THE CITY OF
CALGARY

2014 Pathway Escarpment
Observation Summary Report

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Executive Summary

Introduction

The 2014 Pathway Escarpment Observation research includes four sites that were observed in October 2014 to measure use levels, detour use, and adherence to closures.

The Observation Summary Report, presented herein, provides an overall summary of the four sites presented in the Observation Site Reports.

The purpose of the study was to gather user information that would assist Parks in the management of the pathway system specific to locations in the area affected by closures due to unsafe path conditions.

Methodology

The methodology used for the use profiles is observation research. Data was collected from four sites between October 4th and October 8th, 2014. Each site was observed for a total of sixty hours over the course of five days. These five days included three weekdays and two weekend days. All observations were made for twelve consecutive hours between 7:00 and 18:59.

Because a convenience sample was used (i.e., any person using the pathway who passed through the data collector's observation point was recorded), the findings cannot be generalized to all pathway users. What this means is, the findings reported herein apply only to those who were on the pathways at the times of observation. The large amount of data collected (9,670 pathway users) allows for a high level of confidence in the information.

Because any person passing through the observation sites was recorded, regardless of whether or not they had been recorded before, all 2014 Pathway Escarpment Observation reports refer to pathway users instead of people or individuals. Consequently, the counts provide information on the volume of use at a particular site, not the number of individuals at that site.

Summary of Findings

- 9,670 observations were recorded over the 5-day course of this study.
- On average, observers counted 40 pathway users per hour.

- Overall averages per hour at each site range from 32 pathway users an hour at the quietest location (At Bridge) to 46 pathway users an hour at the busiest (Mt Alberta View).

- On weekdays, an average of 30 pathway users per hour was observed.

- On weekend days, an average of 55 pathway users per hour was observed.

- On average, most pathway users were walking (5,110 observations, 52.8% of total), followed by cycling (3,391, 35.1%) and running (1,042, 10.8%).

- Of the 3,476 cyclists, skateboarders and inline skaters, 2,568 (73.9%) were wearing a helmet while 908 (26.1%) were not (2010 observation research only observed helmet use among cyclists, compared to all users on wheels in previous studies).

- 1,553 users were observed with a dog or dogs (16.1% of observations).

- There were slightly more male than female pathway users observed (5,099 observations, 52.7% of total vs. 4,567 females, 47.2% of total).

- Not unexpected, the majority of pathway users observed were adults (7,789, 80.5%), followed by seniors (868, 9.0%), children (543, 5.6%) and youth (407, 4.8%).

Background and Objectives

The City of Calgary Parks is responsible for the planning, design, construction, maintenance and programming of The City's growing pathway system. Parks currently maintains approximately 700 kilometres of pathways. It is the largest urban pathway system in North America and Calgary's pathways are one of the most popular services provided by The City.

On a regular basis, The City of Calgary collects information on how the pathways are being used through observations and surveying of pathway users. The last study was conducted in 2010. The 2010 Pathways research was a scaled-down version of the 39 site 2002 study with fewer sites being observed, but also includes a random telephone survey of pathway users and non-users. The telephone survey incorporates most of the questions in the intercept survey but is also designed to survey non-users to determine reasons for non-use and to provide a comparison of the two groups. A third component of the research includes an online version of the telephone survey to allow stakeholders and other special interest group representatives the opportunity to voice their opinion.

The main purpose of the 2014 Pathways research is to better understand levels of use, detour use, and adherence to closures. The user profiles provided comprehensive hourly observation data on pathway use including demographic information, activities, direction travelled, and bylaw compliance.

The objectives set out at the beginning of this component were:

- To collect user data that would provide user information to the City of Calgary to assist in the evaluation of this stretch of the pathway system. The information will be used in the scoping of slope failure and pathway repairs.
- Measure whether users are obeying the closure and using the detour, and what types of users are disobeying the detour and using the closed sections.

Methodology

The 2014 Pathway Escarpment Observation was designed to be a smaller, localized observation project, similar to the Pathwatch 2010 project; therefore the methodology for the Pathwatch Use Profiles was based on the earlier study. The methodology used in both studies is observation research. The 2014 study included four observations sites, none of which were included in previous projects, so no comparisons over time can be made.

The four sites included in this project are:

- Site 1: at Bridge
- Site 2: at 130th Avenue SE
- Site 3: at Mt Douglas Circle SE
- Site 4: at Mt Alberta View SE

Data was collected between October 4th and October 8th, 2014. Each site was observed for a total of sixty hours over the course of five days. These five days included three weekdays and two weekend days. All observations were made for twelve consecutive hours between 07:00 and 18:59.

Observers were scheduled for one six-hour shift per day. They were instructed to record any person using the pathway who passed through their observation point. Data for twelve variables was recorded on an iPad with custom observation software. The information collected included: date, day, weather, time, direction of travel, activity, gender, age, helmet use, adherence to closure, detour use (see Appendix A for a copy of the observation instrument). At the end of each shift observers emailed the data files to the research team so no data was missing and data entry was not required.

Any person passing through the observation sites was recorded, regardless of whether or not they had been recorded before. Consequently, one person could have been counted more than once by the same observer during the same shift. One person could also have been counted several times in one shift as they travelled along the pathway system and through different sites running on the same day. This was recognized from the outset of the project and is the reason why this report refers to pathway users instead of people or individuals. The counts provide information on the volume of use at a particular site, not the number of individuals at that site.

Analysis of the observational data was done at two levels: individual sites and an overall summary of the locations included. This section of the 2014 Pathway Escarpment Observation report addresses the second level.

In this analysis, three key measures are used to analyze use of pathways in Calgary. The first is a frequency, or count, of total users (referred to throughout the report as "count") at a site. The second measure of use is the calculation of average per hour use based on the total number of users divided by the number of hours of observation. The third measure is a calculation of the percentage of the relevant variable based on the overall count.

Analysis of activity has been limited to the four most frequent activities (walking, running, cycling, and inline skating) in all tables in this summary, as well as in the site profiles, because the activities of skateboarding, riding a scooter, using a wheelchair and others made up a very small proportion of the observed activity. However, the totals for all tables include these activities.

Because a random sample is not possible in a study of this nature, a convenience sample was used (i.e., any person using the pathway who passed through the data collector's observation point was recorded). Since every possible pathway user was not given an equal chance to participate in the study (i.e., probability sampling was not employed), the findings cannot be generalized to all pathway users. What this means is, the findings reported herein apply only to those who were on the pathways at the times of observation. The large amount of data collected (9,670 pathway users) allows for a high level of confidence in the information. Since the results offer valuable insight into pathway use patterns, the Site Profiles and Summary Report can provide direction for future planning and priority setting in the maintenance, operations, and capital lifecycle of this portion of Calgary's pathway system.

Project Limitations

There are limitations inherent in any project of this size and scope. These limitations need to be understood in order to analyze the results and must be considered for future projects. The results point to general trends in pathway use, and provide a snapshot in time of four specific sites along the pathway system.

Weather conditions are likely to influence the use of the pathways, in particular for recreational users (as opposed to people using the pathways to commute). Accordingly, cold or wet conditions are likely to

reduce use, whereas warm and sunny conditions are likely to increase use. In general, the weather conditions were sunny, partly cloudy, or cloudy.

Part of the activity information collected was whether or not a pathway user was with a dog. The number of dogs with an individual was not recorded. An individual with one dog was recorded in the same way as someone with five dogs. The pertinent information here was the number of people, not the number of dogs. The other side of this variable is that more than one person could have been with one dog (e.g., a couple out walking their dog). In this case, observers were instructed to record the dog only once and associate it with the person in control of the dog at the time (i.e., holding the leash or verbally ensuring the dog was under control). Dogs that did not appear to be with a person were not recorded.

Children in strollers or in bike trailers were not counted as individual users, but were instead assigned to a primary person using the pathway. Any children that were walking or biking were counted as pathway users and all relevant information recorded for them.

Finally, age categories were defined as child (14 years and under); youth (15-19 years); adult (20-64 years); and senior (65 years and over). In all reports, age must be understood as observed age since these categories were estimates based on the individual observers' determination of a pathway user's age. People were not stopped and asked how old they were. The senior category in particular was difficult to determine as the difference between an "adult" and a "senior" was difficult to judge as people passed by on the pathway.

Summary of Findings

A total of 9,670 observations were recorded over the five day course of this study. On average, observers counted 40 pathway users per hour. The overall averages per hour at each site range from 32 pathway users an hour at the quietest location (At Bridge) to 46 pathway users an hour at the busiest (Mt Alberta View). In looking at the similarities across the fifteen observation sites of 2010, an interesting snapshot of Calgary's pathway system emerges.

Summary of Findings

An overall average of:

- 34 pathway users per hour were observed on weekdays and 55 pathway users per hour were observed on weekend/holiday days.

Overall activity:

- 5,110 (52.8% of total) of pathway users observed were walking
- 3,391 (35.1%) of pathway users observed were cycling.
- 1,042 (10.8%) of pathway users observed were running.
- 28 (0.3%) of pathway users observed were inline skating.
- 63 (0.7%) of pathway users observed were on a skateboard.
- 18 (0.2%) of pathway users observed were on a scooter.
- 14 (0.1%) of pathway users observed were doing something other than the above categories.
- 1,553 (16.1%) of pathway users observed were with dog(s).

Overall age and gender:

- 5,099 (52.7%) of pathway users observed were male, 4,567 (47.2%) were female and in 4 (<0.01%) of the cases gender was not observed.
- 543 (5.2%) of pathway users observed were children, 407 (4.2%) were youths, 7,789 (80.5%) were adults, and 868 (9.0%) were seniors.

An average of:

- 2,568 (73.9%) of the 3,476 cyclists, skateboarders and inline skaters were wearing a helmet, 908 (26.1%) were not.

Closures and Detours

- 2,741 (28.3%) of users obeyed the closures while 6,929 (71.7%) did not obey closures
- 2,686 (27.8%) of pathway users navigated by using the assigned detours. 6,984 (72.2%) did not use detours.
- By activity, walkers were most likely to obey closures (37.4%) and use detours (36.6%). Cyclists were least likely to obey closures (16.1%) and use detours (15.9%).
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Summary of Sites

The overall averages provide important information on the general trends occurring on Calgary's pathways. However, the same information broken down by site provides a more detailed picture. In the first two tables of this section, the four observation sites have been ranked by volume of use by hour. The remaining tables are ordered by site number for consistency between tables.

2014 Site Rankings

Volume

Volume of Use: Overall Average Pathway Users per Hour

Site Name	Site #	Total Count	Hours Worked	Average/Hour
Mt Alberta View	4	2770	60	46.2
130th Ave	2	2581	60	43.0
Mt Douglas Circle	3	2392	60	39.9
At Bridge	1	1927	60	32.1
Total		9670	240	40.3

Overall Weekday and Weekend Use: Sorted by Weekday

Site Name	Site #	Total Count	Weekday Ave/Hr	Weekend Ave/Hr
Mt Alberta View	4	2770	**36.9**	60.1
Mt Douglas Circle	3	2392	**33.2**	49.9
130th Ave	2	2581	**32.3**	59.0
At Bridge	1	1927	**20.1**	50.2
Total		9670	**30.6**	54.8

Average Weekday & Weekend Use 7:00-7:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	7.3	3.5
130th Ave	2	11.7	7.0
Mt Douglas Circle	3	12.0	4.0
Mt Alberta View	4	11.3	5.5
Total		10.6	5

Average Weekday & Weekend Use 8:00-8:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	10.3	14.5
130th Ave	2	20.0	23.5
Mt Douglas Circle	3	28.0	25.5
Mt Alberta View	4	22.0	36.5
Total		20.1	25

Average Weekday & Weekend Use 9:00-9:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	9.7	33
130th Ave	2	24.0	52.2
Mt Douglas Circle	3	21.0	46.0
Mt Alberta View	4	31.7	53.5
Total		21.6	46.3

Average Weekday & Weekend Use 10:00-10:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	13.0	31
130th Ave	2	25.0	57.0
Mt Douglas Circle	3	23.3	48.0
Mt Alberta View	4	32.3	46.5
Total		23.4	45.6

Average Weekday & Weekend Use 11:00-11:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	18.3	49
130th Ave	2	31.0	58.5
Mt Douglas Circle	3	23.3	51.5
Mt Alberta View	4	31.3	53.0
Total		26.0	53.0

Average Weekday & Weekend Use 12:00-12:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	9.0	61
130th Ave	2	20.7	52.5
Mt Douglas Circle	3	21.0	81.5
Mt Alberta View	4	24.7	73.0
Total		18.8	67.0

Average Weekday & Weekend Use 13:00-13:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	20.7	78
130th Ave	2	31.0	77
Mt Douglas Circle	3	23.0	47.5
Mt Alberta View	4	23.7	73.0
Total		24.6	68.8

Average Weekday & Weekend Use 14:00-14:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	19.7	91.5
130th Ave	2	43.3	95
Mt Douglas Circle	3	33.0	69
Mt Alberta View	4	30.0	96.0
Total		31.5	87.8

Average Weekday & Weekend Use 15:00-15:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	21.3	74
130th Ave	2	36.3	99
Mt Douglas Circle	3	41.0	80
Mt Alberta View	4	48.3	89.0
Total		36.8	85.5

Average Weekday & Weekend Use 16:00-16:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	35.7	77.5
130th Ave	2	43.0	80
Mt Douglas Circle	3	55.3	63.5
Mt Alberta View	4	58.0	90.0
Total		48.0	77.8

Average Weekday & Weekend Use 17:00-17:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	38.3	52.5
130th Ave	2	52.3	56
Mt Douglas Circle	3	56.3	43
Mt Alberta View	4	64.3	50.0
Total		52.8	50.4

Average Weekday & Weekend Use 18:00-18:59

Site Name	Site #	Weekday Average	Weekend Average
At Bridge	1	37.7	36.5
130th Ave	2	49.7	50.5
Mt Douglas Circle	3	61.0	39.0
Mt Alberta View	4	64.7	55.5
Total		53.3	43.4

Activities

Site Name	Site #	Total Count	Walking	Cycling	Running	Inline Skating	Wheelchair	Skateboard	Scooter	Other
At Bridge	1	1927	45.8%	43.6%	9.3%	0.4%	0.1%	0.4%	0.0%	0.4%
130th Ave	2	2581	55.2%	32.4%	11.0%	0.3%	0.0%	0.7%	0.3%	0.0%
Mt Douglas Circle	3	2392	52.3%	34.0%	12.5%	0.2%	0.0%	0.6%	0.2%	0.2%
Mt Alberta View	4	2770	56.0%	32.6%	10.2%	0.3%	0.0%	0.8%	0.2%	0.0%
Total			52.8%	35.1%	10.8%	0.3%	0.0%	0.7%	0.2%	0.1%

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Pathway Users and Behaviours

Pathway Users with Dogs, Percent

Site Name	Site #	Total Count	With Dog
At Bridge	1	1927	11.7%
130th Ave	2	2581	15.3%
Mt Douglas Circle	3	2392	16.4%
Mt Alberta View	4	2770	19.5%
Total		9067	16.1%

User Characteristics: Gender

Site Name	Site #	Total Count	Male	Female
At Bridge	1	1927	57.3%	42.7%
130th Ave	2	2581	51.9%	48.1%
Mt Douglas Circle	3	2392	51.9%	48.0%
Mt Alberta View	4	2770	51.1%	48.9%
Total		9067	52.7%	47.2%

User Characteristics: Age

Site Name	Site #	Total Count	Child (<15)	Youth (15-19)	Adult (20-64)	Senior (65+)
At Bridge	1	1927	4.6%	3.5%	86.5%	5.4%
130th Ave	2	2581	7.0%	3.2%	77.8%	12.1%
Mt Douglas Circle	3	2392	5.4%	7.1%	78.1%	9.4%
Mt Alberta View	4	2770	5.3%	5.4%	81.2%	8.1%
Total		9067	5.6%	4.9%	80.5%	9.0%

User Characteristics: Helmet Usage

Site Name	Site #	Total in Helmet Activities	Wearing Helmet	Not Wearing Helmet
At Bridge	1	841	73.4%	26.6%
130th Ave	2	831	78.1%	21.9%
Mt Douglas Circle	3	812	74.5%	25.5%
Mt Alberta View	4	901	75.1%	24.9%
Total		3385	75.3%	24.7%

Closures and Detours

Overall Obeyed Closure

Site Name	Site #	Total Count	Obeyed Closure	Ignored Closure
At Bridge	1	1927	2.3%	97.7%
130th Ave	2	2581	35.5%	64.5%
Mt Douglas Circle	3	2392	31.7%	68.3%
Mt Alberta View	4	2770	37.0%	63.0%
Total		9067	28.3%	71.7%

Note that the observation location for the At Bridge location did not allow for the observer to see those who were using the formal detour, only those who were going into or coming out of the closed pathway.

Overall Used Detour

Site Name	Site #	Total Count	Used Detour	Ignored Detour
At Bridge	1	1927	2.3%	97.7%
130th Ave	2	2581	35.1%	64.9%
Mt Douglas Circle	3	2392	31.4%	68.6%
Mt Alberta View	4	2770	35.5%	64.5%
Total		9067	27.8%	72.2%

Obeyed Closure by Activity

Site Name	Site #	Total Count	Obeyed Walking	Obeyed Cycling	Obeyed Running	Obeyed Inline
At Bridge	1	1927	3.2%	1.7%	0.0%	0.0%
130th Ave	2	2581	44.5%	20.4%	32.9%	28.6%
Mt Douglas Circle	3	2392	41.3%	18.6%	27.2%	0.0%
Mt Alberta View	4	2770	47.1%	23.3%	24.5%	44.4%
Total		9067	37.4%	16.1%	23.3%	21.4%

Used Detour by Activity

Site Name	Site #	Total Count	Detoured Walking	Detoured Cycling	Detoured Running	Detoured Inline
At Bridge	1	1927	3.1%	1.8%	0.6%	0.0%
130th Ave	2	2581	44.1%	20.2%	32.9%	28.6%
Mt Douglas Circle	3	2392	41.1%	18.2%	26.5%	0.0%
Mt Alberta View	4	2770	45.2%	22.8%	22.0%	44.4%
Total		9067	36.6%	15.9%	22.6%	21.4%

Obeyed Closure by Direction

Site Name	Site #	Total Count	Obeyed Northbound	Disobeyed Northbound	Obeyed Southbound	Disobeyed Southbound
At Bridge	1	1927	0.4%	99.6%	3.8%	96.2%
130th Ave	2	2581	32.8%	67.2%	37.6%	62.4%
Mt Douglas Circle	3	2392	33.6%	66.4%	30.1%	69.9%
Mt Alberta View	4	2770	39.9%	60.1%	34.1%	65.9%
Total		9067	33.4%	66.6%	29.6%	70.4%

Used Detour by Direction

Site Name	Site #	Total Count	Detoured Walking	Detoured Cycling	Detoured Running	Detoured Inline
At Bridge	1	1927	0.4%	99.6%	3.9%	96.1%
130th Ave	2	2581	32.8%	67.2%	37.1%	62.9%
Mt Douglas Circle	3	2392	33.4%	66.6%	29.6%	70.4%
Mt Alberta View	4	2770	38.5%	61.5%	32.7%	67.3%
Total		9067	36.6%	33.4%	66.6%	29.6%

Appendix A: Custom iPad Observation Tool