City of Richmond

# Report to Committee

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| **To:** | General Purposes Committee | **Date:** | May 2, 2019 |
| **From:** | Tom Stewart, AScT.<br>Director, Public Works Operations | **File:** | 10-6370-01/2019-Vol 01 |
| **Re:** | **Single-Use Plastic Items – Preliminary Research Scan** | | |

## Staff Recommendation

That the staff report dated May 2, 2019 titled "Single-Use Plastic Items – Preliminary Research Scan" from the Director – Public Works Operations, be received for information.

Tom Stewart, AScT.
Director, Public Works Operations
(604-233-3301)

Att. 1

| REPORT CONCURRENCE | | |
|---|---|---|
| **ROUTED TO:** | **CONCURRENCE** | **CONCURRENCE OF GENERAL MANAGER** |
| Sustainability | ☑ | |
| **REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE** | **INITIALS:** CJ | **APPROVED BY CAO** |

## Staff Report

### Origin

A staff report titled, "Single-Use Plastic Items – Proposed Consultation" (Attachment 1), dated April 2, 2019 was considered at the April 15, 2019 General Purposes Committee meeting. This report provides additional information to support Council's review of the matter of single-use plastic packaging. Potential waste and emission impacts relating to the life cycle assessment process of alternatives and the importance of evaluating City-specific current and potential challenges are provided to help frame a well-informed decision.

### Analysis

Further research into the issue of single-use plastic packaging has highlighted the complexities of the issue, particularly as it relates to the viability and impacts of alternatives, existing supply chain management issues, life cycle assessment and industry and user stakeholder considerations. Within the City's mandate of business regulation, it is important to draw parallels to actions taken by the City in support of overall waste management objectives and emissions reduction targets. A better understanding of these issues is important to more fully support any transition from single-use packaging items. This is particularly important to avoid unintended consequences of substituting alternatives that could create more waste or generate greater emissions when life cycles are considered.

#### Life Cycle Assessment Considerations

The International Standards Organization (ISO) defines life cycle analysis as a comprehensive impact assessment of a product or service throughout its life cycle, from extraction of raw materials to end of life. All phases including acquisition of resources, production, distribution, use and end of life impacts are considered. Consideration of life cycle impacts of various single-use items can help to avoid unintended negative consequences when considering policy changes.

The following presents preliminary review findings for checkout bags and compostable packaging, as well as considers study findings related to human behaviour.

##### *Disposable Shopping Bags*

There are generally five different types of single-use disposable shopping bags:

1. Conventional plastic;
2. Oxodegradable plastic;
3. Compostable bioplastic;
4. Thick plastic; and
5. Paper.

Table 1 summarizes early research findings relating to the life cycle of these various disposable bags.

Table 1: Comparison of Disposable Shopping Bags - Life Cycle Considerations

| | Material | Life Cycle Considerations/General |
|---|---|---|
| **Conventional Plastic Bags** | • High density polyethylene<br>• 17 microns thick | • Low environmental impact for extraction, production, distribution and use.<br>• More impact when abandoned in the environment.<br>• Lowest overall environmental impact when recycled. |
| **Oxodegradable Plastic Bags** | • High density polyethylene<br>• 17 microns thick | • Low environmental impact for extraction, production, distribution and use.<br>• Designed to only degrade when exposed to oxygen.<br>• Same impact as conventional plastic when abandoned in the environment.<br>• Not accepted for recycling in conventional programs as they contaminate recycling and composting streams. |
| **Compostable Bioplastic Bags** | • Cellulosic materials – wood, plant fibers and several types of plastic (PLA, PHA, HDPE, LDPE, PET, TPS)[1]<br>• 20 microns thickness | • High amount of fossil fuels used in production – agricultural, fertilizers, milling, fermentation, etc.<br>• Replace fossil fuel-based inputs with renewable inputs.<br>• Biodegradable does not mean bio-based.<br>• Not all bio-based materials are compostable.<br>• Not accepted for recycling in conventional programs as they contaminate recycling streams.<br>• Not accepted in commercial composting operations. |
| **Thick Plastic Bags (shopping mall type)** | • Low density polyethylene<br>• 50 microns thickness | • Uses higher amounts of fossil fuels in production, distribution and use (due to thickness).<br>• When used four or more times, impact is equal to that of a conventional plastic bag.<br>• More impact when abandoned in the environment. |
| **Paper Bags** | • Unbleached kraft paper | • High impacts on resource and energy use, and water contamination during processing.<br>• Causes 14 times the impact on water quality and consumes 4 times more water than a conventional plastic bag.<br>• Low impact if abandoned in the environment. |

[1] polylactic acid (PLA), polyhydroxyalkanoates (PHA), high-density polyethylene (HDPE), low-density polyethylene (LDPE), laminated films (variety of feedstocks), polyethylene terephthalate (PET) and thermoplastic starch (TPS).

A preliminary scan of environmental life cycle assessment studies for single-use items from Quebec, the United Kingdom, and Oregon indicated that conventional plastic bags have the least environmental impact when considering resource extraction, production, distribution, and use. The conventional plastic bag has more environmental impact when discarded directly into the environment. Oxodegradable bags should be avoided entirely due to the fact that oxodegradable bags do not decompose, but rather fragment into tiny fragments of plastic only when exposed to oxygen. Thick plastic bags need to be used four or more times to be more environmentally beneficial. Paper bags are considered least performing as they cause 14 times the impact on water quality, consume 4 times the water, generate 3 times the amount of waste, and 3 times the greenhouse gas emissions when compared to conventional plastic bags.

*Reusable Shopping Bags*

There are three types of typical reusable bags:

1. Woven plastic,
2. Non-woven plastic, and
3. Cotton

Table 2: Comparison of Reusable Shopping Bags - Life Cycle Considerations

| | Material | Life Cycle Considerations/General |
|---|---|---|
| **Woven Plastic Bags** | • Polypropylene (PP)<br>• Thin plastic strips woven together (e.g. rice bags) | • Uses higher amounts of fossil fuels in production, distribution and use (due to thickness).<br>• When used 16-98 times, impact is equivalent to that of a conventional plastic bag. |
| **Non-Woven Plastic Bags** | • Polypropylene (PP)<br>• Melted PP granules, transformed into fibres and hot pressed into a textile (reusable material bags) | • Uses higher amounts of fossil fuels in production, distribution and use (due to thickness).<br>• When used 11-59 times, impact is equivalent to that of a conventional plastic bag. |
| **Cotton Bags** | • 100% natural fibre | • High amount of resources and fossil fuels used in production – land use, fertilizers, energy use, etc.<br>• Replace fossil fuel-based inputs with renewable inputs.<br>• When used 131 times, impact is equivalent to that of a conventional plastic bag.<br>• Low impact if abandoned in the environment. |

As shown in Table 2, when comparing these different bag types, studies have shown that woven and non-woven polypropylene bags need to be used numerous times to outperform the lifecycle of a conventional plastic bag. If reused a sufficient number of times, these woven and non-woven plastic bags pose the least overall environmental impact. A cotton bag has to be reused 131 times to match the equivalent greenhouse gas emissions from a conventional plastic bag. These types of bags are typically disposed at end of life, with no current options for recycling.

A 2019 University of Sydney School of Economics study indicated that while disposable shopping bag bans have the effect of significantly reducing or eliminating their production and use, sales of garbage bags typically increase. The study showed that the purchase of store bought garbage bags increased by 120% for small trash bags following implementation of a ban on the distribution of conventional plastic bags. Even with this increase, there is still a net reduction of the overall plastic film produced.

Compostable Packaging

There are similar complicating factors to be considered when evaluating compostable materials as a substitute for traditional plastic packaging.

1. *Compostable Plastics*: All commercial composting operations licensed in British Columbia do not accept compostable or bio-plastics. These materials are not permitted under the provincial *BC Organic Matter Recycling Regulation*. Key issues include:

a. Compostable bio-plastics generally showed higher degradability in soil environments, but many do not degrade in fresh water and marine environments. For this reason, they are considered comparable to conventional plastics in terms of their potential to harm fresh water and marine ecosystems.

b. There is a risk of spreading compounds and other materials from the composting process into the soil environment.

2. *Compostable Packaging*: Early research into other/paper compostable packaging items indicates:

a. Compostable products exhibited significantly higher impacts in a large majority of comparisons due to resource extraction and other life cycle considerations.

b. Some paper based packaging can be treated with lining compounds for moisture resistance. The make-up of these compounds needs to be reviewed from a safety perspective, as these compounds can accumulate in the human body.

c. There are risks of spreading compounds and other materials from the composting process into the soil environment.

Consultation with composting facility operators is required as part of evaluating their ability to accept the array of new products being introduced into the marketplace which are being labelled as "compostable". Certification standards, look-a-like products, and increased quantities of materials for handling are issues that need to be reviewed with composting facility operators. Otherwise, they risk added financial cost (e.g. removing look-a-likes and other non-compostables at the tipping/sorting stations) and potentially lower value for the finished compost if quality is impacted.

Consumer Trend Behaviours

A 2014 life cycle assessment study of grocery bags commonly used in the United States was conducted by Clemson University. It revealed the following trends in check-out bag usage:

- 28% of people had acquired a reusable grocery bag;
- 87% of those had used reusable bags for groceries;
- Consumers forgot to bring their reusable bags 40% of the time;
- Low density polyethylene bags are designed for approximately 125 uses, but are used on average only 3.1 times which poses greater consumption rates and higher environmental impacts than a conventional plastic bag;
- Less than 10% of people use the low density polyethylene bag the recommended number of times (125);
- Between 25-40% of people are reusing their non-woven polypropylene bags enough times to warrant the per-bag environmental impact; and
- 15% of consumers wash their reusable bags, and 23% never wash them.

*Summary Context*

This discussion highlights that a greater understanding of the complexities would be helpful in supporting the business community and residents in substituting appropriate alternatives. A technical study to scan and summarize relevant studies to guide the use of alternatives is suggested.

**Other Considerations**

There are a variety of other issues that would need to be understood and considered as part of technical analysis and consultation on this issue, including:

- *Impacts to food spoilage*. Plastic packaging extends product shelf life by restricting oxygen exposure to the packaged food item. For example, a plastic wrapped cucumber typically lasts more than three times as long as an unwrapped one. There are direct impacts to waste generated from food spoilage.
- *Cost impacts*. There are higher costs associated with transitioning from plastic packaging, although these could balance over time as industry adapts.
- *Business model impacts*. The current industry supply chain has been built around existing packaging types. Understanding the impacts and adjustments needed would be an important aspect of implementing change. Those industrial businesses most impacted through their manufacturing processes are likely to want their input considered.
- *Geographic Impacts*. This issue is broad-based and crosses multiple municipal jurisdictions. Action at higher levels of government to create a level playing field for businesses and residents alike is needed to avoid confusion. This should include consistent standards to avoid false-marketing of products labelled as environmentally-preferred when these products could have even greater negative environmental impacts.

Richmond Business Scan

There are approximately 2,096 businesses in Richmond that may be affected by regulation, including 839 licenced food vendors and 1,257 retail trading businesses. Based on the experience of other jurisdictions, many will require support from the City in understanding alternatives, and in providing outreach materials each can use to convey the regulatory nature of the change to their customers. Preparing educational materials in multiple languages will be an important aspect of any outreach program.

Detailed Approach to Review Single-Use Packaging Issues – Technical Review/Consultation

An approach based on technical research and community consultation would involve:

1. *Additional Technical Research*

   The scope of this work would include a more detailed technical review of the life-cycle impacts of single-use packaging and preferred alternatives. The review would consider the impacts of various single-use packaging material items, industrial considerations,

impacts of alternatives, regulatory tools and precedents, implementation considerations and specific engagement strategies. This document would be used to frame a discussion paper for use during consultation and would ultimately formulate into an information guide for use by businesses and residents on banned items with suggested alternatives, pitfalls to be avoided, etc.

The review will also attempt to quantify the impacts of single-use packaging for litter operations and other operational impacts (street sweeping, drainage system) specific to Richmond, as part of establishing indicators to measure the effectiveness of single-use policy changes.

Timeframe: Three months.

Estimated Cost: $35,000

2. *Discussion Paper*

Stemming from the work done on the technical research, the discussion paper would include an informed discussion on life cycle issues, provide guidance on alternate products and frame the rationale to support the need for policy change. The Discussion Paper would inform the consultation program designed to gauge community support for bans or other policy levers to reduce or eliminate single-use packaging, including those most impactful for Richmond. Based on input received and findings through the consultation process, the Discussion Paper would evolve into a Reference Guide for alternative materials for businesses and stakeholders.

Timeframe: Two months

Estimated Cost: Included in above.

3. *Stakeholder and Community Consultation*

Two phases of consultation would be undertaken. The first being with business and stakeholder industry organizations to review the impacts of regulating single-use packaging, how business would be involved in supporting the regulations and resources they would require, practicality and preferred methods of regulation, as well as methods to evaluate evolving research and development in this area. This work would include engagement with other local regional governments to determine if a regional approach could be developed.

The second phase would involve consultation with residents as part of raising awareness, obtaining public opinion on problematic items, educating on alternatives and gauging public opinion on policy approaches.

Timeframe: Five months.

Estimated Cost: $90,000

*4. Coordination/Administration*

A dedicated resource would administer the technical review, community consultation process, and engage internal City stakeholders. Development of a policy approach and strategy document for implementation as well as on-going support requirements in future years, would be the deliverable.

Timeframe: Six months

Estimated cost: $60,000

The above is a general overview of the expected effort to effectively deliver a proposed strategy based on a consultative approach. Specific aspects may vary as the process unfolds. Total estimated costs for the technical research and consultative approach are $185,000.

Options

There are a number of options Council can consider to advance actions on single-use packaging and single-use plastics. These range from direct policy actions to ban single-use plastic packaging, to requesting action by provincial and federal authorities, who have the direct mandate to regulate for environment protection purposes.

A summary of potential options include:

1. Implement policy actions to mirror those of the City of Vancouver, as outlined in the April 25, 2019 staff report titled "Single-Use Packaging".

2. Undertake technical review and consultation, as outlined above and in the staff report dated April 2, 2019 titled, "Single-Use Plastic Items – Proposed Consultation".

3. Advocate to provincial and federal authorities to take appropriate action to create a level playing field in relation to single-use packaging and creation of clear compost ability standards for packaging that is compostable.

**Financial Impact**

None.

## Conclusion

This report provides additional information to support Council's review of single-use packaging. Information relating to considerations for environmental life cycle assessments of alternative products is presented for consideration. More detailed information on the approach for a technical review/consultative approach, as outlined in the April 2, 2019 "Single-Use Plastic Items – Proposed Consultation" staff report, is provided.

Given the complexities of the issue of single-use packaging, need for clear standards and a level playing field across multiple jurisdictions, a coordinated approach which includes policy actions at provincial and federal government levels is required.

Suzanne Bycraft
Manager, Fleet and Environmental Programs
(604-233-3338)

SJB:

Att. 1: April 2, 2019 "Single-Use Plastic Items – Proposed Consultation" staff report

City of Richmond

# Report to Committee

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|---|---|---|---|
| **To:** | General Purposes Committee | **Date:** | April 2, 2019 |
| **From:** | Tom Stewart, AScT.<br>Director, Public Works Operations | **File:** | 10-6370-01/2019-Vol 01 |
| **Re:** | **Single-Use Plastic Items – Proposed Consultation** | | |

**Staff Recommendation**

1. That Option 2 as outlined in the staff report titled, "Single-Use Plastic Items – Proposed Consultation", dated April 2, 2019 from the Director, Public Works Operations, be endorsed.

2. That expenditures in the amount of $185,000 be approved, with funding from the General Solid Waste and Recycling provision, and that the 5-Year Financial Plan (2019-2023) be amended accordingly.

Tom Stewart, AScT.
Director, Public Works Operations
(604-233-3301)

| REPORT CONCURRENCE | | |
|---|---|---|
| **ROUTED TO:** | **CONCURRENCE** | **CONCURRENCE OF GENERAL MANAGER** |
| Law | ☑ | |
| Recreation Services | ☑ | |
| Sustainability | ☑ | |
| Finance | ☑ | |
| **REVIEWED BY STAFF REPORT / AGENDA REVI W SUBCOMMITTEE** | **INITIALS:** | **APPROVED BY CAO** |

6137604

**Staff Report**

## Origin

This report responds to a referral to staff at the February 19, 2019 General Purposes Committee meeting where Committee endorsed the following referral motion:

> *"Whereas plastic pollution is a major threat to our environment and it is estimated that approximately three billion plastic bags are used annually in Canada. The average plastic bag is used for 20 minutes and takes more than 400 years to break down;*
>
> *Whereas Canada is a signatory of the Ocean Plastics Charter in September 2018 and more than 60 countries have taken action to fight plastic pollution;*
>
> *Whereas in September 2018 a motion was unanimously passed at the UBCM Convention to call for a provincial ban on plastic bags and some cities, such as Victoria and Salmon Arm, already have bylaws to ban single-use plastic bags; and*
>
> *Whereas Vancouver has voted to ban the distribution of plastic drinking straws as well as foam containers and cups commencing June 1, 2019;*
>
> *Therefore be it resolved that staff be directed to study the merits and practicability of banning single-use plastic items including plastic bags and plastic drinking straws in Richmond and report back with recommendations in 60 days."*

This report also provides broader information concerning the challenges associated with plastics in the environment. The report outlines a suggested strategy to be developed through a community consultation and engagement program.

## Background

Richmond's Current Solid Waste and Recycling Programs

The City has implemented a number of programs and services which provide for sound and responsible waste management. These initiatives have established the City as a leader in achieving 78% waste diversion by residents in single-family homes. These services include recycling programs for plastic materials, including many single-use items.

- **City Recycling Depot**: A wide range of materials are accepted at the Recycling Depot, and these services are being expanded in 2019. In relation to plastics, the depot accepts plastic bags and overwrap, and flexible plastics were added in 2018. Single-use plastic items are accepted at the Recycling Depot and include polystyrene foam materials such as cleaned meat trays, cups, take-out containers, and polystyrene used for packaging.

- **Blue Box/Blue Cart Programs**: These services provide for recycling of mixed paper, containers, glass bottles and glass jars. Single-use plastic items accepted in the Blue Box include food containers (including those used for take-out), plastic drink cups and lids, microwavable plastic bowls, aseptic boxes/cartons, and similar single-use plastic items.

- **Green Cart Program**: Food scraps and yard trimmings are recycled through this program, including any containers that are made of 100% paper materials.

- **Garbage Cart Program**: Regular collection of non-recyclable items is provided to residents, with subscription service based on cart size. This service is supplemented with a large item collection program, where residents can have up to six items collected per year. These programs help to reduce dumping and abandoned litter in the community.

- **Public Spaces Recycling and Litter Collection**: This service is operated seven days per week to ensure waste and recycling collection from public spaces and parks. There are approximately 4,500 containers in the community serviced over 25,000 times every month. Litter and abandoned waste collection services, coupled with operational programs such as street sweeping, are important to help prevent litter and waste from entering the environment through storm drains or by becoming wind-blown.

- **Education and Outreach**: Community engagement programs are undertaken to involve youth in environmental protection activities and educate the public in general about programs and services. Responsible recycling and waste management practices are integrated into these outreach programs. The City also has the Partners for Beautification program, which encourages public engagement in taking ownership for keeping areas clean and litter free through park/open space adoption.

These programs and services position Richmond as a responsible and forward-thinking City in minimizing the impact of waste on the environment. Continued focus on these programs and services is required as part of any future change management solution. Many of the significant challenges and concerns with plastics and waste in the environment originate in areas where sound waste management and recycling programs are not provided, and where plastic and other waste is dumped directly into the ocean.

Environmental Impacts from Plastic Waste

Plastic waste and its impact on the environment has garnered increased public attention as the negative environmental impacts, particularly in oceans, are becoming increasingly evident. Plastic was initially introduced in the 1950's as a lighter alternative to traditional materials such as glass, paper and metal. However, the durability and inorganic nature of plastic is proving problematic when these materials enter the environment in unintended ways. It is estimated that over 8.3 billion tonnes of plastic has been produced around the world. In Canada, only 11%-12% of the roughly 3.84 million tonnes of plastic used annually is collected for recycling.

Plastic is lightweight, durable and impervious. This makes it an ideal material for reducing shipping costs and product loss. These are the same qualities that create challenges when it comes to end of life management. The lightweight nature of plastic materials also makes it easy for various items to become windblown and ultimately enter ecological systems. Polystyrene foam, which is also plastic, is particularly light. This makes it susceptible to entering the environment by becoming blown or scattered. While polystyrene foam may break apart more

easily into smaller particles, it remains a plastic material that takes hundreds if not thousands of years to break down.

Plastic including polystyrene foam is particularly problematic in oceans, as its characteristics such as its colour, texture and absorbed odours cause it to resemble food typically ingested by marine life. It is estimated that between 1.15 million and 2.41 million tonnes of plastic waste currently enter the world's oceans every year from rivers alone. Ingested plastics lead marine life to feel satiated since the plastic remains in their digestive system, leading ultimately to starvation. Micro plastics (or those broken down into minute particles) transfer to the flesh of sea life. These micro plastics are transferring to humans as marine life enters the food chain. Left unabated, the Ellen MacArthur Foundation has estimated that the ocean will contain more plastic than fish by weight by the year 2050. Negative impacts to human health will be inevitable as plastic and other waste takes a chokehold on the oceanic and overall ecological landscape.

**Analysis**

The effect that plastics are having on the environment is a pivotal issue, which has prompted a range of commitments and actions by governments and private industry. Key actions relevant to our region are summarized below. More detailed information on these as well as international and private industry actions are further discussed in this report. While plastics in many different forms are creating negative environmental impacts, single-use plastics including polystyrene foam have been the principle focus of many governments, agencies and businesses since it is estimated that 26% of plastic created world-wide is designed to be used once and then discarded. Without robust systems to collect, recycle and/or properly manage these single-use plastics, the amount of single-use plastic items being discarded every minute is increasing.

National, International and Local Commitments/Actions

*Government of Canada*
In June 2016, the Government of Canada added "plastic microbeads that are ≤ 5 mm in size" to the *List of Toxic Substances in Schedule 1 of Canadian Environmental Protection Act,* which prohibits the manufacture, import and sale of toiletries that contain plastic microbeads as of June, 2017.

The federal government updated the *Greening Government Strategy* with three new commitments to reduce plastic waste. Canada intends to:

1. divert at least 75% of plastic waste by 2030 from federal operations,
2. eliminate the unnecessary use of single-use plastics in government operations, events and meetings, and
3. when procuring products that contain plastics, promote the procurement of sustainable plastic products and the reduction of associated plastic packaging waste.

Convening in Charlevoix in June 2018, the Leaders of the G7 Summit brought forward the *Ocean Plastics Charter* in which Canada, France, Germany, Italy, the United Kingdom and the

European Union committed to taking action toward a more resource-efficient and sustainable lifecycle management approach for plastics. Further, the Government of Canada opened the *Dialogue on Plastic Waste* in 2018, which found that "Canadians are aware that plastic pollution, waste, and heavy consumption of single-use items is an issue that needs to be addressed promptly in Canada and around the world".

*Canadian Council of Ministers of the Environment*
In November 2018, the Canadian Council of Ministers of the Environment (CCME) approved in principle a Canada-wide strategy on zero plastic waste which outlines a vision to keep all plastics in the economy and out of the environment. The CCME is to develop an action plan and report back for consideration in 2019.

*Federation of Canadian Municipalities*
The Federation of Canadian Municipalities called on the Government of Canada to develop a national strategy that seeks to eliminate plastic pollution and identify if plastics and plastic additives are toxic or cannot feasibly be collected and recycled and ban or regulate their import, use and/or sale.

*Union of BC Municipalities*
The Union of BC Municipalities (UBCM) Resolutions Committee endorsed that the Province of British Columbia should engage the packaging industry to develop a provincial Single-Use Item Reduction Strategy as a part of the provincial *Zero Waste Strategy*. UBCM notes that this could include single-use items such as plastic and paper shopping bags, polystyrene foam cups and containers, other hot and cold drink cups and take-out containers, as well as straws and utensils.

*Metro Vancouver*
The Greater Vancouver Sewerage & Drainage District (GVS&DD) Board directed Metro Vancouver staff in October 2017 to determine actions to reduce waste from single-use items that are best done on a regional level. The Board approved initiating consultation on a regional single-use item reduction strategy in February 2018. The outcome of the regional approach is expected to be a toolkit for local governments, since there are limitations on regional authority in relation to this issue.

The potential Metro Vancouver actions include:

1. Education and promotion for business and residents – development and dissemination of education and behaviour change resources including guides and best practices.
2. Reusable dishware, containers and cup exchanges – explore options to increase use of reusable items. Could include programs, pilots and/or policies to encourage reuse and/or exchange programs for containers and cups.
3. Fees, discounts or deposits – identify options to implement fees, discounts, or deposits on single-use items.
4. Disposal ban – implement a disposal ban for single-use items.
5. Require recyclable or compostable items – consider requirements for use of recyclable and/or compostable materials for single-use items.

6. Restrict sale and use – explore options to restrict sale of specific single-use items.

On February 8, 2019, the GVS&DD Board approved recommendations to write the Minister of Municipal Affairs and Housing and the Minister of Environment and Climate Change Strategy expressing support for the UBCM resolution requesting that a provincial single-use item reduction strategy be put in place.

*City of Vancouver*
As a priority action in Zero Waste 2040, Vancouver City Council approved the Single-Use Item Reduction Strategy on June 5, 2018, which outlines aggressive steps to reduce the use and impact of single-use items in Vancouver. Vancouver held three phases of consultation with stakeholders and members of the public to receive comments, ideas and suggestions to develop the strategy. Additional consultation will continue to be undertaken. The strategy's priority actions include bylaw amendments to prohibit plastic straws, polystyrene cups and take out containers, and require reduction plans to reduce the use of plastic and paper shopping bags and disposable cups.

Potential City of Vancouver Bylaw Actions:

1. Plastic straws – Implemented through an amendment to the License Bylaw, business license holders will be prohibited from distributing single-use plastic straws beginning June 1, 2019.
2. Polystyrene cups and take out containers – Implemented through an amendment to the License Bylaw, business license holders will be prohibited from selling or otherwise providing prepared food in polystyrene foam cups or take-out containers beginning June 1, 2019.
3. Plastic and paper shopping bags and disposable cups – Target 2019-2020 – Implemented through the creation of a reduction plan bylaw (modelled after the flexible approach in the Solid Waste Bylaw No. 8417), business license holders that use disposable cups and plastic and paper bags will be required to significantly reduce the amount of these items they distribute. Businesses can choose their own approach for achieving reduction by one of the following options:
    a. Distribute no disposable cups or plastic/paper shopping bags.
    b. Do not distribute disposable cups or plastic/paper shopping bags for free.
    c. Other mechanisms that achieve a reduction target to be proposed and finalized through consultation.

Further anticipated bylaw amendments include: requiring food vendors to offer single-use utensils only upon request, and, once composting and recycling markets are strengthened, requiring single-use items to be recyclable or compostable, and collected in commercial establishments and office buildings for recycling or composting. To support this transition, Vancouver City Council has directed staff to conduct a communications and engagement campaign on the proposed bylaw amendments. The strategy also notes that there are opportunities for Vancouver to provide more tools, information and training, to support businesses and organizations in the transition away from polystyrene foam cups and containers. The strategy also identifies actions for Vancouver to reduce single-use items in its own operations.

6137604

*Private Sector*
A variety of larger companies such as Starbucks, A&W, McDonald's, Unilever and Ikea are tackling the issue of single-use and plastic packaging in their commercial enterprises. Their various actions include commitments to increase recycling rates of plastic packaging, reduction of packaging consumption, phasing out of plastic straws and other single-use plastics. With this increased awareness of waste from plastic packaging and single-use plastics, there are opportunities to address this issue on a local, regional, provincial, federal and global scale.

Recommended Scope Material Scope

Due to the tremendous variety and types of various plastic packaging and single-use items, including plastic bags, polystyrene foam containers and plastic straws, it is recommended that a discussion paper be developed as a first step. This would help to identify the various types of materials to be targeted in a potential ban or reduction strategy. Such a discussion paper could focus on the following:

1. *Plastic Bags*: Consideration is needed in relation to the wide variety and type of bags to be considered in the scope of a ban, such as:

   - Check-out plastic bags (grocery style only or also include shopping mall bags);
   - Vegetable bags and other bags designed to hold food for safe transport (i.e. bread bags);
   - Dry cleaning bags;
   - Garbage bags; and
   - Consideration of material thickness (i.e. if a thicker plastic bag is used, would it be considered a reusable bag).

   The list is not exhaustive, but the key point is to give consideration to the types of plastic bags to be targeted in any ban, and to seek consultation accordingly. Business and industry also need time to adjust to alternatives, and the discussion paper could help to address environmentally-friendly alternatives such as reusable only or alternative products such as paper. The discussion paper could also help to identify potential unintended consequences to consider, such as whether paper is a better alternative or if it is considered less beneficial due to the natural resources required to produce it.

2. *Single-Use Plastics*: Similar points can be made for single-use plastic items. While straws have received considerable public attention, there are many other single-use plastics that can have harmful effects on marine life, including:

   - Balloons;
   - Coffee and drink cups, including polystyrene foam cups;
   - Polystyrene foam take out containers;
   - Stir sticks; and
   - Cutlery, plates, etc.

   The discussion paper could similarly help to identify alternatives and a potential phased approach for implementation. It could also help guide the City's own practices in its

corporate operations and at events held on City-owned land. This would be considered an important first step and early action to set a leadership example.

Jurisdictional Issues

Municipalities in British Columbia have been provided authority to regulate the use of single-use plastic bags through the *Community Charter's* business regulation provision. This authority was recently affirmed in the case of *Canadian Plastic Bag Association* v. *The Corporation of the City of Victoria*. In this case, a Victoria bylaw prohibited businesses from providing plastic bags to customers. Canadian Plastic Bag Association (CPBA) argued that Victoria was relying on the 'protection of natural environment' clause in enacting the Bylaw, and in doing so, had a duty to consult with the provincial government prior to enacting the Bylaw. Since Victoria did not consult, CPBA argued the Bylaw should be rendered of no force or effect. Victoria argued that it was relying on the business regulation provision and as such had the authority to enact the bylaw without consulting with the Provincial Government. The Court decided that while there may have been environmental considerations in enacting the bylaw, so long as Council has been granted some authority to enact the particular bylaw then the bylaw should be upheld. Further authority for regulating single-use plastics can be found in such cases as *International Bio Research* v. *Richmond* where the Court determined that the municipal regulation of the conduct of a business, including prohibiting certain types of transactions, is an established aspect of valid business regulation.

Considerations and Unintended Consequences of Bans

There would be impacts to residents and businesses associated with any type of plastic packaging ban. These impacts should be considered and addressed as part of community engagement and consultation. In relation to a plastic straw ban, consideration of the impacts to those businesses that serve specialty drinks such as bubble tea, smoothies, and milkshakes would be required. This is similarly true for accessibility issues for institutions/families caring for elderly or infirm individuals who are physically unable to drink other than through a straw. Businesses that currently use foam containers for take-out items may have concerns regarding leakage for sauce-based food items. Based on community feedback, time may be needed to source alternatives and/or Council may wish to opt for a reduction strategy instead as part of a phased-in approach (i.e. items only provided on request).

There could also be health considerations associated with banning single-use items, such as those used for take out containers. Consultation with Vancouver Coastal Health is suggested as part of the recommended consultation process. There remain questions about the practicality of allowing individuals to bring their own take out containers. Some businesses, such as Starbucks, will use personal refillable coffee mugs where they do not handle the lid portion, as they are able to ensure the mug portion is disinfected before filling. These and related potential health and safety considerations would be included in the discussion paper for public engagement and consultation.

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Options

There are a number of avenues the City could use to approach the issue of plastic packaging including single-use plastics and polystyrene foams. These range from independent actions to ban materials or otherwise reduce packaging waste in the immediate term, to an approach which facilitates greater community involvement.

*Option 1 – Implement Policy Amendments to Restrict Plastic Bags, Polystyrene Foams and Plastic Straws (not recommended)*: One option would be to direct staff to bring forward policy changes to restrict plastic shopping bags (check out bags only), polystyrene foams and plastic straws in Richmond in the more immediate term. Community engagement would be limited to providing a notice period for effective dates of the intended bans. At the same time, the City could review and amend its own internal practices and implement policies which establish clear criteria relating to single-use plastics (including plastic bags, polystyrene foams and plastic straws) in City facilities and at events on City owned land.

This option, while more immediate, could be met with resistance due to the lack of consultation and education needed to effectively implement and obtain community buy-in and compliance. Additional internal resource capacity for administration and enforcement implementation measures, supported by external assistance, would be needed to effectively administer this approach, estimated at $125,000. This option is not recommended as it does not provide for sufficient community input in advance of introducing such a significant policy change that has direct impact to residents and businesses.

*Option 2 – Community Consultation and Engagement (recommended)*: This approach involves scoping the issues more broadly as noted above to more clearly identify the types of items to be targeted and methods in which to reduce use, regulate or ban. These would be assembled into a discussion paper which allows for a more robust review of items to be considered (those with the greatest environmental benefit), available alternatives, desired outcomes and impacts as well as other related considerations. The discussion paper could include a review of potential actions best undertaken at different levels (local government, provincial government, business/industry, individuals, etc.) in order to effect meaningful change. The discussion paper would be used as a starting basis to guide community engagement and consultation.

This discussion paper would frame the materials to be targeted. The consultation approach allows for community education to take place as well to provide greater clarity and scope to the range of materials to be targeted for policy actions. At the same time, the City would review its own corporate practices and ensure these are reflective of the direction being pursued for the community to establish a leadership example.

Staff would report back with the discussion paper and proposed community consultation method prior to the commencing the community engagement process. This is the recommended option as it not only allows for community input, but also provides for a more well-rounded approach to ensure impactful change over the longer term.

Following execution of the engagement program, staff will report back with policy, infrastructure, program and regulatory options. Staff expect over this intervening period other

jurisdictions will also be further along in their work creating the opportunity for regional and/or provincial approaches to managing issues related to single-use plastics.

**Financial Impact**

The cost to develop the proposed approach outlined under Option 2 is estimated at $185,000. This cost includes technical and facilitator support for developing the discussion paper and undertaking the stakeholder engagement process, as well as temporary internal coordination/ staffing resource support to manage the project/approach. If approved by Council, funding can be provided from the General Solid Waste and Recycling provision, requiring an amendment to the 5-Year Financial Plan (2019-2023).

**Conclusion**

Increasing amounts of plastic waste in the environment, and in particular the negative impact this is having on ocean life, has sparked a multitude of actions and commitments by individuals, businesses and governments. Measures are needed to substantially reduce or eliminate plastics from entering the environment.

As the issue is broad in scale and will impact residents, businesses and others in Richmond, a well-rounded approach is suggested to secure meaningful actions that are supported and embraced by the community. Staff recommend that a discussion scoping document be developed to better establish meaningful community dialogue to not only educate, but help to engage community input to frame policy decisions by Council in this regard.

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