



Social Marketing Strategies for Stormwater Business Outreach

Summary of Recent Research in the Puget Sound Region: Assistance for Developing and Implementing Local Programs

Prepared for



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Bainbridge Island, WA

November 2011

This project was funded by a grant from the Department of Ecology

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Introduction

A substantial amount of primary outreach research has been conducted recently in the Puget Sound region on business practices that can pollute stormwater runoff. This report attempts to synthesize the major findings from that research so they can be shared with other Phase II jurisdictions. The outreach strategies, both those recommended and not recommended, have been tested through surveys, interviews and focus groups, but not all the strategies have been piloted and evaluated. It is hoped that this report can be used as a guidebook for those jurisdictions as they develop and implement their educational programs for businesses.

This guidebook presents a synthesis of recent projects conducted in the Puget Sound region targeted at businesses that have daily practices impacting stormwater runoff. It provides the following:

- **Target Audience:** A summary of the target audiences addressed in the project.
- **General Awareness:** What these projects found the target audience, in general, knew about stormwater and the specific desired behaviors.
- **Current Behaviors:** A summary of the current behaviors of the target audience identified through the project.
- **Desired Behaviors:** The desired behaviors for the target audience that was identified by the project partners during the project.
- **Barriers:** Any barriers identified that may interfere with the target audience adopting the desired behavior.
- **Motivators:** Any motivators that were identified that would encourage the target audience to adopt the desired behavior.
- **Messengers:** Any information collected on who the best messenger would be to provide information to the target audience about the desired behavior.

The business sectors represented in this report are considered the most egregious in terms of the priority pollutants that are generated and their effect on water quality. Local municipalities are encouraged to use this information as they develop and implement stormwater outreach targeting businesses to meet NPDES requirements.

In using this guidebook, look for the symbols that pertain to the different business sectors:



Restaurants



Mobile



Automotive



Grocery Stores

Recent Puget Sound Research Targeting Businesses

1. Project Title: Stormwater Pollution Prevention Education & Outreach for Mobile Businesses

Target



Audience:

Lead: Snohomish County

Partners: City of Seattle, Kitsap County, City of Wenatchee, City of Moses Lake, Snohomish County

Tag line: Dump Smart: It's Not Just Water

Date: June 2011

Consultant: Frause

Summary: Six focus groups were held across the State, including 2 with carpet cleaners, 2 with pressure washers, 1 with painters, and 1 mixed group.

Reports: *Dump Smart: It's Not Just Water: Stormwater Pollution Prevention Education and Outreach for Mobile Businesses. June 2011.*

Available at Department of Ecology website:

<http://www.ecy.wa.gov/programs/wq/stormwater/municipal/MUNIdocs/dumpsmartprojectreport6-2011.pdf>

2. Project Title: Stormwater Business Education Template Project

Target



Audience:

Lead: Kitsap County Surface and Stormwater Management Program

Partners: King County, Asotin County, Cities of Vancouver and Everett

Pilot

Participants: The cities of Wenatchee, East Wenatchee, SeaTac, Kelso, Longview, Vancouver and the counties of Douglas, Chelan and Kitsap

Tag line: We Keep It Clean Using the 4Cs

Date: March 2010 – June 2011

Consultant: Cunningham Environmental Consulting

Summary: (a.) Conducted background research on written materials targeted to businesses, (b.) Held 3 focus groups with automotive businesses, (c.) Conducted a pilot campaign distributing the 4Cs poster and spill kits to automotive businesses, (d.) Completed a follow-up evaluation through online survey and in-person survey with a control group for comparison.

Reports: 1. *Stormwater Business Education Template: Background Research Report, April 2010.*

2. *Stormwater Business Education Template: Focus Group Report, November 2010.*
3. *Stormwater Business Education Template: Pilot Campaign Evaluation Report, June 2011.*

Available at Department of Ecology website:

http://www.ecy.wa.gov/PROGRAMS/WQ/stormwater/municipal/public_outreach_resources.html

3. Project Title: Redmond Foundational Research Report

Target

Audience:



Lead: City of Redmond

Partners: n/a

Tag line: n/a

Date: July 2010

Consultant: Cascadia Consulting Group

Summary: Compilation of existing research conducted in Western Washington and interviews with 22 businesses in downtown Redmond.

Reports: *Foundational Research Report: Downtown Redmond Stormwater Business Outreach Plan, July 2010.*

Available by contacting: pholte@redmond.gov

4. Project Title: Restaurant Focus Groups

Target

Audience:



Lead: Kitsap County Surface and Stormwater Management Program

Partners: City of Lacey, Kitsap County Health District, Kitsap County Wastewater Program, City of Everett, King County

Tag line: n/a

Date: September – November 2011

Consultant: Cunningham Environmental Consulting

Summary: Held 2 focus groups, one with restaurant owners and managers; one with kitchen staff. Collected information on motivators and barriers, and tested products targeting cleanup practices that impact wash water, grease, and dumpsters.

Reports: *Restaurant Focus Group Report, November 2011.*

Available by contacting: PKirschbaum@co.kitsap.wa.us

5. **Project Title:** City of Bellevue Surface Water Issues

Target



Audience:

Lead: City of Bellevue

Partners: n/a

Tag line: n/a

Date: December 2007

Consultant: Cunningham Environmental Consulting

Summary: Conducted 100 in-person interviews and held two focus groups with business owners and managers to identify barriers, motivators, and test outreach products.

Reports: *Bellevue Surface Water Issues: In-Person Survey of Business Owners & Managers and Focus Groups, December 2007.*

Available by contacting: eborjeson@bellevuewa.gov

6. **Project Title:** Evaluation of Resource Ventures Spill Kit Distribution Program

Target



Audience:

Lead: City of Seattle

Partners: n/a

Tag line: n/a

Date: February 2009

Consultant: Cascadia Consulting Group

Summary: Conducted phone surveys with 300 spill kit recipients to measure the effectiveness of the free spill kit distribution program.

Reports: *Evaluation of Seattle Public Utilities' Public Involvement and Education Programs. February 2009.*

Available at Department of Ecology website:

<http://www.ecy.wa.gov/PROGRAMS/WQ/stormwater/municipal/MUNIdocs/SPU2008NPDESEOeval.pdf>



Automotive

Target Audience

Businesses and agencies that have fueling areas, automotive repair, and handle fluids such as gasoline, antifreeze, oil and lubricants, are one of the largest threats to water quality. An expanded list of this target group is listed below:

- Vehicle dealerships – new and used (cars, trucks, RVs, motorcycles)
- Vehicle repair (cars, trucks, RVs, motorcycles)
- Gas stations
- Muffler and transmission shops
- Equipment and vehicle rental
- Towing
- Boats – sales and repair
- Public agency fleets (fire, school districts, public works, utilities)

General Awareness

Automotive business owners tend to have a higher awareness about how their practices can impact runoff compared to other types of businesses. They are more regulated than other business sectors due to handling hazardous materials as part of their daily activities. Compared to other business sectors, automotive businesses in the study area have interacted with Public Works and Department of Ecology staff. Their exposure to information and educational outreach about best management practices may help change their behaviors more easily than the other business sectors. Still, there are many business owners who think stormwater is treated.

Current Behaviors

- Fuel or oil leaking from vehicles parked on the property waiting for repair is an inevitable part of the automotive business.
- Many businesses have spill kits or the materials to clean up spills and usually clean up spills as soon as they are noticed.
- Many businesses say they lack a printed spill plan or training.
- Most auto businesses say they store materials inside, or cover or use secondary containment if they store materials outside.
- Dealerships and other fleet businesses are aware of the need to wash cars in a designated area with proper plumbing that drains to a sanitary sewer.

- Vehicle maintenance is usually performed where spills can be contained. The leaks and spills frequently happen from customer vehicles dropped off for maintenance and repair, and accidental spills.

Desired Behaviors

- Capture fluids instead of letting them drain.
- Clean up spills before they reach the drain.
- Contain stored fluids to capture leaks.
- Cover outdoor work and storage areas.

Barriers

Most of the barriers identified were consistent among the three different studies involving interviews or focus groups with automotive business owners.

Strong barriers

- Not knowing what to do; lack of information on BMPs.
- Belief that small amounts of runoff don't contribute to pollution.
- Lack of perceived responsibility (mixed – this was a strong barrier in the Redmond Project and weak barrier in the Stormwater Business Template Project focus groups).

Medium barriers

- Conflicting regulations.
- Changes cost too much.
- Takes too much time.
- Don't have equipment or facilities.
- Employees should be more responsible.
- Space constraints.

Weak barriers

- Not the business owner's responsibility (Kitsap Project).
- No approval from managers.

Motivators

These motivators were identified in the Redmond, Kitsap and Bellevue projects, but are in no particular order.

- Concern for the environment.
- Awareness of human health hazard.
- Leaving a legacy to future generations.
- If businesses knew their actions can pollute drinking water.

- Avoidance of fines or liability from spills.
- Improving the health of local waters and fish.

Taglines - Business owners reacted positively to “Only Rain Down the Drain” for its simplicity and cadence, making it easier to remember than other taglines. Automotive business owners were not familiar with the phrase “Puget Sound Starts Here”.

Messengers

The most credible sponsor, or messenger, of an outreach material, was identified as the local public works department in the Kitsap Stormwater Template Project. The other projects targeting automotive businesses did not specifically ask businesses about which organization would be the preferred messenger.



Mobile Businesses

Target Audience

Mobile businesses such as carpet cleaners, painters, and pressure washers have the potential to discharge many types of pollutants to surface waters via storm drains as part of their business operations. Locating, educating, and regulating these businesses can be difficult due to their itinerant nature. A large number of mobile businesses operate from a residential base and provide dispersed services in multiple jurisdictions and may include seasonal or part-time employees. These businesses typically function under the radar of government regulation and in many cases without any type of business license.

General Awareness

Mobile business owners have a limited understanding of surface water issues and most were not aware that runoff to storm drains finds its way to water bodies. Some thought that only storm drains labeled “Drains to rivers, lakes, etc” needed protection. Businesses that have operated in jurisdictions with a combined sewer and stormwater system could be confused about proper waste water disposal.

Current Behaviors

Many business owners ignore the requirement to obtain separate business licenses in each city they serve and remove all advertising information from business vehicles to retain anonymity. Because they are not operating as licensed businesses and not paying the requisite taxes, many mobile businesses attempt to skirt interactions with public agencies and disregard their regulations.

Desired Behaviors

- Carpet cleaners – Empty waste down a sink, toilet, bathtub or shower drain. If a septic system is in place, collect waste water and take it to a sewer discharge site for proper disposal.
- Painters – Clean painting equipment in a sink or bathtub, or empty water used for cleaning down a toilet; keep thinners for cleaning oil-based paints in a container with a lid.
- Pressure Washers – Collect waste water and take it to a proper sewer disposal facility, or, with water only, place filters over nearby storm drains.

Barriers

Some barriers are common to all mobile businesses:

- Small businesses operating on thin margins are resistant to making changes that will add to their costs.
- No single, central source for regulatory information.
- Regulations are difficult to understand.
- Language barriers.
- Business licensing – no professional licensing is required and many do not have a state business license.
- Mistrust of government.
- No industry or trade groups to help disseminate educational information.

Specific Barrier by Business Type

Carpet Cleaners

- The preferred disposal option, sewer dump station disposal, is inefficient due to schedule, time and cost, and not enough stations are available, making this an inconvenient option.
- Many carpet cleaners believe if they use green cleaning products, it's OK to improperly dispose of the waste water down storm drains.

Pressure Washers

- Purchasing a system to recapture waste water for proper disposal is considered prohibitively expensive and many forego that option and take the risk of getting caught dumping improperly.
- Competition makes it critical to keep costs down; new competitors regularly appear due to inexpensive equipment and little required experience.
- Resistance to government involvement.

Painters

- Lack of available options for disposing of unused latex paint.
- Cost of commercial disposal of oil-based paint at household hazardous waste disposal facilities.
- Painters feel overwhelmed with existing regulations, are concerned about costs, and don't perceive a business advantage to positioning their business as "green".

Motivators

Mobile business operators appear to have few motivations to handle waste water properly. These motivators were uncovered during the focus groups:

- Desire to “do the right thing”.
- Interest in environmental protection.
- Wanting to meet the needs of customers for green products (and green practices) – carpet cleaners only.

Messengers

The most credible sponsor, or messenger, of an outreach material, may be an industry association in cooperation with a state agency, such as Department of Ecology.



Grocery Stores

Information specific to grocery stores is limited to a total of 11 interviews. The Bellevue study interviewed 3 large chain grocery stores and the Redmond study interviewed 8 grocery stores, including 5 chains, 1 grocery/drug store, and 2 independent grocers.

Target Audience

Large chain stores, small independent groceries, and convenience stores.

General Awareness

Grocery store owners and workers appear to be moderately aware of practices that affect stormwater runoff.

Current Behaviors

- Hosing down leaks at the dumpster.
- Leaving dumpster lids open for convenience.
- Occasionally disposing of wash water outdoors.
- Washing mats or equipment outdoors.
- Covering or using secondary containment for outdoor storage of materials.

Desired Behaviors

- Managing dumpsters; closing lids and preventing leaks and overflow.
- Having a printed spill plan and employees trained to implement it.

Barriers

- Keeping lids on dumpsters is inconvenient.
- Unaware that hosing down dumpster leaks and overflows is an inappropriate clean-up practice.
- Spill plans tend to be oriented towards keeping the indoor areas clean and safe.

Motivators

- Saving them money or increasing profits.
- Substantial fines for polluting stormwater.
- Knowing that their practices contribute to pollution of drinking water sources.
- Knowing that their actions can make a difference in improving the health of local water bodies.



Restaurants

Target Audience

Restaurants including sit-down, fast food and cafés that have an outdoor area (typically paved parking lot, alley) associated with the restaurant.

General Awareness

Restaurants are less likely to understand how their activities affect surface water pollution than some other business sectors. The lower level of awareness may be due to restaurants' focus on safe food handling and indoor activity compared to construction and automotive businesses where there is significant outdoor activity and handling of hazardous materials.

Current Behaviors

- Washing mats, hood filters and equipment outdoors.
- Dumping liquids in the dumpsters.
- Not keeping lids down on dumpsters.
- Not storing used oil and grease in covered, leak-proof bins.
- Dumping wash water outdoors where it flows into storm drains.
- Grease barrels can be old, unclean and too small, resulting in outdoor spills.
- Hosing down or pressure washing to clean the paved areas of food waste, grease and other undesirable detritus.

Desired Behaviors

- Dispose of grease in covered and secured containers.
- Clean up grease, drips and spills immediately with absorbent material.
- Put all garbage and recyclables in designated, covered leak-proof bins.
- Keep the area near outdoor waste and materials storage as clean as the area in front of the restaurant.
- Dispose of all wash water indoors.
- Clean all mats and equipment indoors.

Barriers

- Young, mobile workforce who have not been educated about the connection between their cleanup practices and polluted runoff.

- Some restaurants do not have the space and adequately sized sinks to clean up indoors.
- Dumpsters overflow before garbage pickup, or the hauler creates problems by not putting the lids down or cleaning them out.
- Restaurants are fast-paced and at the end of the shift, kitchen staff clean up in the quickest and most convenient way.
- Kitchen staff and owners/managers don't believe that small amounts of runoff contribute to water pollution.
- Possible language and cultural barriers.

Motivators

- Wanting to keep drinking water clean.
- Desiring to have a positive public image.
- Keeping clean any outdoor areas viewed by the public.
- Demonstrating corporate responsibility.
- Giving kitchen staff a reason to care about how they cleanup.
- Fining or giving penalties for poor outdoor practices.

Messengers

The most credible sponsor, or messenger, of an outreach material, is the local health district, or the public works department.

Potential Outreach Strategies

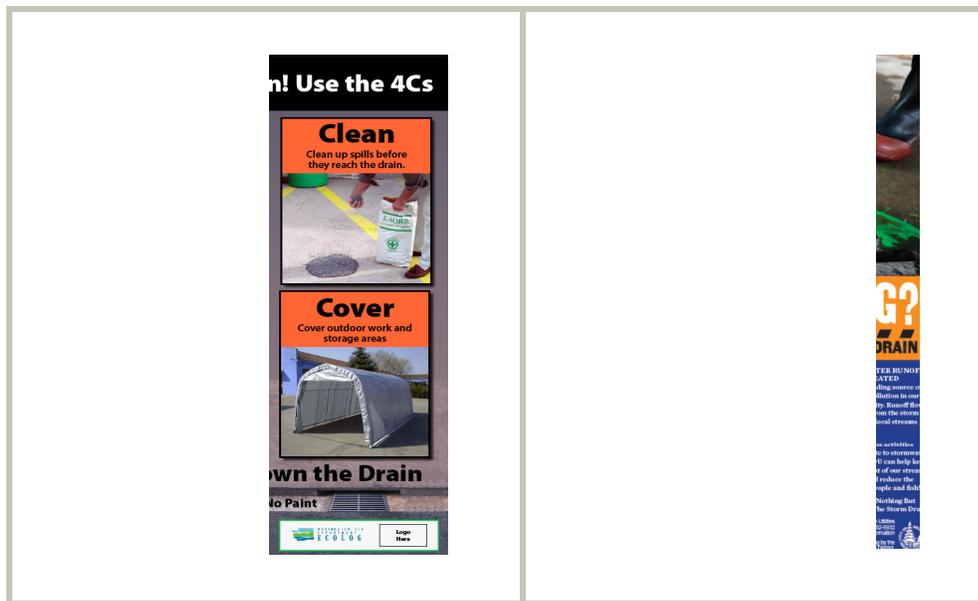
Recommended Outreach Strategies that have been Piloted and Evaluated



Wall posters – Several different kinds of wall posters were tested in focus groups as part of the Bellevue and the two Kitsap County projects. Participants responded positively to posters that had a bold design, high-quality photos, and minimal text, like the ones shown below. Posters are a popular outreach tool with grocery stores, automotive businesses and some restaurants.

Kitsap 4 C's Poster

Bellevue Poster



The 4Cs poster was focus group tested, modified based on comments received by automotive business owners, and distributed to 270 automotive businesses across Washington State. A follow-up online survey of poster recipients showed that the poster was effective in increasing awareness about the effects of daily practices on runoff and served as a change agent at some of those businesses.



Spill Kits - Spill kits were rated as the most popular item in a series of focus groups with automotive businesses as part of the Kitsap Project. While spill kits are considerably more expensive than posters, hand-delivery of the spill kits can provide an opportunity to educate automotive type businesses about stormwater best management practices.

As part of Seattle Public Utilities Resource Venture Program over 900 free spill kits were distributed between 2004 and 2008 mostly to automotive businesses but also to some select grocery stores. Spill response plans and training were also offered to these businesses. An evaluation of the spill kit program through follow-up surveys showed that the number of businesses that did not wash spills away with a hose increased and that half of those who used the spill kit replaced the materials. The businesses also thought that the spill kit helped make their employees more aware of surface water pollution and better understood how using a spill kit can prevent pollution.

In the Kitsap Project, an in-person survey of control businesses that had not received a 4 C's Poster or spill kit revealed that 90% of automotive businesses already had spill kits. Further research may be needed to find out what percentage of automotive businesses and grocery stores already have a stocked spill kit and are using it. If the businesses already have a spill kit, they recognize its importance and offering them one for free or at a discount may not significantly contribute to better stormwater management.

Recommended Outreach Strategies that Need to be Piloted and Evaluated



Point of Use Stickers - A variation on the poster theme is stickers that have a call to action at a specific site. The point of use stickers shown below were focus group tested with restaurant owners/managers and kitchen staff. Kitchen staff, in particular, rated the concept of point of use stickers very high, but thought the ones shown below could use some improvement.

Mop Bucket Sticker

Hood Vent Sticker

Dumpster Sticker

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Well designed stickers were more popular with kitchen staff than posters or other strategies, as long as they have a clear message, bold graphics, and minimal text.



On-site Staff Training or Technical Assistance – When this strategy was tested in the Bellevue Project, it appealed to automotive business owners because it is more convenient than off-site training and employees can benefit as well as the owner. This option ranked high with automotive businesses but lower with restaurants and grocery stores.



Resource Venture has provided free, in-depth technical assistance to businesses to bring them into compliance with Seattle’s stormwater regulations after they had received an inspection from the Seattle Public Utilities. This training appeared to have helped businesses come into compliance with the stormwater regulations.



Spill Plan Templates - The prevalence of automotive businesses with spill plans is not known. In the absence of a spill plan, many business owners conduct employee training on how to handle spills. Spill prevention plan templates were rated fairly highly by the Redmond businesses that were interviewed. Those businesses that already had a spill plan said they received assistance from their corporate office or local government. The majority of grocery stores did not have a printed spill plan, but the managers often provided spill training.



Storm Drain Markers or Stencils – Storm drain markers have been around for awhile and they have not been an outreach strategy that specifically targets businesses. As a result, this product has not been included in most of the recent research on businesses and stormwater.

In the Kitsap Restaurant Focus Groups, participants rated storm drain markers third highest in a list of seven outreach products after stickers and laminated posters. Kitchen staff, in particular, thought markers were effective in educating people about the fact that stormwater flows to the nearest water body without being treated.



Public Recognition: Business certification is a strategy that has been successfully used in the past, most notably with the EnviroStars program. Developing a similar approach for mobile businesses was discussed but tabled because of the complexity of setting up such a program. Different needs and requirements in each jurisdiction and a long-term commitment to maintaining a certification program were deemed significant challenges.

The project team felt these issues could be more adequately addressed with greater time and funding resources.

Public recognition was ranked last by 36% of 100 businesses interviewed in Bellevue. However, of those 100 businesses interviewed, nearly 50% of the restaurants ranked public recognition as 1 or 2, while less than 10% of automotive businesses ranked this strategy as 1 or 2. In the focus groups held as part of three separate projects, public recognition received more interest from some of the restaurants than the automotive businesses as it aligned with their motivation to have a positive public image.



Training Video - This option has received mixed reviews. It ranked fairly high with restaurants in the Redmond project but low with automotive businesses and grocery stores. Training videos were not thought to be effective by restaurant owners/managers or kitchen staff who participated in the Kitsap County focus groups. The kitchen staff, in particular, thought that employees would not pay attention to the content of the video and would tune out.



Two 8-minute videos, one in English and the other in Spanish, targeted at restaurants were produced by the University of North Carolina for area restaurants. They have been received positively according to the project sponsor, although no formal evaluation has been conducted on their effectiveness.

A “How-To” Video was discussed as a possible outreach strategy for mobile businesses. Employees could watch the video and answer a few questions at the end. Benefits could be offered for completing this education, including discounts through a supplier or points toward a certification program showing the business as environmentally sound. The idea requires further investigation, including figuring out how to distribute the video and ensure it is watched.

The **following outreach strategies** were formulated for the Mobile Business pilot campaign based on focus groups that explored barriers and motivators to better runoff practices. These strategies should be evaluated further before implementing with businesses.

Websites: A website can provide comprehensive information on best management practices and provide interactive tools. Websites require active management and work best with business owners who spend a lot of time on the computer. A website was designed for the Mobile Business pilot campaign and had a page on desired practices for

each business category as well as links to the participating jurisdiction's stormwater web pages.

Incentives and Prompts: The goal of providing an incentive item is not only to encourage or reward participation but also to act as a prompt. For the Mobile Business pilot campaign, the project team focused on potential on-the-job incentive items which could be placed in business vehicles or located at a job site. The items considered include the following, all of which would feature the program brand, or key messages about best management practices:

- Clipboards
- Window clings
- Baseball caps
- T-shirts
- Air fresheners (rear-view mirror)
- Post-It Notes

Window clings were selected as the most appropriate prompt for mobile businesses.

Pledge Cards: The pledge card strategy was used in the Mobile Business pilot campaign. The strategy involved mailing mobile businesses a pledge card with a letter explaining the details and benefits of best management practices. The pledge card itself – three versions, one each for carpet cleaners, painters and pressure washers – featured a short pledge describing correct disposal of waste water. The business owner was encouraged to sign and return the card, and in return would be featured in a local newspaper ad recognizing environmentally responsible businesses. A window cling with the “Dump Smart, it's not just water” tagline was mailed to each business upon receipt of the signed pledge card.

The pledge card was mailed to 3,287 mobile businesses and 149 returned the signed pledge cards, a return of 4.5%. The majority of returned pledge cards came from painters and carpet cleaners. Further evaluation on the effectiveness of pledge cards and their response to the design of the card is needed before implementing this strategy with mobile businesses.

Dump Smart Pledge Card



Pledge cards were not tested with other business sectors in the other projects.

Strategies Not Recommended

Written Materials: The passive nature of brochures, fact sheets, FAQs and other printed collateral makes written materials of questionable value. Throughout in-person interviews and focus groups, these types of materials were thought to be ineffective in promoting behavior change.

Workshops – Spill prevention workshops held in Seattle did not attract much interest. Any kind of education or training offered off-site was rated low by automotive businesses in Bellevue, as they would prefer the convenience of having someone come to their business and train the entire staff based on their specific business.

Direct Mailer – The idea behind a direct mailer is to raise stormwater awareness, provide a simple behavior change to improve water quality, and provide local contact information. When this was tested as part of the Stormwater Business Template Project, it was rated dead last.

Financial Incentive to Make Structural Changes - This incentive ranked highest among all businesses in the Redmond Project, including automotive, restaurants, and grocery stores. The City of Bellevue promoted a similar program in 2008 offering up to 50% of the cost (up to \$5,000) for secondary containment or other structural improvements. Even though this project was promoted through site visits, direct mail, information on the City's website and newsletters, only 2 businesses took advantage of this opportunity.