

# CURBSIDE DISPOSAL EDUCATION CAMPAIGN PILOT: SUMMARY

**MAY 2022**

**EPA-842-S-22-001**



The Curbside Disposal Education Campaign Pilot took place from July 2020 to May 2021 in Washington, D.C., through a partnership between the Environmental Protection Agency's Trash Free Waters Program (TFW) and the local District government, including the D.C. Mayor's Office of the Clean City (MOCC), D.C. Department of Public Works (DPW), and D.C. Department of Energy and Environment (DOEE). The primary goal of this initiative was to educate residents about proper waste containment and encourage behavioral changes to reduce unintentional leakage associated with curbside municipal trash collection.

A total of 8,000 DPW-serviced, single-family homes in four target neighborhoods were selected to receive a campaign sticker. The sticker (see Appendix A, Figure 1) articulated four simple actions to reduce unintentional trash spillage associated with curbside disposal:

- 1) Keep lid closed and do not overflow the can.
- 2) Bag your trash before putting it in the can.
- 3) Place trash in can outside shortly before pickup.
- 4) Call 311 or visit 311.dc.gov for assistance with cans needing repair or replacement.

The sticker slogan "Cleaner communities and waterways start here" was chosen to connect clean, healthy neighborhoods and nearby waterways and appeal to local pride and a sense of community. Stickers were accompanied by material explaining the campaign's purpose and a quick guide outlining how to apply the sticker to a municipal trash can lid for a point-of-contact reminder about best practices (see Appendix A, Figures 2 and 3).

To assess impact measurement, weekly litter scoring was conducted along 1-mile representative routes in each of the four target neighborhoods (see Appendix B, Figure 4) for the 11 weeks leading up to sticker distribution and the 11 weeks following distribution. Project partners also used these representative routes to collect weekly data on compliance with the four specific recommendations outlined on the stickers. For comparison purposes, the above data collection took place along control blocks within each of the target neighborhoods consisting of households that did not receive a campaign sticker. After sticker distribution, the total number of stickers applied to cans along the 1-mile routes was also counted.

A difference-in-differences model was used to measure the impact of the campaign on several data indicators. **Our analysis suggests that this educational campaign had an overall positive impact on the target communities.** In particular, there was a statistically significant reduction of overflowing cans counted along data collection

routes in all four target neighborhoods. There was also a statistically significant reduction in the number of overflowing and open cans combined in the four neighborhoods (see Appendix C, Figure 5).

Project partners conducted a complementary analysis on 311 requests – a telephone and online portal wherein District residents contact District employees to address issues such as trash can repair and replacement, alley cleaning, etc. This was to determine if there was an increase in trash can repair and replacement requests (as well as other types of services and information) in the targeted neighborhoods after sticker distribution, as prompted by the fourth sticker recommendation. Our analysis suggests that the education program increased effect by +2.2 percentage points across the four target neighborhoods (see Appendix C, Figure 6). More service requests were submitted in the four target neighborhoods compared to the District average in several categories: alley cleaning; bulk collection; recycling cart repair; rodent inspection and treatment; sanitation enforcement; and supercan delivery.

Sanitation enforcement was the most impacted 311 service type requested in the target neighborhoods after treatment compared to the District average, with a +9.2 degree of change (see Appendix C, Figure 6). This could mean that after being informed by the campaign sticker, residents were able to take action and promote improved trash management from their neighbors by reporting improper disposal of solid waste and cans left in alleyways and street fronts during inappropriate times.

A total of 109 maximum stickers were counted by project partners along the 1-mile representative neighborhood routes. We can extrapolate this to assume more than 10% of households that received the campaign materials applied the sticker to their trash cans. Despite this relatively small sticker application rate, project partners viewed this as a successful reach rate compared to other District canvassing efforts, and considering limitations brought by the Covid-19 pandemic, they believe the initial results of the campaign are promising. In addition, the treatment group size of this project was only around 1,022 homes. If sticker distribution increased to even a fifth of D.C. DPW-serviced households (105,000 homes), it could have the potential to lead to an impressive impact on the city and drive even more statistically significant results.

**For a more thorough review of the methodology, findings, and recommendations of this pilot campaign to better inform the successful adaptation and adoption of a similar approach in other interested communities, please read the entire case study report.**

# APPENDIX A: Distribution Materials



Figure 1. The Curbside Disposal Education Pilot Project campaign sticker design, distributed to 8,000 Washington, D.C. households.



Figure 2. Graphic on the back of the sticker with directions on how to properly apply the sticker on a can.

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# Hello, Neighbor!

**We know you want to keep your community and local waterways clean, and this free sticker can help. Please place it on your green trash can lid as a reminder about how to properly dispose of trash.**

Mayor Bowser's Office of the Clean City has partnered with the U.S. Environmental Protection Agency's Trash Free Waters Program to reduce the amount of trash falling onto our neighborhood streets and sidewalks. Trash that spills on streets and sidewalks attracts rats and other pests. It can also be carried by water or wind into our sewers and ultimately wind up in local rivers and streams. The attached sticker lists a few simple steps you can take to help keep your local community and waterways free from trash.

**To read more about how you can help keep your community clean, please visit the Mayor's Office of the Clean City at [cleancity.dc.gov](http://cleancity.dc.gov) or [zerowaste.dc.gov](http://zerowaste.dc.gov), and follow #TrashFreeDC on social media.**



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Figure 3. Presentation card with slots to hold the educational sticker in place.

## APPENDIX B: Data Collection

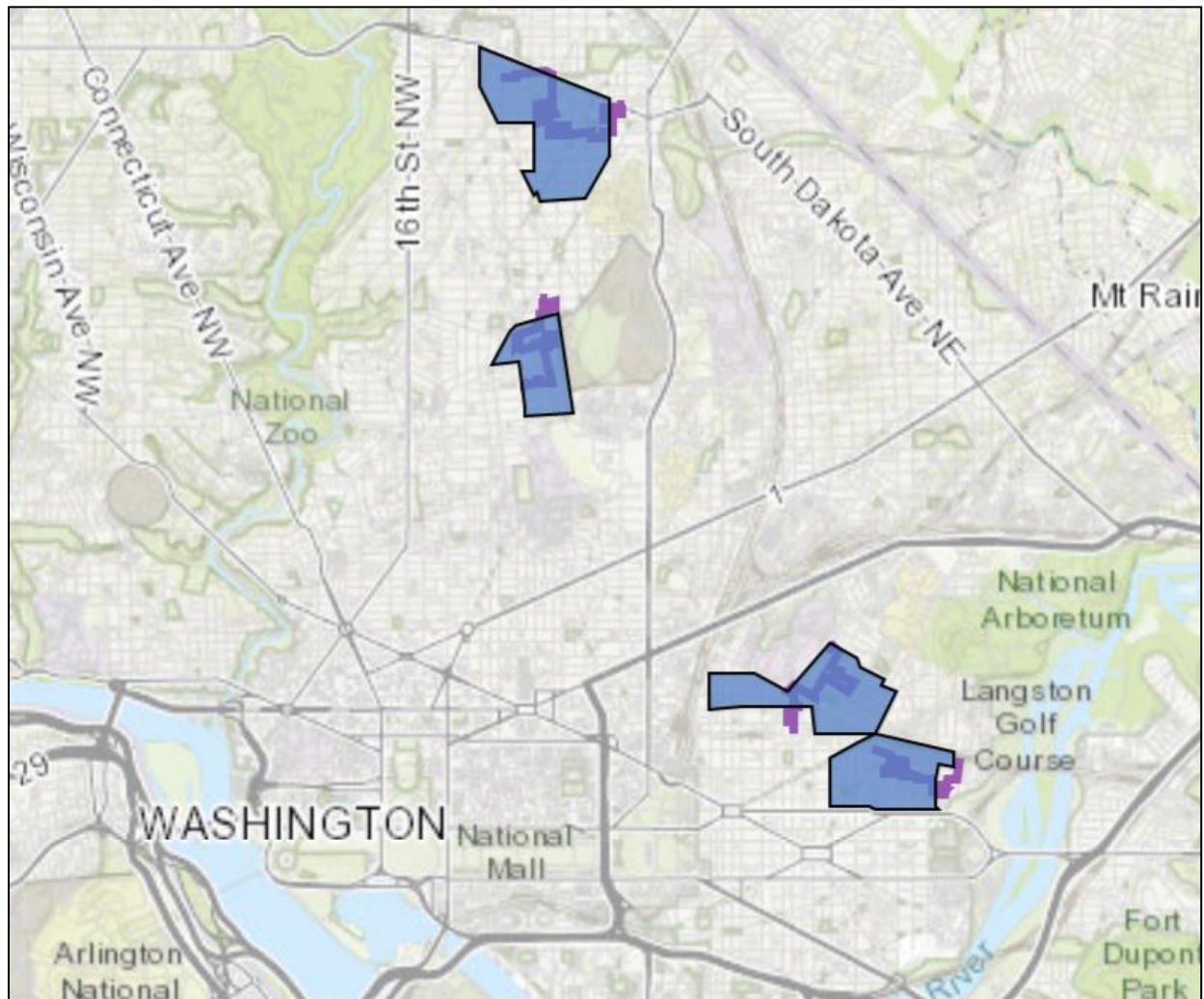


Figure 4. Map showcasing estimated sticker distribution areas (blue shapes) and 1-mile representative data collection routes (underlying purple lines) in the pilot's four target neighborhoods.

## APPENDIX C: Findings

Neighborhood	Metric	Magnitude	Direction	Significant
<b>Brightwood</b>	Litter Index Score	-0.395	↓	Yes
<b>Brightwood</b>	Open Cans	-1.286	↓	Yes
<b>Brightwood</b>	Overflowing + Open Cans	-1.640	↓	Yes
<b>Park View</b>	Overflowing Cans	-2.616	↓	Yes*
<b>Park View</b>	Overflowing + Open Cans	-3.769	↓	Yes
<b>Combined (All Neighborhoods)</b>	Overflowing Cans	-1.364	↓	Yes
<b>Combined (All Neighborhoods)</b>	Overflowing + Open Cans	-2.159	↓	Yes

Figure 5. Table of statistically significant findings from difference-in-differences regression analysis for average litter index score and number of overflowing and/or open cans observed during data collection before and after treatment. (\*=Only statistically significant in the fixed effects model.)

<b>Service Request</b>	Brightwood	Rosedale Kingman	Park View	Trinidad	<b>Across Service Totals</b>	Average Number of Requests Per Month
Alley Cleaning	13.9	-7.1	-18.0	-0.4	<b>3.1</b>	60-82
Bulk Collection	-4.2	-5.9	3.1	6.2	<b>0.9</b>	608-744
Rat Replacement Containers	98.4	56.8	-51.1	31.2	<b>-1.4</b>	1-10
Recycling Cart - Repair	-51.1	-5.2	51.7	32.3	<b>14.9</b>	6-8
Recycling Cart Delivery	-32.4	-8.3	-55.9	-22.6	<b>-24.3</b>	30-46
Rodent Inspection and Treatment	14.5	9.7	3.4	11.3	<b>8.2</b>	120-152
Sanitation Enforcement	22.9	37.2	-3.3	11.2	<b>9.2</b>	59-104
Supercan - Delivery	11.8	146.5	-24.8	-18.1	<b>5.5</b>	33-38
Supercan - Repair	53.2	4.0	6.5	160.3	<b>-5.6</b>	5-16
Trash Cart - Delivery	-17.1	-24.1	-33.0	7.4	<b>-13.1</b>	37-51
Trash Cart Repair	18.4	48.9	-66.9	-61.5	<b>-29.6</b>	6-14
<b>Within Neighborhood Totals</b>	<b>3.2</b>	<b>0.6</b>	<b>-1.7</b>	<b>5.3</b>	<b>2.2</b>	
Average Number of Requests Per Month	236-308	176-208	294-361	317-360		

Figure 6. This table shows the percentage point change in service requests for the 4 target neighborhoods relative to the city average, while comparing the treatment period of November 2020-February 2021 to November 2019-February 2020.