

***MOBILE  
SERVICES***

**SAM**

Stormwater Action Monitoring



Source  
Identification

# Mobile Businesses and Stormwater Source Control



King County



DEPARTMENT OF  
**ECOLOGY**  
State of Washington




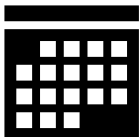
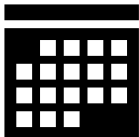

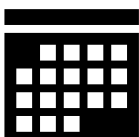
Science + Planning + Design

# Study Purpose

Help municipal stormwater permittees identify and include mobile businesses in source control and pollution prevention efforts.



# Technical Advisory Committee

- City of Covington  November 2021
- City of Kent  May 2022
- City of Sammamish  October 2022
- City of Redmond  May 2023
- City of Vancouver  December 2023
- Clark County
- King County
- WA Stormwater Center
- Ecology PPA Program

# Study Tasks

**Task 1:** Technical Advisory Committee and Project Management

**Task 2:** Survey of Municipal Mobile Businesses Source Control

**Task 3:** Business Listing Generation

**Task 4:** Analyze Permittee IDDE Data on Mobile Businesses

**Task 5:** Best Practices Guidance Document

**Task 6:** Mobile Businesses Source Control Pilot Program in King County

**Task 7:** Communications Plan

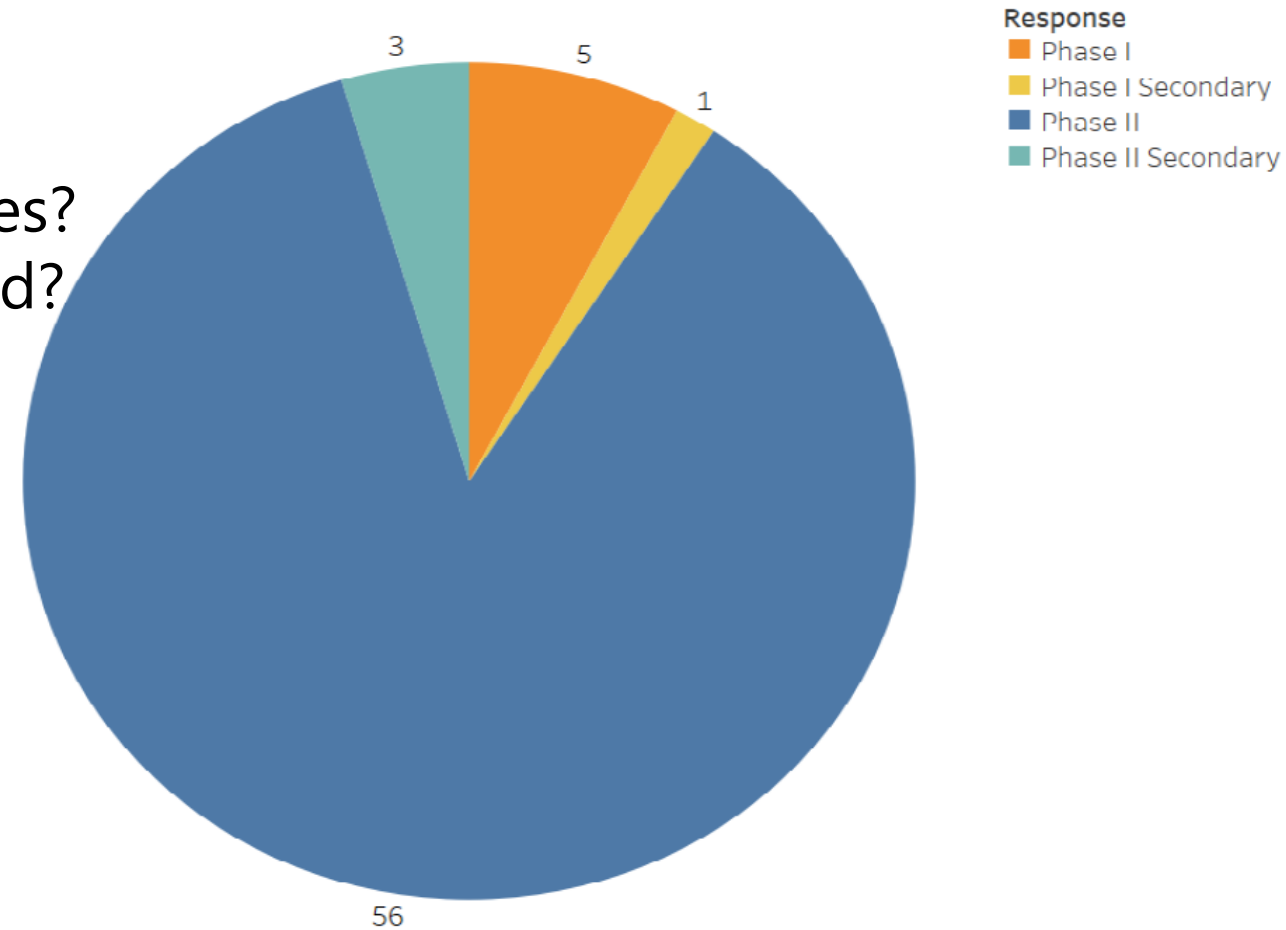
# Task 2. Survey of Municipal Source Control

## SURVEY GOALS

- Targeted to permittees
- What data sources for site inventories?
- How mobile businesses are identified?
- How jurisdictions work together?

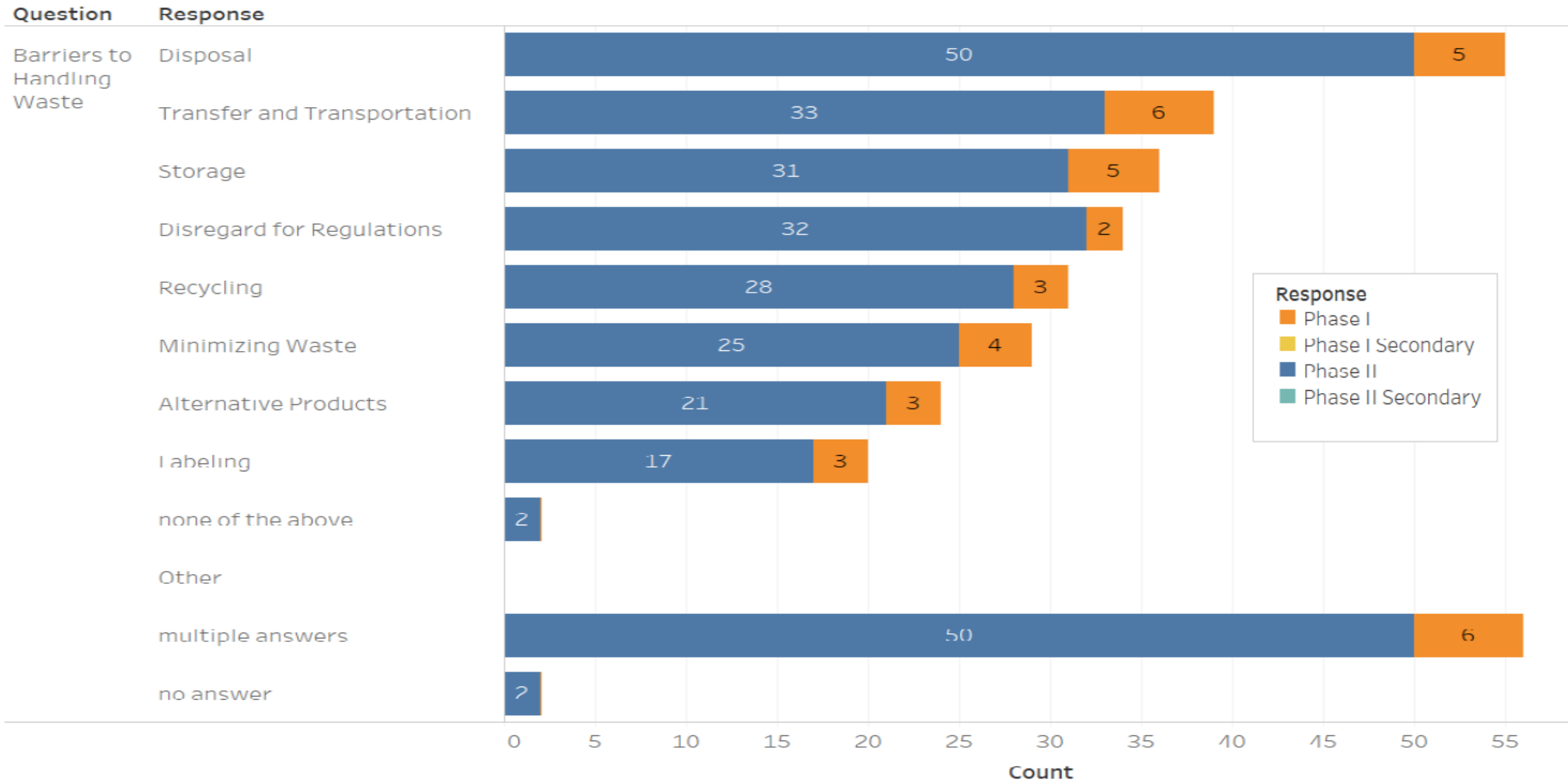
## 9 QUESTIONS

- Staffing and training
- Defining mobile businesses
- Inventorying and outreach
- Barriers to proper waste handling
- Information sharing



# Task 2. Survey, continued

## 8\_Barriers to Waste Handling





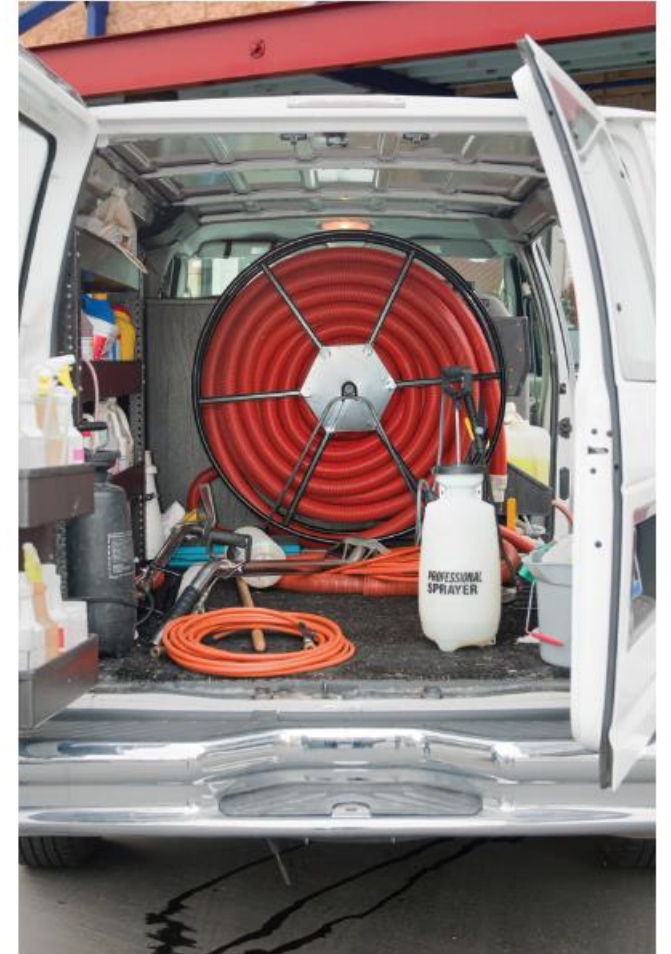
# Task 3. Business Listing Procedure

## **PURPOSE**

- Develop process to inventory mobile businesses of interest to stormwater source control
- Help permittees with prioritizing mobile businesses for source control

## **PROCEDURE**

- Used business license data and NAICS codes per permit guidance
  - Worked with Dept of Revenue (DOR) Business License Service (BLS)
  - 25 BLS cities in King County
- “Fingerprint” of mobile businesses
  - Python coding, Natural Language algorithm
  - Search business's own description of services
  - “Non-resident” endorsement
  - Prioritize NAICS codes, calculate weighted score
  - Nearly 30,000 possible mobile businesses identified in King County



# Task 3. Business Listing, continued

**Table 3. Keywords and Weighting Criteria**

Project No. 200212

Keywords to <u>Include</u>	Weighting Factor	Occurrences	Natural Language Rating
animal groom	0.25	13	NA
appliance repair	0.75	22	NA
arborist	0.5	43	NA
asphalt	0.25	364	0.1569
auto	0.25	483	0.1331
carpet cleaners	0.75	0	NA
cleaners	0.25	3	0.1835
concrete	0.25	846	NA
contractor	0.25	6226	0.2002
detail	0.25	118	NA
equipment	0.25	1645	0.24
fog	0.25	0	NA
food truck	1	124	0.3408
food vendor	0.25	110	NA
grease	0.25	8	NA
handyman	0.25	428	0.1777
hazardous	0.5	63	NA
herbicide	0.5	2	NA
hvac	0.25	1821	0.3142
installation	0.25	3760	NA
landscape	0.5	883	NA
maintenance	0.5	1698	0.2745

Keywords to <u>Exclude</u>	Weighting Factor	Occurrences	Natural Language Rating
ambulance	-1	10	0.1836
auto + salvage	-1	0	NA
auto + wrecking	-1	4	NA
cabulance	-1	17	0.1303
cellular	-1	128	NA
drive	-1	141	0.2089
fats	-1	0	NA
fireplace	-1	179	NA
mobile + modular	-1	7	NA
mobile home	-1	9	NA
plumb	-1	2238	NA
ride	-1	19	0.1413
roadside	-1	26	0.2224
special needs	-1	25	NA
towing	-1	38	0.2964
wireless	-1	195	NA

[Link to Final Report on Mobile Businesses Listing Procedure](#)



# Task 4. IDDE Data Analysis



Photo credit: Stella Collier



Photo credit: Stella Collier



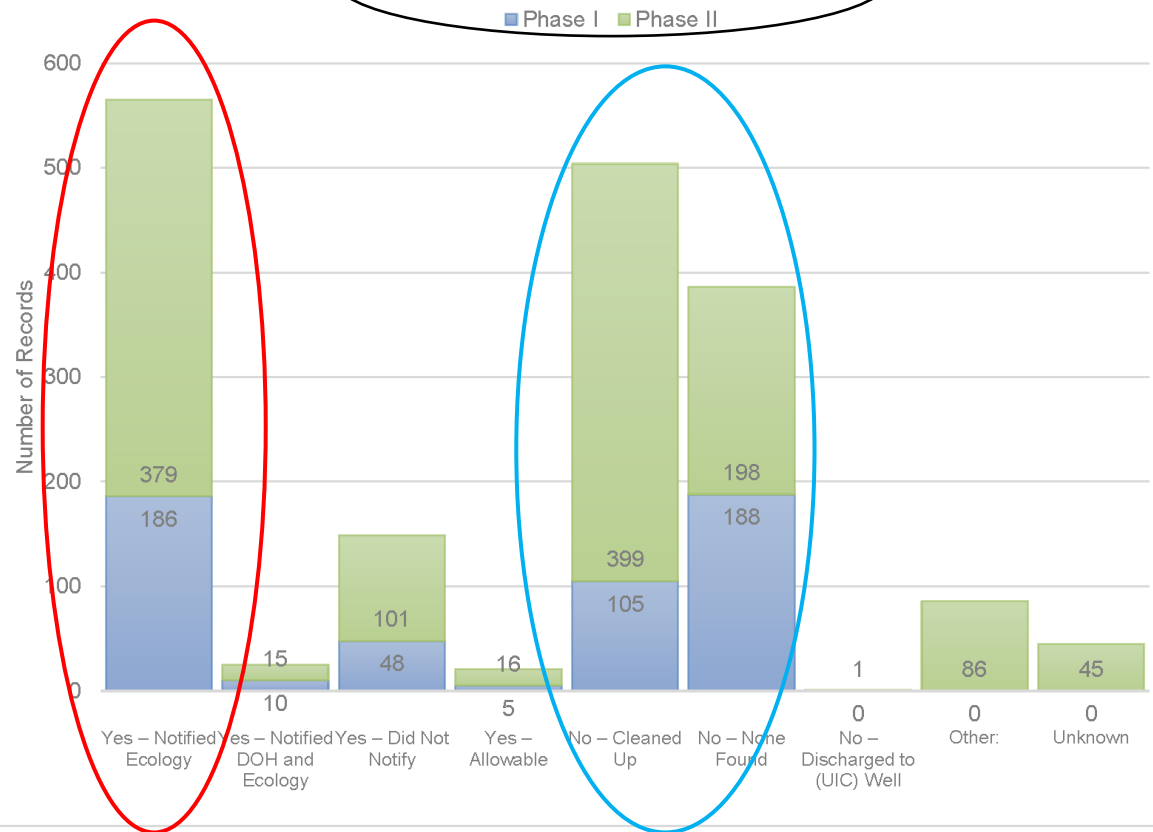
Photo credit: Stella Collier

# Task 4. IDDE Data Analysis Findings

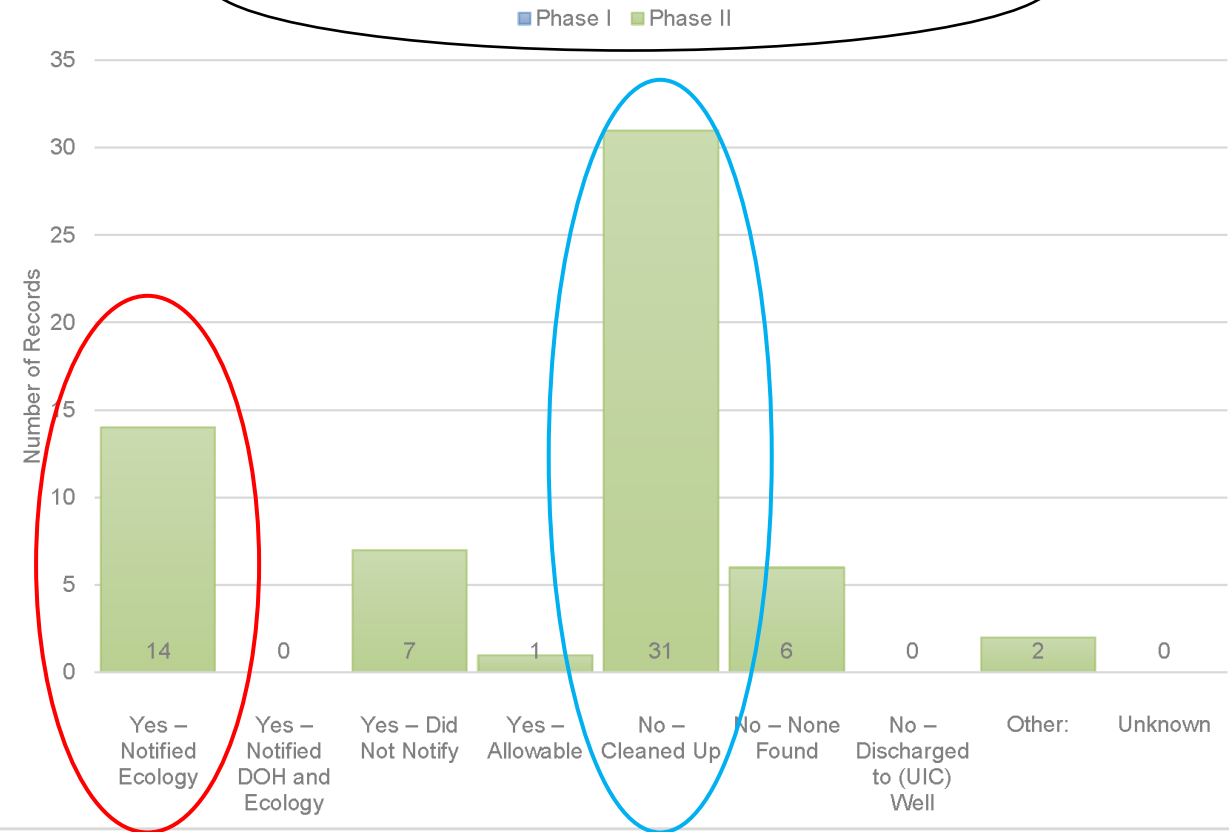
- More than 1,800 records of IDDE incidents (from Phase I and II Permittees in 2020)
- Most common (reported) illicit discharges:
  - Automobile and equipment-related
  - Construction activity
  - Sewage or animal/pet waste
  - *"Unconfirmed"*, *"Unspecified"*, or *"Not Identified"* second most common
- 41% of reported IDDE incidents discharged to the MS4
- Mobile businesses IDDE data (61 records)
  - Fuel and vehicle-related pollutants most commonly reported
  - *Observation* most common source tracing method

# Task 4. IDDE Data Analysis Findings

Discharged to MS4?



Mobile Business: Discharged to MS4?



[Link to Final Report of IDDE and Mobile Businesses Report](#)

# Task 5. Best Practices Guidance

## **PURPOSE**

- Guidance for municipal permittees specifically for mobile businesses.

## **CONTENT**

- **Outreach** materials targeted to mobile businesses
  - 26 existing brochures and fact sheets.
    - Cleaning vehicles, buildings, pets, carpet, pools; construction activities; landscaping.
  - 3 new brochures developed during Study
    - Mobile Automobile Repair
    - Commercial Landscaping
    - Pressure Washing
- **BMPs** for mobile business activities
  - 11 from King County Stormwater Pollution Prevention Manual.
  - 4 from City of Tacoma Stormwater Management Manual.
  - 5 Ecology SWMMWW.



# PRESSURE WASHING

Runoff Pollutes

**ONLY** rain down the drain.

## WATER POLLUTION AND THE MOBILE BUSINESS INDUSTRY

YOU ARE THE SOLUTION TO RUNOFF POLLUTION

# MOBILE FOOD SERVICE

How to manage and dispose of materials and wastes.



## What is stormwater?

Rainwater or snow that can pick up pollution and carry it to local waterways from parking lots and roadways through storm drains or ditches.

**ONLY RAIN DOWN THE STORM DRAIN**

## BEST MANAGEMENT PRACTICES FOR MOBILE PET SERVICES



PRESSURE WASHING AND PAINTING

## BEST MANAGEMENT PRACTICES FOR LANDSCAPING PROFESSIONALS

- Lawn and Garden Maintenance
- Mowing Services
- Landscape Contractors
- Tree and Shrub Services
- Plant Maintenance Services

### BEST PRACTICES FOR MOBILE BUSINESSES



## Mobile cleaning practices can produce:

- soaps and cleaners
- paint chips and dust
- carpet fibers
- dirt and grease

## COMMON POLLUTANTS

### Carpets and Upholstery

- Carpet fibers
- Cleaning chemicals and solvents

### Vehicle and Equipment Cleaning

- Heavy metals (copper, lead, nickel, and zinc)
- Oil and grease
- Antifreeze
- Cleaning chemicals and solvents
- Acids and alkalis

### Food Service Industry

- Food waste
- Fats, oil, and grease
- Cleaning chemicals, disinfectants, and pesticides

### Swimming Pools and Spas

- Copper and chlorine
- Solids from filter backwash

### Surface Cleaning

- Heavy metals (copper, lead, zinc)
- Oil and grease
- Trash

### Mobile Pet Groomer and Stylist

- Soaps, detergents, and disinfectants
- Chemicals (flea dip rinses and equipment cleaning)
- Dirt and sediment
- Hair, fur, and nail waste
- Pet waste
- Wastewater

### Mobile Unit

- Antifreeze
- Hydraulic/transmission fluid
- Oil, grease, gasoline, and diesel



Preventing stormwater pollution is good business  
**Good Business Practices for Carpet Cleaning & Wastewater Disposal**



# Task 5. Best Practices, New Brochures

## Stormwater Pollution Prevention for **MOBILE AUTO REPAIR BUSINESSES**

Keep our communities, creeks, lakes, and Puget Sound healthy.



## Stormwater Pollution Prevention for **COMMERCIAL LANDSCAPING**

Keep our communities, creeks, lakes, and Puget Sound healthy.



## Stormwater Pollution Prevention for **PRESSURE WASHING**

Keep our communities, creeks, lakes, and Puget Sound healthy.





# Task 6. Pilot Program

## **AUDIENCE**

- Municipal stormwater permittee cities in King County

## **PURPOSE**

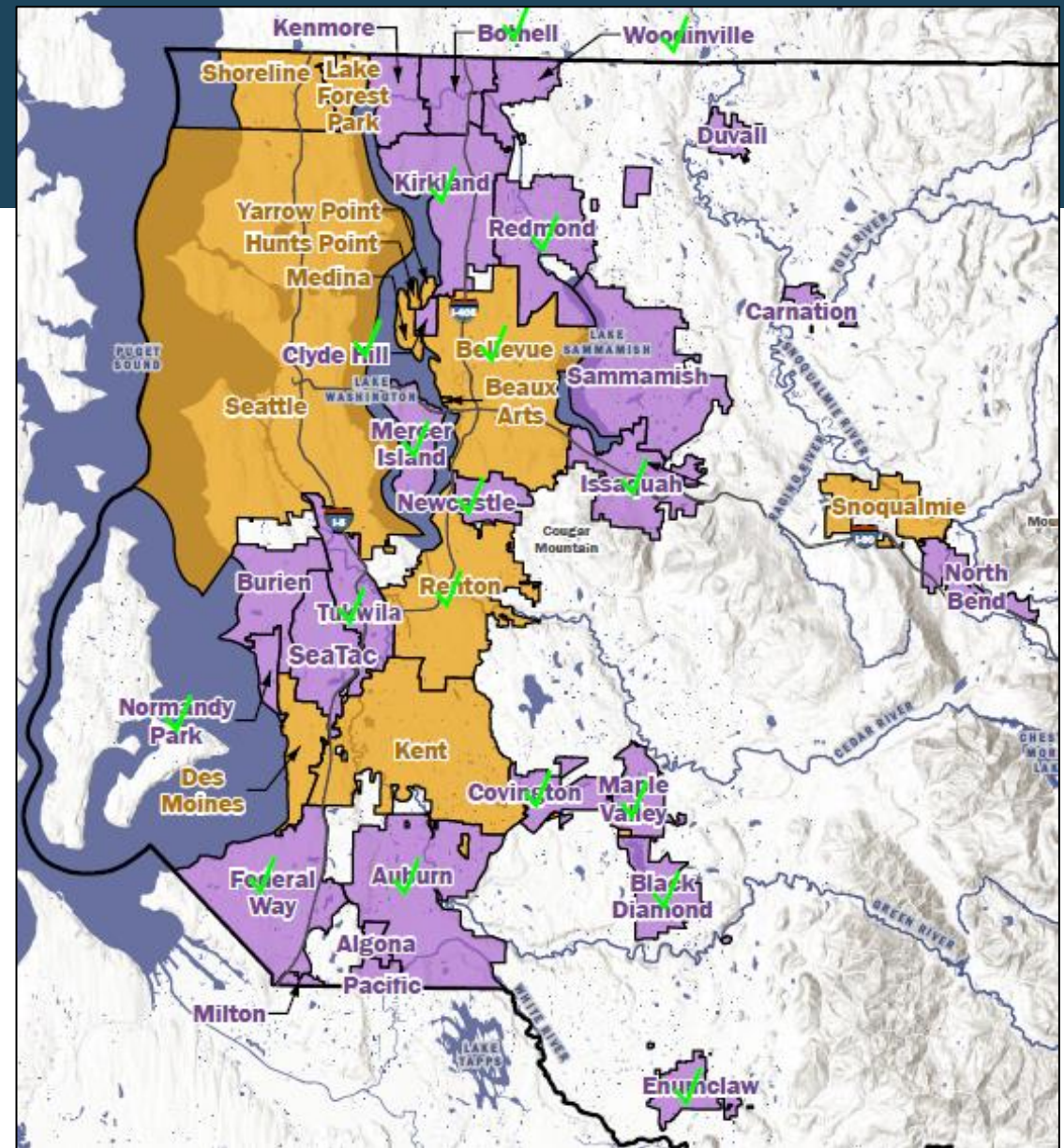
- Use and test methods and procedures from the Study:
  - Outreach materials and BMPs for mobile businesses
  - Mobile business lists by city
  - Best practices guidance
  - How to include mobile businesses in source control efforts

## **PLAN**

- How to use mobile business lists
- Outreach materials and BMPs
- Group meetings (4) and cross-jurisdiction communication
- Case studies
- Participant survey

# Task 6. Pilot Program

- Auburn
- Bellevue
- Black Diamond
- Bothell
- Clyde Hill
- Covington
- Enumclaw
- Federal Way
- Issaquah
- Kirkland
- Maple Valley
- Mercer Island
- Newcastle
- Normandy Park
- Redmond
- Renton
- Tukwila
- Woodinville





# Recommendations

## Identification of Mobile Businesses

Use keyword search procedure, customize by business type and keywords selection



## Work Across Boundaries

Communicate, collaborate, and share information about mobile businesses with other jurisdictions



## Update NAICS Codes in Permit

Update Appendix 8 of Permits to better represent businesses of interest to stormwater (including mobile businesses)



## Improve Business Licensing for Stormwater Management

Ecology and Dept of Revenue: add mobile business option in license

# Questions?

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*Links:*

[Stormwater Action Monitoring program](#)

[Mobile Business SAM Study](#)

[King County Stormwater Services](#)