Phillips Community Air Emissions Reduction

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Agenda

- **Partnership and Community Overview**
- **My Project**
  - Goal
  - Scope
  - Approach
  - Barriers
  - Results
  - Wrap-Up

Project Partners

HOPE Community

LAKE STREET COUNCIL
ENGAGE SERVE ADVOCATE

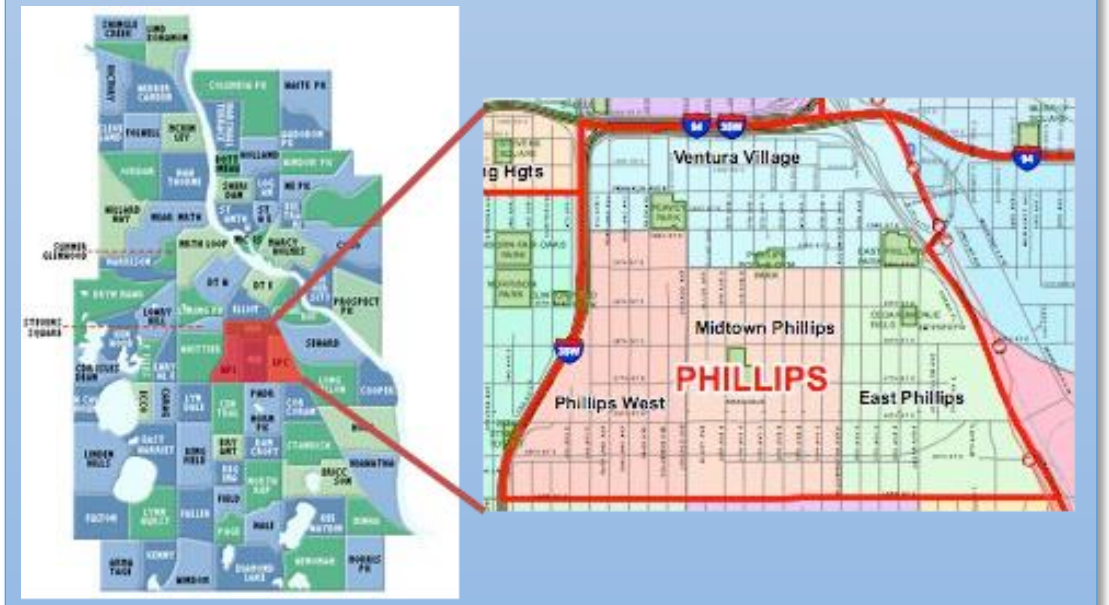
Mn TAP

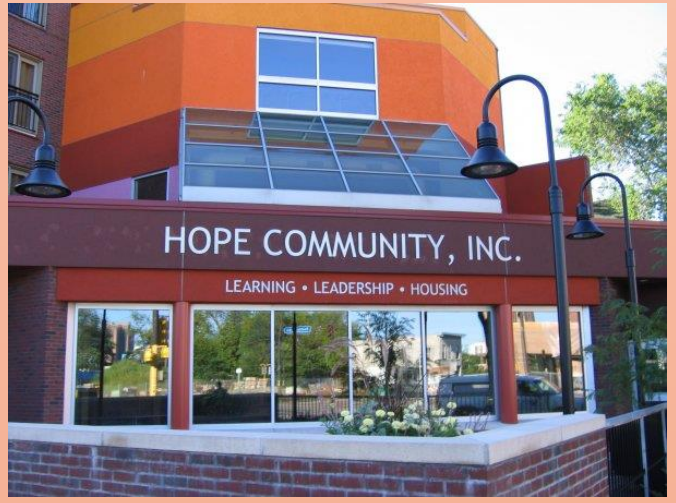
FABA franklin area business association

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Community Overview

Phillips Community





Project Goal

Reduce Hazardous Air Pollutants (HAPs), Volatile Organic Compounds (VOCs), and ground-level ozone (smog) from non-regulated and/or distributed sources of air pollution

Why Automotive Repair Shops?

- Small degreasing operations make up 14% of all industrial VOC air pollution in Minnesota
- Concentrated in Phillips
- Good candidate for voluntary action
- Transferrable to other industries

Brake Cleaners/ Degreasers

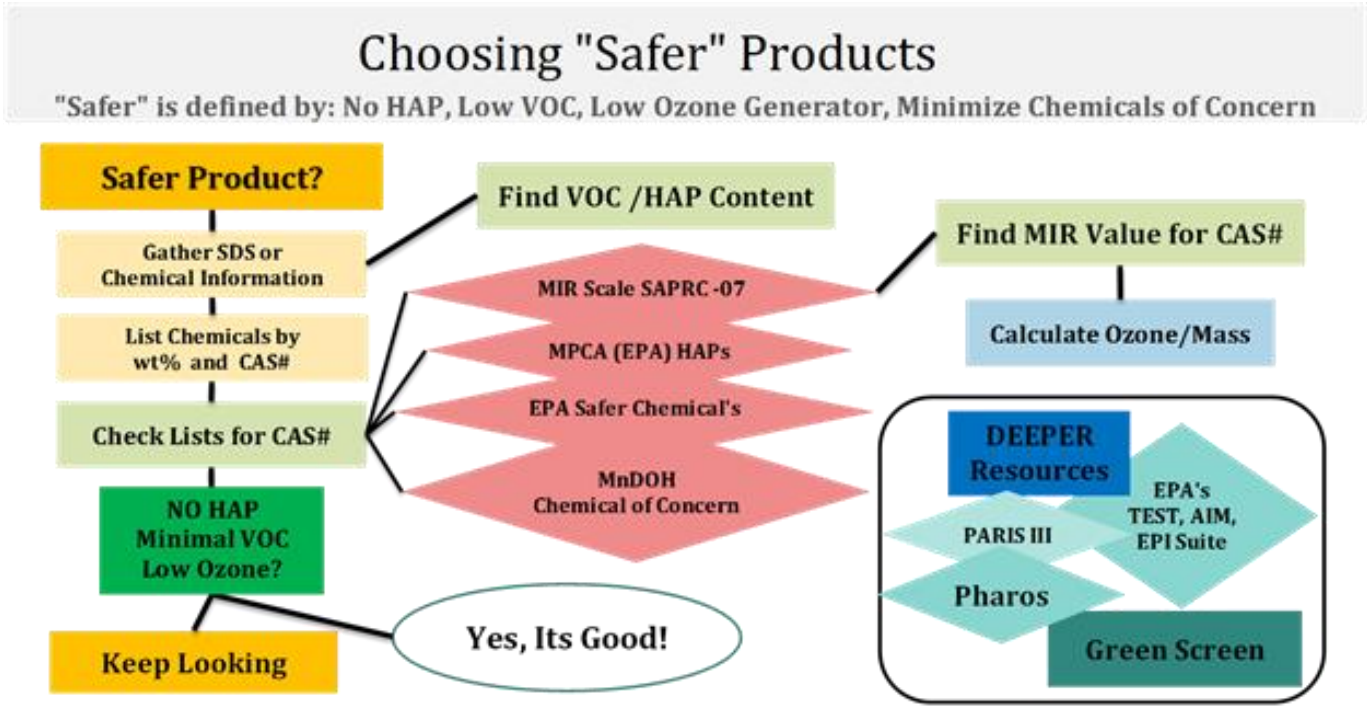
Penetrants

Worker and Public Health Improvement

- Minimize health impacts of cleaning/degreasing chemicals
- Reduce impact on economically vulnerable, environmentally stressed communities

Why is choosing safer products such a challenge?

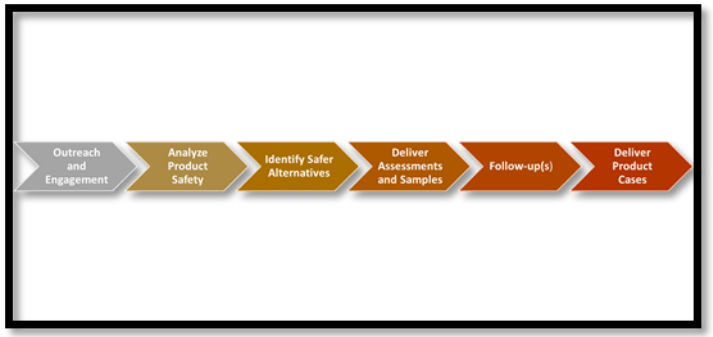
Consumer Confusion



Approach

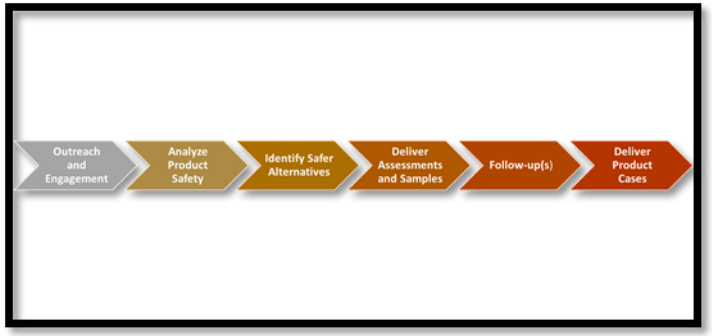

1. Outreach and Engagement
2. Analyze Product Safety
3. Identify Safer Alternatives
4. Deliver Assessments and Samples
5. Follow-up(s)
6. Deliver Product Cases

1. Outreach and Engagement



- **24 businesses reached**
- **15 businesses were good candidates and willing to participate**
- **1 Alley Newspaper article**
- **Initial Contact**
  - Quick intro
  - Product name
  - Part number
  - Amount used
  - Preferred retailer

2. Product Analysis



- **O'Reilly Brake Parts Cleaner Non-Chlorinated #72408**

Company	Product Name	Ingredients	CAS#	wt%	Ozone Number	MIR	Ozone (lbs/year)	Comments
O'Reilly	O'Reilly Brake Cleaner Non-Chlorinated #72408	Toluene	108-88-3	32	1.61	4	254 (157.5*1.6)	HAP, COC-Eyes, Dev, Immune
1 can (14oz) 15 cases/yr-20 cases/yr (15cases/yr*14oz/can*12cans/case)/ 16lbs/yr= 157.5 lbs/yr	HAPs 70% VOC 70%	Methanol	67-56-1	38		0.67		HAP - development
		Acetone	67-64-1	22		0.36		
		Carbon dioxide	124-38-9	8		0		

3. Identify Safer Alternatives

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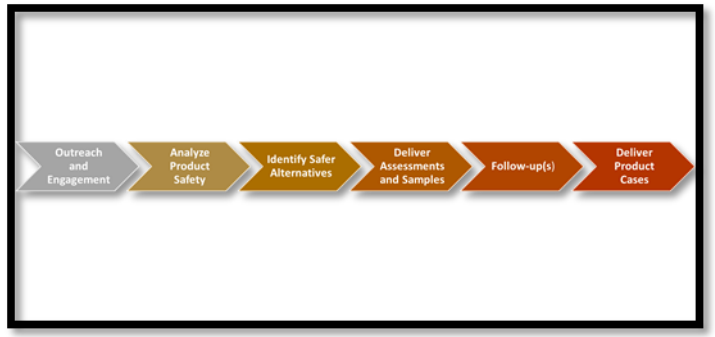
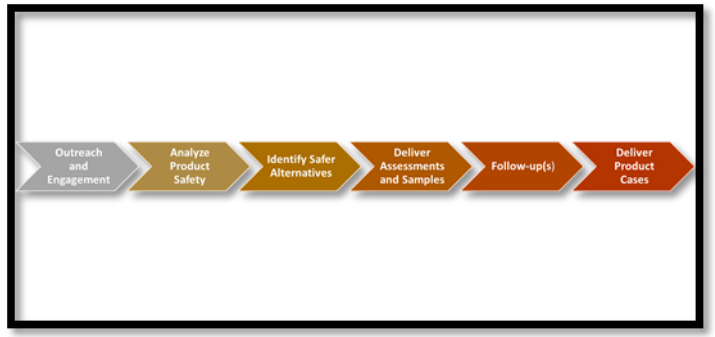
3. Identify Safer Alternatives



- **CRC Brakleen #05050 (Brake Parts Cleaner)**

Company	Product Name	Ingredients	CAS#	wt%	Ozone Number	MIR	Ozone (lbs/year)	Comments
CRC	Brakleen #05050	Acetone	67-64-1	90	0.46	0.36	72.45 (157.5* 0.46)	
157.5 lbs/yr	HAPs 0% VOC 9.2%	n-Heptane	142-82-5	4.5		1.07		
		3-methylhexane	589-34-4	2.5		1.61		
		methylcyclohexane	108-87-2	2.5		1.7		
		cyclohexane	110-82-7	0.5		1.25		

3. Identify Safer Alternatives

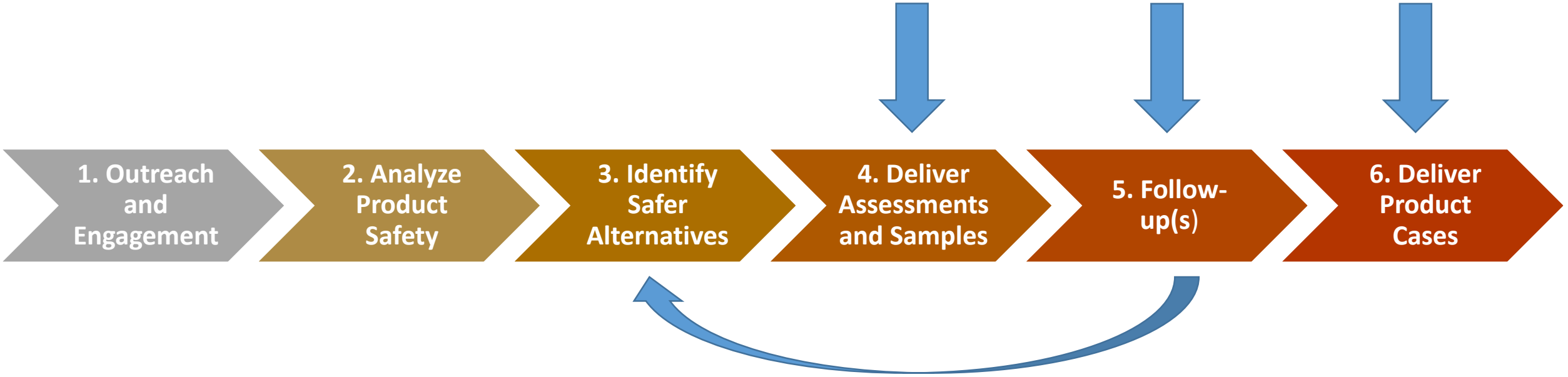


Solvent-based

- **Safety-Kleen aqueous-based parts washer**
- **Green business cost share program**
  - City of Minneapolis & MPCA supported
  - Covers 45% of upfront cost and service
  - 1 shop took opportunity

Aqueous-based

Approach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Barriers

- Safer product availability
- Knowledge and awareness
- Performance
- Cost
- Policy

Results

Outreach and Engagement

- 24 shops reached
- 14 shops participated

Behavior Change

- 11/14 shops switched to safer products
- 1/14 shops switched to water-based parts washer

Air Emissions Reduced

- 430 lbs HAPs reduced per year
- 840 lbs VOCs reduced per year
- 1,730 lbs Ground-level ozone reduced per year

Wrap-Up

- Overall positive reception
- Desire to make a difference
- Demonstrated interest and need for safer products
- Increased awareness

- Enjoyed working in the community and bringing the pieces together
- Appreciation for green chemistry and its applications
- Inspired by Phillips and Hope Community

Thank you:

Participating shops/retailers
Hope Community staff
MnTAP staff
Lake Street Council staff
Franklin Area Business Association
Environmental Protection Agency

Questions?