

# Climate Assessment

Office of Legislative Oversight

## Bill 24-24: Taxation – Paper Carryout Bags and Prohibition on Plastic Carryout Bags

### SUMMARY

The Office of Legislative Oversight (OLO) anticipates Bill 24-24 will have a positive impact on the County's contribution to addressing climate change as it would likely incentivize consumers in the County to use reusable bags and reduce dependence on plastic bags, whose production contributes significantly to global greenhouse gas emissions. OLO notes the magnitude of this positive impact is dependent on the enforcement of the proposed ban and tax.

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### BACKGROUND AND PURPOSE OF BILL 24-24

Taxes and bans on plastic bags have been implemented in multiple jurisdictions across the country.<sup>1</sup> They are intended to disincentivize customers from using single-use plastic bags and reduce the amount of plastic litter.<sup>2</sup> Depending on the jurisdiction, revenue from the bag tax goes towards environmental protection.<sup>3</sup>

In 2012, a County law requiring a 5-cent tax on paper and plastic carryout bags provided by retail establishments went into effect. This included supermarkets, convenience stores, shops, gas stations, and restaurants. Under the law, retailers may retain 1-cent of the bag tax to cover administrative costs. Revenue from the tax are deposited into the County's Water Quality Protection Charge, which goes towards activities such as restoring and monitoring streams and cleaning and maintaining storm drains.<sup>4</sup>

Bill 24-24 would repeal the 5-cent tax on plastic carryout bags and would ban plastic carryout bags provided by retail establishments. Some goods are exempted from this ban, such as prescriptions, dry-cleaned garments, bulk foods, and perishable food items. Bill 24-24 would also:

- Require a 10-cent tax on paper carryout bags (certain exemptions apply);
- Exempt recipients of food assistance programs from the carryout bag tax;
- Set guidelines for businesses subject to the tax, including allowing businesses to retain 5-cents of the tax for administrative costs and requiring businesses to remit the taxes collected to the County every quarter.; and
- Increase the amount the County Water Quality Protection Fund receives from each bag fee from 4 cents to 5 cents.<sup>5</sup>

Bill 24-24, Taxation – Paper Carryout Bags and Prohibition on Plastic Carryout Bags was introduced by the County Council on October 15, 2024.<sup>6</sup>

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## METHODOLOGIES, ASSUMPTIONS, AND UNCERTAINTIES

**Methodology.** For this assessment, the following were reviewed: the existing County bag tax and its impacts; literature about plastic bag taxes and bans and their efficacy; data and findings from reviewing other plastic bag taxes and bans around the world; and research on the recycling and reuse of single-use bags.

**Assumptions.** The main assumption of this assessment is that the proposed bill would dissuade customers of County businesses from using single-use paper bags and increase the use of reusable bags, as literature shows taxes on bags, when enforced, change consumer behavior.

**Uncertainties.** It is uncertain how many County residents would change their behavior around plastic bag use due to the ban and increased tax. It is also uncertain if there will be unintended consequences of the plastic bag ban that could result in single-use plastic usage staying the same or increasing, such as residents purchasing more plastic trash bags for small trash cans. Further, the enforcement of the proposed ban and tax is uncertain as the County has had enforcement issues with the current bag tax.

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## BANS AND TAXES ON SINGLE USE BAGS

Plastic bag bans and taxes on single-use bags are intended to incentivize consumers to switch to reusable bags, which will decrease the amount of single-use plastic and paper bags in circulation and lead to less plastic litter.<sup>7</sup> While paper bags are more recyclable, wood pulp is required to manufacture these bags, which an increased need for single-use paper products could lead to deforestation. Ultimately, these policies should be designed with the major intention of driving more consumers to switch to reusable bags for their shopping and take-out purchases for the best outcome for the environment.<sup>8</sup>

In the United States, more than 100 billion plastic bags are distributed every year.<sup>9</sup> Plastics are produced from petroleum, a fossil fuel product, and the manufacturing of plastic products, such as single-use plastic bags, emits greenhouse gases and is a major driver of climate change.<sup>10</sup> Further, plastic bags are not biodegradable and contribute to microplastic pollution when they break down.<sup>11</sup> While single-use plastic bags are often reused as trash bin liners which lowers their carbon footprint, they will ultimately end up in the environment or landfill as they are difficult to recycle and not always accepted in municipal recycling streams.<sup>12</sup>

**Efficacy of Plastic Bag Bans and Taxes.** The efficacy of plastic bag bans and taxes are mixed, but it usually depends on how narrowly-defined regulations are and enforcement of regulations. A study on plastic bag policies enacted in Chicago found that plastic bag bans that do not regulate substitutes, such as paper bags, are significantly less effective at reducing the use of disposable bags compared to a tax on disposable bags. Bans may increase the overall environmental costs by changing the composition of types of single-use bags

used.<sup>13</sup> However, it is likely that banning plastic bags while taxing a substitute will lead to less single-use bag use.

Another study that conducted a systematic review of plastic bag bans around the world found the success rates of bans are associated with stakeholder support, enforcement, and monitoring. Bans and taxes that have seen more success generally have strong enforcement. Some of the plastic bag bans studied around the world include:

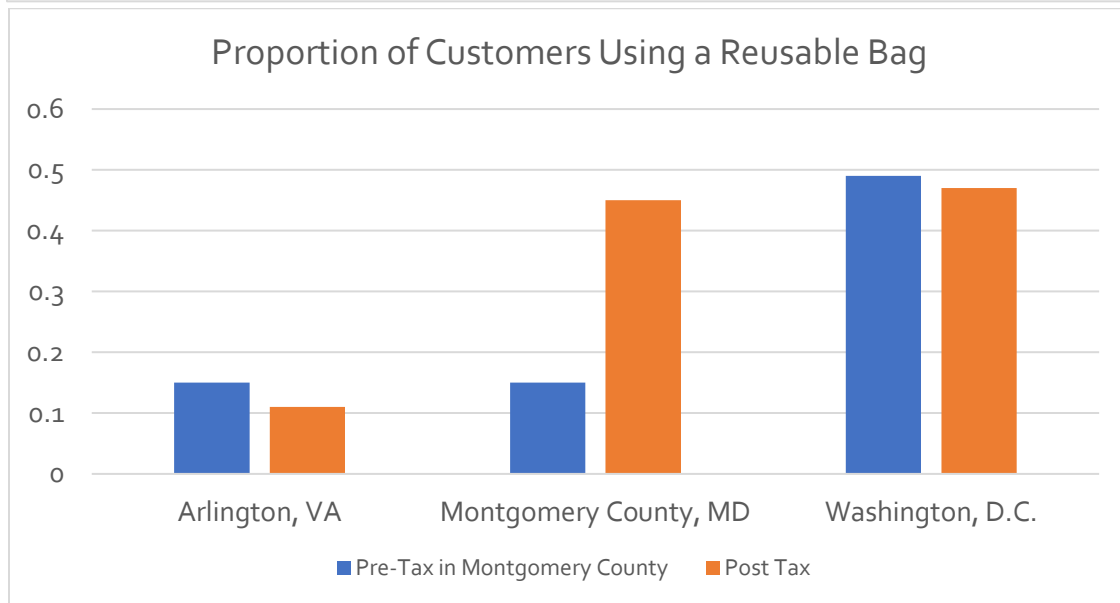
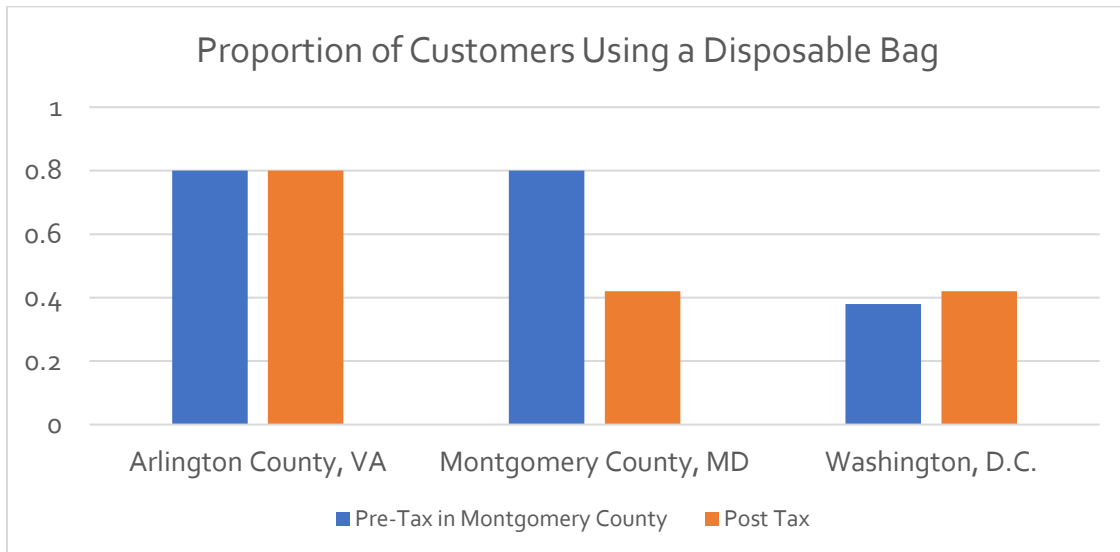
- In China, the rollout of the ban resulted in a 49% reduction in plastic bag consumption after four months. However enforcement was weak, especially in rural areas, where many businesses continued to use plastic bags after the ban was enacted.
- Sao Paulo, Brazil recorded a 70% reduction after one year in plastic litter after a ban was enacted.
- A ban passed in 2011 in Italy resulted in a 50% reduction in the use of plastic bags.<sup>14</sup>

**Findings from other Jurisdictions.** Plastic bag bans and taxes have been passed in many countries. In the United States, multiple state and local governments have passed legislation on either plastic bag bans or taxes. A recent study from the Environment American Research and Policy Center at Penn State looked at bans instated in five states and cities and their impacts. It was found these bans affected more than 12 million people and it is estimated it has cut single-use plastic bag consumption by about six billion bags per year.<sup>15</sup> <sup>1</sup>

Another study that looked at the effects of the 2012 tax on plastic bags in Montgomery County, MD showed a reduction of single-use bag usage. In Montgomery County, the study found that prior to the tax, 82% of customers used at least one single-use plastic bag per shopping trip. After the 5 cent tax was enacted, 42% of customers used at least one single-use plastic bag. The study further went on to state that if the reduction held constant, it would lead to a reduction of over 18 million disposable bags per year. The charts on the next page summarize the findings from the study. Two surrounding jurisdictions were used as control samples, Washington D.C., which implemented a tax similar to Montgomery County's two years ago and Arlington, VA, which proposed a similar tax but wasn't passed at the time of this study.

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<sup>1</sup> The six billion bag per year figure is based on an estimate that on average, bans on single-use plastic bags can eliminate almost 300 bags per person, per year. This assumption is from research presented in: Penn Environment Research and Policy Center, "[Plastic Bag Bans Work](#)", January 17, 2024.



The data from the study shows that bag use in Arlington, VA and Washington, D.C. were stable both pre- and post-tax, while Montgomery County’s bag use changed significantly. It can be inferred that the tax caused a significant change in consumer behavior.<sup>16</sup> As the new bill proposes a 50% increase in tax for single-use bags, it is likely it could increase the proportion of customers in Montgomery County that use a reusable bag. This change in behavior would likely decrease the use and circulation of single-use plastic bags in the County, which would lower the County’s carbon footprint associated with plastic usage. However, it must be noted that enforcement of the current tax on plastic bags has not been consistent, so the impact of the proposed tax may be lower than expected if enforcement continues to be weak.<sup>17</sup>

## ANTICIPATED IMPACTS

Taxes on single-use bags, whether plastic or paper, are generally found to decrease the number of bags used by consumers compared to bans that do not regulate substitutes. As this bill would both ban plastic bags and charge a 10-cent tax per paper bag used, it is likely that it would increase the amount of consumers that opt for reusable bags. It is also likely that the circulation of single-use plastic bags in the County would decrease, which would have a positive impact on the County's contribution to climate change as the consumption of plastic bags is associated with significant greenhouse gas emissions from manufacturing plastic products. OLO notes this impact would be affected by how strong this new tax is enforced as enforcement of the current bag tax was found to be inconsistent by the County's Office of Inspector General.<sup>18</sup>

OLO anticipates Bill 24-24 will have a positive impact on the County's contribution to addressing climate change, including the reduction and/or sequestration of greenhouse gas emissions, community resilience, and adaptative capacity.

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## RECOMMENDED AMENDMENTS

The Climate Assessment Act requires OLO to offer recommendations, such as amendments or other measures to mitigate any anticipated negative climate impacts.<sup>19</sup> OLO does not offer recommendations or amendments as Bill 24-24 is likely to have a positive impact on the County's contribution to addressing climate change, including the reduction and/or sequestration of greenhouse gas emissions, community resilience, and adaptative capacity.

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## CAVEATS

OLO notes two caveats to this climate assessment. First, predicting the impacts of legislation upon climate change is a challenging analytical endeavor due to data limitations, uncertainty, and the broad, global nature of climate change. Second, the analysis performed here is intended to inform the legislative process, not determine whether the Council should enact legislation. Thus, any conclusion made in this statement does not represent OLO's endorsement of, or objection to, the bill under consideration.

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## PURPOSE OF CLIMATE ASSESSMENTS

The purpose of the Climate Assessments is to evaluate the anticipated impact of legislation on the County's contribution to addressing climate change. These climate assessments will provide the Council with a more thorough understanding of the potential climate impacts and implications of proposed legislation, at the County level. The scope of the Climate Assessments is limited to the County's contribution to addressing climate change, specifically upon the County's contribution to greenhouse gas emissions and how actions

suggested by legislation could help improve the County's adaptive capacity to climate change, and therefore, increase community resilience.

While co-benefits such as health and cost savings may be discussed, the focus is on how proposed County bills may impact GHG emissions and community resilience.

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## CONTRIBUTIONS

OLO staffer Kaitlyn Simmons drafted this assessment.

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<sup>1</sup> Muposhi, A., Mpinganjira, M., and Wait, M., "[Considerations, benefits and unintended consequences of banning plastic shopping bags for environmental sustainability: A systematic literature review](#)", 2022.

<sup>2</sup> Abate, T. G. and Elofsson, K., "[Environmental taxation of plastic bags and substitutes: Balancing marine pollution and climate change](#)", May 2024.

<sup>3</sup> Fairfax County Office of Environmental and Energy Coordination "[Disposable Plastic Bag Tax in Fairfax County](#)" Accessed 10/23/2024; Loudoun County, VA "[Disposable Plastic Bag Tax](#)" Accessed 10/23/2024; Montgomery County, MD Department of Environmental Protection "[Bring Your Bag](#)", Accessed 10/23/2024

<sup>4</sup> Montgomery County, MD Department of Environmental Protection, "[Water Quality Protection Charge](#)"; Montgomery County, MD Department of Environmental Protection "[Bring Your Bag](#)", Accessed 10/23/2024

<sup>5</sup> Montgomery County Council, "[Staff Introduction Report for Bill 24-24, Taxation - Paper Carryout Bags and Prohibition on Plastic Carryout Bags](#)", Introduced October 15, 2024.

<sup>6</sup> [Ibid.](#)

<sup>7</sup> Homonoff, T. A., "[Can Small Incentives Have Large Effects? The Impact of Taxes versus Bonuses on Disposable Bag Use.](#)", 2018.

<sup>8</sup> Simantiris, N., "[Single-use plastic or paper products? A dilemma that requires societal change.](#)", April 2024.

<sup>9</sup> Wang, Q., Tweedy, A., and Wang, H. G., "[Reducing Plastic Waste Through Legislative Interventions in the United States: Development, Obstacles, Potentials, and Challenges](#)", March 2022.

<sup>10</sup> Berkeley Lab: Energy Analysis and Environmental Impacts Division, "[Climate Impact of Primary Plastic Production](#)", April 2024.

<sup>11</sup> Wang, Q., Tweedy, A., and Wang, H. G., "[Reducing Plastic Waste Through Legislative Interventions in the United States: Development, Obstacles, Potentials, and Challenges](#)", March 2022.

<sup>12</sup> Stanford Magazine, "[Paper, Plastic or Reusable?](#)", September 2017.

<sup>13</sup> Homonoff, T. A., et. al., "[Skipping the Bag: The Intended and Unintended Consequences of Disposable Bag Regulation](#)", February 2021.

<sup>14</sup> Muposhi, A., Mpinganjira, M., and Wait, M., "[Considerations, benefits and unintended consequences of banning plastic shopping bags for environmental sustainability: A systematic literature review](#)", April 2021.

<sup>15</sup> Penn Environment Research and Policy Center, "[Plastic Bag Bans Work](#)", January 17, 2024.

<sup>16</sup> Homonoff, T. A., "[Can Small Incentives Have Large Effects? The Impact of Taxes versus Bonuses on Disposable Bag Use](#)", 2018.

<sup>17</sup> Montgomery County, MD Office of the Inspector General, "[Carryout Bag Tax](#)", June 13, 2023.

<sup>18</sup> [Ibid.](#)

<sup>19</sup> Bill 3-22, Legislative Branch – Climate Assessments – Required, Montgomery County Council, Effective date October 24, 2022