



Project LifeCYCLE

Inspiring students to be active everyday



Photo credit: Shadab Shahrokh Hai





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Project LifeCYCLE

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Executive Summary

Fewer children across Canada are getting the required amount of daily physical activity. A great way of to overcome this trend is to encourage biking to school since it combines physical activity with the functional task of getting to a place where children need to go.

Through their Active and Safe Routes to School initiative, Green Communities Canada creates opportunities for daily physical activity among children. With funding from the Ontario Sport and Recreation Community fund, Green Communities Canada was given the capacity to develop a model to increase cycling rates among students grades 5-8 through a 2-year project called Project LifeCYCLE. From August 2015 to March 2017, Project LifeCYCLE was implemented at seven schools in different parts of Toronto. This case study looks at the model developed by Project LifeCYCLE to help communities increasing cycling rates and overall physical activity rates among children.

Project LifeCYCLE focuses on skills training, inspiration, and addressing barriers to cycling. It builds on School Travel Planning: the process of bringing together school communities with municipal and community partners to promote and enable active and sustainable school travel. It also builds on the *Wheeling to School* pilot implemented from September 2011 to June 2012 by Green Communities Canada and Share the Road: a project that assessed barriers, provided cycling education workshops, created maps with recommended routes, and organized bike trains. Building on the School Travel Planning Framework and the *Wheeling to School* pilot, the model developed by Project LifeCYCLE involves:

- A bike-about where stakeholders identify challenges and opportunities for cycling
- Classroom surveys asking how students get to school
- The creation of an action plan to address barriers identified using existing resources
- Action plan implementation
- Evaluation
- Action plan revisions and updates

The Project LifeCYCLE model details five key elements of the action plan for increasing the numbers of students who bike to school: promotional events, inspiration/role models, skills training, equipment, and improved infrastructure. School communities can implement action plan items that fall under one or more of these categories based on their needs, capacity, resources, and partnerships.

Two challenges with implementing and evaluating Project LifeCYCLE in the given time frame were the work-to-rule and difficulties in obtaining data within similar seasons. The work-to-rule situation delayed school partners from participating in Project LifeCYCLE. It was also difficult for schools to collect consistent data during best case scenarios (2 fall seasons, 2 winter seasons, 1.5 spring seasons, 1 summer season) because of the given time frame and limitations in teachers' capacities.

Nonetheless, the model developed from Project LifeCYCLE allows for greater access to opportunities for everyday cycling. It is a flexible model that can be updated accordingly.

Through continuing partnerships as well as ongoing and new resources developed at the City of Toronto and at the school boards, a plan has been developed for sustaining this model in Toronto. Included in this report is also a list of ideas for addressing other barriers (access to a bicycle and equipment, cycling education for students with disabilities or special needs, attitudes towards weather) identified if given additional resources.





Introduction

Background

In August 2015, Green Communities Canada was awarded a grant from the Ministry of Tourism, Culture, and Sport through their Ontario Sport and Recreation Community Fund to implement Project LifeCYCLE: a two-year cycling education program targeted towards grades 5-8 students at six to eight schools. Project LifeCYCLE serves to increase cycling activity through safety skills training, improved cycling proficiency, strategies for addressing community barriers, and recognition of their achievements. This cycling education program, implemented from August 2015 to March 2017, works towards promoting and enabling everyday cycling in response to the low percentage of Ontario students obtaining the minimum daily physical activity requirement and to the declining rates of cycling among them.

Rational

Green Communities Canada developed Project LifeCYCLE to contribute towards getting and keeping children physically active.



Photo credit: Shadab Shahrokh Hai

Project LifeCYCLE focuses on cycling since it is a sport that can be practised everyday by using it as a mode of transportation in addition to a community sport, and recreational activity. Cycling as a mode of transportation enables people to get exercise on a more frequent basis since it combines physical activity with the functional task travelling to a key destination.

Encouraging cycling to school among children can help them integrate physical activity into their lives as they get older. It is well documented that active children are more likely to grow into active adults and children that engage in physical activity and sports will have more confidence and get better grades in the classroom. The Canadian School Travel Planning initiative was developed and delivered across the country between 2009 and 2012, and is continuing to expand in Ontario. It has provided important Canadian data on active travel to and from school and has noted that cycling, as a travel mode, is extremely under-utilized.

Through community partnerships, Project LifeCYCLE has increased opportunities to cycling and physical literacy by inspiring students to become passionate about cycling and by improving access to skills training, equipment, and infrastructure conducive to everyday cycling.





Objectives

The following table lists the objectives of Project LifeCYCLE.

Mandate	<p>1. To increase the number of students and families that choose to cycle to and from school</p> <p>This goal of increased participation in recreational activities is addressed by increasing cycling as a modal choice for school travel from annual current levels of < 1% to at least 5% (an increase of 25 to 40 riders). The 2011-12 Wheeling to School project saw increases of 8-10%.</p>
How	<p>2. To engage students to become passionate about active travel, and cycling in particular</p> <p>Through our partnership with Triathlon Ontario and junior athletes, we hope to create excitement around active travel and demonstrate that physical activity is fun and can lead to a future in sports.</p>
	<p>3. To increase students' cycling skills</p> <p>Physical literacy will be addressed through group workshops and trainings that will help the students to develop stronger skills.</p>
Outcome	<p>4. To remove barriers to everyday cycling as a viable method of student transportation'</p> <p>Through bike-about organized with all stakeholders, we will highlight the need for child friendly bike routes and infrastructure.</p>
	<p>5. To create a replicable model for increasing cycling to school</p> <p>Project results will be documented and disseminated widely, and all resources will be added to the resources in the online School Travel Planning (STP) tool kit.</p>

The primary objective and overall mandate of Project LifeCYCLE is to increase cycling among students and families. Meeting Objectives 2-3 is necessary to achieve Objective 1 while meeting Objective 5 allows for Objective 1 to be achieved beyond the time line of Project LifeCYCLE.



Throughout Project LifeCYCLE, Green Communities Canada developed and implemented a model for increasing cycling. This report discusses the process, implementation, and lessons learned from implementing this model.



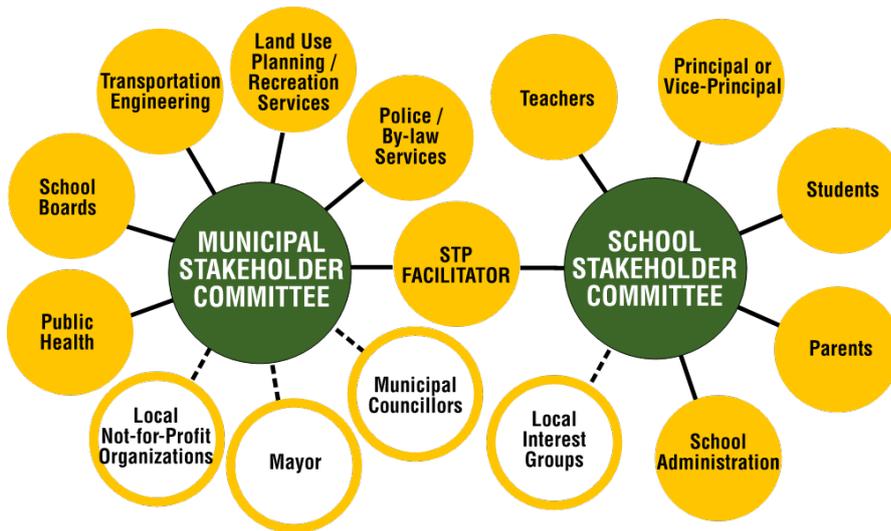


Project LifeCYCLE Model and Process

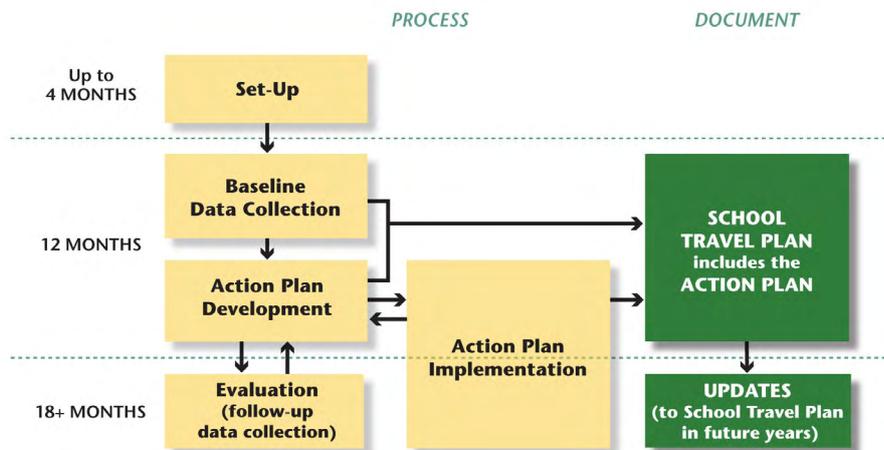
The School Travel Planning (STP) Model developed by Green Communities Canada involves collaborating with a variety of stakeholders and partners to promote and enable the use of active transportation. A School Travel Planning Facilitator typically coordinates this process though it may also be led by a parent and/or school staff member. Depending on the funding and resources available, school communities may be able to implement STP at their own school or a STP Facilitator may be hired to coordinate STP at multiple schools.

Canadian School Travel Planning Committee Structure

Mandate: Promote and enable the use of active transportation



School Travel Planning Process



The Project LifeCYCLE Model is an add-on to the School Travel Planning model that specifies a framework for promoting and enabling cycling. Particularly, Project LifeCYCLE works with stakeholders and partners to promote cycling through events, recognition, and presentations from cycling athletes.

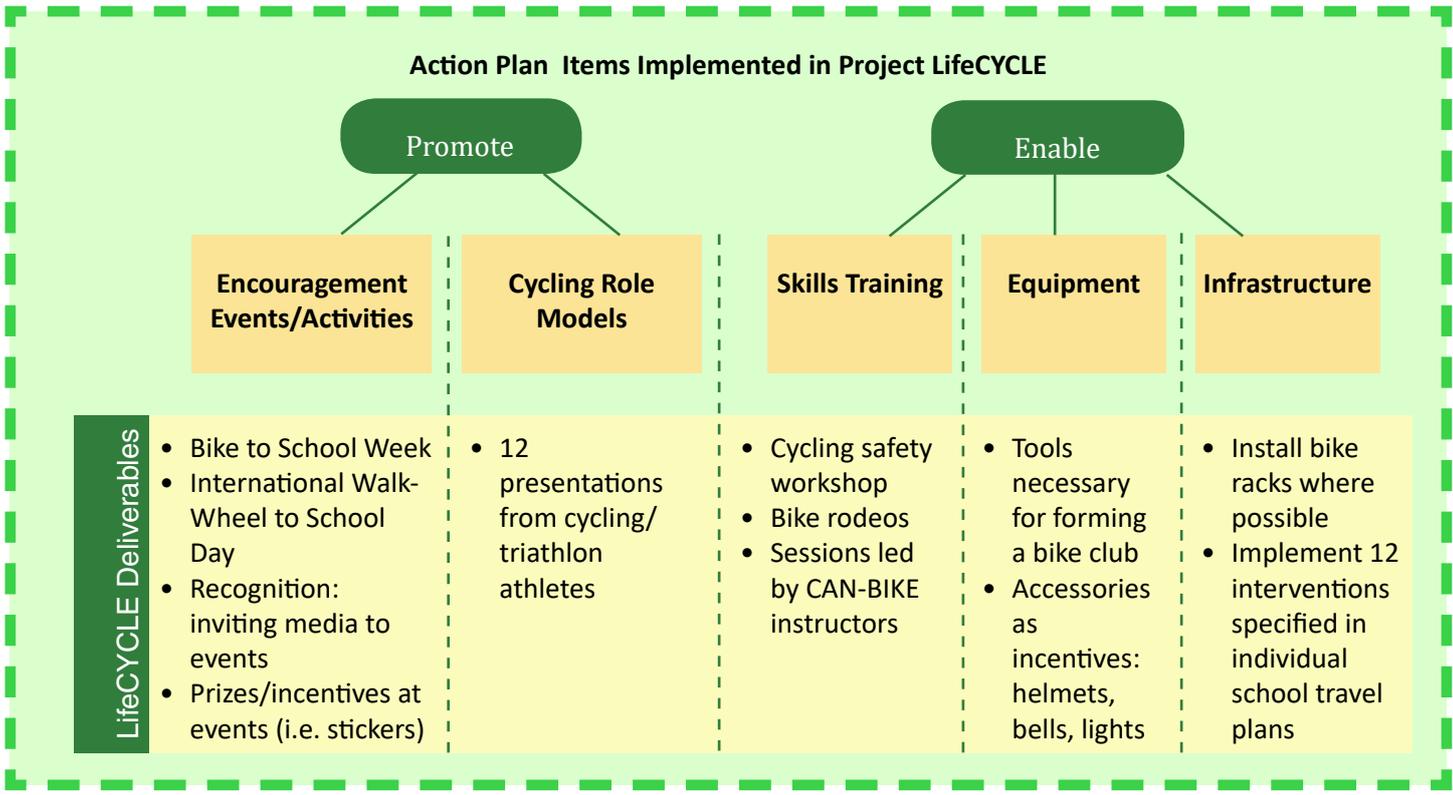
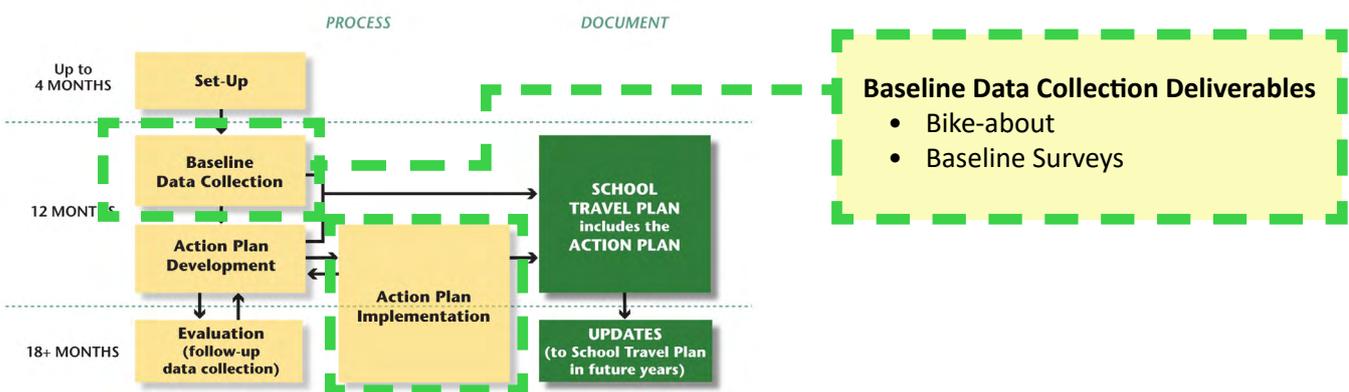




Project LifeCYCLE also works with stakeholders and partners to enable cycling by focusing on three main elements: skills, equipment, and infrastructure. In the diagram below, the dotted lines outline elements of Project LifeCYCLE that add on to the STP process.

School Travel Planning Process

Project LifeCYCLE Process



The process outlined above illustrates the building blocks of promoting and enabling everyday cycling. The deliverables specified were implemented between August 2015 and March 2017. School communities can use this process and adjust the deliverables based on their capacity and resources.



The Project LifeCYCLE model also builds on the framework used in the *Wheeling to School* pilot project done by Green Communities Canada and Share the Road from September 2011 to June 2012.

Wheeling to School Pilot Study	Project LifeCYCLE
Surveys	Surveys
Bike-about	Bike-about
Route Maps	Map of City's Cycling Network Plan given to schools
Recommended Routes to School	Popular Routes to School maps (2 schools)
Cycling Education: <ul style="list-style-type: none"> • Bike Rodeos • Workshops • In-class sessions 	Cycling Education: <ul style="list-style-type: none"> • Bike Rodeos • Cycling Safety Workshop available in classroom and assembly format (which was also delivered board-wide)
Bike Trains	Equipment to start bike club
Donated Bicycle Racks	Donated Bicycle Racks
On-school training sessions led by CAN-BIKE instructors	1 Family Group Ride led by CAN-BIKE instructors Learn to Ride courses
	Athlete presentations
	Built environment improvements where feasible

Project LifeCYCLE also helped to meet the following recommendations from the *Wheeling to School* pilot project:

Recommendation: Deliver a universal, accessible and affordable cycling education program, available through school curriculum for Grades 5 through 7.

Working with CultureLink Settlement Services, Green Communities Canada developed and delivered a cycling safety workshop for grades 5-8 students. This workshop has been made available to schools within the Toronto District School Board schools and later to schools in the Toronto Catholic District School Board upon request to schools outside of the project.

Towards the end of Project LifeCYCLE, Green Communities Canada has also shared online videos done by CAN-BIKE. These videos contain content similar to the cycling safety workshop developed and delivered throughout this project.

Recommendation: ...Municipal or regional staff should be encouraged to work with schools to promote cycling by not only recommending best cycle routes but also to provide solutions to enhancing those routes through dedicated bike lanes, sharrows, signage etc. Municipalities should designate schools as priority areas for active transportation infrastructure upgrades to promote cycling and walking to school.

Municipal staff were encouraged to attend bike-about and to provide advice on neighbourhood improvements. Project LifeCYCLE schools have been working with local councillors and City staff to identify and implement improvements to the built environment where possible.

Recent municipal plans were also developed to better enable cycling. The City's Vision Zero Strategy has mentioned school zones as priority areas for active transportation infrastructure upgrades. The City has also developed and approved a 10-year Cycling Network Plan with cycling infrastructure planned for areas beyond the downtown core.





Target Population

The Project LifeCYCLE model was implemented at seven schools from different parts of the City of Toronto. Participating schools were selected from a list of schools that were already participating in School Travel Planning prior to August 2015 with the exception of Second Street Junior and Middle School. Second Street JMS began both the school travel planning process and Project LifeCYCLE in January 2016. The map and table below provide details on the schools' locations, student population, and their number of years in STP.



School	Neighbourhood/ Community Type	School Board	Grades	Student Population Grades 5-8 (2015-2016)	Total Student Population (2015-2016)	STP Start Date
1 Annunciation Catholic School	Parkwoods, Outer suburban	TCDSB	K-8	126	327	October 2014
2 Cassandra Public School		TDSB	K-5	41	254	January 2015
3 Gateway Public School	Flemingdon Park, Inner suburban	TDSB	K-6	121	956	January 2015
4 King Edward Junior and Senior Public School	Harbord Village, Downtown		K-8	309	453	December 2013
5 Rolph Road Elementary School	Leaside, Inner suburban		K-6	89	418	January 2015
6 Second Street Junior and Middle School	Etobicoke-Lakeshore, Suburban	TCDSB	K-8	84	307	January 2016
7 St. Raphael Catholic School	Downsview, Outer suburban		K-8	230	611	October 2014
Total # of students				1000	3326	





Implementation

Deliverables and Process

Below are the deliverables for Project LifeCYCLE:

- 1050 Gr 5-8 students reached (6 schools x 175) - survey
- 6-8 STP teams participated
- FUNdamental Movement Skills Workshop held; 10 participants
- 2 bike clubs formed with 10 student participants
- 6-8 bike-abouts conducted
- 12 interventions described
- 1 cycling workshop adapted; delivered 6-8 times
- Increased cycling: 1 per cent baseline to 5% (700+ students)
- 12 Triathlon Ontario presentations – 80% satisfaction
- STP tool kit updated, posted, promoted
- 2 newsletter articles published
- 2 media events held
- 1 case study completed, posted, promoted (newsletter)
- 1 webinar held (60+ participants)

The following tables summarize the process taken to implement Project LifeCYCLE.

Year 1 (2015-2016)

	2015					2016					
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
Confirm Project Team	█										
CAN-BIKE training for STP Facilitators	█										
Select Schools	█					█					
Conduct Baseline Surveys			█	█			█				
Conduct Bike-abouts and create an action plan.			█	█						█	█
Organize and deliver the Fundamental Movement Skills Workshop				█	█	█					
Adapt materials and deliver cycling workshops								█	█	█	
Celebrate Bike to School Week										█	█
Organize and implement bike rodeos								█	█	█	█
Conduct Follow-up Surveys										█	█
Implement other action plan interventions.		█	█	█	█	█	█	█	█	█	█





Year 2 (2016-2017)

	2016						2017					
	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
Update School Travel Plans	█	█										
Organize and deliver athlete presentations				█	█			█	█	█		
Have a media event to celebrate the project's success.				█				█				
Obtain feedback from partners.							█	█				
Conduct second follow-up surveys.				█	█	█	█					
Equip schools to start a bike club.				█	█			█	█			
Develop Sustainability Plan								█				
Prepare Case Study								█	█	█	█	█
Organize webinar (delivered May 9)									█	█	█	
Prepare a final report								█	█	█	█	█
Implement other action plan interventions.			█	█	█	█	█	█	█	█	█	█

Challenges and Limitations

Work-to-Rule

The Elementary Teachers Federation of Ontario (ETFO) had a work-to-rule job action from June to November 2017. This prohibiting teachers from completing any paperwork required by the school and school board as well as from participating in professional learning activities. The work-to-rule situation made it difficult for many schools to confirm their participation in Project LifeCYCLE, conduct their surveys, attend the project's Fundamental Movement Skills workshop, and allocate time in the fall for an athlete presentation. It also made it difficult for teachers and staff to organize bike-abouts and discuss creating bike clubs.

The work to rule situation shortened the time frame that teachers and staff could commit to this project. As a result, Green Communities Canada adjusted the project time frame based on the schools' capacities and availability. Because of this, the Fundamental Movement Skills workshop was pushed to January 2016 and three bike-abouts and one athlete presentation were implemented in the spring.

Space for Bike Racks

The City of Toronto Cycling Infrastructure assisted Green Communities Canada with providing bike parking at schools. Given the varying level of demand for bike racks, the type of bike racks available, and space limitations around schools, it was difficult to install bike racks at many schools sites. The City donated bike racks to the school boards allowing them to give bike racks based on need and to install them at appropriate locations on school property.





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Value Added

In addition to the deliverables mentioned, the following items were also implemented in order to adjust to staff/teacher availability, the project time frame, and city updates.

Tool kit to start a Bike Club

Due to delays from the work-to-rule situation and the availability of staff and parent volunteers, it was difficult to find supervisors to lead new bike clubs. Prior to Project LifeCYCLE, King Edward Junior and Senior Public School already had a bike club. To help start bike clubs in the near future, participating schools were given tool kits with items recommended by the Ontario Physical and Health Education Association Guidelines. Shortly after the project, Rolph Road Elementary School started a Mountain Bike Club.



Cycling athlete/coach teaching King Edward students how to dress for winter cycling with help from Officer Gribbon

Light Promotion of Cycling in All Seasons

Given the project time frame, action plan items could only be implemented during two fall seasons, two spring seasons (one shortened), two winter seasons, and one summer season. In previous years, weather was often mentioned as a barrier to using active transportation. The survey results "Results per School" on page 30-36 indicate that students are more likely to get to/from school by cycling and using different types of non-motorized wheeling as the weather gets warmer.

Within this time frame, there was light promotion of cycling in all seasons, including winter. Athletes mentioned types of cycling intended for different weather conditions such as fat bike riding and cyclocross. One athlete also did Winter Dress-up activities: twice with teachers and another time with the local police officer.

Promotion of the City's Cycling Network Plan

The City of Toronto approved its Ten-year Cycling Network Plan in June 2016. Each school participating in Project LifeCYCLE was given a large map of the Cycling Network Plan for their specific ward. With these maps, school communities can consider cycling routes they can take to get to their current school (depending on the infrastructure installation dates) and potentially their future middle school or future high school. Having schools publicly display these maps can also help ensure that the incoming infrastructure will be used.



Map of the City's Cycling Network Plan for Ward 9 posted outside the office of St. Raphael Catholic School





Overall Results

Objective 1: To increase the number of students and families that choose to cycle to and from school

Challenges with Data Collection

Given the time frame of Project LifeCYCLE, data among consistent seasons could only be collected in the fall. In the 2016-2017 year, many schools had difficulty obtaining survey results in the Fall; Many of them were not able to do the surveys until December or January. Some schools were only able to obtain survey results for specific days of the week. It was also difficult to get results for FROM school trips at many schools. For this reason, cycling rates and response rates for FROM school trips in the most recent surveys were low for most schools.

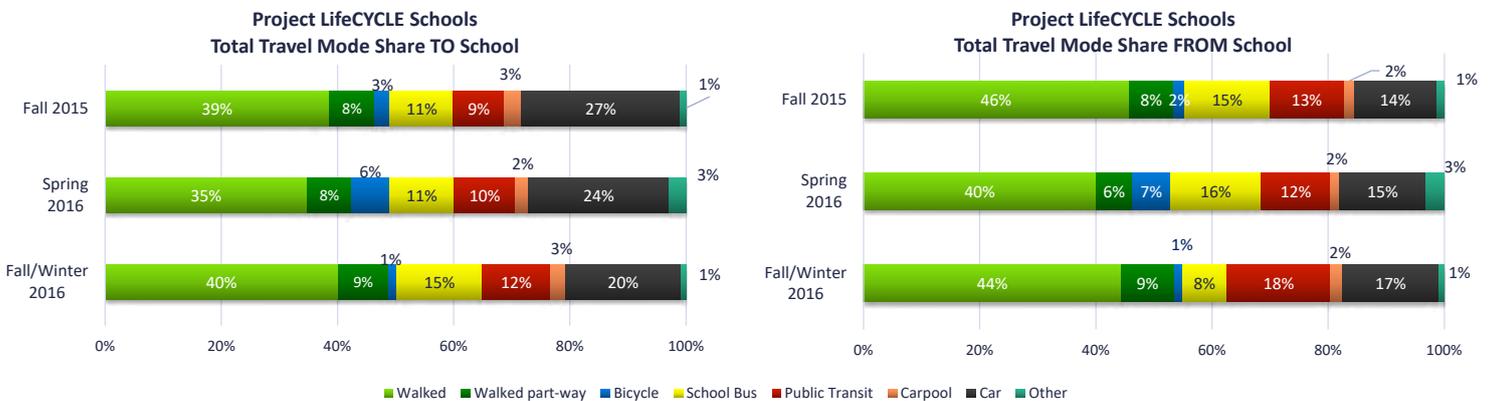
The number of respondents in Fall 2015 may also be higher than other data collection periods since one school was not able to specify the age groups during that time. As a result, the Fall 2015 results includes the mode share for all grades at this school rather than for the targeted population of grades 5-8 students.

One school was able to do surveys for trips TO school throughout all of October but had difficulty obtaining data for FROM school trips. Hence, response rates for overall TO school trips were high while response rates for FROM school trips were not collected in some cases.

Additionally, the analysis also includes split classes that have grade 4 students. These classroom structures (some which may have changed in later data collection periods) may have also affected the results.

Survey Results

The mode share results illustrated below were calculated using the weekly average number of students responding for each mode of transportation. Cycling rates were low in the last data collection period though walking is increasing while driving remains at 20% and below. Results for individual schools can be found in the Appendix on page 30.



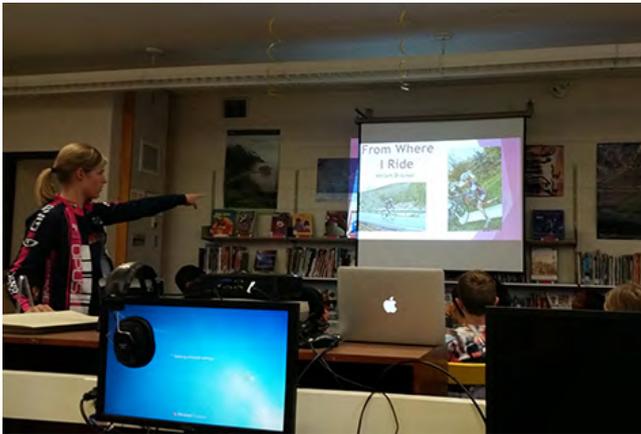
Time Period	Baseline	Follow-up	2nd Follow-up
Date	Fall 2015	May/June 2016	Fall 2016/Winter 2017
Number of Responses (TO school)	1293.4	809.6	1055.8
Number of Responses (FROM school)	959	720.2	583



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Objective 2: To engage students to become passionate about active travel, and cycling in particular



Cycling/Cyclocross athlete, Miriam Brouwer showing students at Cassandra PS where she likes to ride her bike.

Throughout year two, four athletes from a variety of cycling backgrounds (triathlon, cyclocross, track cycling) presented at Project LifeCYCLE Schools. Most of these presentations took place in the fall and the winter where athletes showed how feasible and fun it can be to bike in any weather. Athletes talked about several benefits from cycling including on maintaining physical/mental health, building friendships, and learning new things about their neighbourhood and different parts of the world. They also talked about Canada's achievements in the Cycling sport at the Olympics.

Objective 3: To increase students' cycling skills

CultureLink and Green Communities Canada adapted cycling safety workshops for the elementary school level. These workshops taught students about bicycle inspection, accessories to be visible and heard, bicycle storage, as well as cycling safety rules for riding on the sidewalk and for riding on the road. Presenters also included tips on navigating through neighbourhood-specific concerns identified in the bike-about.



St. Raphael students racing to test their cycling safety knowledge



Annunciation CS students learning how to signal





Objective 4: To remove barriers to everyday cycling as a viable method of student transportation

The following barriers were brought up in discussions throughout the Project LifeCYCLE process:

- Access to equipment (bicycle & helmet)
- Secure storage space at home
- Secure storage space at destination(s)
- Lack of cycle-friendly routes e.g. cycle lanes & trails
- Road traffic safety concern:
 - High traffic volumes
 - High speeds
 - Driver behaviour
 - Condition of the roads
- Distance between home and school
- Weather
- Maintenance of bicycle
- Student’s attitudes (e.g. Cycling is not cool)
- Parents’ attitude to cycling
- Lack of Cycling skills and confidence

Each school experienced a varying number of the barriers listed above. More information on stakeholders’ concerns with these barriers can be found in the section *Stakeholder Feedback* on page 20.

To identify neighbourhood-specific challenges and opportunities, six bike-abouts were conducted in year one. Bike-abouts are events that gather a variety of stakeholders and community partners in the school community and the City to witness and experience the challenges and opportunities to cycling first-hand. They consist of a group ride followed by a discussion to debrief on their observations and create an action plan. The table below summarizes the findings at each school based on the bike-about checklist completed.

		Gateway	Cassandra	King Edward	Rolph Road	Annunciation	St. Raphael
	Opportunities and Existing Facilities						
Bike Facilities	Bike racks available at or near school	X	X	X	X		X
	Secure bike racks or sheltered		X	X			
Share the Road	Roads with space for Bicycles	X	X	X			
	Identified best cycle routes			X	X		
Intersection	Crossing guard during school morning and afternoon travel times	X	X	X	X		
	Push button for cyclists to cross						
	Pavement markings for crossing	X		X	X		
	Cyclist waiting area on or near route			X			
Ease of Route	Off-road trails on or near route	X	X				





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		Gateway	Cassandra	King Edward	Rolph Road	Annunciation	St. Raphael
	Challenges						
Bike Facilities	Conflict with vehicles to access bike storage area						
Share the Road	Heavy/fast traffic	X	X	X	X	X	
	Trucks and buses	X		X	X		
	Dooring	X		X			
	Vehicles crossing bike's space/lane			X			
Surface	Potholes, broken pavement	X	X	X			
	Debris (glass, sand)		X	X	X		
	Dangerous drain grates						
	Uneven surface	X	X				
	Slippery when wet	X	X				
Intersection	Traffic visibility issues	X	X				
	Poor sight lines around corners and roundabouts	X					
Drivers	Speeding	X	X	X	X		X
	Passing too close						
	Not signalling						
	Cut off cyclist						
	Ran stop signs				X		
Ease of Route	Off-road trails on or near route	X	X				



Bike-about around Rolph Road Elementary School





In addition to Project LifeCYCLE deliverables, partners in a number of the participating school communities were able to complete the following interventions in order to address the barriers previously outlined:

- Painted crossings where warrants were met (sometimes at one side of the intersection)
- Additional or improved signage for drop-off areas
- Changes in parking/drop-off restrictions
- Watch Your Speed program: a trailer that displays drivers' speeds
- Toronto Police Services Back-to-School Safety Blitz
- Bike to School Week posters given to participating LifeCYCLE schools after event registration
- Staff and students including materials on the benefits of cycling in their newsletters and bulletin boards
- Implementation of the Guide to Safer Streets near Schools: a document that helps school communities work with the City to improve the built environment

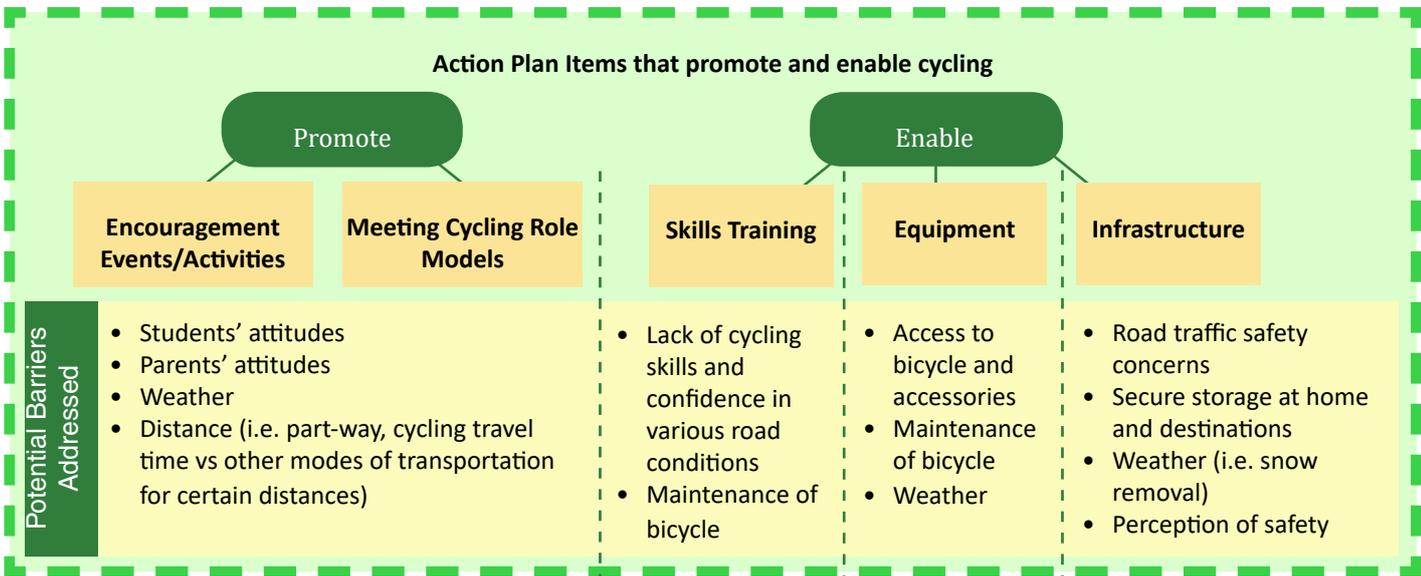
Below are items that schools attempted to accomplish but were often not feasible within the project time frame often due to warrants/counts not being met and space restrictions:

- Obtaining crossing guards
- Installing new crossings/controlled intersections
- Bike lane improvements (unless included in the City's Cycling Network Plan).
- Installing bike racks in specific locations

More details on specific interventions and barriers addressed for each school can be found in the Appendix on page 30.

Objective 5: To create a replicable model for increasing cycling to school

The School Travel Planning Model developed by Green Communities Canada involves collaborating with a variety of stakeholders to promote and enable students to use active transportation. Project LifeCYCLE adds onto to the STP data collection process by including a bike-about to experience and identify challenges and opportunities to cycling. It also provides the building blocks for promoting and enabling cycling by addressing barriers to cycling.

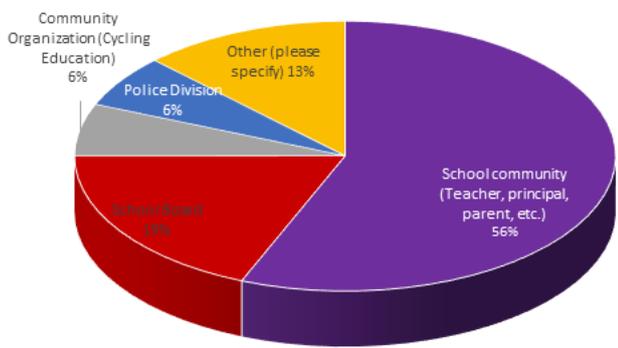




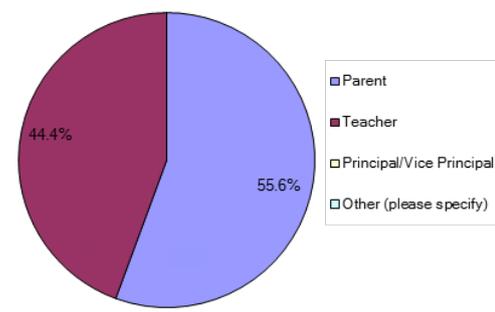
Stakeholder Feedback

To obtain feedback and develop a sustainability plan for continuing cycling education in Toronto, a short survey was sent to the main Project LifeCYCLE partners as well as to participating school communities in January 2017. Fifteen responses were received and eight follow-up interviews took place (three with project partners, four with school staff members, and one with a school board representative). Most survey respondents were from the school communities, mainly parents.

We would like to ensure representation from a variety of stakeholders and partners. Which sector/organization are you associated with?



School Community: Are you a...



Remaining Barriers

Respondents were asked to list what they believe are the top five barriers to cycling among students from grades 5-8. Results are listed in the table below with the most popular answers highlighted in red.

What would you say are the top 5 barriers to cycling to/from school among students from grades 5-8? (Select up to 5 answers)		
Answer Options	Response %	Response Count
Access to equipment (bicycle & helmet)	46.7%	7
Secure storage space at home	13.3%	2
Secure storage space at destination(s)	46.7%	7
Lack of cycle-friendly routes e.g. cycle lanes & trails	53.3%	8
Road traffic safety concerns: High volume of traffic	66.7%	10
Road traffic safety concerns: High speed of vehicles	40.0%	6
Road traffic safety concerns: Driver behaviour	53.3%	8
Road traffic safety concerns: Condition of roads (maintenance)	13.3%	2
Distance between home and school	6.7%	1
Weather	20.0%	3
Maintenance of bicycle	6.7%	1
Student's attitudes (e.g. Cycling is not cool)	0.0%	0
Parents' attitude to cycling	40.0%	6
Lack of Cycling skills and confidence	20.0%	3
Other (please specify)	13.3%	2
Answered question	15	





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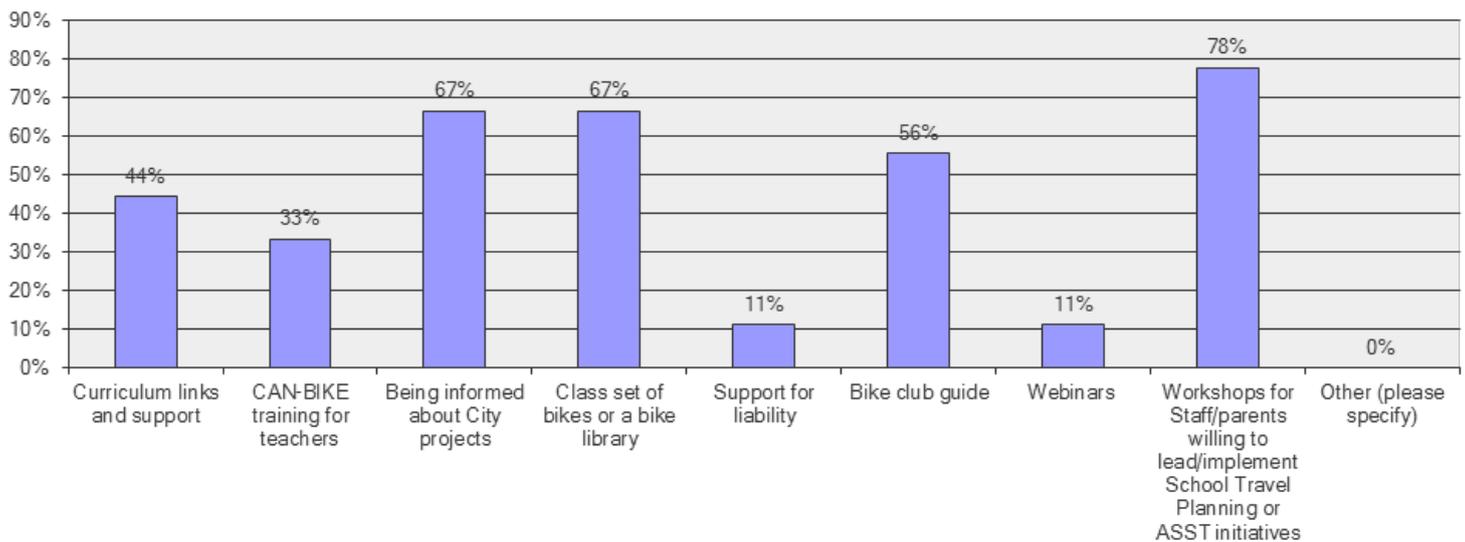
Most comments were related to infrastructure, traffic, and parents' attitudes to cycling. Two respondents mentioned *Other* as a barrier, specifying parents' perception of safety. Among them, one of them describe personal safety while the other mentioned general safety.

While Project LifeCYCLE was able to provide cycling education and inspiration among students, it still had the challenge of addressing parents' concerns with personal and physical safety. Wider-scale strategies to address this barrier need to be further explored in future projects.

Preferred Resources for Continuation

Respondents were also asked to list resources that would be useful in helping them to continue cycling education and STP after Project LifeCYCLE. The chart below show that Active and Safe Routes to School (ASRTS) workshops, updates on City cycling plans and projects, and a class set of bikes or a bike library were the most popular answers followed by a Bike Club guide and curriculum links and support.

Other than facilitation, what other resources or support would be most useful to help continue cycling education and school travel planning? (Select all that apply)



There were follow up calls with three teachers and one Vice-principal. Three out of four of them (representing TDSB schools) mentioned staff meetings as the best time to have a workshop for teachers willing to lead/implement STP or ASST initiatives whereas the teacher representative from a TCDSB school mentioned school workshops as the best time for having ASRTS workshops.





Recommended Partnerships

Respondents were provided with a list of project partners and were then asked if Project Life CYCLE had the right partners involved as well as for suggestions for additional partnerships. The table below lists the current partnerships as well as respondents’ suggestions for new partnerships and suggestions for more involvement.

Current Partnerships	Suggestions for Additional Partnerships	Suggestions for more involvement
<p>Main Partners</p> <ul style="list-style-type: none"> • CultureLink • City of Toronto Public Health • City of Toronto Cycling Infrastructure • CAN-BIKE • Metrolinx • Triathlon Ontario • TDSB/TCDSB <p>School STP Committee members</p> <ul style="list-style-type: none"> • Principals • Teachers • Parents <p>Other STP Committee partners/ stakeholders</p> <ul style="list-style-type: none"> • Transportation Services • Planning • Toronto Police Services • Ward Councillors • School Board Trustees 	<ul style="list-style-type: none"> • Bike shops • Corporate partners • Cycle Toronto/Neighbourhood Bike Committees • Evergreen • Heart and Stroke Foundation • Libraries • Neighbourhood Community Partners 	<ul style="list-style-type: none"> • CAN-BIKE • City Cycling Infrastructure (need for closer relationship) • Transportation Services/Road repair

The sustainability plan in the following pages aims to continue the work of Project LifeCYCLE in providing opportunities for cycling education and for promoting and enabling cycling in school communities.





Sustainability Plan

Project LifeCYCLE has achieved sustainability through

- A cycling education workshop adapted to the elementary school level
- Fostering inclusion in a wider implementation plan for both school boards: through TDSB’s well-established EcoSchools program; TCDSB’s physical activity programming
- Providing existing and potential bike club supervisors with materials recommended by the Ontario Physical and Health Education Association (OPHEA) including a bicycle tool kit, pump, signalling device, and a first-aid kit.
- Creating a STP continuation package with activity sheets, tip sheets, volunteer posting template, survey templates, and updated school travel plans.
- Installing bike racks at schools meeting the space requirements.
- Providing participating schools with a copy of the City’s 10-year Cycling Network Plan for their individual ward to promote the use of incoming cycling routes

Towards the program’s completion, Project LifeCYCLE will also achieve sustainability through

- Wide dissemination of a LifeCYCLE case study.
- Free informational LifeCYCLE webinar to target physical activity, sports/recreation, and active school travel advocates.
- Collaboration with Toronto school boards, public health and cycling staff to plan next steps to expand LifeCYCLE across both boards.

The following sustainability plan builds on previous action items used to meet the original objectives of Project LifeCYCLE given the resources available.

Objective 1: To equip school communities with resources to help them increase the number of students and families that choose to cycle to and from school.

Action	Provider	Time line	Source of Funds
Provide participating schools with an STP Stakeholder Committee contact list and links to resources	Green Communities Canada	To be provided before March 31, 2017	Ontario Sport and Recreation Community Fund (OSRCF) through Project LifeCYCLE’s printing/promotion budget
Create an STP continuation package with activity sheets, tip sheets, volunteer posting template, surveys templates, and updated school travel plans.	Green Communities Canada	To be provided before March 31, 2017	OSRCF through Project LifeCYCLE’s printing/promotion budget





Objective 2: To continue engaging students to become passionate about active travel, and cycling in particular.

Action	Provider	Time line	Source of Funds
Promote events related to active school travel including: <ul style="list-style-type: none"> • International Walk/Wheel to School Day (First Wednesday of October) • Winter Walk Day (First Wednesday of February) • Bike to School Week (last week of May) 	Green Communities Canada, TDSB, TCDSB, Toronto Public Health	Ongoing	No cost.
Encourage schools to join the IWALK-IWHEEL Club for activity sheets and give-away items. saferoutestoschool.ca/iwalk-club		Ongoing	CAA
Encourage schools to subscribe and share success stories in newsletters and social media.	Green Communities Canada		
Provide webinars for school communities interested in implementing school travel planning and/or cycling education.	Green Communities Canada		

Objective 3: To increase students' cycling skills by providing opportunities for teaching road safety and cycling skills training/physical literacy.

The following resources will be available to schools upon request.

Action	Provider	Time line	Source of Funds
Deliver workshops and/or provide materials on helmet safety.	Toronto Public Health nurses	Ongoing	Toronto Public Health
Organize traffic safety campaigns.	Toronto Police Services	Ongoing	Toronto Police Services
Deliver cycling education programs.	TDSB Cycling Supports through CultureLink (TDSB schools only)	2015-2019?	
Provide a Tool kit for potential bike club supervisors at Project LifeCYCLE schools to enable them to start a bike club. Resources in the tool kit will help potential supervisors meet the Ontario Physical Education Safety Guidelines which can be found at safety.ophea.net/safety-plan/168/1782	Green Communities Canada	March 2017	OSRCF through Project LifeCYCLE's incentives budget





Objective 4: To remove barriers to everyday cycling as a viable method of student transportation, specifically in the built environment.

Action	Provider	Time line	Source of Funds
Provide bike racks to schools upon request.	TDSB, TCDSB, City Cycling Infrastructure	2017-2018	Bike racks will be provided by the City of Toronto, installation costs funded by TDSB and TCDSB
Implement the City Cycling Network Plan.	City Cycling Infrastructure	2016-2025	City of Toronto

Objective 5: To provide school communities with a replicable model and framework for increasing cycling to school

Action	Provider	Time line	Source of Funds
Promote the Project LifeCYCLE case study and webinar.	Green Communities Canada	March-May 2017	OSRCF
Include all resources developed throughout Project LifeCYCLE in the School Travel Planning Tool kit.	Green Communities Canada	April 2017?	CAA?



Possible Solutions for further Consideration

The table below outlines items that can address additional barriers to cycling but that would require more funding to do so. It contains estimated costs that were calculated based on discussions that took place with the providers. The *Other Options* section of the table requires further investigation to determine cost estimates and other details.

Item	Provider	Estimated cost	Barriers addressed
Cycling education for special needs students (Learn to ride)	Ontario Cycling/ Milton Cycling Studio	As per discussion in December 2016 <ul style="list-style-type: none"> • \$35/hour for an instructor, minimum 2 hours • 1:6 supervision ratio • \$0.30/km for travel • Participants will need their own bicycle; participants with down-syndrome will need tricycles. 	Lack of Cycling skills and confidence
CAN-BIKE courses for students	CAN-BIKE, City of Toronto	As per discussions that took place in Fall 2016 and January-February 2017 <ul style="list-style-type: none"> • ~\$20/hour for each instructor, requires an additional hour for preparation • 1:6 supervision ratio, minimum 1.5-2 hours per session <p>Course Format (as of February 2017)</p> <p>http://canbikecanada.ca/courses/</p> <p>Level 1: Fundamentals of Cycling (2-3 hours, recommended 6 hours)</p> <ul style="list-style-type: none"> - Balance: for student who have never ridden a bicycle <p>Level 2: Cycling Basics and Bike Rodeo (4 hours)</p> <ul style="list-style-type: none"> - Before riding: helmet safety, bicycle fitting, bicycle/equipment inspection - Handling: Straight line riding, braking, riding with one hand, shoulder checks, signals, gearing <p>Level 3: Core Cycling Skills (8 hours)</p> <ul style="list-style-type: none"> - Targets children ages 9-14 and adults who want to learn to ride on the road - Riding on residential streets and some urban streets: road positioning, turning, railway tracks, parked cars, lane change, intersections, <ul style="list-style-type: none"> • Possible to teach cycling in a more customized format depending on student’s needs • Insurance for on-road courses 	Lack of Cycling skills and confidence





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Item	Provider	Estimated cost	Barriers addressed
CAN-BIKE II training for teachers	CAN-BIKE, City of Toronto	<ul style="list-style-type: none"> • ~\$20/hour for each instructor, requires an additional hour for preparation • 1:6 supervision ratio, minimum 1.5-2 hours per session <p>Level 4: Advanced Cycling Skills (12 hours)</p> <ul style="list-style-type: none"> - Targets cyclists with some experience who want to learn how to ride in all types of infrastructure (including arterial roads) - Riding on the road: road positioning, turning, railway tracks, parked cars, lane change, intersections, merging/diverging lanes <p>Level 5: Instructor Training (12 hours)</p> <ul style="list-style-type: none"> - Targets those who want to be certified CAN-BIKE instructors - Review of safety, advanced traffic dynamics, and advanced handling skills - Teaches instruction (learning styles, presentation skills, observations, understanding audience, providing feedback) 	
Promoting cycling in all seasons	Bikewalkroll/ Green Action Centre (International)		Weather
Bikewalkroll travel survey	Bikewalkroll/ Green Action Centre		Evaluation. Can help justify the need for infrastructure
Community bike hub	Evergreen Brickworks	<p>As per discussion that took place on November 20, 2015.</p> <p>\$6500-\$10,000 for 18 participants. Includes:</p> <ul style="list-style-type: none"> • professional development workshops + food • Honorariums (\$100 for each student) • Bike and accessories for each participant (Lock, helmet, lights) 	Access to equipment (bicycle & helmet)
Build-a-bike program	Charlie's Freewheels	<p>As per discussion that took place on November 9, 2015.</p> <ul style="list-style-type: none"> • ~\$615 per student • 10 weeks, 3 hour classes • 6-8 students per class, targeted to residents ages 12-25 • Content includes bike mechanics, road safety, handling skills, road riding lessons • Participants build a bike and are provided with a helmet and lock 	Lack of Cycling skills and confidence





Project LifeCYCLE

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Item	Provider	Estimated cost	Barriers addressed
Other Options (requires further investigation)			
Bike lockers			Safe storage at destinations
Bike racks for schools with limited space			Safe storage at destinations
Bike library			Access to bicycle
Partnerships with high schools for bike maintenance			Bike maintenance
Family bike ride events			Parent concerns/ attitudes towards cycling

Replicating Project LifeCYCLE

From August 2015 to March 2017, Green Communities Canada has worked towards developing a replicable model for increasing cycling as a mode of transportation. Building on the STP model, Project LifeCYCLE uses bike-about as a data collection method and provides a framework for creating action plan items that address barriers to cycling.

The model developed through Project LifeCYCLE serves as a base structure for future cycling education programs. School communities can use and customize this model depending on the partnerships, capacity, and resources available. School communities can also adjust the model to address different barriers depending on the demographics, school communities, and built environment conditions. Action plan items to promote and enable cycling must be confirmed by stakeholders. The effectiveness of how the model is applied depends primarily on partnerships.

Ideas for adding onto the model have been discussed in the section on *Possible Solutions for further Consideration* on page 26. The list contains ideas that can help address more barriers (particularly access to a bicycle and equipment), make cycling more inclusive (i.e. teaching cycling to students with disabilities and special needs), and sustain results in the longer term (CAN-BIKE courses for teachers, bike racks for smaller spaces). Future projects can explore behavioural change methods and personal safety concern funding mechanisms for addressing more challenges to everyday cycling and sustained support.

The diagram on the next page revisits the Project LifeCYCLE model and describes ways it can be applied in other school communities.





Project LifeCYCLE

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Project LifeCYCLE Process



Action Plan Items that promote and enable cycling					
Promote			Enable		
	Encouragement Events/Activities	Meeting Cycling Role Models	Skills Training	Equipment	Infrastructure
Potential Activities	<ul style="list-style-type: none"> Bike to School Week International Walk-Wheel to School Day Group Rides/Bike Trains Prizes/incentives at events (i.e. stickers) Bike trains 	<ul style="list-style-type: none"> Presentations Lunch mentorship Bike mentorship program Group Rides/ Bike trains Bike club 	<ul style="list-style-type: none"> Cycling safety workshop Bike rodeos CAN-BIKE courses for students CAN-BIKE training for teachers Group rides 	<ul style="list-style-type: none"> Build-a-bike program Raffles, contests, or giveaways to allow students to access bike accessories: helmets, bells, lights Bike exchange/donations Bike/tool library Bike rentals 	<ul style="list-style-type: none"> Bike racks Bike lanes Improved signage Push button for cyclists Bike traffic signals
Who can help	<ul style="list-style-type: none"> Enthusiastic teachers Parent volunteers Student leaders Local Police Public Health Nurse Local bike shop Local bike club 	<ul style="list-style-type: none"> School alumni athletes Local bike club University Cycling teams High School Cycling Teams Local police division 	<ul style="list-style-type: none"> Enthusiastic teachers Parent volunteers Student leaders Local Police Public Health Nurse Local bike shop Local bike club 	<ul style="list-style-type: none"> Local bike shop Insurance companies Law firms Local police auction Parent Council members 	<ul style="list-style-type: none"> 311 Transportation Services City Planning School Board Local Councillor



Appendix

Results per School

This section summarizes the work and progress achieved at each school. Further details on items in progress and items that were tried but not feasible can be found in the individual school travel plans.

Annunciation Catholic School

Barriers/Challenges:

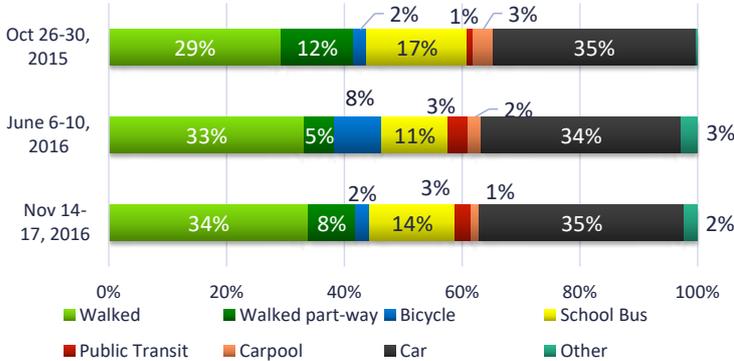
- Missing crosswalks and visibility issues along commonly used walking routes
- Personal safety concerns
- Proximity to 3+ schools; affected by their traffic as well
- Congestion in front of school: parked vehicles in *No Parking* zones blocks buses which continues after parking blitz initiatives



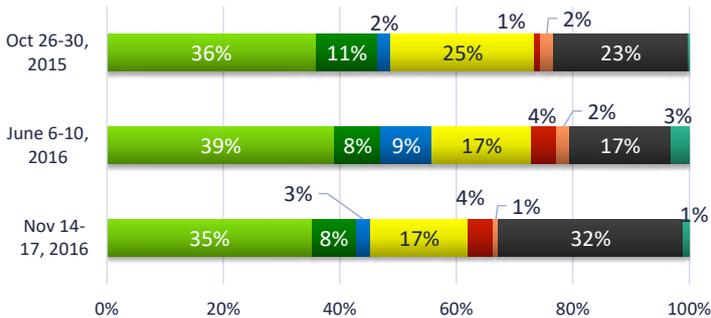
Interventions

- IWALK-IWHEEL 2015: sticker distribution, announcements, newsletter promotions
- Bike rack installation
- Walking with Friends club booth and posters (2015-2016)
- Bikeabout 2016
- Bike to School Week 2016
- Popular Routes to School map
- Athlete presentation 2017

Annunciation CS Total Travel Mode Share TO School



Annunciation CS Travel Mode Share FROM School



	Weather Descriptive (temperature, precipitation)		
Date	Oct 26-30, 2015	June 6-10, 2016	Nov 14-17, 2016
Average Number of Responses (TO school)	152.4	86	96.6
Average Number of Responses (FROM school)	127.6	82.8	95.8
Monday	4°C, dry	Dry 18°C	Dry 8°C
Tuesday	6°C, dry	Precipitation 15°C	Dry 7°C
Wednesday	10°C, crazy storm	Dry 12°C	Dry 7°C
Thursday	10°C, dry	Dry 15°C	Dry
Friday	6°C, dry	Dry 16°C	PA Day





Project LifeCYCLE

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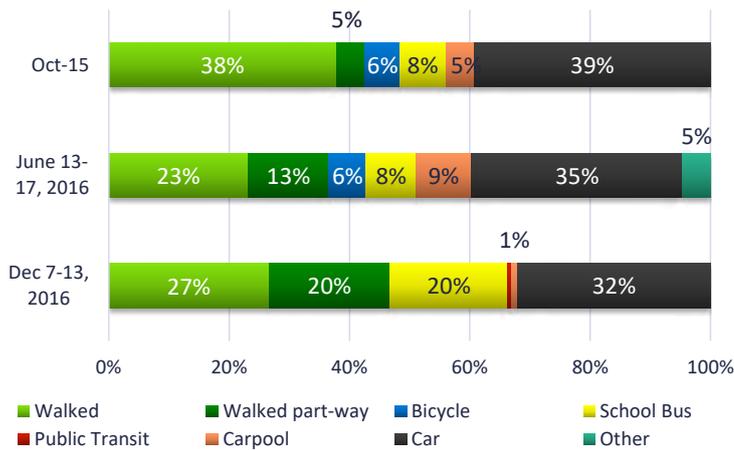
Cassandra Public School

Barriers/Challenges

- Speeding on Underhill Drive
- Intersections where crosswalks or improvements are needed
- Snow removal/puddles from downward sloping road verges



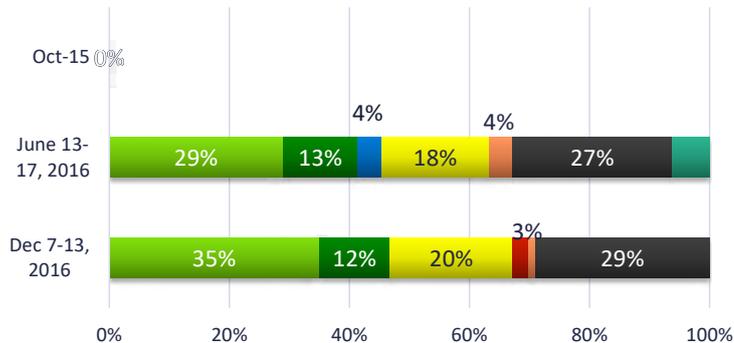
Cassandra PS Total Travel Mode Share TO School



Interventions

- Crosswalk to be installed at Redwillow Drive and Cassandra Blvd.
- Bikeabout 2015
- Winter Walk Day 2016
- Indoor Cycling Workshop
- Toronto Public Health bike safety presentations
- Bike to School Week 2016 and 2017

Cassandra PS Total Travel Mode Share FROM School



	Weather Descriptive (temperature, precipitation)		
Date	Oct-15	June 13-17, 2016	Dec 7-13, 2016
Average Number of Responses (TO school)	247.2	38.8	36.8
Average Number of Responses (FROM school)	0	25.6	37.2
Monday	not available	Dry 13°C	Snow 1°C
Tuesday		Dry 15°C	Dry -1°C
Wednesday		Dry 19°C	Dry 1°C
Thursday		Dry 20°C	Dry 2°C
Friday		Dry 23°C	Dry -3°C





Gateway Public School

Barriers/Challenges

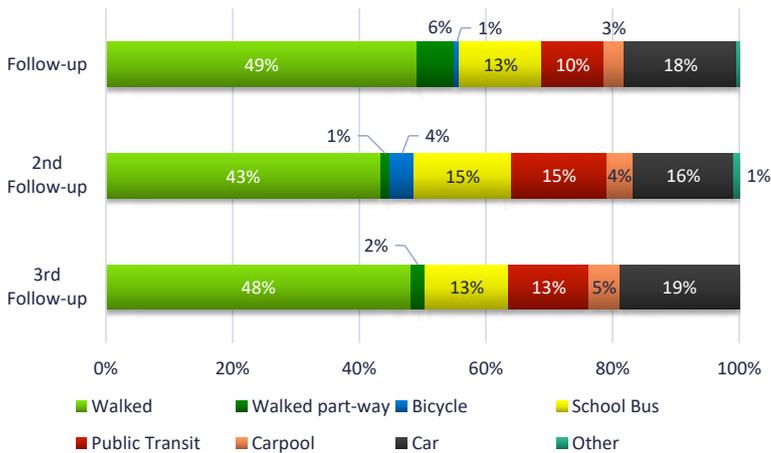
- High traffic and speeds from the school's proximity to major arterial roads and industrial uses
- Parked vehicles and trucks, many parking lots near the school
- Wayfinding and visibility: signage and infrastructure around school and near bike paths
- Blind corners/poor sightlines
- Wide roads, large curbs



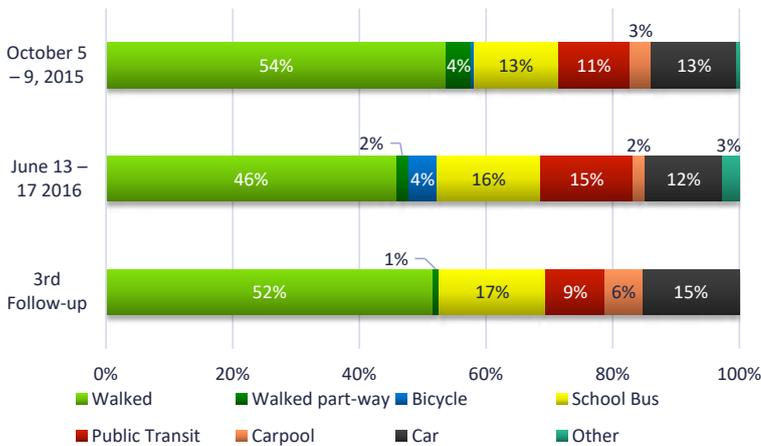
Interventions

- Additional signs for school parking lot
- Bike rack installation
- Bikeabout 2015
- Indoor Cycling Workshops
- Faux Ticket Day
- Bike Rodeo
- Bike to School Week
- Guide to safer streets near Schools
- Family bike ride led by CAN-BIKE instructors

Gateway PS Total Travel Mode Share TO School



Gateway PS Total Travel Mode Share FROM School



	Weather Descriptive (temperature, precipitation)		
Date	October 5 - 9, 2015	June 13 - 17, 2016	Jan-17
Average Number of Responses (TO school)	116.8	67.8	28.6
Average Number of Responses (FROM school)	111.2	53.6	23.6
Monday	13°C, dry	13°C, dry	
Tuesday	14°C, dry	15°C, dry	
Wednesday	15°C, dry	19°C, dry	
Thursday	12°C, rain	20°C, dry	
Friday	12°C, rain	23°C, dry	



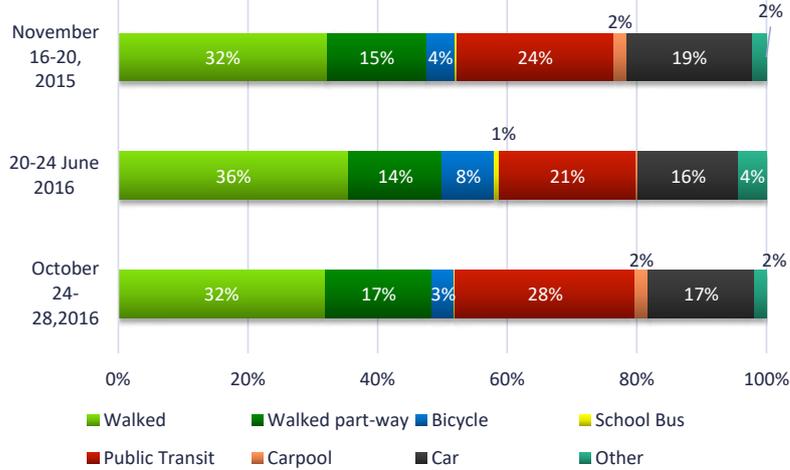


King Edward Junior and Senior Public School

- ### Barriers/Challenges
- Students travel long distances for the school's French immersion and Gifted programs
 - Proximity to major arterial roads

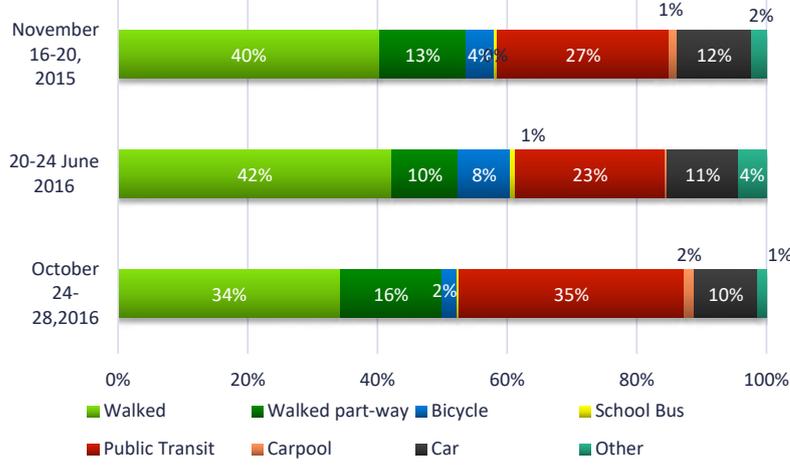


King Edward PS Total Travel Mode Share TO School



- ### Interventions
- IWALK-IWHEEL Celebration: distributing stickers
 - Bikeabout 2015
 - Winter Walk Day
 - Indoor Cycling Workshop 2016
 - Bike Rodeo

King Edward PS Total Travel Mode Share FROM School



Date	Weather Descriptive (temperature, precipitation)		
	November 16-20, 2015	20-24 June 2016	October 24-28, 2016
Average Number of Responses (TO school)	320.8	298.6	364.4
Average Number of Responses (FROM school)	313.2	297.4	250.8
Monday	12°, dry	23 °C partly sunny	Dry 10°C
Tuesday	9°, dry	19 °C, sunny, scattered clouds	Dry 7°C



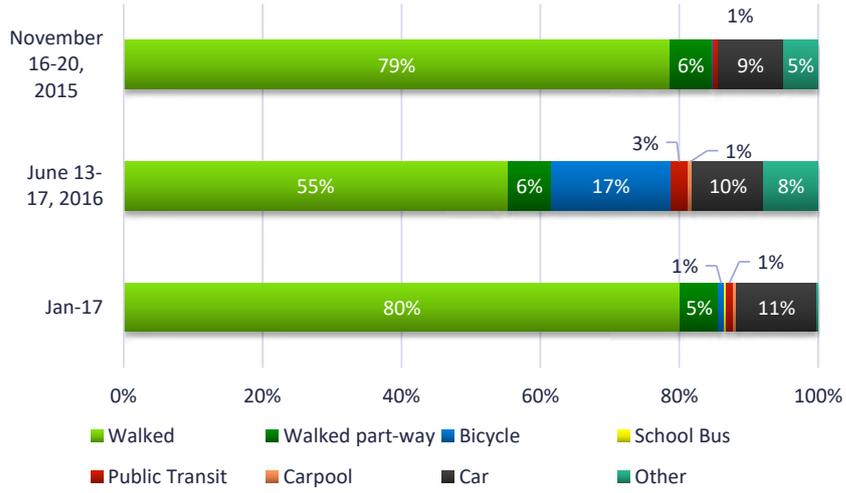
Rolph Road Elementary School

Barriers/Challenges

- Congestion and idling on Rolph Road
- Speeding, double-parking
- Drivers not stopping at stop signs, even where there are curb extensions
- Incontinuous sidewalks along streets in front of and behind school property



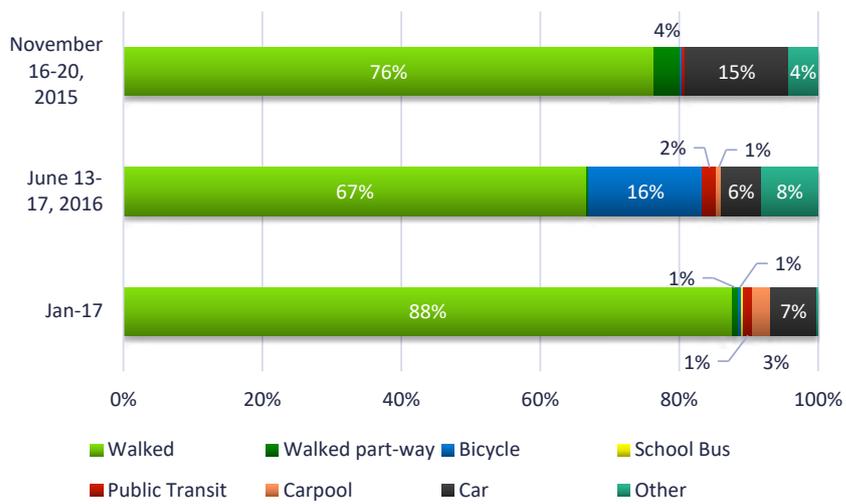
Rolph Road ES Total Travel Mode Share TO School



Interventions

- IWALK-IWHEEL Day and Ceremonies
- Bikeabout 2016
- Indoor Cycling Workshop 2016
- Mapping Activity
- 2 Bike Rodeos (2015-2016)
- Bike to School Week
- Mountain bike club initiated spring 2017

Rolph Road ES Total Travel Mode Share FROM School



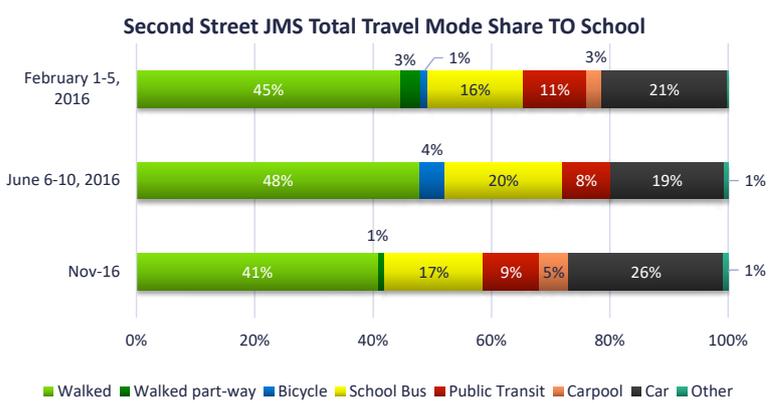
	Weather Descriptive (temperature, precipitation)		
Date	November 16-20, 2015	June 13-17, 2016	Jan-17
Average Number of Responses (TO school)	91.6	64	76.6
Average Number of Responses (FROM school)	88.8	58.8	76.2
Monday	Sun/cloud 5°C		
Tuesday	Sun/cloud 8°C		
Wednesday	Sun/cloud 14°C		
Thursday	Sun/coud 16°C		
Friday	Sun/cloud 5°C		



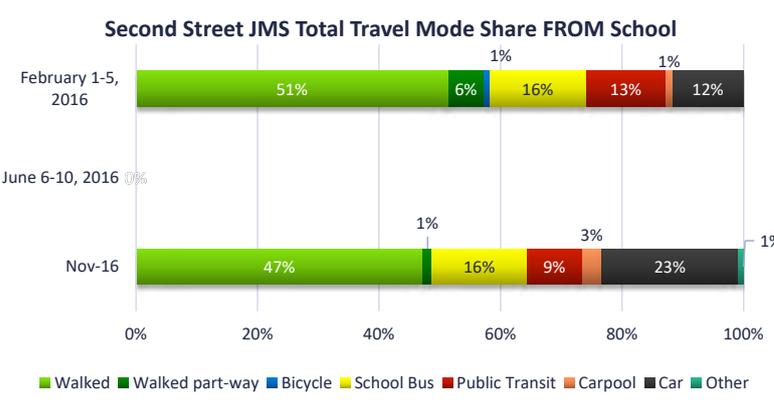


Second Street Junior and Middle School

- ### Barriers/Challenges
- Increase in population and travel distances from incoming extended French program
 - Proximity to major arterial roads
 - Many parking spaces near the school (lots and street parking)
 - Pavement markings: Missing stop lines and bike lane symbols



- ### Interventions
- Mapping activity at Health and Wellness Night
 - Bike to School Week and Bike Rodeo
 - Stop line at Second Street and Birmingham Street
 - Improved signage
 - New bike racks
 - Two Learn to Ride courses



	Weather Descriptive (temperature, precipitation)		
Date	February 1-5, 2016	June 6-10, 2016	Nov-16
Average Number of Responses (TO school)	166.6	56.4	102.6
Average Number of Responses (FROM school)	161.4	0	99.4
Monday	6°C, dry	20°C, cloudy	
Tuesday	4°C, dry	15°C, dry	
Wednesday	14°C, rain	11°C, dry	
Thursday	8°C rain	14°C, dry	
Friday	4°C, dry	PA Day	



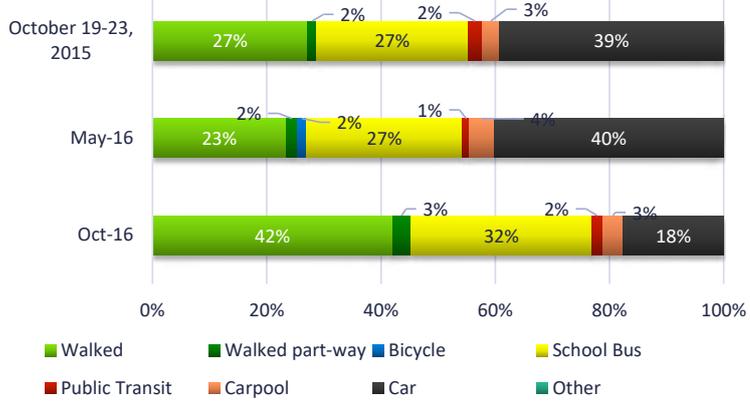
St. Raphael Catholic School

Barriers/Challenges

- Personal safety concerns
- High traffic volumes behind the school
- Lack of designated crosswalks
- Lack or absence of sidewalks on streets where students live or along streets leading to the school
- Illegal parking and unauthorized use of the staff parking lot
- Blind corners and areas where signage could be more visible



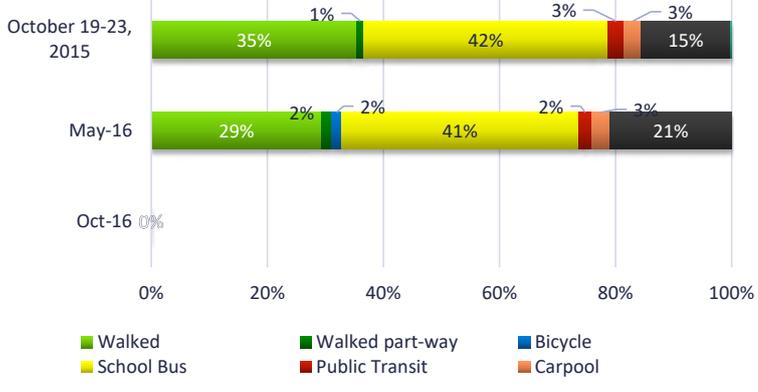
St. Raphael CS Total Travel Mode Share TO School



Interventions

- Crosswalks painted in some areas
- Popular routes to school map
- IWALK-IWHEEL Day 2015
- Bike rack installation
- Why we walk presentation by GCC
- Monthly Walk/Wheel days (2016-2017)
- Indoor Cycling Workshop 2016
- Bikeabout 2016
- Bike to School Week

St. Raphael CS Total Travel Mode Share FROM School



Date	Weather Descriptive (temperature, precipitation)		
	October 19-23, 2015	May-16	Oct-16
Average Number of Responses (TO school)	198	198	350.2
Average Number of Responses (FROM school)	156.8	202	0
Monday	dry, 5°C		
Tuesday	overcast, 10°C		
Wednesday	dry, 12°C		
Thursday	dry, 9°C		
Friday	sunny, 5°C		

