RECOMMENDATIONS

That Council direct staff to:

1. Convene initial discussions/meetings with key business and waste management stakeholders, before the end of June 2016, to better understand perspectives and issues related to a voluntary retail bag fee, at a cost of no less than 10 cents per bag, to incentivise the adoption of sustainable reusable bags, with the City’s recommendation to re-invest those funds to improve business packaging and sustainability programs and future packaging reduction initiatives;

2. Develop and report on a preliminary work-plan and resource assessment, by July 2016, for the future analysis, engagement, and communications of any related initiatives to reduce single-use packaging;

3. Based on those findings, continue development of a more detailed, longer term, work-plan and the associated resource implications, needed to:
   a. Work with local businesses and retailers in order to promote a voluntary fee for both plastic and paper bags;
   b. To convene or promote a working group with local and regional stakeholders (CRD, MMBC, Province, neighbouring municipalities, waste managers, local retailers and other key stakeholders) to collaboratively develop strategies and initiatives to improve the sustainable management of single-use retail bags, single-use beverage containers, food packaging, and plastic film products, towards an overall goal of zero-waste, and sustainable, circular-economy model.

EXECUTIVE SUMMARY

Several cities around the world and in Canada are regulating the use of single-use grocery bags in effort to reduce the impacts of excessive consumption habits, litter problems, and poor recycling diversion rates. In some regions, plastic bag bans and levies have resulted in dramatic decreases in usage rates. These policy tools aim to change consumer behaviours, forcing shoppers to adopt more sustainable habits, and switch to reusable, long-life bag alternatives.

Reducing the waste accumulated from single-use shopping bags will prevent litter and its associated downstream environmental, economic and social costs. In certain parts of the world, much of the consumer plastic ‘leaks’ from poorly controlled waste management systems, and can enter the ocean environment, where it never completely degrades, but only breaks into smaller portions and can potentially harm the food chain. Science is only just beginning to understand the scope of harm imposed by what is known to be a dramatic increase in ocean plastic pollution. Ocean health concerns are fuelling bag-ban campaigns by ocean advocacy groups. While it is accurate to suggest
that the problems of waste 'leakage' is most prevalent in coastal nations in the developing world, the environmental leadership from more advanced nations can send strong socio-economic signals to local and international consumers, as to the need for dramatic reductions in wasteful habits and more conscientious consumer decisions.

Proponents view plastic retail bags as a powerful symbol of a wasteful culture and unsustainable behaviour, while industry and critics suggest that bag regulations hinder customer convenience and risk creating more negative environmental impacts, than benefits.

Careful consideration of the total life-cycle impacts of plastic bags and their alternatives is necessary to ensure that bans or levies do not create unintended environmental consequences. Numerous scientific studies state that conventional, high-density polyethylene (HDPE) shopping bags are more environmentally friendly than other single use bags, and can be less harmful than reusable, shopping bags, unless they are used a "sufficient" number of times. Re-usable bags made from recycled materials are the most environmentally friendly alternative, but only if they are used numerous times and are responsibly managed at the end of life. Policy alternatives should attempt to minimize any adoption of less environmentally friendly bag alternatives.

Plastic film, including bags, are currently managed under provincially led programs that delegate responsibility for waste-recovery to industry stakeholders. While the performance of these programs shows clear opportunities for improvement, plastics-use is rising quickly and reduction strategies should continually be explored, alongside improved recycling and reuse initiatives. Partnering with these stakeholders is critical to improve diversion and recycling rates. Further, and more intensive liaison with these organisations is recommended to cooperatively shift to a more sustainable and effective waste management model that best promotes zero-waste goals, specific to packaging wastes that currently escapes City and regional recycling systems.

The volume and landfill issues related to single-use packaging suggest that staff efforts should be focussed on improving recovery rates of a wider range of single-use packaging (including plastic bags, food containers, single-use beverage containers, plastic packaging and plastic film). Initiatives that address overall packaging wastes, not just bags, could potentially deliver more significant total improvement to diversion rates, reduction schemes and consumer behaviour shifts.

Various policy makers suggest that the unsustainable business practice of providing free plastic carrier bags is a main driver behind excessive use, and the most important lever for change. An imposed levy or fee structure, while more complex than an outright ban, may be the most promising scheme to reduce environmental impacts and avoid unintentionally forcing consumers to adopt less-sustainable options.

Staff recommend promoting a voluntary fee structure as an effective first-step to incentivise local retailers and consumers to adopt more sustainable packaging decisions. This course of action may optimise staff outputs in effort to reduce packaging waste, while also maintaining productive working relationships with key industry, commercial, public and regional partners.

**PURPOSE**

This report aims to provide Council with an overview of the waste management considerations specific to single-use plastic retail bags, and provide a recommendation for reduction-measures and next steps to better manage single use packaging materials.

**BACKGROUND**

On November 5, 2015 GPC, Council directed staff to investigate and report on the issues and considerations pertaining to a ban on single use plastic bags, and since passed a motion to include introducing a ban on single-use plastic bags, as part of the 2016 Strategic Plan amendment, made
during the COTW meetings on February 4, 2016.

ISSUES AND ANALYSIS
The regulation of plastic grocery bags is an attempt to reduce unsustainable consumer behaviour using strong policy levers. Bans or levies on plastic retail bags have been met with some criticism due to their impacts on customer convenience, their discontinuity with region/provincial waste management strategies, and their potential unintended negative environmental consequences, caused by shifts to less environmentally friendly alternative bag types. These regulations must address or consider a number of issues related to the intended consequences of any bag-regulation, which could potentially:

- Create improved social awareness and reduce wasteful-norms;
- Achieve quick and drastic reduction of both waste and litter;
- Address any sub-standard recycling and diversion rates of plastic bags; and
- Not constitute a major factor affecting ocean/marine health in the region. More information is required as to the full life-cycle of regional plastic waste pathways, to better understand if our plastic bags are ending-up in the oceans, wither abroad or locally;

Actions to restrict plastic bag use could also cause a number of unintended or undesirable consequences, which need to be carefully considered, as they could potentially:

- Negatively impact consumer choice;
- Fail to address the wider sustainability issues related to retail packaging overall;
- Lack relevant regional information and statistics about plastic grocery bags, recycling rates, contamination issues, diversion rates, overseas destinations – all of which could compromise the quality of related policy-decisions;
- Inadvertently increase the use of more environmentally harmful, bag alternatives;
- Cause incoherence or inconsistency with provincial recycling programs, thereby imposing confusion and waste-management inefficiencies;
- Cause shoppers to migrate across municipal boundaries to purchase goods at less restrictive retail locations;
- Cause undesirable market forces that negatively impact industry health;
- Impact personal health due to the transmission of germs via reusable bags; and
- Risk impacting long-term, waste management stakeholder relationships, which will rely on positive interaction across the complete value-chain.

Any policy option that the City considers, should address or treat the above risks and considerations to ensure that the intended impacts are reached, and the unintended consequences are mitigated or avoided.

Single Use Plastic Grocery Bags
Plastic grocery bags are lightweight, have a high strength-to-weight ratio, and are inexpensive, convenient, durable and watertight. However, if plastic bags are discarded as litter or escape collection or recycling systems, their durability means that bags may persist in the environment for more than a century, posing undesirable aesthetic, environmental and economic impacts.

The production of conventional plastic bags relies on petroleum feed-stocks (normally natural gas) and, like all bag alternatives, pose environmental impacts over their lifecycle, including greenhouse gas (GHG) emissions, eco-toxicity, resource depletion, and potential detriment to aquatic and terrestrial ecosystems, especially when discarded as litter. Plastics waste volumes remain a concern in many countries, where the volume of plastics has doubled in the last 50 years, and is expected to
double again in the next 20 years\(^1\). Policy measures taken to address increasing plastic waste and improve management schemes will help to alleviate any negative impacts associated with increased resource intensity, waste, and pollution.

For many people, plastic carrier bags represent a powerful symbol of unchecked, wasteful consumer habits. Introducing regulations to limit the use of single use plastics is an effort to avoid the downstream undesirable social and environmental impacts that are imposed by wasteful consumer decisions.

Plastic bags represent an estimated 1-2% of the total landfill waste stream, with per-capita usage rates estimated at 200 bags used per capita, which equates to 17 million bags used annually by City residents, with approximately 160,000 to 330,000 bags reaching landfill each year, and unknown proportions littered and escaping collection. See Annex A for more details and applicable references.

**Alternative Grocery Bags – Relative Impacts and Environmental Performance**

Different alternatives to plastic grocery bags exist, and have been assessed as to their harm on the environment in a number of life cycle assessments. The common types of grocery/carrier bags include the following:

- Conventional grocery bags made from High Density Polyethylene (HDPE),
- Paper bags;
- Sturdier, glossy, plastic retail bags made from Low-Density Polyethylene (LDPE);
- Reusable, Non-Woven Polypropylene (NWPP) bags,
- Reusable, cotton carrier bags (not shown below), and
- Biodegradable/degradable bags (not shown below, see Annex A for more information).

![Grocery Bag Types](image)

**Figure 1. Grocery Bag Types (assessed in Clemson University LCA Study).**

**Environmental Considerations and Clarifications** (See Annex A for more details)

The life cycle impacts of all bag options depends mainly on production processes, their material properties, how often they are used, and how they are managed at the end of life (ie. litter, recycling, energy conversion etc).

A PriceWaterhouseCoopers study of plastic and paper bags concludes that the production of paper bags causes 14 times the impact on water quality and consumes 4 times the water, has 3 times the

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waste generation, and 3 times more greenhouse gas emissions than HDPE plastic bags\textsuperscript{2}. This study also highlights the environmental benefit of the heavier duty plastic bags (LDPE), which are preferred to many alternatives, but only if reused 4 or more times.

A 2011 UK government LCA study compared several bag types, and determined that a cotton bag had to be re-used 131 times\textsuperscript{3} to match the equivalent greenhouse gas emissions from the production of a single use HDPE bag. This study stated that LDPE and NWPP bags posed 3, 4 and 11 times more global warming potential, (respectively), than a HDPE bag\textsuperscript{4}. The NWPP bags are designed to be used more than 100 times, and if reused, would pose the least overall environmental impact.

Each analysis highlights that the key to reducing the environmental impacts of ANY bag type is to reuse it as many times as possible. The following important summary points\textsuperscript{5} pertain to life cycle impacts of the various bag types:

- There is no ideal carrier bag option. All bag types have advantages and disadvantages, but some bag types pose more significant impacts than others.
- Recycled content in any bag-type greatly improves its environmental performance;
- Overall plastic bag environmental impacts are dominated by the resource-use phase (ie. fossil fuel extraction), production phases and end-of-life scenario.
- Plastic bags pose more of a litter problem, due to their mobility (ie. subjected to wind and water forces, more so than other bags).
- Free, lightweight HDPE bags are more likely to be littered than any reusable bag.
- Even paper bags, made from 100% recycled materials, may pose more environmental impacts than plastic bags, in all categories except litter\textsuperscript{6}, due to pulp production energy use, its generation of solid waste, and acid-slurry, water pollution impacts.

**Plastic Bag Ban Impacts**

A handful of Canadian municipalities have regulated plastic bag-use in recent years, mainly in Quebec and Manitoba, as well as the Wood Buffalo Regional Municipality, in Alberta. The Wood Buffalo Regional Municipality banned single-use plastic bags in 2010, but does not advertise the impact or the statistical information related to this initiative. Vancouver and Montreal Councils are currently considering bans on plastic bags.

San Francisco imposed the first ban on plastic bags in a major North American city, but very little information is available as to the impact or lessons learned from this city's experience. San Francisco currently enforces a mandatory charge of 10 cents per checkout bag. Many cities in California have adopted bans or fees. The city of Napa, California, does advertise that bag bans and fees on paper bags have resulted in 95% reduction in plastic bags, 30% reduction in paper bags and 60% reduction in marine litter, one year after adoption\textsuperscript{7}. Seattle, who originally failed to impose a 20 cent fee on single use plastic bags in 2008, implemented an outright ban in 2012, with an accompanying fee on paper bags. Many bag-ban cities do not report the overall impact of their bans,

\begin{itemize}
\item \textsuperscript{3} Ibid.
\item \textsuperscript{4} Ibid.
\item \textsuperscript{5} European Commission. (2011). Assessment of impact of options to reduce the use of single use plastic carrier bags. 12 Sep 2011. Bio Intelligence Service.
\item \textsuperscript{6} This particular LCA assumes a 50% recycling rate of the paper bags.
\item \textsuperscript{7} City of Napa. Plastic bag ordinance, FAQ. Available online at: http://www.cityofnapa.org/?option=com_content&view=article&id=1783:plastic-bag-ordinance-faq&catid=15:city-departments-and-divisions&Itemid=121
\end{itemize}
which may be due to reduced administrative book-keeping, as bans favour a less intensive administrative burden, but do require enforcement/regulation.

**Bag Levy/Fee Impacts**

In 2013, the town of Boulder, Colorado introduced a 10 cent fee on both paper and plastic bags, achieving a 68% reduction in the first 6 months. The store keeps 4 cents per bag, and the remaining is meant to cover City administrative fees.

In 2002, the government of the Republic of Ireland implemented a 15 cent euro plastic tax on grocery bags to address plastic litter concerns, which resulted in a 90% reduction in bag usage in the first year. Prior to the tax, a survey of Irish adults suggested that there was no support to pay for bags (40%) and only an 8% willingness to pay up to a 7 cent euro charge. Interestingly, the government imposed an initial price well above the comfort level of consumers, at two times the highest rate surveyed, and successfully raised the levy once more, to 22 cents in 2007. The bag levy is considered very popular with the Irish population; so popular in fact, that it “would be considered politically damaging to remove it”. The current bag usage rates are at 14 bags per capita, from the 328 per person rates before the levy was implemented (a 96% decrease). Revenues from the program are used to fund environmental initiatives, with a 3% cost to administer the program. The author’s note that such a levy comes with an administrative burden that alternative bans avoid.

Their paper also suggests that extensive consultation with industry and commercial representatives prior to enactment was a key to success, and that the involvement of both government treasury and champions were critical to overall effectiveness and adoption of the levy, vice the initially favoured, voluntary tax-scheme. Critics of the Irish levy suggest that kitchen bin-bag and paper bag rates increased due to the reductions in plastic bags use.

**European Union Bag Fee Scheme**

The European Commission study highlights some of the key policy considerations, including ease of implementation, overall impact on bag usage rate reduction, and other associated implications. They note the relative ease of implementing voluntary reduction strategies as well as bans, but caution against the “blunt instrument that gives little flexibility to producers, retailers or consumers”. Their report recommends a combination of regional targets and a pricing scheme, to achieve the best balance in reduction potential, without the unintended consequences, and provide the combination of endorsed targets and financial incentives to improve consumer behaviour.

The EU report states that a pricing scheme is potentially most attractive to policy makers since it provides a pricing mechanism that aims to prevent the unsustainable and free distribution of material that is commonly transformed into waste, and poses downstream financial, social and environmental penalties on all City tax-payers. The report also clearly states the simple fact that “many retailers still distribute plastic carrier bags for free, is the main driver behind excess use and thus an important lever for change”. In the case of the EU and other jurisdictions, fee-based incentives have been centrally controlled by larger national or state government bodies, and have recovered funds to pay for the administration of the levy.

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9 Ibid.
10 Irish government website. Available at: http://www.environ.ie/environment/waste/plastic-bags/plastic-bag-levy
12 Ibid.
13 http://www.allaboutbags.ca/irelandandlitter.html
15 Ibid.
Stakeholder Considerations (more detail at Annex B)
Plastic industry and provincial recycling representatives argue that any proposed ban removes customer choice, and work counteractively with provincially funded, extended producer responsibility programs. These stakeholder communities remain largely in favour of strong recycling programs but perhaps deliver slower-than-desired reduction rates, and remain interested in the valuable resources provided by recycled plastics.

Industry views are consistent with future plastic ‘circular economy’ models, which rely on well-established resource recovery schemes to re-introduce plastic waste back into the production loop. The most recent and governing studies on the future of plastic and packaging support the importance of working with all industry, recycling and consumer groups to establish efficient and effective systems for recovery in all cities.

Environmental advocacy groups petition for more stringent regulations on consumption habits and the regulation of wasteful practices. Ocean conservancy groups warn of the dangerous levels of plastics in the ocean, and tie wasteful consumer habits and poor waste management as key drivers of ocean litter and debris.

The CRD and the Province’s position on single-use plastic bag management is to extend responsibility for recovery and recycling to industry players as outlined in the BC Recycling Regulation, and applied by Multi-Materials BC (MMBC) as the agency for managing plastic film recycling schemes around BC.

Overall Packaging Waste Management Considerations
A recent City of Vancouver waste audit has revealed that approximately 18% of single-family and 12% of multi-family residential waste is comprised of single use plastic, packaging, and plastic film products. Recent waste composition observations within the City align with the Vancouver assessments, although detailed home waste audits in the City or CRD have not been completed in several years (2009/10). Much of these types of waste are managed under the province’s MMBC program, but significant percentages continue to reach the landfill. Reduction efforts that focus only on plastic bags and fail to address all prevalent single-use waste products, could be considered misallocation of finite staff resources that aim to achieve the largest possible improvements. A broader and more comprehensive approach to reducing the waste from single-use packaging (including coffee and beverage containers, packaging materials etc) should be addressed as a priority to promote meaningful waste-reduction outcomes in the City.

OPTIONS AND IMPACTS
The European Union’s 2011 review of plastic grocery bag policy options included five main options for consideration to address waste-reduction of retail grocery bags:
  a. Status Quo ("do nothing" option);
  b. Voluntary commitment in support of reusable bags;
  c. Setting prevention target for bag reduction;
  d. Bag levy or fee; and
  e. Ban on single use plastic bags.
Additional options could be introduced, as follows:
  f. Education and Awareness; and
  g. Combination (ban/tax combination, or reduction targets with education and a phased approach on pricing, for example).

As Council has already expressed its intent to regulate the use of plastic retail bags, the following select options are presented for consideration, where it is generally understood that establishing reduction targets and incorporating education and awareness should be part of any future waste
Option 1: Do Nothing (not recommended)
This option relies on market forces and regional/provincial recycling schemes to drive improvements in plastic bag and packaging reductions. Given Council's expressed intent to introduce restrictions on retail bag use in the City, this option is not recommended.

Option 2: Voluntary Bag Fee (recommended as initial action)
A voluntary program (item b, above) could be implemented with City support to local businesses. This strategy could avoid much of the resource requirements and legal risks associated with any imposed regulatory action. Recent action at local retailers (Hillside Mall, MEC, Thrifty's) are strong examples of voluntary action, and with City support, could help generate the required momentum to deliver meaningful reduction to bag usage, especially if coupled with education and awareness programs. Voluntary fees or bans are also seeing success in Granville Island, and Whistler, BC when initiated by local retail and grocery outlets.

A voluntary scheme could allow retail outlets to raise capital to invest in more sustainable business practices (better collection facilities, improve education and awareness signage, purchase sustainable food containers etc), and reward sustainable consumer behaviours (ie. a “fee-bate” system where fees pay rebates for customers with reusable bags). The City can work with retailers that own businesses in multiple municipalities to increase the benefits of improved waste management outside of the City.

As was the case in Ireland, a meaningful price per bag was imposed to promote a shift in behaviours, now at 22 cents euro per bag. The common price in many cities worldwide is 5 cents, which may be too low to achieve the desired shift to reusable bags. A more meaningful fee and rebate system (a minimum 10 cents, as is in place in San Francisco) or even higher, may be most effective and appropriate. The initial voluntary scheme will potentially realise less overall impacts than a mandatory fee, but does not require significant resources to manage, and may prevent confusion across municipal boundaries and potentially avoids the legal risks to the City associated with any imposed regulation.

Option 3a: Regulated Plastic Bag Ban
An outright ban on plastic bags represents a relatively easy regulation to implement and enforces, which poses immediate reduction of the City's plastic bag recycling and waste products. The ban would apply to municipal retailers only, and could negatively impact retailer customer loyalties, in favour of neighbouring community stores. Such a ban could also create negative responses from industry and recycling, CRD and provincial program representatives and rate-payers, and proponents of convenience-first bag alternatives. A ban of only plastic bags could also proportionally raise paper bag and alternative plastic bag usage rates, thereby creating an unfavourable net-environmental effect.

Option 3b: Regulated Ban / Ban Combination for Plastic and Paper Bags
This option is not recommended due to the removal of consumer options at the checkout line.

Option 4: Regulated Plastic Bag Levy or Fee
A suitable fee on plastic bags could provide incentives for improvements in customer behaviour, to adopt reusable bag alternatives that favour improved environmental performance. Fees retain customer choice, and generate revenues that could be applied to stewardship or related environmental programs, or even cover administrative costs of the program. This option will allow a certain number of bags in circulation, and not immediately interrupt MMBC and other recycling programs. This option may not receive the same criticism from industry as a ban, since it still provides for plastic bag use, via customer choice. This option may better promote future
collaboration and cooperation with retailers and other important industry stakeholders on future waste management initiatives. Administration of the program is more comprehensive than any zero tolerance legislation, and would require City or contracted resources to manage.

**Option 5: Regulated Ban / Fee Combination for Plastic and Paper Bags**

This option is common in many jurisdictions and incorporates both a plastic bag ban, and an additional a fee to deter a proportional rise in paper bag use. This option is not recommended due to the lack of customer choice and the misalignment in logic caused by banning a bag with less environmental impact. This combination could be supported if the plastic bags were creating a much worse local litter problem, when compared to other bag alternatives, but the evidence to support such a claim has not been identified in the City.

**Option 6: Regulated Fee / Fee Combination for Paper and Plastic Bags (recommended for future consideration)**

The combination of fees for both plastic and paper bags maintains consumer choice, and establishes incentives for reusable bags, without contributing to a rise in alternative bag usage rates. The benefits of a fee scheme on single-use retail bags are as follows:

- Can create significant reductions in bag use (ex. Ireland's 90% reduction in one year);
- Aligns with waste-management hierarchy for focus on waste-reduction methods;
- Can provide incentive and promote improvement of social awareness of individual waste generation;
- Can be seen as leadership in waste-management;
- Can still be coupled with improved recycling programs that align with provincial objectives and investment;
- Can be allocated to prevent corresponding increases of all bag alternatives that pose negative environmental impacts (ie. paper bags);
- Maintains customer choice;
- May promote continued industry-governmental liaison towards further improvements and other important waste-management improvement programs;
- Maintains some, albeit reduced, HDPE and paper bags in circulation for reuse and recycling, minimizing associated increases in alternative bag purchases (ie. bin liners);
- Provides social and marketing capital for individual stores to improve image and brand strength through environmental stewardship programs;
- Could be coupled with a ‘fee-bate’ system to award those who bring re-usable bags to the checkout line;

This type of scheme has to be carefully administered due to complications in the following areas:

- Price setting at a level that creates the intended behaviours without promoting conflict;
- Obtaining the legal jurisdiction to require retailers to charge for these products;
- Administrative burden to manage a complex program that requires accurate and timely information and resources to drive policy, data/information, education, administration, communications and regulatory programs to support the initiative;
- Discontinuities with neighbouring municipality retailers could cause confusion and polarisation of the issues/debate/concerns;
- Additional fees may be seen as negative taxation, and unless properly communicated and supported, could create discontent within communities; and
- Various fee/tax schemes on plastic bags have been criticised in the past for disadvantaging those with affordability concerns, which should be a consideration of the policy, with sufficient mechanisms to allow an affordable bag option.
Planning, Financial and Resource Implications
Detailed planning and resource estimates have not yet been completed against the above option sets. With Council's direction, staff will assess and report on the estimated resources, available strategies, and their associated impacts.

COHERENCE WITH CITY STRATEGIES
Official Community Plan
Reduction of waste, litter and marine debris are consistent with the OCP and the development of vibrant, healthy communities.

2015-2018 Strategic Plan
Reduction of consumer waste and incentivising improved sustainable behaviours is consistent with the City’s Strategic Plan, as is stewarding the City’s waterways and ensuring they are free from plastic debris. These recommendations are consistent with Council’s expressed intent to “phase-in” a ban on plastic bags in the 2016 strategic plan review.

2016-2020 Financial Plan
Financial estimates for the recommended course of action have not been completed, nor are any funds currently earmarked for plastic bag management initiatives in the future.

NEXT STEPS
In order to address the number of issues presented in this report, a comprehensive strategy should be developed to minimise risks and optimise benefits related to plastic and packaging waste management. It should be noted that the enclosed recommendations represent a significant amount of staff resources to implement. Staff recommend that Council consider widening the focus of future efforts, to address larger and more impactful waste-reduction policies related to plastic and single-use packaging, single use beverage containers, retail bags and plastic film products.

A general strategy is outlined below to address the reduction of single-use, packaging and retail bag waste:

- Convene initial discussions / meetings with key retail/business/waste stakeholders to understand their perspectives and issues related to a voluntary bag levy and future packaging reduction initiatives (June 2016);
- Develop a preliminary work-plan and resource assessment for future analysis, engagement, and communications of any related initiatives to reduce single-use packaging (July 2016);
- Report back to Council with initial considerations and findings and resource assessment (July 2016);
- Based on those findings, staff could define a more detailed strategy to include the following (September – Dec 2016):
  - Convene or join a working group / ‘task force’ to collaborate on issues related to single-use packaging and retail bag management, with representatives from all key stakeholder communities, including the City, retailers, CRD, MMBC, waste operators, environmental groups, and residents, working under a formal terms of reference to reach recommendations on policies, regulation, implementation, consultation and communication requirements, timings, plans and other pertinent issues
  - Work with key stakeholders to obtain and discuss accurate and timely data pertaining to all aspects of the City’s single-use waste management and areas for improvement (CRD, MMBC, retailers, etc);
  - Work with retailers to better understand their concerns and desires as to any future regulatory actions by the City;
  - Begin developing a comprehensive engagement plan to communicate accurate and
meaningful information to concerned stakeholders (shoppers, public, store owners etc) and introduce an education and awareness program across the City;

- Ongoing Work (2017 onwards):
  o Work collaboratively with other surrounding municipalities regarding this initiative to determine how to collectively realise the most regional benefits;
  o Work collaboratively with key stakeholders to identify exemplary standards for labelling and materials for both single use and reusable packaging in the City;
  o Work collaboratively with the province, CRD, municipal waste management representatives and other key industry stakeholders to improve plastic packaging and bag recycling and diversion rates and determine how to best reduce unsustainable practices;
  o Work with stakeholders to integrate this program into the City's long-term, waste-management strategy; and

- Report back to Council with salient information, plans and strategies that may inform any future regulations on retail bag use.

Respectfully submitted,

Fraser Work, Director
Engineering and Public Works

Report accepted and recommended by the City Manager:

Date: May 20, 2016

Annex A: Environmental Life Cycle Considerations of Bag Alternatives
Annex B: Stakeholder Perspectives