



Final Report

PEEL REGION COMMUNITY BASED PILOT PROGRAM FOR
ACTIVE TRANSPORTATION

Nancy Smith Lea
Trudy Ledsham
George Liu
Beth Savan

February 29 2016, revised August 10, 2016

Executive Summary

PEEL REGION COMMUNITY BASED PILOT PROGRAM FOR ACTIVE TRANSPORTATION

In August 2014, the Toronto Centre for Active Transportation (TCAT), a project of the registered charity Clean Air Partnership, was awarded a contract by the Region of Peel to research and develop a project to increase active transportation through the creation and implementation of a community based program as identified in Phase II of Peel's Regional Active Transportation Plan (2011). This final report provides an analysis of the results of the project, an overview of the pilot project as it was planned and executed, and recommendations for ongoing development. We also provide forecasts of the financial, material, and personnel resources required for future iterations of the program, as well as some of the benefits accruing from them.

All project objectives were achieved, with substantial additional benefits provided by this program. Results include **an increase in cycling mode share from 5% to 25%** among the primary cycling program participants and a **decrease in motor vehicle trips from 54% to 42%**. By contrast, the number of motor vehicle trips for the control group remained virtually unchanged (from 54% to 52%). Participants averaged 177 minutes a week of cycling activity, exceeding Canada's Physical Activity Guidelines¹ while the control group averaged only 25 minutes of cycling activity per week. Participants also increased their perception of the value of bicycles and their willingness to spend on bicycles and accessories (from \$139 to \$292) while the control group showed no change in willingness to spend. Additionally, three new bicycling programs were developed and piloted and are ready for delivery in 2016. These programs are transferable and adaptable to new communities throughout Peel.



Figure 1 PedalWise participants on group ride.
Photo credit: PedalWise mentor Lisa Stokes

This project received significant community support:

- **239 community members** were directly engaged in bicycling events and activities.
- Community members contributed over **1600 hours** of volunteer time.
- **1,236 new connections** were made among people in the community.
- **\$103,609 in cash and in-kind** donations were received from community members, partners and outside funders.

¹ Canada's Physical Activity Guidelines recommend 150 minutes of activity per week (CSEP, 2012).

- Community volunteers built workbenches, designed the layout and set up an **800 sq. ft. bicycle repair garage**.
- **Volunteers refurbished 110 bicycles** and helped build and safety check 50 new bicycles all of which are now in use in the community.
- Volunteers mentored new cyclists, ran small group rides, and contributed to the design and delivery of the program.

We estimate ongoing support and gradual expansion of the program over five years at a cost of \$619K will result in health and transport savings of at least \$2.9 million and community contributions of \$518K. This will result in a net project value of \$2.8 million (or a conservatively calculated ROI of 4.5), not including a host of other un-costed benefits, including the following:

- Diffusion of behaviour and cycling friendly attitudes from participants to others in their families and community.
- Increases in community competence and capacity to participate in cycling for transportation.
- Increases in organizational capacity and competence relating to active transportation for community organizations participating in program delivery.
- Increases in partnership capacity and ties between the Region of Peel and community partners.
- Increases in skill and cycling knowledge among cyclists.
- Increases in mentorship and leadership skills among mentors.
- Increases in disposable income released by reduced reliance on transit and automobiles.
- Increases in local economic activity.
- Cultivation of community leaders into active transportation champions. Gaining even one, such as a local church pastor, has the capacity to influence hundreds.

TCAT developed a strategically targeted, community-based model for increasing active transportation based on identification of both partners and community needs. The three-pronged pilot model included: 1) an overarching community home for programming -- *The Community Bike Centre*, 2) a mentor-based cycling program -- *PedalWise*, and 3) a bicycle mechanics garage and programming -- *BikeWrx*. From this base model, programming expanded to include development of two additional programs: Build-a-bike: Earn-a-bike, and Bicycle Maintenance Clinic, and significant contributions were made to bicycle programming at two other local organizations: People's Church *CycleFest* and the Boys and Girls Club bicycle clubs. The targeting of a suitable community was enabled through development of a legacy GIS tool to identify the neighbourhoods in Peel with the highest potential for increasing walking and cycling. This model of active transportation development directly addresses the new Region of Peel Term of Council Priorities (2015) under all three pillars of *Living, Thriving* and *Leading*.

The pilot program successfully engaged key populations who are under-represented among cyclists in the Region of Peel. More women and older people joined the program in comparison to the heavily oriented young, male profile of the typical cyclist in the Region.

Three key community organizations participated in the program. Two of these organizations, Community Environment Alliance (CEA) and Bike Brampton, were official partners. The third, All People's Church, was an enthusiastic supporter with both pastors and congregants joining the program while the newly established *Community Bike Centre* supported the church's *Cyclefest* initiative. Additionally, connections were made with the Boys and Girls Club of Brampton who received donated bikes that had been assembled and safety checked by volunteers at the *Community Bike Centre*. The Region's investment has allowed these organizations to increase their commitment, knowledge and capacity to support cycling for transportation by Brampton residents. In addition, TCAT wrote and guided a successful grant application to MEC from the CEA resulting in a well-equipped bicycle maintenance facility *BikeWrx*, as well as the provision of helmets, baskets, racks and lights for the refurbished bicycles used in *PedalWise* programming.

Please see [Appendix A](#) for full Program Highlights.

Table of Contents

Executive Summary.....	1
List of Tables	5
List of Figures	5
Introduction	7
Community Based Active Transportation Pilot Program Overview.....	8
Timeline and Methodology Overview.....	9
Scope of Work and Deliverables	10
Project Evaluation (Overview)	11
Results.....	11
Changes in Transportation Behaviour (Overview)	11
Changes in Weekly Physical Activity (Overview)	12
Changes in Willingness to Spend on Bicycles and Accessories (Overview)	12
Barriers and Facilitators to Cycling	13
Interview Results (Overview)	14
Community Involvement and Contributions	14
Community Based Active Transportation Program 5 Year Projected Return on Investment	15
Alignment with 2015 Term of Council Priorities.....	16
Future Program Replication	17
Program Replication Strategies.....	17
Key Factors Impacting Program Replication	18
Community Based Active Transportation Program Replication Options.....	20
Program Investment and the Diffusion of Social Change	20
Conclusion.....	21
References	22
Appendix A Program Highlights	23
Appendix B Community Based Active Transportation Pilot Program Objectives.....	28
Appendix C Community Based Active Transportation Pilot Program (Detail)	29
Appendix D Community Based Active Transportation Pilot Program Methodology (Detail).....	32
Stage I – Background Research and Stakeholder Engagement	32
Stage II – Program Development and Delivery	34
Stage III Project Evaluation and Replication Toolkit	35

Appendix E Changes in Transportation Behaviour (Detail).....	39
Appendix F Changes in Weekly Physical Activity (Detail)	41
Appendix G Changes in Willingness to Spend on Bicycles and Accessories (Detail).....	42
Appendix H <i>PedalWise</i> 2015 Program: Participant and Mentor Metrics	43
Participant Metrics.....	43
Demographics of Participants.....	43
Mentor Metrics	46
Appendix I <i>PedalWise</i> 2015 Program: Summary of Mentor Exit Interviews	48
Appendix J Community Partner Exit Interview Summary.....	54
Appendix K Options for Community Based Active Transportation Program Replication.....	56
Appendix L <i>PedalWise</i> 2015 Survey Tools	59

List of Tables

Table 1 Scope of Work and Deliverables	10
Table 2 Community Based Cycling Program 5 year projected return on investment	15
Table 3 Program replication options	17
Table 4 Community Based Active Transportation Program Replication Scenarios	56

List of Figures

Figure 1 <i>PedalWise</i> participants on group ride. Photo credit: <i>PedalWise</i> mentor Lisa Stokes	1
Figure 2 <i>PedalWise</i> participants at Rose Theatre. Photo credit: <i>PedalWise</i> mentor Lorie Johnson-Miller .	7
Figure 3 Logo - <i>PedalWise</i>	8
Figure 4 Logo - Community Bike Centre	8
Figure 5 Logo - BikeBrampton, Community Environment Alliance	8
Figure 6 <i>PedalWise</i> participants on group ride. Photo credit: <i>PedalWise</i> mentor Lorie Johnson-Miller...	12
Figure 7 Barriers to bicycle use. Data Source: <i>PedalWise</i> Exit Survey	13
Figure 8 Factors that encourage more bicycle use. Data Source: <i>PedalWise</i> Exit Survey	13
Figure 9 <i>PedalWise</i> participants at Professor's Lake. Photo credit: <i>PedalWise</i> mentor Lorie Johnson-Miller.....	16
Figure 10 Build-a-bike: Earn-a-bike program. Photo credit: Community Environment Alliance.....	19
Figure 11 Cohlmeier Model for community programming for active transportation behaviour change .	32
Figure 12 Identification of active transportation target Areas in Region of Peel	33
Figure 13 Mode Share Comparison. Data source: <i>PedalWise</i> entry/exit surveys and Control entry/exit surveys	39
Figure 14 Average cycling activity minutes per week. Data source: <i>PedalWise</i> entry/exit and Control entry/exit surveys	41
Figure 15 Willingness to spend on bicycles and accessories. Data source: <i>PedalWise</i> entry/exit and Control entry/exit surveys	42
Figure 16 How participants heard about <i>PedalWise</i> . Data source: <i>PedalWise</i> Survey	43

Figure 17 Gender Comparison: Peel Cyclists/PedalWise. Data source: TTS 2011 DMG 2015, PedalWise Survey.....	44
Figure 18 Age Comparison: Peel Cyclists/PedalWise. Data Sources: DMG 2015, TTS 2011, Statistics Canada Census 2011, PedalWise Survey	44
Figure 19 PedalWise Participants Length of Time in Canada. Data source: PedalWise Survey.....	45
Figure 20 Self Identified Ethnicity of PedalWise Participants.....	45
Figure 21 Access to cars: Peel/ PedalWise. Data source PedalWise Survey and TTS 2011, DMG, 2015 ...	46

Introduction

In August 2014, the Toronto Centre for Active Transportation (TCAT), a project of the registered charity Clean Air Partnership, was awarded a contract by the Region of Peel to research and develop a community based pilot program to increase active transportation in the Region.

Peel's Regional Official Plan Amendment providing new and updated transportation policies (ROPA 22, 2009) defines the active transportation objectives as follows:

- 1) Increase the share of trips made using active transportation; and
- 2) Work toward the development of a complete, safe, and integrated network of bicycle and pedestrian facilities that enhances the quality of life and promotes the improved health of Peel residents.

In 2007, prior to the active transportation objectives adopted within the Official Plan, the Region of Peel launched a comprehensive "Peel Region Active Transportation Initiative" that consisted of two phases:

Phase I Development of a Communication and Social Marketing Strategy to raise awareness of the benefits of active transportation and of existing facilities. This got underway in 2010.

Phase II Development of an Integrated Comprehensive Region of Peel Active Transportation Plan, completed in 2011.

Central to the implementation of Phase II was a medium term strategy to increase active transportation through the creation and implementation of a community based program. The purpose of this project was to pilot and analyze such a program and create a path forward for larger scale implementation.

To guide the future implementation of the Region's medium term strategy for increasing active transportation through community based programming, this report provides an analysis of the results of the pilot program, an overview of the program as it was planned and executed, and recommendations for ongoing development. We also provide forecasts of the financial, material, and personnel resources required, and benefits accruing for future iterations of community based active transportation programs. Please see [Appendix B](#) for a summary of all project objectives.



Figure 2 PedalWise participants at Rose Theatre. Photo credit: PedalWise mentor Lorie Johnson-Miller

Community Based Active Transportation Pilot Program Overview

TCAT developed a strategically targeted, community-based model for increasing active transportation based on identification of suitable neighbourhoods, suitable partners and community needs. The pilot program resulted in:

- A partnership between the Community Environment Alliance (CEA), Bike Brampton and the Region of Peel.
- A new community home for bicycle programming and bicycle repair -- *The Community Bike Centre* established at CEA's premises. The *Community Bike Centre* aims to provide families with access to reconditioned bikes, bike mechanics training, and opportunities for personal growth through bicycle related activities. The Centre provides a supportive, non-judgmental and community friendly space for anyone interested in cycling to learn, explore, build a bike, or mentor a new cyclist.
- *PedalWise*, a mentor-based cycling program, was delivered over the summer of 2015 at CEA.
- *BikeWrX*, a bicycle mechanics garage, was established in 2015 at CEA and offered these programs:
 - Build-a-Bike/Earn-a-Bike and a Basic Bicycle Maintenance workshop. These programs were successfully piloted with a small cohort of participants and are ready to be expanded and replicated in 2016.
 - Used bicycles were collected from the community and refurbished by Bike Brampton volunteers in the *BikeWrX* facility. In total 85 children's bicycles and 20 adult bicycles were refurbished and placed back into the community.



Figure 3 Logo - PedalWise



Figure 4 Logo - Community Bike Centre

Community partners were central to the success of the pilot program:



BikeBrampton.ca
Biking in Brampton
Builds our Community



Community Environment Alliance
Educate / Empower / Enable

Figure 5 Logos - BikeBrampton, Community Environment Alliance

The establishment of these facilities and programs resulted in both the CEA and Bike Brampton providing support for other community bike programs, including supplying 75 refurbished children's bicycles to *CycleFest* which was organized by the All People's Church (whose members and pastor participated in *PedalWise*) and assembling and safety checking 50 new bicycles for a young people's bike program run by The Boys and Girls Club of Brampton. The Region's investment has allowed these community organizations to increase their commitment, knowledge and capacity in regard to supporting cycling for transportation by Brampton residents.

Please see [Appendix C](#) for a detailed program description.

Timeline and Methodology Overview

Stage I

1. Fall 2014: Identified 10 neighbourhoods in the Region of Peel with the highest potential for increasing walking and cycling participation. This targeting was enabled through development of a legacy GIS tool.
2. Fall 2014: Identified potential community partners through a stakeholder consultation process with the Region. Consulted with 5 potential partners who expressed interest in the program.
3. Winter 2015: In conjunction with the Region we evaluated the capacity of the 5 potential partners and chose Community Environment Alliance and Bike Brampton.

Stage II

1. Winter 2015: Planned targeted cycling programming (*PedalWise* and *BikeWrx*) and developed a new home for bicycle related activities in the community—the *Community Bike Centre*—at the Community Environment Alliance. Ensured programming met the needs and capacity of partners and the Region by facilitating a series of meetings and negotiations with both community partners and the Region to plan and develop a community based active transportation program for summer 2015 delivery. The program was designed to be replicable and measurable. During these months, the group decided on programming, program branding, timing, delivery location, recruitment, and events.
2. Summer 2015: With the support of the Community Environment Alliance and Bike Brampton, TCAT delivered *PedalWise* programming (Summer 2015). With the support of TCAT, the Community Environment Alliance and Bike Brampton built the *BikeWrx* garage, refurbished 110 bicycles, developed and delivered Build-a-Bike/Earn-a-Bike and a Bicycle Maintenance workshop.

Stage III

1. Fall 2015/Winter 2016: Project evaluation.
2. Fall 2015: Development of options for community based active transportation program replication.
3. Winter 2016: Development of Tool Kit for program replication.
4. Winter 2016: Reporting.

Please see [Appendix D](#) for full methodology.

Scope of Work and Deliverables

Table 1 Scope of Work and Deliverables

Task		Purpose	Deliverable
1	Review of Background Information; Identify Best Practices	Situate strategy in Peel's current active transportation program and reflect current literature on best practices in active transportation	Background report, January 2015
2	Identify Target Communities and Partners (sites most suitable for increased cycling) and Control Community	Locate programming in areas with an environment suitable for active transportation so it can succeed	Interactive Google Earth Tool. See Background report (p.43) 10 areas identified for both strategic infrastructure and programming investment.
3	Stakeholder Engagement (identify potential community partners and resources); Identify Primary Behaviour Change(s) to be addressed	Identify and engage potential community partners for both pilot and expansion of bicycle programming	Facilitation process and Stakeholder Engagement Facilitation Documentation and Summary Report
4	Develop Program (including evaluation methods and criteria) and Promotional Campaigns to Address Behaviour Change in the Target Community	Develop and pilot an expandable, replicable and transferable model of cycling programming, identify and source matching community resources	Community partnerships set, programming designed and planned with project workplans, program outlines, program brands, event workplans and associated materials such as FAQs, recruitment posters, web text, mentor training materials, safe cycling workshop materials, route planning workshop materials. Evaluation methods established.
5	Implement Pilot Program (Collect and analyze data in target & control communities; Deliver and manage program events and initiatives)	Work with community partners to deliver pilot programming in Summer Fall 2015	16 week cycle mentorship program <i>PedalWise</i> ; <i>BikeWrX</i> garage; Build-a-bike Earn-a-bike program; Bike Maintenance program, Bramalea CycleFest support.
6	Set up a system for the Agency to collect long-term post program implementation data: Tools for future program replication in new neighbourhoods	Enable expansion of program and replication in new neighborhoods with new partners	Community Based Active Transportation Program Toolkit, GIS Tool. Interim program report with information about results to date and replication options.

7	Recommendations for a Program Implementation Strategy beyond the Pilot Program: Measurement and reporting of impact	Rigorously measure and evaluate program impact on behaviour, values and attitudes.	Analysis, reporting & presentation: Active Transportation Committee Nov 2015; final Report Feb 2016
---	---	--	---

Project Evaluation (Overview)

Of all of the various programming options that were offered to pilot participants, the *PedalWise* cycling mentorship program was the most fully developed and engaged the largest number of participants over a 4-month period (June 2015 thru Sept 2015). As a result, it provided us with the most robust data set to evaluate impact over time. Additionally, the Region of Peel became a partner on Dr. Beth Savan's Social Sciences and Humanities Research Council of Canada funded research at *the University of Toronto* and the results of this pilot program evaluation will become part of her larger research study: *Increasing Cycling in Canadian Communities: Understanding what works*.

Three evaluative methods were used: 1) A detailed intake survey for *PedalWise* participants was developed. Questions addressed current travel behaviour, attitudes towards cycling, social norms and demographic details. *PedalWise* participants completed this survey either in person or online before participating in any events. A matching exit survey was completed by *PedalWise* participants at program end. By matching before and after answers we were able to evaluate the program's impact on the participants. In order to have a comparison group who did not experience the program, a control group was recruited and they completed the same intake/exit surveys (modified to remove mention of the *PedalWise* program) as the *PedalWise* participants (see [Appendix L](#)); 2) half-hour, one-on-one exit interviews were conducted with *PedalWise* mentors (see [Appendix I](#)); and 3) half-hour, one-on-one exit interviews were conducted with the leaders of the community partners Community Environment Alliance and Bike Brampton (see [Appendix J](#)). Please see [Appendix D](#) for full methodology and program evaluation process.

Results

Changes in Transportation Behaviour (Overview)

The *PedalWise* program was the anchor program for changing travel behaviour. A key goal of the program was changing travel behaviour from motor vehicles to more sustainable modes of transportation like cycling. In order to measure the success of the program in meeting this goal, we undertook entry and exit surveys with *PedalWise* participants. Participants completed surveys in June 2015 before the program started and in September 2015 at program exit. We also collected the same data from a control group.

In order to evaluate the impact of the *PedalWise* program on transportation behaviour we compared weekly trips by type of transportation used as reported by the participants. Overall, we found that *PedalWise* participants underwent a large positive change towards cycling for utilitarian trips (i.e. work/school/shopping trips):

- At program exit, trips taken by motor vehicle (drive, getting a ride, motorcycle and taxi combined) had declined from 54% of trips at entry to 42% of trips.
- Trips by bicycle accounted for 5% of trips at entry and 25% of trips at exit.

The control group did not see the same level of change. Their trips by motor vehicle declined just 2% from 54% to 52% and cycling trips at exit accounted for 4% of control group trips (1% at entry).

Please see [Appendix E](#) for more detailed information, including charts, about changes in transportation behaviour, [Appendix D](#) for methodology, and [Appendix H](#) for basic participant and mentor metrics.

Changes in Weekly Physical Activity (Overview)

PedalWise participants averaged 177 minutes of cycling per week at program exit exceeding Canada's Physical Activity Guidelines of 150 minutes per week while the control group averaged 25 minutes of cycling activity per week at program exit. For the *PedalWise* participants this was a large increase from their 40 minutes per week of cycling activity at program entry. Residents of Peel experience higher rates of overweight, obesity and diabetes than do residents of the Greater Toronto Area as a whole (Region of Peel Public Health, 2013). Brampton, in particular, has the highest rate of diabetes in the Region. Increasing physical activity through daily transportation activity offers low cost preventative health care for residents.

Please see [Appendix F](#) for more detailed information, including charts, about changes in weekly physical activity.



Figure 6 *PedalWise* participants on group ride. Photo credit: *PedalWise* mentor Lorie Johnson-Miller

Changes in Willingness to Spend on Bicycles and Accessories (Overview)

Program participants were asked at entry and exit how much money they would be willing to spend on a bicycle and accessories. We found that they were willing to spend more than twice the amount on bicycles and accessories at program exit (\$292) than at program entry (\$139). This raises their total potential spend to a level more closely approaching the actual cost of a bike and related equipment, so that new cycling behaviours can be maintained. This suggests that as a result of the programming and after experiencing the utility of a bicycle, participants perceived increased value in both bicycles and accessories. This change is important since only 19% of participants owned a bicycle. The control group showed no increase in their willingness to spend on bicycles and accessories although their willingness to spend at both entry and exit was higher than the program group and 52% owned a bicycle. This is likely because a larger percentage of the control group were university students and likely come from a

higher socio-economic background than program participants. We were unable to ask about economic status due to partner reticence to ask questions of this nature. Please see [Appendix G](#) for more detailed information, including charts, about changes in willingness to spend on bicycles and accessories.

Barriers and Facilitators to Cycling

PedalWise participants experienced a number of barriers to using their bicycles. Sharing the road with motor vehicles was the biggest barrier (73%). Interestingly, the preferred solution was bike lanes (73%) rather than off-street trails (54%). People want pleasant, direct, safe access to daily destinations.

Consistently, participants indicated that pleasant route conditions including bike lanes, routes separated from traffic, and good quality bike parking at destinations would encourage them to ride more often.

What were the greatest barriers to using your bicycle?

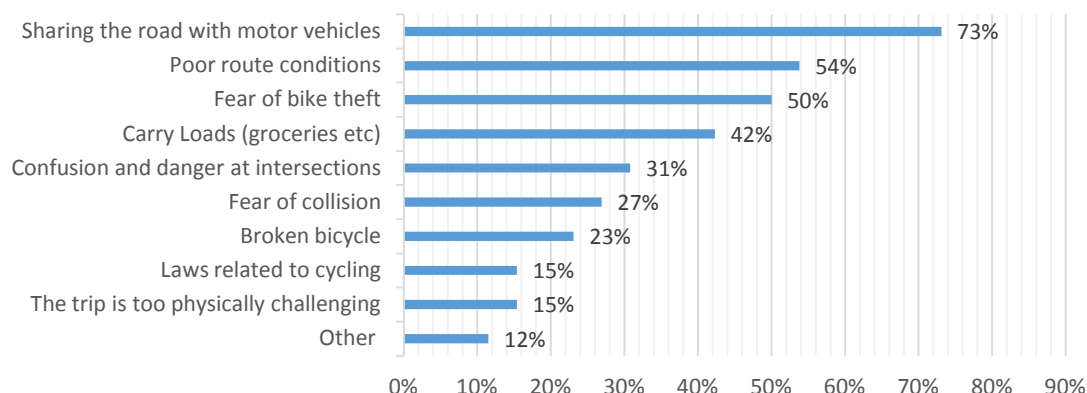


Figure 7 Barriers to bicycle use. Data Source: *PedalWise Exit Survey*

What factors would encourage you to ride your bicycle more often?

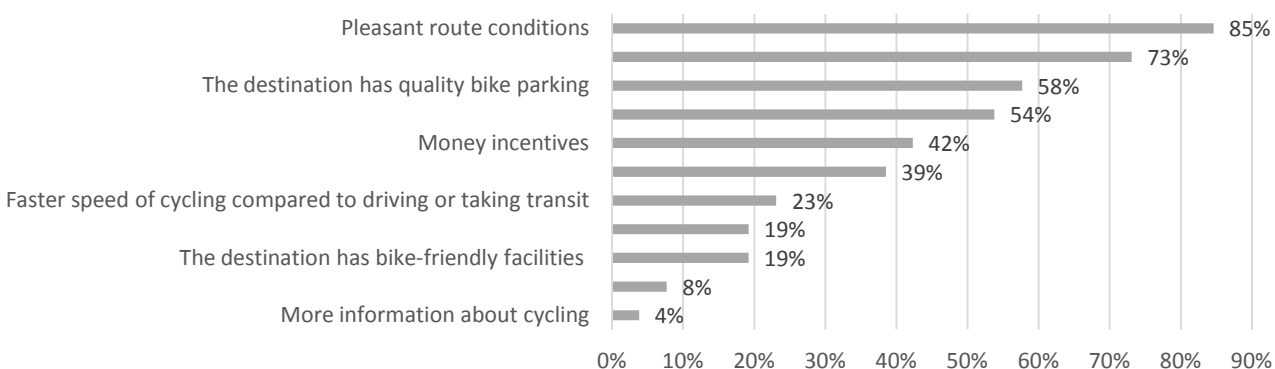


Figure 8 Factors that encourage more bicycle use. Data Source: *PedalWise Exit Survey*

Investment in cycling infrastructure throughout the Region would help reduce these barriers, thus is likely to result in an increase in cycling participation and to have a positive impact on future cycling adoption programs.

Interview Results (Overview)

Mentor Feedback

Volunteer mentors in the *PedalWise* program generally found the experience to be very satisfying. Multiple mentors found they also cycled more than they had previously. All but one felt the program had a very positive impact on their own life. The program resulted in them encouraging members of their family, friends and colleagues to also cycle more with some mentors even going as far as organizing group rides for family and friends who were not part of the program. Most mentors mentioned the positive impact of working with a group of similarly committed volunteers and how this gave them an outlet to engage with the community in an area they were passionate about. There were some organizational issues mentioned that related to program start-up. All are issues easily addressed in future iterations of the project.

Partner Feedback

Both partners spoke highly of the program and hope the Region supports the program going forward. Both spoke of the need for the Region to have a long-term vision and cohesive set of goals for the program. They enjoyed being part of a pilot project, but want it to be sustained as a long term program. Partners identified several positive impacts as a result of their participation: increases in organizational capacity, new partnerships, new community outreach, and new programming. Both partners felt the program engaged the community and inspired community members. Please see [Appendix J](#) for more detailed information on interview results.

Community Involvement and Contributions

The program received strong community support. Two community organizations, the Community Environment Alliance and Bike Brampton participated as full partners. They were involved in program development, participant recruitment and program delivery while a third community group, All People's Church, was deeply involved through the participation of both pastors and congregants in the *PedalWise* program. An event initiated by All People's Church 'CycleFest' was supported by this pilot program and associated volunteers.

In addition to our partners, community support for the program was demonstrated as follows:

- **239 community members** were directly engaged in bicycling events and activities.
- Community members contributed over **1,600 hours** of volunteer time.
- **1,236 new connections** were made among people in the community.
- **\$103,609 in cash and in-kind** donations was received from community members, partners and outside funders.
- Community volunteers built workbenches, designed layout and set up an **800 sq. ft. bicycle repair garage**.
- Volunteers refurbished 110 bicycles and helped build and safety check 50 new bicycles all of which are now in use in the community.
- Volunteers mentored new cyclists, ran small group rides, and contributed to the design and delivery of the program.

Community Based Active Transportation Program 5 Year Projected Return on Investment

We estimated the health and transport savings from the pilot project (Year 1) and then, using Scenario 7 from the Table of Replication Scenarios in Appendix K, we calculated the number of participants and extrapolated health and transport savings based on the pilot year actuals. We then added in the community contribution from the pilot and assumed community contributions (some new and some to be repeated) would also ensue in following years. From this we subtracted programming costs to arrive at the net value produced by the project per year. **The projected total net value of the program to the community over 5 years is estimated to be \$2.8 million or a conservative ROI of 4.5.**

Table 2 Community Based Cycling Program 5 year projected return on investment

	Community Based Active Transportation Program (<i>PedalWise</i> & High School cycling) 5 Year Projected Return on Investment					
	Pilot Year 1**	Year 2	Year 3	Year 4	Year 5	Total
Health and Transport Savings*	\$35,380	\$187,006	\$535,747	\$919,868	\$1,303,989	\$2,981,990
Community Contribution (Time and Monies)	\$103,609	\$103,609	\$103,609	\$103,609	\$103,609	\$518,045
Total Value Produced by Project	\$138,989	\$290,615	\$639,356	\$1,023,477	\$1,407,598	\$3,500,035
Programming Cost (Scenario VII)	\$92,500	\$142,050	\$128,525	\$137,000	\$119,000	\$619,075
Net Value Produced by Project	\$46,489	\$148,565	\$510,831	\$886,477	\$1,288,598	\$2,880,960
*Using the difference between actual program exit trips per week and projected program exit trips per week by participant without <i>PedalWise</i> intervention						
**Actuals						

Alignment with 2015 Term of Council Priorities

“Working with the community to create a healthy, safe and connected community”

This Community Based Active Transportation project is directly relevant to all three pillars of the new Region of Peel Council Priorities: *Living, Thriving* and *Leading* (2015). First, the structure of the program involves direct partnering with community organizations, leveraging both their interests and their resources from the beginning of the project. Secondly, cycling is a key strategy to create healthy, safe and connected communities. Thirdly, cycling is an affordable, accessible means of transportation that increases access to employment and social activities, thereby reducing transport costs and increasing disposable income that can then be spent in local businesses. Fourthly, cycling is environmentally friendly and sustainable. Finally, the health benefits are significant both for cyclists (physical activity) and the entire community due to reduced pollution from automobiles. The program as developed and piloted is systematic and replicable and encourages people from all backgrounds and age groups to participate in changing transportation patterns in the Region of Peel.



Figure 9 PedalWise participants at Professor's Lake. Photo credit: PedalWise mentor Lorie Johnson-Miller

Future Program Replication

The Region of Peel has expressed a desire to scale programming in order to expand the impact and reach of both *PedalWise* and *BikeWrx*. This pilot project was an initial investment in developing a wider range of community based cycling programming within the Region of Peel. There are multiple methods of creating a wider impact all of which have strengths and weaknesses.

Scaling programs for larger impact is possible through three primary methods (*Bloom and Skloot 2010*):

1. **Branching:** this involves establishing multiple similar programs directly under the control of Peel Region.
2. **Affiliation:** involves partnering with either non-governmental organizations or municipalities in the Region. Funding for partners is needed.
3. **Dissemination:** involves providing a kit and instructions for how to execute the program but no direct involvement or funding (similar to the Peel Bike Rodeo Kit).

Program Replication Strategies

Table 3 Program replication options

Scale Type	Description	Strengths	Weaknesses	Costs
Branching	Replication by Region of Peel	Control of program, events, communications, staffing	Top down architecture doesn't engage people as well as community-based groups.	\$\$\$
Affiliation	Replication through municipalities	Control of program, events, communications, staffing	Top down architecture doesn't engage people as well as community-based groups.	\$\$\$ but municipalities may bring some dollars to the table. Current staff may be leveraged.
Affiliation	Replication through established and new community partners*	Engages community, offers more options, builds community capacity, resilient	Dependent on partners; loss of control of delivery, partners may have weak financial situations.	\$\$
Affiliation	Expansion	Some experience developed, no need to start from scratch with new partner, builds strong capacity in one partner	Dependent on single partner	\$\$
Dissemination	Kit	Low cost, low effort	Completely dependent on others, complex program that requires some expertise, no community engagement, limited control on how it is implemented	\$

*We recommend replication through community partners in order to leverage the community support experienced in the pilot program and to build long-term community capacity.

Key Factors Impacting Program Replication

The programs developed by TCAT for the Region of Peel can be adapted in a variety of scenarios. The choice of how to adapt these options will affect program cost. Seven key factors come into play:

1. **‘Capital’ or equipment costs** are necessary in year one of programs. Much of this equipment can be reused for 3 to 7 years depending on quality.
2. **Community partner availability** and capacity to undertake cycling programming. Community based programs for active transportation need to be rooted in the community through a community partner. The availability and competence of the partner is critical and needs to be evaluated carefully. Ideally some familiarity with cycling would be present within the partner organization. Enhanced promotional efforts (e.g. postering, web linkages to Region of Peel programs, integration with municipal programming information and social media and email campaigns) could reduce future reliance on partner recruitment.
3. **Mentor availability:** *PedalWise* is dependent on residents volunteering their time to support the program. Creating and supporting a pool of willing and trained mentors is a key component of the program. These volunteers also benefit from the program (albeit in a different manner).
4. **Program length:** as piloted for Peel, the *PedalWise* program is 23 weeks long with active participant programming lasting 18 weeks. This could be changed to accommodate two intakes per summer with active participant programming lasting eight weeks each in order to accommodate a larger number of participants or programming could be reduced to 12 weeks to accommodate complimentary high school programming.
5. **Program integration or separation:** The *PedalWise* program can be delivered alone (with a new bicycle fleet) or it can be integrated with a *BikeWrx* mechanics training program and refurbishing program and or a High School Bike Club program. However, by integrating the programs, community capacity is increased over and above cycling and mentoring skills. Program integration also develops mechanics, leadership and teaching skills. A *BikeWrx* hub could support multiple *PedalWise* programs if structured with that intent (storage space for bicycle fleets is necessary.) *BikeWrx* is space- and resource-intensive but provides mechanical and physical support to *PedalWise*. The community partner for a *BikeWrx* hub would not have to be the same as for a *PedalWise* program. Through partnership agreements, multiple community organizations could work together. This could leverage the strengths of individual community organizations.

Because the *PedalWise* program runs during the summer, other programs should be developed and offered in other seasons in order to leverage the investment year-round. For example, a 12-week *PedalWise* program could be integrated with a **High School Bike Club or College Bike** program that would allow the bicycles to be used in schools from April to mid-June and mid-September through late November. The December through April period could be used to refurbish and repair the fleet of bikes. Given the heavy younger demographic skew of Peel and the inclination of younger people to generally bicycle more than older people, integrating multiple *PedalWise* programs and a *BikeWrx* hub with school bike club programming would provide a higher impact at a lower cost.

6. **Intake method and timing:** As piloted for Peel, *PedalWise* had a firm intake date. This aided in program delivery efficiency but did not easily accommodate varied schedules nor did it allow the program to accept new people when space became available. The program could be adapted to accommodate varied intakes, but it would be more labour intensive and thus costlier. Mentor groups could be established by geographic area and the program outline and safety training could be made available through a video online. However, this would reduce community contact, which we know is a key driver of participation. Bike fitting and all bike day events are more complex and require hands-on efforts by staff. If a *BikeWrX* garage was suitably staffed with qualified people, then bike fitting and testing could occur by appointment but, again, this reduces community contact. When people apply to join they could be assigned to any mentor that had space (preferably the one geographically closest). This flexibility would allow multiple intakes over the summer and use mentor capacity more fully. This scenario has not been costed.
7. **Supportive policy and infrastructure:** Program success and social diffusion to individuals not directly involved in the programs will be greatly facilitated by introduction of policy and infrastructure supporting cycling. People attracted to a bicycling program likely fit into the category identified by the Portland Typology of Cyclists (Dill, 2012) as 'interested but concerned' or possibly 'enthused and confident' rather than the 'fearless' or the 'no way no how' groups. As indicated in this and many studies of different types of cyclists, there is likely a ceiling on the proportion of potential cyclists who will take up cycling for transportation in a context lacking a network of slow speed streets and separated cycle tracks.



Figure 10 Build-a-bike: Earn-a-bike program. Photo credit: Community Environment Alliance

Community Based Active Transportation Program Replication Options

The *PedalWise* and *BikeWrx* programs developed for Peel have the potential to be implemented in a wide variety of circumstances. They can be delivered together or they can be delivered individually. Bicycles for program delivery can be refurbished or they can be purchased new. Purchasing new bicycles offers many benefits including a standardized experience, better safety and reliability and bicycles that are modern and easy to ride, thus encouraging bicycling. The seven options outlined and costed in [Appendix K](#) are just a sample of a number of ways these programs could be adapted. For example: we did not cost a *PedalWise* program to be delivered to participants who already own and can bring their own bikes since we do not feel the uptake would be very strong, however it would be a low cost option. Nor have we costed the dissemination option whereby Peel would create detailed kits for community groups to use to deliver the programs without Regional support. Again, while this is a low cost option, uptake would likely be very limited.

We have, however, included scenarios with High School Bike Clubs as they offer a solid option to deliver relatively low cost programming during the school year in conjunction with a summer *PedalWise* program. They also reach a key demographic for Peel. Peel's population of 24 and under is 34% of the total population (compared to a provincial average of 30%). This demographic profile along with the Region of Peel's 25% population growth target for 2031 suggests that young people will be an important source of change in the Region. Establishing a strong high school bike program could establish behaviours during the critical phase of maturation and self-definition. Reaching teens as they transition into high school and are starting to develop independent travel patterns could have long-term impacts on behaviour. Our suggested recommendation is Scenario 7 which integrates *PedalWise*, *BikeWrx* and High School Bike Clubs. We believe this integration offers the best opportunity to efficiently and effectively leverage investment.

Program Investment and the Diffusion of Social Change

Estimating the wider impact of these programs is difficult. However, we do know that:

- Creating social support networks through behaviour modeling and social cues correlates positively with increased cycling for transport (De Geus et al., 2008; Titze et al., 2008).
- Cycling visibility, particularly in one's own "social" group displays potential to increase its "normality" and subsequently, its popularity (Christensen et al., 2012).
- People who live in households with other cyclists are more likely to cycle themselves (Dill & Voros, 2007)
- People who have co-workers who cycle to work are more likely to cycle themselves (Dill & Voros, 2007)
- People who see adults cycling in close proximity to their house are more likely to cycle themselves (Dill & Voros, 2007)

Broader impacts we were not able to measure:

- Diffusion of behaviour and cycling friendly attitudes from participants to others in their families and community.
- Increases in community competence and capacity to participate in cycling for transportation.

- Increases in organizational capacity and competence relating to active transportation for community organizations participating in program delivery.
- Increases in partnership capacity and ties between the Region of Peel and community partners.
- Increases in skill and cycling knowledge among cyclists.
- Increases in mentorship and leadership skills among mentors.
- Increases in disposable income released by reduced reliance on transit and automobiles;
- Increases in local economic activity.
- Cultivation of community leaders into active transportation champions. Gaining even one, such as a local church pastor, has the capacity to influence hundreds.

The above factors represent a non-exhaustive list of a variety of other gains possible for the Region of Peel from implementing these program options. All of these outcomes contribute to a culture of cycling in Peel.

Conclusion

Community based programs for active transportation offer the Region of Peel a strong investment opportunity producing solid behaviour change away from motor vehicular travel to more sustainable modes like cycling.

Targeted interventions in this pilot program resulted in a shift away from travel by private vehicle to cycling. Cycling mode share increased from 5% of trips to 25% of trips in the cohort while the control group cycling mode share was 4% at exit. Increased willingness to spend on bicycles and accessories reflects an increased valuation of bicycles by participants (from \$173 to \$292) while the control group showed no change in the amount they were willing to spend on bicycles and accessories.

We found very strong community support for the project. 239 Community Members were directly engaged in bicycling events and activities, 1,603 hours of community time was contributed, 1,236 new connections among residents were established, and \$103,609 in-cash and in-kind donations from community members, partners and outside funders was obtained. Mentors were enthusiastic about the program and reported unexpected increases in their own cycling activity. The Region's investment has allowed multiple organizations to increase their commitment, knowledge and capacity in regards to supporting cycling for transportation by Brampton residents.

It is anticipated that a five-year investment of \$619K in this community based program technique will provide a minimum net return on investment of \$2.8 million in health and transport savings, as well as a variety of other associated benefits.

References

Bloom, P. N., & Skloot, E. (2010). *Scaling social impact: New thinking*. Palgrave Macmillan.

Christensen, J., Chatterjee, K., Marsh, S., Sherwin, H. and Jain, J. (2012). Evaluation of the Cycling City and Towns Programme: Qualitative Research with Residents. Report to Department for Transport by AECOM, Centre for Transport & Society and the Tavistock.

Cohlmeyer, E. (2012). A Tool Kit to Accelerate the Adoption of Cycling for Transportation. Retrieved September 3, 2015 from <http://www.torontocycling.org/a-tool-kit-to-accelerate-the-adoption-of-cycling-for-transport.html>.

CSEP. (2012). Canadian Physical Activity and Sedentary Behaviour Guidelines Handbook. Last accessed February 6 2016 at <http://www.csep.ca/en/guidelines/get-the-guidelines>

De Geus, B., De Boureaudhuij, I., Jannes, C., Meeusen, R. (2008). Psychosocial and environmental factors associated with cycling for transport among a working population. *Health Education Research*, 23(4).

Dill, J. & McNeil, N. (2013). Four Types of Cyclists? Examination of typology for better understanding of bicycling behavior and potential. *Transportation Research Record: Journal of the Transportation Research Board*, 2381:129-138.

Dill, J. & Voros, K. (2007). Factors Affecting Bicycling Demand: Initial Survey Findings from the Portland Region. 86th Annual Meeting of the Transportation Research Board, Nohad A. Toulon School of Urban Studies and Planning, Portland State University.

Medical Officers of Health in the GTHA. (2014). Improving Health by Design in the Greater Toronto-Hamilton Area A report of medical officers of health in the GTHA 2014, 2nd edition. <https://www.peelregion.ca/health/resources/healthbydesign/pdf/moh-report.pdf>

Regional Municipality of Peel. (2009) ROPA 22: An amendment to provide new and updated transportation policies for the Regional Official Plan. <https://www.peelregion.ca/planning/officialplan/list-amendmts.htm>

Region of Peel Term of Council Priorities. The 2015-2035 Region of Peel Strategic Plan Content. Approved by Regional Council on November 12, 2015. <http://peelregion.ca/peelin2035/pdfs/strat-plan-and-ToCPs.pdf>

Region of Peel. (2014). Peel Region GPS Cycling Study. <http://walkandrollpeel.ca/projects/pdf/gps-cycling-study-joint-cycling-jan2014.pdf>

Titze, S., Stronegger, W. J., Janschitz, S., & Oja, P. (2008). Association of built-environment, social-environment and personal factors with bicycling as a mode of transportation among Austrian city dwellers. *Preventive Medicine*, 47(3), 252-259.

Appendix A Program Highlights

The following pages contain a formatted 4-page document featuring program highlights for the purposes of disseminating summary information about the results of the program.

Appendix A Program Highlights

Project Purpose: to increase active transportation through the creation and implementation of a Community Based program as identified in Phase II of the Regional Active Transportation Plan (2012).

PedalWise Pilot Program 2015 Results

- Mode share of Work/School/Shopping trips by private motor vehicle dropped from 54% to 42% for PedalWise program cohort
- Cycling mode share increased from 5% to 25%
- Participants averaged 177 minutes of cycling per week exceeding Canada's Physical Activity Guidelines of 150 minutes per week
- Participants' willingness to spend on bicycles and accessories increased from \$139 to \$292, demonstrating increased perception of the value of a bicycle
- Changes in mode share, minutes of weekly activity, and willingness to spend compared favourably to the control group, indicating that the program had a strong impact (see page 2)



Return on Investment

We calculated trips avoided by motor vehicles and transit as well as health benefits. Motor vehicle savings were calculated at .60 per km and transit savings at the \$2.80 Presto Fare. Health savings were calculated using figures on inactivity from the 2014 GTHA Medical Officers of Health Report (inactivity costs \$556 per person per year).¹ Community contributions were based on 2015 actuals. We project a 5-year investment of \$619k for program expansion will result in a net value (after expenses) of \$2.8 million, not including other un-costed benefits.²

	Pilot Year 1*	Year 2	Year 3	Year 4	Year 5	Total
HEALTH & TRANSPORT SAVINGS (Using difference between actual program exit trips per week and projected program exit trips per week without PedalWise intervention per participant)	\$ 35,380	\$ 187,006	\$ 535,747	\$ 919,868	\$ 1,303,989	\$ 2,981,990
Community Contribution (Time and monies contributed by community)	\$ 103,609	\$ 103,609	\$ 103,609	\$ 103,609	\$ 103,609	\$ 518,045
Total Value Produced by Project	\$ 138,989	\$ 290,615	\$ 639,356	\$ 1,023,477	\$ 1,407,598	\$ 3,500,035
Programming Cost (Scenario VII)	\$ 92,500	\$ 142,050	\$ 128,525	\$ 137,000	\$ 119,000	\$ 619,075
Net Value Produced by Project	\$ 46,489	\$ 148,565	\$ 510,831	\$ 886,477	\$ 1,288,598	\$ 2,880,960
*actuals						

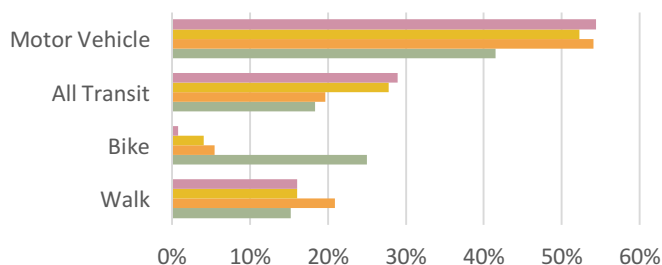
FIGURE 1 RETURN ON INVESTMENT

¹ Improving Health by Design in the Greater Toronto-Hamilton Area A report of medical officers of health in the GTHA 2014 2nd edition <https://www.peelregion.ca/health/resources/healthbydesign/pdf/moh-report.pdf>

² Cycling activity generated by the BikeWrx program (at CycleFest, the Boys and Girls Club, Build-a-Bike and Bike Maintenance Clinics) are not included in the Estimated Five Year Impact (Figure 1) or in mode share shift as participants were not surveyed. However, planned High School programming is due to similarity to PedalWise. Additionally, improved air quality was not measured. Thus, the benefits of the program are understated in this estimate.

2015 PedalWise Cohort versus Control Group

Mode Share Comparison PedalWise vs Control

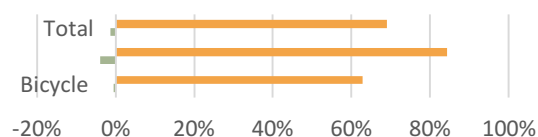


	Walk	Bike	All Transit	Motor Vehicle
Control Entry % ALL UTILITARIAN TRIPS	16%	1%	29%	54%
Control Exit % ALL UTILITARIAN TRIPS	16%	4%	28%	52%
PedalWise Entry % ALL UTILITARIAN TRIPS	21%	5%	20%	54%
PedalWise Exit % ALL UTILITARIAN TRIPS	15%	25%	18%	42%

FIGURE 2 MODE SHARE COMPARISON PEDALWISE VS CONTROL

Bicycles and Accessories

% change in average willingness to spend on 2015 PedalWise vs Control



	Bicycle	Accessories (helmets, racks, locks)	Total
PedalWise Average % change	63%	84%	69%
Control Average % change	0%	-4%	-1%

FIGURE 3 WILLINGNESS TO SPEND COMPARISON PEDALWISE VS CONTROL

Both groups started with an identical mode share of 54% for all utilitarian trips (work/school /shopping) by private motor vehicle (drive/passenger/taxi/ motorcycle). At exit, **trips by private motor vehicle** remained virtually the same for the control group (N= 52) at 52% but decreased to 42% for the PedalWise group (N=26). Bicycling mode share increased to 4% for the control group at exit and to 25% for the PedalWise group at exit. Most vehicle trips shifted from 'getting a ride' to bicycling indicating a strong impact on transportation independence.

People's **willingness to spend** on bicycles and accessories was another striking difference between the PedalWise cohort and the control group. The PedalWise group was willing to spend 69% more on bicycles and accessories at program exit than at program entry indicating a strong positive shift in their perception of the value of bicycles and accessories. On the other hand, the control group was willing to spend approximately the same amount at exit as at entry. We also compared **physical activity** levels between cohort and control. The control group averaged 25 minutes of physical activity per week while the PedalWise cohort averaged an impressive 178 minutes.



Program Description

A strategically targeted, three-pronged community based model for increasing active transportation was developed based on identification of partners and community needs. The pilot model included: a) an overarching community home for programming -- *The Community Bike Centre*; b) a mentor-based cycling program – *PedalWise* (see pages 1 & 2); and c) a bicycle mechanics garage and programming -- *BikeWrX*. The targeting of a suitable community was enabled through development of a GIS Tool (a legacy tool available for future targeting) to identify the neighbourhoods in Peel with the highest potential for increasing walking and cycling.

BikeWrX Pilot

- An **800 sq ft bicycle repair garage** was established to repair and refurbish bikes donated by the community and to train community members in bicycle maintenance and repair. Community members built workbenches and set up garage using equipment **donated by MEC**.
- **110 bicycles** were refurbished and put to use in the community, 67 of which were given to children at the All People's Church CycleFest event.
- A **partnership with Boys and Girls Club** was established. **50 new bikes** were built and safety checked and then donated to the community through this partnership. An initial short training program was delivered to 15 students.
- A **Build-A-Bike Earn-A-Bike program** was developed and established and the first cohort graduated.
- A **Bike Maintenance Clinic** was developed and established and the first cohort graduated.

Significant Community Support & Impact

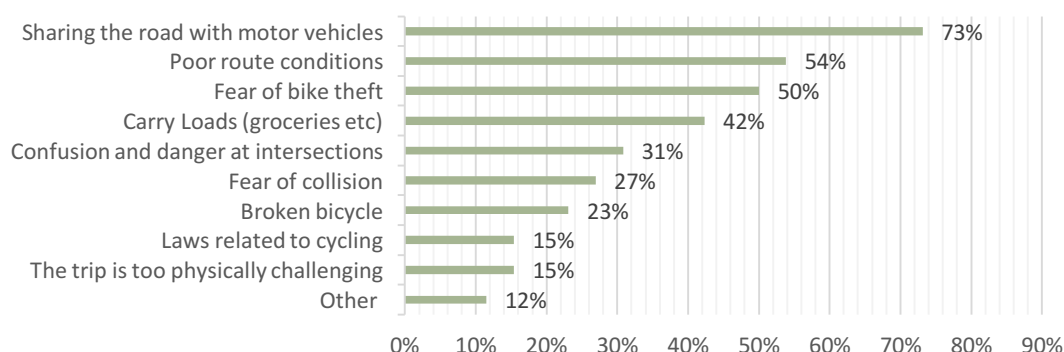
- **239 community members** were directly engaged (excluding those who donated bicycles and were not tracked).
- **1600 hours of community time** were contributed.
- **1236 new cycling related connections among people in the community** were made.
- **\$103,600 in cash and in-kind donations** from community members, partners and outside funders.
- **Partnerships and/or working relationships established** between Community Environment Alliance, Bike Brampton, All People's Church, Boys and Girls Club, and Region of Peel.
- Participants ranged from **ages 5 to 75 and came from 19 self-identified cultural/ethnic communities**.
- **The Region has increased community capacity** to support future program delivery through 10 newly trained community based cycling mentors, bicycle mechanics and cycling instructors.
- **4 new bicycling programs were developed** and piloted. With appropriate funding they are ready to be delivered in 2016. (*PedalWise*, *Build-a-Bike Earn-a-Bike*, *Bike Maintenance Clinic*, 6- week *Bicycle Mechanic training*).



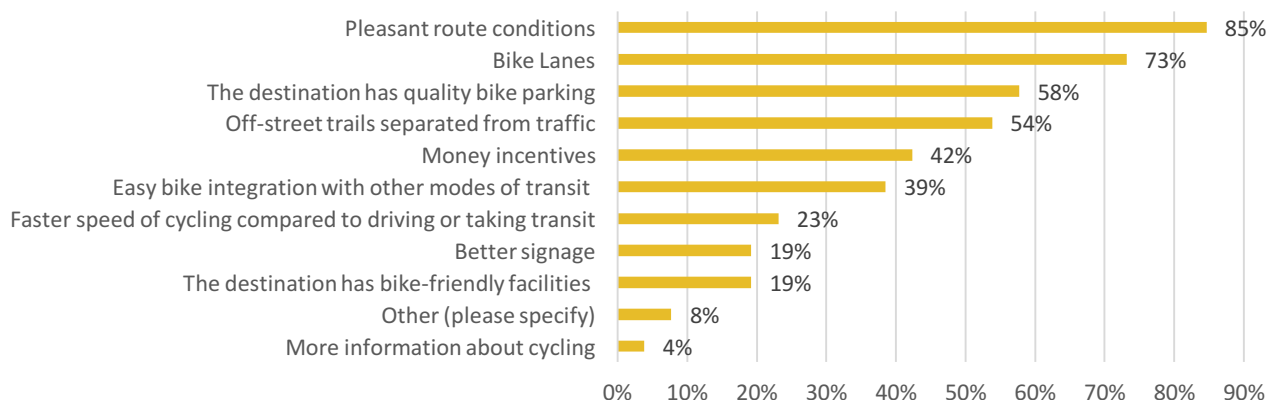
Barriers and Encouragement

The answers to two key questions are important for future cycling development in Peel. We asked PedalWise participants what factors would encourage them to ride their bicycle more often and what were the greatest barriers to using their bicycle more often. Sharing the road with motor vehicles was the biggest barrier (73%). Interestingly, the preferred solution was bike lanes (73%) over off-street trails. People want pleasant, **direct, safe** access to destinations.

What were the greatest barriers to using your bicycle?



What factors would encourage you to ride your bicycle more often?



Program directly addresses 2015 Term of Council Priorities:

“Working with the community to create a healthy, safe and connected community.” This Community Based Pilot Program for Active Transportation is directly relevant to all three pillars of the new Region of Peel Council Priorities: “Living”, “Thriving” and “Leading”. First, the structure of the program involves direct partnering with community organizations, leveraging both their interests and their resources from the beginning of the project. Secondly, cycling is a key strategy to create healthy, safe and connected communities. Thirdly, cycling is an affordable, accessible means of transportation that increases access to employment and social activities thereby reducing transport costs and increasing disposable income that can then be spent in local businesses. Fourthly, it is environmentally friendly and sustainable. Finally, the health benefits are significant both for cyclists (physical activity) and the entire community due to reduced pollution from automobiles. The program is systematic and replicable and encourages people from all backgrounds and age groups to participate in changing transportation patterns in the Region of Peel.

This program and report were developed and delivered for the Region of Peel by the Toronto Centre for Active Transportation. For further information please contact walkandroll@peelregion.ca.

Appendix B Community Based Active Transportation Pilot Program Objectives

Stage I Planning

- 1.1 Start up report
- 1.2 Review of Background Information and Identification of best practices
- 1.3 Stakeholder engagement
- 1.4 Identification of target community (and partners)
- 1.5 Identification of primary behaviour to be addressed in pilot project
- 1.6 Program development
- 1.7 Final community based plan for active transportation for Peel Region

Stage I Completed March 30 2015

Stage II Implementation

- 2.1 Baseline collection of data
- 2.2 Create program collateral
- 2.3 Deliver and manage pilot program
- 2.4 Pilot program analysis

Stage II Completed November 2015

Stage III Evaluation

- 3.1 Identify the tools required to implement the project beyond pilot status
- 3.2 Identify an administration and implementation plan including future timelines and potential communities
- 3.3 Estimate costs for expansion
- 3.4 Create program package for program replication by the Region of Peel
- 3.5 Final Report Draft
- 3.6 Final Report
- 3.7 Stakeholder presentations

Stage III completed February 2016

Appendix C Community Based Active Transportation Pilot Program (Detail)

TCAT established partnerships among the Community Environment Alliance, Bike Brampton and the Region of Peel to develop and deliver the pilot program.

- Community Environment Alliance is a national and provincial award winning, innovative, non-profit, community based organization committed to building safe, healthy and sustainable community by integrating social, economic and environmental well-being of the community. Founded in 2003, Community Environment Alliance has since been delivering innovative programs and services embracing the principle of sustainable community development adhering to millennium development goals.
- Bike Brampton is a group of volunteers who encourage, promote and advocate for increased safe recreation and transportation cycling in Brampton. Their goal is for Brampton to become a *Bicycle Friendly Community*.

Based on the identification of partner and community needs, the pilot program included: 1) an overarching community home for programming --*The Community Bike Centre*; 2) a mentor-based riding program -- *PedalWise*; and 3) a fully equipped bicycle mechanics garage and programming -- *BikeWrX*.

The *Community Bike Centre* at Community Environment Alliance (CEA) launched in Spring 2015 in partnership with and BikeBrampton. The programming consisted of two streams:

- The ***PedalWise*** program was designed to develop community cycling knowledge, utilitarian cycling skills, cycling confidence, and community connections while promoting healthy living and having fun cycling. This program provided participants with bicycle programming throughout the summer of 2015, access to bicycles, safety equipment, and mentors. At program launch, all participants attended a 'Fun & Safe Cycling in Brampton' workshop. This workshop and all other program materials are available in the Toolkit for program replication. Cycling mentors are experienced cyclists that are confident riding on city streets who make a volunteer commitment to support new cyclists in gaining skills and confidence. The goal of the program was to increase cycling participation in Brampton with a focus on utilitarian cycling. The Summer 2015 program had 8 mentors and 35 participants for a total of 43 directly engaged community members.

Each mentor undertook 5 hours of training which was developed and delivered in conjunction with CultureLink Settlement Services. CultureLink has many years experience delivering cycling mentorship programs in Toronto. Mentors were then matched with a group of 5 to 7 participants. The participants were provided with a safe cycling skills workshop and then met their mentors. The next week they were fitted with a bicycle and helmet and assessed for basic bicycling skills. Participants borrowed a bicycle for the entire summer. Multiple group activities took place over the summer at the Greenbriar Recreation Centre including: a Route Planning Workshop (and how to use the bicycle racks on public buses), a group ride with Bike the Creek (a large community ride through the Etobicoke Creek Trail organized by Bike Brampton), a Family Ride and Picnic at Chinguacousy Park, multiple small group rides organized by mentors, and an end of program celebration. Please see below for a detailed outline of 2015 *PedalWise* events.

PedalWise 2015 Program: Key dates and venues

Mentor Training I: Wednesday April 29 6:30 to 9:00PM Community Bike Centre 222 Advance Boulevard, Brampton

Mentor Training II: Wednesday May 13 6PM to 8:30PM Community Bike Centre 222 Advance Boulevard, Brampton

Program Launch: Saturday May 30 2:30-4:30
GreenBriar Recreation Centre 1100 Central Park Drive Brampton

Bike Days: Participants were fitted with a bike and helmet for the season and taken on a short community ride. Appointments were scheduled for each participant for approximately 1 1/2hrs
Thursday June 11 or Friday June 12 between 4 PM to 7 PM
GreenBriar Recreation Centre 1100 Central Park Drive Brampton

Bike the Creek 2015 Saturday June 20 10 AM 2 to 3 hours
Check in at Jim Archdekin Recreation Centre

Route Planning and How to Use the Bike Racks on Public Transit: A workshop for program participants
Thursday July 16 6:30 to 8:30
GreenBriar Recreation Centre 1100 Central Park Drive Brampton

Family Ride and Picnic Saturday August 15 10:30AM to 2:00 PM
Chinguacousy Park Shelter 2

Bike return days: Thursday September 24 & Saturday September 26
GreenBriar Recreation Centre 1100 Central Park Drive Brampton

Program Completion Celebration: Friday October 2 6:30 to 9:30
GreenBriar Recreation Centre 1100 Central Park Drive Brampton
An evening event with food and program completion awards

- The ***BikeWrx*** garage was designed to empower the community to cycle efficiently and economically. Using community volunteers from Bike Brampton, this program retrofitted donated used bicycles to make them roadworthy and give these valuable resources a second life in the community. The retrofitted bikes were used in the *PedalWise* program, other community programs such as CycleFest (a community event celebrating cycling and organized by the All People's Church in Brampton) and in the future will be available for purchase at reasonable prices enabling program participants to continue their newly established cycling habits now that the program is over and the borrowed bikes returned. The *BikeWrx* garage and volunteers also helped the Boys and Girls Club of Peel to assemble 50 new bicycles they donated to the community and helped test these bikes for roadworthiness. The Boys and Girls Club programs are developed to support children, youth and families in high need, and low income communities across Peel Region. Services build confidence, self esteem and empower individuals to achieve their goals.

The Community Environment Alliance went on to develop and deliver a *Build-A-Bike Earn-A-Bike* program, which trained youth to rebuild bicycles. Each youth was responsible for building two bicycles -- one for the program and one for themselves. In the process they gained bicycle mechanic skills and community development skills as well as independent transportation. Bike Brampton volunteers also developed and delivered a *Bike Maintenance Clinic*. It is was a three-hour evening program that provided interested cyclists with basic mechanical and maintenance skills. A Bike Brampton volunteer developed this short course from a previously designed six-week, 18 hour Bicycle Mechanics curriculum and it is available for future use.

Appendix D Community Based Active Transportation Pilot Program Methodology (Detail)

Please see “Background Report. Peel Region Community Based Social Marketing Pilot Program for Active Transportation” (January 26, 2015) and “Stakeholder Engagement Facilitation Documentation and Summary Report” (February 2015) for full documentation of the process.

Stage I – Background Research and Stakeholder Engagement

Community based programming builds participation in active transportation through directly engaging people in the behaviour being promoted (in this case cycling) and leveraging community interest and support. Direct engagement and participation in the desired behaviour is consistently an effective method of behaviour change. Education alone has proven ineffective in fostering behaviour change as have programs focusing on economic self-interest (McKenzie-Mohr, 2011).

As a theoretical framework for the program, we used Cohlmeier’s (2012) four-stage process to accelerate the adoption of cycling for transportation (Figure 4) that established a best practice approach to community based cycling programming.

A vital piece of the model is ongoing community or social support. Community in this case means more than simply targeting a community using social marketing; rather the population whose behaviour is the focus of the desired change is engaged through community groups and organizations that already have a relationship with the population. Social norms and the associated behaviours can be addressed most successfully through established trusted relationships.

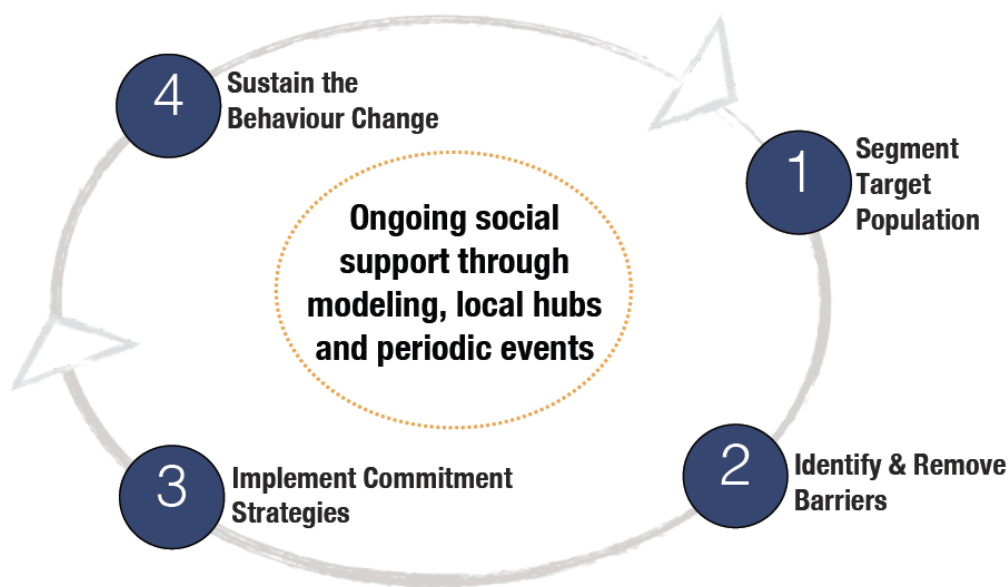


Figure 11 Cohlmeier Model for community programming for active transportation behaviour change

Successful programs are consequently dependent on community relationships and partnerships, and are effectively implemented on a small scale but replicable basis. Over time, as the program is replicated in multiple locations, the behaviour becomes more visible and social diffusion, to individuals not directly involved in the program, takes place.

We undertook two steps to develop a target population for active transportation programming. The first step identified neighbourhoods in Peel with the most potential to support active transportation and the second step identified community organizations, within those neighbourhoods, that have the most capacity to engage suitable populations and partner in a community based active transportation program.

Step 1 Identify neighbourhoods: A strategic segmentation task in an area like Peel where active transportation participation is low (cycling mode share is 0.3% and walking mode share is 4.5%) is the identification of neighbourhoods that have the most potential to support increased participation in active transportation. A number of significant barriers to cycling and walking exist in Peel Region (see Section C of Background Report). By targeting neighbourhoods with the most potential for increasing cycling and walking with community based programming, as we have done with this pilot program, some of those barriers can be avoided, reduced or mitigated. In this way, resources can be strategically allocated to those areas with the greatest potential for active transportation growth.

In order to identify areas in Peel with the most potential to increase walking and cycling, we undertook a mapping analysis of Peel Region and developed a GIS tool to identify target areas using the criteria in Figure 12. These criteria were developed through an analysis of the cycling facilitation literature focused on identifying key measurable factors supporting active transportation (see Background Report for details). This analysis resulted in the identification of 10 communities within the Region of Peel with environments that had the highest number of these factors in place and therefore the best potential for increasing cycling. They are: Cooksville – Square One; Downtown Brampton; South Common Mall; Erindale; Streetsville; Bramalea City Centre; Port Credit; Malton; Sheridan College Davis Campus; and Meadowvale. Details of this process are available in the Background Report January 2015.

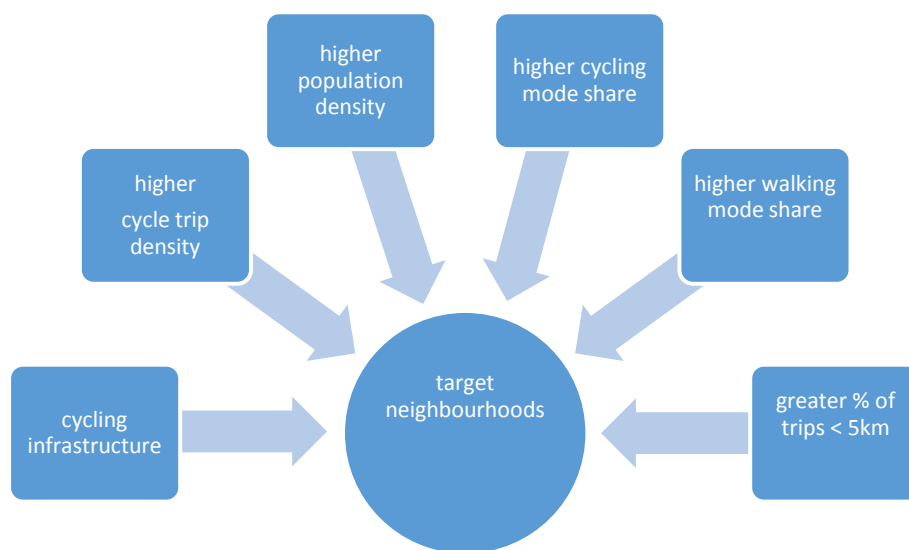


Figure 12 Identification of active transportation target Areas in Region of Peel

Step 2 Identify partners: As the second step of target population segmentation, and to develop the core community relationships needed to support community based programming, we worked with Peel stakeholders to identify potential community partners. Through this stakeholder consultation

process in the fall of 2014, we identified, engaged with, and evaluated the capacity and interest of potential partners who serve populations in the candidate neighbourhoods identified in Step 1. As a result of this process we identified five potential community partners for 2015 programming.

Step 3 Evaluate partners: We met with each of these five organizations and evaluated their interest and capacity to support a community based active transportation program in partnership with the Region. We evaluated potential partners using the following criteria:

1. Organizational capacity
2. Internal active transportation champion or active transportation mandate
3. Programming relationships with adults in target neighbourhoods identified through site selection process
4. Access to adults experiencing transition or with identified interest in increased physical activity or healthy living
5. Potential of current programs to be enhanced or modified to incorporate active transportation
6. Ongoing partnerships with other organizations who may be interested in a multi-partner community based active transportation program
7. Physical space suitable for programming

Step 4 Undertook Memorandums of Understanding: Ultimately, two community organizations became partners on the project: The Community Environment Alliance (CEA) and Bike Brampton. Each brought complementary strengths to the project. The Community Environment Alliance brought organizational capacity, programming relationships with adults in the Bramalea City Centre neighbourhood who were interested in healthy living and physical activity, current programs that could be enhanced through the addition of active transportation, ongoing relationships with other organizations in the Region, access to physical space suitable for programming and an interest in developing cycling programming but no previous experience in this arena. Bike Brampton brought bicycle specific organizational capacity, an active transportation mandate, relationships with community members who would be interested in volunteering in a bicycle program, and multiple active transportation champions. Together, they were a complimentary community base for the project.

Stage II – Program Development and Delivery

Develop & deliver targeted programming that fulfilled the needs and capacity of partners and the Region.

Step 1 Plan programming: Throughout the late winter of 2014 and early spring of 2015, TCAT facilitated a series of meetings and negotiations with CEA, Bike Brampton and the Region to plan and develop a community based active transportation program for summer 2015 delivery. The program was designed to be replicable and measurable. During these meetings, the group decided on programming, program branding, timing, delivery location, recruitment, and events. Using the results of this process, TCAT developed work plans, delivery timelines, program materials and booked venues for events. These decisions were guided by Cohlmeier's model and included: identification of barriers (we provided access to bicycles as CEA saw this as a barrier in their community); commitment strategies (program participants were asked to publicly pledge to ride their borrowed bicycles); and ongoing social support (included mentorship, a series of community events and a bicycle programming hub --the *Community Bike Centre* --to act as a home for the programming).

Step 2 Deliver programming: TCAT developed and delivered the *PedalWise* program and facilitated the design and set up of the *BikeWrX* garage. In addition, TCAT wrote and guided a successful grant application to MEC from the CEA resulting in a well-equipped bicycle maintenance facility (*BikeWrX*) as well as the provision of helmets, baskets, racks and lights for the refurbished bicycles used

in *PedalWise* programming. The *BikeWrx* garage was used by Bike Brampton volunteers and TCAT staff to refurbish 110 bicycles donated by the community. Some of these bicycles were used by *PedalWise* participants while others were used in associated community programming such as *CycleFest*. CEA and Bike Brampton were central and necessary partners in developing the *Community Bike Centre*, *PedalWise* and *BikeWrx*. With support from the Region, these partners can continue to deliver these programs using the materials and framework developed by TCAT. These materials and associated work plans are available to the Region for use with partners, in the *Program Replication Toolkit* previously provided to the Region of Peel.

The establishment of the *Community Bike Centre*, the *BikeWrx* garage and the *PedalWise* program facilitated CEA and Bike Brampton in developing additional programming using the framework this project created. *Build-a-bike/Earn-a-bike* and *Basic Bicycle Maintenance* workshops were spin off programs developed by CEA and Bike Brampton volunteers. *CycleFest*, a community program launched by All People's Church, was enabled by the *BikeWrx*/Bike Brampton volunteers who refurbished 70 children's bicycles for giveaway to community children.

Details of the stakeholder and partner consultation process and results are available in the *Stakeholder Engagement* report (February 2015).

Step 2 Control Group:

We struggled to find a suitable control group in the Region. We had hoped that one of the community partners would be able to solicit control participants from another one of their programs. This would have been the ideal control group, as a different program offered by the same organization would have drawn from the same demographic group, but without the cycling program intervention. Unfortunately, however, our community partners were not able to identify an internal group they were comfortable asking to participate. As a result, we sought participants from a local church group in Brampton and from the University of Toronto at Mississauga. Consequently, the demographics of our control group differ from the demographics of participants. (Please see [Appendix H](#) for participant and control demographics).

The travel behaviour profiles of the participant group and the control groups were similar however. At intake, the percentage of utilitarian trips taken by private motor vehicle was identical for both the control group and the *PedalWise* participants at a mode share of 54%. As the overall mode share for utilitarian trips by private vehicle in Peel Region is 84%, both *PedalWise* and control participants were more similar to each other than to other Peel Region residents. This means that for the key target behaviour - reduced private vehicle trips - the control and the program cohorts embodied the same baseline behaviour. Their average work/school trip distance was also similar with *PedalWise* participants averaging 6.23 km to work/school and the control group averaging 6.78km to work/school.

One notable difference between the two groups was that the control group owned more bicycles than their *PedalWise* counterparts. 52% of the control group owned a working bicycle while only 19% of the *PedalWise* group did. Additionally, the control group was much younger than the *PedalWise* group (88% were aged 24 and under); 81% were full time students and 80% were female. The *PedalWise* group had a range of ages and 66% were male and 33% were female.

Stage III Project Evaluation and Replication Toolkit

Step 1 Project evaluation: Of all the various programming options offered to pilot participants, the *PedalWise* program was the most fully developed and engaged the largest number of participants (8 mentors and 35 participants) over a 4 month period (June 2015 thru Sept 2015). As a result it provided us with the most robust data set to evaluate the impact of the program over time. Additionally, the Region of Peel became a partner on Dr. Beth Savan's Social Sciences and Humanities Research Council of

Canada funded research at the *University of Toronto* and the results of this pilot program evaluation will become part of her larger research study: *Increasing Cycling in Canadian Communities: Understanding what works*.

Three evaluative methods were used: 1) A detailed intake survey for *PedalWise* participants was developed. Questions addressed current travel behaviour, attitudes towards cycling, social norms and demographic details. *PedalWise* participants completed this survey either in person or online before participating in any events. A matching exit survey was completed by *PedalWise* participants at program end. By matching before and after answers we were able to evaluate the program's impact on the participants. In order to have a comparison group who did not experience the program, a control group was recruited and they completed the same intake/exit surveys (modified to remove mention of the *PedalWise* program) as the *PedalWise* participants; 2) half-hour, one-on-one exit interviews were conducted with *PedalWise* mentors; and 3) half-hour, one-on-one exit interviews were conducted with the leaders of the community partners Community Environment Alliance and Bike Brampton.

***PedalWise* Participant and Control Surveys:**

We developed an entry survey and an exit survey for people participating in the *Pedalwise* program. We also developed surveys for the control group. We created both an online version using SurveyMonkey and a paper version. The *Pedalwise* participants were provided with the choice of completing the survey either online or on paper. The control group was only offered the online survey option. The entry surveys were conducted in June 2015, and the exit surveys in September, 2015. A total of 78 surveys were completed as follows:

- 26 participants completed both the entry and exit surveys providing us with 26 matched surveys. (35 participants took the intake survey, but some of these were only partially completed.)
- 52 control participants who did not participate in the *PedalWise* program completed both the entry and exit survey.

Survey completion time averaged 10 minutes for those proficient in English and up to 30 minutes for those not proficient in English. For those not proficient in English, we asked questions verbally and worked with friends and family members who were in attendance to translate information when needed. All of the control participants, and approximately one-third of the *PedalWise* cohort, completed the survey online. The rest were completed using paper versions of the survey.

Please see [Appendix L](#) for entry and exit survey tool.

Mentor Exit Interviews:

Debrief interviews were held with the *Pedalwise* mentors on Oct 14, 16, and 18, 2015. These semi-structured Interviews were conducted by Trudy Ledsham. The following questions were asked:

- Can you give me some general insight into your experience with *PedalWise*?
- Do you have any ideas to improve *PedalWise*?
- About how much time (in hours) did you spend per week/ over the summer total on *PedalWise*?
- How many small group rides did you organize or participate in?
- Did you feel the training was helpful? What could be improved?
- How did you feel about the level of support from *PedalWise*? What support would be useful for next time?

- How (if in any way) did taking part in *PedalWise* impact your life?
- Do you think *PedalWise* had an impact? In what way?

Detailed results of these interviews are documented in [Appendix I](#).

Community Partner Exit Interviews:

Interviews were held with leaders from our community partners (CEA and BikeBrampton) on Oct 28, 2015. These semi-structured Interviews were conducted by Trudy Ledsham. The following questions were asked:

- Can you give me some general insight into your experience with *PedalWise*?
- Do you have any ideas to improve *PedalWise*?
- How (if in any way) did taking part in *PedalWise* impact CEA?
- Do you think *PedalWise* had an impact? In what way?
- What support is needed going forward to ensure long term delivery of *PedalWise* and ongoing operation of the Community Bike Centre and *BikeWrX*?

Summary results of these interviews are documented in [Appendix J](#).

Step 2 Development of program replication options: We reviewed the pilot program development and delivery experience, project results, and interviews with mentors and partners. We then developed seven different options for the Region to consider for program expansion and replication using the resources and community capacity developed over the duration of this project. Please see [Appendix K](#) for more detail.

Step 3 Development of Toolkit for program replication: The replication toolkit is an online resource, previously provided to Region of Peel staff, that was developed to assist in future expansion and delivery of a community based active transportation program. The toolkit provides specifics for running the program including timelines, workplans, marketing materials, and personnel requirements to run events. As well, all training and information materials used in the 2015 *PedalWise* program were provided to the Region in editable format for future adaptation. Where applicable, requirements for event logistics were provided to assist organizers in estimating staffing and venue procurement.

Step 4 Reporting

In addition to this final report, we submitted the following reports to Peel Region:

1. September 2014 Progress Report enclosing: 1) updated project plan, 2) updated work plan, 3) copy of launch meeting preparation, and 4) stakeholder engagement project information flyer.
2. October 2014 Progress Report enclosing: 1) initial list of potential sites for community based active transportation program intervention, 2) site selection criteria maps, 3) stakeholder engagement: process, 4) stakeholder engagement: partner criteria, 5) stakeholder engagement: partner program activities information, 6) copy of stakeholder meeting presentation, and 7) updated work plan.
3. January 2015 Background Report including a) Best practices for community based active transportation programs, b) policies, practices and guidelines supporting AT in Peel Region, c)

community based active transportation challenges in Peel Region, and d) rationale for approaching active transportation through community based programs and effective measures of success.

4. February 2015 Progress Report enclosing: 1) stakeholder report, 2) partner evaluation, 3) active transportation committee presentation, 4) program description, and 5) updated work plan.
5. February 2015 Stakeholder Engagement Facilitation Documentation and Summary Report describing the stakeholder consultation process and appending partner meeting notes and list of potential partners.
6. April 2015 Progress Report enclosing: 1) *Pedalwise* promotional materials (a) Community Bike Centre program description, b) *Pedalwise* participant program details, c) *Pedalwise* participant FAQs, d) bicycle donation flyer), 2) *Pedalwise* mentor training folder contents (a) mentor training folder contents summary, b) mentor intake form, c) media release, d) mentor training I agenda, e) police check instructions, f) mentor communication guidelines, g) mentor participation guidelines, h) FAQs for mentors, i) communication skills workshop handout, j) risk management skills workshop handout, k) sample participant trip tracking calendar, l) bike day stations and assignments, m) draft agenda for mentor training II, n) draft agenda for *Pedalwise* launch day), 3) Community Bike Centre funding applications (a) Brampton and Caledon Community Foundation grant, b) Mountain Equipment Co-op Access & Activity Fund, c) Pearson Community Investments), 4) Metrolinx event proposal.
7. July 2015 Interim Report providing six scenarios for program replication options.
8. November 2015 Interim results.
9. January 2016 Summary of Impact and Return on Investment.

In addition to reporting above, we presented ongoing project updates to the Region of Peel Active Transportation Programming Co-ordination Committee in November 2014, February 2015, May 2015 and November 2015.

Appendix E Changes in Transportation Behaviour (Detail)

In order to measure the success of the *PedalWise* program in its goal to change travel behavior away from motor vehicles to more sustainable modes of transportation, we undertook entry and exit surveys with participants. We also collected the same data from a control group. We also compared weekly trips by type of transportation used as reported by the participants. Within this Appendix we provide more detail on the transportation behaviour change that resulted from program participation. Please also see [Appendix D](#) for methodology, and [Appendix H](#) for basic participant and mentor metrics.

Overall, we found that *PedalWise* participants underwent a large positive change towards cycling for utilitarian trips (i.e. work, school and/or shopping trips):

- At program exit, trips taken by motor vehicle (drive, getting a ride, motorcycle and taxi combined) had declined from 54% of trips at entry to 42% of trips.
- Trips by bicycle accounted for 5% of trips at entry and 25% of trips at exit.

The control group did not see the same level of change. Their trips by motor vehicle declined just 2% from 54% to 52% and cycling trips at exit accounted for only 4% of control group trips compared to 1% at entry. The average distance of work/school trips for *PedalWise* participants, at 6.23km, did not differ appreciably from that for the control group, at 6.78km.

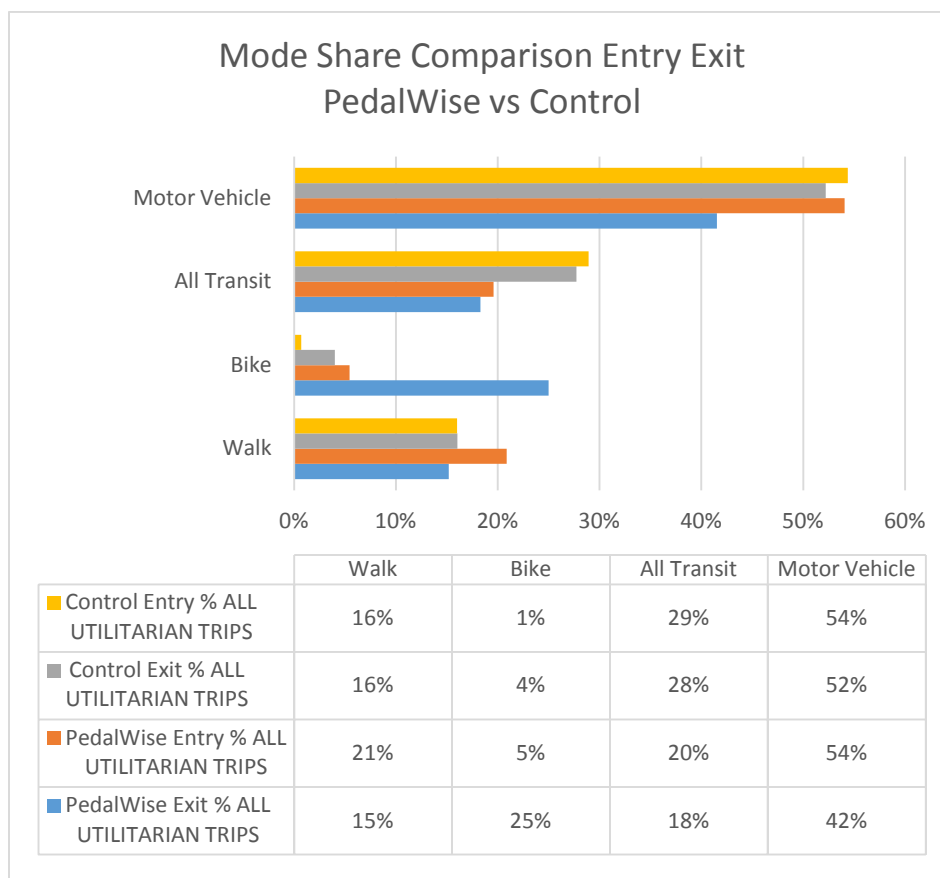


Figure 13 Mode Share Comparison. Data source: *PedalWise* entry/exit surveys and Control entry/exit surveys

These are important changes in travel behaviour for the *PedalWise* group. Overall, the strongest decline in motor vehicle trips came from “getting a ride” (14% to 2%) followed by taxi (2% to 1%). This change suggests many participants were able to gain transportation independence and were no longer depending on others for ‘getting a ride’ nor did they need to take a taxi. The remarkable decline in ‘getting a ride’ suggests that the transportation independence cycling offers is an important part of the program and should be included as a key goal of program expansion. We assume the reduction in ‘getting a ride’ reduces car trips as it is unlikely passengers would shift to the bicycle if in fact the car driver were going to the passengers exact destination. We found that while some participants reduced their driving to work, others increased their driving to shopping which resulted in an overall lack of change in personal driving. We suspect that this may be because people who previously walked to shopping for exercise were now bicycling to work and so felt they had already ‘had their exercise’.

At program entry, the travel behaviour of the *PedalWise* cohort was more oriented towards cycling for transportation than the general population of Peel. A number of participants joined the program in order to become part of a larger cycling community and to help improve cycling conditions in Brampton. These participants may be a rich resource of new mentors for future programs. Nevertheless, most participants were not cycling for transportation or recreation at the onset of the program. 60% of participants never rode a bike for fun and exercise. 80% of participants never used a bicycle for shopping. Similarly, 81% of those participants who work or go to school never used a bicycle to get there.

At program exit, *PedalWise* participants took half as many trips by car as a typical Peel Region resident (42% versus 84%). However, as a group, the *PedalWise* participants were already less likely to travel by motor vehicle at program entry (54% versus 84%). This pre-existing difference in travel behavior was one of the reasons we targeted this Brampton neighbourhood for program delivery because it currently has better potential for increasing active transportation than other parts of the Region. At program entry, participants were already more likely to ride a bike than other residents of the Region. It is likely that people who are interested in a cycling program are more likely to cycle without the program, however the program supports their desire for change and embeds desire in behaviour. Participants took 5% of all trips by bicycle before the program while the Region of Peel (2014) residents overall took .3% (or less than half a percent) of trips by bicycle. At program exit, participants took 25% of trips by bicycle. People attracted to a bicycling program likely fit into the category identified by the Portland Typology of Cyclists (Dill, 2012) as ‘interested but concerned’ or possibly ‘enthused and confident’ rather than the ‘fearless’ or the ‘no way no how’ groups.

The *PedalWise* traveler profile at entry suggests a group willing to travel using multiple types of transportation to reach their destinations. The program then provided a base of support for the bicycle as a realistic option in the suite of travel options. Programming success is maximized by targeting this type of individual with interventions. For this reason, using targeting in active transportation program development will result in greater mode shift than broad based programs that spend as much effort on people not likely to change their behaviour as on those who are most likely to change.

Appendix F Changes in Weekly Physical Activity (Detail)

PedalWise participants averaged 177 minutes of cycling per week at program exit, exceeding Canada's Physical Activity Guidelines of 150 minutes per week while the control group averaged only 25 minutes of physical activity per week at program exit. For the *PedalWise* participants, this was a large increase from their 40 minutes per week of activity at program entry. Interestingly, the control group also showed an increase in cycling, although to a much lesser degree than the *PedalWise* participants. This may indicate that just being part of a study on cycling, without any other intervention, can have a modest impact on behaviour.

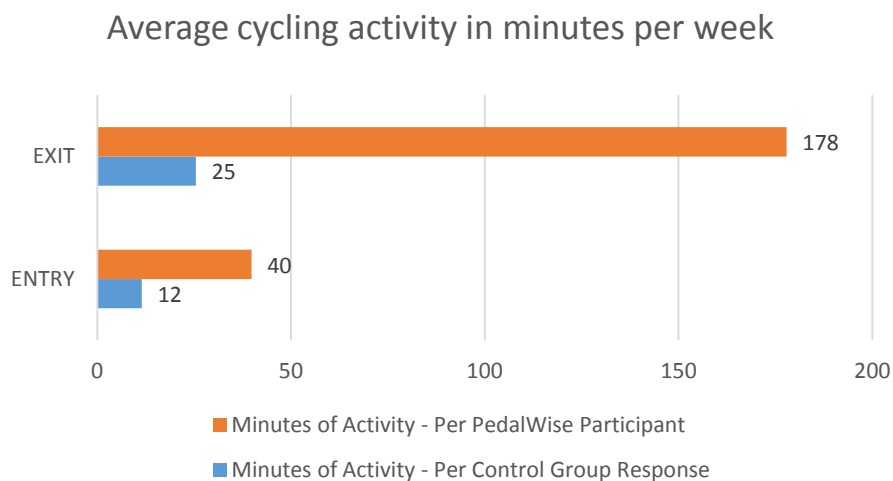


Figure 14 Average cycling activity minutes per week. Data source: *PedalWise* entry/exit and Control entry/exit surveys

Appendix G Changes in Willingness to Spend on Bicycles and Accessories (Detail)

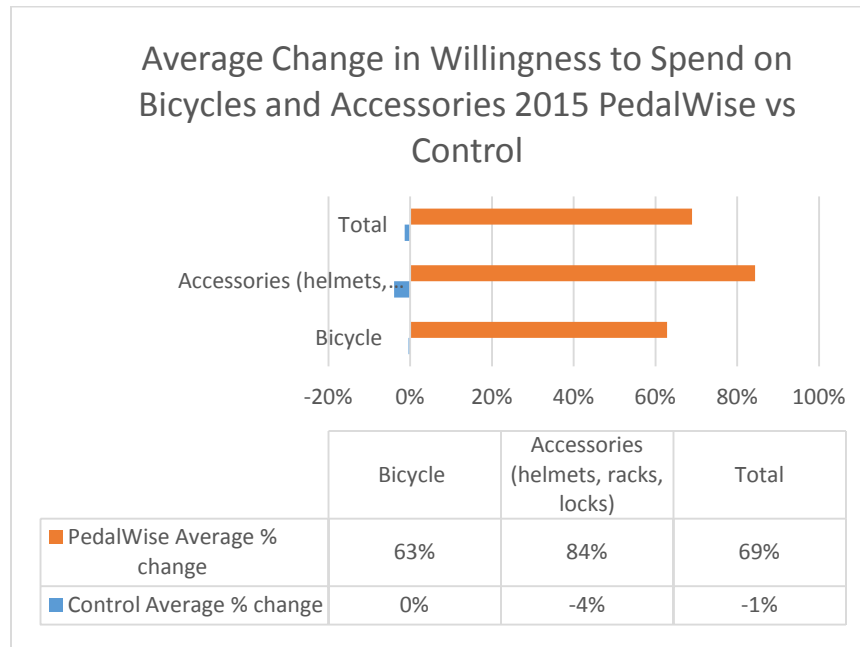


Figure 15 Willingness to spend on bicycles and accessories. Data source: PedalWise entry/exit and Control entry/exit surveys

Program participants were asked at entry and exit how much money they would be willing to spend on a bicycle and accessories. We found that they were willing to spend more money on bicycles and accessories at program exit (\$292) than at program entry (\$139). This raises their total potential spend to a level more closely approaching the actual cost of a bike and related equipment, so that new cycling behaviours can be maintained. This suggests that as a result of the programming and experiencing the utility of a bicycle, participants perceived increased value in both bicycles and accessories. This change is important since only 19% of participants owned a bicycle. The control group showed no increase in their willingness to spend on bicycles and accessories although their willingness to spend at both entry and exit was higher than the program group and 52% owned a bicycle. This is likely because a larger percentage of the control group were university students and likely come from a higher socio-economic background than program participants. We were unable to ask about economic status due to partner reticence to ask questions of this nature.

Appendix H *PedalWise* 2015 Program: Participant and Mentor Metrics

Participant Metrics

Program recruitment took place through the Community Environment Alliance (CEA). CEA's initial recruitment identified 52 people who were interested in the program. Of those, 25 attended the program launch and 35 attended Bike Days.

Top Participant Motivators for Joining Program

Motivations for joining the program aligned with the program marketing materials that were distributed in April and May 2015 to publicize the program (these are all available in the *PedalWise* Program Replication Toolkit.) The top three motivations for joining the program were:

1. Health and exercise
2. Meeting new people
3. Safe cycling skills

How Participants Discovered *PedalWise*

Participants heard about *PedalWise* through a variety of sources. The majority identified that they heard about the program through a "community program or partner" (66%) or by "word of mouth" (27%).

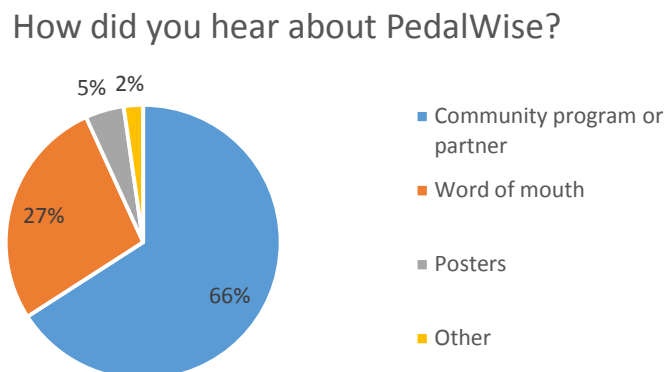


Figure 16 How participants heard about *PedalWise*. Data source: *PedalWise* Survey

Demographics of Participants

PedalWise was successful in reaching demographic groups in Peel who do not normally cycle for transportation. Women make just 18% of bicycle trips in the Region of Peel (TTS, 2011), yet 39% of *PedalWise* participants were female. Social support through programming is critical to helping women feel confident cycling. *PedalWise* appealed to women as illustrated by the greater proportion of women enrolled compared to the current cycling demographic in the Region of Peel.

Gender Comparison: Cyclists Peel / PedalWise

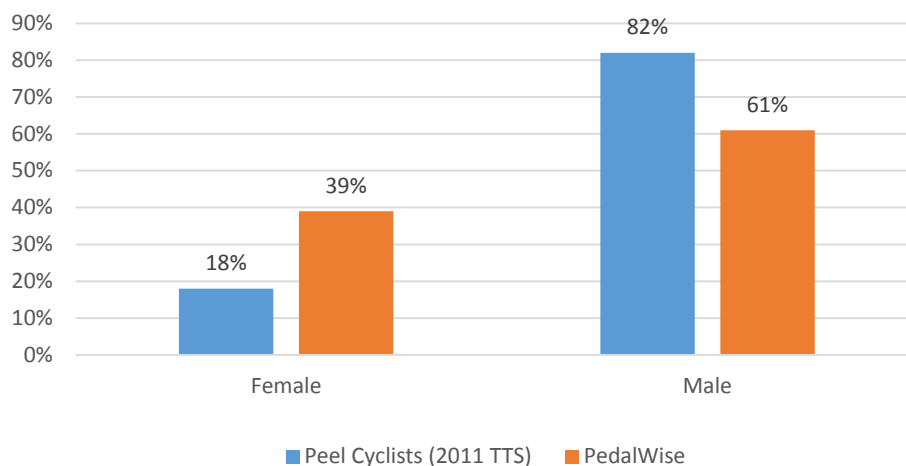


Figure 17 Gender Comparison: Peel Cyclists/PedalWise. Data source: TTS 2011 DMG 2015, PedalWise Survey

Similarly, *PedalWise* participants were distributed quite differently among age groups compared to cyclists in the Region of Peel. The 18-24 year-old group is underrepresented in *PedalWise* (3% versus 10% for the Region) but the critical 25-54 age group was well represented in the program, as were those over 65. *PedalWise* engaged key populations who need encouragement to participate in cycling.

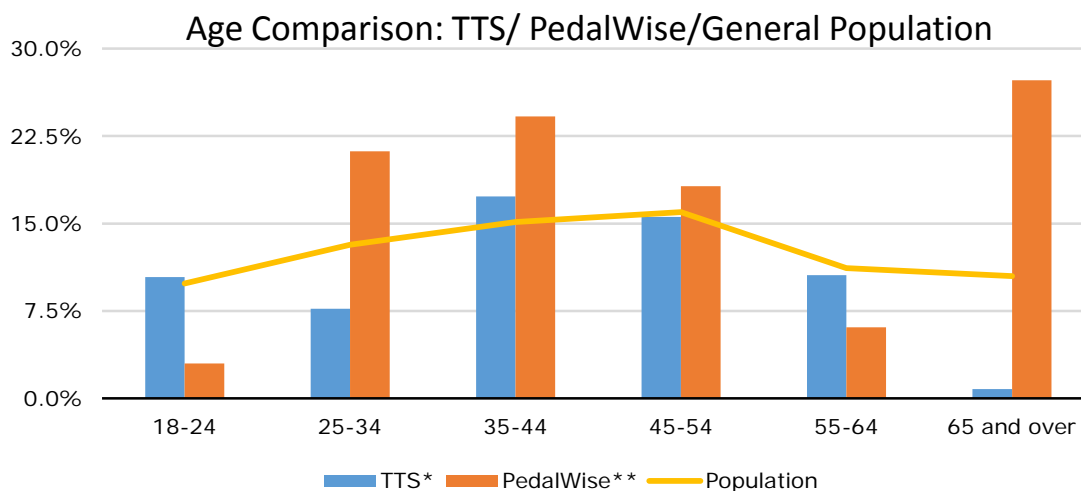


Figure 18 Age Comparison: Peel Cyclists/PedalWise. Data Sources: DMG 2015, TTS 2011, Statistics Canada Census 2011, PedalWise Survey

*bike trips

** participants

PedalWise Participants Length of Time in Canada

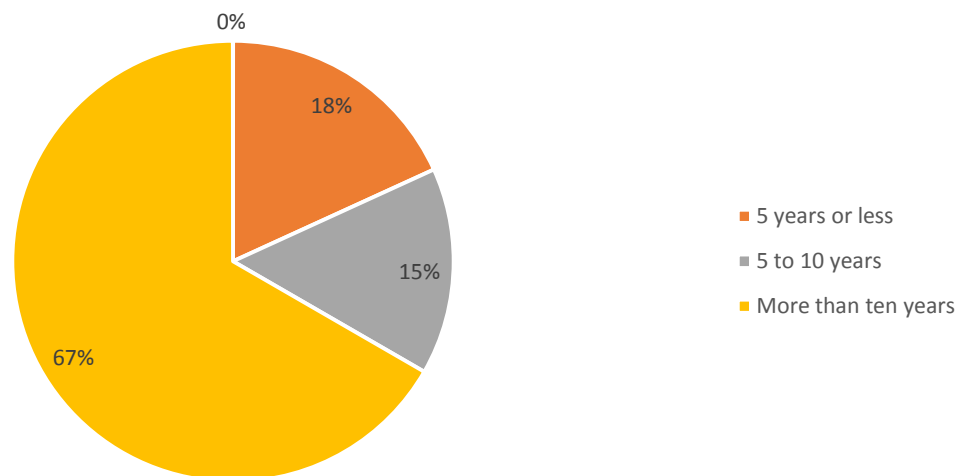


Figure 19 PedalWise Participants Length of Time in Canada. Data source: PedalWise Survey

The majority (67%) of *PedalWise* participants had been in Canada more than 10 years. Just over a third (18%) had been in Canada 5 years or less while the remaining (15%) had been here between 5 and 10 years.”

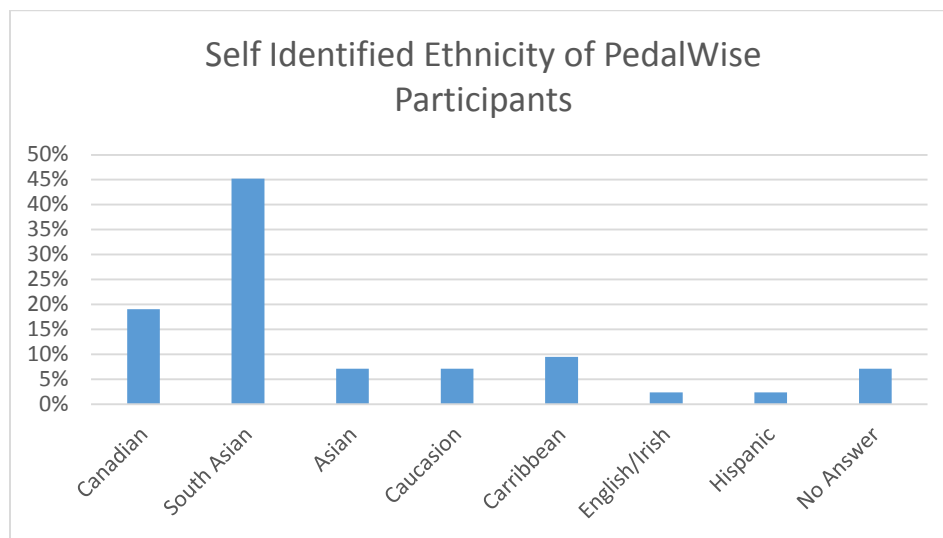


Figure 20 Self Identified Ethnicity of PedalWise Participants

PedalWise participants were from diverse backgrounds. We asked them to self identify their ethnicity. The largest group (45%) identified as South Asian (this included India, Sri Lanka, South Asia, Tamil and Sikh). This is lower than Brampton’s National Household Survey 2011 total of 57.8% but a healthy representation nonetheless. When people identified with more than one ethnicity, for example: as both South Asian and Canadian, we included them in both categories.

A high percentage of *PedalWise* participants (76%) had access to a car in their household, though this figure is considerably lower than the Peel average: 96% of Peel residents have one or more cars in their household (TTS, 2011).

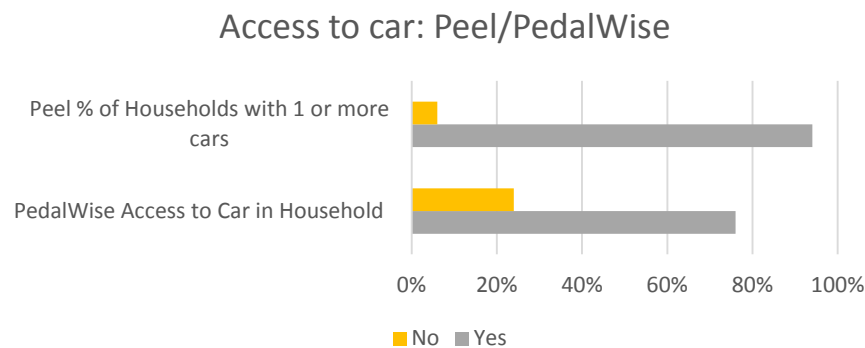


Figure 21 Access to cars: Peel/ PedalWise. Data source PedalWise Survey and TTS 2011, DMG, 2015

Other Key Metrics for *PedalWise* Participants

- 44% of participants were employed full time, 15% employed part time, 9% were in school
- 46% of participants reported children under the age of 17 in the household. 62% of these families had 2 children.
- 94% of participants knew how to ride a bicycle
- 100% of participants reported having a safe place to store a bicycle at home

Household Location of *PedalWise* Participants

Participants came from 20 traffic zones surrounding the Greenbriar Recreation Centre where the *PedalWise* program was delivered. Greenbriar is in the Bramalea City Centre neighbourhood identified in Phase I of the project as a neighbourhood more likely to support active transportation. Most participants lived within 2 km of the Greenbriar Recreation Centre. Within this area, the 2011 Transportation Tomorrow Data reports 371 cycling trips on a typical weekday.

Mentor Metrics

PedalWise mentors were central figures in the program and to its' success. We conducted interviews with them at program exit, and they provided very positive feedback. Many mentors also reported increasing their cycling activity, developing a stronger relationship with other cyclists and feeling part of a larger community. Please see [Appendix I](#) for exit interview details. All 8 (5 males, 3 females) bicycling mentors were residents of Brampton. Four mentors were active members of Bike Brampton. We did not solicit information from mentors about their age or ethnicity.

The personal objectives of the mentors aligned with the *PedalWise* program goals. As a first priority, mentors identified the following motivations for volunteering:

- create new cyclists in Brampton;

- help others to ride correctly;
- encourage Brampton residents to discover trails and change attitudes towards cyclists;
- have the community “unplug” and get outside;
- get more people on bikes;
- empower cyclists to feel confident on (the) road; and
- grow cycling community in the local neighbourhood and in Brampton.

Appendix I *PedalWise* 2015 Program: Summary of Mentor Exit Interviews

PedalWise Mentor Debrief Interviews: Oct 14, 16 and 18 2015

Interviews conducted by Trudy Ledsham

Answer numbers are randomized i.e. all number 1 answers are not the same mentor

Can you give me some general insight into your experience with *PedalWise*?

1	<ul style="list-style-type: none"> • Very happy to support the program especially because it targets utilitarian cycling • Advocate of replacing cars and spoke to my personal need to give back through sharing • Great experience –look forward very much to next year • A program like this can be revolutionary if allowed to grow
2	<ul style="list-style-type: none"> • Different experience than other bike programs • Liked meeting people-very nice-connection to Sri Lankan community that hadn't existed before-friends on Facebook with a participant whose culture is completely new to mentor • Felt mentor was matched with older people because of being older • Good experience for both mentor and participants
3	<ul style="list-style-type: none"> • Nothing but good to say • Likes the program-positive • Really likes that Government (Peel) is supporting the program and investing in necessary change
4	<ul style="list-style-type: none"> • Good program • Mentor matching a problem-either don't ask for input from mentors or give them what they ask for. Specifically asked for no heavy accents due to a hearing impairment but was given group with almost no English skills. Communication all took place through one member of the group reducing mentor's ability to engage with the others and leaving the group dependent on interpreter. • Asked specifically to work with another mentor-but groups were not aligned to work together • Cycling abilities of the group were not well matched-on first ride one participant had to leave and on second ride another-this was in spite of going quite gently on paths. Big health issues for the two participants who left. Rest of rides were better matched. • Participant with lower ability needed one on one and program didn't accommodate this • Rides focused on trails and using trails to get to destinations • Will volunteer again next year BUT found group very difficult and was frustrated that desires were not attended to
5	<ul style="list-style-type: none"> • Was a good program • Not clear enough about target groups and participation • Definitely a good program and needs to be kept • Would be a shame if it was not continued and grown
6	<ul style="list-style-type: none"> • Believes majority of group just wanted free bikes-was concerned did we get them all back? • Results not what mentor wanted • Reached out a couple of times to group and received no response
7	<ul style="list-style-type: none"> • Training was very helpful • Especially ABCs-being able to review these with participants on bike days really helped mentor feel more confident • Link between training and bike days was very important

Do you have any ideas to improve *PedalWise*?

1	<ul style="list-style-type: none"> Advertising and promotion Reach people with bikes who are not using them Focus on communities where there is already a culture of cycling like the Sri Lankan and Sikh communities – encourage them to feel more comfortable here
2	<ul style="list-style-type: none"> Publicity and outreach Target people who use bus Target younger people Target people with bikes who are not using them-sometimes they don't know routes and don't know maintenance
3	<ul style="list-style-type: none"> Bikes should be available for all-even latecomers to program Location of <i>BikeWrx</i> is a problem-no one knows where it is-needs advertising and signage
4	<ul style="list-style-type: none"> Thinks it would be better to spend efforts on kids and target young people in schools and summer camps Kids will bring parents Demand for child oriented programs Should be more family oriented, i.e. a different demographic-children rather than seniors and adults Doesn't believe in giving things for free-no commitment from people Should be additional criteria for getting bikes I worry about the risks of giving bikes to people who don't know the rules of the road well enough
5	<ul style="list-style-type: none"> Bike day and the events of bike day were the best part of the program-enhance this Frustrated at lack of attendance at picnic-scheduling conflicts with <i>PedalWise</i> participants who were part of other groups was frustrating and disheartening If groups are part of the bigger program (i.e. Tamil Seniors and People's Church) the program needs to be changed to accommodate this Larger group rides with other mentors were great and should be enhanced/encouraged
6	<ul style="list-style-type: none"> Follow up bike maintenance workshops - great idea-put this into program up front Encourage mentors to keep in touch with participants more Communication is key Would like more opportunities for mentors to join groups together
7	<ul style="list-style-type: none"> Should be two groups-those that just want to borrow bicycles, and those that want a mentor Ability to purchase bikes by participants Group was all one family plus a family friend so mentor was a complete outsider- wasn't needed by this group

About how much time (in hours) did you spend per week/ over the summer total on *PedalWise*?

1	About 50 hours including <i>BikeWrx</i>
2	20 hours
3	30 hours

4	8 hours
5	Between 40 and 50 hours
6	About 40 hours
7	About 100 hours

How many small group rides did you organize or participate in?

1	4
2	1
3	5 plus one fix it trip
4	3 'official' small group rides 10 unofficial small group rides that mentor was inspired to run when official participants didn't respond well. Mentor engaged own friends, family and colleagues to come out and ride on a weekly basis
5	Organized 7 only 5 came off due to weather (1) and absence of primary contact (1)
6	<ul style="list-style-type: none"> • Did 5 rides • One person attended all • One person responded to an email that they were out of country and then never got in touch • One person came to two rides but then discovered a back problem that prevented full participation • One came to all but one ride
7	0

Did you feel the training was helpful? What could be improved?

1	<ul style="list-style-type: none"> • A bit clumsy • There was enthusiasm but not enough depth of knowledge/experience
2	<ul style="list-style-type: none"> • Training was too basic • Liked/understood the emphasis on diversity issues
3	<ul style="list-style-type: none"> • Didn't like training-felt like they were treated like children • Too juvenile • Knows how to communicate already • Knows bike stuff already
4	<ul style="list-style-type: none"> • Training was basic but helpful • Even as a very experienced bike trainer he learned something • Good for those who know little
5	<ul style="list-style-type: none"> • Too basic for the people who were there • Doesn't like role play-silly and forced • Presentation skills very poorly done • ABC outside was very good
6	<ul style="list-style-type: none"> • Some tips from running clubs: don't leave any one behind, leader should hang with slowest and see how they are doing mentally, check in weekly

	<ul style="list-style-type: none"> After rides-pix and summaries of ride should be sent to whole group so they get a sense of what they are missing
7	<ul style="list-style-type: none"> Found training helpful and good

How did you feel about the level of support from *PedalWise*? What support would be useful for next time?

1	<ul style="list-style-type: none"> 2 participants never responded to emails when CEA was approached it was suggested mentor call The mentor would have preferred if CEA called and made an effort with the non communicating participants
2	<ul style="list-style-type: none"> Not able to get some people to participate-wonders if they were misinformed over program, some miscommunication from church-a hundred different excuses from pastor
3	<ul style="list-style-type: none"> Support was fantastic Felt that any help asked for would be provided
4	<ul style="list-style-type: none"> Didn't really need support-once the group was in touch it was "their thing" to do
5	<ul style="list-style-type: none"> <i>PedalWise</i> should have been more involved in contacting groups/people who are not responding
6	<ul style="list-style-type: none"> Felt support was good-especially appreciated other mentors
7	<ul style="list-style-type: none"> Support was pretty good Felt like a newbie but felt in a good place and could rely on other mentors for advice

How (if in any way) did taking part in *PedalWise* impact your life?

1	<ul style="list-style-type: none"> Very happy to be able to put passion in to practice and payback to society in a constructive way Absolute joy to participate in the project Didn't seem like work <i>PedalWise</i> gave mentor a framework to do something practical to support bicycling
2	<ul style="list-style-type: none"> Yes strong impact-helped confirm that "even in Brampton" there are people who want to cycle and that are thinking about the future of transportation Good connections with a community of people with views and insight on transportation issues Prior to program was reluctant to ride on roads-began road riding and developed confidence
3	<ul style="list-style-type: none"> Took "impact" as a negative –so 'not really –has the freedom to do as he pleases'-but earlier mentioned exposure to Sri Lankan culture and that it was a positive experience
4	<ul style="list-style-type: none"> Anything to do with bikes is always a positive
5	<ul style="list-style-type: none"> Developed connections that will carry forward into mentor's life Liked the idea of small group level for change Hadn't considered grass roots approach to change and now sees it as valuable addition to advocacy
6	<ul style="list-style-type: none"> Big impact " Oh Yeah!" Gave me a lot more confidence Made me question driving habits Now I think "why am I driving to the store" I can ride my

	bike <ul style="list-style-type: none"> I use bike a lot more
7	<ul style="list-style-type: none"> Really great Got family and friends out cycling Ride even more than ever Spouse and children are cycling more now Dragged friends on rides Sent one friend to Canbike-now 'riding like a pro' Went to lots of other cycling events such as critical mass and tour de Mississauga because of the <i>PedalWise</i> connections Networking with other mentors a very positive experience

Do you think *PedalWise* had an impact? In what way?

1	<ul style="list-style-type: none"> Hopes so If just one other person gets on a bike we've done a good thing –but mentor has seen much more than that including: 1) 'validation' of the bike for one participant who uses it as his main mode of transportation; 2) Two gentlemen from the Sri Lankan community showed up at a bike collection on Oct 17 having walked 5 km to let them know they had 2 bikes for donation that needed repair (pick up then done by mentor). They had heard about the program from another community member and are really interested in joining next year; 3) George's group was an absolute inspiration even though they were unable to share their stories due to language barriers it was obvious access to bicycles had transformed their daily life this summer; and 4) May's story at the final dinner was awe inspiring.
2	<ul style="list-style-type: none"> No
3	<ul style="list-style-type: none"> Yes-freedom and transportation for participants Only way for them to get around-they don't drive and have no money to purchase a bike-families are at work all day Bikes are going to the right people Bikes need to go to people who can't afford and yet would use He felt his group rode everyday with him or without him Good program
4	<ul style="list-style-type: none"> Yes-very positive for me and my family With word of mouth and publicity can spread even more He will spread the news-eager for continuation and growth Building more of a cycling community
5	Helping to build a community
6	<ul style="list-style-type: none"> Would like to think so! 'One participant hadn't ridden since she was a child-came out to every ride and now seems to ride all the time. I call her bike beast'
7	<ul style="list-style-type: none"> As a one off-no-BUT if nurtured and followed up on and expanded it has potential to have larger impact It inspired CEA to establish <i>BikeWrX</i> and youth training-the establishment of these programs and CEA's support of cycling is important

- All together represents amazing potential

Appendix J Community Partner Exit Interview Summary

1) Can you give me some general insight into your experience with the *Community Bike Centre BikeWrx* and *PedalWise*?

- Overall it was a very positive program and experience. A year ago, would not have said it was possible.
- The structure worked well with both community partners playing complementary key roles. CEA was critical for space and structure, while Bike Brampton volunteers provided cycling expertise.
- The community rides were the best part of the program and resulted in good bonding among participants

2) Do you have any ideas to improve the program?

- We need a long term vision from the Region and a cohesive goal and plan for all partners. Will expansion happen? Will the Region support in the longer term? Did we develop enough traction in year 1 to move forward?
- A large concern is the pool of bikes and how best to both expand the pool for program delivery and also provide bikes that can be purchased at low cost by community members. How do we get enough bikes if we have 75 people interested in *PedalWise* next year? On the other hand, if people come to the program and use their own bikes, how will they be checked for safety? What if they don't meet safety standards?
- Another concern is a source of helmets for ongoing programming. Helmets should only be used by one participant as it is impossible to know if the helmet has been in a crash or dropped and seriously damaged. Best practice is to provide new helmets to new participants however this is an expense that needs to be considered.
- We need better promotion and communication for collecting used bike donations from the community. In addition, a lot of the community bikes are not good quality for refurbishing.
- We need targeted bicycle collection so we can get the best bikes for least amount of refurbishing. The problem of junk bikes is a real issue that takes time and money to address. They take up a lot of space and need to be recycled.

3) How (if in any way) did taking part in impact your organization?

- This program reenergized the organization and strengthened our position in the community. We broadened our impact on community both vertically and horizontally.
- We established new partnerships
- We made new community connections
- We developed a greater community focus and reached new communities interested in cycling.
- New community outreach and programming has been developed
- More ideas for our organization and the project are being generated as time progresses. For example: The *Community Bike Centre* tried to access abandoned bikes at *Peel Living* buildings as a source of bikes for refurbishment. However, they found the bikes were so old that the tires were actually stuck to the floor. The bike rooms were filthy and not suitable for use. Going forward the *Community Bike Centre* would like to partner with Peel Living to transform the unused bike rooms into clean bike hub spaces and use the storage rooms as community repair hubs. Additionally, we have talked with high schools who are interested in *BikeWrx* and developing high school bike clubs, but as yet we have not identified a funding source.

4) Do you think the project had an impact? In what way?

- Absolutely, we are already getting calls from participants who would like to participate in *PedalWise* next year.
- The program is inspiring to participants. We have two ladies who were *PedalWise* participants this year who want to share their experience and be trained to become mentors next year.
- Grant from Pearson Community Foundations for 16k to support youth programming and purchase of 4 bikes-2 trikes and 2 hybrids
- Mentors felt they were able to make a contribution to the community. Participants were all very positive about their experiences.

5) What support is needed going forward to ensure long term delivery sustainability?

- We need core funding for space and staffing. Community cycling programs need long term vision and support from the Region.

Appendix K Options for Community Based Active Transportation Program Replication

Table 4 Community Based Active Transportation Program Replication Scenarios

	Option	<i>PedalWise</i>	<i>BikeWrx</i>	High School
1	16 week <i>PedalWise</i> & <i>BikeWrx</i> program as launched in Peel <ul style="list-style-type: none"> • Year 2: \$40k-50k • Year 3: \$35k-40k • Year 4: \$35k-40k • Year 5: \$35k-40k Costs per location-based on partnership/alliance	7 hours of mentor training 22 hours of cycling programming 24 to 40 small group rides Refurbished bicycles, w new helmets, locks, lights, racks 35 participants	Space and storage for bicycles Mechanics tools & equipment Mechanic time for one to two 6-week mechanic training sessions (6-12 participants); Refurbishment of bicycles for <i>PedalWise</i> and ability to develop more programming. Community access hours	
2	16 week <i>PedalWise</i> program w new bicycles <ul style="list-style-type: none"> • Year 2: \$40k-45k • Year 3: \$20k-25k • Year 4: \$20k-25k • Year 5: \$20k-25k Costs per location-based on partnership/alliance	7 hours of mentor training 22 hours of cycling programming 24 to 40 small group rides New bicycles, helmets, locks, lights, racks for 35 participants		
3	Two Half-length (8 week) <i>PedalWise</i> program, new bicycles, no <i>BikeWrx</i> <ul style="list-style-type: none"> • Year 2: \$ 45k-50k • Year 3: \$ 20k-25k • Year 4: \$ 20k-25k • Year 5: \$ 20k-25k Costs per location-based on partnership/alliance	14 hours of mentor training (7 each) 32 hours programming (16 each) 48 (24 per session) small group rides New bicycles, locks, lights, racks for 30 participants per session; Helmets for 60		

		participants		
4	<p><i>PedalWise</i> (12 weeks) and high school programs, new bicycles, no <i>BikeWrx</i></p> <ul style="list-style-type: none"> • Year 2: \$ 50k-55k • Year 3: \$ 25k-30k • Year 4: \$ 25k-30k • Year 5: \$ 25k-30k <p>Costs per location-based on partnership/alliance</p>	<p>7 hours of mentor training 22 hours of cycling programming 24 to 40 small group rides New bicycles, helmets, locks, lights, racks for 35 participants</p>		<p>Two bike club intakes: one spring one fall 20 to 35 students each. Run by volunteer teacher. Bikes, helmets, lights, lock and simple safety programming provided</p>
5	<p>Project Co-ordinator supporting multiple <i>PedalWise</i> programs delivered by multiple partners with one <i>Bike Wrx</i> location with year-round programming, support for high school bike clubs refurbished bicycles*</p> <ul style="list-style-type: none"> • Year 2: \$ 95k-100k • Year 3: \$ 95k-100k • Year 4: \$ 110k-120k • Year 5: \$ 110k-120k <p>*this version is dependent on the ability of <i>BikeWrx</i> to obtain used bikes suitable for refurbishing and able to refurbish numbers needed from a volunteer base</p>	<p><i>PedalWise</i> programs delivered by a variety of partners each with: 7 hours mentor training 21.5 hours programming 24-40 small group rides bicycles, helmets, locks, lights, racks for 35 participants. (each program iteration will require an additional \$3500 for helmets, locks, lights, racks for bikes)</p>	<p><i>BikeWrx</i> as hub for multiple <i>PedalWise</i> programs space and storage for bicycles, mechanics tools; Refurbishment of bicycles for <i>PedalWise</i> and high school bike clubs Year round 6-week bike mechanic programming Weekend workshop mechanic programming and support for High School Bike Clubs. Community workshop hours</p>	<p>Support for High School Bike Clubs.</p>
6	<p>Project Co-ordinator supporting: 1 <i>BikeWrx</i> program (in Brampton), 2 <i>PedalWise</i> (12 week) Summer programs (one in Brampton, one in Mississauga), 2 year-round High school programs (one in Brampton, one in Mississauga) with new bicycles.</p> <ul style="list-style-type: none"> • Year 2: \$ 130k-150k (Purchase 60 new 	<p>Two full <i>PedalWise</i> programs 7 hours mentor training 21.5 hours programming 24-40 small group rides bicycles, helmets, locks, lights, racks for 35 participants</p>	<p><i>BikeWrx</i> as hub for two <i>PedalWise</i> programs Space and storage for bicycles Mechanics tools; mechanic time for multiple 6 week <i>BikeWrx</i> mechanic training sessions (8 participants each);</p>	<p>Two year-round High school programs (one in Brampton, one in Mississauga). Two bike club intakes one spring one fall-20 students each. Run by volunteer teacher (support from</p>

	bikes) <ul style="list-style-type: none"> Year 3: \$ 100k-110k Year 4: \$ 100k-110k Year 5: \$ 100k-110k 	New bikes that would be used in schools during school year but maintained by <i>BikeWrx</i> .	maintenance of bikes for <i>PedalWise</i> and High School Bike clubs	coordinator). Bikes, helmets, lights, lock and simple safety programming provided by program.
7	Project Co-ordinator supporting: 1 <i>BikeWrx</i> program (in Brampton), 4 <i>PedalWise</i> (12 week) Summer programs, 6 spring and 6 fall High school programs 20 students each with new bicycles . <ul style="list-style-type: none"> Year 2: \$ 130k-150k (Purchase 60 new bikes) Year 3: \$ 120k-130k (Purchase 30 new bikes) Year 4: \$ 130k-140k (Purchase 30 new bikes) Year 5: \$ 120k-130k 	Four full <i>PedalWise</i> programs by Year 4 7 hours mentor training 21.5 hours programming 24-40 small group rides bicycles, helmets, locks, lights, racks for 35 participants New bikes that would be used in schools during school year but maintained by <i>BikeWrx</i> .	<i>BikeWrx</i> as hub for two <i>PedalWise</i> programs Space and storage for bicycles Mechanics tools; mechanic time for multiple 6 week <i>BikeWrx</i> mechanic training sessions (8 participants each); maintenance of bikes for <i>PedalWise</i> and High School Bike clubs	Six year-round High school programs by Year 3. Two bike club intakes one spring one fall-20 students each. Run by volunteer teacher (support from coordinator). Bikes, helmets, lights, lock and simple safety programming provided by program.

Appendix L *PedalWise* 2015 Survey Tools

The following pages contain PDF reproductions of the following survey tools used in the *PedalWise* 2015 program.

- Participant entry survey (June 2015)
- Participant exit survey (September 2015)
- Peel control group entry survey (June 2015)
- Peel control group exit survey (September 2015)