

## Bag Fee Theory and Jurisdictional Scan

### Objectives of Bag Fees

Bag fees have two main theoretical objectives:

- They recognize the cost of offering more sustainable products
- Create a disincentive to drive consumer choices.

To encourage customers to bring back and reuse their bags or avoid them altogether, fees should also consider the environmental impact and cost of the bag materials<sup>1</sup>. Jurisdictions that were scanned, including Victoria, Squamish, Monterey and New York State provided data on the estimated costs of alternative bags. Higher-quality paper and reusable bags cost more than lower-quality varieties:

- Quality paper bags cost 3-5 times more than film plastic<sup>2</sup>.
- Quality reusable bags, particularly those made of fabrics like cotton, are estimated to cost up to 11 times more<sup>3</sup> than plastic reusables and retail for about \$5-6 each<sup>4</sup>.
- Reusable woven plastic is estimated to cost \$1-3 to produce.

Disincentives such as bag fees are based on the psychological and economic concept of loss aversion<sup>5</sup>. This concept suggests that while emotional appeals to aid the environment are a good start, they are not enough to create the desired change. Consumers are more motivated to avoid negative financial impacts than to benefit from any financial

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<sup>1</sup> Kimmel, R. M., 2014. [Life cycle assessment of grocery bags in common use in the United States](#). *Environmental Studies*, 6.

<sup>2</sup> District of Squamish. [Single-Use Items Reduction Bylaw \(Proposed Contents\)](#) Community Planning & Infrastructure, 2019.

<sup>3</sup> District of Squamish, 2019.

<sup>4</sup> New York State. [New York State Plastic Bag Task Force Report: An Analysis of the Impact of Single-use Plastic Bags- Options for New York State Plastic Bag Legislation](#). 2018.

<sup>5</sup> Homonoff, T. 2018. [Can Small Incentives Have Large Effects? The Impact of Taxes versus Bonuses on Disposable Bag Use](#), *American Economic Journal: Economic Policy*, 10(4);177-210.

or environmental gain. This cost-avoidant behaviour motivates consumers to avoid the purchase of new bags each time, reducing bags in circulation.

Evidence supports the use of bag fees to promote behaviour change instead of offering voluntary discounts. Prompting customers to make an active choice to pay for or decline a bag with every purchase is foundational for forming new habits<sup>6</sup>. Taxes or hidden fees have less of an effect, as the cost of a bag is less visible and gets incorporated into the cost of the purchase. Taxes or hidden fees are also less effective in reducing waste while increasing costs for customers. Active participation and choice is key to the effectiveness of a disincentive such as bag fees<sup>7</sup>.

### Bag fees in other municipalities

Municipalities have been using bag fees to encourage waste reduction behaviour for over a decade. Jurisdictions with older, more limited regulations on bag fees that did not achieve their waste reduction targets have provided learnings that other jurisdictions have incorporated into their newer single-use item (SUI) regulations<sup>8</sup>. Where bag fees have been introduced as a means of reducing a regulated bag type, significant results have been reported. In 2002, Ireland increased its single-use plastic checkout bag fee from 15 to 22 cents per bag resulting in a 96 per cent reduction between 2002 and 2014<sup>9</sup>.

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<sup>6</sup> Leigh Giangreco, "[How Behavioral Science Solved Chicago's Plastic Bag Problem](#)", *Politico*, November 21, 2019.; Homonoff, T., et al. 2021. [Harnessing Behavioral Science to Design Disposable Bag Regulations](#), *Behavioral Science & Policy*, 7(2), 51-61.; Romer, J., [Plastics Bag Law Activist Toolkit](#), *Surfrider Foundation*, 2019.; Gordon, M (2021) [The Reuse Policy Playbook- A policy roadmap to reuse.](#), *Upstream*; Homonoff, T. 2018.

<sup>7</sup> Wang, B., Li, Y., & Cai, X. 2023. The implementation effects of different plastic bag ban policies in China: the role of consumers' involvement. *Environmental Research Communications*, 5(4), 041002.

<sup>8</sup> Homonoff, T., et al, 2021.

<sup>9</sup> Convery, F., McDonnell, S., & Ferreira, S. 2007. The most popular tax in Europe? Lessons from the Irish plastic bags levy. *Environmental and resource economics*, 38: 1-11.; City and County of San Francisco. [Ordinance 172-19](#). 2019.; New York State, 2018.; City of Vancouver. [Single-Use Item Reduction Strategy 2018-2025](#). 2018.

### Evolution of Bag Fees

American municipalities such as Boston, Washington D.C., Portland, Seattle and Los Angeles were among the first to create ordinances that used bag fees. Municipalities set fees at a range of between five and 10 cents. Many of these early ordinances were focused more on the reduction of single-use plastics. Both the scope and definitions of single-use plastic regulations were narrow, which created unintended consequences as consumers and businesses shifted to alternatives rather than reducing waste altogether. Some American municipalities promoted the bag fee as a way to fund environmental initiatives in their cities. However, this did not contribute to significant overall waste reduction, and it is unclear whether collecting the bag fees contributed to environmental initiatives to a level that would offset the cost of landfilling and processing SUI waste.

Many of these municipalities initially proposed higher bag fees but were faced with legal opposition from industry while developing their bylaws<sup>10</sup>. As a result, municipalities adopted lower rates or delayed bylaws, resulting in slower reduction rates. Administration's review found that these low rates were considered adequate to achieve some initial reduction, but were not set high enough to meet waste reduction targets or overcome consumer apathy. Most of these earlier adopters are reviewing the effectiveness of the fees and are considering increasing and revising scope to drive desired behaviour change<sup>11</sup>.

The second wave of single-use item reduction bylaws, including municipalities in British Columbia and the City of San Francisco, leveraged these early learnings and adopted higher bag fees to reach waste reduction targets. Recognizing the significant impact fast food waste has on litter<sup>12</sup>, definitions were expanded to include bags used in food service, such as delivery and takeout<sup>13</sup>, as their prior exemptions were identified as a high-impact gap in previous analysis.

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<sup>10</sup> City of Toronto. [Options to Reduce the Use and Disposal of Plastic Shopping Carryout Bags in Toronto](#). 2013.; Romer, J. R., & Tamminen, L. M. (2013). [Plastic Bag Reduction Ordinances: New York City's Proposed Change on All Carryout Bags as a Model for US Cities](#). *Tul. Env'tl. LJ*, 27, 237

<sup>11</sup> Scientist Action and Advocacy Network (ScAAN) n.d., [Measuring the effectiveness of plastic bag laws](#),; City of Toronto, 2013; Homonoff, T., et al, 2021.; Romer, J. (2019) [Plastics Bag Law Activist Toolkit](#), 2019. *Surfrider Foundation*

<sup>12</sup> Keep America Beautiful. [2020 National Litter Study](#), 2021.

<sup>13</sup> Romer et al. (2013)

However, some of the newer regulations include size exemptions for small paper bags. Paper bags smaller than 15 by 20 centimetres (when laid flat) do not require a fee in some British Columbia municipalities.

Municipalities are also considering factors beyond plastic pollution, such as cost and GHG production<sup>14</sup>, and are including this analysis in their bylaw discussions. Newer bylaws incorporate a more thorough analysis of plastic alternatives and the environmental impact of producing bags made of any material.

Higher orders of government, including the Province of British Columbia and Washington State, have also started to set minimum bag fees and regulate single-use items. These provincial and state-level regulations provide consistency across jurisdictions, including in municipalities that may not have introduced SUI regulations yet. Municipalities are then able to structure their SUI regulations against a common baseline.

### Plastic Bag Ban and Regulating Alternatives

The hybrid approach of plastic bag bans plus bag fees is leading practice to achieve overall waste reduction<sup>15</sup>. Jurisdictions that have banned plastic bags without charging for alternative bags reported businesses and consumers switching to other disposable or low-quality bags, effectively replacing the banned plastic bags and not reducing waste<sup>16</sup>. This was compounded by jurisdictions narrowly defining plastic bags by material and thickness<sup>17</sup>. Municipalities in Washington and Oregon that were earlier adopters of SUI regulations passed a plastic bag ban without bag fees and reported an approximate 500 per cent increase in paper bag use<sup>18</sup>. The lack of consistency between municipalities in these states has led to calls for statewide SUI regulation, including bag fees<sup>19</sup>.

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<sup>14</sup> City of Vancouver, 2018.; Equinox Center (2013) [Plastic Bag Bans: Analysis of Economic and Environmental Impacts](#)

<sup>15</sup> New York State, 2018; City of Vancouver, 2018

<sup>16</sup> Leigh Giangreco, *Politico*, 2019.

<sup>17</sup> Homonoff, T., et al. 2022. [Skipping the bag: the intended and unintended consequences of disposable bag regulation](#). *Journal of Policy Analysis and Management*, 41(1): 226-251.

<sup>18</sup> Taylor, R. L., & Villas-Boas, S. B. (2016). Bans vs. fees: Disposable carryout bag policies and bag usage. *Applied Economic Perspectives and Policy*, 38(2), 351-372.; Equinox Center, 2013.

<sup>19</sup> Profita, *OPB*, February 19, 2019.

Paper bags, while potentially recyclable, are considered a poor substitute for plastic because they have a significant environmental impact, particularly when they are used as a single-use product and thrown in the garbage (for example, takeout bags from quick service restaurants). The production and transport of paper bags can have a higher environmental impact when compared to plastic bags in Global Warming Potential, non-renewable energy and water use<sup>20</sup>. Although they are made from renewable resources, paper creates up to three times as much GHG due to how they are produced and transported. Paper bags can be a better environmental choice if they are reused four to seven times. However, they are often not durable enough to reuse and only about half of all paper packaging produced is recycled. In particular, paper used in the fast food industry is recycled less often due to food waste contamination. Paper and biobased products are also often coated with toxic chemicals for waterproofing. An increase in use should be avoided due to their environmental impact<sup>21</sup>.

Reusable bags can be made of many types of materials and are difficult to recycle. Putting more reusable bags into circulation means more end up in the landfill. In Edmonton, these bags cannot be recycled through residential waste streams.

### Public Reaction to Bag Fees

Research suggests that a higher bag fee leads to greater SUI reduction, but may also lead to more complaints. Bag fees are perceived by customers as a “loss,” leading to more public awareness and controversy, but greater behaviour change<sup>22</sup>. Changing well-established behaviours requires dedicated communication and education in affected communities, especially when a new cost is attached to a behaviour change. Public reaction can be particularly strong, especially when the cost affects an item that was previously free<sup>23</sup>.

When developing new environmental policies, it is important to the overall success of a program to have a public commitment to goals, realistic expectations about public acceptance rates and tolerance levels, and to recognize that

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<sup>20</sup> City of Vancouver, 2018.; District of Squamish, 2019; Californians Against Waste,n.d.

<sup>21</sup> District of Squamish, 2019.; Gordon, 2021.; Kimmel, R. M., 2014. ; City of Vancouver, 2018.

<sup>22</sup> Homonoff, T. 2018.

<sup>23</sup> Greg Iacurci, "[New York's Plastic Bag Ban is a Lesson in How Consumers Treat Money](#)". *CNBC*. March 3, 2020.

positive change requires pushing boundaries<sup>24</sup>. The majority of municipalities scanned found that initial frustration with new policy was common, expected and often declined after the first month or two of implementation as the community adapted to new rules. Complaints and conversation on new regulations imply that the public is engaged in the topic of waste reduction. Widespread behaviour change takes time, and municipalities with comprehensive communication and outreach plans had greater success promoting SUI reduction. Resistance to bag fees does not necessarily mean waste reduction is not occurring, as community members opposed to bag fees reduce their use of bags to a similar degree as supporters of bag fees<sup>25</sup>.

- Municipalities that started at a lower bag fee (five to 10 cents) noticed less public pushback, but also reported consumer apathy through retail surveys and that they were likely absorbing the cost of bags. These anecdotes were conveyed to Administration and suggested low bag fees slowed behaviour change and SUI reduction.
- Raising the fee to 25 cents for a paper bag and at least \$2 for reusables garnered more public attention, both in favour and against, but achieved higher reduction results, pushing the expected reduction up an additional 30 per cent on average<sup>26</sup>.

In Edmonton, a similar reaction was recorded. Inquiry and complaint numbers peaked with 34 bag-related inquiries in July after the immediate implementation of Charter Bylaw 20117; the definition of primary packaging was the most common topic. Figure 2 for comparison shows the City of Vancouver's reported inquiries on all topics following the implementation of their bylaw on January 1, 2022<sup>27</sup>, and Figure 3 shows Edmonton's total inquiries and complaints regarding bag fees in 2023. Based on the decline of inquiries over time and the SUI reduction reported by survey respondents, Edmontonians are adapting and becoming familiar with Charter Bylaw 20117.

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<sup>24</sup> Booth, A., & Skelton, N. 2011. [Anatomy of a failed sustainability initiative: government and community resistance to sustainable landscaping in a Canadian city](#). *Sustainability: Science, Practice and Policy*, 7(1), 56-68.

<sup>25</sup> Jakovcevic, A., et al. 2014.

<sup>26</sup> Modus, [ENGAGEMENT SUMMARY REPORT City of Chilliwack, Single-Use Item Consultation](#), 2020.; City and County of San Francisco, [Checkout Bag Charge: Economic Impact Report](#), Office of Economic Analysis, 2011.; City of Monterey interview, 2023.

<sup>27</sup> City of Vancouver, [Revisiting the City's Single-Use Beverage Cup Fee Policy](#), 2022

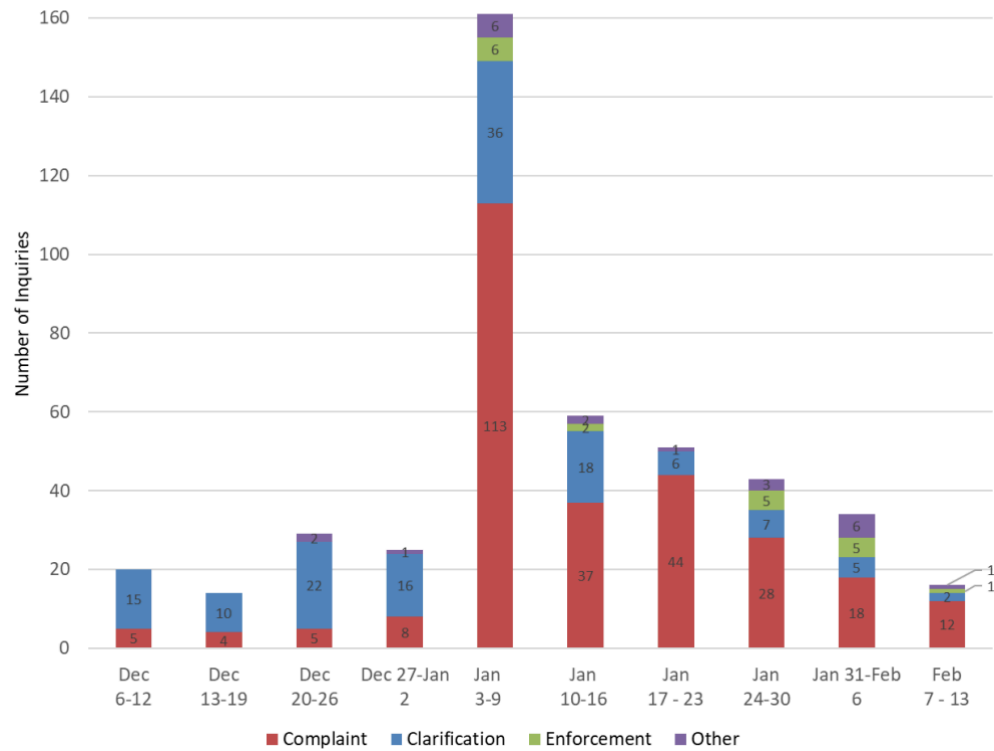


Figure 2: Vancouver’s inquiries and complaints on all bylaw aspects (2022)

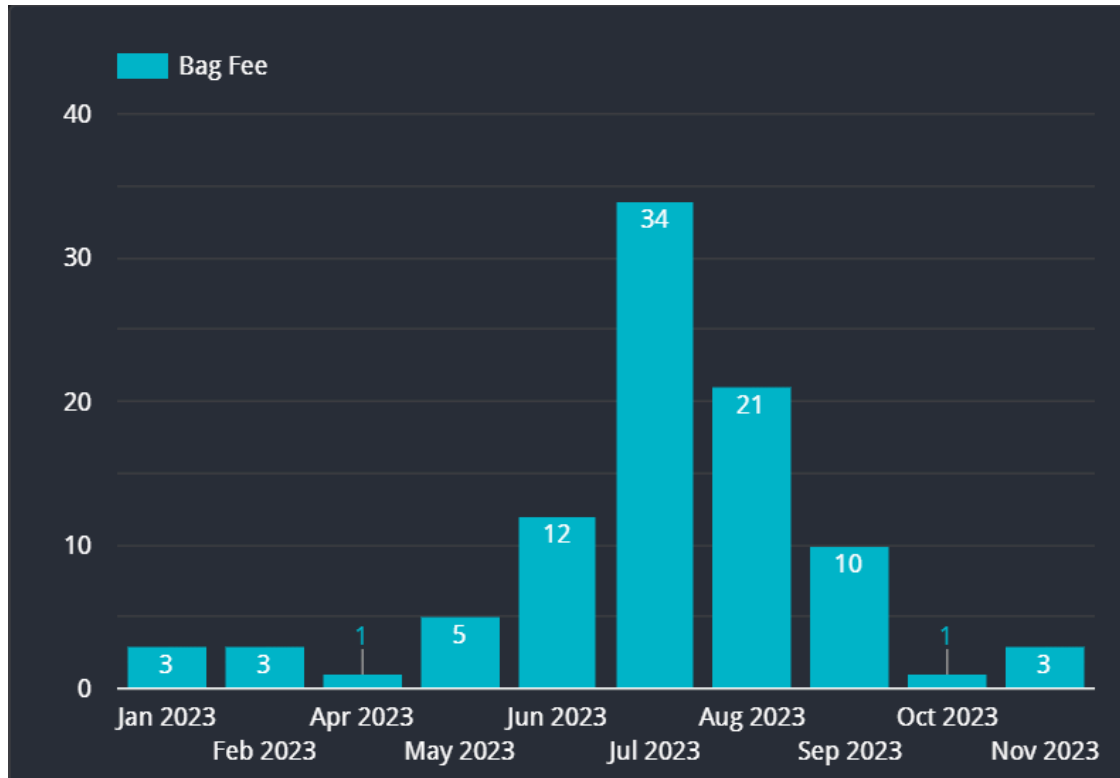


Figure 3: Edmonton's bag related inquiries and complaints (2023) from all channels: 311, Waste Customer Support Team, dedicated [singleuse@edmonton.ca](mailto:singleuse@edmonton.ca) email address and Councillor inquiries.



**Jurisdictional Scan**

Table 1: Canadian municipalities

Organized by date of introduction of bag fees

Municipality * contacted by City Administration	Fees for paper bags	Applies to drive thru/takeout?	Fees for reusable bags	Plastic bag ban	Feedback and Justification
<b>Toronto*</b>	-	-	<i>Proposed \$1 per reusable bag May 2024</i> <i>Proposed \$2 per reusable bag May 2025</i>	-	Slow introduction of mandatory regulations citing a growing local market for reusable bags, will bring more info back to council Q1 2024.
<b>Calgary</b>	\$0.15 per paper bag January 16, 2024 <i>\$0.25 per paper bag January 16, 2025</i>	✓	\$1 per reusable bag January 16, 2024 <i>\$2 per reusable bag January 16, 2025</i>	✓ January 16, 2024	Alignment with leading practices and municipalities, including Edmonton
<b>Banff*</b>	\$0.25 per paper bag January 1, 2024	✓	\$2 per reusable bag January 1, 2024	✓ January 1, 2024	Alignment with leading practices and municipalities, including Edmonton
<b>Edmonton</b>	\$0.15 per paper bag July 1, 2023 \$0.25 per paper bag July 1, 2024	✓	\$1 per reusable bag July 1, 2023 \$2 per reusable bag July 1, 2024	✓ July 1, 2023	Introduce bag fee, form habits and then increase fee to encourage more people to participate, alignment with leading municipalities
<b>City of Vancouver*</b>	\$0.15 per paper bag January 1, 2022 \$0.25 per paper bag January 1, 2023	✓	\$1 per reusable bag January 1, 2022 \$2 per reusable bag January 1, 2023	✓ January 1, 2022	Alignment with leading practices Bag fees are seen as "accepted at this price"

**Attachment 1**

	no fee for bags less than 15 centimetres by 20 centimetres when flat				and working” <sup>28</sup>
<b>Chilliwack</b>	<p>\$0.15 per paper bag April 1, 2022</p> <p>\$0.25 per paper bag April 1, 2023</p> <p>no fee for bags less than 15 centimetres by 20 centimetres when flat</p>	✓	<p>\$1 per reusable bag April 1, 2022</p> <p>\$2 per reusable bag April 1, 2023</p>	<p>✓ April 1, 2022</p>	<p>Alignment with leading practices and municipalities</p> <p>Engagement results supported higher avoidance at higher fee.</p>
<b>Squamish*</b>	<p>\$0.75 per paper bag February 15, 2022</p> <p>no fee for bags less than 300 square centimetres when flat</p>	✓	<p>\$2.75 per reusable bag February 15, 2022</p>	<p>✓ February 15, 2022</p>	<p>Concerns about GHG and other impacts, alignment with leading practice</p>
<b>Victoria*</b>	<p>\$0.25 per paper bag April 15, 2021</p> <p>no fee for bags less than 15 centimetres by 20 centimetres when flat</p>	✓	<p>\$2 per reusable bag April 15, 2021</p>	<p>✓ April 15, 2021</p>	<p>Alignment with leading practices</p>

<sup>28</sup> Susan Lazaruk. [“Vancouver has no plans to kill 25-cent fee for paper grocery bags”](#), *Vancouver Sun*. February 22, 2023.

Table 2: North American Municipalities

Organized by date of introduction of bag fees

Municipality * contacted by City Administration	Fees for paper bags	Applies to drive thru/takeout?	Fees for reusable bags	Plastic bag ban	Feedback and Justification
<b>Edmonton</b>	\$0.15 per paper bag July 1, 2023  \$0.25 per paper bag July 1, 2024	✓	\$1 per reusable bag July 1, 2023  \$2 per reusable bag July 1, 2024	✓ July 1, 2023	Introduce bag fee, form habits and then increase fee to encourage more people to participate, alignment with leading municipalities
<b>Louisville, CO*</b>	\$0.25 per paper bag January 1, 2022	✓	\$0.25 for thicker 'reusable' plastic bags	\$0.25 per plastic bag January 1, 2022  <i>Statewide ban on film plastic - 2024</i>	Most complaints seen in drive thru early on but dropped off  Anticipating state bans to have impact
<b>Boston, MA*</b>	\$0.05 per paper bag December 14, 2018	✓	\$0.05 per reusable bag December 14, 2018	✓ December 14, 2018	Several state petitions to increase the fee to minimum \$0.10  Administration considering fee review
<b>Marina, CA</b>	\$0.10 per paper bag February 9, 2015  \$0.25 per paper bag August 9, 2015	N/A <i>Considering updating to include takeout and delivery like San Francisco</i>	\$0.10 per reusable bag February 9, 2015  \$0.25 per reusable bag August 9, 2015	✓ August 9, 2014	Alignment with leading practices and municipalities
<b>Los Angeles, CA*</b>	\$0.10 per paper bag January 1, 2014	✓	Fee is optional	✓ January 1, 2014	Administration is looking at gaps in law and potentially increasing the fee to

**Attachment 1**

					<p>match leading practices.</p> <p>300% increase in SUI due to COVID-19 pandemic has caught Council attention.</p>
<b>San Mateo, CA</b>	<p>\$0.10 per paper bag April 22, 2013</p> <p>\$0.25 per paper bag January 1, 2015</p>	<p>N/A <i>Considering updating to include takeout and delivery like San Francisco</i></p>	<p>\$0.10 per reusable bag April 22, 2013</p> <p>\$0.25 per reusable bag January 1, 2015</p>	<p>✓ April 22, 2013</p>	<p>Business and consumer surveys post-ordinance indicated \$0.10 wasn't high enough to change behaviour.</p>
<b>Santa Cruz, CA*</b>	<p>\$0.10 per paper bag April 10, 2013</p> <p>\$0.25 per paper bag April 10, 2014</p>	<p>N/A <i>Considering updating to include takeout and delivery like San Francisco</i></p>	<p>\$0.10 per reusable bag April 10, 2013</p> <p>\$0.25 per reusable bag April 10, 2014</p>	<p>✓ April 10, 2013</p>	<p>Increased fees to align with other municipalities with \$0.25 bag fee success rates</p> <p>Will increase again if bag use increases based on record keeping from businesses</p>
<b>Alameda County, CA*</b>	<p>\$0.10 retail only (no charge at restaurants) May 1, 2017</p> <p><i>Planned increase to \$0.25</i></p>	<p>N/A</p>	<p>\$0.10 (only selected retail stores) January 25, 2012</p> <p>\$0.10 (all commercial stores) May 1, 2017</p> <p>\$0.10 (restaurants) November 1, 2017</p> <p><i>Planned increase to \$0.25</i></p>	<p>✓ January 25, 2012</p>	<p>Initial 1 year post-implementation results concluded there was adequate reduction to delay increase.</p> <p><a href="#">New data shows</a> bags in circulation are increasing, an increase to 25 cent bag fees is planned.</p>

**Attachment 1**

<p><b>Seattle, WA*</b></p>	<p>\$0.05 per paper bag January 1, 2012</p> <p>\$0.08 per paper bag October 2, 2021</p>	<p>✓</p>	<p>\$0.08 per reusable bag October 2, 2021</p> <p>\$0.12 per reusable bag January 1, 2026</p>	<p>✓ January 1, 2012</p>	<p>Proposed \$0.20 fee but met with industry pushback.</p> <p>Updated fees to align with state law bag fee. Their administration suggests that a higher fee like other municipalities would be accepted.</p>
<p><b>Monterey, CA*</b></p>	<p>\$0.10 per paper bag July 1, 2012</p> <p>\$0.25 per paper bag January 1, 2013</p>	<p>N/A <i>Considering updating to include takeout and delivery like San Francisco.</i></p>	<p>N/A</p>	<p>✓ January 1, 2012</p>	<p>\$0.10 wasn't achieving the desired reduction result or behaviour change.</p>
<p><b>San Francisco, CA*</b></p>	<p>\$0.10 per paper bag October 1, 2012</p> <p>\$0.25 per paper bag July 1, 2020</p>	<p>✓</p>	<p>\$0.25 per reusable bag July 1, 2020</p>	<p>✓ 2007</p>	<p>Bag fee increased based on results from \$0.25 bag fee in other municipalities</p>
<p><b>Portland, OR*</b></p>	<p>\$0.05 per paper bag retail stores</p> <p>No charge: restaurants</p> <p>October 15, 2011</p>	<p>N/A</p>	<p>\$0.05 per reusable bag both retail and restaurants October 15, 2011</p>	<p>✓ October 15, 2011</p>	<p>No fee increase planned currently.</p>
<p><b>Washington, D.C.*</b></p>	<p>\$0.05 per paper bag: retail &amp; restaurants without seating;</p> <p>No fee: restaurants with seating &amp; food courts January 1, 2010</p>	<p>✓ In "take out" restaurants without seating</p>	<p>\$0.05 per reusable bag January 1, 2010</p>	<p>✓ January 1, 2010</p>	<p>Thinking of increasing bag fee to align with other municipalities. Current bag fee is no longer reducing waste</p>