

Question 25

City of Auburn Dumpster Outreach Program Evaluation Report

January 8, 2024

Permit Requirement

S5.C.2.ii.(e) No later than March 31, 2024, evaluate and report on:

1. The changes in understanding and adoption of targeted behaviors resulting from the implementation of the (*social marketing behavior change*) strategy; and
2. Any planned or recommended changes to the campaign in order to be more effective; describe the strategies and process to achieve the results.

Background

The City of Auburn chose to participate in the Regional Dumpster Lid Social Marketing Campaign due to observations by Storm Drainage Utility staff that open dumpsters were a significant source of litter and leaking dumpsters could contribute to stormwater pollution in the City. The following text further explains why uncovered dumpsters are a stormwater concern, project goals, and key pilot campaign outcomes.

From the *Regional Dumpster Lid Social Marketing Campaign 2021 Pilot Summary* prepared by the Cities of Bellevue, Olympia, and Kirkland.

Why Dumpsters?

Most of the pollution reaching Puget Sound is carried there in stormwater runoff. Uncovered and leaking dumpsters can cause pollutants like chemicals, bacteria, and organic matter to end up in stormwater runoff. Rainwater mixed with trash can leak out and spill onto impervious surfaces that drain to the stormwater system when dumpsters are serviced.

The focus of the Dumpster Lid Campaign is to keep dumpster lids closed to protect surface water quality. The target audience is commercial businesses. This summary documents the social marketing process to plan, launch, and evaluate the 2021 Dumpster Lid Pilot phase.

The regional Dumpster Outreach Group (DOG) was formed in 2021 with the shared goals to:

- Meet National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit education and outreach requirements for Behavior Change,
- Create regionally consistent outreach materials for businesses and inspectors to address common dumpster issues found during Private Storm Drainage and Source Control Inspections, and to
- Protect water quality by reducing sources of stormwater pollution from occurring around commercial dumpsters.

Key Campaign Outcomes

Conducting a pilot campaign is a recommended step in traditional Social Marketing (Implementation) and community-based social marketing (Step 4). Piloting the campaign provides an opportunity to evaluate the effectiveness of social marketing strategies and adapt them before implementing a campaign broadly. The following is a list of key outcomes from a 6-month pilot campaign:

- Dumpster lid closure significantly improved from campaign outreach. The percentage of lids closed rose from 49% during the baseline evaluation to 77% during the final evaluation.
- Over 30 jurisdictions participating in the campaign realized substantial cost savings due to economy of scale and staff time savings through leveraging the experience and knowledge of regional E&O staff.

- Nearly 150 businesses throughout the region were provided educational materials and tools.
- Over 100 dumpster areas across the Puget Sound were evaluated before and after the pilot campaign implementation.

Auburn Phase 1 (Regional Pilot Study)

Regional program implementation during the pilot study phase resulted in an overall dumpster lid closure rate of 77% after campaign outreach. In Auburn, the results of our pilot study participation indicated a 53% closure rate at one site and a 17 % closure rate at the other site after campaign outreach (both sites had multiple businesses using the dumpsters). Due to the COVID pandemic, outreach for this Phase was conducted through the mail and stickers were applied to dumpsters by City staff.

Auburn Phase 2

Because of our limited data from the pilot study, Auburn decided to conduct a Phase 2 for our Dumpster Lid Social Marketing Outreach Program. This was conducted in a limited geographic area of central Auburn (Auburn Way N from 4th St NE to 15th St NE and 15th St NE/NW west from Auburn Way N to B St NW). We focused on businesses that don't share dumpsters and emphasized the food service business type. Businesses in the target area were located on older sites that typically do not have private stormwater treatment, which increases the importance of keeping trash and other organic pollutants out of their stormwater. Sites that share dumpsters were not included because they add complexity to the data analysis, which could have skewed the results. By focusing on businesses that had sole control of their dumpster, we believed we would get a better picture of whether the revised outreach materials were effective in changing behavior.

In Phase 2 we modified the graphics on our stickers, signs and posters, adding motion arrows to more clearly indicate the dumpster lids should be closed, changed the color of the graphics to convey a generic dumpster, and used colors for the graphics that our Multimedia staff indicated were better for individuals with color vision deficiency. We also personally delivered the posters and provided education to the businesses rather than mailing the information as in Auburn Phase 1 of the study. City staff applied the stickers to the dumpsters as we had done during Auburn Phase 1.

- Phase 2 evaluation looked at rate of dumpster lid closure before and after education (education is defined as distribution/installation of signs, posters, and dumpster stickers).
- Data was compared against the City of Auburn pilot study (Phase 1) results to determine whether changes to the education materials and outreach methods increased effectiveness.
- Changes to the education materials and outreach methods were to be considered successful if the percent closure rate increase in Phase 2 was greater than the percent closure rate increase in Phase 1.

Analysis of our Phase 2 data indicated an after education dumpster closure rate of 65 % (up from 62 % pre education). This appeared to be getting closer to the 77 % closure rate seen by the regional pilot program analysis and was higher than the 53% and 17% seen during our pilot study implementation. One issue that businesses in our phase 2 study group cited as a concern was that unhoused people routinely accessed the business' garbage dumpsters and often left them open, making it difficult to monitor.

Auburn Phase 3

In Phase 3 of our dumpster outreach implementation, the City began providing dumpster lid closure information to businesses during source control business inspections conducted in 2023. During the inspections, City staff also applied the stickers as modified for Phase 2 to the dumpsters of businesses that were inspected. In our first year of source control inspections, we focused primarily on food service businesses which was similar to our Phase 2 target audience. When non-food service businesses were in the same development as a food service business our source control inspectors provided outreach and stickers to all of the businesses. Likewise, when the City received a credible water quality complaint about a business a source control inspection (including dumpster outreach) was conducted at that business and any other businesses on the same parcel or development.

In December 2023 and January 2024, the City reinspected all 251 businesses where dumpster outreach had taken place during our source control inspections in 2023 (40 additional businesses had garbage cans rather than dumpsters so they received basic source control information only). Sites were evaluated based on whether all dumpsters at a business were closed. If any dumpster at a business was open the business was logged as “Dumpster Open”. Our analysis of the reinspection findings indicated an after education closure rate of 83%. This level of positive behavior related to closing dumpster lids is a good indication that our messaging and methods are effective in changing the understanding and adoption of the targeted behaviors. We did not keep track of whether dumpster lids were closed during the initial source control inspections so we were not able to determine changes in the closure rate.

Moving Forward

Based on the results of our 2023 Phase 3 implementation we believe that our outreach is effective so we do not plan to change any methods or implementation of this program. We will continue to implement the dumpster outreach behavior change program utilizing our source control inspection process as we provide outreach to businesses in Auburn. In 2024 our source control program will continue to focus on food service businesses. Mid-way through the year we will evaluate our progress and determine which business type(s) to focus on next.