



Phillips Neighborhood Businesses



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Company Background

The Phillips community is made up of four unique neighborhoods located in South Minneapolis. Spanning 1.6 square miles, Phillips is home to 20,000 residents who come from all over the world. The variety of economic activity of the area is impressive, due in part to the prosperity of small businesses. Hope Community, a nonprofit community development organization, works to empower residents through a variety of programming, including youth development, healthy food access, and equitable housing. Despite decades of revitalization efforts, the Phillips community remains one of the most environmentally overburdened and economically vulnerable areas of Minneapolis. In particular, the increased risk of health issues due to air pollutant exposure in the Phillips community motivated this project.



“Working to reduce air pollution from non-regulated sources is no easy task, yet I was impressed by the willingness of small businesses to try out new products in an effort to improve air quality for their employees and surrounding community. I learned that when provided the opportunity, and necessary information and incentives, businesses are eager to take voluntary action to protect the environment. Clear communication, providing the right level of assistance, and lowering barriers to change were essential to this process. Despite having a relatively smaller environmental impact, action from small businesses is vital to ensuring a safe environment for all.” ~ MN

Project Background

Prior to this project, MnTAP engineers established what it means to classify cleaning and degreasing products against safety for the environment and human health. A pilot project was then conducted which helped determine that safer products are functionally equivalent to less safe products. This project was initiated to leverage MnTAP’s knowledge and resources by motivating broader adoption of safer products that work well.

During the first month of this project outreach efforts were conducted to introduce the project purpose and the benefits of participation. Site visits to interested businesses were conducted to record information about products currently in use. This information was used to analyze the safety of current products using safety data sheets and MnTAP resources. Safer alternatives available at local auto parts retailers were identified and analyzed in a similar manner. Then, samples were purchased and given to auto shops to test for functionality. After one to two weeks follow up visits were conducted to see how mechanics liked the sample provided. If they were satisfied with the sample performance and verbally agreed to change products, a case of products was purchased for

the business to try out for a longer period. If the samples were not up to par, other alternatives were identified and tested.

Incentives To Change

This summer, automotive shops in the Phillips community of South Minneapolis were presented the opportunity

“Air quality is an extremely important issue in the Phillips Community of Minneapolis, as the neighborhood has long suffered adverse environmental impacts from policy and land use decisions. Hope Community has been in Phillips over 40 years, so the opportunity to host a student working to improve air quality by connecting with area businesses was a natural fit. Maddie was tremendous at making connections with small business owners, quickly building trust, and getting folks on board with the idea of switching products to benefit the local environment. We were extremely happy with both her approach and the results of her outreach work. “

- Will Delaney, Associate Director, Hope Community

Solutions

to improve worker safety and public health by switching to safer cleaning and degreasing products. Typically, cleaning and degreasing products emit harmful amounts of hazardous air pollutants, volatile organic compounds, and ground-level ozone which contribute to poor air quality. Locally, poor air quality affects Minnesotans by triggering a range of short and long-term health problems, from itchy throats to asthma attacks. It also contributes to smog and acid rain, leading to contamination of water bodies, crops, and other natural areas. Because one-third of air pollution emissions in Minnesota come from distributed and/or unregulated sources of pollution, this project aimed to promote the broad adoption of safer cleaning and degreasing products commonly used at auto shops through direct outreach and technical assistance.

Recommendations

Recommendations were made based on three values assessed for each product: hazardous air pollutants (HAPs), Volatile Organic Compounds (VOCs) and ozone producing potential (ozone number). Products identified as safer will have lower HAPs, VOCs, and/or ozone numbers. Choosing safer products is not easy simply by looking at product labels. Products can look very similar, but can vary greatly in level of safety for health and the environment. Product part numbers were used to search online for safety data sheets (SDS) which list product ingredients and other helpful information.

Products

Products that contain hazardous air pollutants (HAPs) were avoided. HAPs such as xylene, toluene, ethyl benzene and methanol can cause serious health complications in the people who work with them. Often the percentage of volatile organic compounds (VOCs) in the product can be found in the SDS, with lower numbers indicating higher safety. The pounds of ozone producing-potential per pound of product (ozone number) was estimated using ingredient weight percentages and maximum incremental

reactivity (MIR) values. MIR values are a measure of ozone formation per unit weight of hydrocarbons added to the atmosphere.

Typically, ozone numbers of less than one indicate safer products. Without a thorough analysis there are some aspects to a label that can help consumers differentiate products: language such “non-chlorinated,” “Low-VOC,” “50 State-compliant” or “California Compliant” can indicate a safer product.

Lastly, emissions can be reduced by utilizing bulk cleaners and investing in refillable spray cans that are non-aerosol. However, due to the small size of auto shops in the Phillips community, most preferred individual spray cans for ease of storage and use.



Recommendation	VOC Reduction	HAP Reduction	Ground-level Ozone Reduction	Status
Switch to safer cleaning and degreasing products	450 lbs per year	860 lbs per year	1765 lbs per year	Implemented

MnTAP Advisor: Nathan Landwehr, Waste Reduction Specialist