



Building volunteerism
capacity to support
waste reduction at
special events.
A best practice review.

Angie Nicolás
Greenest City Scholar 2014

a place of mind



EXECUTIVE SUMMARY

PROJECT BACKGROUND

As part of the Zero Waste Goal of the Greenest City 2020 Action Plan, the City of Vancouver (the City) aims to reduce the amount of solid waste sent to landfill or incinerator by 50% of 2008 levels. Special events, high profile by nature, provide an outstanding waste diversion and live communication opportunity to advance to this goal.

Scholar research conducted in 2013 showed that at events, the presence of educators at recycling stations reduces contamination of recycling and organics streams, effectively increasing waste diversion. Subsequently, during a stakeholder workshop, the event community identified access to volunteers and recycling education as essential tools to help increase diversion.

The original objective of this report was to investigate how could the City recruit, train and retain volunteer recycling educators, primarily as station monitors. However, municipal best practice research identified different models of volunteer involvement at special events, as reflected in the findings and recommendations.

FINDINGS AND RECOMMENDATIONS

Data from a dozen municipalities revealed that cities invest in education teams to promote waste reduction and recycling at special events by either hiring students to do outreach or by recruiting volunteers. Except for one case, the majority of cities surveyed do not have volunteers monitor recycling stations directly; instead, they provide municipal zero waste training programs for volunteers. This training, along with outreach tools, empowers participants to later train other volunteers.

Analysis of three case studies -Live Green Toronto Volunteers, Richmond's Green Ambassadors and Portland's Master Recyclers- identified two success factors for recycling education programs: 1) volunteer training is funded and facilitated by the municipality and 2) in exchange for training, volunteers provide a number of public outreach hours required for program completion.

This report recommends the City develop a 'Zero Waste Educator' program and provides guidelines based on municipal best practices. To further advance to waste reduction targets it is recommended the City complement a Zero Waste Education program with proactive municipal policies that encourage reduction and eco-procurement as effective strategies to prevent waste generation at the source.

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ACKNOWLEDGEMENTS

I would like to express gratitude to my mentor Ann Cooper and to Sandi Swanigan for their guidance and continuous support throughout the course of this research.

Warm thanks go to Annie Merritt, J. Lauren Norris, Emy Lai, Megan MacLean, Jennifer Wahl, Jennifer Sheel, Catherine Miller and David Nelson for great inspiration and ideas. Thanks to Dan Campbell, Peter Chi and Film and Special Events staff for their input and to Jonathan Evans for event photographs. Finally, sincere thanks to all interviewees, especially to the volunteers who shared lessons learned after hours of invaluable waste sorting experience.

ACRONYMS

A.N. Author initials.

CCVI: Canadian Code for Volunteer Involvement

CoV: City of Vancouver

CVI: Canada Volunteerism Initiative

FASE: CoV Film and Special Events Branch

FTE: Full time equivalent

GA: Green Ambassadors (City of Richmond)

GBA: Green Bin Ambassadors (City of Vancouver)

GCAP: Greenest City Action Plan

KVS: Keep Vancouver Spectacular

LGTV: Live Green Toronto Volunteers

MR: Portland Master Recyclers

PTE: Part time equivalent

RCMP: Royal Canadian Mounted Police

UBC: University of British Columbia

DEFINITIONS

Event size: for ease of comparison event sizes in this report follow the convention from a previous Greenest City Scholar Report. Small: fewer than 5,000 attendees; Medium: 10,000-25,000 attendees; Large: over 100,000 attendees.

Monitored station: a recycling station overseen by an educator who guides the public on how to sort waste and who removes improperly sorted items from bins to ensure low contamination levels of recycling and compost streams.

Recycling station: a cluster of four separate and labelled bins that usually include paper for recycling, container recycling ("refundables"), food scraps for compost or anaerobic digestion and garbage for disposal at landfill.

Unmonitored station: a waste station where only bin signage guides the public through waste sorting and no attempts to reduce contamination are made.

Waste diversion: the result of preventing solid waste from reaching the landfill. It is often expressed as the percentage of the total waste generated that is recycled or composted.

PROJECT BACKGROUND

In 2009 the City of Vancouver launched the Greenest City Initiative, a collective effort to achieve higher environmental standards by the year 2020. As part of ten milestones outlined in the Greenest City Action Plan (GCAP), one Zero Waste Goal set the target to reduce solid waste sent to the landfill or incinerator by 50% of 2008 levels¹.



Figure 1. A summer family event in Vancouver.
Photo: A.N.

Aligned with a regional legislation framework to keep recyclables and organics out of the waste stream², Vancouver has achieved a 12% waste reduction from the 2008 baseline and is expected to keep increasing its diversion rates. One of the four high-priority areas identified by the City in the GCAP is “to look for opportunities to green community events that the City runs, sponsors, and permits” (GCAP, 2011). The present research report speaks to this goal.

PURPOSE AND SCOPE

This report was prepared as part of the Greenest City Scholar Program, a partnership between the City of Vancouver and the University of British Columbia that supports graduate student research to advance the implementation of the GCAP.

Research objectives: 1) Investigate best practices employed by other municipalities to engage volunteers as recycling educators at special events. 2) Provide analysis and recommendations that could be used by the City to create and maintain volunteer resources and to promote waste diversion.

Limitations of the study. Although event *greening* refers to a quite comprehensive approach (promoting among other things, active transportation, energy efficiency, water conservation, eco-procurement and waste reduction), research for this project, delimited as part of the Zero Waste Goal of the GCAP, focused mainly on volunteerism to support waste *reduction* at special events.

¹ 2008 Baseline: 480,000 tons. 2012 levels: 424,000 tons (GCAP 2013 Implementation Update)

² BC Extended Producer Responsibility Program (EPR) and Metro Vancouver’s 2015 organic disposal ban (Metro Vancouver, 2012)

UNDERSTANDING EVENT WASTE

Events represent an outstanding waste diversion opportunity, especially when food vendors are present. To visualize this, it helps to imagine a 40,000 athlete marathon where each participant could discard a banana peel or energy drink bottle; or a festival where a 100,000 attendees could choose to buy meals or snacks from dozens of food vendors³.



Figure 2. Special events offer a live opportunity to communicate commitment to sustainability. Photo: courtesy of J. Evans, 2013.

Over 1,050 events of different types were authorized in Vancouver in 2013 (Cooper, 2014). An estimated 45% of these events are processed through the Vancouver Board of Parks and Recreation (hereafter, Parks Board) for locations in and around parks, while 55% are processed through the Film and Special Events Branch (hereafter, FASE) for all other public locations.

Due to their high profile nature special events present an opportunity to increase public awareness of waste footprint and to promote environmental stewardship. Well-planned public events even have the potential to introduce new forms of behavior (A Greener Festival, 2013) and to leave behind a positive legacy in the hosting community (Sustainable United Nations, 2012).

Producing zero waste events is increasingly becoming a standard expectation (Donaldson, 2014), one that in practice requires coordinating efforts of all stakeholders involved (see Figure 3).

³ Experts estimate 61.5 grams of waste are produced per person per hour at events (Gordon 2013). The 2014 Vancouver Food Cart Festival allows for a local calculation: 769 kilos of solid waste were produced in 5 hours during the first day. Assuming same attendance as last year (~5000 people), 30 grams of waste were produced per person per hour. 92% of the waste was recycled as a result of a partnership between two event recycling providers funded by VanCity (VanCity Buzz 2014; Green Chair Recycling, 2014)

Through its Green Event Program, the City has implemented a series of tools that aim to embed sustainability in event planning. As part of the permit application process, organizers are offered a Green Event Guide and are asked to fill out a Green Event Form that encourages the provision of a detailed waste management plan.

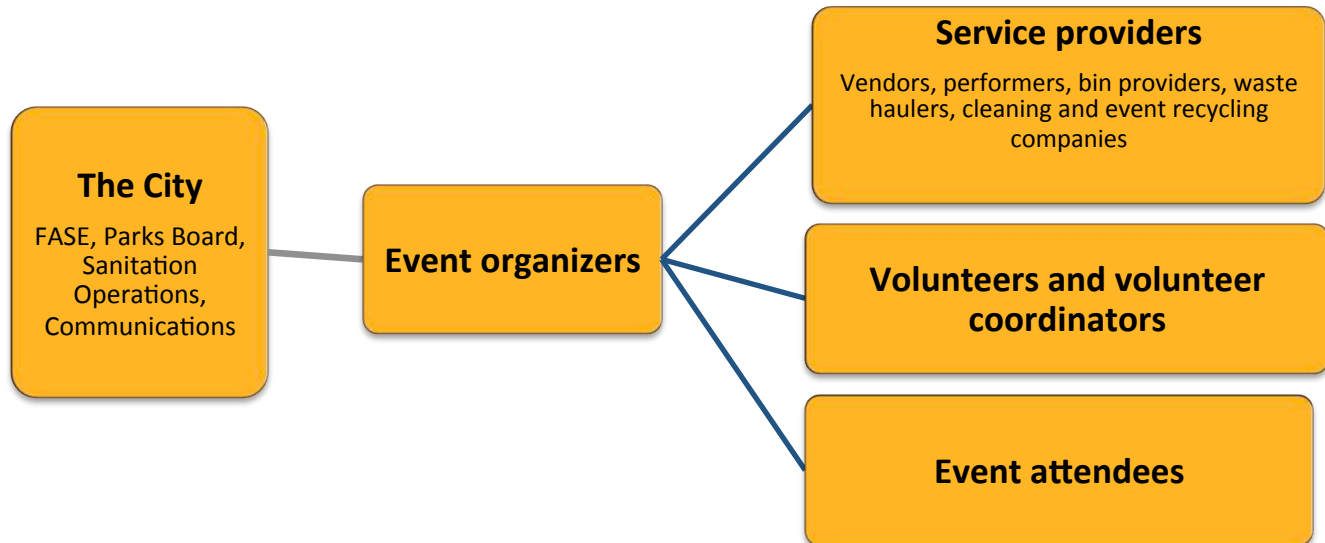


Figure 3. Stakeholders invested in waste reduction at special events

The City incentivizes composting and recycling through its bin rental pricing structure; as of August 2014, bins for food scraps, containers recycling and paper recycling are offered for rent at \$10 each, whereas garbage bins are offered at \$15. Event organizers trying to minimize costs will preferentially request recycling and compost containers; yet, for this strategy to increase waste diversion, a key factor must be controlled: the contamination level of recyclable and organic streams.

SCHOLAR RESEARCH SUGGESTS A STRATEGY

Contaminated recycling and organic streams are operational obstacles for waste diversion. In City-serviced events, bags are visually inspected by Sanitation Operations staff to estimate the proportion of improperly sorted items (i.e. plastics in organics stream or food scraps in recyclable streams); if the proportion of contaminants is above the limits accepted by local processing facilities (under 5% contamination)⁴, bags are disposed at the landfill (Campbell, 2014).

⁴ Formal accepted contamination levels are 5% for containers and mixed paper streams and 2.5% for organics (Metro Vancouver, 2012). See Merritt (2013) for informal contamination levels.

A pilot study conducted in 2013 by Greenest City Scholar Annie Merritt, identified factors affecting contamination levels of different waste streams. Event size⁵, presence of food vendors, absence of space enclosure and subjective norms of event attendees were generally associated with higher contamination levels (Merritt, 2013).



Figure 4. A volunteer monitors recycling stations during a summer event. Photo: A. Merritt, 2013.

Most notably, the study showed that the traditional approach of placing stand-alone bins labeled for different waste streams (hereafter, unmonitored waste stations) was insufficient to keep contamination at levels accepted by local processing facilities⁶. The presence of recycling educators guiding the public at recycling stations (hereafter, *monitored stations*) was found to reduce contamination levels increasing waste diversion (Merritt 2013; see also Gagnon, 2011).

EVENT STAKEHOLDER WORKSHOP

In November 2013 the City organized a stakeholder workshop where the results from the Greenest City Scholar pilot were presented to the event community. A group of 75 coordinators representing events of different sizes and types discussed the challenges and enablers to greening events, allowing the City to prioritize potential incentives and obtain feedback on the 2013 Green Event Form and Guide. Many event organizers suggested the City should focus resources on access to equipment, volunteers, training and education. Results in this direction would benefit small event organizers in particular, whose ability to hire the services of recycling companies is often limited by tight financial constraints.

The next section reviews challenges and opportunities for the City in its way to generate a pool of volunteer recycling educators.

⁵ Small < 5,000 ; Medium=10,000-25,000 and Large> 100,000 attendees. (see definitions on page 4).

⁶ 85% of bags from unmonitored recycling and compost bins had contamination levels above accepted limits, as opposed to 52% of bags from monitored recycling station. For the effects of event size, food vendors, bin location, pickup requirements by Sanitation Operations and other factors, see Merritt (2013).

SECTION I. BUILDING VOLUNTEERISM CAPACITY

One way for the City to enhance its volunteerism support is to start by mapping existing assets and available resources. A thorough review of volunteer programs at the City was not within the research scope of this report, but results from a brief overview are summarized in this section.

WHERE DOES THE CITY STAND NOW?

Volunteer management expertise. Coordinators of volunteer-delivered programs at the City represent a wealth of volunteer management experience within staff (a list of coordinators of volunteer programs ranging from street gardening to emergency response services is included in Appendix A2) . These existing skills and expertise are assets to capitalize on when striking advisory committees and when developing new volunteer programs. Particularly relevant lessons can be drawn from the City's Green Bin Ambassador program, which, although not voluntary, had a mission akin to that of potential Recycling Educators (see Appendix A10.2 for details on program facilitation and results).



Figure 5. A group of Keep Vancouver Spectacular volunteers. Photo: CoV website, 2014.

Volunteer recruitment and screening.

Currently, volunteer programs are advertised through the City website⁷, but an integrated volunteer recruitment platform is not yet available for residents searching for volunteer opportunities (CoV, 2014c). Instead, each program coordinator recruits and manages volunteers independently. There appears to be a need for increased presence of volunteer opportunities in the City website and a need for a unified strategy to avoid fragmentation and duplication of recruitment efforts.

⁷ The City website includes links to volunteer opportunities at Community Centres and Associations and to govolunteer.ca, a provincial volunteer platform operated by Vantage Point in partnership with Volunteer Alberta. Although the site allows filtering of event-related opportunities, very few opportunities from the 2014 season were observed there.

Upcoming platform changes and policy updates. The City is updating its volunteer policy and advancing on the establishment of an integrated volunteer system (Wong, 2014; Heaney, 2014). The initiative was approved by City Council earlier this year and is coordinated as part of the portfolio of a Project Manager. It will allow City of Vancouver volunteer programs and volunteers to be tracked through a single platform (Nelson, 2014). A systematic recruitment and management protocol is expected to translate into increased recruitment and retention of volunteers.

IS IT ADVISABLE TO EXPAND AN EXISTING PROGRAM?

At first sight, the mission of a program already facilitated by the City could appear to overlap with that of a potential Recycling Educator program. Keep Vancouver Spectacular programs (KVS) engage residents and businesses in block clean-ups, graffiti removal and public space stewardship. Operationally, the City plays a coordinating role providing necessary supplies while volunteer Block Captains recruit volunteers to carry out cleaning activities (Wong, 2014).

However, there exists a clear distinction between the mission of KVS, whose volunteers collect garbage to maintain clean streets, and that of a Zero Waste Education program volunteers who would teach others how to *prevent* and divert waste. Trained Zero Waste Educators would have capacity to work in coordination with event stakeholders and to answer questions from the public. For those purposes, educators require training that ensures a good understanding of local waste management systems and that builds up their public outreach skills.

Given fundamental differences in mission and scope with existing programs, it is necessary the City develop a new program that recruits and trains Zero Waste Educators.

MUNICIPAL BEST PRACTICE RESEARCH

Research revealed that while virtually all municipalities have some form of sustainability-oriented volunteer program in place, there is a wide range of participation of those volunteers in special event recycling. Volunteer involvement at sorting stations ranges from not required (for municipalities that rely on signage, legislation and event greening companies) to a “hands-on” approach where the municipality directly recruits, trains and places station monitors at events. This section summarizes the main trends observed across the municipalities surveyed for this study (see Appendix A1 and A2 for methodology details).

VOLUNTEER RECRUITMENT

Designing and marketing volunteer opportunities. An increasing number of organizations regard volunteer commitment as a mutually beneficial arrangement instead of a one-way sacrifice of time by the volunteer (Volunteer Alberta, 2011). It is common practice for Municipalities to design roles that align with volunteer’s interests and that build up their skills. Many municipalities are posting volunteer job descriptions outlining the position’s minimum requirements, responsibilities and benefits.

A clear volunteer job description is essential to align expectations from both volunteers and the city. This is particularly pertinent for tailored programs (such as City of Richmond’s Green Ambassadors) targeting students, who, due to provincial guidelines must report to their schools the duties performed, connections between the experience and employability/life skills, and the benefit to the community and to the student (BC Program Guide for Graduation Transitions, 2008).

The majority of volunteer opportunities are communicated through updated city websites that are linked to volunteer management platforms (such as the popular *Better Impact*, formerly *Volunteer Squared*) and through volunteers who staff city booths at community events.

The cities of Surrey, Richmond and Toronto also advertise volunteer opportunities through municipal Facebook pages. Indeed, the use of social media to promote volunteerism is expected to increase in the future (Nelson, 2013). For now, most interviewed volunteers identified web searches (Google) and “word of mouth” as the preferred method to find volunteer opportunities.



Figure 6. The District of North Vancouver advertises volunteer opportunities at community events. Photo: A.N.

Volunteer application and screening. One city in particular stood out during a municipal scan due to its successful volunteer recruitment rates⁸ and its thorough resource management protocols. The City of Surrey managed to reverse the traditional trend of volunteer under-recruitment (where available opportunities exceed the number of applicants). Therefore, their approach is described here in detail. To register as a volunteer in Surrey, potential candidates are required to create an online volunteer profile and are encouraged to attend free information sessions (City of Surrey, 2014). Successive screening steps depend on the expected level of interaction with the community:

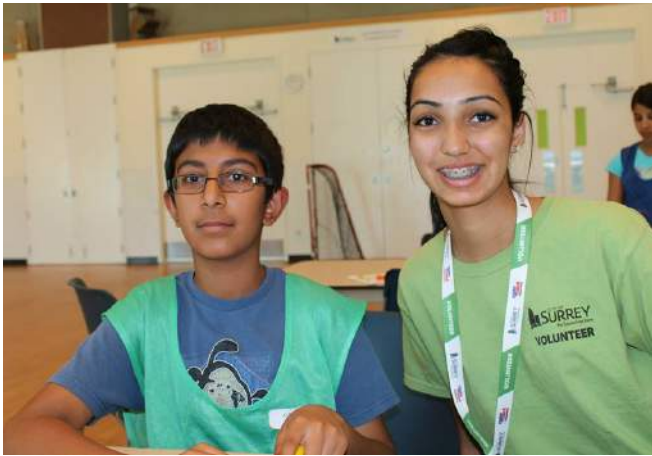


Figure 7. A level 2-role volunteer. Photo: Surrey's Volunteer Program Facebook page.

references and a criminal record check. Volunteers take record check forms to the police (RCMP offices) where they can take up to 3 weeks to process. The city absorbs the costs of this process. Finally, applicants use the online system to schedule a mandatory one-on-one interview.

- **Level 1 Role Volunteers** engage in activities that do not require interaction with vulnerable sectors of the population (e.g. graffiti removal, clean-ups, etc.). These volunteers do not wear the city logo. To apply, candidates are required to register in the city's volunteer management system and attend an information session.

- **Level 2 Role Volunteers** do interact with the general public and wear the city logo. Applications

for these roles are thoroughly screened: once candidates save their online profile, they receive an email with attached forms to provide two written

references and a criminal record check. Volunteers take record check forms to the police (RCMP offices) where they can take up to 3 weeks to process. The city absorbs the costs of this process. Finally, applicants use the online system to schedule a mandatory one-on-one

interview.

VOLUNTEER MANAGEMENT

Volunteer placement and banning. In Surrey, once an applicant's profile, interests and skills are evaluated, city staff members contact volunteers to discuss their eligibility. Volunteer management software allows for customized visibility of available opportunities depending on the candidate's status: shifts appear as 'Available' only for candidates whose applications were accepted. Volunteer opportunities are not visible to applicants who were not deemed eligible or, later for those who are banned from further participation due to poor performance.

From a volunteer perspective, a centralized platform simplifies and streamlines the application process: users can employ the same login details to join multiple volunteer opportunity areas.

⁸ The City registered a 234% increase in volunteering from 2009 to 2012 (City of Surrey, 2013)

Staff access to volunteer database. Most municipalities currently use purchased web-based volunteer management systems that can be used by multiple operational units. The number of staff dedicating 100% of their portfolios to volunteer management varies from 2-3 in most cities to 8 in the case of Surrey where 170 staff engage volunteers in some capacity (Monk, 2014). Volunteer databases are generally transferable across city programs. In Surrey and Richmond police checks and volunteer performance notes are also transferrable between City departments.

Risk Management Given that municipalities without a formal volunteer management program are vulnerable to potential litigation, most cities offer insurance coverage for volunteer participation in certain roles. This is especially relevant for waste management tasks that may require heavy lifting or some degree of physical labour. Municipalities also ensure recycling station monitors are provided with supplies that ensure visibility and safe manipulation of potentially dangerous materials.

VOLUNTEER RECOGNITION AND RETENTION

Cities actively raise volunteer profiles in the community by communicating their achievements and organizing recognition events. Some municipalities advertise diversion rates achieved as a result of station monitors' work at events.

It is common practice to recognize volunteers in writing and to provide a statement of hours completed. Some cities send acknowledgement letters or emails signed by the mayor. Volunteer coordinators are increasingly expected to provide reference letters upon request; a close relationship between coordinators and volunteers is beneficial to this end.

In addition to letters, volunteer programs use a combination of incentivization strategies such as providing bus fare and meal vouchers or offering discounted rates at municipal facilities. These and other perks are generally well received by volunteers and they are preferred over free swag (which is more wasteful).

Trained volunteers are kept engaged and updated on changes via periodic emails and newsletters. The City of Surrey acknowledges the importance of individual periodic contact for volunteer retention and accordingly, follows up on individual volunteers and incorporates their feedback as part of quality control processes.

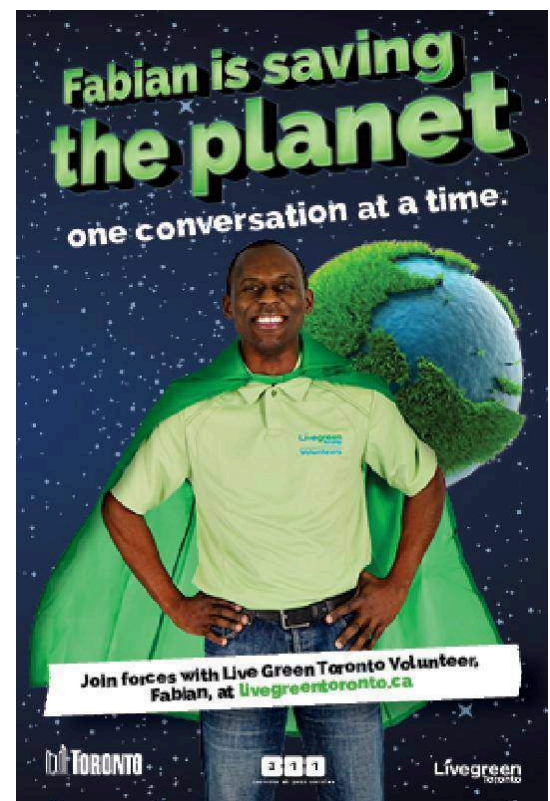


Figure 8. A Live Green Toronto Volunteer campaign highlights the value of volunteer outreach. Photo: LGT Facebook Page, 2014

VOLUNTEER TRAINING. THREE CASE STUDIES

Figure 9. Live Green Toronto evening training session. Photo: City of Toronto website, 2014.



Figure 10. Richmond Green Ambassadors brief incoming volunteers during shift change at Steveston Farmers Market. Photo: A. N. 2014.

Figure 11. Portland Master Recyclers learn from industry leaders during a tour to a glass recycling facility. Photo: K. Bryan. MR Class 35. May 2014 Newsletter



I. LIVE GREEN TORONTO VOLUNTEERS (LGTV)

Administration	Environment and Energy Office. City of Toronto.
Overview	A general sustainability education and outreach program for residents that supports multiple green goals of the City of Toronto.
Description	LGTV complete 20 hours of training on various sustainability topics and are required to complete 40 hours of community outreach activities before receiving a graduation certificate from the program.
Volunteer Involvement at Special Events	LGTV staff booths and provide environmental education to citizens at special events, however they do not sort or haul waste directly. LGTV are in capacity to train volunteers provided by other community groups and answer questions from the public (MacLean, 2014). Training sessions are used to train volunteers for upcoming events. Volunteers sign up to “take outreach shifts” and are required to attend at least one training session before conducting outreach activities.
Origins and Funding	<p>1996-2002: A series of pilot training programs called “Waste Watchers” were created as a means to help the City of Toronto achieve its 60% waste diversion target by 2006 (City of Toronto, 2001). The Emergency Services Department trained 27 volunteers on how to reduce, reuse and recycle. Waste Watchers delivered interactive presentations primarily at schools, community centers, apartment recycling projects and environmental fairs (City of Toronto, 1990).</p> <p>2002-2008: The City of Toronto realized there was interest in the community to learn about a broader range of sustainability topics, and consequently expanded the program. In 2003 a \$50,000 Toronto Atmospheric Fund Grant funded the Toronto Environmental Volunteers program (Toronto Environment and Energy, 2014).</p> <p>2008-present: the program was rebranded and incorporated as part of Live Green Toronto, an initiative that encourages sustainability in businesses, neighbourhoods, schools and homes. Annual funding (approximately \$30,000) comes from the Environment and Energy Office with partial revenue from sponsorship (Chow, 2014).</p>
Staffing	A total of 6 FTE Staff coordinate the Live Green Toronto Program, including a volunteer coordinator and a special event coordinator.
Success indicators	The Waste Watcher Volunteer Program was recognized by Environment Canada for its promotion of healthy communities and environmental citizens. In 1997 received the Outstanding Waste Minimization Promotion Award from the Recycling Council of Ontario.
Contact persons	<p>Megan MacLean. LGT volunteer coordinator. Email: mmaclea3@toronto.ca</p> <p>Jessica Chow. LGT Special Events; Email: jchow3@toronto.ca</p> <p>Fiona Lucas. Volunteer Management Cultural Events. Email: spevol@toronto.ca</p>

II. RICHMOND GREEN AMBASSADORS (RGA)

Administration	Environmental Programs Department. City of Richmond
Overview	A youth-oriented outreach program implemented in partnership with the Richmond School District
Description	Grade 10-12 students, who are required to complete a minimum of 30 hours of work experience or community service (BC Program Guide for Graduation Transitions, 2008) are trained in sustainability topics and provided an opportunity to fulfill community service requirements at special events ⁹ . This targeted program usually recruits students who are already part of school's Green Teams.
Volunteer Involvement at Special Events	<p>Before the event: During monthly planning meetings RGAs are presented with all the tasks involved in event planning and greening (including Vendors and Exhibitors, activity groups and volunteer coordination). RGAs tackle special events as group projects and are encouraged to take on responsibility for specific tasks, thus promoting ownership. With time, experienced RGAs take on Supervisor roles. They run the volunteer orientation sessions, help with volunteer sign up at the Volunteer platform.</p> <p>On event day: RGAs actively participate on the set up of waste stations; they monitor contamination levels throughout the day and educate the public on waste sorting. Supervisors coordinate volunteer shifts, ensure volunteers receive their lunch vouchers (volunteers can then exchange them for a 5-7\$ meal) and towards the end of the event, RGAs ensure organics and mixed container bins (the two streams most vulnerable to contamination) are picked up first.</p> <div data-bbox="1068 846 1523 1108"> <p><i>"The secret to success? Empower your volunteers and keep them busy".</i> - Emy Lai. Richmond GAs coordinator</p> </div>
Origins and Funding	RGA program is funded as part of the City of Richmond's Community Outreach budget (further funding details were unavailable). Additional funds are provided for the organization of the Richmond Earth Day Youth Summit (REaDY), organized by RGAs together with City of Richmond, Richmond School District and the David Suzuki Foundation.
Staffing	Program coordinated by one from City of Richmond staff member (in addition to School District staff).
Success indicators	RGAs have helped achieve high diversion rates at many special events: in 2013, they diverted 83% of waste at Ships to Shore Steveston, 76% at Steveston Salmon Fest and 86% at Richmond Maritime Festival (SWANA, 2014).
Contact person	Emy Lai. Green Ambassador and Environmental Program Coordinator. Email: elai@richmond.ca

⁹ Due to ongoing labour dispute no further details on community service requirements were available from School Board office.

III. PORTLAND MASTER RECYCLERS (MR)

Administration	Bureau of Planning and Sustainability. City of Portland.
Overview	A paid waste-reduction training and community outreach program.
Description	Participants pay \$50 to enrol in a City-certified training program. Eight weekly classes include presentations by professionals and industry leaders in waste reduction, public outreach and project development, complemented with two field trips to waste management facilities. To receive their certificate students must put skills at work during 30 hours of community outreach. As part of the latter, Master Recyclers often get involved in the design and implementation of a waste reduction plan for special events.
Volunteer Involvement at Special Events	<p>Before the event:</p> <ul style="list-style-type: none"> • The City encourages event organizers to invite a MR to help them create and implement a waste reduction plan. • MRs work in coordination with organizers and waste haulers to estimate the required number and location of recycling stations. • MRs meet with vendors in advance to guide them through sustainable packaging options, minimize free samples handed out and link their procurement decisions with local waste management options. • Most importantly, MRs train vendors on how to compost food scraps and recycle during the event (Master Recyclers, 2012). <p>On event day: MRs staff tents at community events. In Metro Portland, they don't monitor recycling stations but train and supervise volunteers provided by a range of civic organizations. They ensure volunteers understand waste sorting, hauling and recycling for effective station monitoring.</p>
Origins and Funding	<p>In 1991, Recycling Advocates, a Portland non-profit, adapted Seattle's Master Composter program to fit the local context. They secured a grant from the local regional government to hire a staff person. The program (originally part of Oregon State University) is funded \$40,000 by the Regional government, \$40,000 by the City of Portland, and \$5,000 by both Clackamas and Washington Counties and \$4,400 by class fees. (Master Recycler Program, 2014)</p> <div> <p>" I am currently conducting class 48. There has been a waiting list for the past 5 years". <i>J. Lauren Norris.</i> <i>MR coordinator</i></p> </div>
Staffing	One Coordinator (0.50 FTE) and one Assistant (0.25 FTE) for a total 0.75 FTE
Success indicators	Association of Oregon Recyclers Award (2007). Over 1350 MRs have graduated from the program. In 2013, MRs contributed 3309 hours of community outreach (exceeding the 900 hours required for graduation). The MR program has been adapted to fit the context of other US municipalities.
Contact person	J. Lauren Norris. Master Recycler Program Coordinator. Email: masterrecycler@portlandoregon.gov

A TALE OF TWO APPROACHES: *TEACH THE TEACHER* VERSUS DIRECT PLACEMENT

Both Live Green Toronto and Portland Master Recycler¹⁰ programs follow what is known as a *teach the teacher approach*: instead of directly providing volunteers to monitor recycling stations, cities empower educators who later train others (e.g. volunteer civic groups) on how to prevent waste at events and in other contexts.

In contrast, Richmond Green Ambassadors' program opts for directly recruiting, training and placing volunteer station monitors. A substantial benefit of this "hand-on" approach is that it allows the city to directly provide a solution that is independent of external volunteer availability, and that capitalizes on an existing demand for volunteer opportunities (fuelled by students community service graduation requirements). However, the approach entails developing a program tailored to a target young audience with high turnover rates which entails additional challenges (outlined in following sections) and comes at the expense of excluding non-student sectors from participating in these volunteer corps¹¹.

PARTICIPATION



Figure 12. A total of 24 People completed Portland Master Recycler's class in winter 2014. Photo: Master Recycler Annual Report 2013-2014.

Volunteer programs in general can face a risk of unsteady participation. The three case studies presented here overcome this challenge by incorporating a *fixed outreach component* that secures a degree of commitment from volunteers. In exchange for subsidized training, participants are required to volunteer during a fixed number of outreach hours (see Appendix A4 for details). The benefits of this requirement are twofold: it ensures

continuous participation in the program and it creates opportunities for volunteers to put newly acquired skills to work while gaining real-life experience.

Training programs like these address the "lack of recycling expertise" barrier identified by the event organizer community in Vancouver. An advantage to Toronto and Richmond's programs that do not restrict training to waste reduction is that LGTVs and RGAs engage in general

¹⁰ Master Recyclers from other Portland municipalities do monitor waste stations during community events (Lauren, 2014)

¹¹ 45% of the most dedicated volunteers (contributing 73% of annual volunteer hours in Canada) are aged 35-54. (McClintock, 2004).

sustainability activities. However providing in-depth waste reduction training may be preferable to superficial training for both volunteers and the City in the long term. Benefits of a flexible approach with drop-in sessions (see Appendix A5) should be balanced with a potential reduced number of participants completing all requirements for graduation (MacLean, 2014) which, among other things, complicates estimates of program success metrics.

MANAGING EXISTING DEMAND FOR VOLUNTEER OPPORTUNITIES

Secondary school students represent a vast and constant source of volunteerism potential, but managing their requirements for community involvement can become a challenge if city staff becomes (as can be expected) overwhelmed by student applications.

Sufficient staff resources and a customizable volunteer management program are a necessary pre-condition for the City to respond to student demand for volunteer opportunities. While the Province establishes graduation requirements, it is up to boards of education and independent school authorities to determine how students fulfill those requirements. In practice, this may mean that each school establishes its own process and might need to be contacted separately (Lazar, 2014) requiring a collaborative relationship between the City, school boards and individual schools.

"The City of Surrey receives 20-50 volunteer applications per week. Popular shifts can be claimed within 30 minutes of being posted".
-J. Monk.

To ensure enough quality outreach opportunities are available for students to complete program requirements, a good proportion of a Coordinator's time is spent building relationships with community partners, keeping record of achievements and advertising them accordingly.

PROGRAM FUNDING AND EVOLUTION

Programs usually start as pilots facilitated either completely by the municipality or through dynamic collaborations with non-profits and education institutions. In all cases, although funding is complemented by various revenue sources, cities absorb the majority of program costs.

In case of Portland, the registration fee¹² covers only 5% of program costs. Instead of a revenue-generating mechanism this fee can be regarded as a way to add value to the subsidized training provided, to incentivize program completion and to filter out candidates with unsteady commitment. The seemingly counterintuitive strategy has proven successful, as evidenced by the weighted lottery needed to select candidates during the application process. A Master Recycler certificate is valued as a career-building tool that can open job opportunities.

These municipal training programs have been expanding for many years and continue to grow in in scope, budget and participation, evidencing an urban appetite for meaningful community involvement. If the City decided to start an equivalent program in Vancouver, a similar evolution process is to be reasonably expected.

¹² Scholarships are available for students who require financial support.

A ZERO WASTE EDUCATION PROGRAM FOR VANCOUVER

Volunteer interviews revealed an existing demand for local volunteer opportunities that the City could capitalize on. In terms of demographics, enthusiast volunteerism is not restricted to the young student sector. Throughout the course of the project, the researcher encountered recent graduates, English as second language students, recent immigrants, stay-at-home moms, elderly citizens, job applicants (e.g. Early Childhood Educators, Vancouver Police Department positions, etc.) and even entire families that report to look for opportunities to back to their communities, fulfill community service requirements, gain experience and meet people.

BENEFITS FOR THE CITY EXCEED THE SPECIAL EVENT SPHERE



Figure 13. Conservative estimates of the value of public outreach for the City. (1) Data from Portland's Master Recyclers. See Appendix A6 for budget details; (2) See Appendix A10 for GBAs program details.

Outreach contributions increase the expanded value of volunteer programs: what volunteers learn permeates to their schools, work places and homes encouraging waste prevention in non event- sectors (commercial and residential). Volunteer coordinators report many volunteers continue contributing hours long after program graduation requirements are met¹³. By involving citizens directly in serving community needs, Zero Waste Education programs strengthen communities and indirectly support other GCAP goals (Lighter Footprint and Climate Leadership).

MONETARY AND NON-MONETARY SUPPORT

The development of a Zero Waste Educator¹⁴ program will require tangible resources: funding for a volunteer manager position and implementation of a system for volunteer recruitment, training and recognition (see Appendix A6 for reference budget). The program will also require non-monetary support in the form of an approved City of Vancouver Volunteer Policy and review by an internal Volunteer Advisory Committee (Alberta Municipal Toolkit, 2011). Steps in this direction may be already underway in the City. The City could follow the approach of the three case studies, where training is administered, funded and supported by the municipality.

¹³ City of Richmond estimated in 2005 volunteers contributed 46,476 hrs at special events. At \$8/hr. rate this is a \$371,808 value.

¹⁴ The hypothetical name Zero Waste Educator is meant to reflect a focus on reduction, instead of recycling.

RECOMMENDED GUIDELINES FOR BUILDING VOLUNTEERISM CAPACITY

1. **Develop a City-wide Plan to enhance volunteer engagement.** The City would benefit from establishing a volunteer management policy with consistent standards for volunteer recruitment, management and retention across City departments. Enabling public access to the volunteer strategy would be beneficial to encourage best practices, to show recognition of the value of volunteer work and to raise the profile of volunteers.
2. **Adopt the Canadian Code for Volunteer Involvement.** These 14 standards act as a road map for volunteer resource management. The City could make use of Volunteer Canada's Audit Tool to assess existing weaknesses and strengths prior to program development.
3. **Implement a comprehensive volunteer-management system.** The City can take better advantage of the capabilities of existing volunteer management software. This report recommends expanding the system in use (Volunteer Square) to automate elements such as: a) Offering consistent views of all volunteer opportunities b) Customized posting of volunteer job descriptions by different departments; c) Screening and placement tools to match candidates with opportunities c) Staff volunteer database access; d) Hour tracking and shift sign-ups; e) Periodic communications to keep volunteers updated and engaged; f) Requiring volunteer feedback and ensure follow up contact with active members; g) Tracking data on annual volunteer contribution and retention.
4. **Create a volunteer coordinator position.** This person would articulate strategies and harmonize standards of volunteer programs across City departments (including special events). The City would gain from adopting an approach similar to the City of Surrey's where multiple full time equivalents are dedicated to volunteer management. It is highly recommended to offer Professional Development Options for staff and encourage participation in conferences like CAVR (Canadian Administrators of Volunteer Resources) or AVA (Association for Volunteer Administrators).



Figure 14. A second year volunteer from the Vancouver Folk Music Festival prepares compostable packaging for collection after the event. Photo: A. N.

5. **Develop and implement a Zero Waste Education program.** Objectives are: to train volunteers on waste reduction and to develop communication and leadership skills that empower them for community outreach. The greatest impact would come from incorporating volunteer screening, recruitment, screening and management elements from the City of Surrey and key training elements from Green Live Toronto, Richmond Green Ambassadors and Portland's Master Recycler programs (see Recommendation 6). It is recommended the program has a logo, curriculum and website and that a strategic marketing campaign is launched to recruit the first cohort of volunteers. Program value and participation can be enhanced by requiring an enrolment fee, or a deposit refundable upon program completion.



Figure 15. B. Roberts, a Green Ambassador Leader with 3 years of experience in the program engages vendors, coordinates volunteer shifts, collects parental consent forms and prepares complimentary meal vouchers for other RGAs volunteers. Photo: A. N.

6. **Include a required outreach component as part of volunteer training.** This element is key to generate a pool of volunteers avid for opportunities. Waste reduction planning, vendor engagement and monitoring contamination levels of compost streams at special events would be only a few of multiple outreach opportunities for Zero Waste Educators. It is recommended to include implementing waste diversion systems in their own communities outside of special events as accepted outreach opportunities.

7. **Establish partnerships with community groups for the facilitation of a Zero Waste Education program.**

Knowledgeable non-profits and social enterprises can extend the reach of a City-supported program. The City could approach organizations with established volunteer bases and outreach experience and foster a synergy to share processes, tools and volunteers. A list of local groups with relevant expertise can be found in Appendices A8 and A9.

8. **Update City website and 311 Call Centre staff with a complete list of volunteer opportunities.** Access to a comprehensive list of available volunteer "shifts" would help increase volunteer recruitment.
9. **Develop a social media strategy to promote volunteer opportunities.** The City could consider the use of Facebook, Twitter and Google ads to increase its online presence and enhance volunteer recruitment.

SECTION II. REDUCING EVENT WASTE

Through observations at public events this season (listed in Appendix A3) and conversations with staff and volunteers it was possible to identify roadblocks faced by the CoV and other municipalities on their way to minimize event waste.

WASTE DIVERSION CHALLENGES AT EVENTS

1. **Accommodating the needs of events that range in size, budgets and levels of production expertise.** Vancouver is well served by event recycling companies that provide great solutions for medium and large events, but that often exceed the budgets of grassroots community events. Organizers of those small events look to the City for support with volunteer provision and training.

2. **Disconnection between waste diversion planning and execution.** An annual music festival that gathered over a 100,000 people, serves to illustrate this challenge. Event organizers submitted a thorough waste management plan creating high expectations for waste diversion. Unfortunately, expectations were not met in practice this year¹⁵: a visual inspection revealed inadequate provision of recycling stations, together with a lack of volunteer training confirmed by interviews. Extremely contaminated waste streams (see Figure 17) resulted in the disposal of the majority of event waste in the landfill (final diversion figures not available at time of submission).



Figure 16. A mix of recyclable, compostable and waste materials over flows garbage bins in the food area of a summer festival in Vancouver. Photo: A. N.

3. **A record of total event waste is not readily available.** The first step to reduce waste at special events is to document it. Without feedback from haulers and a record of waste production, no sanctioning or incentivization mechanism could be implemented.

¹⁵ Organizers followed all steps required for a large event: they used the Green Event Guide and Form, they discussed their waste management plan with City staff members, they recruited volunteers to monitor some stations and they hired cleaning and hauling companies.

4. **Variation in materials accepted for recycling combined with ineffective signage generates confusion in the public.** Waste collection systems (residential versus commercial), recycling companies, waste haulers and processing facilities differ in the materials they accept for recycling and compost. Without guidance to make educated waste sorting decisions, contamination of event waste increases, reducing waste diversion¹⁶.



Figure 17. Training vendors can substantially increase diversion of pre-consumer waste at special events. Photo: A.N.

5. **Event vendors lack recycling and composting training.** Without training, food vendors, with significant time constraints at times of peak attendance, tend to dispose of their food preparation waste in unsorted bags that often end up in the landfill. Vendor waste can add up to 90% of the total waste produced at events and when not properly sorted it can undermine volunteer effort diverting audience waste (Gagnon, 2011; Casley, 2014)
6. **The presence of untrained volunteers results in contaminated recycling streams.** This premise holds regardless of variation in event size, budget or production expertise and highlights the importance of a training program. Volunteer support is in high demand and it is not always available on short notice. Event organizers (often inexperienced on waste management themselves) tend to brief volunteers for a few minutes on event day, but this alone rarely increases diversion rates. In practice, a disengaged volunteer has the same effect on contamination as the absence of volunteers.

¹⁶ Two examples illustrate this: a) Coffee cups are frequent contaminants of paper recycling streams at special events (their internal plastic lining does not allow for regular paper recycling). In May 2014, Multi Material BC included them in a list of acceptable items for curbside recycling in some locations. They can only be recycled when they are segregated from non-coated paper. b) Event attendees often dispose of food-soiled paper (napkins and plates) in paper-recycling bins, when in practice they are compostable. High contamination rates of paper streams with organics should be expected unless a distinction between “clean” and “food soiled” paper is evident in signage and through recycling educators’ guidance.

LIMITATIONS OF THE 'VOLUNTEER MODEL'¹⁷

Limitation	Description	Alternatives to overcome it
Dependence on volunteer availability.	To achieve high diversion rates at events, all recycling stations should be monitored. This means a minimum number of volunteers are required for success ¹⁸ , however a "no show" risk is always present on the day of the event and increases when volunteers are not previously trained. In Surrey, the presence of monitors at recycling stations is no longer required after volunteers reported it as a "not meaningful role" (Monk and Yedav, 2014)	<ul style="list-style-type: none"> ✓ Thorough volunteer engagement and training (project ownership) ✓ Clear job descriptions ✓ Outreach hours tracking system ✓ Acknowledgement and incentives
Event size can exceed volunteer capacity	To avoid abusing the volunteer nature of Recycling Educators, it is recommended their involvement as coordinators is restricted to small events of maximum one day duration ¹⁹ . Compensating insufficient provision of volunteers by demanding extra time from the few present volunteers is detrimental for volunteer retention.	<ul style="list-style-type: none"> ✓ For Medium to Large events organizers should hire volunteer coordinators and paid staff (Norris, 2014). ✓ Keep reasonable expectations and ensure fair duration of volunteer shifts and break times.
Monitoring contamination levels in stations is only one part of the work.	Calculating and setting up recycling stations, pulling and hauling bags and sorting bags are jobs expected from "waste teams" at events. There is room for debate on whether it is beneficial from a risk management perspective to expect volunteers to perform all of these tasks. The City of Toronto for example, acknowledging volunteers are not covered by an insurance policy, does not allow LGTV to engage in activities that involve heavy lifting (Chow, 2014)	<ul style="list-style-type: none"> ✓ Ensure volunteers are covered by a risk management plan ✓ Provide required supplies and safety training for full range of responsibilities.
Contamination removal is an end of pipe solution	With or without volunteers, removing contaminants is more resource and time-consuming than preventing them in the first place.	<ul style="list-style-type: none"> ✓ Adopt proactive policy approach ✓ Promote sustainable consumption among all stakeholders. ✓ Discourage single use non-recyclable items (particularly Styrofoam) and non-certified compostable packaging.

¹⁷ "Volunteer model" refers to transferring the responsibility of contamination levels to volunteer station monitors alone.

¹⁸ For best results and better volunteer experience it is advisable to always place two educators per recycling station.

¹⁹ In Portland, Master Recycler's participation is encouraged for events smaller than 6000 attendees.

FORWARD THINKING

This section reviews the strategies of a city considered a benchmark in municipal waste management: San Francisco, California, famous for its 78% waste diversion rate²⁰ (Climate Leadership Awards, 2014; Ferry, 2011). The city has moved forward to waste prevention from the source. Although research presented here focuses mostly on San Francisco, the City of Seattle, Washington follows a similar approach that has proven successful over the years²¹.

ECO-PROCUREMENT POLICY



Figure 18. Food service packaging guidelines. Photo: San Francisco Environment website

Staff from San Francisco's Environment Department attribute a big part of the city's success to municipal and state legislation that set the stage for waste reduction practices (Kielty, 2014). The effectiveness of green event tools is maximized when they are complemented with incentives for compliance. These incentives are made possible by including packaging and recycling in contract language at the permit application stage.

LEGISLATION

Three ordinances summarize San Francisco's waste reduction policy²²: a Special Event Ordinance that mandates recycling and composting for all street closures²³ (San Francisco Environment, 2014a), a 2006 Food Service Waste Reduction Ordinance that mandates all food vendors and restaurants use compostable or recyclable to-go containers²⁴ (San Francisco Environment, 2006) and a new ordinance effective October 2016 that forbids the sell and distribution of bottled water at an event held outdoors on City Property, including a city street (San Francisco Environment, 2014c).

²⁰ Even considering diversion calculations in San Francisco include materials (bio solids and construction debris) commonly excluded by other cities, SF ranks highest in municipal waste reduction. (Discard Studies, 2014).

²¹ Seattle does not require the presence of volunteers at recycling stations. It relies on packaging restrictions to reduce contamination levels. The Seattle Municipal Code mandates the use of compostable packaging for food items and the provision of recycling during special events (City of Seattle, 2010). For events that achieve high diversion rates, consecutive permit applications go through a streamlined application process. An intern and a contractor check for compliance during the event (Kauffman, 2014).

²² Ordinances No 73-89, 100-09, 295-06 and Ordinance 28-14 respectively.

²³ Enacted in 1989, extended with the Mandatory Recycling and Composting Ordinance in 2009.

²⁴ The ordinance prohibits the use of Styrofoam (expanded polyethylene) in food service ware

ZERO WASTE EDUCATION

Zero Waste training is mandatory for first time event organizers and is provided in the form of free consultation and workshops facilitated by City staff (San Francisco Environment, 2014). To encourage eco-procurement the City website presents an updated list of acceptable food ware and provides guidelines for food vendors and the general public to recognize certified compostable items²⁵. To facilitate access to effective bin signage at events, the City website offers a tool that provides a template for organizers to create their own signs (City of San Francisco, 2014). To overcome the dependence on city-supported volunteer availability, the city of San Francisco refers event organizers to a rich assortment of community groups that specialize on recycling at special events (San Francisco Environment, 2014b).

COMPLIANCE

Success key
“Include recycling and compost requirements in contract language”.
- A. Kielty.
SF Environment.

To overcome a limited amount of staff hours available for verification of compliance, the city of San Francisco recurs to a monetary incentive for event organizers. Making use of a contract language that incorporates packaging and recycling requirements, the permitting office is able to ask for a refundable deposit²⁶ that can be kept by the department if the event fails to comply with recycling and composting requirements (EPA, 2008; Kielty, 2014).

Verification of compliance is possible through a fluent communication with waste haulers who report the total waste produced by each event to the City. An anonymous Non-compliance Form for Residents is also available for citizens to report events that do not abide by municipal legislation (Kielty, 2014).

²⁵ In this way SF warns the public against the false advertisement of products as recyclable or compostable, also known as green washing. Fluent communication with local composting facilities is required for this purpose.

²⁶ The City of Surrey has implemented a similar strategy with the requirement of a \$100 /day Green Fee during the 2014 Fusion Festival. Compliance (verified by a coordinator checking all pavilions) increased from 0 to 100% this year (Yedav, 2014).

ADVANCING FROM SINGLE USE-DISPOSABLE TOWARDS REUSABLE



Figure 19. “My Cup and Me”, a campaign to reduce single-use plastic cups at events in California. Photo: Santa Barbara Bowl website, 2014.

Proactive waste reduction is already taking place in England and Germany where festivals switched to reusable cups systems (Schmidt, 2014). When first ordering a drink, users pay a deposit (£2) for a specially branded cup. In subsequent rounds, empty cups are taken back to vendors and refills are served in a fresh cup for no additional charge. Cups are finally returned for a full refund on deposit or kept as souvenirs (Maung, 2013; Green Events Europe, 2013).

At the North American Organic Beer Festival, the purchase of a reusable, compostable cup is required for tasting beer (Oregon Craft Beer, 2014). Drinks at the festival are served with no lids, straws

or plastic, and volunteer “recycling czars” ensure cups end up in the compost stream (NAOBF, 2014). Another example comes from California, where concert patrons purchase reusable branded stainless

steel pints and receive \$1 off beverage purchases every time they reuse their pint including all future shows for the life of the cup (SB Bowl, 2014).

Although there is debate over the overall environmental performance of different cups systems (reusable versus single use compostable) a review of life cycle analysis studies found “*all reusable cup scenarios show lower environmental burden compared to the examined disposable cup scenarios*” (Ökologie Institut, 2008). During a special session of the Europe Green Festival, many experts recommended adhering to a reusable system (Green Events Europe, 2013).

Vancouver is making progress towards plastic reduction by making portable tap water stations available for organizers who want to produce “bottled-water free” events (CoV, 2014a). To further advance towards reduction and reuse, large festivals in the City could promote approaches like Vancouver’s Folk Festival where meals for volunteers (approximately 1500 in total) are served in reusable plates, cutting the use of disposable items from the source (Lebel, 2014). Events could also be encouraged to implement reusable cup systems similar to the one used in Vancouver Christmas Market, where patrons pay a refundable \$4 deposit for a reusable mug.

RECOMMENDED GUIDELINES TO REDUCE WASTE AT SPECIAL EVENTS

1. **Require and keep record of total waste generated.** Tracking annual waste diversion allows the City to evaluate the effectiveness of greening tools and to later incentivize organizers based on their performance. Like in other cities, waste haulers have the capacity to deliver this information.
2. **Implement a 'Green Fee' to increase compliance.** A refundable deposit would encourage organizers to comply with waste reduction regulations. The City could implement a system similar to that of the City of Surrey, where a 100\$/day Green Fee implemented for the Fusion Festival increased compliance from 0 to 100% (Yedav, 2014).
3. **Optimize the use of the Green Event Form** by making it mandatory for special events permitted through FASE. This practice, already in place for events permitted through Parks Board would allow the City to harmonize policies and procedures and incorporate waste management requirements into permit language.
4. **Promote the work of Zero Waste Educators at recycling stations.** Well-trained monitors will reduce contamination levels and educate event attendees and vendors. Their volunteer work should be publicly acknowledged and incentivized.
5. **Align sustainability goals with municipal ordinances by emphasizing eco procurement.** The City could follow the approach of the cities of Seattle and San Francisco and consider policies that keep materials that have proven difficult to recycle and compost out of the landfill. A City ordinance regulating the use of polystyrene and non-recyclable packaging for food service products would align with Canada's Extended Producer Responsibility framework that promotes product stewardship from packaging producers and distributors (Environment Canada, 2014).



Figure 20. City of Richmond bins are effectively labelled to complement monitoring efforts.
Photo: A. N.

6. **Improve bin signage.** Labelling both sides of containers with photos of accepted items removes barriers to correct waste sorting when stations are not being monitored (see Figure 21). Clearly depicting common items at events (e.g. paper plates, napkins and unfinished foods in the green bin; chip bags and soft plastics in garbage bins) helps reduce contamination of compost and recycling streams. A design similar to City of Richmond bins is recommended.
7. **Open feedback loops between City departments, local waste haulers and composting facilities.** Once a fluent feedback loop is established between the City (FASE, Parks Board, Sanitation Operations, the Sustainability and Corporate Communications groups) and end of pipe agents (recycling, compost or anaerobic digestion facilities), information on items that are not properly processed with the given infrastructure can be reported so that the City could consider discouraging (or promoting when necessary) their use among the event community the following event season.

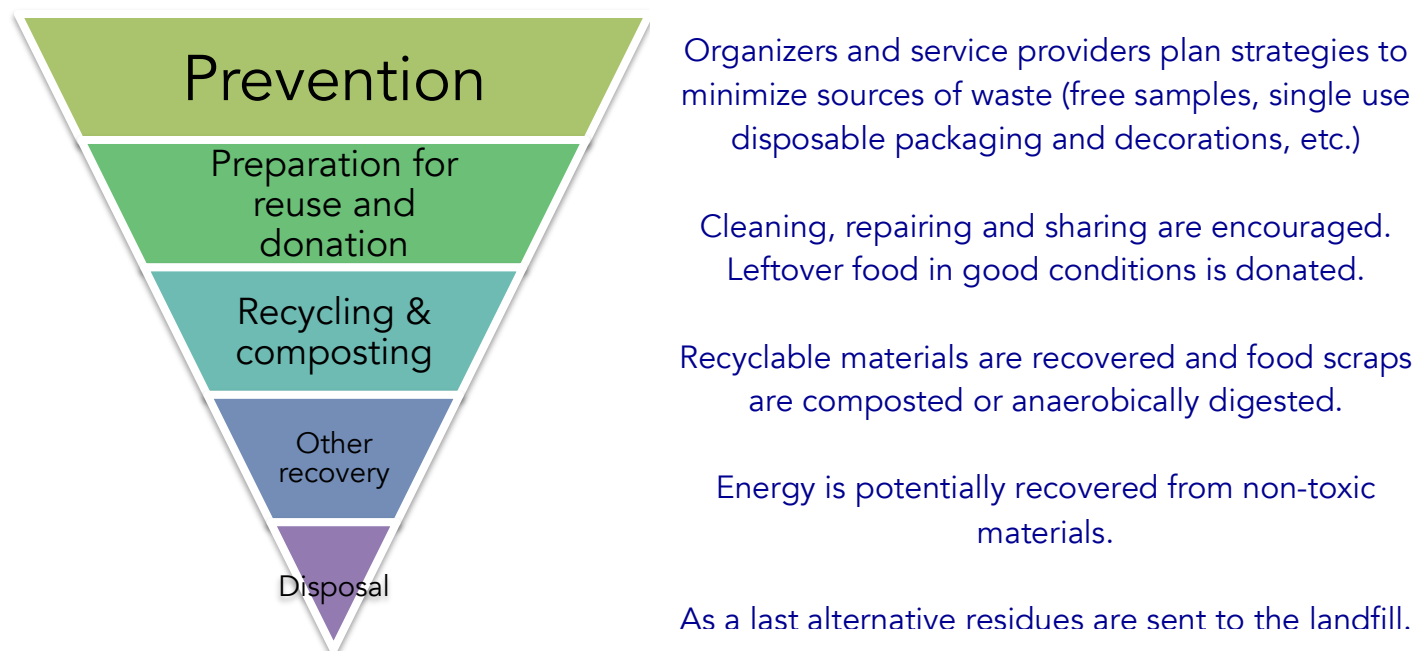


Figure 21. Recommended waste hierarchy at events. Modified from Green Events Europe, 2013.

8. **Involve waste management and volunteer coordinators from the planning phase.** Incorporating feedback from waste haulers, Sanitation Operations and processing facilities when event waste management plans are designed would be beneficial. Zero Waste Educators will be of valuable assistance connecting relevant stakeholders. Incorporating recommendations from last year's Greenest City Scholar regarding plastic bag lining and bin placements would also be beneficial to increase diversion (see Merritt, 2013).



Figure 22. Part of 26,000 milk cartons that were used to assemble a “Milk Carton Mountain” during Summer Live 125, a 2011 event in Stanley Park. Photo: D. Gagnon.

9. Take advantage of high profile events to visibly promote waste reduction.

To move forward from an “out of sight out of mind” approach focused on waste-collection, the City could partner up with sponsors and local artists to create installations that showcase total waste produced at events. These types of initiatives succeed in engaging the audience in conversations about sustainable consumption (see Gagnon 2011 for details).

- 10. Create educational zero-waste material for vendors, event organizers and volunteer coordinators.** The City could follow the steps of San Francisco by offering on its website standard and effective bin labels that event organizers can print on their own. Furthermore, the City could develop a video illustrating appropriate ways to sort items commonly found at events. This material should be publicly accessible and could be distributed by Zero Waste Educators when they volunteer at events and offered to small event organizers who train volunteers independently.

- 11. Incentivize reduction and reuse.** The City could promote the use of reusable food ware and resource sharing among event organizers. This could be achieved by creating a Green Event Award for events that achieve high diversion rates, cut back on their production waste or adopt reusable cup systems.



Figure 23. At Vancouver Christmas Market a successful reusable mug system is in place. Photo. A.N.

- 12. Foster collaboration between event organizers, recycling companies and other stakeholders.** Connecting networks of stakeholders (following examples such as the city of Coquitlam’s Community Festival Planners) facilitates sharing volunteers, lessons learned and can even result in increased reduction and reuse of resources.

CONCLUSIONS AND NEXT STEPS

✓ Research found challenges identified in Annie Merritt's 2013 report "Greening Events in the Greenest City" are still present. Greening Vancouver events is a growing area of work that will likely increase demand on City staff to provide support to event organizers. To that end, this report recommends that the City develop and fund a new volunteer program that offers waste reduction training in exchange for mandatory community outreach. This program would gradually generate a pool of engaged volunteers that can support the event community.

✓ Implementing Zero Waste Education programs is viable for Vancouver and sustainable in the long term. When designing the program, the City should adopt best practice guidelines and incorporate the experience accumulated by the cities of Richmond, Surrey, Portland and Toronto while adapting it to the local context. Case studies suggest promoting project ownership and providing meaningful volunteer experiences are effective ways to enhance volunteer engagement and retention.



Figure 24. N. Jagodic (left) answers waste disposal questions from a group of Greenest City Scholars during a visit to the Vancouver Landfill. Photo: A. N.

✓ Zero Waste training benefits all Vancouverites, inside and out of the special event community. With a well-trained volunteer corps Vancouver will advance towards reducing waste in other areas (domestic and even commercial). An eco-procurement policy framework together with collaborative networks including the City, community groups, waste haulers and recycling companies will help the City advance more quickly towards the Zero Waste target of the GCAP. In building these partnerships this program will also support progress towards other GCAP goals.

A comparison of scenarios where the City decides to either a) keep business as usual or b) move forward to implement a Zero Waste Educator program (see Appendix A11) suggests that if choosing option (a), Vancouver would miss out on existing opportunities and would lag behind municipal standards as well as its own goal to become a greener city.

APPENDICES

A1. RESEARCH METHODOLOGY

For Section I, a review of volunteerism literature was conducted in preparation to an assessment of the current state of volunteerism capacity at the City of Vancouver. Coordinators of volunteer-supported programs advertised on the City website were invited to participate in semi structured interviews in person or by telephone. A sample of municipalities with infrastructure and sustainability goals comparable to those of the City of Vancouver was included in best practice research. Three cities were selected as volunteer training case studies based on the following criteria: a) They offer recycling and composting service at special events and implement green innovation strategies, and b) they have a comprehensive volunteer program with at least one staff member coordinating volunteers available for special events. Whenever possible, sustainability coordinators and solid waste staff were interviewed by phone or email correspondence (interview questions available below).

For Section II observations were made during special events (see Appendix A2) and electronic questionnaires were used to collect feedback from volunteers and coordinators from green event companies, festival organizers and other municipalities.

Municipal Volunteerism Capacity- Best practice Survey	
Program description	
1	Does the City have an integrated Municipal Volunteer Management System? (Y/N)
2	Does the City provide volunteers to monitor recycling stations at events?
3	Program Name (website) and logo
4	Program origin (year and context)
5	Is there an Overall Volunteer Manager?
6	Does the City recruit volunteers directly?
7	Does the City have an approved Volunteer Policy? (provide detail)
8	Does the City have a Volunteer Advisory Committee? (if yes, who sits in it)
9	Is there an approved Budget for the Volunteer Program? (annual, provide estimate)
Volunteer Recruiting	
10	How does the City promote its volunteer program? (Website, social media, etc.)
11	Does the Municipality have an annual marketing strategy? Y/N
12	How does the municipality recruit its volunteers?
13	What are minimum pre-requisites for volunteers?
14	Are volunteer candidates screened before entering? (if yes, provide detail)
15	Does the program support police checks?
16	Are police checks transferrable across departments?
17	How does the City deal with Volunteer Specialization? (different programs, different needs)
18	How does the City deal with volunteer banning ("bad" volunteers)

19 What % of volunteers return to the next activity or next year?

Volunteer Training/ Engagement

20 Does the City offer a volunteer training program?

21 Provide detail (structure, frequency, curriculum, etc.)

Volunteer Managing

Software / System

22 What Volunteer Management Software does the city use?

23 Was the system in use custom developed or is it a cloud based (subscription) application?

24 Development of the system (departmental or city wide?)

26 What % of volunteer programs is using the system?

27 User's satisfaction level with the system (Qualitative: What works well, what does not?)

Risk Management

28 Does the City have an approved Risk Management Plan? Is it available?

29 Has the City have Litigation and Liability experiences?

30 Are volunteers covered by Insurance? If yes, how is it funded?

Access

31 Does the City have Alliances with 3rd parties for Volunteer Management?

32 Who can access the volunteer database?

Operations/Staff

33 Operationally, how many FTEs (full time equivalencies) are allocated to manage volunteers

34 Is there a Volunteer Office? Where? (i.e. City Hall, Community Center, Other)

35 Does the City offer Professional Development Options for Volunteer Managers?

Quality control

36 Is the City tracking the data or results from a centralized volunteer program and if yes, how. What success metrics do they use.

37 What metrics does the City use to evaluate the results of the Centralized volunteer program

Volunteer Appreciation

38 How does the Municipality provide recognition/acknowledgement to volunteers?

39 Has the City considered monetary incentives?

40 Non-monetary incentives (e.g. Certificates. Letters of Recommendations, BusFare, etc.)

41 Does it offer an Appreciation Event?

42 Does the City provide perks for volunteers? E.g. reduced rates on City facilities or programs?

43 How does the City get feedback from volunteers?

Sustainability practices at Special Events

44 Does the City take any pre-event steps to reduce waste ? If yes, please list them here:

45 What is the City's current position regarding compostable plastics? (PLA)

46 What strategies have proved successful for in terms of Special Events Waste Management?

A2. STAFF INTERVIEWED FOR THIS STUDY

City	Name	Position
Calgary	Kimberly Fisher	Public Program Coordinator, Community and Customer Initiatives Waste and Recycling Services.
Chicago, IL. US.	Sue Vopicka	Cultural Affairs and Special Events-Commissioner's Office
Coquitlam	Lynda Baker	Special Events Officer
Coquitlam	Gerri Briggs-Simpson	Volunteer coordinator
Maple Ridge	Kathryn Baird	Events and Volunteer Coordinator
Metro Vancouver	Surinder Uppal	Visitor Services Assistant. Events in Parks.
	Jeremy Plotkin	Events Coordinator
Montreal	Alexandra Court	Evenements Publics
New Westminster	Diane Perry	Event Portfolios and Organizers
North Vancouver	Jen Meilleur	Recycling Outreach. North Shore Recycling Program
Portland,OR. US.	J Lauren Norris	Master Recycler Program Coordinator
	Cary Cooker	Public Events Coordinator
	Emy Lai	Green Ambassador Coordinator
Richmond	Wing Ho	Volunteer Development Coordinator
Surrey	James Monk	One of the 2 Volunteer coordinators
	Preeti Yedav	Special Events Volunteer coordinator
	Lorri Espeseth	Community Service Assistant 3
	Joanne Simmers	Event Coordinator
San Francisco, CA.US.	Alexa KIELTY	Zero Waste Specialist. San Francisco Environment
Seattle, WA.US.	Pat Kaufman	Recycling and Waste Prevention Specialist, Public Utilities
	Julie Borden	Special Events
Toronto	Fiona Lucas	Coordinator of Volunteer Management. Cultural Events
	Megan MacLean	Volunteer Coordinator. Environment and Energy Division
	Jaclyn Brillinger	Project Lead, Special Events. Solid Waste Management Services
	Joe Sellers	Waste management
Vancouver	Brian Wong	Keep Vancouver Spectacular Coordinator
	Sarah Orchard	Green Streets Coordinator
	David Lewis	Integrated Graffiti Program (Restart and Spread the Paint)
	Michael Harris	Solid Waste Management Branch. Coordinator of last phase of Green Bin Ambassadors Program.
		Human Resource Consultant. Organizational Development and Strategic Initiatives
	Sarah Siddal	
	Jackie Kloosterboer	Vancouver Volunteer Corps, Emergency Social Services, Neighbourhood Emergency Preparedness program (NEPP)
	Jennifer Hales	Tennant Assistant program-Homeless Count.

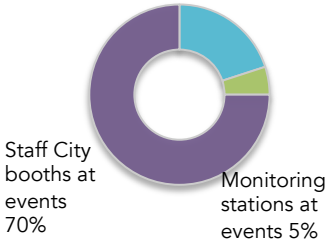
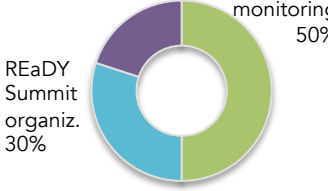
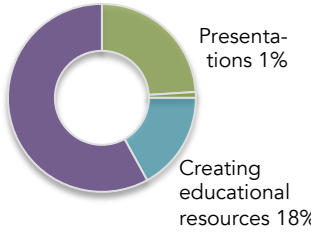
* Due to ongoing job action, Vancouver School Board (VSB) staff was not available for interviews at the time of data collection. Barbara Emerson, Education Coordinator at VSB, recommended direct contact with B.C. Ministry of Education or with each Secondary School. Di Byrne and Robert Lazar from the Ministry of Education provided information on general community service requirements and suggested contacting schools directly for further details. VSB staff contact information is available at: <http://www.vsb.bc.ca/sites/default/files/user-40/district%20contacts.pdf>

A3. SUMMER EVENTS OBSERVED.

Event	Type	Date	Event span	Estimated attendance ²⁷	Frequency	Waste management service
Seaside Greenway Party	Grassroots biking celebration	05-Jul	4 hours	600-900	One time-event	CoV
CoV NAOSH	National Occupational Safety BBQ event for staff	07-May	3 hours	1,000-2,000	Annual	CoV
Marpole Community Day	Family event	07-Jun	4 hours	2,000-3,000	Annual	CoV
Steveston Farmers market	Farmer and artisan market	03-Aug	6 hours	2,000-5,000	Biweekly Sundays May-Sept	Richmond Green Ambassadors (in coordination with local haulers)
Point Grey Fiesta	Parade followed by family event	19-Jun	9 hour	4,000-7,000	Annual	Green Chair Recycling
Make Music Vancouver	Free World Music Day	25-Jun	5 hour	7,000-10,000	Annual 3 rd edition	Recycling Alternative
Surrey Party for the Planet	Family event	26-Apr	11 hours	8,000-15,000	Annual	City of Surrey
Vancouver Folk Festival	Large music event	18-20 Jul	3 days	30,000-35,000	Annual 37 th edition	Recycling Alternative
Khatsalano Festival	Block party event	12-Jul	10 hours	100,000-120,000	Annual	Super Save Disposal

²⁷ When not available on event website, attendance was roughly estimated by visual inspection

A4. CASE STUDIES SUMMARY

Program	Live Green Toronto	Richmond Green Ambassador	Portland Master Recycler
Concept	General sustainability training.	Event sustainability as student projects	A waste reduction trained volunteer corps.
Origin	1996	2009	1991
Facilitation	Environment and Energy Office	Environmental Programs Department	Bureau of Planning and Sustainability
Funding	City of Toronto	City of Richmond	City of Portland (50%), Metro Portland (\$37%), Class fees (3%), Counties (5% each) ²⁸
Annual budget	\$30,000 (approx.)	Not available. Part of Community Outreach budget.	\$94,400 (\$107,712 in 2013)
Database management	IBM Lotus Domino Web server. User platform: My Volunteer Page.	Samaritan Technologies. User platform: I Can Help.	Microsoft Access. Considering switch to 'Salesforce'
Recruitment	2-3 recruitment calls/year. Through the city website, Live Green Toronto website and Volunteertoronto.ca	Through school district, often recruits school's Green Team members	Yearly in Portland (3 sessions in Metro Portland). Through Master Recycler website.
Website	City of Toronto	No website.	Master Recycler Website
Registration	Free	Free	\$50.
Training Frequency	Biweekly evening training sessions	Monthly training meetings throughout school year.	Weekly evening classes for 2 months
Required outreach	40 hours	30 hours	30 hours
Allocation of community outreach hours	<p>Community outreach for waste reduction at home & work 25%</p>  <p>Staff City booths at events 70%</p> <p>Monitoring stations at events 5%</p>	<p>Cleanups, tree planting, other activities 20%</p>  <p>REaDY Summit organiz. 30%</p> <p>Event planning and monitoring 50%</p>	<p>Event planning and participation 24%</p>  <p>Staffing city booths at local events 57%</p> <p>Creating educational resources 18%</p> <p>Presentations 1%</p>

²⁸ Calculations based on data from the Master Recycler Annual Report 2013-2014.

A5. CASE STUDY PROGRAMS CURRICULA

A5-1. LIVE GREEN TORONTO VOLUNTEERS

LGTV training is available for Toronto residents above 14 years old. Biweekly drop-in training sessions are conducted by the program coordinator and cover the following topics: (

- Live Green Toronto programs
- Volunteer policies and guidelines
- Climate change
- Air quality
- Waste diversion and solid waste management
- Energy efficiency
- Alternative and renewable energy
- Water efficiency
- Pesticide reduction and organic garden care
- Local food
- Urban agriculture
- Cycling
- Smart Commute
- Walking strategies
- Parks and urban forestry
- City planning
- Eco-roofs
- ChemTRAC and other Toronto Public Health programs
- Documentary film nights

SAMPLE RECRUITMENT AD

(Textual extract from City of Toronto website, 2014)

REQUIREMENTS: Live, work or study in the City of Toronto and be at least 14 years of age.

KEY QUALIFICATIONS:

- Keen interest in local environmental issues
- Excellent interpersonal and communication skills
- Customer service, conflict resolution, and problem solving skills
- Ability to work as part of a team
- Ability to speak a language other than English is an asset.

WHAT LIVE GREEN TORONTO VOLUNTEERS RECEIVE:

- Training on current environmental issues affecting the City of Toronto
- Support during outreach activities
- A graduation certificate upon completion of 20 hours of training and 40 hours of outreach
- Opportunities to explore Toronto
- A great feeling of helping to raise environmental awareness within the community
- A Live Green Toronto Volunteer shirt

HOW TO JOIN THE LIVE GREEN TORONTO VOLUNTEERS PROGRAM

Recruitment of new volunteers takes place 2-3 times per year. The next recruitment round will start on January 28, 2015 at 6:30PM with an Information Session at Metro Hall. (City of Toronto, 2014).

A5-2. PORTLAND'S MASTER RECYCLER CURRICULUM

Master Recycler training sessions take place on eight Wednesday evenings in September and October and two Saturday field trips (Class 54, Fall 2013).

Field Trip 1. Local Recycling Systems. MRs visit a Recycling Center, a compost facility and Transfer Station.

Field Trip 2. Waste prevention groups. Visit to Free Geek (electronics repair and reuse), Oregon Community Warehouse, Scrap (creative reuse center), and Rebuilding Center (Norris, 2014).

Week	Theme	Presentations	Speakers
1	Solid Waste and Recycling Systems Overview	Welcome and Overview. Oregon's Waste Hierarchy, Laws and Processes	J. Lauren Norris- MR Program coordinator
2	Residential Curb side Collection	Multifamily Recovery. Recycling Game	Alicia Polacok - Residential Waste Reduction Outreach coordinator
3	Special Materials: Toxics, Buildings and Plastics	Cleaners, pesticides and body care. Waste reduction Outreach ²⁹ Master Recycler Project Case Study: Event Recovery Plastics Recycling 101	Lisa Heigh – Metro Waste Reduction/Outreach/Education Mitzi Sugar and Matt Spencer Mentors of the MR Program
4	Commercial Waste	Sustainability at Work Program Tricks and Tools for outreach project Recycling FAQ Exercise.	Yvonne Garcia. Recycle at Work Specialists Lindsey Maser. Sustainability at Work
5	Green Building	Construction, Demolition, and Green Building Be Resourceful: Save more, live more	Shawn wood. Residential Outreach Coordinator. Alicia Polacok. The Sharing Economy
6	Food and Other Organic Waste	Compost Facilities: Regional System, Food Waste Prevention Presentations and tabling	Arianne Sperry. Residential Policy. Steve Cohen. Food Policy Coordinator
7	Consumption and Climate Change	Upstream Impacts: the Materials Management Hierarchy. Behaviour Change Workshop	David Allaway. Waste Prevention Specialist J Lauren Norris -Residential Outreach Mgr.
8	Outreach and Final Word	Your future as a Master Recycler Behaviour Change Workshop (continued) Waste Reduction Panel	Betty Patton- Recycling Advocates Matt Korot- Waste Reduction and Outreach Division Manager. Metro Bruce Walker. Director. Solid Waste and Recycling

²⁹ MRs "payback" activities must provide a) one-on-one educational contact and a meaningful skill enhancing experience for the volunteer or b) implement a system or program that diverts materials from the waste stream.

Portland Master Recycler's Program Budget.
(Available from Master Recycler 2013-2014 Annual Report).

Expenses

Personnel

Program Coordinator + benefits	\$ 54,889.00
Program Assistant + benefits	\$ 19,825.00
Overhead-space, utilities, phone, computer software and maintenance, insurance and web, graphic and administrative support.	\$ 31,671.00
Subtotal personnel	\$ 106,385.00

Materials and Services

Food	\$ 109.00
Resources- Web hosting, online ticketing fees, MR library, badges	\$ 690.00
Carbon Offsets	\$ 93.00
Printing	\$ 435.00
Subtotal materials and services	\$1,327.00

Total expenses \$ 107,712.00

Revenue

Class tuition	\$ 3,375.00
Metro	\$ 40,000.00
Clackamas County	\$ 5,000.00
Washington County	\$ 5,000.00
City of Portland	\$ 54,337.00

Total revenue \$ 107,712.00

³⁰ J. Lauren Norris. Portland's Municipal Program has been evolving since 1991.

A7. STAFF FEEDBACK ON DATABASE MANAGEMENT SYSTEMS

Staff	Management System	Database access	Pros	Cons	General feedback
James Monk- City of Surrey Volunteer Resource Management	Volunteer squared (V2), now called Better Impact	All volunteer program units, 17 user accounts.	<ul style="list-style-type: none"> Canadian developed. Meets privacy and access of information requirements Allows customization of the opportunities visible to volunteers depending on application status: in process, accepted (all visible), dismissed or rejected (not visible) 	Potentially limited email capabilities (currently it is not possible to embed pictures or include attachments in emails to volunteers)	Overall Positive. They are very satisfied with the software and would recommend its use.
Wing Ho- City of Richmond Volunteer development coordinator	Samaritan	The majority of volunteer coordinators	<ul style="list-style-type: none"> Meets data access privacy requirements Unlimited customization 	Learning curve for staff	Overall they would recommend the software. Some staff members currently have two systems in place (Excel+ Samaritan) Senior volunteers (RGAs) help sign up new volunteers.
J. Lauren Norris- Portland Master Recycler Program Coordinator	Microsoft Access (Their Bureau is likely ask to move to a different platform soon, like Salesforce)	Program coordinator	<ul style="list-style-type: none"> Specialized reporting capabilities that can be tailored to the types of activities and topics volunteers cover (they work for as many as 20 community partners) Already accessible in City systems, No extra software required (platforms like Salesforce would cost \$1000/yr.) Master Recycler volunteers seem satisfied with the current system 	<ul style="list-style-type: none"> Newsletters and new outreach tools must be generated separately. Emailing 1300 people every month can be hard on the server. People may have "moved beyond wanting to read pdfs formats" (for newsletters). 	<ul style="list-style-type: none"> If they were starting a database today, they would probably consider a program that offers integrated communications tools. An advantage to Salesforce is getting data on how many people clicked and read each story to get feedback on the newsletter.

A8. LOCAL ASSETS. VANCOUVER GROUPS WITH ZERO WASTE EXPERTISE

Main area of expertise	Name	Type	Description	Contact information	Website
Food waste and compost	Food Scraps Drop Spot	Food scrap collection program (at farmers markets and other locations)	A collaboration between of social enterprises, non-profits, neighbourhood groups, and volunteers that provides food scraps drop off service for apartment residents who do not have access to a collection service in their building.	info@foodscrapsdropspot.ca	http://foodscrapsdropspot.ca
	Food waste Recyclers	Organic waste Company	Food waste recycling company that provides organic waste collection services to residential and commercial sites and offers waste stream audits, education, bin/tote swap and odour remediation service.	Antonin Bois (Program Director) info@foodwastercyclers.com.	http://www.foodwasterecyclers.com/
	Growing City	Organic waste Company	Office Composting Company	Lisa Von Sturmer	http://www.growingcity.com
	Metro Vancouver Zero Waste Implementation	Food waste	Food Donations and Waste Reduction	Emme Lee	http://www.metrovancouver.org/planning/development/AgricultureAndFood/RFSSDocs/Panel2-EmmeLee.pdf
	Spring Gillard	Author	Compost Diaries (Blog) and Diary of a Compost Hotline Operator (book). Now the Coordinator for the UBC Learning Exchange program	info@gardenheart.ca	http://www.compostdiaries.com/about-2/
	Strathcona BIA	Business Improvement Association	Operates a successful recycling and composting program for restaurants since 2012.	Meg Oshea	http://strathconabia.com/recycling-compost/
	The Compost Collective	Industrial design Student group	City Studio's team of f Emily Carr University students who conducted a	Lena Soots. CityStudio	http://citystudiovancouver.com/wp-

			2012 pilot project to divert food scraps from multifamily buildings.	Coordinator citystudiocoordinator@gmail.com	content/uploads/2013/01/Compost-Collective-Final-Report.pdf
	Trash Talk	Pilot project in engagement for organics collection	A community engagement experiment that encouraged apartment residents to recycle food scraps. Funded in 2013 by Greenest City Community Grants. Pilot now completed.	Murray Mollard, (Project Director) trashtalk@telus.net	http://vancouvertrashtalk.wordpress.com
	Vancouver Food Policy Council	Advisory group to Vancouver City Council	An advisory group of people from various sectors of the local food system including farmers, waste managers, activists and academics	info@vancouverfoodpolicycouncil.ca	http://www.vancouverfoodpolicycouncil.ca/about/
Zero Waste Events	Riaq Brian Burke	Zero Waste Expert	Long-term experience with residential and event recycling. Zero Waste Canada activist.	http://zerowastecanada.ca/	opensecret99@gmail.com
	Eyal Lebel	Independent consultant	Event recycling specialist	drlebelcm@gmail.com	Work website: http://drlebelcm.com/
	Garbiz	Junk removal and event recycling company	Special Event Recycling services (provides volunteer station monitors)	info@garbiz.ca	http://garbiz.ca/service/events
	Green Chair Recycling	Event recycling company.	Special Event Recycling services (provides volunteer station monitors)	Nicki Casley nicki@greenchairrecycling.com	http://www.greenchairrecycling.com
	Recycling Alternative	Event and business recycling company	Commercial and event recycling services.	info@recyclingalternative.com	http://www.recyclingalternative.com
	UBC	Centre for Sport and Sustainability	Conducted an environmental life-cycle assessment of a multi-sport event (Special Olympics Canada 2014 Summer Games)	Matt Dolf matt.dolph@ubc.ca	http://news.ubc.ca/2014/06/25/a-passport-to-a-green-future/
	United We Can	Experienced Charitable	Returnable containers collection services that create jobs for people	info@unitedwecan.ca	www.unitedwecan.ca/how-we-help

		Organization	with barriers to traditional employment ³¹ .		
Community outreach	Element Society	Local educational group	Professional consultants that aim to educate communities to and reduce waste	info@elementsociety.ca	http://elementsociety.ca/programs.php
	Evergreen	National not-for-profit	Organizers of 100 in 1 Day Vancouver, an innovative volunteer driven and community based series of urban interventions	100in1dayVAN@gmail.com.	http://www.evergreen.ca/get-involved/volunteer/
	SPEC-Society Promoting Environmental Conservation	Local not-for-profit	Vancouver's oldest non-for profit with an active waste committee.	Oliver Lane (Coordinator) admin@spec.bc.ca	http://www.spec.bc.ca/waste
	Urban Impact	Waste Management Company	Facilitation of recycling education workshops to tenants, schools and businesses.	info@urbanimpact.com	http://urbanimpact.com/recycling-services/recycling-education/
Waste reduction and reuse	SFU Zero Waste	Zero Waste Program at Simon Fraser University	A Zero Waste learning and research initiative	Rachel Telling RTelling@sfu.ca	http://www.sfu.ca/sustainability/zerowaste.html
	Taina Utto	Plastic free activist	Blog author (Plastic Manners) and Documentary director ("From the Waste Up")	plasticmanners@yahoo.ca	http://plasticmanners.com
	Zero Waste Canada	Not for profit	Non-partisan organization that to eliminate the use of landfills and waste-to-energy plants	http://zerowastecanada.ca/zero-waste-canada-contact-us	http://www.zerowastecanada.ca/zero-waste-canada-about-us

³¹ For more information see Tremblay, 2007.

A9. LOCAL VOLUNTEER GROUPS

Organization	Description	Contact details
ACSEA	Asian Canadian Special Event Association. Volunteer experience with Taiwan Fest and Lunar Fest.	info@acsea.ca http://acsea.ca/about/
Ismaili Community*	Ismaili Muslim community group. Their EcoTeam volunteers have experience at Ismaili Walk and World Partnership Walk at Stanley Park (participation at other events may require payment)	Shafin Damani shafindamani22@gmail.co
Jan-link *³²	Japan Abroad Network. Educational Consulting and Placement Company	Aya Nishioka 604-568-8445 info@janlink.ca
Rotary Club *	International Humanitarian and Community Service Club	Community Service Committee. 604-685-0481 rotaryvan167@gmail.com
Scouts Vancouver*	Youth not for profit organization	Maria Orosco morozco@scouts.ca 604-8795721
S.U.C.C.E.S. S *	Three registered charities and one limited liability social enterprise that work as multicultural, multi-service agency with access to fairly large volunteer pool.	Kate Chung, Volunteer Coordinator. 604-4087274 ext.1082. k.chung@seuccess.bc.ca
Tzu-Chi *	Buddhist Compassion Relief Foundation. Their volunteers have experience at special events with	Bin Yeang yeangbin@gmail.com http://www.tzuchi.org

* Confirmed interest in being contacted about volunteering opportunities at s events.

A10. AN ALTERNATIVE TO VOLUNTEERISM: PAID OUTREACH IN VANCOUVER AND CALGARY

Some municipalities opt to pay for sustainability outreach. The City of Calgary and the City of Vancouver itself have supported initiatives with missions similar to that of the proposed Zero Waste Educators in which staff or students are hired to educate the public about waste.

A10.1 CALGARY SUMMER STUDENTS

Overview. As part of the Waste and Recycling, Community and Customer Initiatives Education Team at the City of Calgary, public educators are available to train event organizers on how to reduce, recycle and compost. In addition to these staff members, the city hires students to conduct research and outreach between May and August. Their activities include: staffing City booths at events; conducting door to door outreach on “blue cart recycling program”; work in office projects and may support campaigns like Household Hazardous Waste, Propane Tank Collection and Halloween Pumpkin Drop Off Programs.

Students work 7.5 hours per day, 5 days a week at an hourly rate of \$22.

Funding and administration. The program employs four FTEs (1 Team Lead and 3 Public Program Coordinators) together with six PTEs (part time equivalents) who work year round. An annual budget of \$500,000 for the Education program is funded through internal Waste and Recycling departments (Program Management and Collection Services).

Results and status. What started as a team of 2 students in 2011 has now expanded to 6 summer students. The outreach program has reached over 45,000 calgarians, 89% of which have been engaged in conversations about waste diversion topics.



Figure 25. Paid summer students reach out to the public about recycling and composting at a City of Calgary booth. Photo: Courtesy of K.Fisher, City of Calgary.

Recruitment and Training: during March, the city posts a call for Summer Student positions in the website’s “Career Opportunities” section. Candidates are interviewed and hired in April. Training includes: One-day of City of Calgary orientation; one day of Waste and

Recycling Orientation from Safety Advisors in the Human Resources Team and other trainers; drivers training course and general training from the Education Team (Fisher, 2014).

A10.2 VANCOUVER GREEN BIN AMBASSADORS

Overview. In preparation for the 2015 Metro Vancouver ban on organics from the landfill, the City of Vancouver³³ implemented the Green Bin Ambassador Program³⁴ (GBA), to support the launch of food scraps collection from residential and commercial sectors. A total of twenty-five outreach agents were hired (\$14/hour) through an engineering consultant (now called Tetra Tech EBA) to educate single and multifamily residents on how to use the newly provided green bins.

GBAs' outreach activities

- Reach out to single-family homes, explaining the Green Bin Program.
- Host educational events at buildings.
- Assist City staff with inspections of green bins to assess participation and contamination.
- Promote the Green Bin Program at special events, community centers and farmers markets

Program administration. City personnel in Corporate Communications originally coordinated Green Bin Ambassador's outreach, but when that staff person left the City responsibility shifted to the consultant firm. The City hosted a training session and wrote a training manual with input from the consultant, while keeping record of the number of events attended and their interactions with the public (Harris, 2014).

Results and status. The GBA program was generally well received by residents. Outreach stopped once the program launch wrapped up and GAs were later contacted to visit areas of the City with reported high levels of contamination. In total, GAs attended 28 events, conducted 6,916 interactions and participated in 4,285 conversations (Harris, 2014). A few GBAs will remain active until December 2014. The database with information on GBAs is by the consultant and no information on demographics or contact information was readily available in City records.

³³ Engineering and Corporate Communications Branches

³⁴ The program began as a pilot in 2011 and continued through Spring-Fall 2013 and 2014.

A11. ALTERNATIVE SCENARIOS. WHAT IF THE CITY KEEPS BUSINESS AS USUAL?

A11.1. Summary of municipal approaches to reduce contamination and increase waste diversion and education at special events

MUNICIPAL COMMITMENT



Effect on Zero Waste Goal	Minimal	Increase	Increase	Increase
Behaviour change opportunities	No	Yes	Yes	Yes
Costs (Technology, human resources)	Minimal	\$30,000 - \$110,000 (plus software)/ year	\$49,000 - \$500,000 year	Unknown
Community engagement (educated decision making, empowerment)	Minimal	High	High	Undetermined

*¹ Vancouver appears twice given its *past* outreach program and its *current* reliance on bin signage alone.

*² Although the City of Surrey has the most comprehensive volunteer program, currently their volunteers do not monitor recycling stations.

*³ In San Francisco recycling stations at events are monitored by volunteers provided and trained by specialized zero waste groups.

A11.2. Future scenarios for Vancouver: comparing inaction with the implementation of a Zero Waste Education Program

Area	Current scenario	Zero Waste Educator Scenario
Communication of City sustainability initiatives	The City communicates green initiatives through its website, Greenest City newsletters and media but it has little direct presence in schools, residence buildings and community events.	In addition to existing communication methods, ZWE could staff City booths, visit schools, residences, businesses and community groups conducting one-on-one public outreach about sustainability initiatives, changes in legislation, in curb side recycling programs, etc.
Waste reduction at home, at school and at work	There is limited to no citizen training on waste prevention. When waste management systems change or (e.g. the Green Bin program; MMBC ³⁵) the City hires third party agents for one-time outreach campaigns. No trained pool of educators remains in City-records.	The City would keep a database of experienced volunteers for the long term. Volunteers are kept up to date on changes in City waste management systems through newsletters and mailing lists. This pool of knowledgeable volunteers is available to train and update others.
Event planning	<p>Volunteer training needs currently exceed the capacity of City staff. Currently, there is no group removing the barriers expressed by the event community last year:</p> <ol style="list-style-type: none"> 1) Budgetary limitations 2) Small volunteer base 3) Lack of knowledge about contamination and waste reduction and 4) Insufficient time to dedicate to coordinating the onsite waste reduction efforts- (Merritt, 2013) 	<p>A training program gradually builds a pool of knowledgeable volunteers that event organizers can contact to ask for training.</p> <p>As part of outreach requirements Zero Waste Educators (ZWE) meet with organizers months prior to the event. They act as consultants free of charge for small events, addressing barriers 1 and 3. ZWE would be updated on accepted materials and proper waste sorting to increase diversion (barrier3) and they would work before and during the event with organizers, vendors and volunteers (barrier 4)</p>
Event development	<p>Event vendors receive no direct training. As a result waste diversion opportunities are often missed.</p> <p>Events that lack experienced coordinators often underestimate or are unable to provide volunteer training, reducing the impact of station monitoring on contamination levels even if volunteers are present.</p>	<p>ZWE would train food vendors on recycling and compost during events on how to reduce contamination and increase diversion. The replacement of wasteful decorations (like balloons and disposable banners) by reusable signs and ornaments could be encouraged (Campbell, 2014).</p> <p>ZWE would be qualified (and motivated) to train volunteers for station monitoring at special events.</p>

³⁵ Multi Materials BC, industry-led organization that assumed management of residential packaging recycling on May 19, 2014

REFERENCES

- A Greener Festival, 2013. Waste Management. Retrieved July 2014: <http://www.agreenerfestival.com/waste-management/>
- Alberta Municipal Toolkit. 2011. A Guide for Municipalities on Volunteer Involvement. Retrieved June 2014: <http://volunteeralberta.ab.ca/wp-content/uploads/2011/09/Municipal-Toolkit-2011.pdf>
- BC Ministry of Education. Program Guide for Graduation Transitions, 2008. Retrieved August 2014: http://www2.gov.bc.ca/gov/DownloadAsset?assetId=5AAF1A511D9B44BE83EB347098ADDED9&filename=prog_guide_grad_trans.pdf
- Campbell, Daniel. City of Vancouver. Street Cleaning and Sanitation Operations. Personal communication. August 2014.
- Canada Volunteerism Initiative, 2014. Retrieved May 2014: <http://www.vsi-isbc.org/eng/hr/cvi.cfm>
- Casley, Nicki. Green Chair Recycling. Personal communication. August 2014.
- Chow, Jessica. Special Events Coordinator for Live Green Toronto. Personal communication. August 2014.
- Chi, Peter. Sanitation Operations. City of Vancouver. Personal communication, August 2014.
- City of Coquitlam. Hosting Festivals and Special Events. Retrieved August 2014: <http://www.coquitlam.ca/parks-recreation-and-culture/arts-and-culture/special-events-calendar/festivals-special-events.aspx>
- City of Guelph. Special Events. Organizer Information. Retrieved July 2014: <http://guelph.ca/living/recreation/special-events/organizer-information/>
- City of Portland Planning and Sustainability. Event Recycling Help from Master Recyclers. Retrieved August 2014: <http://www.portlandoregon.gov//article/434256>
- City of Richmond, 2007. Volunteer Management Strategy. Retrieved July 2014: http://www.richmond.ca/_shared/assets/Volunteer_Management_Strategy_2007-201229234.pdf
- City of Seattle. Council News release. Seattle passes landmark measure to eliminate waste. 2008. Retrieved August 2014: <http://www.seattle.gov/council/newsdetail.asp?ID=8694&Dept=28>
- City of Seattle. Event and Food Vendor Requirements. 2010. Retrieved July 2014: <http://www.seattle.gov/Documents/Departments/SpecialEvents/SPUEventsandFoodVendorsFlyer.pdf>
- City of Seattle. 2014. Special Event Application. Retrieved July 2014: <http://www.seattle.gov/Documents/Departments/SpecialEvents/SECAApplication2014.pdf>

- City of Surrey, 2013. City Of Surrey Sees 234% Increase In Volunteering. Retrieved July 2014: <http://www.surrey.ca/city-government/13728.aspx>
- City of Surrey, 2014. Volunteer application process. Retrieved August 2014: <http://www.surrey.ca/culture-recreation/7285.aspx>
- City of Toronto, 1999. Council and Committee. Staff reports (Waste Watchers), December 13th 1999. Retrieved July 2014: <http://www.toronto.ca/legdocs/2000/agendas/committees/wks/wks000207/it003.htm>
- City of Toronto, 2001. Waste Diversion Taskforce 2010 Report. Retrieved July 2014: http://www1.toronto.ca/city_of_toronto/solid_waste_management_services/divisional_profile/reports/files/pdf/report.pdf
- City of Toronto, 2014. Volunteer. Biweekly training. Retrieved September 2014: <http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=c20303137a5b6410VgnVCM10000071d60f89RCRD&vgnextchannel=822a99fa45dd5410VgnVCM10000071d60f89RCRD>
- City of Vancouver (CoV), 2012. Engineering Services. Administrative Report to Standing Committee on Planning, Transportation and Environment. Retrieved July 2014: <http://former.vancouver.ca/ctyclerk/cclerk/20121017/documents/ptec2.pdf>.
- CoV, 2014a. Green Event Guide. Retrieved July 2014: <http://vancouver.ca/files/cov/green-events-planning-guide.pdf>
- CoV, 2014b. Applying for permits. Retrieved July 2014: <http://vancouver.ca/doing-business/apply-for-waste-pickup-for-an-event-in-a-park.aspx>
- CoV, 2014c. Volunteering. Retrieved July 2014: <http://vancouver.ca/people-programs/volunteering.aspx>
- Climate Leadership Awards, 2014. Retrieved July 2014: <http://cityclimateleadershipawards.com/san-francisco-zero-waste-program/>
- Cooper, Ann. Green Event Coordinator. City of Vancouver. Personal communication, August, 2014.
- Corporation for National & Community Service. (n.d.). Toolkit for Program Sustainability, Capacity Building, and Volunteer Recruitment/Management. Retrieved May 2014: http://www.nationalserviceresources.gov/filemanager/download/online/sustainability_toolkit.pdf
- David Suzuki Foundation Blog. Richmond Green Team led by youth. April 2014. Retrieved July 2014: <http://www.davidsuzuki.org/blogs/panther-lounge/2014/04/richmond-green-team-led-by-youth/>
- Discard Studies. 2014. San Francisco's Famous 80% Waste Diversion Rate: Anatomy of an Exemplar. Retrieved August 2014: <http://discardstudies.com/2013/12/06/san-franciscos-famous-80-waste-diversion-rate-anatomy-of-an-exemplar/>
- Donaldson, Jesse. Vancouver's Exhibition Aims to Drop the Waste. The Tyee.ca. August 11 2014. Retrieved August 2014: <http://thetyee.ca/Presents/2014/08/11/PNE-Zero-Waste-Challenge/>

- Environment Canada. 2014. Extended Producer Responsibility. Retrieved September 2014: <http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=FB8E9973-1>
- EPA, Environmental Protection Agency. 2008. San Francisco Uses Ordinance to Promote Recycling in Public Places. Retrieved July 2014: <http://www.epa.gov/osw/conserve/tools/rogo/documents/sf-ca-ord.pdf>
- EPA, Environmental Protection Agency, 2013. Green meetings. Retrieved July 2014: <http://www.epa.gov/oppt/greenmeetings/pubs/basic.html>
- Evans, Jonathan. 2014. Event photography. <http://jonnypicture.com/>
- Ferry, David. The Urban Quest for Zero Waste. The Wall Street Journal. September 12, 2011. Retrieved July 2014: <http://online.wsj.com/news/articles/SB10001424053111904583204576542233226922972>
- Fisher, Kimberly. Public Program Coordinator, Community & Customer Initiatives Waste & Recycling Services. City of Calgary. Personal communication, 2014.
- Gagnon, David. 2011. Summer Live 125 Sustainability Report. The role and impact of the sustainability effort on Vancouver 125th Anniversary Festival. City of Vancouver Archives. Retrieved from VanDocs May 2014.
- GCAP, Greenest City Action Plan, 2009. Retrieved May 2014: <http://vancouver.ca/files/cov/Greenest-city-action-plan.pdf>
- GCAP, Greenest City Action Plan Implementation Update, 2013-2014. Retrieved July 2014: <http://vancouver.ca/files/cov/greenest-city-2020-action-plan-2013-2014-implementation-update.pdf>
- Go Volunteer, 2014. (BC Volunteerism platform) Retrieved May 2014: <http://govolunteer.ca>
- Gordon, Marek. 2013. Managing waste at festivals. Presentation at the Green Events and Innovation Conference, UK 2013. Video and slides retrieved July 2014: <http://www.agreenerfestival.com/green-events-innovations/>. (For referenced values, see slide #9 available [here](#).)
- Green Chair Recycling, 2014. Recycling certificate presented to the Vancouver Food Cart Festival Week 1. Retrieved July 2014: http://www.greenchairrecycling.com/wp-content/gallery/food-cart-fest/vancouver-fcf-week-1-2014_diversion-certificate-final.png
- Green Events Europe, 2013. Full conference report. Retrieved September 2014: http://www.green-events-germany.eu/fileadmin/user_upload/pdf_daten/GreenEvents_Europe_2013_Full_Conference_Report.pdf
- Greenest City Scholar Program, 2014. Retrieved July 2014: <http://sustain.ubc.ca/get-involved/students/greenest-city-scholars>
- Harris, Michelle. Solid Waste Management Branch. City of Vancouver. Personal communication. August 2014.

Heaney, Siobhan. City of Vancouver. IT Strategy, Business Relationships and Projects. Personal communication. July 2014.

Imagine Canada, 2002. What volunteers contribute: Calculating and communicating value added. Retrieved August 2014:
http://www.imaginecanada.ca/sites/default/files/www/en/library/iyv/quarter_man_english_web.pdf.

ISO Sustainable events. Retrieved July 2014: http://www.iso.org/iso/sustainable_events_iso_2012.pdf

Kaufman, Pat. Recycling and Waste Prevention Specialist. City of Seattle, Personal communication. July 2014.

Lazar, Robert. British Columbia Ministry of Education. Personal communication. September 2014.

Lebel, Eyal. Independent Waste Reduction at Events Consultant. Personal communication. May 2014.

Live Green Toronto Facebook Page. Retrieved 2014: <https://www.facebook.com/livegreenTO>

McClintock, Norah. 2004. Understanding Canadian Volunteers. Using the National Survey of Giving, Volunteering and Participating to build your volunteer program. Volunteer Canada. Retrieved May 2014
http://www.imaginecanada.ca/sites/default/files/www/en/giving/reports/understanding_volunteers.pdf

Master Recyclers, 2014. 2013-2014 Annual Report. Retrieved August 2014:
<http://www.masterrecycler.org/newsletters-reports.php>

Master Recycler, 2012. October Newsletter about special events. Retrieved July 2014:
http://www.masterrecycler.org/PDF/MR_October_2012_newsletter.pdf. Video retrieved at
<https://www.youtube.com/watch?v=aqmsQXJ0XEQ&feature=youtu.be>

Maung, Zara. 2010. Is the Litter Free Festival just around the corner? The Guardian. Retrieved July 2014:
<http://www.theguardian.com/environment/green-living-blog/2010/jul/02/glastonbury-litter-reusable-cups-recycled-tents>

Merritt, Annie 2013. Greening events in the Greenest City. Greenest City Scholar Report. Retrieved May 2014:
<http://sustain.ubc.ca/greenest-city-scholars-projects-library#2013>

Metro Vancouver, 2010. Integrated Solid Waste and Resource Management Plan. Retrieved August 2014:
<http://www.metrovancouver.org/about/publications/Publications/ISWRMP.pdf>

Mollard, Murray and Cheryn Wong. 2014. Trash Talk Final report. Retrieved August 2014:
<https://vancouvertrashtalk.files.wordpress.com/2012/08/finalreport-july312014.pdf>

Monk, James. Community Service Coordinator. City of Surrey. Personal communication. July 2014.

Multimaterial British Columbia, 2014. What can be recycled. Retrieved July 2014:
<http://recyclinginbc.ca/program/can-recycled/>

- NAOBF, North American Organic Brewer Festival, 2014. Retrieved September 2014:
<http://www.naobf.org/volunteer-guide/>
- Nelson, David. 2013. Social Media Enactment Study for the District of North Vancouver. Masters Project. Retrieved August 2014: <https://docs.google.com/file/d/0B4EDlan0MThlUmxyaUhNaVFNBkk/edit>
- Nelson, David. Project Manager. Enterprise volunteer management solution across all City volunteer operations. City of Vancouver. Personal communication. July 2014.
- Okologie Institute, 2008 Report by: Österreichisches Ökologie-Institut, Carbotech AG and Öko-Institut e.V. Deutschland. Comparative Life Cycle Assessment of various Cup Systems for the Selling of Drinks at Events. Retrieved September 2014: http://www.meucopoeco.com.br/environmental_study.pdf
- Ontario Environment Network. Live Green Toronto Volunteers. Retrieved August 2014:
<http://www.oen.ca/dir/detail.php?id=1683>
- Oregon Craft Beer, 2014. Retrieved September 2014: <http://oregoncraftbeer.org/naobf-celebrates-10-years/>
- Portland Guide to compostable plastics. Retrieved August 2014: <http://jwcw.org/wp-content/uploads/2012/03/Explanation-of-compostable-plastics.pdf>
- San Francisco Department of the Environment. 2014a. Mandatory Zero Waste training. Retrieved August 2014:
<http://www.sfenvironment.org/article/event-recycling-and-composting/sf-zero-waste-event-workshop-certification>
- San Francisco Department of the Environment. Zero Waste Checklist for events. 2014b. Retrieved August 2014: http://www.sfenvironment.org/sites/default/files/fliers/files/sfe_zw_events_checklist.pdf
- San Francisco Department of the Environment, Bottled Water Ordinance, 2014c. Retrieved August 2014:
http://www.sfenvironment.org/sites/default/files/fliers/files/sfe_zw_bottled_water_ordinance.pdf
- San Francisco Conservation Corps. From the Streets to Special Event Recycling. 2011. Retrieved August 2014:
<http://www.sfcc.org/documents/Resource%20Recycling%20Magazine.pdf>
- San Francisco Department of the Environment. Food Service Ordinance 2006. Retrieved August 2014:
http://www.sfenvironment.org/sites/default/files/editor-uploads/zero_waste/pdf/sfe_zw_food_service_waste_reduction_ordinance.pdf
- San Francisco, 2014. Department of the Environment. How do I know if a utensil is compostable in San Francisco. Retrieved July 2014: <http://www.sfenvironment.org/solution/how-do-i-know-if-a-utensil-cup-or-plate-is-compostable-in-san-francisco>
- Santa Barbara Bowl, 2014. Santa Barbara Bowl and Loatree Introduce Reusable Cups at Jack Johnson Concerts. Retrieved September 2014:
http://sbbowl.com/news/detail/santa_barbara_bowl_and_loatree_introduce_reusable_cups_at_jack_johnson_conc

- Schmidt, Holger. 2014. Presentation at a Green Event Green Events & Innovations 2013: Managing Waste at Festivals. Retrieved September 2014: <http://youtu.be/owh0XU2ndBw?t=54m42s>.
- Sustainable United Nations. Retrieved May 2014:
http://www.unglobalcompact.org/docs/issues_doc/Environment/Green_Meeting_Guide_WEB.pdf
- SWANA, Solid Waste Association of North America, 2014. Introducing Richmond Green Ambassadors, a SWANA Unsung hero. Retrieved July 2014:
<http://swana.org/Membership/TechnicalDivisions/50UnsungHeroes/GreenAmbassadors.aspx>
- Toronto Environment Fund Grant recipients, 2003. Retrieved August 2014:
<http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=8d887a4bab491410VgnVCM10000071d60f89RCRD&vgnnextchannel=04b5ba2ae8b1e310VgnVCM10000071d60f89RCRD#2002>
- Trash Buster (Lane County Oregon award). Retrieved August 2014:
<http://www.lanecounty.org/Departments/PW/WMD/Pages/TrashbusterAwards.aspx>
- Tremblay, C, 2007. Binnars in Vancouver: A socio-economic study on Binnars and their Traplines in Downtown Eastside. MA Thesis Department of Geography. University of Victoria. Retrieved August, 2014:
<http://www.crystaltremblay.com/wp-content/uploads/2011/04/Crystal-Tremblay-MA-Thesis-Final-2007-reduced.pdf>
- Vancity Buzz, 2014. Food Cart Festival Vancouver 2014. Retrieved August 2014:
<http://www.vancitybuzz.com/2014/06/food-cart-festival-vancouver-2014/>
- Vancity, 2014. New initiative aims to achieve nothing. Vancity sponsors zero-waste events to keep garbage out of landfills. June 29, 2014. Retrieved August 2014:
https://www.vancity.com/AboutVancity/News/MediaReleases/ZeroWaste_July_29_2014/
- Volunteer Canada 2006. Canadian Code for Volunteer Involvement (CCVI). Retrieved May 2014:
<http://volunteer.ca/content/canadian-code-volunteer-involvement>
- Volunteer Canada. 2010. Canada Survey of Giving, Volunteering and Participation. Retrieved May 2014:
<http://volunteer.ca/content/canada-survey-giving-volunteering-and-participating>
- Volunteer Canada, 2011. Canadian Code for Volunteer Involvement. An audit tool. Retrieved May 2014:
<http://volunteer.ca/content/canadian-code-volunteer-involvement-audit-tool>
- Wong, Brian. Keep Vancouver Spectacular Coordinator. Personal communication. May 2014.
- Yadav, Preeti. City of Surrey Special Events Department. Personal communication. August 2014.

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