

Ride Forward – An evaluation of Cycling in Two Ottawa Neighborhoods

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Abstract: Outdoor cycling (bicycling) is a low-impact form of exercise that improves cardiovascular fitness, muscle tone, range of motion and flexibility. It is an activity that may be beneficial to one's physical, emotional, and mental health and well-being. The benefits to one's social and emotional health and wellness may be derived from the social networking associated with being a member of a cycling community.

The purpose of this project is to provide recommendations to improve the current and future state of cycling in the Sandy Hill Community Centre's catchment areas of Old Ottawa East and Sandy Hill, two communities in Ottawa, Ontario, Canada. A preliminary needs assessment was conducted, and recommendations were generated from the information gathered. In order to begin the needs assessment we required much information, such as the opinions and attitudes of community members regarding cycling.

Through the extensive research of other current programs and groups offered both in Ottawa and other cities such as Montreal, Quebec, Canada and Portland, Oregon, United States we have found that the best cities provide a wide-range of cycling utilities for its citizens to accommodate different lifestyles. From the general knowledge that we gained from the research of other cities we designed a survey to identify the specific needs of Ottawa, and more specifically our target population of Sandy Hill and Old Ottawa East catchments areas.

Information was then synthesized into a list of recommendations, as well as solutions to current problems. The recommendations generated from the data gathered from the needs assessment include the development of various community programs, such as a cycling resource centre, cycling buddy system, cycling groups, safe-cycling education, and a bike share initiative. The data gathered from the needs assessment also indicated a priority need for the regular maintenance of roads and bicycle lanes.

Key Words:

Needs assessment, outdoor cycling, community health

Mots clés:

Évaluation des besoins, cyclisme en plein air, santé communautaire

Résumé : Le cyclisme en plein air est une forme d'exercice à faible impact qui améliore le conditionnement physique cardio-vasculaire, la tonicité musculaire, l'amplitude des mouvements et la souplesse. Cette activité peut être bénéfique sur les plans physique et émotionnel, ainsi que de la santé mentale et du bien-être. Ces avantages de santé mentale et de mieux-être peuvent découler du réseautage social dont bénéficient ceux qui font partie d'une collectivité cycliste.

Ce projet a pour objet de formuler des recommandations visant à améliorer la situation actuelle et future du cyclisme au Centre communautaire de Sandy Hill, dans les bassins

hydrologiques de Old Ottawa East et de Sandy Hill, deux communautés d'Ottawa, en Ontario, au Canada. L'auteur a effectué une évaluation préliminaire des besoins, et formulé des recommandations découlant des informations recueillies. Pour amorcer cette évaluation, il a fallu recueillir de nombreuses informations, et notamment les avis et les attitudes des membres de la communauté vis-à-vis du cyclisme.

Suite à une analyse approfondie d'autres programmes offerts et de groupes existants actuellement à Ottawa, ainsi que dans d'autres villes comme Montréal, au Québec (Canada) ou Portland, en Oregon (États-Unis), l'auteur a conclu que les meilleures villes offraient à leurs habitants un large éventail de services publics de cyclisme correspondant à divers types de vie. Les connaissances générales provenant de l'analyse des programmes des autres villes ont permis à l'auteur d'élaborer un sondage visant à identifier les besoins spécifiques d'Ottawa, et plus particulièrement de la population cible des bassins hydrologiques de Sandy Hill et de Old Ottawa East.

Ces données ont alors été synthétisées pour élaborer une liste de recommandations et formuler des solutions aux problèmes actuels. Parmi ces recommandations découlant des données recueillies lors de l'évaluation des besoins, on trouve l'élaboration de divers programmes communautaires, comme un centre de ressources cyclistes, un système de jumelage de cyclistes, des groupes cyclistes, de l'éducation sur la sécurité à vélo, et une initiative de partage de bicyclettes. Ces données ont également indiqué que l'entretien régulier des routes et des pistes cyclables constituait un besoin prioritaire.

Introduction

Outdoor cycling is a low-impact form of exercise that, like other forms of aerobic exercise, improves cardiovascular fitness, and decreases one's risk of developing a myriad of health conditions, such as cardiovascular disease, diabetes, some cancers, and osteoporosis (1). It is an activity that may be beneficial to one's physical, emotional, and mental health and well-being (2). Benefits to one's social health and wellness may also be derived from the social networking associated with being a member of a cycling community.

Cities with the largest proportion of cyclists often provide extensive programs to encourage city cycling, such as Montreal's "Bixi" program (3). This program allows locals to purchase a pre-paid mem-

bership card and use it to rent a Bixi bicycle at one of the many Bixi outlets around the city. Portland, Oregon, a champion of urban cycling development has managed to increase their rates of urban cycling with very simple and inexpensive interventions, such as painting bicycle lanes bright blue (known as the "blue box" to promote the perception of cycling safety (4)). The blue box has increased both the perceived and observed level of safety in Portland, Oregon and had contributed to growth of city-wide cycling (5). Further several studies suggest that with increased cycling and walking, there is an inverse relationship to the number of cyclists hit by motorists, in varying community size, suggesting that motorists adjust their behavior to drive more cautiously when there are more cyclists and pedestrians present (6). The safety of cycling may often be quite different than the perception of said safety.

The communities of Old Ottawa East and Sandy Hill face many physical and social barriers that currently inhibit the development of prominent cycling programs. Despite many facilitating resources available, such as the Sandy Hill Community Health Centre (SHCHC), levels of cycling remain stable, but low, in this neighborhood. Although bike theft is a known issue in the two communities (the rate of theft \$5000 and under is elevated when compared to neighboring communities) (8), the identity of many of the barriers that prevent the growth of cycling in Old Ottawa East and Sandy Hill are unknown. This needs assessment is designed to identify and provide recommendations for removing these barriers to better engage the communities of Old Ottawa East and Sandy Hill in city cycling. Communication with community members both in-person, and by way of local media (such as the Mainstreeter newspaper), is a major component of this Needs Assessment. Old Ottawa East and Sandy Hill were chosen because they are within the catchment area of the SHCHC and because of an existing partnership between the centre and University of Ottawa's HSS 4324 course coordinators.

Brief Description of Community Site and Target Population

The SHCHC has a vision to create a supportive environment for health and wellness and taking action for social equity through innovation, partnership and leadership (7). They offer health services, social services, addiction and mental health services, health promotion and chronic disease management, and several seasonal programs. The SHCHC also invests in

the development of local communities in an effort to promote the health and wellness of its client base; this Community Service Learning (CSL) project is being completed in conjunction with a SHCHC community developer. This project is based out of the Sandy Hill Community Health Centre at 88 Main St and takes place within the Old Ottawa East and Sandy Hill communities.

The target population of this CSL project includes the catchment areas of the SHCHC, Sandy Hill and Old Ottawa East that include secluded apartments, new residents to Ottawa and Canada and University students. New residents to the area have expressed specific concerns; however the opinions and attitudes of long-term community members are also valued because of their knowledge and expertise in the field of cycling.

Methods

Questionnaires (surveys) were used to gather preliminary data about cycling barriers and suggestions for cycling programs within the community. Common cycling barriers data were coded qualitatively using the emergent codes “bike lanes”, “road safety”, “rules and regulations”, “cycling resources”, and “vehicles/traffic”. These data were analyzed using Microsoft Excel 2007 and presented at a focus group of key stakeholders within the community. This process allows the general community to provide suggestions for cycling resources, and relies on input from key stakeholders through the focus group.

A strong initial component of the needs assessment was networking with local stakeholders. Networking within the community allowed us to gather up-to-date information and provided a strong connection with key stakeholders.

The process of gathering data allowed us to simultaneously interact with more stakeholders and provide us with information regarding the needs of the community. The execution of our cycling project began with the creation and distribution of surveys throughout the Sandy Hill and Old Ottawa East communities. Surveys were created with the assistance of a community mentor and key informants within the community, where the need for an understanding of the perceived barriers to cycling emerged. The surveys were distributed at community events, such as community association meetings, and were collected on-site. Such locations included the Sandy Hill Community Health Centre, the Parent Resource Centre, local businesses

(Cycos and Phat Moose Cycling), as well as the Ottawa East Community Association (OECA).

An online survey was also circulated primarily via the E-Mainstreeter, a local newspaper dedicated to reporting on current issues and events in the Old Ottawa East area.

An email address was included on both the surveys and in the Ottawa East community electronic newspaper, the E-mainstreeter. This provided an additional medium to address individual questions and concerns regarding our cycling initiative.

Once preliminary information was received from the surveys and emails, we analyzed the findings and extracted common concerns and interests. This information was then brought to a focus group, which allowed for an in-depth discussion and consultation towards building our cycling program. The focus group consisted of five individuals, where suggestions from the survey results analysis (including suggestions such as a cycling resource centre, cycling groups or buddy systems, road signs, and cycling safety programs) were discussed. Others suggestions emerged from the focus group in a manner that ensured a robust and effective program for all potential participants. Information was recorded during the focus group using a whiteboard to provide the participants with a visual indicator of their opinions, and also using Microsoft Word 2007. Time constraints did not allow us to go beyond the needs assessment phase; however, this needs assessment may set the foundation for future implementation of cycling plans in the area.

The methodology of the needs assessment was internally evaluated using a Goal Attainment Scale (GAS) for three items: the number of surveys completed, the number of e-mails received from community members, and focus group attendance. The GAS was chosen as a primary measure of internal achievement by the course coordinators at the University of Ottawa. The GAS allows program developers to set goals in 3-5 categories and to later evaluate these goals based on the original criteria. Within each of these 3-5 categories, 5 levels corresponding from -2 to +2 are given numeric values. This provides a benchmark for program developers to evaluate the quality of their research. The average of the numeric results from the 3-5 categories provides measure of achievement of objectives; where -2 is the lowest achievement and +2 is the highest.

The GAS ranking categories are as follows:

- -2 much less than expected goal attainment
- -1 less than expected goal attainment
- 0 complete goal attainment
- +1 more than expected goal attainment
- +2 much more than expected goal attainment

The five levels of the GAS for the first objective, the number of surveys completed, are as follows: -2=0, -1= 25, 0=50, +1=75 and +2=100. Our second objective, the number of e-mails received, is ranked as follows: -2=0, -1= 10, 0=20, +1=30, +2=40. Lastly, the scale for our final objective, focus group attendance, is as follows: -2=0, -1=4, 0=8, +1=12, +2=16. In this way, the GAS is used to evaluate the extent to which this project meets its' outlined achievements. There may be a potential for bias with the GAS; however, the GAS was used to evaluate the program planning methodology, not the response of the target population.

Results

Results from our surveys have indicated that of the 107 surveys received 32 respondents were non-cyclists (30%) and 75 were cyclists (70%) (Table 1). The respondents ranged in age from 17- 76 years and the majority of these respondents reside in the Old Ottawa East Community.

Our results indicate that the main barriers cyclists and non-cyclists experienced or considered were availability of resources, bicycle lanes, road safety, cars and rules/regulations of cycling. Most of the survey respondents who indicated that the coding theme of "resources" is a major barrier specified the type of resource that they were referring to; these include informational, educational, physical, and motivational resources. Some respondents did not provide their interpretation of the term 'resources', and these results were weighted less in the analysis.

The vast majority of non-cyclists who responded to the survey were concerned about the general informational resources available to them with respect to cycling, such as those resources that would provide information about the bylaws and regulations pertaining to cycling (87.5%). Our data indicates that a lack of resources is an important barrier not only to non-cyclists but to current cyclists as well; 39.3 % of

current cyclists were also concerned about a lack of resources. Specific concerns from survey participants are represented graphically in **Figure 1**.

The respondents who indicated a lack of available resources as a major barrier are most interested in a resource centre to obtain basic information. Such basic information includes: purchasing locations of bikes and bike accessories, maps, safety clinics for cyclists as well as for drivers to allow children and adults to ride safely, a buddy system to help newcomers to Ottawa to learn to cycle while experiencing the neighborhood, and a bike share program for those who may not be able to afford, or have a place to store, bicycles.

After survey data were analyzed we narrowed our focus to three possible programs: a community-run resource centre, a new cyclist buddy system and a community-run cycling group. The proposed community initiatives are outlined graphically in **Figure 2**.

Results from our focus group indicate that a majority of participants are interested in improving current cycling facilities and promoting new cycling activities. Focus group participants emphasized safety as a primary concern within the community, and suggested that future resources be focused on improving the perception of safety within the community. Focus group attendees were receptive to most ideas, such as a cycling resource centre, cycling groups or buddy systems, and cycling safety programs; however, there was a unanimous disinterest in road signs. As such, road signs are not included the list of recommendations.

A goal attainment scale (GAS) was used to evaluate the desired outcomes of the project. GAS outcomes are as follow:

- We received a total of 104 surveys, which ranks us at +2 for this objective.
- We received a total of 31 e-mails from community members, which provides us with a +1 measurement on this objective.
- Five people attended the focus group, which gives us a rank of -1 on this objective.

Two of our objectives were reached according to our GAS outline. Our total GAS grade is 31.96, a positive grade overall. This indicates that the project did meet its objectives to a

Table 1: Survey results are separated into cyclists and non-cyclists with emphasis on major barriers to cycling

Barrier	Number (%)		Number of Non-Cyclist Responses (%)
Resources	42 (39.3%)	Non-cyclists	28 (87.5%)
Lanes	24 (22.4%)	Non-cyclists	1 (3.1%)
Road Safety	18 (16.8%)	Non-cyclists	1 (3.1%)
Cars	15 (14%)	Non-cyclists	1 (1.3%)
Rules/Bylaws	8 (7.5%)	Non-cyclists	1 (1.3%)

Figure 1: Graphical representation of community opinions from survey data regarding cycling barriers.

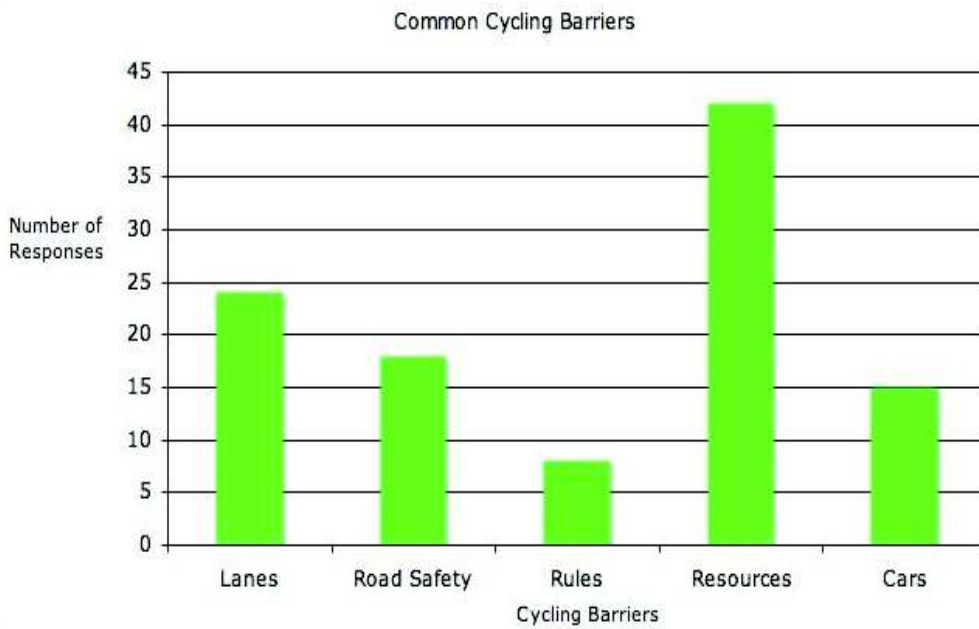
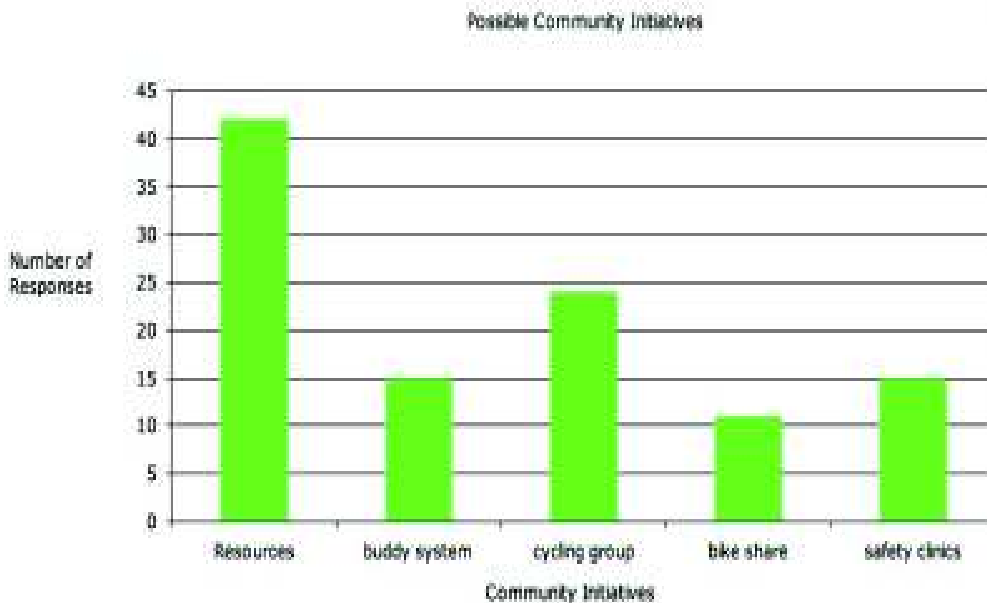


Figure 2: Support for possible community initiatives in Old Ottawa East and Sandy Hill.



Recommendations

Based on information we have gathered and analyzed from surveys, interviews, and focus groups we have generated a list of recommendations to improve the current state and future of cycling in the Old Ottawa East and Sandy Hill communities. The recommendations below are listed in order of importance.

- Cycling resource center- A centre providing the latest cycling information, consultation for safety rules and concerns. Information about necessary accessories, maps.
- Safety programs- Educational resources for community members to learn how to cycle. Also, information regarding where to purchase and how to properly fit and wear safety gear.
- Cycling groups- A resource for current cyclists to network and organize themselves to cycle together in their respective neighborhoods.
- Cycling buddy system- A system where experienced cyclists pair up with inexperienced cyclists to provide guidance, support and knowledge about local cycling routes and lanes.
- Road safety and conditions- Provide a database to address concerns about road conditions, incomplete or insufficient bike lanes or routes, and other missing links in order to organize and prioritize the concerns of the public.
- Bike share- A program whereby cyclists or non-cyclists alike who do not have access to a bicycle can rent a bicycle for a period of time.

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