LANDSCAPE PERFORMANCE SERIES

Sherbourne Common Methods Document

Prepared by:

Research Fellows:
Jane Wolff
Associate Professor
Daniels Faculty of Architecture, Landscape, and Design, University of Toronto

Elise Shelley
CSLA, OALA
Assistant Professor
Daniels Faculty of Architecture, Landscape, and Design, University of Toronto

Research Assistant:
Elise Hunchuck
MLA
Daniels Faculty of Architecture, Landscape, and Design, University of Toronto

This Methods Document accompanies a *Landscape Performance Series* Case Study Brief. It was produced in 2016 through the Landscape Architecture Foundation's *Case Study Investigation* program, a unique research collaboration that matches LAF-funded faculty-student research teams with leading practitioners to document the benefits of exemplary high-performing landscapes.

The full Case Study Brief for this project can be found at:
https://landscapeperformance.org/case-study-briefs/sherbourne-common

Landscape Performance Benefits

Environmental Benefit 1: Water conservation

Saves approximately 18,200 gallons of potable water and $238 annually through the use of treated stormwater and lake water for the ice skating rink.

Calculations

During the winter months, Sherbourne Common uses approximately 9,720 to 26,730 gallons of treated water for the seasonal skating rink. By using rainfall and lake water treated on-site every time the rink is filled (which varies year to year depending on weather), Sherbourne Common saves an average of $62,880, the retail cost of potable water provided by the City of Toronto. In the future, this system will be supplied by treated stormwater from adjacent sites instead of the lake.

		Water Volume	Water Volume	Water Rates [1]
		m^3	*gallons*	*$3.4500 CAD/ m^3*
Ice thickness *(mm)*				
Average	**55.2**	**69.00**	**18,225.92**	**$238**

Average ice thickness calculations completed by PFS. Assumptions include that while not a symmetrical rink, grading midpoint is essentially the average thickness of rink ice. Rink size is 919.93 m^2.

If high point is set a minimum of 25mm thickness, the low-point is 55mm thickness, the average ice thickness would be 40mm (or .04 m) over 919.9259m^2 = 36.797 m^3
1 m^3=264.17 gallons, so 36.797 = 9,720.70 gallons

If low point is set at a maximum of 125mm thickness the high-point is 95mm thickness therefore average ice thickness would be 110mm (or .11m) over 919.9259m^2=101.1918m^3

1 m^3=264.17 gallons, so 101.1918 m^3 = 26,731.84 gallons

City of Toronto water rates $3.45/ m^3

18,225.92 gal x 1 m^3 / 264.172 gal x $3.45 / 1 m^3 = $238

Using the average ice thickness, Sherbourne Common can be estimated to save $62,879.42 CAD, or $47,939.27 USD.[2]

[1] Water consumption rates for the City of Toronto range from year to year. These calculations use the 2016 rate, which is $3.45 CAD per m^3.
[2] On August 8 2016, the CAD to USD exchange rate = 0.7624 (nominal Bank of Canada rate).

Limitations
Ice thickness measurements were not independently verified by researchers. The rink sometimes needs to be re-frozen, so the potable water saved is likely much more than reported.

Sources
Ice thickness measurements provided by PFS design team.

Please see Bank of Canada, "Daily Currency Converter," found at http://www.bankofcanada.ca/rates/exchange/daily-converter/

Please see City of Toronto, "2016 Water Rates," found at http://www.waterfrontoronto.ca/uploads/documents/economic_impact_analysis_2001_2013_1_1.pdf

For a detailed third-party review of construction, design, and future use of Sherbourne Common, please see Michael Cook's "Resurfacing stormwater at the new Sherbourne Common."

Environmental Benefit 2: Energy use

Uses renewable energy for 100% of the power supplied to the pavilion, approximately 9,000 kWh per year.

Calculations
As part of its LEED Gold certification, 100% of the power for the pavilion is provided by Bullfrog Power, a renewable energy provider, for a total of approximately 9,000 kWh/year.
Metrics provided by Waterfront Toronto.

Limitations
Amounts not independently verified by researchers.

Sources

Please see "Social Performance Measures" in Waterfront Toronto's *Corporate Social Responsibility & Sustainability Report*, 2015.
http://sr.waterfrontoronto.ca/en/resourcesGeneral/Waterfront_Toronto_Full_Report_v2.pdf

Environmental Benefit 3: Carbon sequestration & avoidance

Sequesters an estimated 2,000 lbs of atmospheric carbon annually through the planting of 182 trees.

Calculations
The research team used Toronto's Live Green assumptions that an average tree size of 6.4 inches diameter sequesters approximately 11 lbs of carbon per year. Tree count conducted by both site visits and PFS design team planting plan.

GHGs reduced from planting trees (lbs) = 182 trees planted x 11 lbs/year = 2,002 lbs of carbon per year

Limitations
Calculations dependent on tree count from PFS. Rule of thumb estimate does not differentiate between tree species or consider actual size.

Sources
PFS 'Planting Plan'

Please see Toronto's "LiveGreen Toronto Quantification Guide"
https://www1.toronto.ca/City%20Of%20Toronto/Environment%20and%20Energy/Programs%20for%20Residents/PDFs/Live%20Green%20Grants/Project%20Quantification%20Guidelines%202011.pdf

Social Benefit 1: Recreational & social value

Serves as a neighborhood anchor, with 70% of 18 surveyed users coming from within 2 miles.

Calculations
Please see Appendix C for detailed survey results including dates, times, weather, number of individuals approached, number of individuals who completed survey, and their responses.

1 kilometer = .62137 mile
2 km = 1.24 mile

Limitations
For University of Toronto conducted surveys, please see the methodology outlined below and in Appendix B and C as approved by the University of Toronto on May 31, 2016.

Our method was to interview visitors to three relatively new public parks along the Toronto waterfront about their experience and perception of the parks and their context. We surveyed a total of 18 people at Sherbourne Common (7 surveys short of our goal) over the course of a three-month period including June, July, and August 2016. Interviews were conducted on each site during a weekend day. The graduate research assistant approached individual subjects, identified herself as a researcher and asked subjects to participate in a voluntary interview designed to gauge the park's social benefits. The interviews were anonymous with no personal data collected.

Sources
Please see Appendix C-CSI survey results.

Appendix A - Resources

Cook, Michael. "Resurfacing stormwater at the new Sherbourne Common." Vanishing Point. September 24, 2010. Accessed March 01, 2016. http://www.vanishingpoint.ca/sherbourne-common

"Economic Impact Analysis (2001-2013)." Prepared for Waterfront Toronto by urbanMetrics inc. Accessed May 10, 2016. http://www.waterfrontoronto.ca/uploads/documents/economic_impact_analysis_2001_2013_1_1.pdf

Hague, Matthew. "50 Reasons To Love Toronto: No. 13, Sherbourne Common is changing the waterfront." *Toronto Life. June 27, 2011.* Accessed March 01, 2016. http://torontolife.com/city/reasons-to-love-toronto-sherourne-common/

Reshaping Toronto's Waterfront. Editors Gene Desfor and Jennefer Laidley. Toronto: University of Toronto Press, 2011.

Rochon, Lisa. "Sherbourne Common: Clean, green, brainy and blue." *Globe and Mail*. July 29, 2011. Accessed February 26, 2016. http://www.theglobeandmail.com/arts/sherbourne-common-clean-green-brainy-and-blue/article4201860/

"Sherbourne Common." *WATERFRONToronto.* Accessed March 01, 2016. http://www.waterfrontoronto.ca/sherbourne_common

"Sherbourne Common, Canada's Sugar Beach, and the Water's Edge Promenade." *URBANTORONTO.ca.* Accessed March 01, 2016. http://urbantoronto.ca/database/projects/sherbourne-common-canadas-sugar-beach-and-waters-edge-promenade

"Sherbourne Park Fact Sheet." *WATERFRONToronto.* Accessed March 01, 2016. http://www.waterfrontoronto.ca/dbdocs/4a688ecdcf990.pdf

"Sherbourne Common / PFS Studio." *ArchDaily*. November 20, 2013. Accessed February 25, 2016. http://www.archdaily.com/449590/sherbourne-common-pfs-studio

"Tag Archives: Sherbourne Common." *PFS Studio*. Accessed March 01, 2016. http://pfsstudio.com/tag/sherbourne-common/

"Water's edge promenade and boardwalk." *WATERFRONToronto.* Accessed March 01, 2016. http://www.waterfrontoronto.ca/explore_projects2/east_bayfront/waters_edge_promenade_and_stormwater_management

"2012 National Honour: Design. Sherbourne Common by Phillips Farevaag Smallenberg." *CSLA.* Accessed March 02, 2016. http://www.csla-aapc.ca/awards-atlas/sherbourne-common

Appendix B - Social Benefits - Oral interview guide

1. Methodology:
Our method is to interview visitors to three relatively new public parks along the Toronto waterfront about their experience and perception of the park and its context. We anticipate surveying a sample of twenty-five people per site over the course of a two-week period in June 2016. Interviews will be conducted on each site during a weekday afternoon and evening and during a weekend afternoon and evening. Our graduate research assistant will approach individual subjects, identify herself as a researcher and ask subjects to participate in a voluntary interview designed to gauge the park's social benefits. The interviews will be anonymous and no
personal data will be collected.

The interviews will address the following subjects:
• frequency of visits to the park
• distance from the interview subject's home
• whether the subject typically visits alone or as part of a group
• when the subject's visits to the park began
• the typical duration of the subject's visits
• the subject's activities at the park
• the subject's perception of the neighbourhood and waterfront and whether those perceptions changed since the opening of the park

Our study will also include a visual assessment of the numbers, ages and genders of people in the park. Our goal is to mirror this distribution in our interview sample.

2. Participants
The study aims to include a cross-sectional sample of people present in the park at any given moment. It is not intended to identify or study a particular group of park users. Participation is voluntary.

3. Potential harms
We are not aware of potential harms as the research method consists of a voluntary short interview (approximately five minutes) carried out in a public place.

4. Privacy and confidentiality
The interview will be anonymous and no personal information will be requested. We will inform potential subjects of these conditions when we ask them to participate.

5. Informed consent
We will ask for oral consent after we have explained the purpose and general outline of the

interview. We will record consent in our notes before beginning the interview.

Oral consent record and interview guide
Date:
Site:
Weather condition:
Time of day:
Number of people in the park:
Approximate age distribution:
Approximate gender distribution:

Obtaining oral consent:
My name is --, and I am a graduate student in landscape architecture at the University of Toronto. May I talk with you about your experience of this park as part of a research study about its social benefits to the community? The study is anonymous and I will not ask for any personal information. You may stop the interview at any time.

Record of consent:
(indicated by researcher)

Interview questions:
How often do you visit the park?
How far is the park from where you live?
Do you usually come to the park by yourself or in a group?
When did you begin visiting the park?
How long do you usually stay?
What do you usually do here?
How do you perceive the neighbourhood and the waterfront?

Contact information regarding Case Study Investigation in Landscape Performance (to be given on 8.5" x 5" card to participants):

Thank you for your participation in our study about the social benefits of this park. If you have any questions about this anonymous research study you may contact the researchers at: landscapeperformance.utoronto@gmail.com. You can also contact the University of Toronto Office of Research Ethics (ethics.review@utoronto.ca, 416-946-3273), for confirmation that participant protection procedures have been followed consistent with:

www.research.utoronto.ca/wp-content/uploads/docments/2014/GUIDE-FOR-INFORMED-CONSENT-V-Oct-2014.pdf

This questionnaire was approved for use by the University of Toronto LAF Case Study Team by the University of Toronto on May 31, 2016.

Appendix C
Social Benefits - Oral interview results

Date:	June 12 2016											
Site:	**Sherbourne Common**											
Weather condition:	57 - 67 F, partially sunny & windy											
Time of day:	10:30am to 11:45am											
Number of people in the park:	18											
Approximate age distribution:	10-45											
Approximate gender distribution: F:M	10:08											
Record of consent	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
How often do you visit the park?	once a week	once a week	once a week	once a week	once a week	once a week	once a week	once a week	once a week	once a week	once a mongth	once a week
How far is the park from where you live?	within 2 km	within 2 km	within 2 km	within 2 km	within 2 km	within 2 km	within 2 km	within 2 km	within 2 km	> 5km	> 5km	>15 km
Do you usually come to the park by yourself or in a group?	group	group	group	group	group	group	group	group	group	group	group	on their own
When did you begin visiting the park?	2014	2014	2014	2014	2014	2015	2014	2014	2014	2016	2015	2016
How long do you usually stay? (minutes)	30-45	30-45	15-30	15-30	15-30	15-30	15-30	15-30	30-60	15-30	30-60	15-30
What do you usually do here?	bringing kids to play	bringing kids to play	sit at edge of park on boardwalk	walk dog, sit at edge of park on boardwalk	walk though park	sit at edge of park on boardwalk	walk dog, sit at edge of park on boardwalk	walk though park	sit at edge of park on boardwalk	break from bike ride, sit at edge of park on boardwalk	sit at edge of park on boardwalk	sit at edge of park on boardwalk
How do you perceive the neighbourhood and the waterfront?	quiet	quiet	quiet	clean, quiet	quiet park, busy waterfront	quiet park, noisy, disruptive construciton	not enough retail, a lot of construction	wish water was accessible	nice to be by water	wish there was a pool/place to swim	wish there was a pool/place to swim	quiet park, sometimes boardwalk is too busy

Date:	July 10 2016								
Site:	**Sherbourne Common**								
Weather condition:	63 - 84 F, sunny								
Time of day:	10:30am to 11:45am								
Number of people in the park:	22								
Approximate age distribution:	4-50								
Approximate gender distribution: F:M	15:17								
Record of consent	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
How often do you visit the park?	once a week	more than once a week	once a month	once a week	once a week	twice a month	once a week	once a week	twice a month
How far is the park from where you live?	>15km	>1km	>1km	>5km	>3km	>6km	>50km	> 15km	>10 km
Do you usually come to the park by yourself or in a group?	both	both	both	group	both	group	on their own	both	both
When did you begin visiting the park?	2014	2014	2015	2015	2016	2016	2015	2016	2016
How long do you usually stay? (minutes)	30	30-45	30	10-15	30	30	30	30	30
What do you usually do here?	bringing kids to play	bringing kids to play	bringing kids to play	walk though park	break from bike ride (usually)	sit at edge of park on boardwalk	walk though park	sit at edge of park on boardwalk	sit at edge of park on boardwalk
How do you perceive the neighbourhood and the waterfront?	quiet park, a lot of construction	construction is a deterrant	much nicer than before	nicer than the parking lots beore	nicer but hard to navigate with car	much nicer than before	much nicer than before	much nicer than before	much nicer than before

Date:	August 07 2016					
Site:	**Sherbourne Common**					
Weather condition:	63 - 84 F, sunny					
Time of day:	10:30am to 11:45am					
Number of people in the park:	22					
Approximate age distribution:	4-65					
Approximate gender distribution: F:M	16:12					
Record of consent	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
How often do you visit the park?	once a month	once a month	once a month	once a week	once a month	once a month
How far is the park from where you live?	> 15km	> 15km	>1km	>1km	>5km	>5km
Do you usually come to the park by yourself or in a group?	group	both	both	both	group	group
When did you begin visiting the park?	2010			2015		
How long do you usually stay? (minutes)	60-120	60-120	120	30	30-60	30-60
What do you usually do here?	hang out / lay on beach / sit under trees	hang out / lay on beach / sit under trees	sit under trees	have lunch	sit under trees or on benches	sit under trees or on benches
How do you perceive the neighbourhood and the waterfront?	Busier than before	Busier than before	Busier than before	Nice, clean but very busy	Clean and easier to bike	Easier to bike