



ADMINISTRATIVE REPORT

Report Date: November 12, 2013
Contact: Albert Shames
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Meeting Date: December 4, 2013

TO: Standing Committee on Planning, Transportation and Environment
FROM: General Manager of Engineering Services
SUBJECT: Strategic Options for Improving Litter Management

RECOMMENDATION

THAT Council receive for information the report dated November 12, 2013, entitled, "Strategic Options for Improving Litter Management", and direct staff to begin implementing the actions recommended in the report.

REPORT SUMMARY

This report is in response to Council's motion of May 29, 2012, requesting recommendations to further reduce litter through increased awareness, education, infrastructure, enforcement, and Extended Producer Responsibility (EPR) programs, and with a specific focus on cigarette litter.

The report provides an update to Council on the scope of services provided by the City in the work toward the goal of ensuring Vancouver is a clean and liveable city. The report outlines areas for ongoing action and strategic focus as we use innovative approaches and partnerships to allow us to achieve our goals. Key actions outlined in the report include:

1. Work with the Province and MMBC within the new Recycling Regulation on strategies for enhancing EPR and recycling at the street and neighbourhood level to reduce Packaging and Printed Paper (PPP) litter;
2. Enable and report back on the proposed cigarette butt recycling initiative, currently underway with TerraCycle and the BIAs;
3. Institute, in partnership with the Engaged City Task Force and the Keep Vancouver Spectacular initiative a "Big Item Recycling Day" in local neighbourhoods across the City;
4. Continue to resource the acquisition of new technology to allow efficient and effective sanitation and street cleaning services across the various elements of our program.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

On May 29, 2012, Council approved the following motion:

THAT City of Vancouver staff investigate options to further reduce litter, including cigarette butt litter, through increased awareness, education, infrastructure, enforcement and a Provincial government Extended Producer Responsibility program for cigarette butts;

FURTHER THAT staff consider litter within the context of an overall on-street waste management plan that provides greater recycling opportunities, especially in high pedestrian traffic areas.

CITY MANAGER'S/GENERAL MANAGER'S COMMENTS

The General Manager of Engineering Services recommends approval.

REPORT***Background/Context***

Cleanliness in the public realm is a goal for most major Cities worldwide. A quick google search shows that it is an ongoing challenge in North America, in Asia and in Europe. The trends are similar across most major cities. For example a clause from a 2010 report "The State of England's Local Environment" produced by Keep Britain Tidy, an environmental charity promoting litter reduction in the UK says, "Litter trends charted over the past few years through the Local Environmental Quality Survey England (LEQSE) illustrate a rise in the prevalence of smokers materials, fast food litter, drinks cans and bottles and sweet wrappers. This is a concern for all of us". One of the elements identified in the report is the increased incidence of smoking materials in the public realm as smoking in pubs, restaurants and office buildings is increasingly restricted.

Consistent with our own experience, the UK report accurately observes, "the engagement of key private, public and voluntary sector organizations in the discussion and development of shared goals is essential in our drive to making a long term difference on litter and to encourage partnership action and responsible behavior to reduce littering."

Probably the most comprehensive and consistent work on performance measurement for this area of service appears to have been done in the UK. The UK uses a grading system that rates the occurrence of elements such as litter, abandoned items, gum staining, graffiti, posters and the makeup of the discarded items and recognizes different land uses.

In considering Councils motion around this issue it would be helpful to enhance our existing metrics to include a rating system that we can use to measure performance against similar cities.

Using a method such as this will inform our allocation of resources in future, support the development of strategic partnerships with volunteer organizations, Stewardship agencies and community support organizations.

City Resources:

Ensuring Vancouver meets its goal as a clean liveable city requires an ongoing commitment to the provision of innovative and comprehensive public sanitation services, collaboration with the City's community partners, the active participation of citizens and businesses and the effective leverage of the new regulatory framework for EPR.

Our street cleaning and litter management strategies support multiple objectives including:

- Supporting low-threshold employment;
- Increasing recycling to achieve Greenest City goals for zero waste;
- Engaging our residents and businesses in caring for their city.

The City's primary role is to provide infrastructure and equipment, including litter containers, street sweepers and flushers, collection vehicles and the staff and services to maintain clean streets. The City is also responsible for keeping our residents and businesses apprised of the importance of their contribution to keeping our city clean and liveable and to understand and comply with an evolving regulatory framework.

Working three shifts over 24 hours a day on weekdays and 2 shifts covering 21 hours a day on weekends, the City provides a combination of regularly scheduled and demand based services for public sanitation. City services are supplemented through community partnerships and volunteer programs, as well as provision of grant supported micro-cleaning services primarily focussed on the Downtown Eastside (DTES).

Regularly scheduled City services include:

- Emptying of litter and recycling receptacles on streets, in parks and in public spaces throughout the City;
- Manual clean-up of litter on sidewalks with a focus on bus stops and around public litter receptacles;
- Poster removal from City infrastructure such as light poles;
- Annual leaf collection program (Nov-Jan);
- Dead animal removal including marine animals;
- Mechanical sweeping of streets, sidewalks and bike routes;
- Street flushing - focussed mainly in the DTES;
- Commercial container licensing and enforcement;
- Collection of abandoned/illegally dumped waste from public spaces; and
- Illegal dumping investigations.

Other services are provided on a "request" to meet special needs. These include:

- Coordination and clean-up after 15 major special events such as parades, Festival of Lights, cultural festivals, sporting events, protests, public gatherings, etc.;
- Provision of garbage and recycling infrastructure and services for approximately 50 privately run special events on a fee for service basis;
- Supporting various City departments including Police, Fire, Streets on emergency cleanups such as vehicle accidents and material spills.

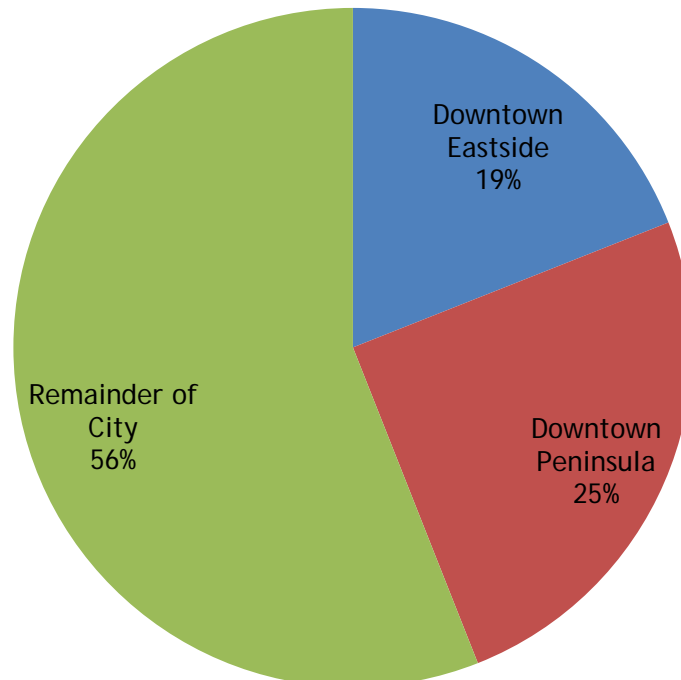
The annual budget for these services totals approximately \$7.8 million annually and up to 41 staff through the week, 32 staff through the weekend, and additional auxiliary staff during the summer deliver the overall services. Services are distributed across the City and are aligned with need. There is a significant focus due to the strategic significance and impact on maintaining the quality of the environment in the downtown core and the DTES.

Figure 1 illustrates the breakdown of the 2012 street cleaning spending for the various types of services provided.



Figure 2 below illustrates how the Street Cleaning spending is allocated for services in different areas of the City.

Figure 2 - DISTRIBUTION OF SPENDING BY AREA (approx.)



City Sanitation services in some cases are provided in partnership with social enterprise, the BIAs, and non-profits particularly in areas of special need. In the DTES such initiatives include Social Enterprise Micro Cleaning grants in partnership with the Great Beginnings Program. These programs are described in Appendix A.

Engagement of Citizens:

Over the last 5 years there have been significant advances in the overall engagement of citizens across the city. 311 was established as a platform service, commencing with a soft launch in 2009, and since the end of that calendar year, overall calls and emails to 311 for all City issues have grown as follows:

- 2009 282,205
- 2010 572,305
- 2011 738,254
- 2012 864,706
- 2013 projected 949,000

In addition, in 2012, the City launched a new website allowing increased interaction with citizens and began to utilize Talk Vancouver as a platform to engage citizens around key policy and service issues. As will be seen below, citizens, in increasing numbers through 311 provide important feedback to the City in regard to our overall goal of maintaining a clean and liveable city.

Strategic Analysis

General details on the City's current service levels and metrics tracked by Sanitation are provided in Table 1 below. In 2012, the creation of a cross city sanitation platform was complete, with the overall goal of enhancing productivity and effectiveness across the broad and comprehensive services provided in the area of street cleaning, litter control and associated programs.

Performance metrics for our public sanitation services are tracked through Vancouver's 311 call centre and categorized by issue: abandoned garbage, street cleaning and poster removal, and litter can calls. Figure 2 below presents the 311 call metrics since 2010 along with a projection for 2013 year end.

Figure 2 - 311 Metrics

311 Call Type	2010	2011	2012	2013 projected
Total abandoned garbage calls (includes recyclables, mattresses etc)	4,989	6,777	9,390	11,683
Total street cleaning/debris pickup and illegal postering calls	1,594	1,860	2,664	3,268
Total litter can calls (service required and requests for new)	477	494	1,409	1,653
Total - All Calls	7060	9,131	13,463	16,590
% of total 311 Calls	1.2%	1.2%	1.5%	1.7%

Overall the number of calls in each category has been on the rise over the past 4 years. The City provides an expedited response and dispatches staff and equipment to deal with these calls. We also use this information to plan our routes, staff allocation and use of equipment. The number of calls is not proportionate to the increase in tonnage over the same period of

time and this reflects some of the issues listed below which are driving these issues. Overall calls are increased in part due to an overall increase in 311 calls, but also reflecting trends which relate to a number of factors:

- In 2011, Metro Vancouver instituted a recycling fee of \$15 for mattresses and instituted a region-wide disposal ban on mattresses. This has resulted in a significant increase in mattresses abandoned on public property, from 2,700 in 2006 to 7,700 in 2012;
- In 2006 the Province of BC instituted its first phase of EPR - requiring recycling of appliances and electronics, furniture and other large housewares - the city has very few "return it" depots within its boundaries and there has been a significant increase in these forms of abandoned waste (tripled from 6,800 in 2006 to 21,500 items in 2012);
- Litter collection in small parks is done as part of the residential garbage collection program. Over the last 5 years, increasing use of the parks, particularly in good weather, has resulted in increased calls for litter carts. More recently, since the change in garbage collection frequency we have noticed an increase in the disposal of household waste in litter containers located in some parks within residential areas. We believe that this is a short term issue and it is currently being addressed by the green bin inspection team which where possible identifies the culprit and provides appropriate education and communication around increases in their residential cart sizes to accommodate the longer wait between garbage collection;
- Generally with rising use of public transit across the city, and particularly on our major arterials, the major transit stops at arterial intersections has resulted in more calls
 - The high volume, free, daily newspapers being distributed for free at major transit stops has increased litter in these areas;
 - The increased availability of fast foods close to or in the transit stations results in increased PPP litter such as coffee cups and fast food containers.

The issues being addressed in Vancouver are similar to those experienced in other Municipalities within Metro. An April 2013 article in the Metro newspaper stated "Abandoned rusty appliances, old mattresses and unwanted pieces of "free" furniture are costing Metro Vancouver taxpayers millions of dollars each year – and the problem is expected to get worse as cities attempt to wean residents from their garbage habit." Metro Staff quoted in the article stated that during changes in garbage collection frequency there is a general increase in abandoned waste which goes away over time.

In Vancouver a person caught illegally dumping material may have to:

- Remove the waste and pay to restore the area;
- Repay the City for cleaning and restoration costs if the offender does not remove the waste;
- Pay a fine of up to \$2,000 - under the City of Vancouver Street and Traffic Bylaw 2849.

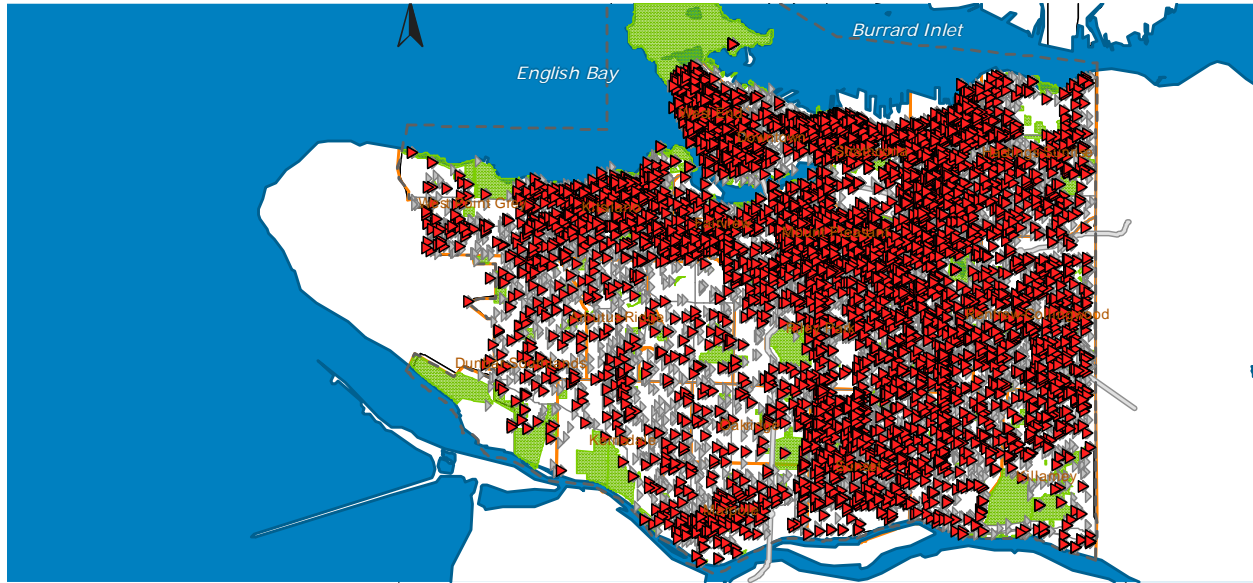
The challenge is that it is difficult to catch people in the act.

Vancouver, Surrey and Richmond request that the public provide notification of illegal dumping incidents. Richmond's website states illegal dumping is increasing and offers a \$200 reward for reports leading to conviction. Surrey's also, suggests residents volunteer in their "Adopt-A-Street litter cleanup program".

Delta has recently installed surveillance cameras in low volume traffic areas to keep an eye on an increasing number of people who drive out to dump garbage on roads.

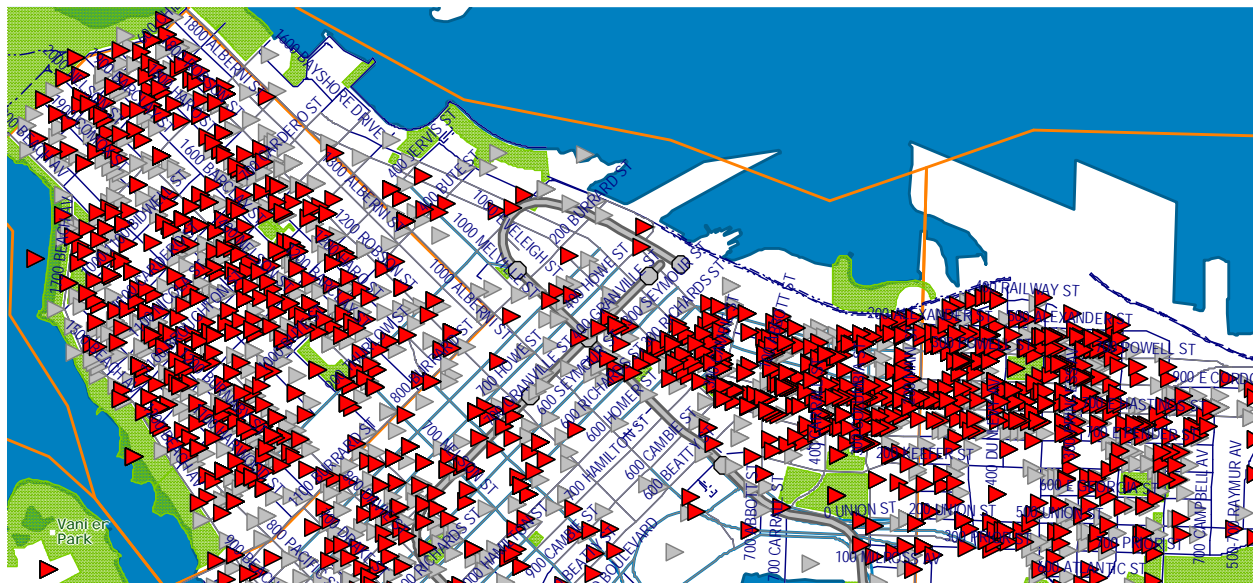
City staff are now able to monitor abandoned waste calls and all 311 calls related to street cleaning geographically by address to assess trends through a pilot business intelligence dashboard. Through this tool we are able to determine hot spots for future focus for targeted education or enforcement initiatives for our programs. Where repeat calls are noted we are able to dispatch one of our street inspectors to work with property owners in the area to identify problems and work towards a resolution.

Locations of Abandoned waste Calls to date 2013.

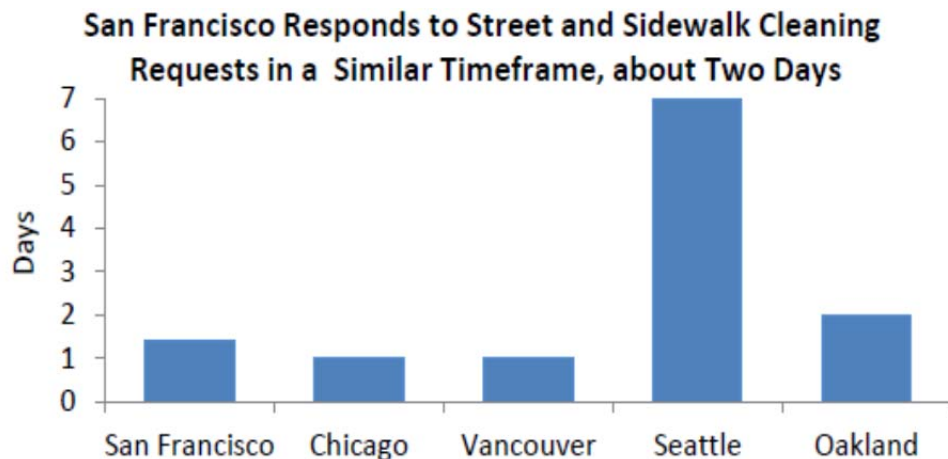


Using this tool we are able to zoom in to the neighbourhood and even to the individual street level to better assess problem areas. This project is a pilot approach that we will be testing through 2014 to target our education and enforcement efforts.

Abandoned waste calls Downtown to date 2013



While we have seen an increase in 311 calls The City responds quickly and efficiently to requests for collection of abandoned waste and litter. A comparison to other major cities in a study undertaken by the City of San Francisco illustrates that Vancouver provides a quick response to abandoned waste cleanup requests. Further details on this study and how Vancouver compares are provided in Appendix B.



As can be seen by the table below, there has been a 25% productivity increase over the last 4 years in this area of service delivery with the cost per tonne of litter removal coming down by 15% and the overall tonnage increasing by 20%. This has been achieved by a more strategic use of street and public realm minor sanitation infrastructure and equipment and more focused deployment of staff. The real time input through 311 has allowed us to strategically monitor issues and identify new trends.

Table 1 - Sanitation Resources and Service details

Resources and Service Details					
Category	Key Measure (approximations)	2010	2011	2012	2013 year end projection
Total Budget	Total Cost	\$9.1 M	\$9.3 M	\$7.8 M	7.8 M
Total amount of litter collected	Tonnes	8,650	9,770	10,390	10,060
	Cost/tonne	\$1,052	\$952	\$741	\$775
Service Type					
Manual clean-up of debris adjacent to public litter receptacles and bus stops.	Tonnes of material collected	570	600	500	430
Mechanical flushing and sweeping of vehicle and bike lanes.	Tonnes of material collected	340	330	240	230
Emptying public litter and recycling containers	Tonnes of material collected	1,900	2,700	2,360	2400
Removal of abandoned/illegally dumped materials from streets, lanes and parks.	Tonnes of material collected	1,960	2,020	2,100	2200

Annual clean-up of street leaves (Nov-Jan).	Tonnes of material collected	3,880	4,720	5,190	5,000
Commercial container licensing and abandoned garbage/illegal dumping investigations and enforcement.	Number of cases investigated	2,060	1,500	1,750	2,000

Of interest in reviewing the performance metrics is that even though the number of calls for abandoned waste pick up has gone up significantly the actual weight of material collected in various categories has only gone up slightly.

This reflects the changing nature of the material that is being abandoned. We are finding many more mattresses and larger numbers of smaller electronic items such as computers and monitors are being abandoned and these are bulky and relatively light. Even though there is only an increase of approximately 200 tonnes of material since 2011, due to the lighter nature of the materials this represents a significant increase in volume.

Key Benchmarks re Litter:

Vancouver has about 1300 litter containers on sidewalks and at bus stops which translates to an allocation of about 22 receptacles per 10,000 people. Based on a survey of regional municipalities and other North American cities, Vancouver is in the mid-range of litter containers per capita: City of North Vancouver 27, Langley 25, Burnaby 22 and New Westminster 21; San Francisco 37, Toronto 26, Oakland 20, Edmonton 18, and Los Angeles 13. Notwithstanding San Francisco's high litter container per capita, it has a high rate of illegal dumping compared to other cities and spends considerably more per capita on sanitation. Data from the same study shows that both Vancouver and San Francisco have an expedited response to reports of illegal dumping.

In the downtown core, the City has worked closely with the DVBIA to increase the effectiveness of litter management through the use of metrics to allocate resources. In January, August and November 2012, the Downtown Vancouver BIA (Business Improvement Association) conducted surveys to measure the frequency that litter receptacles were found full or overflowing. The January 2012 survey revealed that receptacles were full or overflowing 25% of the time checked. Service level increases for summer 2012 had a positive affect and the frequency of full or overflowing litter receptacles was reduced to 6% and 7%. Over the summer of 2013, there have been very few calls regarding overflowing containers in the downtown core.



As noted above, 311 calls are an essential part of our assessment process for cart location and in some cases deployment of resources. Street litter containers at bus stops are included as part of the City's street furniture contract with CBS Decaux and staff are working with CBS to review our 311 metrics to ensure adequate coverage. Similarly Sanitation and Park Board staff work together to properly locate and service containers in parks and along the Seawall to ensure an adequate number of containers are deployed.

Special Issues:

Municipally delivered litter management programs focus primarily on the provision of infrastructure for collection of debris such as discarded paper products, fast food containers, beverage containers and other forms of packaging. Addressing materials such as cigarette butts and gum is a worldwide challenge in cleanliness in the public realm. Typically those disposing of these materials improperly do not consider what they are doing as littering.

- **Cigarette Butts:** Over the last few years a number of initiatives have been undertaken with the BIAs to better manage littering related to cigarette butts. Probably the most promising has been a 2013 grant from the Vancouver Foundation's Greenest City Grants in 2013 to fund a *cigarette butt return program* at a Car Free Day event in the West End. The program paid people a penny for every returned butt, or \$20 per pound. 60,000 butts were collected. In parallel with this initiative, TerraCycle Canada launched the Cigarette Waste Brigade program. This program enables participating individuals, businesses and community groups to collect and ship, free of charge, cigarette filters and related tobacco waste materials for recycling to TerraCycle, in return for points that can be converted to cash donations to charities.

In response to Council's direction to address cigarette litter, the City has entered into a partnership with TerraCycle to initiate a pilot of 110 cigarette butt recycling stations in three BIA's in November 2013. If the pilot is successful, TerraCycle has committed to expand it to over 2,000 recycling stations in areas of Vancouver where there is significant cigarette butt litter. Should the pilot be unsuccessful, efforts should be directed towards an expansion of the Provinces EPR program to include cigarettes and cigarette butt recycling.

- **Chewing Gum:** Gum removal from streets and sidewalks remains one of the most challenging areas in street cleaning. The issue is more pronounced where there is

intense commercial activity at grade. Some BIA's utilize gum removal machines (similar to pressure washers) on City sidewalks. The city could better support this local activity by assisting in the provision and maintenance of gum removal equipment that BIAs could deploy through social enterprise to undertake this work in their local areas.

Sanitation Infrastructure and Equipment:

Strategic use of evolving technology and the ability to automate collections is the key to sustaining an effective and cost efficient program. Focus will be on a number of areas:

- Reduced use of street litter containers which require manual pick-up;
- Continued enhancement of our open-access recycling infrastructure on our streets to enable the binning community to divert waste while supporting marginalized individuals;
- Encouragement of partnerships to enhance recycling in streets and parks:
 - In August 2012, the City partnered with Encorp Pacific, the stewardship agency responsible for managing the deposit refund system in BC, on a pilot involving the deployment of 60 receptacles - the results showed that where these new receptacles were installed there was 94% fewer recyclable beverage containers in garbage bins. The installation of an additional 100 receptacles was completed in October 2013;
- Continued enhancement of newspaper recycling infrastructure:
 - A compartment for newspaper recycling can be found on all 50 Multiple Publication Newsracks in the City diverting approximately 20 tonnes of newsprint per year;
 - A Newspaper Recycling Pilot (2011) consisting of 18 dedicated receptacles placed at high traffic locations along the Broadway corridor is currently diverting approximately 23 tonnes of newsprint per year;
- Continued work with MMBC on their plans for the 50 to 60 percent of litter collected by the City from public receptacles and over 85 percent of litter collected from sidewalks and lanes which is PPP and which will now fall under their statutory responsibility for collection:
 - MMBC has approached the City to discuss the development of pilot projects for on street recycling of these items and staff will be pursuing increased opportunities in coordination with MMBC;
- Street Sweeping:
 - Utilize new fleet arriving in November 2013 to minimize downtime due to aging vehicles and focus on areas where metrics show more need;
 - Use effective signage, new technology and enhanced enforcement to clear streets for cleaning to enhance efficiency - discontinue free convenience towing of cars, particularly for annual leaf clean up;
 - Acquire appropriate vehicles to undertake sidewalk, plaza and bike lane cleaning programs.

Engaging our Citizens and Businesses

Over the last year, the City has effectively communicated and engaged with thousands of residents who have transitioned to the weekly foodscraps program and biweekly garbage collection - a major transition. In the area of litter, the Keep Vancouver Spectacular (KVS) program is a well-established volunteer clean-up program that promotes civic responsibility and provides opportunities to further educate people on the impacts of litter.

Keep Vancouver Spectacular has been an exceptional program from the perspective of messaging around litter, engaging citizens in something they care about in their

neighbourhood and in collecting litter and abandoned waste. The program can be a platform for enhancing the City's litter control objectives with a specific focus on areas where our metrics indicate need. Particularly in areas where additional recycling of mattresses and electronics could be facilitated and abandoned waste reduced.

For example, separate recycling bins could be provided with community supervision that could be used to appropriately divert mattresses and electronics as well as other materials to recycling. Prior to the spring 2014 KVS season staff will work with MMBC, Encorp, Return-it and other recycling organizations to propose a program to expand the KVS offering.

Staff recommend:

- Expand Keep Vancouver Spectacular from a one-month to a year-round program that provides opportunities for recycling large household items;
- Utilize the activities of the Engaged City Task Force to support new community cleanup initiatives including adopt-a-block programs, park and school yard cleanups, and corporate challenge cleanups;
- Test a "take City Hall to local neighbourhoods program" with a pilot "big item recycling day" in which will allow residents to drop off their mattresses, electronics and other recyclable materials for handling and removal by the City.

Enforcement

In Vancouver, littering is prohibited under the Street & Traffic Bylaw (No 2849, Section 84) and the fine for littering ranges from \$250 to \$2000, however, enforcement of this aspect of the bylaw is currently limited. Currently the ability to request identification and issue a ticket rests primarily with the Police.

Enforcement of littering bylaws is challenging and requires significant resources. A recent study by Action Research for Keep America Beautiful ("Littering Behavior in America") suggests the effectiveness of enforcement is generally unknown. More effectiveness is attributed to ongoing anti-litter communications programs and community involvement as mentioned above. A focus for the city based on metrics would be abandoned items such as mattresses, furniture and electronics. Staff will work with Legal Services, Community Services Group Licences & Inspections, VPD and Community Policing to review options in this area.

Implications/Related Issues/Risk (if applicable)

Financial

The proposed KVS expansion and other actions described in this report can be accommodated within the 2014 Operating Budget. For the purchase of additional equipment to improve sidewalk and bike lane cleaning staff recommend repurposing a portion of the funds previously approved by Council for the purchase of solar compacting litter receptacles for this purpose.

CONCLUSION

Staff are proposing to use a combination of increased monitoring, deployment of additional containers, a review of infrastructure based solutions that provide greater capacity, additional equipment, communications planning and increased volunteer support to reduce litter and improve the overall cleanliness of the City.

Removal of the courtesy towing component of the leaf collection program for fall 2014 will result in annual cost savings to the City. Promoting and pursuing initiatives with external partners, such as Encorp, TerraCycle and MMBC, will provide more recycling options for the public and help shift responsibility away from government managed, taxpayer financed programs. Expanding community litter initiatives through KVS will help promote shared responsibility and build on the strengths of that program and research into communications strategies will help provide clarity on next steps with respect to resource requirements for anti-litter communications.

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APPENDIX A - Community Partnerships/Initiatives

Social Enterprise Micro-cleaning

For the last 15 years Council has approved annual grants to social enterprise organizations that have the capacity to provide “micro-cleaning” services. Micro-cleaning involves daily collection of litter including cigarette butts, needles and other accumulated debris, on foot using brooms, shovels, rakes and wheeled carts. This work is focussed mainly in the DTES and is outside the scope of services provided by City forces.

Grant funding provided by the City for 2012 in the amount of \$175,000 (\$90,000 from the Street Cleaning Operating Budget) resulted in the following measures of success:

- 350 City blocks cleaned;
- over 13,000 work hours provided to people with barriers to traditional employment; and
- over 7,500 bags of litter collected.

Micro-cleaning services funded by City grants also complement other street cleaning services, such as programs coordinated by Business Improvement Associations (BIA's), the Downtown Community Courts and a needle/used syringe collection and tracking program lead by Vancouver Coastal Health (VCH). The majority of BIA's also use non-profit micro-cleaners, such as United We Can and Coast Foundation, in their programs. Due to the variety of street cleaning initiatives, staff work with grant recipients throughout the year to ensure cleaning resources are allocated appropriately.

Provincially funded Great Beginning's initiative

In 2008, the Province allocated \$10 million to the City to celebrate Vancouver's founding neighbourhoods, collectively known as the DTES. One key initiative within the Provincially funded Great Beginnings Program is the Clean Streets Program which involves two non-profit organizations, United We Can and Coast Foundation, providing regular micro-cleaning of city lanes and streets in the DTES.

In 2012, the Clean Streets Program provided about 20,000 work hours to people with barriers and resulted in over 13,000 bags of litter being collected from an area covering approximately 65 blocks in the DTES. The Clean Streets Program initially involved additional cleaning using City forces, however, since funding for that component ended in the 2012 there is a now greater importance on micro-cleaning efforts and this initiative has proved invaluable in maintaining acceptably clean street and lane conditions in the DTES.

The Great Beginnings funding program has now ended and no further grants are available, however staff feel that maintaining this service in the future provides broad based benefits to the City as a whole and particularly to the residents of the DTES. The annual cost to maintain the current level of support for the program is \$285,000 annually. Staff are considering at what level this program should be funded in the future and the best source of funding to support this program and will report back as part of the 2014 budget process.

Keep Vancouver Spectacular (KVS)

KVS is an annual voluntary city-wide spring campaign that brings together individuals, businesses and neighbourhood groups to participate in community clean-up projects on city streets, lanes and other public areas. The City provides equipment and pick up of litter collected and hosts a recognition event for organizers and sponsors.

The number of participants (volunteers) has increased significantly since the program was first introduced in 1996, mostly due to greater involvement of schools. Overall KVS participation has increased from 1,500 volunteers in 1996 to 16,400 volunteers filling more than 6,000 bags with litter in 2012. Most KVS clean-up events take place in May, but there are an increasing number of community groups that organize clean-ups throughout the year including 1,068 volunteers performing 39 clean ups between June and November 2012.

APPENDIX B - STREET CLEANING PERFORMANCE EVALUATION

Litter Receptacle Allotment:

	Population	Estimated # of litter receptacles	# of receptacles per 10,000 people
<i>Other North American Cities</i>			
San Francisco (2012)	812,826	3,000	37
New York (2012)	8,244,910	25,000	30
Toronto (2012)	2,503,281	6,500	26
Oakland (2002)	400,000	800	20
Edmonton (2012)	817,498	1500	18
Los Angeles (2002)	3,695,000	4,850	13
Portland (2002)	529,000	650	12
San Jose (2002)	895,000	800	9
Denver (2002)	555,000	220	4
		Average	22
<i>Metro Municipalities (2012)</i>			
City of North Van	50,725	135	27
Township of Langley	104,177	261	25
City of Vancouver	603,502	1,331	22
City of Burnaby	223,218	500	22
New Westminster	77,000	162	21
		Average	23

San Francisco Street Cleaning Benchmarking Findings 2011:

The following excerpts are summary results relevant to the street cleaning and illegal dumping sections of the 2011 report. The full report can be found at <http://co.sfgov.org/webreports/details.aspx?id=1413>

City	Population	Population Density (persons per square mile)	Land Area (in square miles)
Chicago	2,695,600	11,374	237
San Jose	945,942	5,358	177
San Francisco	824,525	17,543	47
Seattle	606,660	7,251	84
Vancouver	603,502	13,623	44
Washington, D.C.	601,723	8,784	69
Sacramento	466,488	4,727	99
Oakland	390,724	5,009	78

