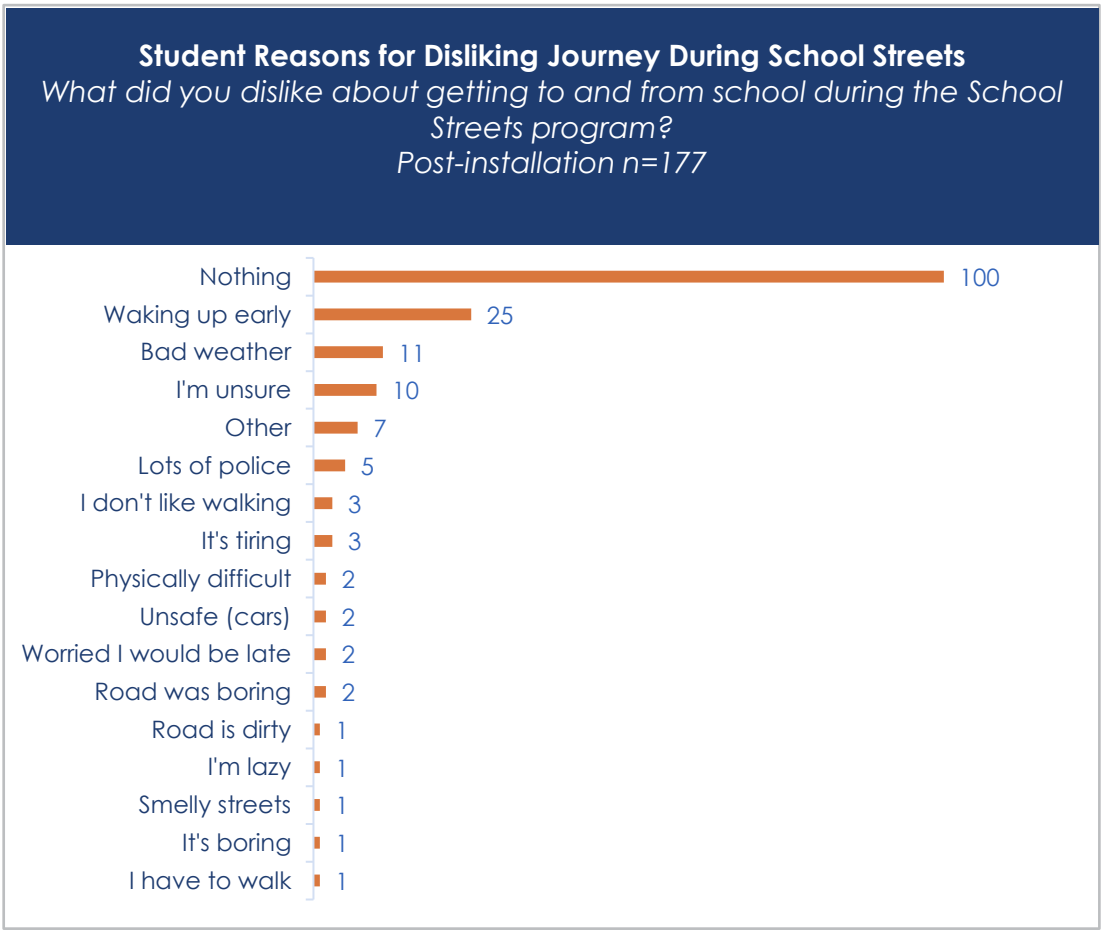


Figure 14: Student reasons for disliking journey to school post-installation

Impact of Road Closure on Vehicular Traffic

The two most common reasons cited by respondents for why they were not supportive of piloting the School Streets program in the pre-installation survey were fears that the closure would inconvenience drivers and cause increased traffic congestion. As the City's transportation data illustrates, the latter concern did not materialize. The former ended up not being a significant issue either, with a majority of respondents reporting that the closure had no impact on them whatsoever.

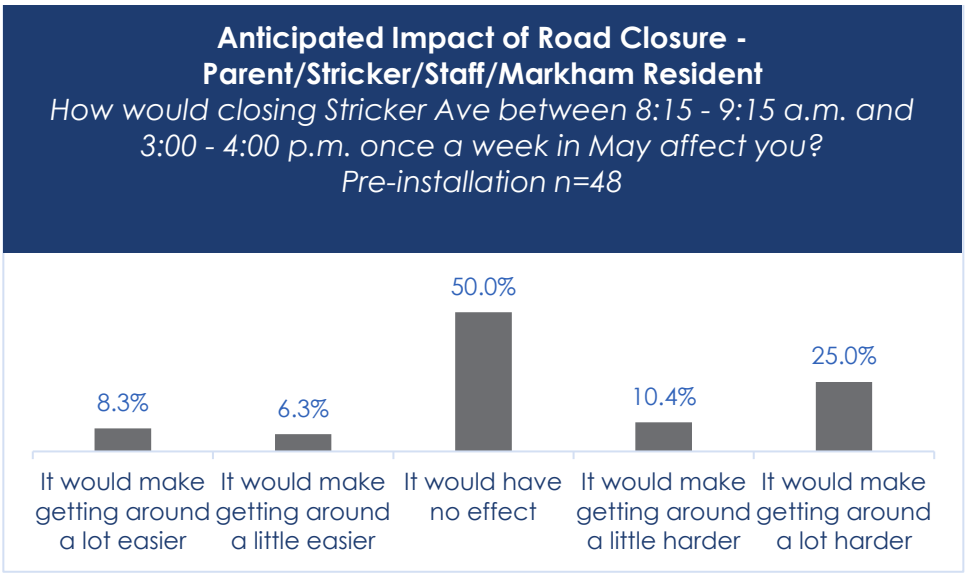


Figure 15: Anticipated impact of road closure for School Streets

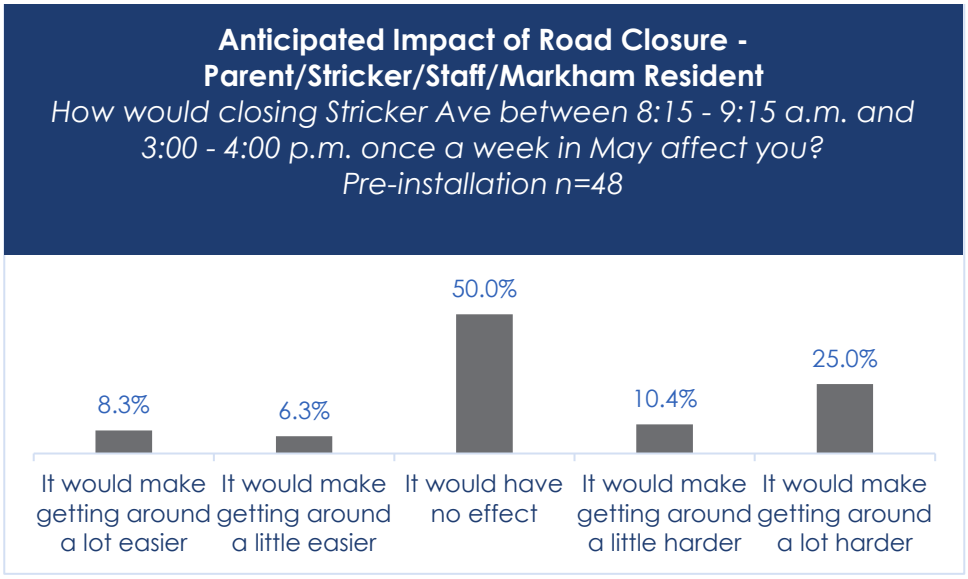


Figure 16: Impact of road closure for School Streets

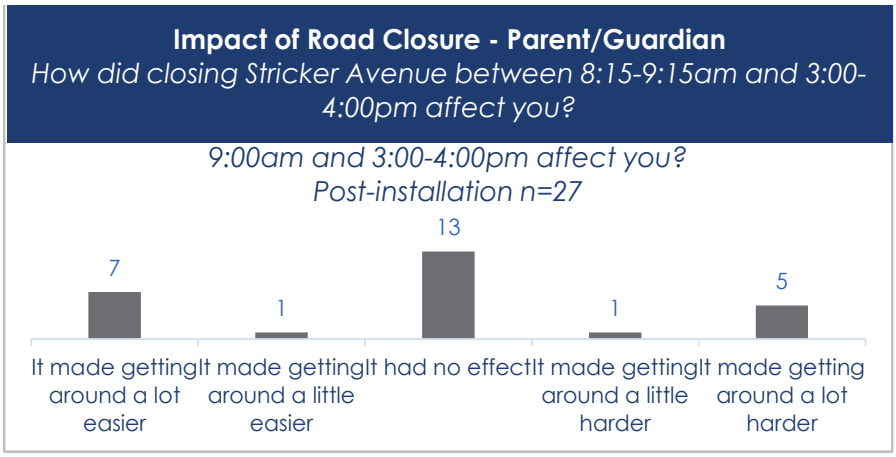


Figure 17: Impact of road closure for School Streets - Parent/Guardian

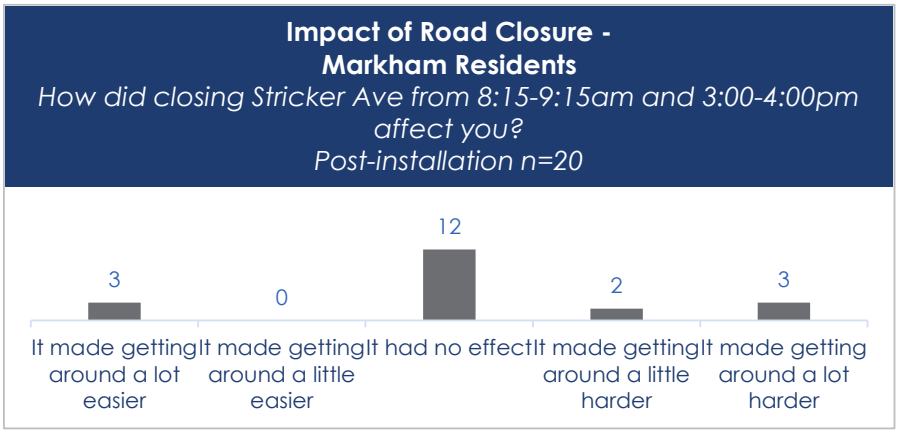


Figure 18: Impact of road closure for School Streets - Markham Residents

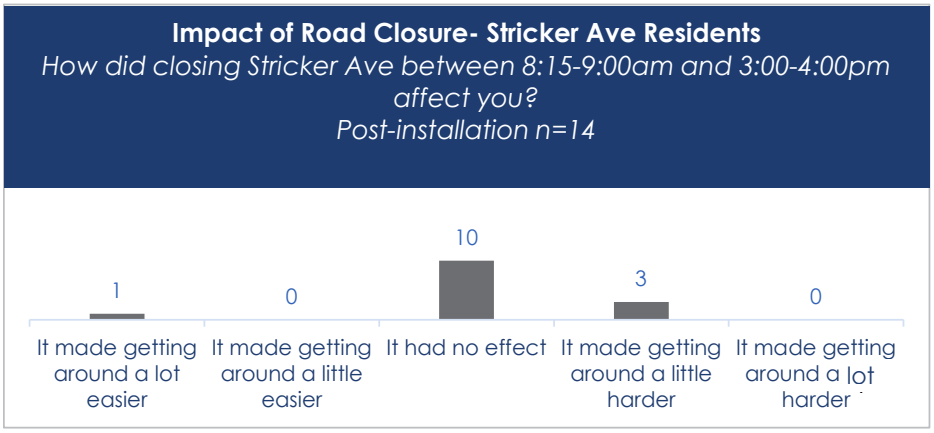


Figure 19: Impact of road closure for School Streets - Stricker Avenue Residents

This was true for parents/guardians, residents of Stricker Avenue, and general Markham residents. More parents indicated the program made it easier getting to and from school than those who claimed it got harder. Only school staff responded with more respondents indicating that the closure made it a little or a lot harder to get around (3) as compared to those who indicated it had no affect (2). In the pre-installation survey, 25% of respondents anticipated that the road closure would make getting around a lot harder. In reality, only 11.9% found it made getting around very difficult. Similarly, 8.3% of respondents in the pre-installation survey indicated the closure would make getting around a lot easier. That number increased to 17.9% of respondents finding their trip to school made much easier by School Streets. This would suggest that concerns from residents about traffic inconveniences caused by initiatives like School Streets may be overstated.

Satisfaction with School Streets Program

A strong majority of adult respondents liked what they saw of School Streets. 62.2% liked or strongly liked the School Streets program, with only 24.3% disliking or strongly disliking the program. This was true for a majority of parents/guardians, Stricker Avenue residents, and residents of Markham. School staff were less positive, with three staff respondents liking the program and three staff respondents being unsure or neutral.

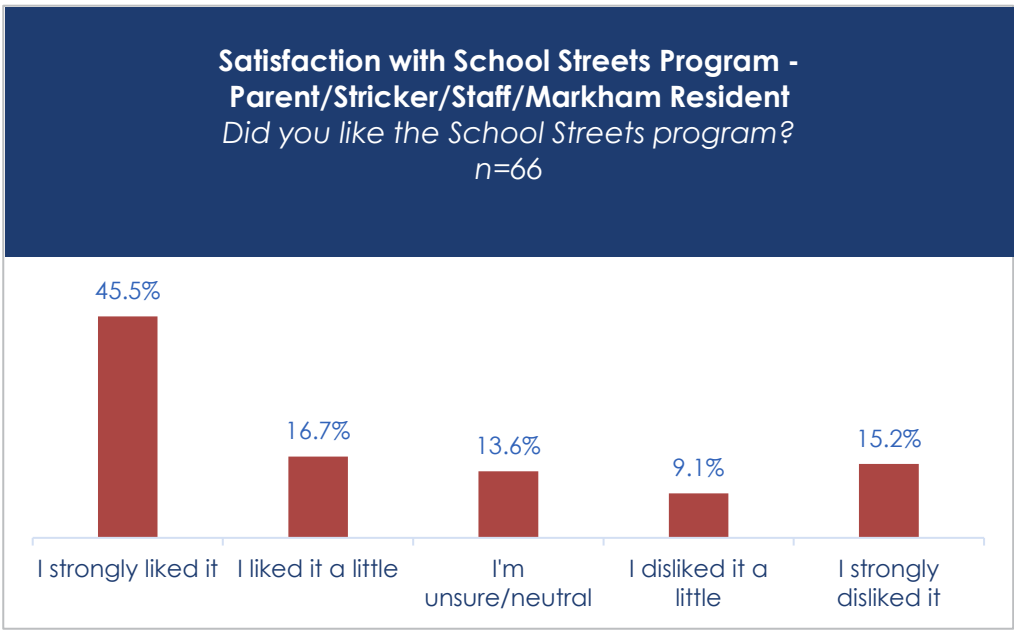


Figure 20: Satisfaction with School Streets Program - Parents/Stricker/Staff/ Markham Residents

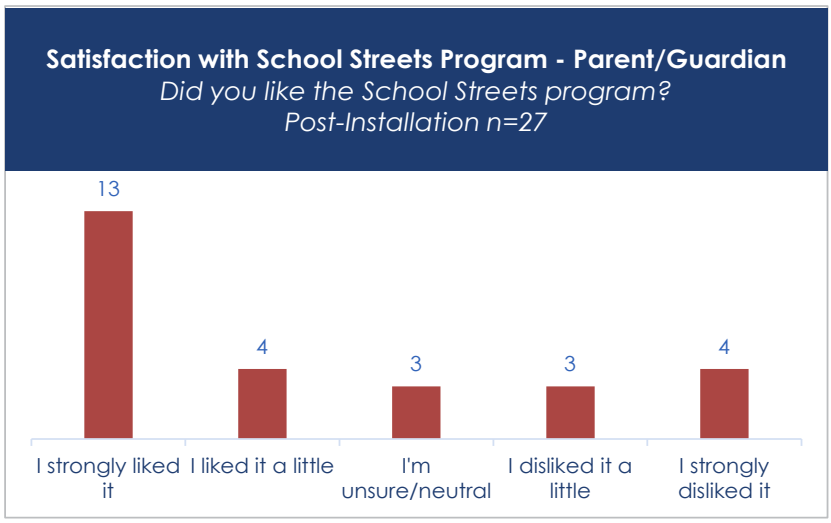


Figure 21: Satisfaction with School Streets Program - Parent/Guardian

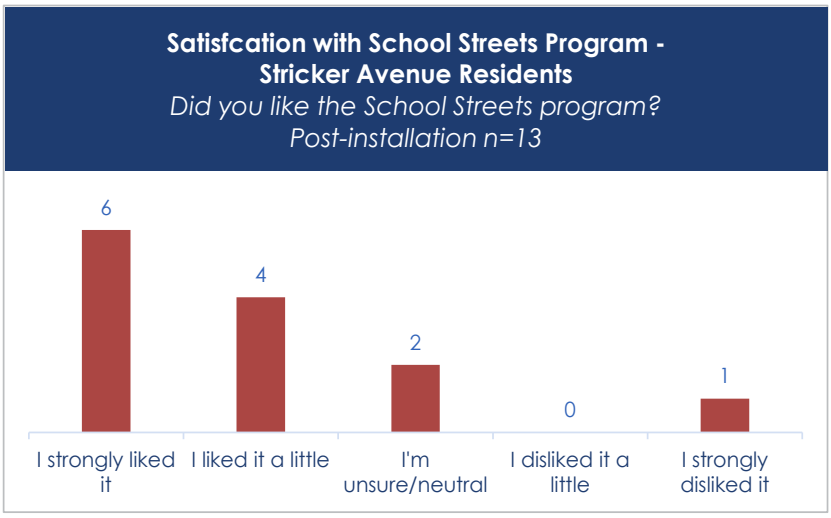


Figure 22: Satisfaction with School Streets Program - Stricker Avenue Residents

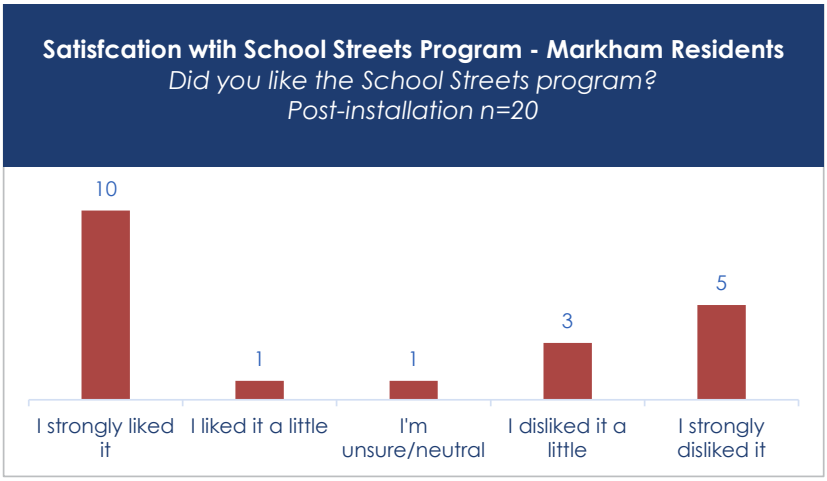


Figure 23: Satisfaction with School Streets Program - Markham Residents

Improved road safety was the most cited reason by adults for why they liked the School Streets, with encouraging active travel to school another common reason. Inconvenience and increased congestion were cited as the most common reasons for why adults disliked the program, although this negative sentiment comprised a minority of all respondents.

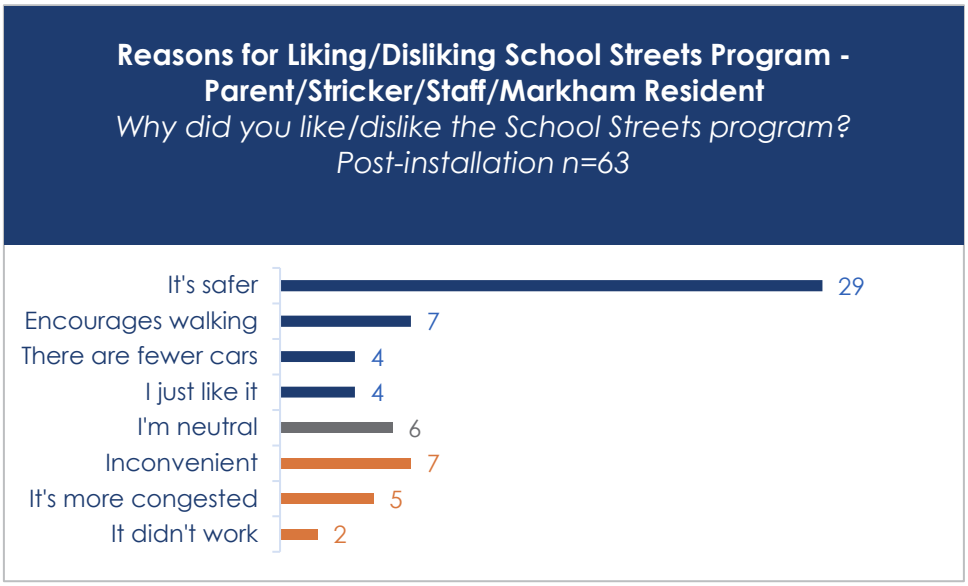


Figure 24: Reasons for liking/disliking School Streets Program - Parents/Stricker/Staff/ Markham Residents

Students were slightly more ambivalent about the program. 45.5% either liked or strongly liked the program, and almost as many (44.5%) were unsure or neutral about it. This could indicate that more could have been done to create an engaging, inviting atmosphere on the street during the program to further student excitement for the program and for active travel to school.

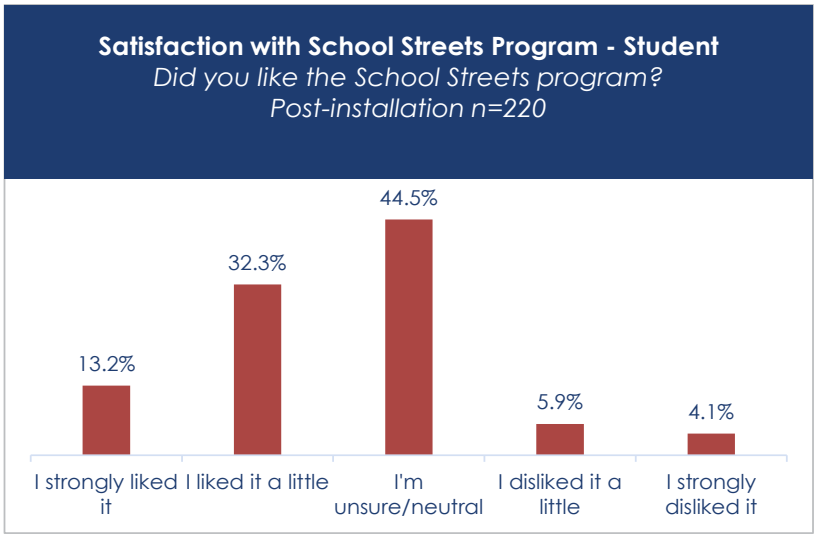


Figure 25: Satisfaction with School Streets Program - Student

What Students Liked or Disliked About School Streets:

"I like seeing people, and friends on the way of walking."

"Less cars makes everything more quiet and it's nice quiet."

"I can see my friends walk with me."

"It's basically the same as before, but I guess having less cars around is good."

"Nothing changed for me."

"I liked how there were less cars on the streets, which would make it safer."

"I didn't notice anything different."

"Getting the fresh air and talking with friends."

"I dislike waking up early due to walking."

"It sounded kind of ghostly???"

"It's boring."

"There are too many police."

Support for Future School Streets

Significant community support for School Streets was present prior to the program, with 58.4% supporting the initiative in the pre-installation survey vs. 37.5% unsupportive. Support for School Streets was even higher once the community had the opportunity to experience the program in action. Support for future School Streets program rose to 64.2% of respondents in the post survey, while opposition dropped by more than 10%. Once more, a majority of parents/guardians, Stricker Avenue residents and other residents of Markham were supportive of future School Streets initiatives.

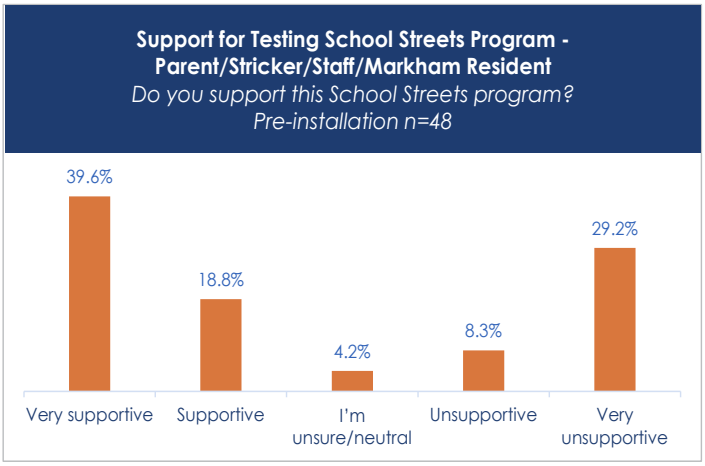


Figure 26: Support for Testing School Streets Programs - Combined

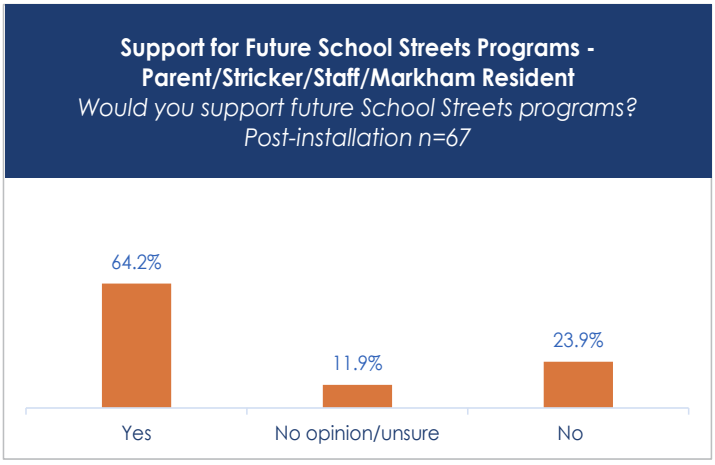


Figure 27: Support for Future School Streets Program - Combined

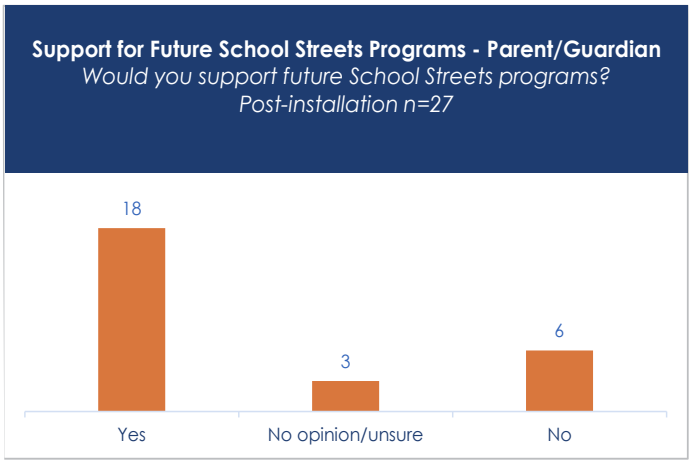


Figure 28: Support for Future School Streets Programs - Parent/Guardian

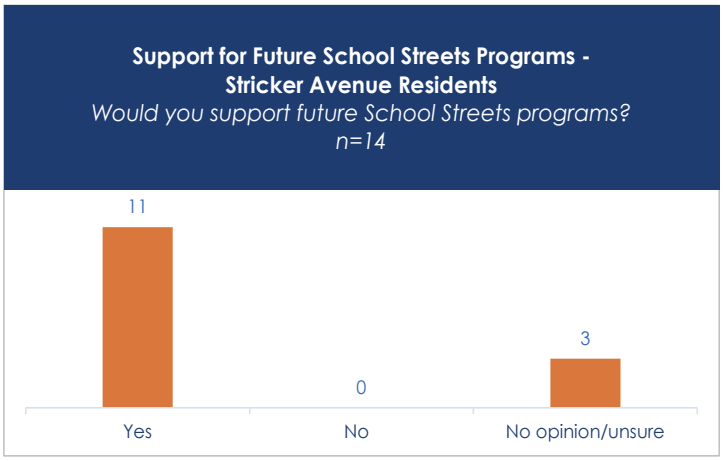


Figure 29: Support for Future School Streets Programs - Stricker Avenue Residents

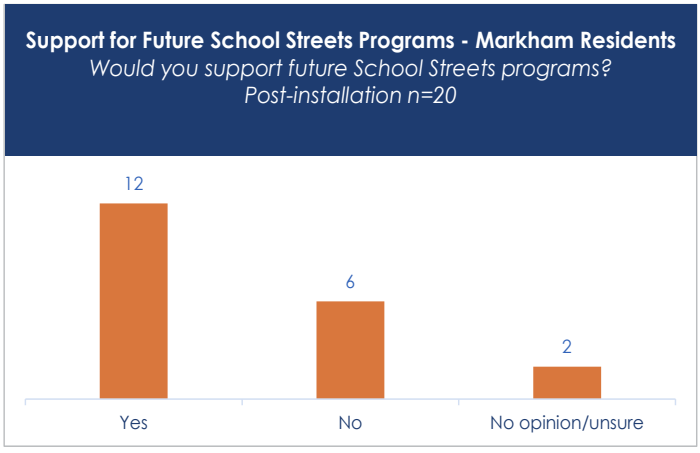


Figure 30: Support for Future School Streets Program - Markham Residents

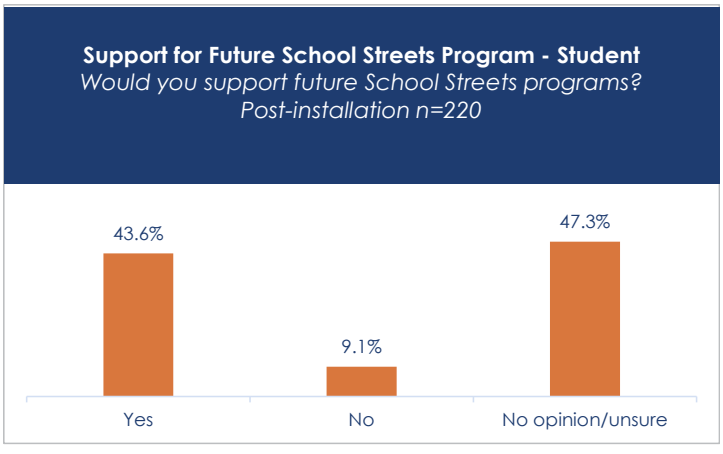


Figure 31: Support for Future School Streets Program - Student

As with their level of satisfaction with the program, students were more unsure about whether they would support future School Streets as compared with adults. While many (43.6%) were supportive of future School Streets, 47.3% of student respondents were unsure or had no opinion on whether they would support future School Streets. This could again underline the importance of allowing the street to become a focal point of play and socialization in building student interest in future active travel initiatives.

What Respondents Said About Future School Streets Program:

"More street signs, like school zone signs. Add traffic lights on major crossing intersections near the school zones. Besides walking Wednesdays, should encourage another day of the week for walking only."

"Make it easier knowing where the parking is and better communication."

"Extend to other streets around school."

"Not all students can walk to school! You need to accommodate to those who can't as well!"

"The City needs to conduct a traffic impact study. At this time, I strongly oppose this program."

"I think this is an excellent idea and should be promoted to more schools."

Budget and Costs

BUDGET	COSTS
Road Closure	$ 5,258.10
Road Occupancy Permit	$ 476.50
Social Media	$ 1,198.69
Signage	$ 1,288.20
Surveys	$ 3,758
Report	$ 6,180
TOTAL	**$18,160**

The total cost of the Markham School Streets program was **$18,160.**

Technical Comments from City of Markham and YRDSB

From the City perspective, the primary measure of success of the School Streets program was to encourage more active modes of travel to school and a reduction of vehicular traffic destined to the school, while ensuring overall disruption to the local community was minimized. Following the ending of the program, the City can report that this objective has been achieved. Some key items that contributed to the success of this program include:

- School administration were champions of this new initiative. This level of leadership is critical to the success of any active travel program.
- School community was very active and clearly showed enthusiasm about School Streets.
- School Council support was strong.
- Strong advocacy from local elected officials ensured that municipal approvals would be streamlined and the appropriate resources allocated.
- Level of coordination among all stakeholders was excellent, with standing committee meetings to effectively develop work plans. The partnership between the City of Markham and the YRDSB made the permitting process easy to navigate.
- As the pilot progressed, fewer vehicles used the street during the road closure hours.
- Minimal traffic increases on adjacent routes occurred.
- Clear promotion and public awareness benefits of active travel to school.

While the evidence is clear that the School Streets program was successful in demonstrating proof-of-concept in a car-dependent community, it needs to be understood that this pilot was not a fully realized School Streets closure, as local vehicular traffic was still allowed access. From the City's perspective, this restricts what can be done on the street in terms of programming or activation of activities. Below are some notable observations that should be considered for future School Streets initiatives.

- Implementing School Streets on a street with minimal or no private access will make it easier to animate the street without worry of managing conflicts between vehicular traffic and pedestrians.
- Need to provide more animation on the street. Pedestrians remained on the sidewalks and off the roadway, creating a rather "empty" road.
- Given the size of the closure, volunteers had difficulty escorting local traffic through the closure while still monitoring the road closure barricades. To resolve this, additional escorts are required or the size of the closure needs to be reduced.
- The duration of the closure (one hour) appeared to be too long. Students typically do not travel to and from school until 15-20 minutes before the morning and afternoon school bells. Reducing the duration of the closure to 30 minutes may be preferred to minimize disruption to the local community; however this needs to be balanced against any potential programming that may occur on the street.

School site location, access and surrounding road network are important factors to the success of School Streets. The benefits of School Streets are clear, and the Markham School Streets program has demonstrated that it can be done successfully with thoughtful planning and collaboration between the school board, local municipality and school community. A similar approach should be taken when selecting future locations.

4 Conclusion

Markham's first School Streets program was successful in achieving its stated goals of enhancing perceptions of road safety around John McCrae P.S. and encouraging greater student participation in active travel to school. Support for future School Streets initiatives was present both in the broader community, and among those most affected by the road closure. The impacts to local traffic congestion were minimal. Students and caregivers found much to enjoy about the addition of a car-free space to their journey to school. The data supports further school streets in Markham and York Region.

The program also yielded many valuable lessons for the Markham School Streets team to consider. Adding programmatic elements to the road closure would play a large role in enlivening the program and fostering even higher levels of socialization, joy, and active travel. A full hour road closure in the morning and afternoon may be more than is required. Strong communication to local residents was key in garnering local support for the pilot. As the YRDSB and the City of Markham contemplate future School Streets initiatives, a few areas to consider are:

» **Test a School Streets program at a school where more students are currently being driven.**
As indicated, John McCrae P.S. was an ideal school for Markham's first School Streets program in many ways. However, close to 70% of students at John McCrae P.S. already walk to school, limiting the potential impact the program could have in shifting families towards active travel to school. Selecting, as the next host site, a school with greater untapped potential for active travel could unlock greater insights into School Streets programs' viability in Markham.

» **Streamline the School Streets program approval and implementation process.**
The amount of planning, permitting, and notification required to close a 150 metre stretch of residential road to through traffic for a total of eight hours over the course of one month was disproportionate compared to the minimal disruption it caused. A less onerous approval process would be a major benefit to other communities curious about piloting School Streets in their own neighbourhoods and situate the City of Markham withing Ontario as a leader in facilitating innovative tactical urbanist initiatives.

» **Animate the street and incorporate student play and social interaction into the program.**
While not every School Streets program from around the world utilizes road animation, many do tacitly encourage children and families to take to the street for physical and social recreation. Student respondents at John McCrae P.S. were uncertain how they felt about future School Streets initiatives. Encouraging the school community to program and make use of their street during School Streets can be a powerful tool in building student excitement for the program and for active travel in general. Successful road safety models that mix local vehicular traffic with community programming, such as Play Streets and Shared Streets, should be investigated as potential models to learn from.

» **Continue to monitor air quality impacts.**
While the findings from the air quality study were generally positive, more study can be done to fully understand how School Streets can be utilized as a tool for improving the health and well being of Markham's youngest residents.

» **Expand the scope of the next School Streets program and operate it every day for a month or for an entire season.**
Research from School Streets programs elsewhere indicates that consistent, regularly

occurring program implementation is essential in establishing active travel to to school as the default everyday mode of travel for children and guardians. With the School Streets concept now proven in Markham, the next step should boldly build off this initial success.

In 2017 the City of Markham adopted its *Getting to Zero Municipal Energy Plan*, that calls for 50% of all trips shorter than 2km to be walked and trips shorter than 5km to be cycled. In 2021, the City adopted an Active Transportation Master Plan that restates the same goals and identifies the importance of resident-led tactical urbanist projects in shifting travel models towards walking and cycling. The success of the John McCrae P.S. School Streets program makes a strong case for School Streets programs as an ideal initiative to kick-start both of these objectives. Combined with the York Region District School Board's commitment to encouraging active school travel in all of their school communities, there are many opportunities to expand, adapt, and improve School Streets at John McCrae P.S. and in other communities across the city.

Markham School Streets Closure Sign

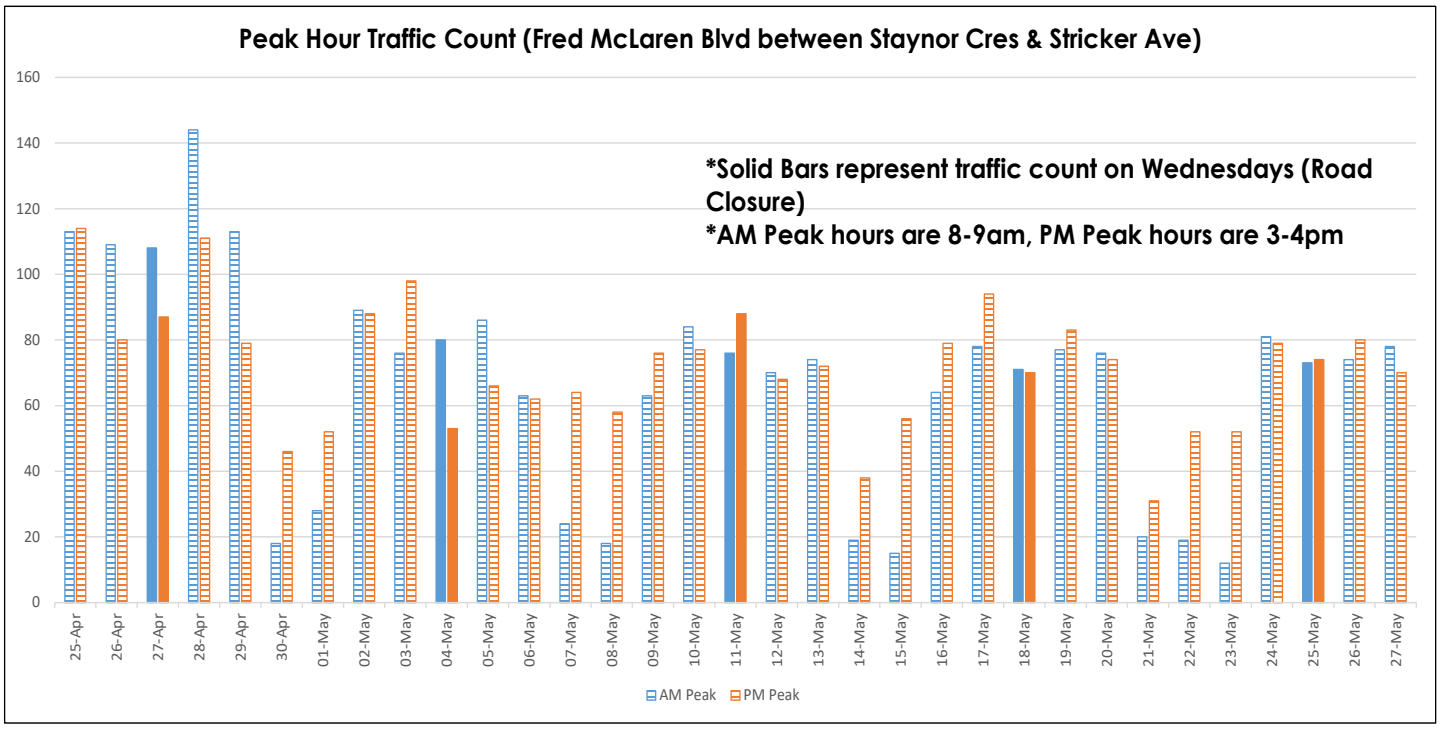
5

Appendix

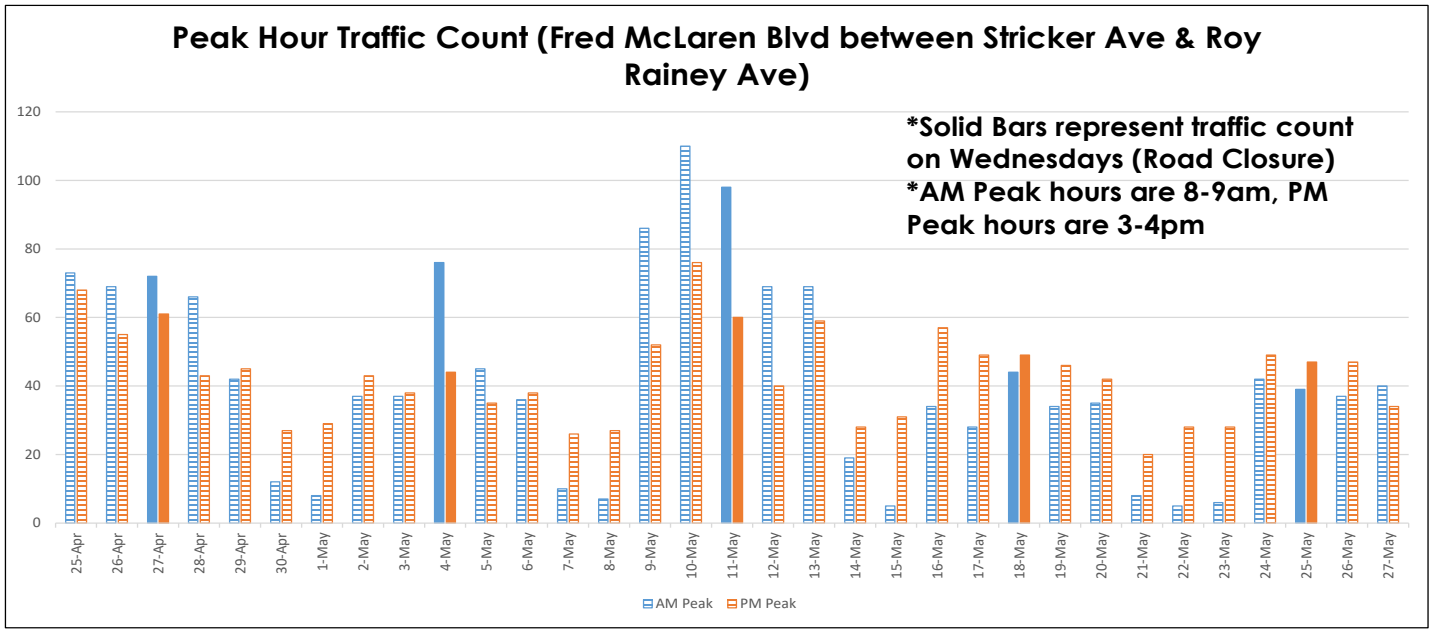
Appendix A

Peak Hour Traffic Counts

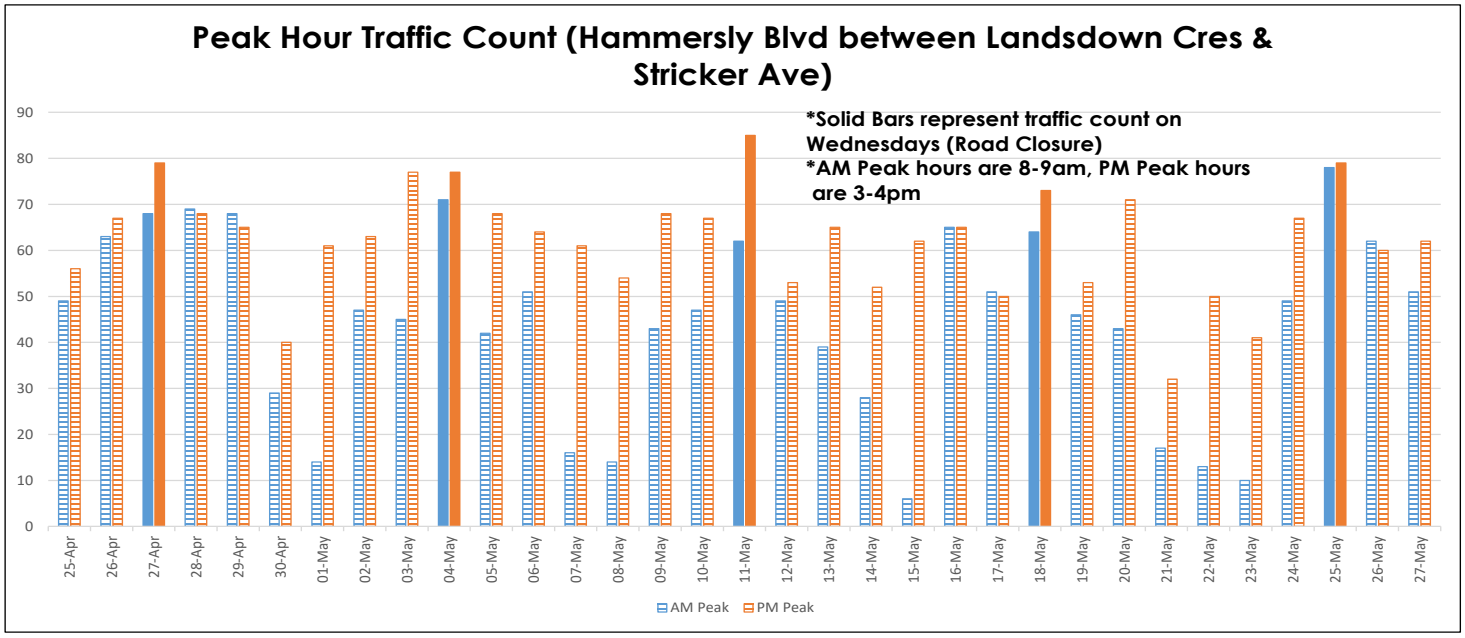
1. Peak Hour Traffic Count (Fred McLaren Blvd between Staynor Crescent and Stricker Avenue



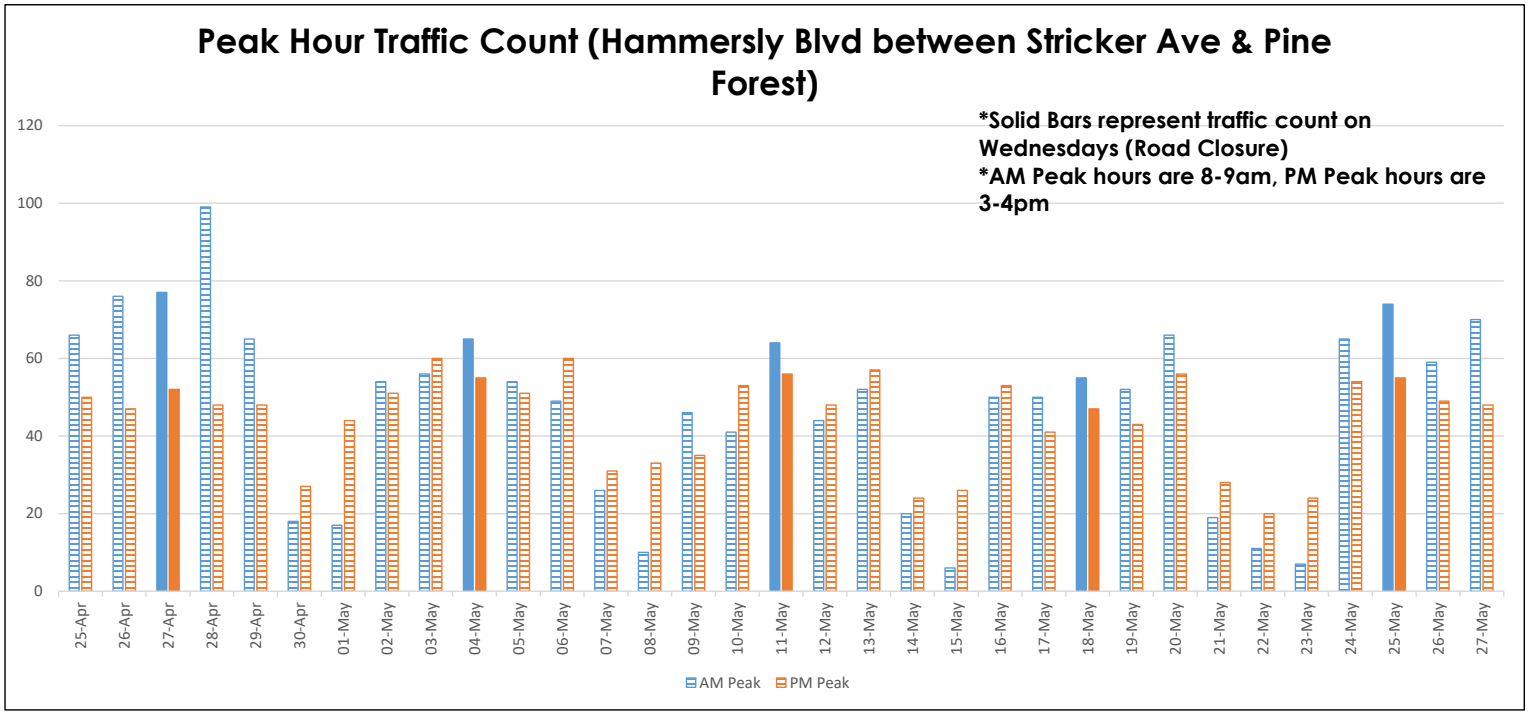
2. Peak Hour Traffic Count (Fred McLaren Blvd between Stricker Avenue & Roy Rainey Avenue)



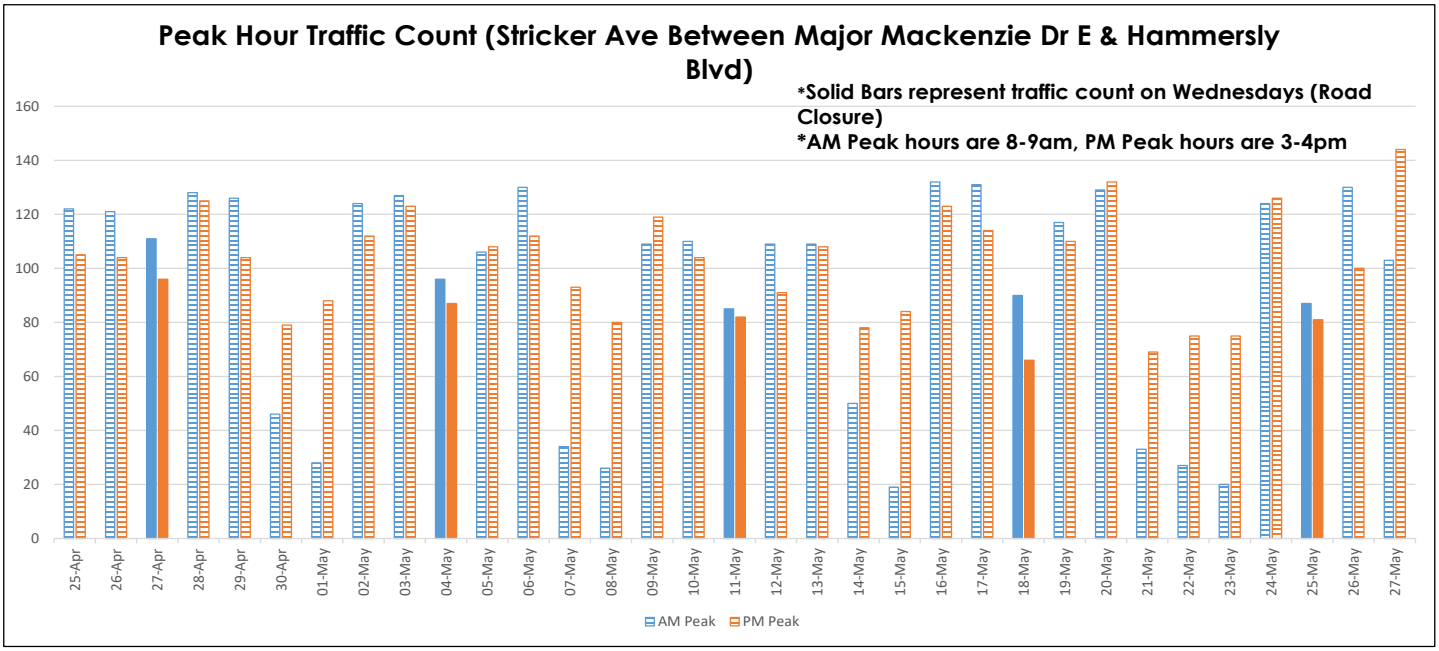
3. Peak Hour Traffic Count (Hammersly Blvd between Landsdown Cres & Stricker Ave)



4. Peak Hour Traffic Count (Hammersly Blvd between Stricker Ave & Pine Forest)



5. Peak Hour Traffic Count (Stricker Ave Between Major Mackenzie Dr E & Hammersly Blvd)



Appendix B

Student Survey Questions (Pre- and Post-installation)

School Streets Pre-Installation Survey – Students

1. What grade are you in?

a. Year One Kindergarten
b. Year Two Kindergarten
c. Grade 1
d. Grade 2
e. Grade 3
f. Grade 4
g. Grade 5
h. Grade 6
i. Grade 7
j. Grade 8

2. How do you usually get to and from school?

a. Walk
b. Walk part way
c. Bicycle or Rolling
d. Carpool
e. Car
f. School bus
g. Other (please specify)

3. What do you like about getting to and from school? (open ended)

4. What do you not like about getting to and from school? (open ended)

5. Do you support this School Streets test?

a. Very supportive
b. Supportive
c. I'm unsure/neutral
d. Unsupportive
e. Very unsupportive

6. Is there anything you would like us to take into account as we design the School Streets test? (open ended)

School Streets Post-Installation Survey – Students

1. What grade are you in?

a. Year One Kindergarten
b. Year Two Kindergarten
c. Grade 1
d. Grade 2
e. Grade 3
f. Grade 4
g. Grade 5
h. Grade 6
i. Grade 7
j. Grade 8

2. How did you get to school on the School Streets pilot day (May 4, 11, 18 & 25)?

a. Walk
b. Walk part way
b. Bicycle or Rolling
d. Carpool
f. Car
f. School bus
g. Other (please specify)

3. What did you like about getting to and from school during the School Streets pilot? (open ended)

4. What did you dislike about getting to and from school during the School Streets pilot? (open ended)

5. In your opinion, how safe was it for kids to walk, ride bikes, rool, and play when travelling on Stricker Avenue on a School Streets pilot day (May 4, 11, 18 & 25)?

a. Very safe
b. Safe
c. Neutral
d. Unsafe
e. Very unsafe

6. Did you like the School Streets test?

a. I strongly liked it
b. I liked it a little
c. I'm unsure/neutral
d. I disliked it a little
e. I strongly disliked it

7. Is there anything we could do to improve School Streets and encourage students to engage in active travel to school? (open ended)

8. Would you support future School Streets tests?

a. Yes
b. No
c. No opinion/unsure

9. Do you have any additional comments about the School Streets test? (open ended)

Appendix C

Resident of Stricker Avenue/ John McCrae P.S Staff (Pre- and Post-installation Survey)

School Streets Pre-Installation Survey – Resident of Stricker Avenue/ John McCrae P.S. Staff

1. **How would closing Stricker Avenue between 8:15 - 9:15 a.m. and 3:00 - 4:00 p.m. once a week in May affect you?**

a. It would make getting around a lot easier
b. It would make getting around a little easier
c. It would have no effect
d. It would make getting around a little harder
e. It would make getting around a lot harder

2. **Do you support this School Streets test?**

a. Very supportive
b. Supportive
c. I'm unsure/neutral
d. Unsupportive
e. Very unsupportive

3. **Why are you supportive/unsupportive of the School Streets test? (open ended)**

4. **Is there anything you would like us to take into account as we design the School Streets test? (open ended)**

5. **Do you have any additional comments about the School Streets program? (open ended)**

6. **What is your age range? (optional)** - This question is being asked to understand the demo graphics of our community so we can better support our community members.

7. **What is your postal code?** This question is being asked so we can distinguish if this survey is being completed by the immediate surrounding community impacted by this project or representative of another part of Markham/ York Region. It will help with future planning of the program.

School Streets Post-Installation Survey – Resident of Stricker Avenue/ John McCrae P.S. Staff

1. **How did closing Stricker Avenue between 8:15 - 9:15 a.m. and 3:00 - 4:00 p.m. once a week in May affect you?**

a. It made getting around a lot easier
b. It made getting around a little easier
c. It had no effect
d. It made getting around a little harder
e. It made getting around a lot harder

2. Did you like the School Streets test?

a. I strongly liked it
b. I liked it a little
c. I'm unsure/neutral
d. I disliked it a little
e. I strongly disliked it

3. Why did you like/dislike the School Streets test? (open ended)

4. Is there anything we could do to improve School Streets and encourage students to engage in active travel to school? (open ended)

5. Would you support future School Streets tests?

a. Yes
b. No
c. No opinion/unsure

6. Do you have any additional comments about the School Streets test? (open ended)

Appendix D

Parents/Guardians Survey Questions (Pre- and Post-installation)

School Streets Pre-Installation Survey – Parents/Guardians

1. Select the grade level of your eldest child that attends John McCrae P.S.:

a. Year One Kindergarten
b. Year Two Kindergarten
c. Grade 1
d. Grade 2
e. Grade 3
f. Grade 4
g. Grade 5
h. Grade 6
i. Grade 7
j. Grade 8

2. How would closing Stricker Avenue between 8:15 -9:15 a.m. and 3:00 - 4:00 p.m. once a week in may affect you?

a. It would make getting around a lot easier
b. It would make getting around a little easier
c. It would have no effect
d. It would make getting around a little harder
e. It would make getting around a lot harder

3. How does your child usually get home from school (3 or more days per week)?

a. Walk
b. Walk part way
c. Bicycle or Rolling
d. Carpool
e. Car
f. School bus
g. Other (please specify)

4. Why does your child usually travel to and from school in this way? (check all that apply)

a. Enjoyment
b. Exercise
c. Age of child
d. Distance to school
e. Convenience
f. Time constraints
g. Before/after school activities
h. Before/after school care
i. Traffic safety
j. Personal safety
k. Develop child's independence
l. Disability/specific mobility needs
m. Other (please specify)

5. How safe do you feel taking your child to and from school on Stricker Avenue?

a. Very safe
b. Safe
c. Neutral
d. Unsafe
e. Very unsafe
f. My child does not travel on Stricker Avenue as part of their route to school

6. Do you support this School Streets test?

a. Very supportive
b. Supportive
c. I'm unsure/neutral
d. Unsupportive
e. Very unsupportive

7. Why are you supportive/unsupportive of the School Streets test? (open ended)

8. Is there anything you would like us to take into account as we design the School Streets test? (open ended)

9. What is your age range? (optional) This question is being asked to understand the demo graphics of our community so we can better support our community members.

10. What is your postal code? This question is being asked so we can distinguish if this survey is be ing completed by the immediate surrounding community impacted by this project or representative of another part of Markham/ York Region. It will help with future planning of the program.

School Streets Post-Installation Survey – Parents/Guardians

1. Select the grade level of your eldest child that attends John McCrae P.S.:

b. Year One Kindergarten
b. Year Two Kindergarten
c. Grade 1
d. Grade 2
d. Grade 3
f. Grade 4
f. Grade 5
h. Grade 6
j. Grade 7
j. Grade 8

2. How did closing Stricker Avenue between 8:15 - 9:15 a.m. and 3:00 - 4:00 p.m. once a week in May affect you?

a. It made getting around a lot easier
b. It made getting around a little easier
c. It had no effect
d. It made getting around a little harder
e. It made getting around a lot harder

3. How did your child get to school on a School Streets pilot day (May 4, 11, 18 & 25)?

a. Walk
b. Walk part way
c. Bicycle or Rolling
d. Carpool
e. Car
f. School bus
g. Other (please specify)

4. How safe did you feel taking your child to and from school on Stricker Avenue on a School Streets pilot day (May 4, 11, 18 & 25)?

a. Very safe
b. Safe
c. Neutral
d. Unsafe
e. Very unsafe

5. If your child was driven or took the bus to school on a School Streets pilot day, how safe would you feel with them walking or riding their bike or rolling to school during School Streets?

a. Very safe
b. Safe
c. Neutral
d. Unsafe
e. Very unsafe

6. Did you like the School Streets test?

a. I strongly liked it
b. I liked it a little
c. I'm unsure/neutral
d. I disliked it a little
e. I strongly disliked it

7. Why did you like/dislike the School Streets test? (open ended)

8. Is there anything we could do to improve School Streets and encourage students to engage in active travel to school? (open ended)

9. Would you support future School Streets tests?

a. Yes
b. No
c. No opinion/unsure

10. Do you have any additional comments about the School Streets test? (open ended)

Appendix E

Resident of Markham Survey Questions (Pre- and Post-Installation)

School Streets Pre-Installation Survey – Resident of Markham

1. **How would closing Stricker Avenue between 8:15-9:15 a.m. and 3:00-4:00 p.m. once a week in May affect you?**

a. It would make getting around a lot easier
b. It would make getting around a little easier
c. It would have no effect
d. It would make getting around a little harder
e. It would make getting around a lot harder

2. **Do you support this School Streets test?**

a. Very supportive
b. Supportive
c. I'm unsure/neutral
d. Unsupportive
e. Very unsupportive

3. **Why are you supportive/unsupportive of the School Streets test? (open ended)**

4. **Is there anything you would like us to take into account as we design the School Streets test? (open ended)**

5. **Do you have any additional comments about the School Streets program? (open ended)**

6. **What is your age range? (optional)** - This question is being asked to understand the demo graphics of our community so we can better support our community members.

7. **What is your postal code?** This question is being asked so we can distinguish if this survey is being completed by the immediate surrounding community impacted by this project or representative of another part of Markham/ York Region. It will help with future planning of the program.

School Streets Post-Installation Survey – Resident of Markham

1. **How did closing Stricker Avenue between 8:15 - 9:15 a.m. and 3:00 - 4:00 p.m. once a week in May affect you?**

a. It made getting around a lot easier
b. It made getting around a little easier
c. It had no effect
d. It made getting around a little harder
e. It made getting around a lot harder

2. Did you like the School Streets test?

a. I strongly liked it
b. I liked it a little
c. I'm unsure/neutral
d. I disliked it a little
e. I strongly disliked it

3. Why did you like/dislike the School Streets test? (open ended)

4. Is there anything we could do to improve School Streets and encourage students to engage in active travel to school? (open ended)

5. Would you support future School Streets tests?

a. Yes
b. No
c. No opinion/unsure

6. Do you have any additional comments about the School Streets test? (open ended)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